

# SACRED PLANTS of INDIA



NANDITHA KRISHNA &  
M. AMIRTHALINGAM

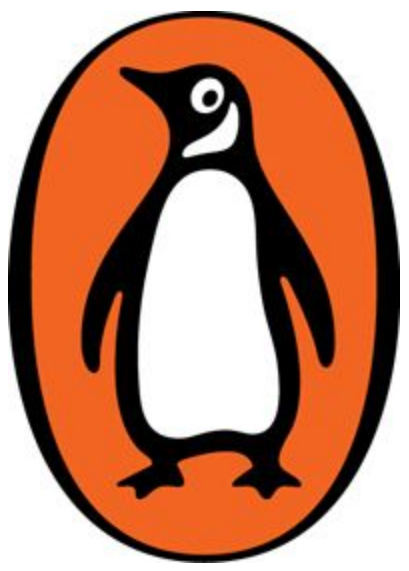


# SACRED PLANTS of INDIA



NANDITHA KRISHNA &  
M. AMIRTHALINGAM





Nanditha Krishna & M. Amirthalingam

---

SACRED PLANTS OF INDIA



# Contents

Foreword

Author's Note

## PART I

Introduction

In the Beginning ...

Tree Worship in the Vedas

Tree Worship in the Epics, Puranas, Jainism, and Buddhism

The Woman and the Tree

Special Trees

Sacred Groves

Tree Worship outside India

Conclusion

## PART II

Alexandrian Laurel

Ashoka

Bamboo

Banyan

Baobab

Bengal Quince

Bermuda Grass

Betel Vine

Bile Killer  
Bombay Atalantia  
Bottle Flower Tree  
Butterfly Pea  
Cannonball  
Castor Oil Plant  
Champaka  
Clearing Nut Tree  
Cluster Fig  
Coconut  
Common Bur-Flower  
Cotton-Wool Grass  
Crape Jasmine  
Cus-cus  
Custard Apple  
Cutch Tree  
Deodar  
Downy Jasmine  
Flame of the Forest  
Gingelly  
Grapevine  
Green Gram  
Hiptage  
Indian Beech  
Indian Butter Tree  
Indian Cadapa

Indian Cherry  
Indian Gooseberry  
Indian Jujube  
Indian Laburnum  
Indian Laurel Fig  
Indian Lavender  
Indian Lotus  
Indian Mesquite  
Indian Medaller  
Indian Persimmon  
Indian Siris  
Indian Blue Water Lily  
Ink-Nut/Chebolic Myrobalan  
Jackfruit  
Javanese Wool Plant  
Krishna's Butter Cup  
Lemon  
Lucky Bean  
Mango  
Mangrove (Blinding Tree)  
Marigold  
Mountain Ebony  
Needle Flower Jasmine  
Neem  
Night Jasmine  
Palmyra Palm

Pipal

Plantain

Pomegranate

Prickly Chaff Flower

Rice

Sacred Basil

Sal

Sandalwood

Sand Paper

Screw Pine

Shoe-Flower

Soma

Steaved Tree

Sugarcane

Swallow Wort

Sweet-Scented Oleander

Tamarind

Trumpet Flower

Turmeric

Tuscan Jasmine

White Marudh

Wood Apple

Wooden Beggar-Bead

Footnotes

Tree Worship in the Epics, Puranas, Jainism, and Buddhism

Conclusion



Banyan

Bottle Flower Tree

Hiptage

Mango

Pomegranate

Sacred Basil

Plant Names in Indian Languages

References

Select Bibliography

PENGUIN BOOKS

SACRED PLANTS OF INDIA

**Nanditha Krishna** is a historian, environmentalist, and writer based in Chennai. A PhD in ancient Indian culture, she is the director of the C.P. Ramaswami Aiyar Foundation and C.P.R. Environmental Education Centre. She has pioneered the documentation of the ecological traditions of India, restored over fifty sacred groves, and established schools, the C.P.R. Indological Research Centre, and Shakunthala Jagannathan Museum of Folk Art. Her published works include *Sacred Animals of India*, *Book of Demons*, *Book of Vishnu*, *Madras Then Chennai Now*, *Balaji-Venkateshwara*, *Ganesha*, *Painted Manuscripts of the Sarasvati Mahal Library*, *Arts and Crafts of Tamilnadu*, and *Art and Iconography of Vishnu Narayana*, besides numerous research papers and newspaper articles. She is a professor and research guide for the PhD programme of the University of Madras and has received several prestigious national and international awards.

**M. Amirthalingam** is a botanist and environmental education officer at C.P.R. Environmental Education Centre, Chennai. He has researched and published the books *Sacred Groves of Tamil Nadu*, *Sacred Trees of Tamil Nadu*, *Temple Tanks of Chennai*, and *Flora and Fauna of Valmiki's Ramayana*, besides research papers and articles in various journals, magazines, and seminar proceedings. He is currently working on the All India Coordinated Research Project on Sacred Grove Ecosystem Service Assessment in the Inland Plains of Tamil Nadu sponsored by the ministry of environment and forests, Government of India.

*In memory of Shakunthala and A.R. Jagannathan, a source of inspiration,  
encouragement, and love*

## Foreword

India is a highly biodiverse country and at least four major factors are responsible for our rich endowment of plant and animal genetic resources. These are: cultural diversity (including spiritual values), culinary diversity, curative diversity (a wide variety of medicinal plants), and ecosystem diversity. Among these factors, spiritual values have contributed much to saving many important plants and trees. This book contains a fascinating account of numerous sacred trees and groves. The book also describes the efforts made from ancient times to invest on selected trees a sacred aura. The sthala vriksha is a good example of this tradition of celebrating our biological heritage.

While reading this book, I was reminded of the following poem by Joyce Kilmer:

I think that I shall never see  
A poem as lovely as a tree.  
  
A tree whose hungry mouth is prest  
Against the earth's sweet flowing breast;  
  
A tree that looks at God all day,  
And lifts her leafy arms to pray;  
  
A tree that may in summer wear  
A nest of robins in her hair;  
  
Upon whose bosom snow has lain;  
Who intimately lives with rain.  
  
Poems are made by fools like me,  
But only God can make a tree.

In 1976, I undertook a study of the oldest trees of India. I wrote to the Chief Conservators of Forests of all states and requested information on the oldest living tree in their state. Most of the replies related to banyan trees

including the famous banyan tree of the Theosophical Society, Chennai. Several of the famous banyan trees were also associated with saints and temples. Temple trees such as *Excoecaria agallocha* of the famous Nataraja Temple at Chidambaram have probably been worshipped because of their importance to life and livelihoods. For example, the temple tree of Chidambaram, which is a mangrove, might have been chosen because mangroves serve as bioshields against coastal storms and tsunamis.

My study of the oldest tree of India revealed that a tree belonging to the species *Morus serrata* may be the oldest one (over 1200 years). Adi Shankara meditated beneath this spectacularly large mulberry tree in the valley of Joshimath. The age of this tree could be measured only from the year when Adi Shankara preached under it. Thus, there has been a strong correlation between our spiritual history and the history of sacred trees (*Indian Farming*, February 1977). We owe a deep debt of gratitude to Nanditha Krishna and M. Amirthalingam for capturing the wonderful biological and spiritual heritage of our country in this beautiful book.

Chennai

PROFESSOR M.S. SWAMINATHAN  
Chairman  
C.P.R. Environmental Education Centre

## Author's Note

When I wake up in the morning and look out of my window, the first thing I see is a cannonball tree with its unkempt stalks weighed down by clusters of flowers, standing on a bed of fallen flowers, which my gardener carefully collects and puts in a wide bowl of water on the dining table. This is intended to be a stress reliever, for such is the quality of the cannonball flower.

I was born in an old colonial bungalow on an ancestral property known as 'The Grove' in Madras. At the end of the long garden there was, and still is, an ancient pipal tree, beneath which are five snake stones of different shapes and sizes, installed between 1903 and 1905 by my great grandmother, and a Ganesha relief dating back to the late Pallava period. Every day, my morning walk begins with a circumambulation of the pipal tree, the Ganesha, and the snake stones. I remember the days when the new moon arrived on a Monday, and a crowd of women from Teynampet village gathered to circumambulate the tree 108 times. My grandmother had taken the vow too, but, in view of her ill health, I would circumambulate the tree while she sat, prayed, and meditated beneath the pipal tree. And the ubiquitous tulsi still sits proudly in the centre of the open courtyard, within the house. Thus the sacred plants of India's hoary past have been a part of my own personal tradition and it was inevitable that further research on this subject was essential to comprehend our great inheritance.

I have seen sacred plants all over India, from the pipal at Rishikesh to the tulsi at Vrindavan, from the medicinal neem at Vaidishwaran (lord of medicine) temple at Kumbakonam to the khejari in Rajasthan's sacred groves. And I wondered at the knowledge of our ancient Indians. Many of the stories I have narrated in this book have come to me from elders in my

family and those whom either Amirthalingam or I have met in the course of our travels. Others come from Sanskrit and Tamil literature or the sthala purana (local history) of the temple. These are oral traditions, which have held together Indian society.

M. Amirthalingam, scientist and environmental education officer at C.P.R. Environmental Education Centre, who has done path-breaking work in documenting sacred groves and sacred trees in Tamil Nadu and in Tamil literature, worked with me to put together this book. This book is thus the result of the combined research of a historian and a botanist, a Sanskritologist and a Tamilologist.

It is a great honour for us that Dr M.S. Swaminathan, the great scientist and father of the Green Revolution, consented to write the foreword for this book, for which we are truly grateful.

Many people have helped us in many ways. Dr P. Sudhakar took the photographs and checked the taxonomy, particularly the new Latin names, which botanists give their plants; Y. Venkatesh and Prema Srinivasan did the drawings; G. Balaji and R. Sathyanarayanan photoshopped the photographs and drawings; S.P. Vijayakumari, librarian of C.P.R. Environmental Education Centre, and V. Kamesh Raj, librarian of C.P. Ramaswami Aiyar Foundation, searched and found the books and articles we were looking for; and H. Manikandan carefully preserved the cornucopia of materials that we had collected.

Finally, this book would not have been possible but for the interest and enthusiasm shown by Udayan Mitra and Ameya Nagarajan of Penguin India; Ravi Singh, formerly of Penguin India; and Shruti Narain, copy editor at Penguin India, who spent much time and effort in checking every word and line and gave us excellent suggestions to improve the book.

I would like to end by saying that trees and forests were regarded as sacred because our ancestors knew their important role in the environment—giving us oxygen to breathe, purifying the air of its pollutants, giving us food to eat and materials to build homes, providing homes for birds and animals, giving us medicines, and so much more. Their knowledge and respect for scientific information was far greater than ours. We cut down

trees and destroy forests without a thought for the ill effects on the environment and have taken the earth to the brink of major ecological problems like global warming and climate change. It is never too late to realize that nature is more powerful than humans and will win the final war. For our own well-being, it would help if we preserve the wonderful plants that are abundant in nature.

Chennai

NANDITHA KRISHNA





## PART I

---

# Introduction

Bamboo bows drawn taut and lethal arrow heads catching the sun's glint, the Baigas—a dwindling tribe in the remote jungles of Ranjara in Madhya Pradesh's Dindori district—are standing guard for their gods against whom they consider state-sponsored marauders.

These lush jungles have been their homes for generations and Baigas worship trees as gods. Tribal men, women and children now stand guard, armed against axes and saws—ironically, taking on forest officials who they think are facilitating the 'slaughter'.

The local village panchayat held frequent meetings to protest the forest department's policy of felling trees. Running out of patience, the panchayat in its recent meeting asked every able man, woman and child to take up their traditional arms to ensure not a single tree is cut ...

The Baigas, who are nature-worshippers, say trees are their gods and felling them would devastate the ecology.

*The Times of India*, Chennai, 12 April 2012

Sacred trees form an important part of the ecological heritage of India. Most temples, towns, and villages—and sometimes even Sikh temples and Muslims dargahs—are associated with trees. Some plants are sacred to the individual deity; others are sacred to the place. Sometimes, the tree is an integral or even larger part of the sanctity of the shrine; towns and cities and dynasties have been named after sacred trees.

Several plants have been worshipped in India from time immemorial. Wherever the tulsi grows—from the Indo-Gangetic plains to the shores of the Indian Ocean at Kanyakumari—it occupies a position of pride in the central courtyard of the house, tended carefully by the housewife. Apart from the elaborate myths connecting it to Lord Krishna, the tulsi plant has several medicinal properties ([Figure 1](#)). The leaves are swallowed to prevent colds, headaches, stomach disorders and even heart problems, and are used extensively in Ayurvedic medicine. Tulsi is often powdered and drunk as a tea, or just eaten as fresh leaves. To protect and revere this plant with so many medicinal properties, it was designated as sacred, a fitting tribute to its role in providing invaluable healthcare.



*Figure 1*

The worship of plants is an ancient phenomenon in India. It is probably the oldest form of worship. The association of a single tree with a sacred sthala or sthan is reflected in the chaitya vriksha and sthala vriksha (explained below) of literature and society.

The plants that were sanctified reveal the socio-economic and health concerns of ancient peoples. Some were sanctified for their economic role, some for their produce, some for providing homes for animals and birds, and others for their medicinal and air-purifying qualities. The process reveals the people's knowledge of their environment and its conservation.

Tree worship is documented in all ancient societies all over the world. The earliest form of worship was probably the veneration of the tree. When people turned to food production, the Mother Goddess or the Earth Mother became the chief deity. Fertility, creation, and the world of plants and animals became her blessings to her devotees. The worship of the tree was the adoration of her creative abilities, symbolizing fertility so essential for the survival of the early people. Spirits—good and bad—were believed to reside in trees. If the trees were worshipped, then the resident spirits were pleased. As sacred forests were replaced by agriculture, a single tree was left, which was designated as the sacred tree.

The earliest temples were little more than images placed under trees. Later, the tree and the image were enclosed by a fence made of wood, followed even later by stone. The temple was a later construction. Numerous references are made in literature to trees as abodes of gods. They

sheltered the object of worship: a deity, a fetish, a weapon, or any other. As the open-air shrine beneath the tree was replaced by a shrine or temple for the deity, the tree became the sthala vriksha of the temple; the tree was associated with the deity and became an inseparable part of the local mythology. The sthala vrikshas of India constitute the single genetic resource for the conservation of species diversity. The sthala vrikshas once played a major role in local ecology and their worship celebrates our biological heritage.

The sacred tree had many names: kalpa vriksha (tree of life which grants wishes), chaitya vriksha (tree shrine), and sthala vriksha (tree of the sacred site). There are many places that are named after sacred plants like Vrindavan, forest of the vrinda (tulsi or basil plant), near Mathura in the north, or Kanchipuram, town of the Kanchi (river portia tree), near Chennai in the south. Clans like Kaushika, Pallava, and Kadamba were named for grass, leaf, and flower respectively.

Sacred trees are generally associated with Hindu deities, Jaina Tirthankaras, and the Buddha. During the medieval period, each temple had its sthala purana or story of the sacred site written, which emphasized the sacred characteristics of the tree and the water body associated with the temple.

Trees were revered for any one of four primary reasons: for their medicinal qualities, such as the neem and the tulsi; for their economic value, such as the Alexandrian laurel which was used to build catamarans and ships off the Coromandel Coast; for their ecological importance, such as the mangrove in Chidambaram; and for their sociocultural role, such as the banyan, the meeting place of the Bania or business community.

## In the Beginning ...

Plant worship is probably the oldest form of religion, because of the sheer magnificence and antiquity of huge trees. The Rig Veda (X.97) says that plants are ‘those that grew in old times ... much earlier than even the shining ones [devas] ... and are different from many different places ...’ Plants were a source of energy, with healing powers, and personified the divine. Agni says ‘in plants and herbs ... I have deposited the germ of increase’ (Rig Veda, X.183.3). The tree is the ‘lord of the forest ... whose praises never fail’ (Rig Veda, IX.12.7), a symbol of self-regenerating life and immortality. A medicinal herb is a goddess born on earth (Atharva Veda, VI.136). Trees were called vanaspati or ‘lord of the forest’ and invoked as deities along with the waters and mountains. The Rig Veda (X.146) invokes the forest as Aranyani, a jungle deity.

### *Indus–Saraswati Civilization*

There are several examples of tree worship on the seals of the Indus–Saraswati civilization. Of these, the sacred fig or pipal (*Ficus religiosa*) and the Indian mesquite or shami (*Prosopis spicigera*) are represented more frequently than other trees of doubtful identity and suggest that this was an important aspect of the Indus civilization. Trees are placed on a pedestal or fenced in, like village trees and sacred trees in temples ([Figures 2\[a\]](#) and [\[b\]](#)).

On a steatite seal from Mohenjo Daro, a figure with a horned headdress, long braid, and bangles on both arms stands within a pipal tree. On one side, there is a kneeling worshipper and a gigantic ram—possibly a sacrificial offering. A human head rests on a small stool. Seven male figures

are in procession below—possibly the sapta rishi of Vedic religion, a hierarchy working under the guidance of the Supreme Being, identified with the seven stars of the Big Dipper or Ursa Major. All the figures are dressed identically, with a single plumed headdress, bangles, and folded dhotis. The figures along the top of the seal are interspersed with pictographs and a single sign at the base of the tree ([Figure 3](#)).



Figure 2(a)

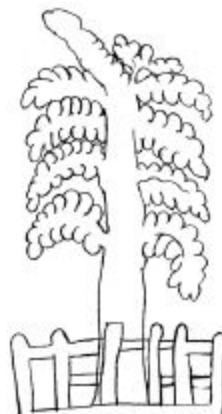


Figure 2(b)

According to Buddhist scriptures, sacrifices were performed to yakshas or spirits of the trees (Coomaraswamy [1928] 1980, I.25; II.9). Even today, Hindus circumambulate the pipal seven times to the prayer *vriksha rajaya namah*. This seal may be a Harappan origin of this ritual. Other signs of pipal worship include a tree growing out of a central hub flanked by two unicorn heads, with pictograms below ([Figure 4](#)); a male figure—probably the spirit of the tree or yaksha—standing within a stylized pipal tree, a

recurring theme on several mass-produced moulded pieces as well as on seals (Figure 5); and a nude male deity with a single branch bearing three pipal leaves rising from the middle of his headdress. The male figure has three faces, one facing front, one facing left, and one facing right. He is seated in a yogic posture, with bangles on both arms and an elaborate headdress of two outward buffalo-style curved horns (Figure 6). This person could only be Lord Shiva, the three-faced Trimukha or Trimurti, incorporating the Creator, the Preserver, and the Destroyer as he is celebrated in later art, such as the 8th century caves at Elephanta near Mumbai. This is also an early form of Dakshinamurti, or Shiva as a teacher sitting beneath a pipal tree. The Rig Veda (X.97.5) refers to the Supreme Being thus: ‘Your abode is the *ashvattha* tree; your dwelling is made of its leaves.’



Figure 3



Figure 4





*Figure 5*



*Figure 6*



*Figure 7*

While male figures stand within the pipal, a female figure with an arm stretched out sits on the shami or khejari and a tiger looks back at her ([Figure 7](#)). This theme is repeated on several seals and bas-relief tablets from Mohenjo Daro, where the tiger invariably looks back at a woman seated with one leg folded beneath the other, possibly in a yogic posture, on a shami tree. This is obviously the spirit of the tree, accompanied by the

tiger, since no ordinary mortal would be accompanied by a tiger. Sometimes, a flying bird faces the woman and a bull precedes the tiger (Figure 8).

In an unusual seal, a shamanic ritual is portrayed, wherein a woman with a horned headdress either dances or fights with a tiger. The tree behind the woman has fern-like leaves and is not the khejari (Figure 9).



*Figure 8*



*Figure 9*



*Figure 10*

Another terracotta seal displays a framed swastika with a khejari tree on which sits the kneeling woman and the inevitable tiger looking back on one side, and an elephant on the reverse (Figure 10). In the next seal, there is a composite figure with the body of a tiger and the head of a woman with a

long braid and horns on her head while a khejari grows out of the centre of her head (Figure 11).



Figure 11

The tiger is the vahana (vehicle) and companion of the goddess, Shakti or Durga, who alone could quell the carnivore, a symbol of fertility. Could the woman on the tree be a proto-Durga who, in later tradition, rides the tiger? The khejari is the tree of Katyayani, a form of Durga. In Tamil literary sources about the five geographical divisions of land (aindu tinai) (Krishnan 2005, 34–36), Kotravai (or Durga, goddess of war) is the deity of the paalai or desert, as described by the Tolkappiyam (Raman 2005, 18), the earliest extant Tamil book (circa 200 BCE) and repeated in later Sangam literature. Kotravai comes from the Tamil kotraan, a desert plant of doubtful identity (*Tamil Lexicon* 1982, II.1167).

In all the seals of the woman, the tree, and the tiger, the tree is invariably the shami, better known as the khejari; it is a desert plant, which lends credence to the theory of an Indus–Saraswati civilization, where the river had started to dry up. Even today, the Bishnois of the Rajasthan desert regard the khejari as their sacred tree, essential for their survival, and have given up their lives to protect the plant. The entire Chipko movement is based on the protection of the sacred khejari or shami, for which 363 Bishnois gave up their lives in 1731 and which led to the international ‘Hug a Tree’ movement. The worship of the khejari apparently goes back to the earliest civilizations of India. The female figure beside the khejari separates two battling tigers (Figure 12), or appears with a sapling growing between

her horns. In an unusual seal from Harappa, a woman delivers a plant (Figure 13).



*Figure 12*



*Figure 13*

In the Vedic tradition, the shami was credited with the ability to produce fire. A legend in the Rig Veda (X.95.1–18) states that Pururavas created the primeval fire by striking a branch of the shami against one of the ashvattha (pipal). In later literature and tradition, the khejari is a feminine tree, identified with the Mother Goddess as Shamidevi (Stutley 1985, 122) while Shiva (as Dakshinamurti), the Buddha, and the Jaina Tirthankara Anantanatha—all men—sit in meditation beneath the pipal tree.

The spirit of the tree, the yaksha or yakshi, is as old as the Indus–Saraswati civilization, giving sanctity to the tree within which he or she dwells.

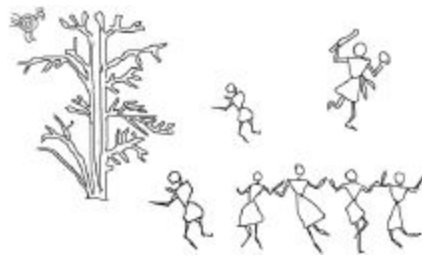
### ***Tree Worship in Central Indian Cave Paintings***

Deep in the heart of the Indian subcontinent, in central India, are the caves and rock shelters of the Vindhya and Satpura Ranges in Madhya Pradesh, home to Bhimbetka (Raisen district), a living art gallery of Stone Age people, where their lives and concerns, and their efforts to survive the wildlife that surrounded them, are depicted vividly. The caves have managed to preserve the wonderful paintings for posterity. The entire area is covered with thick vegetation, abundant natural resources, flora, and fauna. The paintings depict the lives and times of the people who lived in the caves as well as the natural environment.

Although trees were possibly the earliest objects of worship, there are few scenes of tree worship in rock art. In rock shelter number 10, there is a painting of a tree on which is seated a peacock; a man holds a sword and kneels to the right of the tree. On the left is a row of dancing people. I have little doubt that this is a Mesolithic (10,000–4000 years BP) scene of tree worship, in spite of the poor quality of the painting ([Figure 14](#)).

In another Mesolithic scene, ceremonial-costumed figures dance around a tree held by a kneeling figure. Alpana- or kolam-like designs to the right of the tree suggest that this was some kind of celebration (Wakankar 1975, 20) ([Figure 15](#)).

A dark red tree, possibly a kalpa vriksha, appears on an Early Historic (2500–2000 years BP) painting from Kharwai, also situated in Raisen district of Madhya Pradesh. Two peacocks stand to the right of the tree. The tree resembles the kalpa vriksha found in the art of Sanchi, Vidisha, and elsewhere ([Figure 16](#)).



*Figure 14*



*Figure 15*



*Figure 16*

## Tree Worship in the Vedas

The Rig Veda mentions the plants tabulated below, all regarded as sacred in later literature.

The plants mentioned in the Rig Veda are regarded as sacred because they appear in the Samhita. The Aryans of the early Vedic period were pantheists, worshippers of nature. The same trees were worshipped in both the Harappan sites and in the Vedas, indicating that they shared the same culture and traditions.

Trees are very important for locating a text. The plants of the Rig Veda situate the Veda in the subtropical plains of India and Pakistan. Just like the fauna of the Rig Veda is obviously Indian, with peacocks (mayura), swans (hamsa), water buffaloes (mahisha), Indian bison (gaura), camel (ushtra), monkey (kapi), crocodile (makshika), elephants (varana), and horse (ashva)—all of which are common to the region. While scholars may debate over the origins of the Veda, there can be no denying geography. People will only write about the plants and animals that they are familiar with. There are no cold or temperate climate plants in the Rig Veda, not even the Kashmiri deodar.

Soma is the most important plant in the Rig Veda. Mandala IX of the Rig Veda is called the Soma mandala, devoted to the ritual of soma pavamana or ‘purification of soma’, and six hymns in other mandalas are devoted to its praise. Soma was a ritual drink extracted from a plant. Where did the soma plant grow? According to the Mahabharata (10.785; 14.180), it grew on Mujavant, a mountain located in the Himalayas. North India is full of mountains, and Mujavant could be anywhere in the foothills. The plant had long stalks and was yellow in colour. The soma drink was prepared by priests who pounded the plant with stones. The juice was filtered through

lamb's wool and mixed with other ingredients (including cow's milk) before it could be drunk. The imbiber became immortal (Rig Veda, VIII.48). This final statement sounds as if there is an element of fantasy about the soma: after all, immortality is still unknown! Soma was regarded as the oshadhipati or 'lord of medicine' and was regarded as a deity. There are many Rig Vedic descriptions of the mysterious soma plant that may correlate with the known stages or aspects of fly agaric (psychotropic mushroom), botanically known as *Amanita muscaria*, which grows in mountainous regions like the Himalayas. The theory that it had a Central Asian origin is untenable, especially when all the other Vedic plants belong to this region.

### **Sacred Plants of the Rig Veda**



Plant Name (in Rig Veda)	Plant Name (in the Vernacular)	Scientific Name	Reference in Rig Veda
<b>Trees and Herbs</b>			
Ashvattha	pipal	<i>Ficus religiosa</i>	VI.24; I.611; I.135.8
Pippala	pipal	<i>Ficus religiosa</i>	I.164, 20
Bhangā	Indian hemp	<i>Cannabis sativa</i>	IX.61, 13
Karanja	Indian beech	<i>Pongamia glabera</i>	I.53, 8; X.48, 8
Karkandhu	jackal jujube	<i>Ziziphus oenopia</i>	I.112, 6
Khadira	cutch tree	<i>Acacia catechu</i>	III.53, 19
Kimshuka	flame of the forest	<i>Butea monosperma</i>	X.85, 20
Palasha, parna	flame of the forest	<i>Butea monosperma</i>	X.97, 5
Nyagrodha	banyan	<i>Ficus indica</i> / <i>Ficus benghalensis</i>	I.24, 7
Shalmali	silk cotton tree	<i>Salvia malabarica</i>	VII.50, 3
Shami	Indian mesquite	<i>Prosopis spicigera</i>	X.95.1–18
Shimbala	flower of salmeli (silk cotton)	<i>Salvia malabarica</i>	III.53, 22
Shimshapa	sissou, Indian rosewood	<i>Dalbergia sisu</i>	III.53, 19
Soma	—	—	Mandala IX
Urvaruka	cucumber	<i>Cucumis sativus</i>	VII.59, 12
Vibhaidaka	bastard myrobalan	<i>Terminalia bellarica</i>	VIII.86, 6; X.34, 1
<b>Aquatic Plants</b>			
Kiyambu	water lily	<i>Nymphaea alba</i>	X.16, 13
Pundarika	white lotus	<i>Nelumbo nucifera</i>	X.142, 8
Pushkara	blue lotus	<i>Nymphaea caerulea</i>	VI.16, 13; VII.33, 11
<b>Grasses</b>			
Durva	Bermuda grass	<i>Panicum dactylon</i>	X.16, 13; 134, 5; 142, 8
Kasha	wild sugarcane	<i>Saccharum spontaneum</i>	X.100, 10
Kusha	grass of lucky augury	<i>Poa cynosuroides</i>	I.191, 3
Munja	Bengal cane	<i>Saccharum munja</i>	I.191, 3
Paka durva	Bermuda grass	<i>Panicum dactylon</i>	X.16, 13
Shara	Bengal cane (a reed)	<i>Saccharum sara</i>	I.191.3
Trina	lemongrass	<i>Cymbopogon citratus</i>	I.161, 1; 162, 8, 11; X.102, 10
Ulapa	cogon grass	<i>Imperata arundinacea</i>	X.142, 3
Vamsha	bamboo	<i>Bambusa arundinacea</i>	I.10, 1
Yava	barley	<i>Hordeum vulgare</i>	I.23.15; 66.3; 117.21; 135.8; 176.2; II.5, 6; 14, 11; V.86; VII, 3, 4; VIII, 2, 3; 22, 6; 9, 78

Bhang, still commonly consumed as an intoxicant during festivals and weddings in north India, is one of the epithets used to refer to soma in the Rig Veda (IX.61, 13), suggesting that soma was nothing more mysterious than bhang or hemp (*Cannabis sativa*), a medicinal shrub that grows on the foothills of the Himalayas and in the hills of Pakistan. If so, there is no mystery about soma.

In the Vedic period, all of nature was, in some sense, divine—part of an indivisible life force uniting the world of humans, animals, and vegetables.

Besides trees, grasses and herbs were also held sacred. Trees, says the Rig Veda, are the homes and mansions of the gods (X.97.4). The udumbara (cluster fig) was used for making the yupa (sacrificial pole), udumbara and khadira for making the sruva (ladle), nyagrodha for making the chamasa (sacrificial bowl), and bilva for its fruit and for making the yupa for the sacrifice.

Varuna is the root of the Tree of Life, the source of all creation (Rig Veda, I.24, 7), a great yaksha reclining in tapas (meditation) on the waters from wherein a tree springs from his navel (Atharva Veda, X.7, 38). In the Yajur Veda (V.6, 4), this quality is inherited by Prajapati and, in the Mahabharata, by Narayana. The tree is the ashvattha but later the Creator was seated on the lotus, which issued from Narayana's navel. The pipal was held in great esteem in the Vedic period. A tree of huge dimensions, it was symbolic of the cosmos and even of the Brahman. The imperishable pipal was later called the akshaya vata, the eternal tree. The pipal tree was the basis of a profound metaphysical doctrine in Rig Vedic and later Vedic literature.

The Rig Veda (X.97) says that plants personify the divine and trees are the Vanaspati or lords of the forest, self-regenerating and eternal. Medicinal herbs are goddesses, according to the Atharva Veda. Forests are deities, called Aranyani. There are significant references to tree worship in the Atharva Veda (XIX.39, 6), which says that the ashvattha is the abode of the gods (*ashvattho deva sadanah*). The Atharva Veda says that the gods sit beneath the pipal tree in heaven. There are several references in the Atharva Veda to folk cults, including those that worshipped trees, spirits, and demons. There are also numerous hymns and verses where the tree was not only an object of worship but also a symbol of the cosmic tree of life. The common pipal tree symbolized the universe long before the Buddha obtained enlightenment beneath it.

The Shvetashvatara Upanishad (3.9) says that a tree of huge dimensions filling the space around it with its numerous branches and foliage, with a lofty trunk and many stems rising high in the sky, was the symbol of the Cosmic Tree or Brahman. According to the Chandogya Upanishad (6.11),

the Cosmic Tree symbolizes life while the Taittiriya Brahmana equates Brahma with the forest and the tree: *Brahma tad vanam, Brahma sa vriksha asa* (Brahma is the forest, Brahma is the tree; Rig Veda, X.81.4; Taittiriya Brahmana, II.8.9.6). The description resembles the banyan. Several other trees are listed as sacred: pipal, banyan, shami, flame of the forest, cluster fig, and Indian gooseberry (Chandogya Upanishad, 6.11). The branches of the pipal and shami were used to kindle the sacred fire. The Indian plum is another tree frequently mentioned in the Atharva Veda. It was, in all probability, popular in the Rig Vedic period also, for its wood was used to make sacrificial bowls.

The Papavimochana Sukta of the Atharva Veda (XI.5, 1–23) has an invocation to numerous deities for deliverance from distress, which includes trees (vanaspati), herbs (aushadhi) and plants (virudha). The soft wood of the shami and the pipal was, as the lower and upper sticks, used for kindling the sacred fire. The fruit of the shami tree is called shamidhanya (Agrawala 1970, 115).

The Rig Veda mentions the word naicashaakha, which has been described as ‘worshippers of the banyan tree’, whom the Veda finds distasteful because they indulged in human sacrifices. This is reminiscent of the Indus seal ([Figure 3](#)), where a worshipper offers a human head and a ram to a pipal tree within which stands a male figure.

## Tree Worship in the Epics, Puranas, Jainism, and Buddhism

There are sacred trees for each yuga. \* The sandalwood tree (*Santalum album*) is the sacred tree of the Satya or Krita Yuga; champaka (*Michelia champaca*) of the Treta Yuga; the capper bush (*Cleome fruticosa*) of the Dwapara Yuga; and the jackfruit tree of the Kali Yuga. Thus every era had its own sacred tree.

The Ramayana and Mahabharata make several references to the worship of sacred plants and trees. It is evident that the Ramayana is not the product of poet Valmiki's imagination and not at all far-fetched. Valmiki's botanical information, like his geography, is authentic. Valmiki points out a plant's geography and distribution and gives ethnic information of his times. Valmiki also frequently brings out the now-forgotten uses of plants. His Ramayana is the product of a single author and the text is a highly reliable account of that period, including edible and non-edible vegetation, sacred plants, medicinal plants, and forest ecosystems.

Four sentiments dominate the forest environment: shanta (calm), madhura (sweetness), raudra (anger), and vibhatsa (disgust) (Amirthalingam and Sudhakar 2013, 13). The thick forests include Naimisha-aranya, Chitrakuta and Dandakaranya, Panchavati, Kishkinda, and Ashoka vana. The scope ranges from Ayodhya in modern Uttar Pradesh to Sri Lanka, giving a comprehensive idea of the different natural regions that fall within this area, which covers several major ecosystems: tropical dry deciduous (Chitrakuta and Dandakaranya), tropical deciduous (Panchavati), dry and moist deciduous (Kishkinda), alpine semi-forests (Himalayas, from where Hanuman plucked the sanjivani plant from Meru), and evergreen tropical forests (Sri Lanka).

According to the Ramayana, there were several types of sacred trees. The rathya vriksha or roadside trees and the devata nishthana vrikshas or abodes of deities were further divided into the yaksha chaitya (yaksha's tree shrine) and chaitya vriksha (tree shrine). There were also the chaturpatha varthi vriksha (tree at the junction of crossroads with revetments around its trunk) and smashana vriksha (tree grown on the cremation grounds) (Ramayana, 2.3.18; 50.8; 5.12.18; 22–29). Sita, on her way to the forest, worshipped and circumambulated a large banyan tree on the banks of River Kalindi, entreating it to enable her husband to fulfil his vow (Amirthalingam and Sudhakar 2013, 18). The forest of Dandaka, where Rama, Lakshmana, and Sita lived, and the grove of ashoka trees where Sita was imprisoned in Lanka are still sacred. The Ramayana makes several references to the worship of sacred plants and trees like the tulsi, pipal, banyan, and Indian gooseberry.

The Ramayana describes a wooden ritual post made of sleshmaataka wood (1.14.22–23). Six poles of bilva tree were also erected as yupas (1.4.22), as were poles of the cutch tree, for the yagna (1.4.2).

When Rama and Lakshmana were scouring the forest for Sita, they came across a badari tree. They asked the tree whether it had seen Sita. The tree answered in the affirmative and pointed in the direction in which Sita had gone. Pleased, Rama blessed the tree and gave it a boon that it would never die. In another incident, Rama came across Sabari, a poor tribal woman who was his great devotee. She tasted each and every badari fruit to see whether it was tasty before offering it to Rama. Rama said that anything offered to him with a pure heart and genuine love was clean and pure. Since then, the fruit has been regarded as sacred and is included in religious ceremonies.

There were strict injunctions against the felling of trees in Lanka. Ravana says that he had never cut down a fig tree in the month of Vaisakha (April–May), and so he could not understand why fate was cruel to him. The Ramayana says that even during the reign of Ravana, the planting of trees was considered a worthy objective. There was a popular belief that the

cutting of trees would bring about the destruction of the woodcutter and his family (Bhatla, Mukherjee, and Singh 1984, 37–42).

The darbha grass, cut in bunches and spread out as a seat with the ends pointing eastwards, was used for sacred purposes (Ramayana, 1.3.2), while the grass was pointed in the opposite direction during the performance of the shraaddha or death ceremony (Ramayana, 2.104.8). The fresh leaf blade, elongated and pointing with sapphire-like lustre, was used as a missile by Rama (Ramayana, 5.38.29).

The story of the origin of kusha grass and its religious importance is reinforced after Sita's bhumi pravesah, when she entered the earth to leave this world. Sita prayed to her mother, the Earth, to take her back. The earth opened up. Her son Kusha ran forward to save his mother but could grasp only her hair. The hair turned to grass, and it was named for Kusha as he had tried to save her. Since then the kusha grass is held sacred and used in various rituals (Uttara kanda of the Ramayana).

The Mahabharata (Southern Recension, 12.69, 41 ff) says that holy trees should not be injured as they are the abodes of devas, yakshas, rakshasas, and so on. The epic says that the yaksha is a vrikshavasin (tree dweller) (2.10, 399) and that trees have life (2.18.15–17). It has several references to the worship of plants. Many were regarded as deities. Plants such as the basil, pipal, banyan, and Indian gooseberry were worshipped by the common people. In the Adiparva (138.25), the epic says the human heart makes man regard plants and trees with sanctity and as worthy of worship.

The Mahabharata (3.187–89) also says that during the maha pralaya (great flood), the sage Markandeya was wandering around the huge abyss of water when he saw a child floating on the leaf of the banyan tree. The child identified himself as Narayana, the resting place of souls, the Creator and Destroyer of the Universe. The motif of the child on the leaf appears often in later Tamil literature and art. According to the Tamil epic Manimekhalai (XXV.178–192; XXIX.3–10), a Chola king went to the land of the Nagas and fell in love with a Naga princess who bore him a son, whom she sent to the king with a tondai or Indian caper creeper tied around him, as a mark of identification. As the ship was lost in a storm, the waves

brought the child to the shore, giving him the name Tirai Taru or ‘given by the waves’. The Perumbaanaatrappadai (30–31) says that the child was Narayana, ancestor of Tondaiman Ilan Tiraiyan, ruler of Tondaimandalam in north Tamil Nadu, the land named for the Indian caper creeper on which he was found. An Amaravati inscription also says that Drona’s son Ashvatthama and an apsara (water divinity) had a child that was kept on a tender leaf. Such associations made the plants sacred (Krishna 1980, 7–8).

Much later, the popular image of the child Krishna floating on a banyan leaf in the ocean was identified with Krishna and named Vata-patra-shayi, or ‘he who rests on the banyan leaf’. The cult of Krishna furthered the worship of trees. Krishna lived in a village surrounded by forests full of trees and told his friends to worship the beautiful trees that lived for the benefit of others. Every part of the tree, he said, is useful and everyone who approaches a tree benefits from it. Krishna advised the cowherds to follow the example of the tree in their lives. His attribute was the flute, a simple wind instrument made of bamboo, which he played in the vrinda or tulsi forest on the banks of the Yamuna River on moonlit nights. His favourite tree was the kadamba, which appears beside his image. While planning the city of Dwarka, Krishna fought Indra to bring the divine parijata (night flowering jasmine) tree to earth. His love of trees was translated into nikunja lila (play in the bower or arbour) by the Premopasaka Sampradayis of Braj, according to which devotees should meditate upon the divine couple Radha and Krishna’s nikunja lila and attain spiritual bliss as the path for attaining total happiness.

The Mundaka Upanishad describes the Tree of Life on which dwell two birds in eternal camaraderie, one of which eats the fruits while the other looks on silently. The two represent vitality and reflection, Nara and Narayana, man and the divine. The root of this symbolism is found in the Rig Vedic hymn of Dirghatamas represented by the Tree of Life (Rig Veda, I.22.164.20).

### ***Puranic and Later Literature***

The Vamana Purana (Lal, Singh, and Mishra 2014, 18) identifies some plants with specific gods and goddesses.

- The lotus, a water plant which rose from the navel of Lord Vishnu, is the seat of Brahma the Creator.
- The thorn apple arose from the chest of Shiva.
- The cutch tree was created from the middle of the body of Brahma.
- The tamarind was created from the palm of Parvati.
- The five-leaved chaste plant emerged from the forehead of Ganesha.
- The flame of the forest came out of the right side of Yama.
- The fig tree came out of the north-south side of Yama.
- The bamboo emerged from Rudra.
- The bamboo emerged from Skanda also.
- The pipal emerged from the sun.
- The shami came from Katyayani (Durga).
- The Bengal quince emerged from Lakshmi.
- Reeds came out of Nagaraja, the lord of serpents.
- The cotton-wool grass came from the snake king Vasuki.

The Matsya Purana and the Padma Purana describe a great tree plantation ceremony called the vriksha mahotsava. The Matsya Purana (154, 506–12) equates the planting of a tree with ten sons. In the Narasimha Purana (15, 7), the tree is equated with Lord Brahma himself.

According to a popular myth, Shiva and Parvati were once enjoying privacy when Agni, the god of fire, suddenly entered the room without permission. Since her privacy was disturbed, Parvati got very angry, and was even more enraged when she realized that Shiva had not felt that there was anything wrong with Agni's actions! She cursed all the devas to appear on earth in the form of trees. Fearing her curse, the devas approached her and explained that if all of them were to turn into trees, demons would be strengthened. Once they became strong, they would rule the world. There would be no one to control them, which would cause the spread of anarchy everywhere. They begged her to revoke the curse. Parvati replied that her curse could not be taken back but, if not as full trees, the gods would partly live inside trees. Hence Lord Vishnu entered the pipal, Lord Shiva the banyan, and Goddess Lakshmi the neem, thus sanctifying the three.

In the Vishnu Sahasranamam (thousand names of Vishnu), the cluster fig, pipal, ashoka, and banyan are some of the names of Vishnu, while Shiva is



conceived as a yupa made of shami wood. Parvati is *aparna* or leafless, suggesting that even the dry tree trunk bears shoots when associated with Goddess *Aparna*.

In the Puranas, the *Vanadevatas* are happy forest deities. Cheta (mischief-maker) in the *Mrichhakatika* presumes that the (watchful) eye of the *Vanadevata* is as effective as that of the sun and the moon that are witnesses to the good and bad deeds of human beings. This is a traditional belief that has made trees and forests into earthly representatives of divinity.

Finally, according to the *Vishnudharmottara*, each of the *Sapta Matrikas* (seven mothers, also called *sapta kanni*) sits beneath a tree. The seven mothers and their trees are as follows (Gopinatha Rao 1971, 145–58):

1. Brahmani: *palasha* (flame of the forest)
2. Vaishnavi: *raja vriksha* (royal tree; *chirauli* nut)
3. Indrani: *kalpaka* (turmeric or *Curcuma*)
4. Chamunda: *plaksha* (cluster fig)
5. Maheshwari: *pundarika* (lotus)
6. Kaumari: *plaksha* (cluster fig)
7. Varahi: *kalpaka* (turmeric or *Curcuma*)

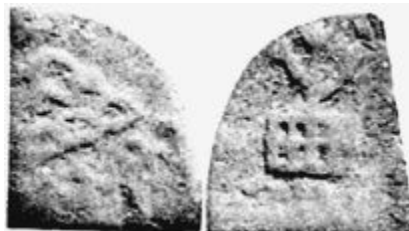


Figure 17

Punch-marked coins from Magadha (600–400 BCE) depict stylized and fenced trees with branches growing on either side of the stem. On later punch-marked coins, trees have been depicted within and outside a circle. In cast copper coins dating to the 3rd century BCE from Rajagriha, Sarnath, and Kausambi, trees are again depicted within a fence. A fenced tree was a sacred tree. In a coin of Agathocles (200 BCE) from Ai Khanum (Kunduz Province, north Afghanistan), there is a tree inside a railing (Figure 17). Even today, many Muslim villagers in Pakistan and Afghanistan tie strings and cradles to trees, in a prayer for progeny.

## ***Jainism***

Buddhism and Jainism, being offshoots of the Vedic religion, continued many of the earlier traditions. One of these was the sanctity of the tree, particularly the pipal. Each form of the Buddha and each of the Jaina Tirthankaras was associated with his own tree, under which he attained enlightenment. Plants and trees played an important role in Jainism.

Although the historical founder of Jainism was Mahavira (599–27 BCE), the Jaina Purana and Charitra mention that Mahavira was the twenty-fourth Tirthankara. Jainism was closely associated with Hinduism, and Jainas continue to consider themselves to be members of the Hindu community, celebrating the same festivals and intermarrying with Hindus.

Numerous plants and trees were held sacred and associated with the Tirthankaras, each of whom had an animal symbol and his own specific tree (see table below) under which he received kevala (special knowledge), like the Bodhisattvas.

Each Tirthankara was also associated with a yaksha or yakshi, recognized as the spirit of the tree. Thus trees and plants enjoyed and played an important role in the religious traditions of Jainism.

Jainism was concerned with the natural world. However, while trees and flowers were profusely used as ornamentation, they were rarely regarded as objects of worship. Nevertheless, in a frieze in the Jaya-Vijaya Gumpha, Cave 5, at Udayagiri (Odisha), there is a scene of a sacred tree, probably the pipal, with an umbrella above and a banner on either side, enclosed within a railing and being worshipped by a couple on either side. The men have folded hands while the women carry trays of flowers and garlands. As Jainism was not influenced by Buddhism, this is yet another proof that the worship of the pipal tree long preceded the Buddha and was merely adopted by the Buddhists. Similarly, in Cave 3 (Anantagumpha) at Khandagiri in Odisha, a sacred pipal under an umbrella and within a railing is worshipped by a couple and two other persons.

### **Jaina Tirthankaras and Their Trees**

---

<b>Tirthankara</b>	<b>Associated Tree (Name in Sanskrit)</b>	<b>Tree Name in English/Common Vernacular</b>
Adinatha or Rishabhanatha	nyagrodha	banyan
Ajitanatha	sala	sal ( <i>Shorea robusta</i> )
Sambavanatha	sala	sal ( <i>Shorea robusta</i> )
Abhinandanananatha	priyangu or sanashmajamule or vesali	beauty berry
Sumatinatha	sala or priyangu	sal or beauty berry
Padmaprabha	shrisha or priyangu	beauty berry
Suparsvanatha	sushira	acacia
Chandraprabha	nagadrama	Indian rose chestnut
Suvidhinadha	naga or malli	Indian rose chestnut
Shitalanatha	vilva	Bengal quince
Shreyasanmatha	tumbara or tindaka	flame of the forest
Vasupujya	patalika/kadamba	trumpet flower/wild cinchona
Vimalanatha	jambu	Indian black plum
Anantanatha	ashvattha	pipal
Dharmanatha	dadhiparna or sapta-chhada	Indian devil tree
Shantinatha	nandi vriksha	red cedar
Kunthunatha	tilakataru	lodh tree/Californian cinchona
Aranatha	amra	mango
Mallinatha	ashoka	ashoka ( <i>Saraca indica</i> )

Munisuvrata	champaka	champak ( <i>Michelia champaka</i> )
Naminatha	vakula	blue lotus/Indian nedler
Neminatha	mahavenu or vetasa	bamboo
Parshvanatha	dhataki	fire flame bush
Mahavira	sala	sal ( <i>Shorea robusta</i> )

---

*Source: B.C. Bhattacharya 1974, 34–60*

Special mention needs to be made of the beautiful lotus. The sacredness attached to the flower and the philosophical symbolism gave it a special status in Indian art and it appears frequently in early Indian art.

### ***Buddhism***

In early Buddhist monuments, the Buddha (563–483 BCE) was never represented in human form but as his symbol, the tree. The tree is a substitute for the Buddha himself, as are other symbols like the dharma chakra, footsteps, and so on. There are several scenes of common people, kings, queens, and Brahmanas worshipping the Buddha represented as a tree, mounted on a platform and festooned with garlands. In the sculptures at Bharhut and Sanchi, we find people and animals paying obeisance to several sacred trees, representing the various stages of enlightenment of the Buddha. Gautama Buddha chose groves for his discourses and pointed to the roots of trees as the source of knowledge. His followers were advised to live in forests amid plants and animals. Later literature—the Pali Jatakas and Sutras—built up an elaborate mythology and identified three types of Buddhas: Dhyani (meditating), Manushi (mortal), and Bodhisattvas (future Buddhas). All the Buddhas received enlightenment under various bodhi trees. Tree worship was known as rukkha-maha in the Rukkha Dhamma Jataka (Gupte 1972, 108–10).

Four trees are associated with the enlightenment of the Buddha. He sat under a pipal on the banks of the Niranjana River for the first seven days, in

the bliss of his enlightenment; then he arose and sat under a nyagrodha for another seven days, in the bliss of his illumination; then he sat beneath a muchalinda (Indian oak) for another seven days, in the bliss of his calm; and, finally, he sat beneath a rajayatana (wild mango or *Buchanania latifolia*) for seven days, in the bliss of his emancipation. The four trees are known as the Tree of Enlightenment, the Tree of the Goatherd, the Tree of Muchalinda, and the Tree of Emancipation, respectively. The muchalinda was named after the serpent king who protected the Buddha from the storm that raged as he was meditating.

According to the Pali canons, every Buddha has his bodhi tree (Kanitkar 2011, 175).

- The bodhi tree of Sikhin is a white lotus.
- The fig tree is the symbol of Kanak muni or Konagamana. According to Buddhaghosha's description, it cannot have flowers. An old Indian belief states: 'He who sees the flowers of the fig tree becomes a monarch.'
- The bodhi tree of Buddha Kakut Sandha is the acacia, which abounds with fruits and flowers.
- A carving on a medallion at Sanchi depicts the bodhi tree under which Buddha Vipachit received enlightenment as the trumpet flower tree.
- The bodhi tree of Buddha Vishvabhrit is similar to that of Vipachit.
- According to another Buddhist tradition, the bodhi tree of Sikhin is the white mango, adorned with fragrant flowers and rich in delicious, juicy fruits, hanging together from the same stalk.
- The ashoka tree was the bodhi tree of Buddha Vipaswi. This tree was sacred to both Hindus and Buddhists. It was also the tree under which Gautama Buddha was born.
- Buddha Kapilavastu was associated with the Indian black plum tree.
- According to Buddhaghosha, the traditional bodhi tree of Vishvabhu was the sal.
- Bodhisattva Maitreya, the eighth Buddha was associated with the champaka tree.



Figure 18

A special form of temple was constructed around the bodhi tree, consisting of a gallery, supported by pillars, encircling the tree. Many reliefs depicting this form of worship are found at Bharhut, Sanchi, Mathura, and Amaravati. Seven bodhi trees represent seven different Manushi Buddhas in the stupas of Bharhut and Sanchi: paatali for Vipasyin (Figure 18), shala for Vishvabhu (Figure 19), shirisha for Krakucchanda (Figure 20), udumbara for Kanakamuni (Figure 21), nyagrodha for Kashyapa (Figure 22), pundarika for Sikhin (Figure 23), and pipala for Shakyamuni (Gautama Buddha) (Figure 24). The identification of these Buddhas on the basis of their bodhi trees was done with the aid of a panel, which contains the names of the Buddhas inscribed below their respective bodhi trees (Srivastava 1983, 135). Interestingly, only the Mahapadana Suttanta mentions, in passing, the bodhi trees of the seven Buddhas, including the ashvattha.



*Figure 19*



*Figure 20*



*Figure 21*



*Figure 22*

Among the most famous scenes in the Bharhut stupa is the worship of the shirisha (*Albizia lebbek* Benth.) by the Naga Erapatra who wanted to decipher an inscription. He approached sage Narada, who bared his right shoulder in the direction of the deer park at Sarnath where the Master was preaching. In this relief, Erapatra worships the Buddha in the form of the bodhi tree. The panel is inscribed as *erapatra naga raja bhagavato vandate*, or 'the Naga king Erapatra worships the Lord' ([Figure 25](#)), where Lord Buddha is represented by the Sacred Tree.



*Figure 23*

Another much-worshipped tree at Bharhut is *Mangifera indica* or the mango, which represents good luck and fertility. On the Ajatashatru pillar, the Buddha, wearing two topknots, worships the mango tree along with many others. The scene represents the visit of King Ajatashatru to the Buddha (Figure 26). The mango tree is worshipped in several panels. It is interesting to note that whereas the Buddha is never represented in the Sungan art of Bharhut, he is present in scenes of obeisance to the mango tree alone. This may be an indication of the importance of the mango tree which, even today, is an auspicious symbol.

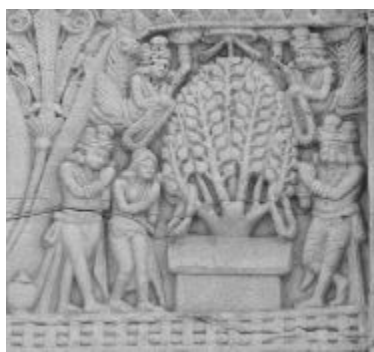


Figure 24



Figure 25

But it is the *Ficus religiosa* or pipal that appears in most panels at Bharhut: after all, the pipal is the Tree of Enlightenment. The pipal on the Prasenajit pillar is surrounded by a chaitya, beautifully decorated with an umbrella above, a platform below, and flower garlands, worshipped by two seated men, a standing man and woman, and two men above the chaitya. Another scene of pipal worship includes four kings on their elephants



representing the four quarters above the tree. Yet another scene celebrates the greatness of the pipal: standing on a platform, decorated with garlands, two monkeys offer honey to the tree, while two women and two men stand beside it and two women and a child kneel before it ([Figure 27](#)).



*Figure 26*

The bas-reliefs at Sanchi represent the simple religious action of worshipping trees. Sanchi Stupa I is known for its imposing gateways facing the four directions. Each gateway has two pillars supporting a superstructure of three horizontal curved architraves with spirally rolled ends. Between the architraves are three uprights. The architraves are filled with stories from five Buddhist Jatakas, and from events in the Buddha's life. The Buddha is represented as a tree all over the gateways, even when he is descending a ladder from the Trayastrimsa heaven, accompanied by Brahma and Shakra ([Figure 28](#)). Sujata offers the Buddha—represented by a kalpa vriksha—payasa (sweet rice pudding) on his day of enlightenment. Ashoka's visit to the sacred bodhi tree of Bodh Gaya has also been recorded on the western gateway ([Figure 29](#)). There are several varieties of kalpavalli, the wish-fulfilling creeper, producing jewelled ornaments and garlands. The motif that, like many others, owes its origin to popular beliefs and religion, was appropriated by the Buddhists to edify their own faith.



*Figure 27*



*Figure 28*



*Figure 29*

The nyagrodha or banyan is the grand old tree of India. On the Sanchi stupa, it is worshipped by elephants in one scene and by royalty—a king

and a queen—with retinue in another (Figure 30).

There are several scenes of Gaja Lakshmi sitting on an open lotus, flanked by two elephants raining streams of water on the goddess. The lotus is depicted in several beautiful ways, particularly in the form of a variety of medallions on Stupa 2. There is a beautiful medallion with a graceful woman seated on a lotus amidst lotus stalks, flowers, and rhizomes (Figure 31).



*Figure 30*

In Buddhism, the Nidanakatha says that a white elephant carrying a white lotus in his trunk circumambulated Mayadevi three times and entered her right side. The Buddha's purity is likened to a lotus in water by the Lalitavistara. The Nidanakatha and Buddhacharita say that the Bodhisattva mounted the great lotus and surveyed the four quarters. When he walked, seven lotuses appeared, one for each step. Maya sits on a lotus throne or padmasana in Sanchi. Five kinds of lotuses are referred to in the Jatakas, of which four are portrayed in Sanchi. In some panels, Siddhartha's birth is represented by a bunch of lotuses in a vase. The exuberance of lotuses in Buddhist monuments since Bharhut and Sanchi is indicative of its importance in Buddhism. In Hinduism, it is the seat of Brahma, the Creator. It is held by Vishnu, the Preserver. It is the seat or pedestal of Lakshmi, goddess of prosperity, and Saraswati, goddess of wisdom and learning. The lotus is glorified in the hands of Bodhisattva Padmapani in Ajanta, where it becomes an object of beauty (M. Rao 2011, 74–80).



*Figure 31*

The worship of the tree and of tree spirits appears in several Jataka tales. The Buddha was born under a sala tree in Lumbini, sanctifying it. According to the Nidanakatha, Sujata, the daughter of a general, worshipped a tree to have a son and offered payasa as a bali (offering). When her desire was fulfilled, she went to perform the bali at the tree. There she found the Bodhisattva Siddhartha and, mistaking him for the tree spirit, offered him the bali. The Mahavagga refers to a god living on a kakudha tree (white marudh) while the muchalinda tree beneath which the Buddha sat after attaining enlightenment was conceived as a tree spirit from the abode of Shakra (Indra).

Tree deities were called Nagas and were able, at will, to assume human form like the Nagas. The Mahavanija Jataka recalls the spirit of a banyan tree, who reduced merchants to ashes. Many of the Buddhist Theragatha praised trees and forests. The first Buddhist vihara (monastery), gifted by King Bimbisara, was the veluvana, a forest of bamboo trees in Rajgir. At Kapilavastu, the nyagrodharama (resting place of banyan trees) was the residence of the Buddha. Vaishali was famous for the mango grove donated by Ambapalli, the famous courtesan brought up by the owner of the grove. The Buddhist university town of Nalanda, visited by the Buddha, was famous for Pavarika's mango grove. Finally, the Buddha attained mahaparinirvana in the upavattana sala (grove of sala trees) of Kushinagara. According to the Buddha, he who abstains from injuring plants is the perfect man. Human beings and nature are equally dependent on each other and need to live in close harmony. In fact, the events of the Buddha's life

were associated with trees and groves, celebrating the beauty of the natural world.

The pre-Buddhist sanctity accorded to the pipal was applied to the Buddha, who attained enlightenment beneath this sacred tree. In early Buddhist art, where the figure of the Master could not be depicted, the pipal became the symbol of the Buddha. However, the pipal tree at Bodh Gaya, on the banks of the Niranjana River, is worshipped as the pre-eminent Bodhi tree beneath which the Buddha attained enlightenment.

However, in the later art of Amaravati, there is a paucity of nature and an excess of humans. Nature appears as a part of the narrative but is no longer the object of worship. Plants are highly stylized and lack the natural spontaneity of the earlier periods. The shala represents the birth of the Buddha, the pipal his enlightenment. Nature becomes a symbol, a link between the artist who tries to depict the beauty of nature and the devotee who seeks divinity. New stories appear that do not belong to earlier canons. The Amaravati stupa contains sculptures of the bodhi or pipal being worshipped. According to Fergusson (1971, 223), 'Tree worship (at Amaravati) is almost similar to that of the Sanchi stupa. The tree worship in the central building is in the place of honour but gradually it became less important before the sculptures at Amaravati were completed'.

### ***Tamil Literature***

According to Tamil Sangam literature, trees were the embodiment of divinity; in them, gods dwelt and had to be worshipped (Agam, 270.12; 7; Puram, 191.1; 198).

Different trees are associated with different gods in the various Sangam texts. There are numerous references to trees that were abodes of deities (Narrinai, 83). The banyan was believed to have some divine force in itself, because some god or the other would be pleased to take shelter in its shade. It is always mentioned as being godly or possessed by some god (Agam, 287; 270.12; Puram, 199; Narrinai, 343). Shiva is visualized as sitting under a banyan and expounding eternal truths to four disciples. Vishnu is also

called aalamara kadavul (god of the banyan tree) (Puram, 198). The commentator of the Purananuru takes the epithet aalamara kadavul to apply to either Shiva or Vishnu, but this is very rare and generally Shiva is considered to be the god of the banyan and is called aalamar selvan (Kalithogai, 83; Sirupanarrupadai, 17). Shiva, seated under the banyan and facing south, is Dakshinamurti, and this name is mentioned in the epic Silappadikaaram (23.144). Dakshinamurti is invariably seen on the walls of the Shaiva temples of Tamil Nadu.

Ancient Tamils worshipped trees since the gods were believed to dwell therein. The tree so worshipped subsequently became the sthala vriksha of the temple. According to Sangam literature, just as the banyan was associated with Shiva and Vishnu, trees like the neem, Bengal quince, and Indian laburnum were sacred to particular deities, whose statues were erected beneath the trees (Puram, 199; Agam, 287; Paripadal, 4–67). Later, when temples were erected for the gods who had originally existed in the shade of trees, people took special care not to remove those trees, which were then preserved and worshipped.

The best example of this is the 300 BCE Shiva lingam made of polished granite, situated at Gudimallam near Kalahasti. Shiva emerges from the lingam as a full figure standing on a yaksha, an early form of Lingodbhava. What makes the figure interesting is the fact that the lingam is surrounded by a stone fence within which excavations have revealed Mauryan gold coins and other organic remains, suggesting that worship was once conducted within the small fenced area that would have stood out in the open, beneath a tree, before a temple was constructed in the Pallava period to house it ([Figure 32](#)).

In the Jambukeshwara temple in Thiruvanaikka near Trichy, the Shiva lingam stands at the foot of the Indian black plum tree, enclosed by a wall, and constitutes the garbhagriha (sanctum).



*Figure 32*

At Vaidishvaran kovil near Kumbakonam, the original lingam (Adi Vaidishvara) is still preserved beneath the neem tree, which has medicinal properties, suggesting that Shiva was the god of medicine (vaidyam) and doctors (vaidya) and proving that the original temple was a mere deity beneath a tree, before later dynasties supplanted it with a huge lingam housed in a covered structure.

Every famous temple in Tamil Nadu has a holy tree of its own and is associated with either a local or a Puranic legend. Sometimes places too are named after the sacred tree, such as the town of Kanchipuram, named for the kanchi (river portia) tree. Thiruverkadu (white bark acacia) and Thillai (blinding tree or mangrove) are other examples. Although the mangrove is no longer found in Thillai (Chidambaram), the plant is worshipped as a sculpted sthala vriksha within the Nataraja Temple ([Figure 33](#)) (Amirthalingam 2005, 66).



*Figure 33*

Every tree has a legend of its own. For example, the mango tree at Ekamreshwara temple in Kanchi is said to yield mangoes of different varieties, tastes, and sizes; thus it is worshipped as a divine embodiment. Goddess Parvati worshipped the Shiva lingam beneath the mango tree ([Figure 34](#)).





*Figure 34*



*Figure 35*

The names of early dynasties of south India, such as the Pallavas (from the word pallava or leaf) and Kadambas (from the name of the wild cinchona or kadamba tree), suggest even a totemic role for the tree.

In Tamil Nadu, people still worship pipal and neem trees either standing alone or with a stone altar beneath. Often, a snake stone or Ganesha is placed beneath the tree ([Figure 35](#)). It is believed that such a tree was sacred and considered a vriksha devata because it was a symbol of fertility and longevity. Later, when the deities occupied the primary position, the trees were of secondary importance.

There are sculptures of sacred trees in the temples of medieval Tamil Nadu, such as the seaside oak at the Meenakshi temple, Madurai ([Figure 36](#)); the Alexandrian laurel of Kapalishwara temple, Mylapore, Chennai

([Figure 37](#)); and the jackfruit tree at Kutralam, Tirunelveli district ([Figure 38](#)).

Scenes of tree worship and the sacred tree embellish the temples and sculptures of India. This ancient custom of the common people continues till today. It is nearly impossible to find a temple without a sacred tree motif.



*Figure 36*



*Figure 37*



*Figure 38*

# The Woman and the Tree

## *Yakshas and Yakshis*

As early as the Indus–Saraswati civilization, there are indications of the worship of the ‘spirit of the tree’ (Figures 3 and 5). There are many scenes of a figure standing or sitting within a tree on the seals from this era. The tradition of the yaksha or yakshi—the spirit of the tree or his/her equivalent—obviously had very ancient roots.

The Atharva Veda (X.7, 38) describes ‘a great yaksha in the midst of the universe reclining in concentration (tapas) on the back of the waters, therein are set whatever gods there be, like the branches of a tree about a trunk’. Later, in the Mahabharata, this imagery is changed to a lotus emerging from the navel of Vishnu, holding Brahma, the Creator.

Each town had its own spirit protector living in his particular tree, the chaitya vriksha. Large towns like Rajagriha, Mathura, and Varanasi had more than one. The yaksha or yakshi arranged marriages, granted children, and protected the chaste. The Mahabharata (2.5.100) enumerates the sacred trees of various towns and tells us that every village had a sacred tree, each identified with a yaksha. The word ‘yaksha’ occurs several times in the Rig Veda, Atharva Veda, Upanishads, and Brahmanas. The word generally means ‘a magical being’, something both terrible and wonderful. Its frequent appearance in Sanskrit literature refutes the many attempts to brand yakshas as non-Aryan. The yakshas belonged to a stratum of lower deities who were propitiated more out of a desire to prevent them from doing anything malevolent. This is particularly apparent in the Rig Veda, which betrays a general dislike of the human sacrifices performed in connection with yaksha worship. However, several Vedic gods—including

Varuna and Brahma—are also referred to as yakshas. The role and the position of the yaksha, therefore, is ambiguous, to say the least.

The importance of the yaksha comes from the fact that the worship of the yaksha living in the tree was as important as the worship of the tree itself. Trees were the natural abodes of the spirits, many of whom were identified by or named for the tree. There is an entire Buddhist Jataka dedicated to the worship of trees, shrubs, bushes, and plants; it is called the Rukkha Dhamma (or Vriksha Dharma) Jataka.

A very important feature of yakshas and yakshis, and one that was of real importance in the ancient world, was their association with fertility. The Mahabharata refers to goddesses born in trees, to be worshipped by those desiring children. Such fertility roles are numerous. Vishwamitra and Jamadagni are produced, according to the Mahabharata, by their respective mothers embracing two trees, while queen Vitasavati of Bana's Kadambari (134) worships the pipal and other trees in her desire for a child. Yakshas bestowed wealth and progeny; they were supposed to bring about marriages, safeguard women's chastity (Rajatarangini), grant children and grandchildren (Avasyaka Sutra), and protect the foetus (Mahavamsa). The Hatthipala Jataka refers to the poor woman who points to the banyan tree as the source of her seven sons. Even today, the sacred tree of a temple or village is circumambulated when progeny are desired (Coomaraswamy [1928] 1980, I.14–16; II.1–12).

The yakshas are vegetation spirits with powers of life. On a Bharhut coping, a vriksha devata—or yaksha—offers a bowl (of food) and a kamandal or kettle from which water is poured into the hands of a man seated below. This is probably an illustration of the 'Story of the Treasurer' in the Dhamma pada Asthakatha (I, 204) (Figure 39). This illustration reappears on a railing pillar in Bodh Gaya. A man stands in front of a tree receiving a water vessel (kamandal) and a plate from two hands emerging from the tree, which has an altar beneath it (Figure 40). In a detail from the parinirvana from Mathura, a vriksha devata stands hidden in a tree (Figure 41) (Coomaraswamy [1928] 1980, plate 25).



*Figure 39*

In Jainism, yakshis look after the well-being of the Tirthankaras. Each Tirthankara has an attendant yaksha and yakshi, with supernatural powers. Sometimes, they are the objects of worship too. The important Jaina yakshas and yakshis include Ambika (Amba, Amra), attendant of Neminatha, named for the mango tree; Chakreshwari, attendant of Adinatha (Rishabhanatha); Kushmandi, who holds a mango; Lakshmi, holding a lotus, representing wealth; Padmavati, holding a fruit, attendant of Parshvanath; and Saraswati, seated on a lotus.



*Figure 40*



*Figure 41*

Yakshas and yakshis were also protective guardians who flanked the gateway in Sanchi. In later art, they were identified as the river goddesses Ganga and Yamuna who flanked the temple doorways. Finally, they became the goddesses Lakshmi and Saraswati, seated on the sacred white lotus, a divine symbol of purity. There are sculptures of yakshas in trees from Bodhi Gaya and Amaravati. Yakshas and yakshis stand under the ashoka, champaka, and kadamba trees in Mathura art.

Whereas Vedic and epic literature lists out sacred trees and strongly promotes their worship, the Bhagavad Gita says that only persons of rajas (energetic or passionate) quality worship yakshas while the Buddhist Maitrayani Samhita and Lalitavistara attack worshippers of yakshas. Jaina texts also attack yakshas and yaksha worship. However, several Sanskrit

texts, including the Kathasaritsagara, affirm that all sections of society—Brahmanas, Kshatriyas, Vaishyas, Sudras, and tribals—worshipped the yakshas.

The worship of the yaksha occasionally involved offerings of blood, flesh, and wine, as described in the Dummedha Jataka (50), among others. Even human sacrifices were made to yakshas, according to the Mahavamsa and the Mahasutasoma Jataka. The Mahavamsa describes the conversion of the cannibal Yakkha Ratakkhi to whom bali (offerings of flesh) were made. The word bali, even today, denotes offerings of flesh as in animal sacrifice (Coomaraswamy [1928] 1980, II.7).

Later, the worship of the individual tree—devoid of the yaksha—becomes more vegetarian and sattvik, with offerings of fruits and flowers. It is notable that while the Buddhists sought to convert yaksha worship to a more pacific form and the Jainas rejected it outright, Brahmanic religion retained the sanctity of the tree and discarded the sacrifices to the bloodthirsty yaksha, whose worship was obviously a remnant of ancient animistic forms of worship.

Ananda Coomaraswamy, in his work *Yaksas*, has opined: ‘[W]ith very rare exceptions it is a spirit in the tree, not the tree itself that wills and acts’. The Milindapannia (IV.3, 20) tells us that ‘the aspen tree conversed with Bharadvaja. But that last is said ... by a common form of speech. For though a tree, being unconscious, cannot talk, yet the word “tree” is used as a designation of the Yaksha who dwells therein ...’ (Coomaraswamy [1928] 1980, II.1–12).

### ***The Shalabhanjikas of Bharhut and Sanchi***

The scenes on the reliefs of the Bharhut, Sanchi, and Amaravati stupas show trees associated with female figures—the yakshis, dryads, or spirits of the tree. The woman who touches the plant with her foot is known as vrikshaka (tree maiden) or shalabhanjika (a woman who breaks the shala [sal] tree). The woman holds a branch of any flowering tree—ashoka, amra, kadamba, or champaka. She is actually a vrikshaka. She becomes



responsible for the flowering and fruition of the tree whose branch she holds.

Although the shalabhanjikas of the Buddhist sculptures of Bharhut, Sanchi, and Mathura are better known, the concept is first mentioned in the Vanaparva of the Mahabharata, where she is frequently addressed as pushpa-shaakha-dhaara (one who holds a flowering branch), and later in Ashvaghosha's Buddhacharita (1st century CE) and the Shrishti kanda (17.57) of the Shivamahapurana. The Jaina Rayapaseniyasutta describes her thus: 'The shalabhanjika women carved on the vedika pillars were standing in various graceful poses, well supported, beautifully ornamented, wearing garments painted in various colours and necklaces of various designs, curly hair, standing under asoka trees and holding their distended boughs, stealing the hearts of the gods as it were with their rolling glances and teasing as it were with the play of their eyes' (S.P. Gupta 1985, I.25–36).

The shalabhanjika is a yakshi, a minor female deity or spirit of nature who resided in the tree. The fertility so gained by the tree became, in time, an attribute and ability of the tree itself.

The ashoka dohada is a favourite theme in which the woman is shown kicking the ashoka tree and making it bloom. Kalidasa describes this ritual in Malavikagnimitra and Raghuvamsha. The tree is popular in southern and eastern India and is still associated with vrikshikas, also called surasundaris.

An extension of this association with fertility is the motif of the woman and the tree, which abounds in Indian art—seen in railings, gateways, and pillars at Bharhut, Bodh Gaya, Sanchi, and Mathura. Often, one foot is twined around the stem; sometimes it is raised and rests against the trunk.

The most commonly represented trees are mango and ashoka. The dryad motifs—first seen in the nativity of the Buddha in the Lumbini garden where the shala tree supports Mayadevi, and later in the poetic fancy of the ashoka tree, which blooms only when touched by the foot of a beautiful woman—are closely connected with the idea of fertility.



*Figure 42*

The best-known and most spectacular yakshis are the shalabhanjikas of the Sanchi gateways—nude, opulent, sensuous figures holding the kadamba (Figure 42), ashoka, or mango (Figure 43) trees in full bloom, laden with fruits and a thick canopy, so obviously figures of fertility in an otherwise monastic and near-puritanical situation. It is easy to believe on seeing such a figure that the touch of her foot was essential to give the tree life, to enable it to produce lush, ripe fruit. The shalabhanjikas of Sanchi are artistically excellent. Voluptuous, shamelessly naked, and dressed in heavy peasant jewellery—thick anklets, bangles, earrings, and waistbands—these female statues hold branches of several trees. The most famous of the shalabhanjikas are the women of the mango tree who even serve as corner brackets as they hang from the branches of the trees, which are full of luscious, ripe fruit.



*Figure 43*

Was it the woman or the spirit who was associated with the tree? A sculpture from Sanchi suggests the latter. A yaksha—a man—stands holding ripe mangoes on one side, with kadamba leaves hanging over his other shoulder. Obviously it was the spirit of the tree that was immortalized in sculpture. In some parts of India, there is a periodic ritual wherein women embrace the tree and partake of its bark or flowers.

The inscribed figures of yakshas and yakshis, nagarajas, and devatas found on the toranas (gateways) and Jatakas, and in scenes from the life of Buddha, constitute an extensive iconography of the tree and its associations.

### *Vrikshakas of the Kushana Period*

During the Kushana period (1st to 3rd centuries CE), Mathura was renowned as an important centre of art and sculpture. The relationship between the tree and the woman dominates Mathura art and women are shown standing under different trees in different poses. At Mathura, a few trees are specifically associated with female figures. The most popular tree was the ashoka, which was supposed to flower only when its roots were touched by the feet of beautiful young girls. The other trees are the wild cinchona, Indian rose chestnut, and champaka, a small tree with exquisitely scented flowers. The vrikshakas were symbols of fertility, worshipped by barren women to bear children. The Gandhara artists, also of the Kushana period, also depicted the women and tree motif. The vrikshakas appear on the railings of Bhuteshwara, Kankali Tila, Jamalpur, and Govindnagar in Mathura district.

An important discovery was made in Sanghol in Fatehgarh district of Punjab. Sanghol has been continuously occupied since before 2000 BCE. From a stupa mound at Sanghol were found 117 sculptures, including sixty-five pillars. The pillars are carved with female figures in various poses and scanty clothing, extremely evocative and charming. They are yakshis, commonly known as shalabhanjikas, but actually vrikshakas. These vrikshakas belong to the Kushana period, known for its charming depiction of the female figure. Sanghol represents the formative phase of sculptural

art. The discovery of the 117 Kushana vrikshakas at Sanghol was a historic find of Kushana sculptures in such large numbers and of such artistic excellence outside the Mathura region. Delicately carved out of fine-grained, red-mottled sandstone from the Rupbas outcrops, the sculptures belonged to a low railing running around the stupa. The crossbars represent rosettes and lotiform designs, while the pillars represent female figures in the form of the woman-and-tree motif or the mother-and-child concept. In the former category, female figures stand on dwarfish or grotesque figures, holding the branch of a tree overhead. A few representations show females either engaged in personal decoration or carrying trays and vessels meant for toilette. The Kushana sculptors produced wonderful replicas of trees, which are long and delicate, with soft ripples on their surface. The tree was beautifully arched to juxtapose against the gracefully curved figure of the vrikshaka. The yakshis of Sanghol are exquisite tributes to the spirit of the tree.

Many trees are associated with yakshas and yakshis in the Kushana art of Mathura found in Sanghol. These include the ashoka (*Saraca indica*) (Figure 44); kadamba (*Anthocephalus cadamba*) (Figure 45); and sal/shala (*Shorea robusta*) (Figure 46). They are strongly sensual, even Bacchanalian, in some scenes. In a contemporary sculpture from Madhya Pradesh (1st to 2nd century CE) a naked woman with heavy bangles, waist girdle, earrings, and heavy necklace stands in tribhanga (tri-bent pose), holding a branch of the champa or magnolia (*Magnolia grandiflora* Linn.) (Figure 47). The local plant was celebrated as the vrikshaka's tree.

The yakshi and the tree were important aspects of Kushana sculpture. These beautiful women in the full glory of their youth represented life itself. In contrast, the ugly dwarf beneath the yakshi's feet served to underscore her beauty; he was a bharavahaka or load carrier, representing the apasmara purusha or personification of ignorance of later iconography.



*Figure 44*



*Figure 45*



*Figure 46*



*Figure 47*

In a rare sculpture from Mathura, a yaksha—not yakshi—stands beneath the *Ficus elastica* (Indian rubber tree). The plant is not native to Mathura and the yaksha makes an unusual substitution for the yakshi. One can only presume that this was a part of the prevalent popularity of tree worship.

It is likely that the idea of worshipping the bodhi tree, in response to the Buddha's refusal to permit the worship of his image, was inspired by the

worship of the yaksha or the spirit who resided in the tree. In the sculptures of Bharhut, Sanchi, Amaravati, and Mathura, elaborate, multistoreyed structures are built around the bodhi trees, which represent the Buddha himself and which his followers worship ardently. The bodhi tree is encircled by a pillared gallery in the Bharhut panels, suggesting a special temple for the tree. The birth of the Buddha is symbolized by a sal tree above Mayadevi.

### *Later Periods*

The Ikshvaku kings ruled central India in the 2nd and 3rd centuries CE. The stupa at Nagarjunakonda, like that at Amaravati, contains a scene of the birth of the Buddha, where Mayadevi is standing under a blooming ashoka tree with a chauri-bearer and a sprouted jar. At Nagarjunakonda, a yakshi's raised left leg touches the ashoka tree. In the panel, the Buddha is seated under a bodhi tree, with divine figures praying to him. In another panel, apsaras are under an ashoka tree from which hang leaves and bunches of flowers. In yet another sculpture, the ashoka tree is again depicted with a maiden standing on a lion and holding bunches of flowers (P.R.R. Rao 1956, 39–46).

The association of trees and women continued in the medieval sculptures of Khajuraho and Odisha, on the walls of the Lakshmana temple at Khajuraho; in the Raja-Rani temple at Bhubaneswar; and also the Sun temple at Konark.

### *The Tree and the Snake*

The association of trees with snakes is also as old as Indian civilization. It appears on Harappan seals: two snakes flanking a tree, a naga-like figure guarding the shami, and so on. Much later, in the Bharhut images of the Sunga period (2nd century BCE), the Nagas—men and women with cobra hoods—worship symbols of the Buddha placed beneath the bodhi tree (Figure 25). While they are believed to have been members of the Naga

tribe, they could equally have been anthropomorphic representations of the snake itself, which lived in the tree and was revered.

It is a common sight in rural India to see snake stones installed in front of trees, particularly the pipal, which is the most sacred tree of India. It is found in almost every village in the country and is believed to be the dwelling place of the Hindu Trinity: Brahma, Vishnu, and Shiva (Figure 48).

The pipal tree has been described as the Tree of Knowledge, the Tree of Life, the Tree of Eternal Life, and the Tree of Creation. By spreading its branches, it brings blessings to humankind. This tree is closely connected with fertility, which the serpent symbolizes. The tree is worshipped, particularly by women, for both fertility and longevity of their husbands. The pipal tree is sacred to both Hindus and Buddhists.

Where there is a pipal, there will also be a neem—so goes a popular saying—with the two often intertwined. A platform is built around them and one or more images of the snake installed on the platform and worshipped. This is believed to bless the worshipper with prosperity. Sometimes a Ganesha or Hanuman may also be installed with the snake stones and the place becomes a sacred prayer stop for passers-by. Weddings are performed of the neem and the pipal to ensure good rainfall.



*Figure 48*



The association between trees and snakes is found in several religions. In Greek mythology, Ladon the snake, often referred to as a dragon or a serpentine dragon, is coiled around the tree in the Garden of Hesperides, protecting the golden apples. In Norse mythology, the serpent Niohoggr eats from the roots of the Yggdrasil, the World Tree. In Mayan mythology, the Vision Serpent lies on the centre axis of the world, on top of the World Tree. The fertility rod of the Sumerian god Ningizzida is entwined by two serpents. Similarly, the Egyptian cobra goddess Wadjet is coiled around papyrus reeds. In the Biblical Genesis, Satan is a fallen angel, also represented as a serpent, who lives on the tree and tempts Eve with the forbidden fruit (Fergusson 1971, 5, 7–8, 12–17, 24, 37–38).

## Special Trees

### *Kalpa Vriksha*

The kalpa vriksha ([Figure 49](#)) is the wish-fulfilling tree of life, first mentioned in the Rig Veda (I.75). It was one of the gems that came out of the ocean during the samudra manthan (churning of the ocean), and Indra, king of the heavens, took it away to paradise. It is a very special tree that can bear any kind of fruit, which is why it is associated with different trees in different places. It is a symbol of life and prosperity, a focal point for one's spiritual quest.

There is a legend about the kalpa vriksha that was originally found in Uttarakuru. According to the Bhishmaparva (7.2) of the Mahabharata, the Siddhas who lived in Uttarakuru worshipped the kalpa vriksha. Some branches produced streams of milk tasting like nectar and the flavour of all six rasas. Other branches produced clothes and ornaments, still others yielded men and women of great beauty and youth. It was a golden tree of life, with golden branches and fruit, and had to be worshipped properly.



*Figure 49*

A 200 BCE pillar from Vidisha (Madhya Pradesh) is carved like a banyan tree, and a conch, a lotus, a vase of coins, and a bag tied with a string are hung from it. This was obviously the kalpa vriksha of ancient legend. Whereas the bodhi tree symbolizes enlightenment, the Shri or kalpa

vriksha, surrounded by a railing with gold coins hanging from the branches, symbolizes Shri-Lakshmi, goddess of prosperity (Srivastava 1983, 135). The kalpa vriksha is depicted with festoons, gold coins, and so on. It is tall with bushy leaves, decorated with jewellery, and even has arms, which give food and drink to a weary traveller. The tradition of kalpataru is also found among the Jains. It is called the chaitya vriksha (Dwivedi 2011, 39–46). Several trees are referred to as the kalpa vriksha. They include the banyan, parijata, pipal, and coconut tree (also called kalpataru in the coastal districts).

A kalpa vriksha is not a deity. Rather, it serves the deity and is a means to reach the gods. It is a symbol of the tree, which gives life and prosperity, endurance, growth, and generosity. Unlike human beings who ask for and desire material objects, the kalpa vriksha, like all trees, gives food, shade, fruits, nuts, and timber besides cleaning and purifying the air. It is a bulwark against heavy winds and stormy rains, and is self-sufficient. It is an example for human beings: just as a tree is wise and humble and bows before a storm and survives, we too must submit to the Divine Will. If we do good for the tree—watering, pruning dead branches, and taking care of it—it will reciprocate our efforts by providing fruit and flowers and a safe haven for people, animals, birds, and insects. Travellers are encouraged to sleep beneath a kalpa vriksha, for it is an excellent source of oxygen, herbs, and good aroma, which ensure clean, pure, and healthy air.

The kalpa vriksha focuses the mind towards a spiritual direction. It is a ‘giver’ who never disappoints, whether the demands are spiritual or materialistic. However, it never grants evil or negative desires, such as death or disgrace for another.

The kalpa vriksha, also known as kalpataru, kalpadruma, and kalpapaada, is guarded by flying kinnaras/kinnaris (celestial musicians, half-human half-bird), apsaras, and gandharvas. It is a popular motif in art and has even been adopted as an Islamic art motif.



*Figure 50*

### ***Chaitya Vriksha (Figure 50)***

Contrary to popular belief, the word chaitya did not originally denote a Buddhist prayer hall. In Sanskrit literature, the term chaitya occurs frequently. It denotes a tree with dense foliage and fruits, which provides shelter for people, birds, and animals. The tree was the chaitya or protector (chaitya is the same as chhatra, which means umbrella) of the image. The yakshas were believed to live in the sacred trees, which provided an ideal observatory from where they could observe and participate in daily activities.

The Ramayana (2.3.18; 50.8; 5.12.18; 22–29) refers to chaitya vrikshas, so called because the trees were planted with revetments around their stems. In the course of time, all reveted trees began to be called chaitya vrikshas.

The Adiparva of the Mahabharata (1.138, 25) says that a tree with dense foliage and fruits was called a chaitya vriksha (protector tree), which was archaniya (worthy of worship) and supujitah (worshipped). The tree was a protector of gods and people. Almost all the villages had their own chaitya vriksha. Such holy trees could not be injured because they were the abodes of devas, yakshas, and rakshasas.

The earliest temple was the tree: the deity was enshrined beneath. The structural temple came later, although it has been mentioned in early literature. In a scene from Bharhut, a five-hooded Naga is seated beneath a jackfruit tree, with small leaves and large fruits. The leaves of the jackfruit tree are also used as an antidote for snakebites. In the 5th century BCE Gupta temple at Deogarh, Nara and Narayana are depicted seated beneath the sacred badari tree. In the 7th century BCE Jaina temple at Aihole, the deity is standing beneath a *Cassia fistula* tree, flanked by a woman attendant on either side while two yakshas are seated on the tree.

In every village, there was a yaksha shrine associated with the locally sacred tree called yaksha chaitya, and a tree shrine called chaitya vriksha. In Buddhist literature, it is referred to as bodhighara. Originally, the chaitya vriksha was a tree filling the space around it with its numerous branches. Such a tree of huge dimensions was accepted in the Vedas as a symbol of the cosmos (Krishna 1999).

The Buddhist Aupapatika Sutra describes the famous shrine of the Yaksha Punnabhadda as a great ashoka tree, with a dais of bricks below it, shaped like a throne and situated in an enclosure of arches and doorways within a wood. The Dhamma pada Asthakatha refers to the building of an enclosure around a tree for its spirit by a rich householder of Sravasthi, who also promised to honour it on the birth of a child. The Kah-gyur narrates the tale of the Brahmana from Nyagrodhika who worshipped the deity in the banyan tree for the birth of a child, while the Malavikagnimitra describes a bhittibandho or bhittivedikabandha (the wall or fence) built around an ashoka tree. The Buddha, Mahavira, and later Buddhist and Jaina monks often halted at chaitya vrikshas in the course of their wanderings (Coomaraswamy [1928] 1980, 19–23).

Each Buddha was associated with his own tree, called bodhi vriksha or chaitya vriksha, under which he attained enlightenment. There is an element of totemism in the identification of each tree with a Buddha. Similarly, each Jaina Tirthankara is associated with a tree or plant, as in the case of Hindu deities.

### *Sthala Vriksha*

When, how, and why the chaitya vriksha (Figure 50) became the sthala vriksha (Figure 51) is a matter of conjecture but there are a few clues. As the characteristics of the yaksha protector were absorbed by the tree, it became the protector of the town, village, or sthala. However, while sthala vrikshas abound all over the country, the concept of the chaitya vriksha is totally lost. Sthala vrikshas are associated either with the temple or the deity. Thus Shiva is generally associated with the Bengal quince (bilva) and Devi with the wild cinchona (kadamba). However, there are often aberrations to the rule and Shiva is associated with the Alexandrian laurel and mango at Mylapore (Chennai) and Ekamreshwara (Kanchipuram), respectively.



*Figure 51*

The sthala purana of each temple also has a legend linking the vriksha to the deity or the consort. Thus the Alexandrian laurel and mango trees were the scenes where Devi performed penance to regain the hand and heart of Shiva in Mylapore and Kanchipuram, respectively.

The sthala vriksha in Hindu temples is similar to the chaitya vriksha and was probably derived from the latter. It may stand either on the ground or, more often, on a raised platform. It is generally situated in the outer prakara (enclosure) of the temple and stands apart from the daily ritual. The worship of the sthala vriksha is different, with offerings of coconuts, flowers, and lighted lamps. People tie strings to the tree to fulfil a vow or a wish, such as granting children. The sthala vriksha is circumambulated by the worshipper

who prostrates before the tree and sometimes encircles it with a string, as if to wall it and to trap the spirit within.

A legacy of the chaitya vriksha tradition is the worship of the pipal commonly found in Indian villages. It is similar to the chaitya vriksha in that it stands alone, generally mounted on a wide pedestal, with an altar for devotees' offerings. Often, there are snake stones (carvings of snakes) or figures of deities (generally Ganesha) beneath it. The tree is regarded as sacred, possessed by a spirit, the vriksha devata, possibly once the yaksha residing in the tree. Seven pradakshinas (circumambulations) are done around the pipal tree every morning to the chant of *vriksha rajaya namah*, meaning 'salutation to the king of trees'. If the new moon appears on a Monday, women circumambulate the tree 108 times and light little handmade lamps made of wheat dough. Being symbolic of fertility and protection, the tree is worshipped, particularly by women, who tie toy cradles on to the branches to pray for children.

The Buddha received enlightenment while meditating beneath the pipal while Dakshinamurti, Shiva as the teacher, sits beneath the banyan, facing south, to enable his students to face north, the source of wisdom. They are obviously remnants of earlier traditions of locating the deity beneath the tree.

While the sacred tree was called chaitya vriksha till the epic period, the term sthala vriksha appears in Puranic literature. The Matsya Purana and Padma Purana describe the sanctity of the trees associated with the sthala and how there were massive vriksha mahotsavas or tree planting festivals. It is interesting to observe the gradual disappearance of one term and appearance of the other, as forms of worship changed. The term sthala vriksha is also associated with the sacred sthal, sthan, or holy place—the centre of pilgrimage.

According to the Skanda Purana, the devas worshipped the self-created (Swayambhu) lingams in the forest. The tree under which the lingam appeared was described as the sthala vriksha. This legend, among others, points to the fact that the trees protected the image to be worshipped prior to the construction of temples.

Many places are named after the vriksha. For example, Thillai (Chidambaram) is derived from the thillai (mangrove). Although the name thillai still exists, the mangrove itself is no longer extant in Chidambaram, as the shore has moved six kilometres away towards Pichavaram, where the plant abounds. Because of the tradition, a small mangrove tree is now grown beside the eastern gateway of the Nataraja Temple at Chidambaram.

Sacred basil (vrinda or tulsi) of Vrindavan, Indian plum (badari or ber) of Badrinath, bamboo (vet) of Tiruvetkalam, rice (nel) of Tirunelveli, jasmine (mullai) of Mullaivayil, and Indian gooseberry (nellikkai) of Thirunellikka are trees for which the towns have been named.

The choice of the sthala vriksha had interesting local socio-economic–ecological implications. For example, the Alexandrian laurel tree, which is the sthala vriksha of the Kapalishwara temple in the ancient Pallava town of Mylapore in Chennai, was once used to construct ships in the Pallava period. The mangrove of the Nataraja Temple at Thillai (Chidambaram) is essential to the local ecology, as it prevents coastal erosion.

Why did the term chaitya vriksha transform into sthala vriksha? The answer probably lies in the changing form of worship. Earlier, the tree was the chaitya or protector of the image, as depicted so often in art. The emphasis in Hinduism, Buddhism, and Jainism was on images housed either in a rock-cut cave or beneath a tree. From the Puranic period onwards, the emphasis was on the construction of impressive temples and temple complexes. The protector (chaitya) tree gave way to the tree of the sacred spot (sthala). Puranic literature is replete with the importance of pilgrimages to sacred sthalas.

In the sthala vriksha linger all the various associations of the chaitya vriksha: its near totemic association with the god, its protection of the place, its ability to grant children, the spirit or yaksha, and so on. Many towns are named after their sacred trees; many ancient dynasties, like the Kadambas and the Pallavas, were named after a species or parts of a tree. Thus the lingering embers of ancient totemism lived on.

The worship of the spirit or yaksha is not forgotten. He continues to wander around the outskirts of towns and villages, a lost soul who mounts



the terracotta animals offered to him, at the entrance of the village or in the sacred groves where people believe he still lives.

Thus the sthala vriksha of contemporary Hinduism is a natural evolution from a simple spirit and tree worship to the veneration of economic, ecological, and social forces. Today, it is none of these, and yet it is all. It represents the sanctity imbued in an object with ancient associations, a reminder of the role played by nature. It is a remnant of ancient pantheism, when people recognized the role of plants and their importance. It is a memory of the ecological heritage of the Indian subcontinent, where divinity was recognized in all life forms, respected and revered.

### *Trees in Popular Culture*

The popular beliefs of rural India are reflected in Hindu, Buddhist, and Jaina beliefs. Trees could grant sons and wealth, and tree spirits injured those who injured the tree. Thus trees were propitiated with offerings of flowers and garlands, with lamps lit beneath them and offerings placed at the base. Originally, this was made to the spirit of the tree, the yaksha who lived within. At times, the tree itself was identified with the god and worshipped. When the religion of the yakshas lost popularity, a figure of an animal deity—Ganesha, Hanuman, or the sacred cobra—was installed beneath the tree and worshipped.

An ancient pipal tree at Joshimath in Uttarakhand is associated with Adi Shankara, who wrote the Kalpa Shakti Sthavam in praise of this divine tree.

The Indian nedler at Siddha Bakul in the temple of Lord Jagannath at Puri has a very interesting origin. Shri Krishna Chaitanya planted a piece of Indian nedler wood, used in the worship of Lord Jagannath, in the garden of his disciple Haridas Thakur, who had been born a Muslim. This piece of wood grew into a large tree, and Haridas attained enlightenment beneath it. When Haridas died, Shri Krishna Chaitanya ordered that he should be worshipped as an acharya. A few years later some government officers wanted to cut the tree for its wood. Mysteriously, one night, the tree

hollowed its trunk, making it unusable. The tree continues to live with a hollow and open trunk, and has become a sacred shrine.

The tradition of sacred trees knows no religious boundaries. This custom was also transferred to the Sufi shrines. Many Sufi saints lived beneath trees and, when they died, were buried at the same spots, which became shrines or dargahs. Visitors would tie strings to the tree to make a wish. Where a mausoleum was built, the strings were tied to the window trellis, as in the Ajmer dargah. This Muslim tradition—also found in Pakistan and Afghanistan—is a continuation of the older Hindu tradition. Generally, the night queen (parijata) is the sacred plant of Sufi shrines. While the date palm is not regarded as sacred, Muslims break their fast during Ramzan by eating dates.

The olive tree, which covered the Mount of Olives, is sacred to several Christian sects who use its oil for baptism and communion.

In Punjab, several gurdwaras are associated with trees, such as the ber or Indian plum (*Ziziphus mauritiana*) beneath which Guru Nanak received enlightenment. Guru Nanak described the tree as a saviour of creation and said, ‘O God, you are an infinite tree and I am a bird under thine protection’ (Kaler 2012, 5–8).

Many clan names came from plants. King Kaushika, who became the Brahman Vishwamitra, belonged to the Kaushika gotra; Kaushika is derived from the word kusha meaning grass.

Many plants are used to prevent the bad effects of the evil eye. The Atharva Veda says that the reverted leaves of the prickly chaff flower ward off spells and cause them to recoil on the sorcerer. The Santhals use the root of the rock fern to ward off sicknesses caused by the evil eye. The nomadic tribes of Rajasthan tie the leaves of the devil’s backbone around the necks of children as an amulet to ward off the evil eye. The Saoras of Odisha make an amulet of the bark of the false white teak as a protection. A necklace made of the bark of the tree is believed to protect nursing mothers. Similarly, the garden spurge is believed to ward off lightning. Indian gooseberry and African rue seeds are burnt to drive away evil spirits and destroy the evil eye. The smoke issuing from the burning seeds cleanses the

atmosphere of mosquitoes and germs. Dabra (prishniparni) and Ram kanta are used to prevent abortions. Oraons use the branches of the marking nut tree, Coromandel ebony, and five-leaved chaste tree to avert the evil eye, repel evil spirits, and prevent other evil from harming their crops.

### ***The Sacred Tree Stump***

A peculiar habit in south India is the worship of the tree stump (Figure 52). If a sacred tree that was worshipped faded away or perished, it did not cease to be sacred and its worship continued. The withered tree would wear away, except for the lower part of the trunk that remained in the form of a stump. People believed that to satisfy the spirit dwelling in the stump of the decayed tree, the usual offerings and worship should be carried on regularly. Evidence of the worship of the tree stump is found in Pattinappalai (246–49), a literary work of the Tamil Sangam period. A woman was employed during the Chola period to clean, light lamps, and offer flowers to the stump. A wild cinchona tree once flourished in the Meenakshi Sundareswarar temple at Madurai. Today, only the stump remains and is covered by a silver plate. In Tirupadhiripuliyur, the remains of the trumpet flower tree, under which Parvati (as Sivakami) performed penance, are covered with copper plating. In Tiruvothur, the base of the ancient palmyra palm is covered by copper plate and worshipped. In Kutralam, the remnant of a perished jackfruit tree has been protected in a separate room (Amirthalingam 2005, 37–39).



*Figure 52*

Later, the image of the former sacred tree was sculpted and worshipped. An example of this form of tree worship is seen in Chidambaram, where the mangrove is worshipped as a stone relief. Other examples include the white marudh in Tiruvidaimaruthur, palmyra palm in Tirupanangadu, Indian *atalantia* in Tiruperundurai, sage-leaved *alangium* in Vairavanpatti, and Indian butter tree in Iluppaikudi. In Pillaiyarpatti (Ramnad district, Tamil Nadu) and Samayapuram (Trichy district), stumps of the white marudh and neem tree are situated on a platform and worshipped with offerings. If the tree stump has a rounded shape, it may be identified with either Ganesha or Hanuman and a temple may be built over it.

### ***Trees in Hindu Astrology***

There are twenty-seven trees that match the twenty-seven asterisms (nakshatras). On the basis of this theory, each tree is associated with an asterism.

#### **Asterisms and Their Trees**

<b>Asterism</b>	<b>Tree</b>	<b>Scientific Name of Tree</b>
-----------------	-------------	--------------------------------

1 Ashvini	strychnine tree	<i>Strychnos nux-vomica</i>
2 Bharani	Indian gooseberry	<i>Phyllanthus emblica</i>
3 Krittika	cluster fig	<i>Ficus glomerata</i>
4 Rohini	Indian black plum	<i>Eugenia jaambolana</i>
5 Mrigashirsha	cutch tree	<i>Acacia catechu</i>
6 Ardra	red oak	<i>Diospyros melanoxylon</i>
7 Punarvasu	bamboo	<i>Bambusa vulgais</i>
8 Pushya	pipal	<i>Ficus religiosa</i>
9 Ashlesha	Alexandrian laurel	<i>Calophyllum indophyllum</i>
10 Magha	banyan	<i>Ficus benghalensis</i>
11 Poorva-phalguni	flame of the forest	<i>Butea monosperma</i>
12 Uttara-phalguni	sweet-scented oleander	<i>Ficus tinctoria</i>
13 Hasta	wild mango	<i>Spondias pinnata</i>
14 Chitra	Bengal quince	<i>Aegle marmelos</i>
15 Svati	white marudh	<i>Terminalia arjuna</i>
16 Vishakha	wood apple	<i>Feronia elephantum</i>
17 Anuradha	Indian nedler	<i>Mimusops elengi</i>
18 Jyeshtha	sandpaper tree	<i>Aporosa lindleyana</i>
19 Moola	black sapote	<i>Boswellia serrata</i>
20 Poorva-ashadha	bile killer	<i>Salix tetraspeama</i>
21 Uttara-ashadha	jackfruit	<i>Artocarpus heterophyllus</i>
22 Shravana	swallow wort	<i>Calotropis procera</i>
23 Dhanishtha	Indian mesquite	<i>Moringa oleifera</i>
24 Shata-taraka	wild cinchona	<i>Anthocephalus cadambu</i>
25 Purva-bhadrapada	mango	<i>Mangifera indica</i>
26 Uttara-bhadrapada	neem	<i>Azadiracta indica</i>
27 Revati	Indian butter tree	<i>Madhuca longifolia</i>

---

The twelve rashis (signs of the zodiac) also have their arboreal equivalents, as shown below.

### Zodiac Signs and Their Trees

---

Rashi	Tree	Common Name
1 Mesha	<i>Pterocarpus santalinus</i>	red sanders
2 Rishabha	<i>Alstonia Sclolaris</i>	devil tree
3 Midhuna	<i>Wrightia tinctoria</i>	dyer's oleander
4 Kataka	<i>Butea monosperma</i>	flame of the forest
5 Simha	<i>Ziziphus mauritiana</i>	common jujube
6 Kanya	<i>Mangifera indica</i>	mango
7 Tula	<i>Mimusops elengi</i>	Indian medaller
8 Vrishchika	<i>Acacia catechu</i>	cutch tree
9 Dhanus	<i>Ficus religiosa</i>	pipal
10 Makara	<i>Dalbergia latifolia</i>	east Indian rosewood
11 Kumbha	<i>Prosopis spicigera</i>	Indian mesquite
12 Meena	<i>Ficus benghalensis</i>	banyan

---

The nine grahas or nine planets also have their arboreal equivalents. The word graha actually means energy, but has come to mean planet. This means that each tree represents the energy symbolized by its corresponding planet. For example, Jupiter or guru symbolizes wisdom and the teacher. The pipal tree is a source of wisdom and knowledge and great teachers like the Buddha and Dakshinamurti are associated with the pipal.

### Planets and Their Trees

---

Planet	Tree	Common Name
--------	------	-------------

---

1 Sun	<i>Calotropis procera</i>	swallow wort
2 Moon	<i>Butea monosperma</i>	flame of the forest
3 Mars	<i>Acacia catechu</i>	cutch tree
4 Mercury	<i>Achyranthes aspera</i>	prickly chaff flower
5 Jupiter	<i>Ficus religiosa</i>	pipal
6 Venus	<i>Ficus racemosa</i>	cluster fig
7 Saturn	<i>Prosopis spicigera</i>	Indian mesquite
8 Rahu	<i>Cynodon dactylon</i>	Bermuda grass
9 Ketu	<i>Imperata cylindrical</i>	cotton-wool grass

---

## Sacred Groves

Similar to the worship of the sacred tree is the reverence for sacred groves, dedicated to local deities and/or ancestral spirits. Often, sacred groves are the homes of the sacred trees. Thousands of these groves have been documented as storehouses of remarkable biodiversity, repositories of unique and rare plants, and homes to myriad birds, reptiles, and other animal species, representing a mini-biosphere reserve, making them an essential part of the conservation process. Sacred groves probably represent the single most important ecological tradition of ancient Indian culture. Their conservation is a long tradition of conserving nature by giving it a spiritual dimension. There is a strong symbiotic relationship between the biophysical ecosystem and socio-economic institutions, with strong cultural linkages. Culture and environment have been regarded as complementary yet dynamic. The various cultural connections are expressed through myths and religious practices that celebrate plants, animals, forests, rivers, mountains, and precincts that are so essential to existence. The concept of the sacred in nature has protected much of India's biological diversity in a fast-changing world.

Sacred groves in India may belong to village communities, state forest and revenue departments, temples, tribal communities, gram panchayats, and even private individuals, as in Kerala. They are protected by local communities through taboos and sanctions that have cultural and ecological implications. The forests are the property of the gods of the villages in which they are situated, and the trees cannot be cut without leave from the headman, whose office is hereditary, and who is also the pujari (priest) of the sacred grove. These groves play a vital role in the conservation and preservation of species diversity and local biodiversity and are the last



remnants of the native vegetation of each particular region, indicating the heroic efforts made by local communities to protect and preserve their natural forest tracts against the onslaught of clearing forests for cultivation and settlement. All forms of vegetation in the sacred groves are supposed to be under the protection of the deity of that grove—the removal of even a small twig is taboo.

Due to the restrictions on human interference, sacred groves have evolved as important reservoirs of local biological diversity. Many sacred groves are climax forests, and probably the only remnants of near-natural vegetation in many parts of India. These sacred virgin forests date back several thousands of years, when human society was in a primitive state. The historical link of the sacred groves can be traced to the preagricultural, hunting and gathering societies (Gadgil and Vartak 1973, 19–21).

Sacred groves serve as a seed source (through dispersal by birds) through which ecological restoration can be achieved. For example, the sacred groves of Manipur contain ecologically valuable species like *Albizia lebbek* (Indian siris) and *Ficus glomerata* (cluster fig), which conserve a high amount of minerals in their leaves.

Sacred groves are an important refuge for rare, endangered, and threatened medicinal plants. For example, *Kunstleria keralensis*, a climbing legume reported from a sacred grove in southern Kerala, is found only in that grove. A rare species of cinnamon, *Cinnamomum quilonensis*, is found only in some kavus (sacred groves) of Alapuzha district in Kerala. The Kallabbekan sacred grove in Kumta taluka of Karnataka, despite being in the midst of areca-nut gardens of a populated village, is rich in endemics like wild nutmeg (*Myristica malabarica*), cinnamon (*Garcinia gummi-gutta*), and wild pepper (*Piper nigrum*, ‘piper’ is derived from the Sanskrit pippali).

A new species of frog, *Philautus sanctisilvaticus*, has recently been reported from the Amarkantak sacred grove in Madhya Pradesh. Many animal species, including birds that are otherwise threatened or becoming rare, find safe refuge in many a sacred grove. The orans in Rajasthan, managed by the Bishnoi community, provide protection to the khejari or

shami (Indian mesquite) tree, the Indian gazelle, the black buck, and the migratory demoiselle crane.

A few species found in the sacred groves are also important keystone species, which maintain the biodiversity of the grove. Such species are socially valued by local communities for cultural or religious reasons. For example, the khejari (*Prosopis spicigera*) species found in the orans of Rajasthan is linked with species diversity of the orans and religious value of the local community. Ficus, a keystone species in the conservation of many birds, bees, insects, and mammals, is also revered in many groves. Over 500 Indian flying foxes roost in huge banyan trees in Puliangulam in Madurai district, Keelarajakularaman in Virudhunagar district and Sri Vaikundam in Tirunelveli district, all in Tamil Nadu.

Sacred groves are also associated with perennial water bodies like streams, ponds, lakes, and wells, and serve as valuable resources for nearby localities in terms of water supply in the dry season. In addition, transpiration from the sacred groves increases atmospheric humidity and reduces the temperature in the immediate vicinity, producing a more favourable microclimate for many organisms. Surface water run-off is reduced to a great extent by adopting suitable soil- and water-conservation measures and tree-planting activities. Soil erosion is prevented because of the trees' capacity to retain water and bind the soil. The soil itself has few nutrients with which to support the large biomass of the sacred grove—the biomass is supported by the root system developed on the surface layers, which also serves to cycle nutrients. Many microorganisms, invertebrates, fungi, and a vast array of other species also live on these root systems.

In certain sacred groves, people fulfil their vows by offering terracotta animals, especially horses, in the hope of a good harvest. Ritual activities are carried out in the sacred grove as part of annual week-long village celebrations dedicated to local deities, held in spring or summer. Food is cooked using only dead wood collected from the grove. The preparations are offered to the local village goddess and other folk deities, and the food is distributed to all those who take part in the festival. Folk tales and epics are enacted at night ([Figure 53](#)).

Some sacred groves involve the sacrifice of fowl and goats to the goddess of the grove. However, with greater realization of the cruelty involved, this practice is on the wane in several places. Also, as the villages upgrade their shrine to a full temple with vimana (spire), gopuram (gateway), and agamic (scriptural) rituals, it involves the introduction of Brahman priests and automatically puts an end to the animal sacrifices.



*Figure 53*

Today, only a few people of the older generation know the taboos related to sacred groves. Traditional rituals are still performed in accordance with local beliefs in large groves, but they no longer exist in the smaller ones. The erection of temples and developmental activities such as building roads, setting up power lines, and reclaiming land for agriculture have also taken their toll on many sacred groves. Many have been destroyed by big dams. The groves have been urbanized by local communities and government departments, or destroyed by migrants and commercial forestry operations. Human activities such as dead-wood collection, biomass gathering, lopping of tender branches and green leaves for goats, creation of footpaths, cattle grazing, mining of sand and clay, brick making, and collection of wild fruits, vegetables, and plant parts for medicine affect the ecology of the sacred groves. In addition, invasion of exotic weeds is a

serious problem. As a result, all that is left of several groves is a single tree, venerated as the sacred tree or sthala vriksha of the village.

Sacred groves are a part of India's cultural and ecological heritage and must be preserved. They contain a wealth of natural resources and are sources of survival for local communities. Man and nature have coexisted without disturbing the environment in the past. The groves are not protected by the Forest Act (unless situated within a forest) or any other law. Their chances of survival are bleak unless the traditional communities who have protected them over millenniums continue to do so.

## Tree Worship outside India

Tree worship is the most prevalent form of worship all over the world. The Roman 'forest king' was the personification of the spirit of the sacred tree, the oak, his living dual. The oak worship of the Druids is familiar. The Celts worshipped Jupiter in the form of a tall oak tree. An ancient sanctuary still exists in the name of Nemi in Italy, which comes from the Greek and Latin *nemos/nemus*, 'a forest enclosing pastures, groves and a group of trees considered to be sacred'. Sacred groves were common among the Germans and the oldest sanctuaries were natural woods. The ancient Greeks represented the spirit of conservation by the goddess Artemis, who was protector of wildlife and the wilderness too. Artemis endowed the wilderness with sacredness (Hughes 1990, 191–97).

Sacred trees and groves have been reported from Africa since preagricultural, hunting and gathering societies, when human societies were in primitive state. The migumu tree in the groves is sacred to the Kikuyu tribe. Cutting of trees, breaking branches, collection of firewood, burning of grass, and grazing and hunting of wild animals within the groves are strictly prohibited. There are about 200 sacred groves in the Kirinyaga district of Kenya, and these are protected by the Kikuyus (Brokensha and Castro 1988, 19–21). The colonial administration has listed over 100 sacred groves, where cutting of trees is taboo among the Mbeere tribe of Eastern Africa (Little and Brokensha 1987, 193–209).

Sacred groves and forests still survive throughout Ethiopia; Orthodox Christians, Muslims, and local ethnic groups, with their traditional belief systems, protect these groves. The Oromo begin the harvesting season with a thanksgiving festival called Irreessa, which takes place under big trees in a sacred grove. The Gurage and Amhara also have their ceremony called

Adbar, which takes place each year under big trees on community lands (Aerts 2007, 66).

Sacred groves occur throughout Ghana. In northern Ghana, patches of woody vegetation are conserved by communities for ritual purposes. In north-eastern Ghana, about 179 groves have been reported (Blench 2004). The sacred groves and their communal features are responsible for the cultural estrangements of the Tiriki people. In Kenya, the sacred groves are known as Kaya forests (Githiro 1998).

In Timor, rock and tree forms are symbolic cultural structures. In West Timor, among the Meto-speaking communities, their description for their indigenous religion is the 'sacred tree and the sacred rock' (*hau le'u faut le'u*). The widespread occurrences of sacred groves are also found across the Fatuluku-speaking communities of Lautém district in far-eastern and East Timor (McWilliam 2001, 89–113).

The Egyptians were also known to worship trees. The tamarisk played an important role in the legend of Isis and Osiris. The Norway maple that shaded the tomb of Osiris on the banks of the Nile was also considered divine. Another sacred tree was the sycamore known as the king of fig trees, or World Tree, sacred to Goddess Netpe (goddess of light and wisdom). The avocado was sacred to Hathor (goddess of love and joy).

In Persian mythology, the gogard or gaokerena tree bears the haoma, which gives health and generative power and imparts life at the time of resurrection. The white haoma, the tree of life that grows in paradise, was the holiest offering of ancient Iranian worship (Fergusson 1971, 41).

The gods and goddesses of ancient Greece are each associated with a tree. The earliest mentioned and most celebrated tree is the oak in the grove at Dodona, assigned to Jupiter, and the laurel that represents Apollo. The vine tree is associated with Bacchus, the olive with Minerva, the myrtle with Aphrodite, the apple or orange of the Hesperides with Juno, the populus with Hercules, and the plane tree was the 'Numen' of the Artidae. The laurel at Delphi was as celebrated as Dodona's oak (Fergusson 1971, 16).

Romulus killed Acron, king of Cecina, and hung the rich spoils or trophies on an ancient oak, which had been considered sacred by the shepherds, on Capitoline Hill. Another important god in Roman history is Mars, originally the god of vegetation and fertility. Among the plants and trees dedicated to Mars were fig, oak, laurel, and oriental hornbeam plant. Of Sarmatia, Procopius states that, in his days, 'the barbarians worshipped the forests and groves and in their barbarous simplicity placed trees among their gods' (Fergusson 1971, 22).

The people of Judea venerated natural groves too. They worshipped groves or asherah, often represented as an emblem on Assyrian sculptures, an artificial tree. Worship of the asherah was a form of tree worship, frowned upon by the priests of the Jewish religion (Fergusson 1971, 8).

In the Genesis story of creation, found in both the Jewish Torah and the Biblical Old Testament, the Tree of Knowledge (of good and evil) and the Tree of Immortality were situated in the Garden of Eden.

The ancient Germans believed that they were the offspring of their sacred trees and forests. They had no images and declined to enclose their gods within walls, but consecrated groves and woods in the names of their gods. The Christmas tree, so common to the whole Christian world, is a remnant of the tree worship of their ancestors (Fergusson 1971, 21).

Uppsala in Scandinavia existed in front of a great temple where 'grew a huge tree of unknown origin, that spread with large boughs, and was green both during summer and winter'; near the same temple was a sacred grove (Fergusson 1971, 22–25).

There are several recorded instances of tree worship in America. A huge cypress was hung all over with votive offerings, besides hundreds of locks of hair, teeth, and bits of ribbon.

## Conclusion

Tree worship was a result of man's natural reverence for a creation of nature that provided food, shelter, fodder, timber, and so much more. Their utility elevated trees into objects of worship. By conferring sanctity on trees, ancient people indicated their appreciation of their socio-economic–medicinal role. To please the gods and spirits residing in the trees, the trees themselves were worshipped. Each tree came to be associated with one or more deity.

Tree worship is inherent in all the religions emanating from India. Literature, temples, and art forms—all show the worship of trees. Trees were more than ordinary creations: they represented life itself. Tree worship continues to be an element of modern Hinduism. Unusual practices and customs abound in the worship of trees, from circumambulation and making votive offerings to even performing marriages between trees. It is predominantly women who worship trees and confer sanctity on them.

Trees purify the environment, control soil erosion, and act as windbreakers. Many sacred trees have antimicrobial and germicidal properties. The sacred grove has conserved the land's rich plant diversity.

The relationship between each tree, its patron deity, and the associated temple is an intricate web, the unravelling of which is a fascinating exercise, going back millennia. Many of these relationships are lost in the mists of time as the uses of plants have changed or ceased over the centuries, and knowledge of their curative properties has been lost in the onslaught of modern medicine. As a result, the sanctity attached to several contemporary sacred trees remains unexplained. We hope this book will throw some light on these mysteries.



Let me conclude with a Punjabi ode I found on the Internet. This says it all.

The Pipal sings, the Banyan sings,  
And the green mulberry too.  
Stop, traveler, listen,  
Your soul will be set right.  
Under the Banyan tree  
I happened to see god almighty.  
Tell me, O Pipal tree,  
Which is the path to heaven?  
O, silent Pipal tree,  
Open the knot of my soul.  
The Banyan knows the secrets;  
No good telling a lie in its presence.\*



## PART II

---

# Sacred Plants

## Alexandrian Laurel

Botanical name:	<i>Calophyllum inophyllum</i> L.
Common names:	Sultan champa, Surpan, Surpunka, Undi (Hindi) Punnai, Punnagam, Pinnay (Tamil) Nagachampa, Punnaga (Sanskrit)
Habit:	Tree
Distribution:	Africa, Asia (tropical), Australasia, Pacific Naturalized in other regions

The Alexandrian laurel is neither a laurel nor a native of Alexandria. It is a medium-sized evergreen tree, about 15 m high, with spreading branches that begin low on the trunk and with white flowers.

Its timber is fairly hard and is used to make boats, railway sleepers, and plywood. It is an excellent wood for making cabinets (Cowen 1984, 82). The fruit yields a valuable gum. The dark green viscous oil extracted from the seed kernel has an unpleasant odour and taste, and its constituents are toxic. The oil is used for illumination (Krishnamurthy 1993, 289) and to make soap.

The wood of the Alexandrian laurel was once used to build the ships used by Tamils to travel to South East Asia for trade and conquest. Maybe that is why it is the sacred tree of several coastal temples in Tamil Nadu.

Tannin is extracted from the bark and leaves and used to toughen and dye fishing nets.

It is a good shade plant, used for afforestation. The tree is ornamental in appearance, the new foliage crimson and the flowers scented. In India, it is popular for avenue plantations, although it is very slow growing.

The Alexandrian laurel has antimicrobial effects. It also acts as an efficient protector of the shoreline along the coast.

### ***Mythological and Religious Associations***

The Alexandrian laurel has been frequently mentioned in the Ramayana. In the Bala kanda of Valmiki's Ramayana (37–40) there is a description of a forest that was rid of a curse and was shining beautifully with champaka, ashoka, punnaga, jasmine, and other flowers, and was decorated with mango, jackfruit, betel, and coconut trees, beautiful to look at because of wells, tanks, large lakes, and golden hillocks covered profusely with jasmine creepers and citadels, like Kubera's pleasure garden Chaitraratha. The punnaga is also mentioned in the Kishkinda kanda (4.42.6, 7, 8). It is one of the decorative trees of Panchavati forest (3.15.16), for it is found in abundance in western India. It is also a valuable garden tree and its flowers yield scented materials (5.10.23).

In the Anushasana Parva of the Mahabharata, it is stated that King Kaushika once went to the banks of the Ganga, where he saw a palatial mansion that appeared to have been built by Gandharvas. It was made entirely of gold and precious jewels, and surrounded by hills and valleys and lakes full of lotuses. He also beheld many trees that were in full bloom. Among them was the Varanapushpa (Alexandrian laurel) (Mahabharata, 13.54.6).

Damayanti, princess of Vidharbha, was abandoned by her husband Nala in a forest brimming with wildlife and several trees such as the punnaga (Mahabharata, 3.1, 88). The Mahabharata also says that Duryodhana, accompanied by his courtiers, went into the forest with large numbers of cattle. There he caused the cattle to be branded. He also began to hunt wild

animals. At last, he reached the sacred lake of Dwaitavana. The place was swarming with bees and shaded by punnaga and other tree species (Mahabharata, 3, 1, 207).

According to the Matsya Purana, a house with a punnaga tree is very auspicious. The Shrimad Bhagavatam (3.15.19), while describing heaven, refers to the punnaga as one of the trees found there.

In the Vishnu Purana (5.30), there is a mention of Krishna going to heaven to pay his respects to Aditi, the mother goddess. Krishna presents to Aditi her own earrings, now restored, and informs her of the destruction of the demon Naraka. The mother goddess, pleased by this act, praises Lord Vishnu fulsomely. While praising him, Aditi mentions that he is the Supreme Being and god of all creation, and singles out the punnaga tree. She says, ‘Thou art the devas, yakshas, daityas, rakshasas, siddhas, reptiles, punnaga tree, shrubs, creepers, climbers, and grasses; all things, large, middling, small, immense, or minute: thou art all bodies whatsoever, composed of aggregated atoms.’ Thus the punnaga is singled out for its divinity.

The Shrimad Bhagavatam (8.2.9–13), while describing Varuna’s garden on the Trikuta Mountain, says that the punnaga tree is one of the fragrant trees found there.



*Shiva lingam beneath the Alexandrian laurel, Kapalishwara temple, Mylapore, Chennai*

The punnaga tree is known to react to certain actions of women. If it passes its flowering stage without flowering, women dance around and kick its base, after which it blooms (Subramania Pillai 1948, 46).

The punnaga flower has a special place in south India, especially in Tamil Nadu. Many Carnatic songs describe it as a flower used for the worship and adornment of various gods. A raga by the name punnaga-varaali is named for this tree. The Lalita Sahasranamam says that it is sacred to Lord Vishnu, forming his garland. The processional vehicles used in Vishnu temples are made from the wood of this tree.

There is a charming story in the Tiruvaacagam (I.1–10). A man went out into the world to make his fortune. Before leaving his wife and home, he planted the laurel in front of his house and told his wife that he would come when the tree had its first flowers. The day of the blossoming arrived, and the husband also came, but his wife did not recognize him, so, in despair, she uttered the words: ‘O punnai tree, you have blossomed for Kakan and Pookan, could you not have waited for the arrival of my husband?’

Tamil literature is full of this tree. The tree would attune itself to the dance of a woman with smiling flowers (Iruttinaccurukkam,41). In Narrinai (172), the tree is revered as a member of the family. The poem describes how a girl in a sportive mood casually thrust the seed of a punnai tree into the sand. In a few days, it sprouted and showed signs of healthy growth. The girl was much elated to see the seed, which she had cast into the sand, shooting out with sprouts and she lovingly fed it with ghee and milk ever after. Her mother observed with satisfaction the child and the tree growing together and called it the elder sister of the girl, because what pleased her daughter pleased her too. Later, when she had grown up and come of age, the heroine asked her lover to meet her during the day. They met a little distance from the house and the lover made advances, but the girl promptly stopped him saying that she was not comfortable getting familiar with him in the presence of the tree that she had adopted as her own sister and so wanted to repair with him to the shade of some other tree. Narrinai (63) says: ‘A laurel tree blossoms all at once in bright clusters; as fragrant as a festival ...’ (Subramania Pillai 1948, 48).

Chola inscriptions 47 and 226 mention Punnai-ttura-mangai, a village deity named for the tree. Pidari, a Tamil village goddess, is known from the records of Rajaraja I of the first quarter of the 11th century CE as

Punnaitturai-mangai, ‘the goddess who lives on a river bank, in a grove of punnai trees’ (Krishna Sastri 1916, 226).

In the traditional theru-kkoothu (street theatre) of Tamil Nadu, during the gopikaa-vastra-haaranam (stealing the cowherdresses’ saris) scene, Krishna is required to take the gopis’ saris into an Alexandrian laurel. However, if a tree is not found near the stage, a freshly cut leafy branch of any tree is temporarily set up. It is, however, called a laurel in the performance, the correct tree according to the narrative. The punnai, being a rare tree, is seldom available, and substitutes are thus normally used. Why this particular tree appears in these folk dramas is a mystery. Could it be a distant echo of Pinnai, Krishna’s oft-forgotten favourite among the early Tamil gopis, who, in the Silappadikaaram, is the foremost of those to whom Krishna returns the garments and was the original Radha (Krishna 2012, 181–87)?

The Alexandrian laurel is best known for its associations with Shiva. Its flower is one of the eight offered to Shiva during the early morning puja. According to the Tiruvilayaadal (57)—the sacred sports of Lord Shiva—Parvati was dreaming while Shiva was expounding to her the mysteries of the Veda. Shiva became angry at her inattention and condemned her to be born on earth as the wife of a fisherman. Accordingly, she was discovered one day lying as a tender infant under a laurel tree by the headman of the Paravar, a clan of fishermen found along the Tamil coastline. He brought her up lovingly till the god assumed his original form and restored Parvati to hers, and with many gracious words they returned, with the foster father, to Kailasa.

The Alexandrian laurel is closely associated with the Kapalishwara temple of Mylapore in Chennai. Once, yet again, Parvati was paying scant attention to Shiva’s explanation of the meaning and importance of the mantra *Om namah Shivaya* because she was distracted by the beauty of a flock of peacocks that had landed in the vicinity. An irritated Shiva banished Parvati to earth to live as a peahen till she worshipped him with single-minded devotion. Parvati lived near the sea in Mylapore (Chennai) and, in the form of a peahen, worshipped a linga under a laurel. Pleased



with her devotion, Shiva married her after redeeming her from the curse. The wedding of Shiva and Parvati is celebrated as a grand ten-day festival every year in the month of Panguni (March–April), ending on the day of the asterism uttiram. The original tree still stands behind the Bishop's House beside the San Thome Cathedral, where the temple once stood till it was taken over by the Portuguese conquerors who replaced it with the cathedral and moved the temple further inland. The original stone sculpture of the peahen worshipping the linga with a garland stands in a tiny shrine in the outer courtyard of the existing temple (Krishna 2009, 41–46).

It is worth noting that the wood of the tree was used to build ships that sailed as far as South East Asia in the Pallava and later periods from the ports of Mylapore and Mahabalipuram. It is likely that this important economic role was the reason for the tree's elevation as the sacred tree of Mylapore.

The sthala purana of the Satyavagishwara temple at Sankarankovil in Tirunelveli district of Tamil Nadu, belonging to the later Pandya period (13th century CE), says that Sita was kidnapped from the Kalakkad forest. Rama and Lakshmana prayed to Shiva who was seated under a laurel. He assured them that he would be with them when they went to rescue Sita. After successfully rescuing Sita, they returned to thank Shiva. Before leaving, they named him Satyavagishwara (Lord of Truth). The Tamil Shaiva saint Appar recited songs in praise of the deity.

According to a folk tale, while sage Durvasa was worshipping a Swayambhu lingam under an Alexandrian laurel, he was disturbed by a gandharva. In anger, he cursed the gandharva to become a heron (naarai). The gandharva begged his pardon and requested redemption, upon which the sage advised him to worship the linga, which stood under a laurel, with water from the River Ganga. Thereafter, the heron worshipped the linga every day. One day, while the heron was bringing the water from the river, he was caught in a cyclone. Regardless of nature's fury, the heron brought the water and bathed the linga and finally got rid of the curse. Since then, the village was called Tirunaaraiyur, for the sacred heron. The sthala purana says that the village was originally named Punnaga-vanam, for it was

covered with punnaga trees (*Tirunaaraiyur sthala puranam*, Cuddalore district, Tamil Nadu).

It is believed that before waging a war with the demon Tanjan of Thanjavur, Shiva placed the ashta shaktis (eight powers) in each of the eight directions, and that the one stationed in the eastern direction is now the presiding deity of the Punnai-nallur Mariamman temple, a village named for the laurel. Venkoji (1676–88 CE), the Maratha ruler of Thanjavur, used to worship the goddess Mariamman, like earlier Cholas. Once, the Maratha ruler went on a pilgrimage to the Mariamman temple at Samayapuram, near Tiruchirappalli. After he returned to Thanjavur, Mariamman appeared in his dream and told him that she was living in the forest of laurels in eastern Thanjavur. The king went there and saw a white anthill beneath an Alexandrian laurel. He constructed a temple around it. The original anthill was shaped in the form of Mariamman. The saint Sadasiva Brahmendra installed a powerful chakra in the temple and named the town Punnainallur (*Punnainallur Mariamman temple sthala puranam*, Thanjavur district, Tamil Nadu).

The Alexandrian laurel is the sacred tree of several temples across Tamil Nadu: Dhanavantri temple at Walajapet in Vellore district; Kapalishwara temple at Mylapore in Chennai; Suyambarakasar temple at Tirunaaraiyur; Subramania-swami temple at Mayilam; Ulagalanda-perumal temple at Tirukoilur; Brahmapur-ishwarar temple at Ambarperuntiru-koil; Vedapurishwarar temple at Vedaranyam; Palampathi-nathar temple at Tirupunavasal; Dhayanid-ishwarar temple at Pullamboothangudi; Sri Ranganathar temple at Srirangam; and many more.

From time immemorial, rice and fish curry have been the staple foods of the Paravas, a fishing community of coastal Tamil Nadu. The Paravas would gather under the Alexandrian laurel and make merry with arrack and toddy. They believed that the tree was possessed by divine spirits and performed rituals for a good catch beneath the tree. Local business was also conducted under it (Srinivasa Iyengar 1982, 215).

Once, in a forest of Alexandrian laurels, there was a cobra coiled on a Shiva lingam. Manigrivan, one of the king's watchmen, rushed to the king

and informed him. Later, the king constructed a temple on the spot, which is known as Sankara-nainar-kovil, or Sankarankoil, near Tirunelveli. The goddess Gomati meditated at this sacred grove of laurels, where Shiva gave her darshan as Sankara-narayanaswamy on the day of the constellation Utthirada in the month of Aadi (Aashaadha or July–August) (*Sankarankoil sthala puranam*, Tirunelveli district, Tamil Nadu).

The Alexandrian laurel is associated with the star Ahilyam (Ashlesha). It is also believed that the tree is an incarnation of Adi Shesha.

Punnai-kayal is named after the punnai tree situated in Tiruchendur taluk of Tuticorin district, Tamil Nadu. There is a mandapam dedicated to a vahana (vehicle) named after the laurel tree, called Punnai vahana mandapam at Mannargudi temple. During the annual festival in Panguni (March–April), Shiva appears on the punnai vahana.

### ***Medicinal Uses***

Traditionally, different parts of the Alexandrian laurel have been used in medicine to treat several ailments. The juice of the bark can arrest external bleeding. The leaf extracts are beneficial in the treatment of sore eyes and menstrual headaches. The flowers are also used to treat nervous disorders and paralysis and to reduce body temperature.

Oil extracted from the seed kernel is known as dilo/laurel/pinay/poon seed oil. The refined oil is injected intramuscularly to relieve pain in leprosy (Dastur 1962, 42–43). Dilo oil, dark green and malodorous, is also used as a remedy for ulcers, skin diseases, and pain in the joints and muscles (Cowen 1984, 82).

# Ashoka

Botanical name:	<i>Saraca indica</i> L.
Common names:	Ashok (Hindi) Asogam (Tamil) Ashokam/Madhupushpam (Sanskrit)
Habit:	Tree
Distribution:	Asia (tropical) Cultivated elsewhere

There is some doubt and controversy over the origin of the name *Saraca indica*. The origin of the word saraca is obscure; it probably comes from sarac, a genus of small trees whose young leaves hang as pendulous tassels. Indica, of course, means ‘of Indian origin’. Sir William Jones expressed his view that the tree should retain its Sanskrit name ashoka in English too.

The Sanskrit word a-shoka means without sorrow or that which gives no grief. It is said that one who lives under the tree will never be sad and people who look at the tree when in full bloom will forget their worries and become happy and contented. Etymologically, ashoka has been explained as *nasti shokayasmat*, ‘that which excludes grief and worries’ (Biswas and Debnath 1972, 99–114).

The ashoka is an evergreen tree. The bark is grey, its colour getting darker near the top of the trunk, and is covered so thickly with leaves that the trunk is hardly visible. The widest part of the leaf is near the base; its

rim is smooth but twisted. Its flowers are yellow when young; they turn orange and then crimson as they age.

It is commonly found almost throughout India up to an altitude of 750 m in central and eastern Himalayas, Khasi, Garo, Lushai Hills, the northern plains, Chittagong, Bihar, Odisha, and the western coast of Maharashtra. However, it has become quite scarce in several localities, especially in north-east India.

The ashoka is a decorative plant. Its flowers are used for embellishment in temples. The wood is used as timber for construction purposes.

### ***Mythological and Religious Associations***

The ashoka is sacred to Hindus, Buddhists, and Jains and is planted near temples, usually in the south-east corner. It is sacred to Kamadeva, god of love, and to Lord Shiva, the Destroyer. The tree is sacred to Buddhists because Lord Buddha was born under it. Mahavira attained enlightenment under this tree in Vaishali; hence it is sacred to the Jains.

The tree is also called kalpa vriksha, the wish-fulfilling tree. It is regarded as a symbol of love; it is seen as the sorrow-less tree and the guardian of female chastity, the last quality probably derived from Sita's chastity, which survived even while she was a prisoner in the ashoka vatika, Ravana's garden of ashoka trees.

The most prominent mention of the ashoka is in the Ramayana. It is a decorative tree in Kaikeyi's palace. It is found in Panchavati (Ramayana, 3.15.17; 3.42.31). Sita spent her captivity in the ashoka vatika (grove) in Lanka, Ravana's kingdom. Hanuman met Sita for the first time under an ashoka tree. Valmiki refers to the ashoka vatika several times. It was a private palace garden that would help its occupants release their grief through its sheer beauty. There was an ashoka vatika in Rama's palace too, described as a remover of grief (3.60.17) and very beloved to Sita, who hid behind the branches of an ashoka (3.62.3). A grove of ashoka trees still marks the place of Sita's captivity in Sri Lanka.

Agnimukhya ashoka has flame-red (scarlet) flowers, in contrast to the blue of nila ashoka (3.73.4, 5) and some ashoka flowers equalling gold (*shaata kumbha nibhaah*) (5.15.10). Bunches of ashoka flowers look like burning coals (4.1.29). It flowers in spring (5.14.3) from the root upwards, removing grief by its very splendour (5.75). In Ravana's ashoka vatika, there were ashokas that had flowers like golden vessels, others glowing red, still others with the glow of the steady blue flame of the oil lamp lit before the gods, and all of these were in the thousands (5.15.10, 11). Three types are clearly mentioned: the scarlet red the most common, the blue mentioned in a few places, and the golden yellow mentioned only here. Ravana looked grand, like a mountain beautified with ashoka trees in plenty with their red, leafy sprouts and scarlet-red flowers (Ramayana, 5.22–28).

The Mahabharata narrates the story of Nala and Damayanti. Damayanti searches for Nala in a forest of ashoka trees. Approaching the first tree with its heavy load of foliage resounding with the notes of birds, teary-eyed Damayanti begins to lament: 'Oh, this graceful tree in the heart of the forest, decked in flowers, looks beautiful like a charming king of hills. Oh, beauteous ashoka, speedily free me from grief. Have you seen king Nala, the slayer of foes and the beloved husband of Damyanti?' (S.M. Gupta 1991, 81).

Gautama Buddha's birth tree is a matter of debate. There are five different species in various Buddhist texts, travellers' accounts, and early sculpted panels. According to Fa-Hsien and Hiuen Tsang, the Master was born under an ashoka tree. According to Arvada Vinaya and other authorities, it was an ashoka tree. Vinayavasta says that when Mayadevi went to Lumbini garden, she gave birth by holding the branch of the ashoka tree. Other literature also supports the idea of the ashoka tree as the birth tree. There are some early sculptures that depict a branch of the ashoka tree held by Mayadevi during the time of delivery. The panels clearly show that the leaves belong to the ashoka.

Several Buddhist texts say that Vriksha Devi resides in the ashoka. Buddhist text Avadana Shataka (1.238; 2.5) says that on hearing of the great demise of the Buddha, one Vriksha Devi who used to reside in an ashoka

tree started shedding tears, and the teardrops from her eyes fell on the leaves of the tree.



*Ashoka, Kushana, 200 CE, Sanghol, Fatehgarh Sahib district, Punjab*

The Sanchi reliefs of the ashoka tree have been carved in great depth; the flowers and leaves, along with the branches, were conceived in high relief and turned out more rounded than at Bharhut.

In the Nagarjunakonda stupa, in a relief showing the birth of the Buddha, Mayadevi has been depicted under an ashoka tree. The shalabhanjika in this stupa shows a woman holding an ashoka tree.

The tree was very popular with the Mathura school of sculpture. It is depicted surrounded by vriksha devatas, or tree deities, who were believed to dance around the tree and are worshipped by childless women, for they represent fertility.

A shalabhanjika or a young forest maiden is often depicted in early art kicking the trunk of an ashoka tree to make the tree flower profusely. It is believed that the ashoka tree will flower after a married woman touches the tree with her foot. Similarly, it bears fruit after a pregnant woman sprays it with water from her mouth (Barooah 1992, 17–20).

Lord Mahavira attained enlightenment under the ashoka tree in Vaishali; hence it is sacred to the Jains. The Tirthankara Mallinatha and kinnaras are also associated with this tree. A Jaina Ardhamagadhi text admits that the term shalabhanjika includes the ashoka tree (*Rayapasenaijja* 1894, 260–62).

Varahamihira's Brihat Samhita (54.119) gives detailed instructions about tank construction and recommends that certain plant species should be planted on the embankment. According to him, the bank should be planted and or shaded with the mixed plant species, one of which is the ashoka (Bhat 1981, 1066).

Kalidasa describes a dance performance in *Malavikagnimitra*, where Malavika, the beloved of Agnimitra, dances beneath an ashoka tree. Before commencing her dance, Malavika says, 'So this is the ashoka tree which wants the touch of my feet. It has not decorated itself with flowers.' She dances and kicks the ashoka with her left foot and remarks with maidenly pride that 'it would be too mean if it does not flower even now'. In this poem, Kalidasa also mentions a game played in spring called ashoka pushpa prachayika.

The Padma Purana says that 'planting the ashoka tree leads to the destruction of all sorrow' (Shrishti kanda, 26).

According to a legend in the Matsya Purana, the ashoka tree was beloved of Parvati, Shiva's spouse. The purana says that 'a house with ashoka tree in its vicinity is very auspicious'. Once, Parvati planted an ashoka tree and the gods asked her what merit she would get by planting this tree. She replied: '[Constructing] a pond is equal in merit to ten wells, [having] a son to ten ponds and [planting] an ashoka tree is equal in merit to ten sons' (S.M. Gupta 1991, 2).

Sri Krishnajanma kanda of the Brahmavaivarta Purana (102) says that among many other trees, the ashoka always brings peace and does well. According to the Bhavishya Purana, the 'ashoka tree is related to Mahadeva [Shiva]'.

Another legend revolves around the ashoka tree and Parvati, who asked Shiva about the importance of the ashoka. He replied that it could fulfil



wishes. The goddess tested the tree by asking for a daughter and, immediately, a beautiful girl appeared. Parvati named her Ashoka-sundari (Gandhi and Singh 1989, 92).

The ashoka is usually planted in the south-east corner of the temple and worshipped on the thirteenth day of the month of Chaitra (March–April). A festival called ashoka shashthi used to be celebrated by women on the sixth day of the waxing moon and again on the sixth day of the waning moon in the month of Chaitra. On the eighth day, a woman who ate eight buds of the ashoka flower and chanted a mantra would be relieved of all pain and sorrow (Biswas and Debnath 1972, 99–114). Almost the same kind of ritual is observed on the fifteenth day of the month of Phalguna (February–March). In Bengal, women eat the flower buds on this day (Sinha 1993, 50).

### ***Medicinal Uses***

According to the Charaka Samhita (4.18–47), the ashoka is an astringent and analgesic agent. The Sushruta Samhita (38.14) describes the ashoka along with other drugs as an astringent, used particularly in disorders of the womb.

Vagbhatta refers to the use of ashoka seeds in the treatment of cough.

The Nighantus, such as Dhanvantari Nighantu, Raj Nighantu, Kayadeva Nighantu, Bhavaprakasha Nighantu, Shaligram Nighantu and Aushadhi Nighantu, have several references to the medicinal uses of the ashoka tree.

The bark of the ashoka is a household remedy for uterine disorders.

The essence helps women's fertility and, like the herb, helps in cases of excessive bleeding, irregular menstrual periods, and infertility (Sudharshan, Yellappa Reddy, and Gowda 1993, 25).

The women of Chhattisgarh boil the bark in cow's milk, add sugar, and consume it once a day for three consecutive days and repeat the course after three months to prevent gynaecological disorders (P. Deborah and R. Waller, 'Fact and Fallacy about the Ashoka Tree', *The Hindu*, 26 November 2005).

The dried flowers are used to treat diabetes.

The seed is a general strengthening agent.

The ash of the plant is effective in treating rheumatoid arthritis when applied externally (Warrier, Nambiar, and Ramankutty 1994, 5.66).

# Bamboo

Botanical name:	<i>Bambusa bambos</i> (L.) Voss
Common names:	Baans (Hindi) Moongil (Tamil) Venu (Sanskrit)
Habit:	Tall grass
Distribution:	Asia (temperate and tropical) Naturalized in Australia, cultivated elsewhere

Bamboo is a perennial tall grass with jointed woody stems (culm). It grows straight, up to a height of 40 m, without any branches, rising from an underground rootstock. It needs highly fertile sandy soil and grows in the downstream of rivers. It blooms once in forty or sixty years.

The wood is used for making baskets, bows and arrows, chariots, and agricultural implements. Mats are woven from the dried leaves. Many tribes eat the seeds (Upadhyay 1964, 15–34).

Bamboo poles are used in villages to carry water from ponds or rivers. The flute is made from young bamboo shoots.

## ***Mythological and Religious Associations***

Bamboo grows in clusters, so it is regarded as symbolic of a large family and prolific progeny. However, only the green bamboo is regarded as sacred. The dry one is deprived of all sanctity.

The bamboo is sacred to both Shiva and Vishnu. It is an emblem of Venugopala or Krishna. It is also sacred to Buddhists and has been depicted in the bas-reliefs of stupas and in Buddhist sculpture.

The Ramayana calls it a common forest tree (6.12.56) found growing on the banks of the Yamuna (2.55.8), and says that dried bamboo is used to make rafts to cross the river (2.55.14). It is used to make pillars and rafters in cottage construction (3.1.21). It is also used as a pillar of the straw cottage constructed by Lakshmana (3.15.21–23).

The Mahabharata (1.63) mentions the festival of the bamboo pole, which involved planting a bamboo pole every year in honour of Indra. After erecting the pole, people decorated it with golden cloth, perfumes, garlands, and ornaments. Then the ruler, Uparichara Vasu, the king of Chedi who belonged to the Puru Dynasty, prayed for the expansion of his cities and kingdom.



*Krishna with his bamboo flute*

Another association of the bamboo pole is with the kaavadi. Once, Lord Shiva entrusted sage Agastya with two hillocks, balanced across his shoulders on a bamboo pole, to be carried for installation in south India. But the sage left them in a forest and asked his disciple Idumban to bring them. Idumban found the two hillocks and lifted them with great difficulty. After a while, he put them down near Palani, home to a famous shrine of

Murugan or Kartikeya, Shiva's son. When Idumban wanted to continue his journey, he found that the hillocks could not be moved. He sought the help of a youth but the boy claimed that the hillocks belonged to him. In the ensuing fight, Idumban was defeated. Idumban then realized that the youth was Lord Kartikeya. Idumban begged for pardon and asked that anyone who carried a kaavadi—a bamboo pole suspended with anything resembling the two hillocks—may be granted his heart's desire. Idumban's wish was granted. Today, the kaavadi is carried by pilgrims crossing the country. It consists of two semicircular pieces of bamboo that are bent and attached to a bamboo cross structure that can be balanced on the devotee's shoulders. It may be decorated with flowers or peacock feathers, or a pot of milk may be hung from either end of the pole slung across the shoulder. Some kaavadis are very ornate and heavy. The kaavadi has come to symbolize the balance between happiness and unhappiness, wealth and poverty—all of which are inevitable. It is necessary to maintain the proper balance between them and to avoid both extremes of joy or depression, retaining optimum poise.

The Buddha was presented with a grove of mango trees, beneath which he could relax. He told his monks a tale of his earlier life as a monkey. He lived with his clan on a mango tree and all were very careful never to let the fruit fall to the ground where it might be found by a human, tasted and desired. But one mango fell into the river and was carried to Kashi (Varanasi) where the king, who was bathing, found and ate it. Delighted with the taste, he and his soldiers set out to search for the tree. When they eventually located it he ordered all the monkeys to be killed. The Buddha saved the other monkeys by making a bridge of his body over the river into a bamboo grove, but lost his life while saving his clan. So, for Buddhists, the bamboo is a sacred tree (Gandhi and Singh 1989, 112–13).

A sanyasi's danda and a yati's (ascetic) vessels are made from bamboo (Kurma Purana, 2.19, 29; 15, 3; 29, 9).

Krishna used a flute made of green bamboo to charm the cowherdresses of Vrindavan with its sweet notes and tender melodies. Since this is the

voice of the Supreme Being calling out to his devotees, the music of the simple bamboo flute is the Sacred Song of the Lord, the Divine Music.

In north India, the green bamboo and its branches are used to make the canopy under which wedding ceremonies are performed. Coffins are also made of green bamboos.

During the sacred-thread ceremony, a twig of the bamboo is given to the boy.

People of the Turi tribe of Gujarat place two small pieces of bamboo in the room of confinement, so that no malicious spirit can influence the newborn.

In Bihar and Uttar Pradesh, newly married couples place their feet in a bamboo basket and walk slowly, so that they do not fall flat on the ground. It is very auspicious to walk in this manner because it is symbolic of a large family. The Prabhus of Pune place bamboo baskets on the heads of the bride and the bridegroom. The Mubasis of Bengal ask married couples to go around a bamboo post. The Garos and Kacharis of Assam worship the bamboo post after planting it in the ground.

On the other hand, it is widely believed in Uttar Pradesh that a churail (evil female spirit) lives in bamboo groves (Upadhyay 1964, 24).

During the aghora puja, after worshipping Shiva and Parvati, the performance of homa, followed by the feeding of Brahmanas and young girls, takes place. On this day, a branch of the bamboo is planted on one side of the pandal, along with mango flowers and a banana tree with flowers, and they are worshipped by all.

At the Venu-vana-natha (lord of the bamboo grove) temple in Tiruvetkalam in Tamil Nadu, sage Kanva performed penance for many years and was covered by a termite mound on which the bamboo started to grow. Seeing this, Brahma split the bamboo bush and made it into three bows named Paashupata, Shaaranga, and Gandiva and gave one each to Shiva, Vishnu, and Chandra. Arjuna, one of the Pandava princes, was instructed by Indra to worship Venu-vana-natha and obtain the Paashupata. Accordingly, Arjuna came to the spot and started his penance. To test his devotion he was disturbed by a hunter. Arjuna became angry and fought

with him until Shiva appeared and gave him the Paashupata bow. According to the priest of the temple, puja is performed by hereditary Shivacharyas but, originally, this temple was maintained by the Vanniyar and Nayanaar castes. During the annual festival, they dress like Shiva the hunter and Arjuna. Several depictions of the battle between Shiva and Arjuna are to be seen in the mandapam in front of the shrine. There are sculptures of Shiva and Parvati in the guise of hunter and huntress, respectively, accompanied by hounds. The old bamboo culm is used only for temple requirements.

In Sirkali, Indra himself took the form of the bamboo and worshipped Lord Shiva. In the Nellai-appar temple at Tirunelveli, after worshipping Lord Nellai-appar, the devotees must worship the bamboo tree behind the garbha-griha. Women hang cradles on the tree to be blessed with children, wealth, and prosperity. Even today, one can see many cradles hanging from the bamboo tree.

### *Medicinal Uses*

A decoction of the leaves is used to treat problems of gas and stomach ache. It is also used to treat menstrual disorders and pains and to kill intestinal worms. The leaf buds are used to treat thread worms while the leaf juice is given with aromatics to stop vomiting of blood.

The tender shoots, pickled or cooked, are consumed to aid digestion. A poultice of the tender shoots is used to clean wounds and maggot-infested sores. The juice of the tender plant is applied externally to treat chronic ulcers.

A decoction of the stem promotes menstruation and also induces abortions. A decoction of the joints of the bamboo stem applied over swellings and joints relieves pain.

A siliceous crystalline secretion found in the columns of the female plants is used as an expectorant to reduce fever, protect the mucous membrane, and treat asthma and paralysis (Dastur 1962, 31–32).

Its grains are used in the treatment of chronic fever, eye disorders, biliousness, and diabetes (Shanmugam 1989, 82–83).

Its small, thin branches are used to counter body pain.



# Banyan

Botanical name:	<i>Ficus benghalensis</i> L.
Common names:	Vata (Hindi) Aal (Tamil) Nyagrodha (Sanskrit)
Habit:	Tree
Distribution:	Indian subcontinent Cultivated elsewhere

The banyan tree is characterized by its aerial prop roots, which reach the ground and thicken into ‘pillar roots’ or subsidiary trunks. The continually expanding system of new trunks, all connected through the branches, can support a crown up to 600 m in circumference. The banyan is a large evergreen tree with milky latex, and grows about 25 m high. It is native to the Indian peninsula and is found up to an altitude of 1200 m. The banyan emits oxygen during the day and night.

The tree has been mentioned in Pliny’s *Natural History* (Patnaik 1993, 19). Travellers’ tales inspired the 17th century English poet John Milton, author of *Paradise Lost*, to imagine the banyan tree in the following lines (IX, 1100–11):

they chose  
The Fig tree, not that kind for Fruit renown’d,  
But such as at this day to *Indians* known  
In *Malabar* or *Decan* spreads her Armes  
Braunching so broad and long, that in the ground  
The bended Twigs take root, and Daughters grow  
About the Mother Tree, a Pillard shade  
High overarch’t, and echoing Walks between;

There oft the *Indian* Herdsman shunning heate  
Shelters in coole, and tends his pasturing Herds  
At Loopholes cut through thickest shade: Those Leaves  
They gatherd, broad as Amazonian Targe.\*

However, although this picturesque feature of the banyan caught the attention of foreign observers and writers, it does not play much part in the Hindu literary treatment of the tree.

The name banyan is said to have been given to the tree by the British when they saw merchants (baniyas) assemble for business under the tree. The Sanskrit word vata means to surround or encompass, derived from the tree's ability to put down aerial roots and cover an enormous area. This tree is also called the kalpa vriksha, the wish-fulfilling tree of immortality.

It is fairly drought resistant but susceptible to damage by frost and browsing by cattle. The fruit is small, red, and soft, and eaten by birds, monkeys, and bats. The aerial roots are used to make tent poles and cart yokes, while the coarse bark fibre and young hanging roots are used to make ropes (Cowen 1984, 67–68).

In India, planting a banyan has been a popular custom since ancient times. It is one of the nine trees whose twigs are used to feed the sacrificial fire. The leaves are used as fodder and also stitched together to make leaf plates. The latex of the banyan tree is used as a fixative to add permanence to the colours in Mithila painting (Jha and Basak 1994, 9–18).

The banyan lives long and grows to enormous widths. Thimmamma marrimanu was listed as the world's largest banyan tree in the Guinness World Records in 1989, spread over 10,000 m<sup>2</sup> with a canopy of over 19,000 m<sup>2</sup>. The tree is situated in Anantapur district in Andhra Pradesh and is named after Thimmamma who committed sati on her husband's funeral pyre. The tree sprouted on its own at the spot where she died and is named after her. The oldest banyan tree, situated at Pillalamarri in Mahabubnagar district, Andhra Pradesh, is 800 years old, spread over 12,000 m<sup>2</sup>. Many banyan trees grow in its proximity, like its children, hence the name. Pillala means children and marri means banyan tree. The most famous banyan tree is to be found at the Theosophical Society in Chennai; covering nearly 5000

m<sup>2</sup>, it is 450 years old. The Great Banyan Tree of Kolkata, described in travellers' tales, is over 250 years old, occupying an area of about 14,500 m<sup>2</sup>, with 3300 aerial roots reaching the ground.

Hemachandra's Tri-shashthi-shalaka-purusha-charitra (1.5.559) refers to the aerial roots of the banyan, which are called jata, a word also used for the matted and twisted hair of an ascetic.

### *Mythological and Religious Associations*

The tree is referred to in the Rig Veda (I.24, 7):

He, the powerful and holy, holds straight this tree in unsupported space.  
Its rays, whose roots are high above, stream downward,  
Deep may they sink within us and be hidden.

The banyan tree is frequently mentioned in the Atharva Veda (IV.37.4; V.5.5). The Aitareya Brahmana (VII.30.31) says that a king was asked to drink the milk of this tree in preference to that of the soma plant.

The Ramayana (2.52.68) says that the latex of the tree was used to braid an ascetic's hair. It was an enormous tree, with shining foliage and surrounded by many trees; its shade was particularly dark and cool, covered by a dense canopy of greenish-yellow foliage (2.55.23). It was the tree of Panchavati (3.13.21), a model of majesty to which Sita compared Rama himself (3.47.34); yet so common as to impede the marching Vanara army and get broken (6.4.73).

According to the Uttara Rama Charita, there was an eternal banyan tree—akshaya vata—situated at the confluence of the Ganga, Yamuna, and Saraswati at Prayag (modern Allahabad in Uttar Pradesh). It was also mentioned by the Chinese traveller Hiuen Tsang, who saw it at Prayag during his travels in India in the 5th/6th century BCE. A banyan tree can still be seen at the same spot.

The Mahabharata narrates the story of a mother and daughter who embraced two banyan trees and thus became the mothers of the sages Vishwamitra and Jamadagni (Gandhi and Singh 1989, 58).

The story of Savitri and the banyan tree appears in the Aranya kanda of the Mahabharata. It is said that Satyavan lost his life beneath the branches of a banyan tree. Savitri courageously entered into a debate with Yama, the god of death, and won back his life. The festival of the banyan is celebrated in memory of this couple in the month of Jyeshtha (May–June). Married women visit a banyan and pray for the long lives of their husbands in memory of Savitri who brought her dead husband to life (Dagar 1995, 3–4). The banyan is worshipped by women in Uttar Pradesh, Bihar, Gujarat, and Maharashtra on the new-moon day in the month of Jyeshtha in honour of Savitri. Just as the devotion of Savitri, the perfect wife, brought her husband back to life beneath the banyan (by worshipping the tree, it is believed), the tree is worshipped to enable women to avoid the stigma of widowhood. In Uttar Pradesh and Bihar, women worship this tree and recite the story of Bat–Savitri, where ‘bat’ is a corrupted form of ‘vata’.

The full-moon day of Jyeshtha, also known as vata-poornima, is observed by married women as a day of fasting and prayer by worshipping the banyan so that their husbands’ lives are prolonged.

The most important association of the banyan is with Narayana. At the time of the dissolution of the universe, following the great universe-destroying flood or maha pralaya, the sage Markandeya is wandering around in the watery abyss when he meets, in the midst of it all, a male child resting on a couch made of a single leaf. On being asked his identity, the boy introduces himself as Narayana, the Creator and Destroyer of the universe (Mahabharata, 3.188–89). The single leaf is described as that of a banyan (*Ficus benghalensis*). During the maha pralaya, Krishna assumed the form of a divine child lying on a leaf of the banyan, the tree of life (Shrimad Bhagavatam, 3.33.4).

Buddha meditated under a pipal tree for seven days and, thereafter, under the banyan tree for another seven days, absorbed in the Bliss of his Illumination. The banyan is also the bodhi tree or the tree of enlightenment of Kashyapa Muni (Wilson 1961, 166).

The first Tirthankara of the Jaina religion, Adinatha or Rishabhanatha, received his knowledge beneath the banyan tree. Thus, it is also sacred to

the Jains (B.C. Bhattacharya 1974, 35).

As the wide-spreading nyagrodha tree is compressed in a small seed, so, at the time of dissolution, is the whole universe compressed in the tree as its germ. As the nyagrodha germinates from the seed and becomes first a shoot and then rises into loftiness, so does the created world expand in magnitude (Vishnu Purana, I, XII).



*Shiva as Dakshinamurti seated beneath the banyan tree*

Minor deities such as yakshas (tree spirits), kinnaras (half-human, half-animal), and gandharvas (celestial musicians) are believed to dwell in the branches of the banyan. Ghosts and demons are also associated with its branches. It is believed that many spirits live in the banyan, which is why people do not sleep under it at night.

According to the Vamana Purana (23.1–36; 24.1–31), anyone who stands by the banyan at night and meditates on the Lord gets whatever he is thinking of, by the grace of the tree. The Vamana Purana says that the banyan was created by the yaksha Manibhadra, the chief of all the yakshaganas (S.M. Gupta 1991, 10).

According to the Kurma Purana (I.37.8–9), one who dies beneath this tree in Prayag reaches Rudraloka after traversing Svargaloka.

Chola inscriptions 47 and 226 mention the four manifestations of Goddess Pidari, known from the records of Rajaraja I of the first quarter of

the 11th century CE, as Tiruval-udaiyal, ‘the deity of the sacred banyan tree’ (Krishna Sastri 1916, 226).

The worship of the vata vriksha is mentioned in the Puranas as part of the Krishna legends. The adoring gopis played with the divine cowherd in the groves of vata trees. When he was absent, they treated the tree as Krishna himself and, in the heat of their passion, embraced the vata with ardour. In miniature painting, in scenes set on the banks of the River Yamuna, gopis circumambulate the vata tree. The undulating pastoral landscape leads to distant trees and flowering bushes. Life along the banks of the Yamuna is suggested by the gopis fetching water in tiny pitchers and offering the sacred aarti to the vata, which is symbolic of the lord himself (V. Kamala, ‘The Great Tree of Human Life’, *Sunday Herald [Deccan Herald]*, 6 June 2004).

The image of Jagannath is installed in a subsidiary shrine south of the Kalpa bata, the banyan tree of the Grand Temple of Jagannath at Puri. The old banyan tree is worshipped in the temple as Kalpa bata. The tree is said to have existed since time immemorial. Kalpa bata is also known to the devotees by the names of Banchha bata, Akshaya bata, Bansi bata, and so on. The image of Jagannath installed here is named after the old banyan tree as Bata-Jagannath. Many other deities like Bata-Krishna, Bata-Ganesha, Bata-Mangala, and Bata-Markandeya have also been installed in the vicinity of this shrine and named after the banyan tree. As described in the Nitya Karma Paddhhati, Kalpa bata is worshipped as a god with the spiritual aura of Lord Vishnu. The Mahabharata story of Rishi Markandeya, who had prayed to and worshipped Lord Vishnu reposing on the leaf of a banyan tree during the great deluge, is identified with the Kalpa bata of the temple of Puri. And so, whosoever worships the sacred tree believes he is worshipping Lord Jagannath, the presiding deity of the Grand Temple. The Kalpa bata is the same banyan tree that has existed since times immemorial (D. Dash 2008, 19–22).

The tree is associated with the life of the 15th century saint Kabir. A giant tree is said to have sprung from a twig he had chewed. People of all religions use its great leafy canopy to meditate or rest.

The Mandla Kols of central India have a number of totemic septs or clans. The Bargaiyan are named after a village called Bargaon, but they connect their name with the 'bar' or banyan tree and revere it. At their weddings, a branch of this tree is laid on the roof of the marriage shed and the food is cooked on a fire made of the wood of the banyan and served to all the relatives of the sept on its leaves (Russell and Lai 1995, 3, 447).

In a village in Satara district, a family of Selars uses the banyan tree as its devak (deity) (Abbott 2003, 256).

For some Odia tribes, the tree is the Sadru-shrine of the gods and it is sacrilege to cut it. The taboo against felling it is so great that if anyone cuts it in ignorance, he has to sacrifice a goat to the gods living in the tree. Special offerings are made to the gods of the tree at harvest time (Bakhrui 1993, 38).

Thiruvaaḷangadu (Thiru-aalan-kaadu or the forest of the sacred banyan trees, its Sanskrit equivalent Vata-aranya-ishwaram) is a village situated near Arakonam in Vellore district of Tamil Nadu. This area was once rich in banyan trees, hence the name. Thiruvaaḷangadu, according to legend, was the location where a linga was found in the banyan forest and came to be worshipped by the celestials. Karaikkal Ammayar saw the dance of Shiva in this forest of banyan trees. The banyan is the sacred tree or sthala vriksha of this pilgrim centre.

Places like Vadodara (Vata-udara) in Gujarat and Aalan-thurai and Aalangudi in Tamil Nadu are named after the banyan tree. More recently, the banyan was chosen to be situated at the centre of the Auroville Township in Pondicherry.

To Hindus, the banyan is important in religious ceremonies throughout the country. Its aerial roots are symbolic of the matted hair of Shiva Dakshinamurti. It is considered to be a kalpa vriksha and people tie strings on it for favours requested.

As many Muslim pirs (holy men) lived beneath banyans or pipals, the tradition of the sacred banyan has been adopted by Muslims who tie similar strings on trees and on the tombs of their holy men.

### *Medicinal Uses*

‘Just as the banyan and (karu)velam [Arabian gum tree] strengthen the teeth, both also strengthen speech’ (Tamil proverb).

Traditionally, different parts of the banyan have been used in medicine to treat several ailments. The bark and leaf buds can arrest bleeding. The leaf buds and latex are beneficial in the treatment of dysentery. Latex mixed with milk is used to treat bleeding piles, for joint and muscular pains near the hip and below the ribs for sores, ulcers, and injured tissues. The fruit has a soothing effect on the skin and mucous membrane and relieves swelling and pain. The tender roots are used to treat sterility in women. Cleaning the teeth with the aerial root prevents toothache and gum disorders (Dastur 1962, 42–43). The banyan tree has an antimicrobial effect and acts as a climate purifier (Nayar, Ramamurthy, and Agarwal 1989, 20).



# Baobab

Botanical name:	<i>Adansonia digitata</i> Linn.
Common names:	Gorak-chinch (Hindi) Anaipuli, Perruka (Tamil) Gorakshi, Sarpadandi (Sanskrit)
Habit:	Tree
Distribution:	Africa Cultivated in Asia (tropical) and southern America

The Hindi name for this tree is gorak-chinch, in memory of Guru Gorakh Nath, a Shaivite Nath yogi who lived in the 11th–12th centuries in north India and is said to have taught his disciples under the shade of this tree.

The baobab has been known in India for many centuries. Muslim traders are credited with its introduction and dispersal from tropical Africa, where the tree is indigenous. At present, it is found scattered all over India. It is an erect tree, 20 m high and with a fairly smooth bark. A greyish or light brown oval-shaped fruit hangs down from a thick stalk, almost resembling a small gourd. It is found along roads.

Gujarati fishermen use the gourds as floats for their nets while monks dry the shells to serve as water pots.

This tree can survive severe droughts because it stores a lot of water.



*Baobab*

### ***Mythological and Religious Associations***

Hindus believe that the baobab tree is a wish-fulfilling tree, one of the nine jewels churned out of the sea by the demons and gods during the samudra manthan.

According to the Vamana Purana, this plant arose from the body of Vishvakarma (S.M. Gupta 1991, 11).

It is popularly known as kalpa vriksha by the people of Mangliyawas in Rajasthan. Thousands of people worship this tree on the new-moon day of the month of Shravan ('Experts to Save Ancient Parijat Tree', *Times of India*, 26 October 2010).

### ***Medicinal Uses***

The pulp is edible and the fruit acts against epidemic fevers as it tempers the heat of the blood. A preparation made from the fruit is used to relieve stomach complaints.

## Bengal Quince

Botanical name:	<i>Aegle marmelos</i> (L.) Correa
Common names:	Bael, Bel (Hindi) Vilvam (Tamil) Bilva (Sanskrit)
Habit:	Tree
Distribution:	India

The generic name *Aegle* is derived from the Greek aegle, one of the Hesperides, nymphs who tended a beautiful garden in a far-western corner of the world, near the Atlas Mountains in North America at the edge of the encircling Oceanus, the world ocean. The word quince is derived from marmelo, a Portuguese word that originally meant quince jam. Since the fruit it is found in India, the plant got the name Indian—or Bengal—quince.

The bilva is native to India. It is a small- to medium-sized tree with a spreading crown. The trunk is soft, light grey, corky and exfoliates into irregular flakes. It is found in both tropical dry evergreen and dry deciduous forests and grows near Shiva temples. It can grow on red ferruginous or sandy loam farm soil.

The wood is suitable to make charcoal. The unripe fruit, when ground, yields a yellow dye (Krishnamurthy 1993, 243). The gummy substance, in which the seeds remain embedded, is used as an adhesive, and in varnishing and cementing. Its root system helps retain water in the soil.

Marmelle oil is extracted from the rind. The ripe fruit is used to make sherbets and drinks and the fruit pulp is used to wash clothes and utensils,

particularly brassware. The bilva is a climate purifier, emitting more oxygen in sunlight and absorbing more poisonous gases from the atmosphere (Sharma et al. 2007, 171–78).

### ***Mythological and Religious Associations***

The bilva has been associated with Shiva since ancient times. Tall and stern and austere, its dark trifoliate leaf symbolizes the three eyes of Shiva. It is said that offerings of water sprinkled with these leaves will always remain fresh.

The Sanskrit word bilva is another name for Lord Shiva. The fruit of this tree is called the ‘fruit of plenty’, and the tree the ‘tree of prosperity and good fortune’ and the ‘tree that grants success’.

The Yajur Veda (XX.1.8) refers to the use of bilva wood for the sacrificial post and says that bilva arose after the sun reappeared. There is a direct reference in the Atharva Veda (XX.136.13) to the bilva tree—it is so sacred that its timber may not be burnt as fuel. The Shankhayana Aranyaka (XII.20) contains a hymn in praise of the virtues of an amulet of this tree (ira-mani bailva). This tree is mentioned in the Aitareya Brahmana (II.1). It is also found in the Shatapatha Brahmana (XIII.4, 4, 8; I.3.3.20), where the sacrificial post is made of its wood. The Taittiriya Samhita (2.1.8.1, 2) also says that the sacrificial post was sometimes made of bilva wood.

There are several references to the bilva in Valmiki’s Ramayana. Six poles of this tree were erected as sacrificial posts (1.4.22); it is found in thick forests (1.24.15); the fruit is edible, the tree was in flower and fruit at Chitrakuta forest (2.94.8); it is an interior forest tree (4.11.74); and it is one of the trees used to construct the setu (bridge) to Lanka (6.22.55). In the Aranya kanda, while Rama was searching for Sita, he went around asking every plant, tree, and animal in a frenzy. Rama asked the bilva, ‘Oh, bilva tree, if you see someone who is dressed in yellow-ochre silks, whose skin is like the silkiness of your leaflets, breasts like your rotund and silky bilva fruits, then tell me ...’ (3.60.13). In the Kishkinda kanda of the Ramayana (4.1.78), there is a description of the Pampa Lake and the many trees in the

forest. The bilva, whose saplings are charming, is one of the trees mentioned.



*Shiva lingam beneath the Bengal quince tree. Atmanathaswami temple, Avudaiyarkoil, Pudukottai district, Tamil Nadu*

In the Shanti Parva of the Mahabharata, Bhishma, while resting on the bed of arrows and discoursing on dharma, refers to the observance of Maha Shivaratri by King Chitrabhanu. The story is as follows.

Once upon a time, King Chitrabhanu of the Ikshvaku dynasty, who ruled over the whole of Jambudvipa, was observing a fast with his wife on Maha Shivaratri. Sage Ashtavakra came on a visit to the court of the king and asked, ‘O king! Why are you observing a fast today?’ King Chitrabhanu explained why. He had the gift of remembering incidents of his previous birth. The king said to the sage, ‘In my past birth, I was a hunter named Suswarain Varanasi. My livelihood was killing and selling birds and animals. One day, I was roaming the forests in search of animals when I was overtaken by the darkness of night. Unable to return home, I climbed a tree for shelter. It happened to be a bilva tree. I had shot a deer that day but I had no time to take it home. I bundled it up and tied it to a branch on the tree. As I was tormented by hunger and thirst, I kept awake throughout the night. I shed profuse tears when I thought of my poor wife and children who were starving and anxiously awaiting my return. To pass the time that night, I engaged myself in plucking the bilva leaves and dropping them down to the ground. The day dawned. I returned home and sold the deer. I

bought some food for myself and for my family. I was about to break my fast when a stranger came to me, begging for food. I served him first and then partook of my food.

‘When my time came to die, I saw two messengers of Lord Shiva. They were sent down to conduct my soul to Shiva’s abode. I learned then, for the first time, of the great merit I had earned by the unconscious worship of Lord Shiva during the night of Shivaratri. They told me that there was a linga beneath the tree. The leaves I dropped fell on the lingam. My tears, which I shed out of sorrow for my family, fell on to the linga and washed it. And I had fasted all day and all night. Thus did I unconsciously worship the Lord. I lived in the abode of the Lord and enjoyed divine bliss for long. I am now reborn as Chitrabhanu’ (Sivananda 1997, 67–72).

There is another story from the Skanda Purana. In the beginning, Brahma created many things for man and the earth. One of them was the bilva tree. Brahma saw a man sitting and worshipping Vishnu. Brahma named the man Bilva. Pleased with his piety and devotion, Indra asked Bilva to turn the wheel of administration of the earth. Bilva accepted Indra’s request but asked Indra to give him the diamond weapon (vajra) to punish offenders. Indra told Bilva that the weapon would appear whenever he desired it. Bilva built his house under a bilva tree and ran the earth. Kapila, a worshipper of Shiva, came to Bilva’s house and they became good friends. One day, both of them got into an argument about whether it was better to do penance, as the worshippers of Vishnu did, or do one’s duty in the world, as Shiva’s followers did. Bilva’s temper rose during the debate and, summoning the diamond weapon, he cut off Kapila’s head. Kapila became immortal but Bilva did not know that. This deed was the turning point in his life. He stopped administering the earth. Full of remorse, he left the bilva and went to the forest of Mahakala where he became a devotee of Shiva. Many centuries later, Kapila came by. He chanced upon Bilva who greeted his friend with amazement and then gave him great honour and love. The two became best friends again (Gandhi and Singh 1989, 77).

According to the Shiva Purana, the bilva is the manifestation of Shiva himself, while all the great tirthas (places of pilgrimage) reside at its base.

One who worships the Shiva lingam while sitting under the bilva attains the state of Shiva. Washing one's head by this tree is equivalent to bathing in all the sacred rivers. One who performs bilva puja with flowers and incense achieves Shiva loka, the abode of pure consciousness, and has happiness and prosperity bestowed upon him. Lighting a deepa (lamp) before this tree bestows knowledge and enables the devotee to merge into Lord Shiva. If the devotee removes the new leaves from one of the branches of that tree and worships the tree with them, he will be freed from vice, while one who feeds a devotee under the bilva will grow in virtue (Chaturvedi 2004, 91–93).

The Shiva Purana narrates another story. A cruel hunter named Gurudruh lived in a lonely forest. On the auspicious day of Maha Shivaratri, he had to go out hunting because his family had nothing to eat. Maha Shivaratri, the great night of Shiva, is the most sacred time for fasts, prayers, and offerings, when even the most involuntary acts become sacred, if they please Lord Shiva. By sunset, Gurudruh had not been successful in his hunt. Coming to a lake, he climbed a tree and waited for some unsuspecting animal to arrive for a drink. He did not notice that he had climbed a bilva or that there was a Shiva lingam beneath and a pot of water hung on the branch above. After some time, a deer came to quench her thirst and Gurudruh prepared to shoot. As he drew his bow, he accidentally knocked over the water pot and the water fell on the linga beneath, along with a few bilva leaves. Thus, unknowingly, Gurudruh had worshipped Shiva in the first quarter of the night. As a result, his heart was slightly purified by this act performed on such an auspicious night.

Meanwhile, the deer, startled by the movement in the tree, looked up and saw the hunter preparing to release his arrow. 'Please do not kill me just yet,' pleaded the deer. 'I must first take care of my children, and then I will return to be food for your family.' The hunter, whose heart was softened by the accidental worship, noticed the beauty of the deer and let her go on the condition that she would return the next day to give her body as food for his family. In the second quarter of the night, another deer arrived and Gurudruh took aim. Again, without his being aware, water and bilva leaves

fell on the lingam. Again, unknowingly, the hunter had worshipped Shiva in the second quarter of the night. The effect was that Gurudruh's heart was further purified. His pranas softened a little more, and he allowed this animal to go and tend to its young, provided it returned the next day to provide him and his family with food. In the third quarter of the night, the first deer's mate came in search of her and the strange worship took place as the hunter took aim for the third time. But the hunter's heart was beginning to melt with the worship, and he let the deer's mate go for the same reason and under the same conditions.

Later, when the three deer met, they discussed who should go and offer itself as the hunter's food. Even the children offered to give up their lives. Finally, the whole family decided to surrender to the hunter together, for none of them could bear to live without the others. They set off towards the lake with heavy hearts. When they arrived at the bilva, Gurudruh was very pleased and relieved to see them and immediately prepared for the kill. He took aim for the fourth time but, in the same accidental manner as earlier, he knocked over the water and bilva leaves on to the linga below. It was the fourth quarter of the night. This final act brought about a complete change of heart and, as he was about to release the first arrow, his heart overflowed with pity for the innocent deer. Tears filled his eyes at the thought of all the animals he had killed in the past and, slowly, he lowered his bow. Greatly moved by the selfless action of these animals, he felt ashamed and allowed the entire family to leave unharmed. Such is the purity and spiritual power of the bilva that, even without his knowledge or conscious effort, the cruel-hearted hunter was transformed into a man of compassion and delivered from the bad karma of his past by the grace of Shiva and the bilva tree.

A folk tale from Tiruvaikavur (Tanjore district, Tamil Nadu) says that a hunter was once chased by a tiger. Fleeing from the tiger, he climbed the nearest tree, which was a bilva. The tiger waited patiently at the foot of the tree, knowing that once night fell, the hunter would be overcome by sleep and loosen his grip on the tree and fall to the ground. The hunter also realized this and, to keep himself awake, began to pluck the leaves of the bilva tree one by one and drop them to the ground. When the new day



dawned, the tiger left, fed up of waiting. The hunter climbed down without fear. To his astonishment, he found a Shiva lingam at the base of the tree. He then realized that the previous night had been Shivaratri, and he had been relieved from the encumbrances of all previous existences.

The trifoliate leaf is especially used for the worship of Shiva, and is consecrated to Shiva with his three functions: creation, preservation, destruction. The shape of the leaf resembles his three eyes. The fruit is large in size, assuming a pyramidal or conical shape with a rugged surface. The fruit is devoutly worshipped by Shaivites as a lingam. Milk and flowers are offered at the base of the bilva. In Shiva temples, the leaves offered to Shiva are given to the devotees as prasad or divine blessing.

Almost the same story is repeated from Varanasi, where a hunter went hunting, found a deer, chased it deep into the forest but could not kill it. Since he had chased the deer, he felt tired and climbed on to a bilva tree and began plucking the leaves, so that he could spend the night without falling asleep. While the hunter plucked the leaves, unknown to him, some of the leaves fell on the Shiva lingam, which stood at the base of the tree. The hunter was tired and perspired from his efforts: a drop of his sweat fell on the Shiva lingam. The hunter had been fasting since, after all, he had not eaten anything. Moreover, the day was amavasya, the new moon in the month of Phalguna (February–March), a day sacred to Shiva. The hunter had, without knowing, fulfilled all the conditions for the worship of Shiva. This pleased the god so much that when the hunter died, he went to heaven even though he was not a follower of Shiva.

People walk around the tree before starting any work as it is the ‘tree of great success’. It is believed that Lakshmi, the goddess of fortune, took abode in this tree and thus it is also associated with Lakshmi (S.M. Gupta 1991, 14–15). The Agni Purana (50) says that Mahalakshmi was installed in a temple as an idol carrying a lotus in her right hand and a bilva fruit in her left hand. The Kurma Purana (2.18.19) describes the bilva, the fruit of Shiva’s tree, as the breast of the goddess of plenty (Lakshmi). According to the Skanda Purana, Lord Vishnu was once worshipping Lord Shiva and ran out of offerings. Goddess Lakshmi, by the power of her austerity, created the

bilva tree, the leaves of which were then used by Lord Vishnu to complete his worship of Lord Shiva.

Shri Lakshmi was born as the sacred cow, and from her dung arose the bilva tree. Since the tree is associated with Lakshmi, it is also called Shri Vriksha, the tree of prosperity and good fortune. Another legend says that Lakshmi was a great devotee of Lord Shiva. Although she had worshipped him for a long time, Shiva did not appear before her. After some time, Lakshmi became the bilva tree and Shiva now dwells in the tree (Gandhi and Singh 1989, 79). In Bengal, during Durga Puja, the goddess is invoked by touching the idol with a twig of the bilva tree.

The tree is the totemic deity of the Santhals, guardians of the Indian forests of eastern India (Patnaik 1993, 15).

In Bihar and Uttar Pradesh, women worship and embrace this tree to get their desires fulfilled. Shiva devotees tie the leaves to their sacred lock of hair (shikha) because they are sacred and pleasing to their lord (Gandhi and Singh 1989, 75–80).

The Gauria snake charmers of central India cure snakebites by appealing to the bilva tree and to Dhanvantri, the physician of the gods (S.M. Gupta 1991, 16).

A fallen tree is never used for firewood and its fruit is highly valued. The people of Kerala never eat it, as it signifies the head of Shiva. Bilva leaves are offered to Shiva on Mondays in the month of Shravan (July–August). Its wood is included in the homa (sacred fire) and the fruit is believed to promote fertility (S.M. Gupta 1991, 17).

In Bihar, common proverbs centre on the tree. There is a saying: *Phir mundlo bael tar* (The bald head will not venture under the bael tree again). The bael fruit is said to be attracted to shaven heads and will never resist a chance to fall on one. The English equivalent would be ‘once bitten, twice shy’. Another proverb, this one illustrating indifference, says, *Bel pakal, kaua ke baap la ka* (What difference does it make to the crow if the bael fruit is ripe)? The crow, which pecks at all ripe fruit, cannot penetrate the hard shell of the bael. Hence the bird cannot eat it, even if the fruit is ripe (Gandhi and Singh 1989, 76).

The tree is sacred to the Jains because Parshvanatha, the twenty-third Tirthankara, attained enlightenment beneath this tree.

### *Medicinal Uses*

A hot poultice of bilva leaves is applied for eye diseases, fever, swelling of the respiratory tract, and to injured parts of the body. The fresh leaf juice is taken with honey to loosen bowels during fever, cold, and asthma. The leaf juice mixed with black pepper is used to treat jaundice (Dastur 1962, 10–11). The juice of the leaf is used as an expectorant for asthma. Tender leaves are roasted and applied to sore eyes and used to cure venereal diseases. The juice extracted from roasted leaves, if consumed twice a day for twenty-one days, cures bilious disorders (Shanmugam 1989, 43).

The flowers are used to treat diarrhoea, thirst, and vomiting. The tender fruits are made into a paste and about 3 g of this is mixed with curd set from buffalo's milk and the mixture is consumed to cure abdominal pain, indigestion, and dysentery. A paste of the ripe fruit, mixed with milk and applied to the body before a bath, cools the body and refreshes the eyes. The fruit mixed with ginger and fennel seeds and made into a decoction is taken to cure piles. A drug balac fructose extracted from the fruits has mucilage and pectin content, and is very useful for treating chronic diarrhoea, dysentery, haemorrhoids, and swellings.

The roots are used to treat intermittent fevers and mind disorders marked by depression and mental sluggishness.

The tribals of Bastar take an infusion of root bark to treat fever (Jain 1962, 126–28). The antibiotic activity of the leaf, fruit, and root of this plant has been confirmed in recent experiments. Recently, scientists from Benares Hindu University, Kerala University, and Vellore Institute of Technology in India have discovered that the leaf, root, bark, and young and mature fruit of bilva cure mental disorders, ulcers, and skin diseases (Warrier, Nambiar, and Ramankutty 1994, 62).

Belief in the medicinal value of this tree exists even today. According to Jaya Vaidhyanadhan who provides indigenous medicine to the villagers in

Tiruvelvikudi, women have conceived after consuming the bilva leaves as prasad; the leaves also cure infections of the uterus. The leaf extract mixed with sesame seed oil is applied before a bath to cure cramps in the legs. The extract mixed with castor oil and sugar is also regularly taken to cure ulcers. The bark and root of the bilva tree soaked overnight in a copper vessel are used to cure blood pressure, asthma, and leprosy.

## Bermuda Grass

Botanical name:	<i>Cynodon dactylon</i> (L.) Pers.
Common names:	Dhub, Doob, Harialil (Hindi) Arugam pullu (Tamil) Durva (Sanskrit)
Habit:	Grass
Distribution:	North Africa, Asia, Australia, and southern Europe Naturalized elsewhere

*Cynodon* is derived from the Greek kuon, which means dog, and odous or tooth. The species name *dactylon* is derived from the Greek daktulos meaning finger, and refers to the inflorescence, which is digitate (arranged like fingers on the hand). The word Durva is derived from the words duhu, meaning that which is far away, and avum, meaning that which brings closer. The common name of this grass is Bermuda grass, derived from its abundance as an invasive species on Bermuda.

It is a perennial stoloniferous creeping herb spread by stolons, rhizomes, and seed stolons. Bermuda grass readily roots at the nodes in plains and hills all over India. It is native to North Africa, Asia, Australia, and southern Europe. It is widely used as lawn grass as it prevents soil erosion and is good fodder for cattle.



*Ganesha wearing a garland made of Bermuda grass*

It is heat and drought resistant and grows in almost all kinds of soil, which may not be too wet or shady. It spreads very quickly, often becoming a weed.

### ***Mythological and Religious Associations***

According to the Vedic Index (I.372), this grass is frequently mentioned in the Rig Veda (X.16.13). A simile occurring in the Rig Veda (X.134.5) seems to indicate that the ears lay horizontal with the stem. Rig Veda (X.142.8) reads ‘on thy way hitherward and hence let flowery durva grass spring up’. R.T.H. Griffith, by way of comment, refers to the Atharva Veda (VI.106) where we read: ‘let flowery durva grass grow up about thine exit and approach. There let a spring of water rise’ (Mahdihassan 1987, 286–91).

There are many legends associated with the origin of this grass. According to one, Vishnu, in his incarnation as the tortoise Kurma, used the Mountain Mandara as his churning rod. This rubbed off a handful of the god’s hair, which was cast ashore by the waves. They took root and became durva grass (S.M. Gupta 1991, 29–30).

In yet another version of the legend, Vishnu made an appearance as Mohini, an exceptionally beautiful woman. She carried the vessel containing the nectar of immortality as she emerged out of the ocean of milk. Gods and demons fought each other for possession of the nectar, but

Mohini favoured the Devas. While handing over the amrita, a few drops fell down on earth, and the durva grass rose from that spot. In yet another myth, this grass is said to have originated from the thigh of Lord Vishnu and is therefore an essential item in the worship of all gods (R. Kumar 2003, 7–19).

The grass is very sacred in Hindu worship: it is offered without the inner shoot to Shiva and with the shoot to Vishnu and the solar deities. It is also sacred to Ganesha and to the planet Rahu.

During the Durvashtami festival, the grass is deified and worshipped on the eighth day of the shukla paksha (waxing phase of the moon) in the month of Bhadra (September–October). By offering this grass with its tips facing east on that day, immortality is secured for ten ancestors. This ritual is observed primarily by women. In some places, the Durvashtami ritual is observed during the shukla paksha in the month of Shravan (August). It is performed mainly in Bengal, where it is known as Durvashtami brata (vow), and in north India (Stutley 1985, 42).

Durva grass is a symbol of long life. Because the grass is highly resilient, it is likened to immortality.

It is also believed that durva grew out of the perspiration of Vishnu. It is a remover of sins because Brahma resides in its roots, Vishnu in its middle, and Shiva at the top (S.M. Gupta 1991, 29–30). It is also sacred to the planet Rahu (Birdwood 1992, 87).

### *Medicinal Uses*

The juice from the stems is used as a diuretic and astringent to stop bleeding. An infusion of the grass with pepper is an antidote for scorpion stings (Shanmugam 1989, 702).

The fresh juice of the herb or its paste checks bleeding from the nose, fresh cuts, and wounds, and is also used locally in the treatment of gout and rheumatism (Dastur 1962, 72).

The root is crushed and mixed with curd as a remedy for chronic gleet.

Santhal tribals use the grass to cure parasitic attacks between the toes (Caius 1989, 71–72).



## Betel Vine

Botanical name:	<i>Piper betle</i> L.
Common names:	Paan (Hindi) Vetrialai (Tamil) Tambuli, Tambulavali, Nagini, Nagavalli (Sanskrit)
Habit:	Climber
Distribution:	Malaysia Cultivated in India, Sri Lanka, Vietnam, Thailand

The betel vine is an evergreen and perennial thin-stemmed creeper with climbing roots at nodes. It is made into paan and beeda, to be eaten as a breath freshener at the end of a meal. The pungent, bitter, and salty leaf is very popular all over India.

### ***Mythological and Religious Associations***

The betel leaf has always been considered sacred by the Hindus. It is believed that the betel leaf is the personification of the palm of Goddess Lakshmi, and thus it is associated with health, wealth, and prosperity. It is indispensable at all social and religious functions. All Hindu ceremonies culminate in the distribution of betel leaves, especially to women (Subrahmanyam 1979, 22–27).



*Hanuman wearing a garland of betel leaves*

### ***Medicinal Uses***

According to Sushruta, the great Ayurvedic surgeon of the 4th century CE, the betel leaf is ‘aromatic, stimulant, carminative, astringent, aphrodisiac and antiseptic’ (Patnaik 1993, 57).

The consumption of betel leaves is recommended for mucous and rheumatic disorders, skin troubles, cough, throat pain, and physical fatigue. However, its juice, if consumed indiscriminately, upsets bile and blood circulation (Subrahmanyam 1979, 22–27).

The juice of the leaves cures poisonous bites, common colds, and abdominal malfunctions. It is mixed with camphor and applied externally to the forehead to treat headaches. Betel juice mixed with ginger juice is used to treat disorders of the lungs (Shanmugam 1989, 756).

It has several other medicinal applications, especially to strengthen the gums, preserve the teeth, and freshen the breath.

## Bile Killer

Botanical name:	<i>Tinospora cordifolia</i> (Willd.) Miers. ex Hook.f. and Thoms.
Common names:	Giloy, Guduchi (Hindi) Vanji/Seendhil kodi (Tamil) Amrita (Sanskrit)
Habit:	Climber
Distribution:	Throughout the Indian subcontinent and China

It is a large climber with succulent stems and aerial roots like the common banyan tree. Stems and branches are specked with white glands. Fruits are reddish and about the size of a peanut. It occurs throughout the tropical regions of India.

### ***Mythological and Religious Associations***

A fierce battle had raged between Rama and Ravana. Rama attacked Ravana with his army of monkeys and killed him. But many monkeys were also killed during the battle. Indra, the king of heaven, was unhappy and sprayed the elixir of life on the dead monkeys. A few drops of the nectar fell on the earth and, wherever these drops fell, amrita plants sprang up. Therefore this tree is held to be sacred (S.M. Gupta 1991, 84–85).

This plant is the sthala vriksha of the Kalyana-pashupatishwara Temple at Karur in Tamil Nadu.

The Sanskrit name amrita is one of the 1008 names of Lord Shiva (Monier Williams 1981, 82).

### *Medicinal Uses*

A necklace made of small pieces of the stem, known as kamlani-mala, is usually worn in some parts of India as a cure for jaundice. The root is used in the same way as the stem (Dastur 1962, 164–65).

The stem of this plant is used to treat fever, skin diseases, jaundice, and venereal diseases.

The starch extracted from the root is a remedial agent for prolonged dysentery. It relieves painful, stiff, and swollen joints and muscles.

An infusion of the stem is used as a tonic, reputed to be a blood purifier and stimulator of sexual desire. It is also useful in treating diabetes.

The stem of the plant cures venomous snakebites and insect stings.

This climbing shrub is used in indigenous medicine. The villagers use it to reduce fever (Krishnamurthy 1993, 101).



*Bile killer*

## Bombay Atalantia

Botanical name:	<i>Atalantia racemosa</i> Wight
Common names:	Banjamir nimbu, Bannimbu (Hindi) Kurundai (Tamil) Atavi-jambira (Sanskrit)
Habit:	Tree
Distribution:	India

It is a small, thorny, evergreen tree with alternate leaves and attains a height of 3–5 m. Fruits are large, seeded, sub globose berries with a thick rind and one to five cells. It is found in hilly regions.

The wood is used to make furniture.

### ***Mythological and Religious Associations***

In the Tiruvasagam, saint Manikkavasagar mentions selumalar kurundu, which means the sweet blossomed lime. There is also a proverb about the tree: '*kurundhai peruvor, marundhai peruvar*', which means that those who apply the mud from under the sacred tree will be cured of all diseases including leprosy. According to local belief, the soil under the kurundha tree can cure leprosy.

According to Arunagirinadhar, to awaken all the souls to do their five-fold duty of creation, sustenance, dissolution, concealment, and bestowal, Lord Nataraja performed the ananda tandava in the gnana sabha (hall of

knowledge) under the tree. He is known as the Perundurai Peruman (lord of Perundurai town).



*Bombay atlantia, Atmanathaswami temple, Avudaiyarkoil, Pudukottai district, Tamil Nadu*

While worshipping Ambika at the Atmanabha-swami temple in Tiruperundurai, Cuddalore district, the worshipper should look at the goddess with one eye and meditate. The prasad of the temple is restricted to sacred water or teertha and not the usual kumkum powder. After worshipping the goddess, people shake the swing to be rid of sterility. Traditionally, the worshippers offer bangles and cradles, which are tied to the swing, so that the goddess may bless one with prosperity and wealth, for she is associated with Nataraja who stayed under the kurundai tree.

A stone sculpture of a tree stands on a square, and is called the kurundu tree. Lord Atma-nabha-swami stood in the form of Gurumurti under this tree and taught the Sivagnana to Manikkavasagar. This was the birthplace of the sacred text Tiruvasagam and is the sacred spot where the lord rested and removed the impurities of his devotees and blessed them to become followers of Shaiva philosophy.

### ***Medicinal Uses***

The leaf is used to treat intestinal ulcers, fever, and cough. A decoction of the leaves is applied for skin complaints such as itching. The fruit juice is mixed with potassium nitrate and used for skin ailments including skin ulcers and itching. It also acts as an antispasmodic and analgesic (Shanmugam 1989, 108). Oil extracted from the berries is used to treat paralysis and chronic rheumatism (Chatterjee and Pakrashi 1994, 175–76).

## Bottle Flower Tree

Botanical name:	<i>Webera corymbosa</i> Willd.
Common names:	Bingi Papadi (Hindi) Kura (Tamil) Parapata (Sanskrit)
Habit:	Tree
Distribution:	India, Malaysia, Indonesia

The bottle flower tree is a large evergreen bushy tree found mainly in the Western Ghats, Palani, and Tirunelveli hills at an altitude of about 1500 m feet above sea level. It is not commonly seen in the scrub jungles of the coastal plains. No known ecological study has been done on this plant to date.

### ***Mythological and Religious Associations***

Kura, the bottlebrush (bottle flower) tree, blooms well only after a woman embraces it (Subramania Pillai 1948, 46). This tree grows only in the temple complex of Tiruvidaikali (Nagapattinam district, Tamil Nadu). A cobra lives in the hollow of the tree trunk and the priest of the temple worships it every evening. According to the sthala purana, if a woman ties a cradle to a branch of the tree, she will be blessed with a child. People still follow this custom.

It is said that, to date, no one in Tiruvidaikali has died of a snakebite because of the deity's power.





*Bottle flower tree*

The bottle flower tree is the sacred tree of the Kumarasivam temple at Tiruvidaikali in Nagapattinam district of Tamil Nadu. There is some controversy about the identity of Tiruvidaikali. The Thiruvisaippa<sup>†</sup> says that this place was called Kurapalli but, in course of time, came to be known as Tiruvidaikali. The Tiruvisaippa Tirupallandu says: 'It is sacred to the Divine Father and Son [Shiva and Skanda].' According to the sthala purana of Tiruvidaikali, the tree is sacred to Skanda, who enjoys the fragrance of the flower. The tender leaves are plucked and offered for worship by the devotees visiting the temple.

It is also the sacred tree of the Jaina temple of Vardhamana at Tiruparuthikuntram near Kanchipuram. There is a verse in praise of this tree engraved on a stone set into the platform of the temple. It states: 'the tree neither grows tall nor becomes short; it protects the sceptre of the king; it represents dharma and stands in front of the eternal abode of Trilokanatha' (*South Indian Inscriptions* [1932] 1986, VII.399).

### ***Medicinal Uses***

It is believed that the leaves of this tree act as an antidote for snakebite and other venomous stings.

## Butterfly Pea

Botanical name:	<i>Clitoria ternatea</i> Linn.
Common names:	Aparajit (Hindi) Sangu pushpam (Tamil) Aparajita (Sanskrit)
Habit:	Climber
Distribution:	Africa, Asia (temperate and tropical), Australasia, North and South America, Pacific

The butterfly pea is a climbing herb that occurs in hedgerows all over the country, especially in south India. It is commonly found in the tropical southern and eastern plains of the Indian peninsula.

### ***Mythological and Religious Associations***

The flower is said to have Tantric powers. Vishnu is associated with the aparajita. In the Mahabharata, the sacred conch of Vishnu is a serpent, which is also named Aparajita. The plant is also an incarnation of goddess Durga (Monier Williams 1981, 51).



*Butterfly pea*

### ***Medicinal Uses***

A warm mixture of the juice of the leaf and table salt is applied around the ear to relieve earache and swelling. An infusion of the leaves is used for the treatment of skin eruptions and to wash ulcers. The juice of the leaves, mixed with ginger, decreases sweating during fever. The edible root bark improves the flow of urine and loosens the bowels; a decoction is given to protect the mucous membrane and relieve irritation of the bladder and urethra.

The juice of the root mixed with cold milk removes phlegm from the respiratory tract (Caius 1989, 29). The seeds are used to relieve constipation and in the treatment of nervous debility. The root, stem, and flowers are recommended for the treatment of snakebite and scorpion stings (Sudharshan, Yellappa Reddy, and Gowda 1993, 17). The roots are used by Bhilla tribes of Maharashtra to terminate unwanted pregnancies.

A paste of the root is applied on the stomach for curing abdominal swellings in cattle. The seed extract acts as an insecticide (Asolkar, Kakkar, and Chakre 1992, 217).

# Cannonball

Botanical name:	<i>Couropita guianensis</i> Aublet.
Common names:	Shiv ling, Shiv kamal, Kailaspati, Nag ling (Hindi) Nagalingam (Tamil) Naga pushpam (Sanskrit)
Habit:	Tree
Distribution:	South America Cultivated in all tropical countries

It is a large, fairly fast-growing evergreen tree, with a straight trunk and untidy branches that grow unevenly. It grows in all tropical countries, usually in the moist low-lying areas.

The cannonball tree grows up to 25 m in height. It is so called because of its large, round fruit, which resembles brown cannonballs. These trees have very large, beautiful, and fragrant flowers, with combinations of white, yellow, pink, deep pink, and scarlet. The flowers and fruit grow from long, thick, tangled stalks that grow to nearly 1m in length on the trunk of the tree.

The pulp of the fruit is made into a drink and fed to animals. The fruit shell is used as a utensil (Shanmugam 1989, 482).

The wood is of inferior quality and thus has little commercial value (Cowen 1984, 79–80).



*Cannonball*

### ***Mythological and Religious Associations***

This flower is used in the daily worship of Lord Shiva. It is given the prefix ‘naga’ because it resembles the hood of the cobra, which is sacred to Shiva. This tree is grown extensively in Shiva temples.

It is believed that to wake up and look at the tree first thing in the morning brings the blessings of Shiva—happiness and prosperity. It is therefore planted in front of the house, outside the front door.

Generally, flowers are not plucked off the tree, but picked from the ground, even for the puja.

### ***Medicinal Uses***

The flower is used to cure colds, intestinal gas formation, and stomach aches (Shanmugam 1989, 482). It is also a stress reliever.

## Castor Oil Plant

Botanical name:	<i>Ricinus communis</i> L.
Common names:	Erand, Arandi (Hindi) Amanakku (Tamil) Erandah (Sanskrit)
Habit:	Shrub
Distribution:	Africa Naturalized throughout the tropics and subtropics

It is a tall shrub, sometimes growing to tree-like proportions. It grows well on sandy or clayey loam and cannot tolerate heavy rainfall and water logging. It is largely cultivated on the edges of agricultural fields, and in gardens and wastelands. Soil with average fertility is best suited for the castor oil plant.

Castor oil is widely used in India as a lubricant in railway engines and locomotive bearings. It is used in the manufacture of sodium soap, wetting agents and detergents, and the production of sebacic acid and secondary octyl alcohol.



*Castor oil plant*

Hydrogenated castor oil is useful in preparing lithium-based lubricating grease, in polishes and plastics and as a shellac blend. The whole castor seed, under pressure, yields motor and diesel fuels. Amides from castor oil yield pyrolysis undecylamides, which are used in fly sprays and insecticides (Sambamurthy and Subramaniyam 1989, 209). It is also used for illumination. Oil extracted from the seed is used as a refrigerant.

### ***Mythological and Religious Associations***

In Buddhism, the goddess Tara was praised by a devotee as the white sandalwood growing among castor oil plants in a forest (Shaw 2006, 320).

About forty days before Holi, a castor oil plant is planted on community land. The plant is supposed to represent Holika, the royal demoness who was destroyed by fire in the story of Prahalada.

There is a legend about a woman of the Chamar (cobbler) caste who gave birth to a dead child at Allahabad. She threw a piece of the cloth used at her confinement down a well, having previously enclosed in it two leaves of betel, some cloves, and a piece of the castor oil plant, in order to scare away evil spirits (Crooke [1896] 2004, 20).

According to the sthala purana of the Kotishwara Temple at Tirukottaiyur, a Swayambh lingam appeared beneath a castor oil plant. A sage named Eranda worshipped Shiva beneath this plant and was rewarded

with the vision of 1 crore lingams. Thus the god is called Kotishwara or 1 crore Ishwaras (Shiva).

A black dot of kajal, made of lamp black and castor oil, is put on the cheeks and foreheads of babies and little children, to protect them from the evil eye.

### ***Medicinal Uses***

It is very effective in the treatment of colic, ulcers, and irritation of the eye, nose, ear, and mouth. The cooked mixture of leaves and red gram (*Cajanus cajan*) is an effective galactagogue, a substance that promotes lactation in humans and animals. A mixture of equal quantities of sugar and the root is an effective treatment for venereal diseases. It cures muscular pain, paralysis, asthma, and cough. Leaves warmed over a fire are applied to the breasts of women to increase the secretion of milk. Leaves placed on the abdomen promote menstrual discharge (Shanmugam 1989, 52–53).

Consuming this oil (one to two tablespoons) loosens the bowels; indeed, it is a much-hated laxative among Indian children. A gel prepared from castor oil is used to treat dermatitis and is good protection from occupational eczema and dermatitis. The oil is recommended in small doses for vulnerable patients, such as very young children and pregnant or postnatal women (Patnaik 1993, 52).

Castor oil is an excellent hair tonic and is rubbed into the scalp of nursing mothers to encourage luxuriant hair growth, and also to renew strength and relieve postnatal pains.

Castor oil is used to make kajal (collyrium). It is used by men and women as a type of eyeliner that is put around the edge of the eyes. Generally, women prepare kajal at home: home-made kajal is used even for babies. It is believed to be a very good coolant for the eyes.



# Champaka

Botanical name:	<i>Magnolia champaca</i> L.
Common names:	Champa (Hindi) Shenbagam (Tamil) Champakah (Sanskrit)
Habit:	Tree
Distribution:	Asia (temperate, tropical) Cultivated elsewhere

Champaka is a large evergreen tree valued for its beautiful flowers and fragrance. The tree is a great favourite in Indian gardens.

It is a tall evergreen tree attaining a height of 10–12 m, going up to 30 m in hilly areas. The trunk is straight with a greenish-brown bark. The ascending branches form a dense crown. It can grow on the plains and low hills with adequate rainfall and is often cultivated in gardens for its fragrant flowers.

The flowers are pale yellow in colour and leafy, with a powerful fragrance. Champaka buds are used to decorate women's hair. When the buds open in the evening, a powerful scent is released. The flowers are also placed in bowls of water to scent the room. It is a popular fragrance and decoration.



*Champaka*

The oil obtained from the flower is used in the preparation of perfumes and hair oils.

The wood is used for making posts, boards, furniture, and carriages.

### ***Mythological and Religious Associations***

According to Valmiki's Ramayana, the champaka adorned Kaikeyi's palace (2.10.3). It is a decorative tree in Panchavati (3.15.17), found abundantly in the Malaya and Sahyadri Mountains (6.4.72). It has flowers of golden hue, which were often compared to Sita's neck by Rama (3.60.32).

It has been referred to in the Brihat Samhita (29.8).

The delicately scented flowers are used in the puja, particularly in the worship of Lord Krishna and Lord Shiva.

It is one of the arrows of Kamadeva, the Hindu god of love.

Its flowers are also associated with Maitreya, the eighth Buddha (Foucher 1914, 88).

There are motifs of a woman standing under the champaka tree at Mathura and at the Nagarjunakonda stupa. In one panel, there is a woman carrying a tray full of toilet articles in one hand and a basket in the other, standing beneath the champaka—a reflection of Kalidasa's description in the Raghuvamsha, of a woman who carries toilet articles and goes through a forest of champaka trees. There must have been forests of champaka trees in Madhya Pradesh where these tree motifs are found. The Sanchi panel with the champaka as a tree motif shows a nude female bracket figure on a

gateway, heavily bejewelled, standing in tribhanga, under a champaka tree, holding a branch of the tree with one hand (S.M. Gupta 1987, 103–09).

Munisuvrata, a Jaina Tirthankara, attained divine knowledge under the champaka tree (B.C. Bhattacharya 1974, 55).

According to Sholiga tribal folklore, the champaka tree is an incarnation of Goddess Lakshmi and symbolizes tribal relations with nature. According to the story, a minister's virtuous daughter was transformed into a champaka tree, which is believed to bear solid gold, not yellow, flowers (Patnaik 1993, 164).

It is said that Lord Brahma has promised that those who plant two champaka trees will go to heaven (Birdwood 1992, 87).

Muslims also revere this tree. A giant champaka tree grows near the tomb of the famous saint Musa Sohag at Ahmedabad, on the branches of which hang glass bangles. The childless go there to offer bangles to the saint, the number of bangles depending on the ability of the devotee.

The champaka is considered to be a life-giving tree (Birdwood 1992, 89).

During the month of Jyeshtha, the flowers of champaka are used in the worship of Pradyumna, who is an incarnation of Kama, the god of love.

### ***Medicinal Uses***

The bark, flowers, and fruit are used in Ayurvedic medicine. The flowers are used to treat fever with muscular pain and venereal diseases. They are mashed in oil and the mixture applied externally to cure headaches and eye disorders.

The seeds yield a butter-like fat, which is said to have medicinal value (Shanmugam 1989, 310–11).

A decoction of the bark is given orally for pain and swelling of the stomach and urinary problems.

The Kharia, Mankadia, Bhumija, Santhal, Gond, Kol, and Mahali tribes of Mayurbhanj district of Odisha and the Gond, Bhil, Baiga, Korku, Bhadia, Halba, Kaul, and Mariya tribes of Markantak region of Madhya Pradesh use

various parts of the tree to cure diseases like ulcers, dysentery, bronchitis, excessive menstruation, and postnatal fever (Patnaik 1993, 164).

## Clearing Nut Tree

Botanical name:	<i>Strychnos potatorum</i> Linn.
Common names:	Nirmali (Hindi) Tetrangkottai (Tamil) Katakah (Sanskrit)
Habit:	Tree
Distribution:	Africa, India, Sri Lanka, Myanmar

It is a medium deciduous tree attaining a height of about 10 m. It is suitable for ferruginous soils and is found in the tropical region and occasionally in dry tropical forests, up to an elevation of 1200 m.

In ancient days, the seeds were used to turn muddy water clear (Krishnamurthy 1993, 515). Traditionally, the nut has been used by Savara, Jatapu, Kadapa, and Paliyan tribes in India, who have known its cleansing quality for centuries. The seed is made into a paste and added to water, making the dirt and other substances settle as sediment. The water is then decanted. It holds promise for binding with thorium and radioactive elements as well, which makes it useful in tackling a wide range of industrial pollutants (Sinha, Valani, and Sinha 2009, 35).



*Clearing nut tree*

### ***Mythological and Religious Associations***

It is believed that Lord Brahma created a linga in the midst of a forest of kataka trees (Kataka-aranyam), or tetra vanam, and worshipped it, hence the association with Lord Shiva.

The kataka tree is associated with a temple dedicated to Brahmapureeswarar, a form of Lord Shiva, revered by the 7th century Tamil Shaivite poets Appar, Sundarar, and Sampanthar. This temple is situated at Thirukuvalai in Tiruvarur district of Tamil Nadu.

### ***Medicinal Uses***

Generally, it is used as a local application in eye diseases (Khan 1927, 350). The decoction of the fruit pulp is given to treat dysentery, cough, and diabetes.

The powdered seeds, mixed with honey, are applied to boils. The powdered seed, taken with water daily, keeps the chest clear. The seed mixed with buttermilk is taken to cure diarrhoea, and when powdered and taken with cow's milk, cures infectious venereal diseases and reduces irritation of the urinary system (Shanmugam 1989, 461).

## Cluster Fig

Botanical name:	<i>Ficus racemosa</i> L.
Common names:	Gular, Ambar, Doomar (Hindi) Atthi (Tamil) Udumbara, Hemadugdhaka, Jantuphala, Sadaphalah, Yajnanga (Sanskrit)
Habit:	Tree
Distribution:	Asia (temperate, tropical), Australasia Cultivated elsewhere

The cluster fig, otherwise known as country fig, is an attractive tree with a crooked trunk and a spreading crown; unlike the banyan tree, it has no aerial roots. It belongs to the family *Moraceae* and is native to South Asia. Furry figs flow directly out of the trunk of the tree.

### ***Mythological and Religious Associations***

The reason why the tree seldom has any flowers is because, on Deepavali night, the festival of lights, the gods gather on the tree and pluck all its blossoms.

The tree is considered to be a constituent of the sacred panchavata and is a kalpa vriksha, a wish-fulfilling tree of life. The tree is very sacred to Hindus and its wood is included in the homa ceremony. The roots of the plant are considered to be Brahma, the bark Vishnu, and the branches Shiva.

The tree is compared to Vishnu. In fact, one of the names of Vishnu is Udumbara.

The Atharva Veda (XIX.31.1–4) says that the sacrificial post and the sacrificial ladle were made out of the udumbara. It is given prominence as a means for acquiring prosperity and vanquishing foes (Shashi 1999, 241, 244–46). The Atharva Veda (XIX.31) praises this tree and regards it to be an amulet.

According to Hindu tradition, the throne of Vivaswan, who is worshipped at the end of the soma sacrifice, is made of the wood of this tree. It is sacred to Dattatreya. Manu, the law giver, has ordained that the staff used by the Vaishya student at his sacred-thread ceremony should be made of the udumbara.

It is a common belief in the eastern districts of Uttar Pradesh and Bihar that if the flower of gular is put in a vessel of cooked food, or in the store room, it will never be empty. Among Bhojpuris, it is most inauspicious to plant a gular sapling near a house as it is regarded as a tree of gloom and sorrow. So Bhojpuri mothers curse their naughty children if they sit and weep under it, or eat its unpalatable fruit which is known as goda. Its mere shadow is enough to deprive a person of all his piety and virtues. Hence religious men and women pointedly try to avoid coming near it (Upadhyay 1964, 15–34).



*Cluster fig representing the Buddha, 3rd century BCE, Sanchi, Madhya Pradesh*

Udumbara is the bodhi tree or the tree of enlightenment of Kanaka Muni. According to Buddhist scriptures, it blossomed once before the birth of



Buddha, and it may blossom only 3000 years after. It is considered by the Buddhists as a supernatural omen when it does blossom (Watson 1993, 38).

The Kurma Purana (II.20.46) says that it is a prohibited item of food, for eating which one has to undergo tapta-kricchra (a kind of religious austerity involving drinking hot water, milk, and ghee for three days each, and inhaling hot air for three days) as expiation (Manusamhita, XI.157; 215; Yâjñavalkya Smriti, III.318).

Hindus keep a piece of the stem of this plant in the labour room, and also use the wood as a samit (sacrificial wood) in rituals. The wood is also used by the Hindus to make an effigy of the corpse if it is lost or not available.

According to Verrier Elwin, the Dumariyan clan worships the tree for the gift of a child (S.M. Gupta 1991, 50).

### ***Medicinal Uses***

The root extract of the cluster fig is used to treat diabetes and dysentery (Shanmugam 1989, 14). The juice of its bark is used on boils, in adenitis axillaries, epididymitis, hydrocele, and orchitis. The decoction of the leaf is used for washing septic wounds as well as for treating bronchitis. The bark and fruit (together) of this tree is used in the treatment of urinary complaints. The bark is also used as an astringent (Dastur 1962, 85).

# Coconut

Botanical name:	<i>Cocos nucifera</i> L.
Common names:	Nariyal (Hindi) Thennai (Tamil) Narikela (Sanskrit)
Habit:	Tree
Distribution:	Asia (tropical), Australasia, Pacific Naturalized elsewhere

The coconut tree is commonly found and cultivated in the coastal areas of India. It controls soil erosion and acts as an effective barrier against wind and saline breeze. With the increase in the cultivation of coconut, the soil fertility increases without adding fertilizers. Since ancient times, the tree has been used in India as a source of food, drink, fibre, fuel, etc., many of which are still important today.

The generic name *Cocos* and the popular name coconut are apparently derived from the Spanish word *coco* meaning monkey face. It seems that 16th century Spanish and Portuguese explorers gave this name to the coconut because they thought that it had a similar appearance to that of a monkey's face—with two round eyes and a nose. The specific name *nucifera* means nut bearing.

The Sanskrit word *narikela* means water spring or squirt. The word *nael* is also used by Persians (Sanskrit *narikela*, Persian *nargila*) for the hubble-bubble, or the hookah. The word comes from the use of the coconut shell to

contain the water, while the smoke from the tobacco bowl is sucked through a long, flexible, serpentine pipe.

The origin of the coconut palm is subject to controversy. While some theories suggest that the tree originated in the western Pacific or eastern Indian Ocean region, others suggest that the palm has its origin in South America. Regardless of its origin, the coconut is the most widely cultivated of all palms today, grown in more than eighty countries. It can be found in most tropical islands and coasts with some minor extensions into the subtropics.

The coconut is the most common palm of the tropics. It has a tall, light grey trunk without branches, ringed at intervals by leaf scars. From the swollen base, adventitious roots arise, which are strong enough to anchor the palm even during hurricanes and storms. Each leaf consists of a stout axis with numerous leaflets. New leaves emerge as spear-like structures from the top most point of the trunk and slowly unfold to take their place in the crown. A normal palm can produce a new leaf every month.

The plant grows in deep alluvial or loamy soil, thriving near the seaboard. It prefers areas with abundant sunshine and regular rainfall. It needs high humidity levels for optimum growth, which is why it is rarely seen in areas like the Mediterranean, even though temperatures there are high.

The albuminous endosperm of the fruit is eaten raw.

The dried fruits are used for extraction of coconut oil, which is used in cooking, soaps, and cosmetics. The oil cake serves as a fodder for livestock. Coconut oil is also used to stop bleeding from leech bites.

Coir or rough fibre comprising the husk of fruits is used for making mats, ropes, mattress fibre, and bristle fibre.

Coconut shell is used to make charcoal, which is used both as a deodorizer and decolourizer. Coconut shell flour is extremely useful as compound filler for synthetic resin glues and as a filler and extender of phenolic moulding powder (Sambamurthy and Subramaniyam 1989).

The coir pith is a valuable organic material for composting, forming a good organic amendment that does not cause pollution when used after

compositing. The coir is also used for mulching (Nayar, Ramamurthy, and Agarwal 1989, 21).

The fronds are used to thatch roofs.



*Coconut tree, Jambukeshwarar temple, Tiruvanaikka, Tiruchirapalli district, Tamil Nadu*

### ***Mythological and Religious Associations***

In India, the coconut tree is eulogized as a kalpa vriksha, a wish-granting tree of life. It is the most auspicious of symbols, placed on top of a pot of water or rice, the mouth of the pot decorated with five mango leaves, the whole representing fertility. Telugu women paint a face on the pot and regard it as a symbol of Varalakshmi, the boon-giving goddess of prosperity.

The tree is mentioned in the Atharva Veda (III.3.16), which says that the ‘neighbouring ladies told the child that if you bring a coconut from somewhere, your mother will be cured’.

In Valmiki’s Ramayana, there are several references to the coconut and the coconut-eating forest dwellers or Vanaras in the Kishkinda and Sundara kandas (Smith 1976, 26–30).

According to the Jains, the coconut symbolizes freedom from hunger. A coloured coconut symbolizes the destruction of the darkness of delusion

(Shah 1998, 262).

Somadeva in *Kathasaritsagara* (54.19–23) tells of the island Narikela in the middle of the great sea, from which devas go through the air to the White Islands.

Kalidasa's *Raghuvamsha* (4–42) says that the victorious army of Raghu indulged in coconut wine.

According to the *Brahma Purana* (1.1.8), 'the coconut shell bowl [kamandal] held by Brahma also holds water, thus depicting the hassle free existence and continuance of the whole creation'. According to *Brahmavaivarta Purana* (55), 'The fruits of tala, panasa, and coconut trees will be the size of mustard seeds. In time they will become smaller still.' The *Agni Purana* (CLXXIII.661) classifies the wines of grape, sugarcane, palm, and coconut sap as liquors, the last being highly intoxicating.

A coconut is an essential element of several rituals associated with Hindus and Hindu traditions. The coconut is often decorated with bright metals and other symbols associated with auspiciousness. It is offered during worship in the temples and at Hindu homes.

A number of fishermen of India, irrespective of their religious affiliation and faith, offer it to the rivers and seas to propitiate the god Varuna, in hopes of having a bountiful catch.

In Hindu wedding ceremonies, a coconut is placed over an open pot, representing a womb.

Often, Hindus initiate the beginning of any new activity by breaking coconuts, to ensure the blessings of the gods and the successful completion of the activity.

In Tantric practices, coconuts are used as substitutes for human skulls.

The Hindu goddess of well-being and wealth, Lakshmi, is often shown holding a coconut.

According to Hindu mythology, the coconut was created by the sage Vishwamitra to prop up King Satyavrata who was attempting to gain entry into heaven as a mortal but was thrown out by the gods. Satyavrata was a famous king of the solar dynasty. He was a pious ruler and was greatly

religious. Satyavrata had only one desire. He wished to ascend to heaven with his mortal body intact.

A similar story is associated with King Trishanku, who was a saintly man whose one great desire was to ascend bodily into heaven. He had once done a good turn to sage Vishwamitra and the sage decided to help him fulfil his desire. Accordingly, he performed a yagna and Trishanku began to rise heavenwards. When Indra, king of the gods, saw Trishanku at the gates of Heaven, he was furious and catching hold of him, threw him down. Vishwamitra saw Trishanku hurtling downwards and shouted: 'Let Trishanku stay where he is now!' Trishanku's fall was arrested. As Indra would not let him ascend into heaven and Vishwamitra would not allow him to come down, Trishanku was suspended between heaven and earth. Folklore has expanded this myth to explain the origin of the coconut tree: Vishwamitra knew that Trishanku would eventually fall to earth unless held up by physical means, so he propped him up with a long pole. The pole eventually turned into a coconut tree and Trishanku's head became its fruit. The fibre around the coconut is Trishanku's beard. When you take it off, you see his eyes peering at you (S.M. Gupta 1991, 28).

There is a popular legend in Kerala that the coconut was originally a deva vriksha (divine tree). It was brought down to earth by Lord Parashurama for the prosperity of the people of the Malabar Coast. The coast thus came to be known as Kerala literally meaning the land of coconuts.

The Bhavishya Purana describes an image of a body made up of coconut for the head, a bottle gourd for the mouth, five gems for the teeth, a plantain for the tongue, two shells for the eyes, clay for the nose, plantain leaves for the ears, the shoots of the fig tree for the hair, lotus fibre for the entrails, earth and barley paste for the flesh, honey for the blood, the skin of an antelope for the skin, a lotus for the naval, eggplant for the scrotum, and tree bark for garments. Coconut shell heads made of various parts of the tree are a popular toy and decoration in Kerala, the home of India's coconuts.

A young man from Kerala, born into a fisherman's family, did not know how to catch fish. He tried but he never caught any fish and he got poorer

and hungrier. Everybody in his village laughed at him. So he decided to learn some magic. He went to a teacher of magic and learnt how to remove his head from his body. When the beach was deserted in the evenings, when all the fishermen had returned to their villages with their daily catch, he would come to the beach and, in a secluded corner, take off his head from his trunk and dive into the water. The fish had never seen such a strange sight and they always clustered round. All the small fish entered his body through his neck. The man would then swim ashore, take the fish out, and replace his head. He would go back to his village and show the villagers all the fish that he had caught. He told no one his secret. The villagers, who neither saw poles or nets in his hut nor caught sight of him at the beach, grew exceedingly curious. One day, a little boy followed him to the shore and saw him take off his head and dive into the water. The little boy darted forward, snatched the head, and ran away. After a few yards, he found it too heavy and threw it into a bush. The man came out of the water and could not find his head. He searched all over and then, because his magic was running out, he threw himself back into the sea and became a fish. The little boy brought all the villagers to show them the miracle of the head. But when they came to the bush at the side of sea, they found that it had already grown into a tall and slender palm with nuts on it. Each nut had the man's face on it. And thus, the coconut tree was created (Gandhi and Singh 1989, 69–70).

The coconut fruit is considered highly auspicious and is an essential part of many Hindu religious ceremonies and festivities. It is believed to be symbolic of good fortune and prosperity. The fruit is, in fact, referred to as Shriphala or the fruit of Lakshmi, the goddess of prosperity, symbolically depicted by the poornakumbham or vase of plenty, consisting of a pot filled with water or rice and topped with a coconut and a coronet of five mango leaves, given as a mark of respect to noble souls and saints. It is used during ceremonies, including the grahapravesham (house-warming), upanayanam (thread ceremony), weddings, etc., and during every festival.

Symbolically, the coconut is considered Lord Shiva's head—the fibrous mesocarp representing his tangled hair and the three black round scars on

the shell representing his three eyes. According to Hindu mythology, Lord Ganesha once asked Lord Shiva to give his head as a sacrifice. To symbolize the sacrifice, Lord Shiva created the coconut with the three eyes.

The coconut is also associated with Lord Ganesha. At the beginning of any auspicious task or journey, people smash coconuts to propitiate Ganesha, the remover of all obstacles. They also break coconuts in temples or in front of idols in fulfilment of their vows.

During the annual festival of Sri Mahalakshmi Amman temple at Mettumahadanapuram in the month of Aadi (June–July) in Karur district, Tamil Nadu, coconuts are broken on the heads of the devotees by the priests.

In all sacred rites, the coconut is offered as an oblation to the sacred fire.

The association of human fertility with the coconut is prominently manifested during wedding rituals across India. The fruit is often placed in a pot, which is a metaphor for the womb, while the nut itself is a symbol of life and confers fertility on the bridal couple. In Gujarat, it is customary for the bride to present the coconut to the groom at the time of the marriage. The coconut is then preserved as a precious memento by the husband throughout his life (Gandhi and Singh 1989, 70–71).

The members of the Prabhu caste of Maharashtra move a coconut around the head of the bridegroom several times and then throw out the pieces in all directions. This, they believe, will ward off evil spirits. The Muslims in Deccan India also ward off evil spirits by throwing coconut pieces and a lime over the head of the bridegroom (Crooke [1896] 2004, 106).

People of the Nair community of Kerala place a coconut inflorescence (flower) inside a wooden barrel filled with paddy grains as the auspicious centrepiece on the wedding stage.

In south India, it is considered auspicious to distribute coconuts among married women during weddings and festivals as a part of the tambulam (betel leaves, nuts, and spices).

Among Tamils, the thali or mangal sutra, a symbol of marriage worn by the bride, consists of a piece of turmeric or a gold pendant strung on a



yellow thread or gold chain, which is initially tied around the coconut before it is tied around the bride's neck by the groom.

In north India, when a woman wants to conceive, she goes to the temple priest and obtains a coconut.

The coconut features in the marriage rituals of several tribal communities. Among the Gonds and the Bhils of Rajasthan, Gujarat, and Madhya Pradesh, a ceremony referred to as 'Golgothero' is organized at the time of the Holi festival. Jaggery and a coconut are tied on a tree at a good height and all eligible males and females dance around the tree in two separate circles. Any boy who tries to break the inner female ring is prevented by beatings by a broomstick. When the boy succeeds in getting the coconut, he is at liberty to select any girl from the formation (Tanwani 1997, 21).

Fishing communities along the coast believe in appeasing the Sea God (Lord Varuna) with offerings of coconut during the monsoon. On the fifteenth day of Shravan (July–August), fishermen in Maharashtra celebrate the festival of Nariyal Purnima. On this day, fishermen paint their boats and decorate them with flags. With much rejoicing they throw coconuts into the sea, with prayers for a plentiful fish catch. It is also a prayer requesting the sea to calm down and let them take out their boats.

In Kerala, Goddess Bhagavati is believed to be the soul of the coconut, after which some believe Kerala is named. One of the goddess's common epithets is kurumba, which means tender coconut.

The people of Mysore worship the coconut as a family deity.

The Kunabis of the Konkan region in Maharashtra worship the coconut, which they preserve in memory of their ancestors. At the time of harvesting, they distribute the fruit among the labourers.

The temple town of Kumbakonam (Tamil Nadu) and its surrounding villages are linked by a fascinating Hindu legend. Lord Brahma put divine nectar (ambrosia), the Vedas, and the seeds of creation into a pot. On top of the pot, he placed a coconut surrounded by mango leaves. He placed the pot atop Mount Meru. During the great deluge or maha pralaya, which signals the end of every yuga or cycle of creation, the pot would come floating

down to the south. The coconut would get dislodged and fall into water about 10 km from Kumbakonam. Instantly, the water would clear and a linga would appear. To this day, the linga is worshipped as Narikeleshwara.

In Vadakurungaduthurai, Lord Kulavanangisha is believed to have taken the form of a coconut tree to help quench the thirst of a pregnant woman.

In south India, it is essential for every household to plant a coconut tree.

Khopda or khopdi, a popular Hindi slang used in Mumbai, has its origin in the Hindi word copra for dried coconut. It is used to describe one's head or to refer to someone as foolish (or coconut head).

Coconut palms provide materials such as fibre and wood that are used in all kinds of crafts, especially in Kerala, the Andaman and Nicobar Islands, and Goa. From ropes, rugs, brushes, and bowls to jewellery, some of these are traditional and used in everyday lives. Others are decoratives that are popular among tourists and exported. The coconut is the tree of life for the tribals of Nicobar Islands. It is essential to their daily life and several uses have been assigned to it in their folk tales and songs.

A number of folk musical instruments including the pungai (been) and khamak (ektara) are also created using coconut parts. Even the plectrum of the sarod is made of coconut shell.

The essential component of the Theyyam (ritual dance of Kerala) costume is the coconut. The mudi (headdress) is made by cutting and painting coconut sheaths in black, white, and red patterns; the skirt is made out of coconut fronds (kuruthola) and the breasts of female characters are fashioned out of dry coconut shells called mularu.

Tribal groups living on the island of Car Nicobar also dress in coconut fronds while performing the Nicobarese dance during the Ossuary or pig festival. In the Nicobar Islands, scores of taboos revolve around the coconut palm.

Yubee Lakpee (meaning 'coconut snatching' in Manipuri) is a popular outdoor sport in Manipur, played only by men. It is similar to rugby, except that instead of a ball there is a greased coconut, which the players must carry to the goal line.

Indian Christians take crosses made out of tender coconut fronds in procession on Palm Sunday during Lent. Some denominations hit themselves with the fronds to expiate the sin of crucifixion.

### *Medicinal Uses*

The ash of the coconut bark is used as an antiseptic and tooth powder as well as in the treatment of scabies and toothache. A decoction prepared from the root is gargled to heal a sore throat. A tar-like fluid obtained from the red-hot shell of a ripe nut acts as a mild anti-irritant. It is a household remedy for ringworm, itching, and skin diseases (Dastur 1962, 61).

Tender coconut water and the kernel cure venereal heat and burning and difficulty during urination.

Toddy tapped from the spathe of the tree helps loosen the bowels. Powdered cumin and pepper mixed with fresh toddy relieves internal heat, venereal disease, and dysentery. It is also a source of nutrition and energy. Coconut and country sugar can cure stomach ache and dysentery.

The male flower is useful in reducing sugar in the urine, excessive postnatal discharge, and biliousness. A mixture of this juice and curd is an ideal medicine to reduce abnormal, excessive menstruation (Tirugnanam 1995, 42–43).

Coconut milk is good for nervous weakness, early stages of tuberculosis, intestinal ulcers, and swelling of the skin accompanied by itching. The tender leaf stops bleeding piles.

A decoction made from the extract of the coconut root, ginger, and palm sugar can be useful in treating cholera and fever. Along with coconut oil, it is used as a mouthwash and to cure swelling of the mucous lining of the mouth (Shanmugam 1989, 454).

## Common Bur-Flower

Botanical name:	<i>Anthocephalus cadamba</i> (Roxb.) Miq.
Common names:	Kadam, Kadamba (Hindi) Vellaikadambu (Tamil) Kadambaryya, Haripriya, Kadambah (Sanskrit)
Habit:	Tree
Distribution:	India, China, South East Asia, Australia

The generic name *Anthocephalus* is derived from two Greek words, anthos and kephalos, indicating ball-shaped flowering heads. The species name *cadamba* refers to its place of origin.

It is a fast-growing deciduous tree with a spreading crown and may attain a height of 45 m. It is indigenous to India, China, and South East Asia. Usually, it grows in moist, warm, deciduous, and evergreen regions of India. It is mainly found in alluvial soils along rivers and also in swampy ground.

The fruits are eaten either raw or cooked (Krishnamurthy 1993, 180) and the leaves are lopped for fodder. The timber is used for making boards, plywood, and packing cases. The wood is good as fuel.

The common bur-flower has antimicrobial and insect-repellent activity. It is a deciduous tree tolerant to atmospheric pollution and acts as an

atmospheric cooler by releasing water vapour into the atmosphere (Nayar, Ramamurthy, and Agarwal 1989, 20, 36).

### ***Mythological and Religious Associations***

The Ramayana mentions this tree frequently: it is a charming tree of the Chitrakuta forest (2.94.9); a tree of Panchavati (3.15.18); an attractive tree on the shores of the river (4.27.18); bearing flowers in such abundance as to scent the whole forest (4.28.41); a forest tree so common as to be broken by the advancing Vanara army (6.4.73); surrounding Lanka's Suvela Mountain (6.39.4); and a tree of Rama's palace garden (7.42.4).

In the Vanaparva of the Mahabharata (265), beautiful Draupadi is described as standing under the kadamba tree, clasping its branch. Seeing her, King Jayadratha (Jayadrata) is enchanted. He sends his friend Kotikasya to find out why she is standing alone in the hermitage holding the branch of the kadamba. He asks beautiful Draupadi: 'Who art thou, clasping the branch of the Kadamba tree, slightly bent by the breeze, shining all alone in the hermitage, glittering like a flame of fire in the night?' It seems that the author of this charming verse is in fact describing the woman and tree motif of Indian art.

In many Vaishnava temples, this tree is portrayed as a motif. However, it is so stylized that it bears no resemblance to the original tree. Only the legend enables us to identify the tree (S.M. Gupta 1987, 107).



*Vrikshaka and the common bur-flower tree, 3rd century BCE, Sanchi, Raisen district, Madhya Pradesh*

The tree seems to have romantic links with the lives of women. Once, while beautiful cowherd girls were bathing in the Yamuna, naughty Krishna stole their clothes and climbed up a kadamba tree and perched on one of its branches. There are a number of sculptures showing gopis encircling the kadamba tree and requesting Krishna to give back their clothes (Coomaraswamy 1927, 64). Kadamba is associated with Lord Krishna and worshipped in the month of Aashaadha (June–July).

In the Vishnu Purana, the kadamba tree has been widely mentioned in the childhood stories of Krishna. It is believed that the original kadamba tree grows on the Gomanta Mountain, one of the mythical sacred mountains of Hindu religion (Hopkins 1968, 67).

The Vishnu Purana (25.571.2) also says that the kadamba is associated with the exudation of liquor; wine does not exude from it but its flowers are said to yield a spirit on distillation. This distilled spirit is called kadambari.

It is a medicinal plant referred to by Charaka and Sushruta (Pai 1975, 276–97). It is believed that it grew in Jambudvipa. Studying is prohibited under this tree (Kurma Purana, I.45.16), probably because a student should stay away from intoxicating spirits.

Krishna is usually shown playing his flute under the kadamba tree. It is believed that when Kaliya Naga, the giant snake whose breath was so venomous that all creatures that came within a few miles of it were

destroyed, inhabited the Kaliyadaha Lake, the only thing that grew on a small island in the middle of the lake was the kadamba tree (Shrimad Bhagavatam, 10.16).

According to the sthala purana of the Meenakshi temple at Madurai, the land on which the temple is now situated was once covered by a dense forest of kadamba trees. Indra, the lord of heaven, used to come to this forest at night and worship the Swayambhu lingam that stood under the kadamba tree to get rid of his Brahmahatti dosha (sin of killing a Brahman). The specific tree under which the lingam appeared became the sacred tree of the temple. The stump of the ancient tree is still preserved and is covered by a silver plate. According to the sthala purana, it was a primeval forest overgrown with kadamba trees and was the habitat of the goddess Parvati. Therefore, Goddess Parvati is adored as *kadamba vana vaasini*.

The tree is also associated with a deity called Kadambari Amman. A withered relic of the kadamba tree is also preserved in the precincts of the Meenakshi temple at Madurai. A kadamba grove is being developed by the C.P.R. Environmental Education Centre for the Meenakshi Amman temple at Madurai.

According to the Tirumurugatrupadai, Muruga was pleased to wear garlands of red kadamba flowers. He also dwells in the tree, thus acquiring the name Kadamban. The Tirumurugatrupadai says (225) that the kadamba tree smiling with new blossoms is also one of the places haunted by Muruga. Thus it was believed that worshipping the kadamba tree was equivalent to worshipping Lord Muruga.

Gohitayani, Skanda's nurse, is worshipped under a kadamba tree.

The Naga people were also great worshippers of the kadamba trees.

The kadamba is very sacred in Hindu mythology. It is symbolic of tree worship in south India.

Karam in Munda language represents a tree called karam or kaim. Later, this tree came to be known as the kadamba tree.

The Kadam festival in Odisha and West Bengal is celebrated by agricultural communities in the month of Bhadra. The kadam tree is planted ceremoniously. Leaves of the sal tree are offered to it along with cucumber

and vermilion. The worship of the kadam tree is supposed to ensure wealth and children.

Kadambotsava is a popular festival celebrated by the farmers in the month of Bhado (September). A twig of this tree is brought and worshipped in the courtyard of the house. Later in the day, young shoots of grain are distributed among friends and relatives. This has been adopted by Tulu people in Posatt as the Koral parba.

The kadamba was considered a holy tree by the Kadamba dynasty, whose name was derived from this tree. Every year, a festival is celebrated by the government of Karnataka in honour of the ancient Kadamba kingdom ('Kadambotsava in Banavasi', *The Hindu*, 20 January 2006).

The kadamba tree is associated with Shiva and Kartikeya. There are many references to this in Sangam literature.

The kadamba is also sacred to Buddhists. There are many representations in Buddhist sculpture, especially in association with the tree maidens or vrikshakas of Bharhut and Sanchi.

According to B.C. Bhattacharya (1974, 48), Vasupujya, a Jaina Tirthankara, acquired his divine knowledge under this tree.

### ***Medicinal Uses***

The fruit juice is mixed with cumin seed and sugar and given to children for gastric irritability.

Fresh juice of the bark with equal quantity of lime juice, opium, and alum is applied around inflamed eyes (Shanmugam 1989, 127) to soothe them.



## Cotton-Wool Grass

Botanical name:	<i>Imperata cylindrica</i> (L.) P. Beauv.
Common names:	Dabh, Darbha (Hindi) Darbai (Tamil) Darbha, Kusha (Sanskrit)
Habit:	Grass
Distribution:	Africa, Asia, Australasia and Europe Naturalized elsewhere

The kusha is a well-known grass of India. An erect, perennial herb with a leafy culm, it can grow in all districts under wet conditions, from sea level to 2100 m.

Darbha is good fodder for cattle only when young and tender.

It is a good sand binder, and protects the soil from erosion.

### ***Mythological and Religious Associations***

The Sanskrit word kusha means sacred. Both kusha and darbha are mentioned in the Vedas. In the Rig Veda (I.191.3) it is called darbha. The Atharva Veda (VI.43.2; VIII.7.20; X.4.13) also mentions this grass. It is used for calming anger. It is also said to be 'rich in roots' (VI.43; VI.43.2); to possess 1000 leaves (sahasra-prana) and 100 stalks (shata-kanda) (XIX.32.1). Vaishnavites consider the grass to be a personification of Vishnu and its use in all religious ceremonies is essential, for it has the inherent virtue of purifying everything.

The Shatapatha Brahmana refers to kusha (MacDonell and Keith 1982, I.173, 340). It is also mentioned by Panini (4.3.142; 5.3.105) and Varahamihira (Brihat Samhita 24.7; 95.5).



*Cotton-wool grass*

Valmiki's Ramayana says the grass has to be cut in bunches and spread out as seat with the ends pointing eastwards for sacred purposes (1.3.2); but towards the right in the performance of shraadh (2.104.8). The leaf blade is elongated and pointed, with sapphire-like lustre, since Rama uses a shred from its seat as a missile (5.38.29).

The story of the origin of kusha grass and its religious importance is given in the Ramayana, which says that Sita felt humiliated and angry when Rama left her even after she had undergone the fire ordeal to prove her innocence. After her children grew up, they made their father realize the injustice he had done to his wife. Sita did not wish to go back to him. Being the daughter of Dharani, Goddess Earth, she prayed to her mother to accept her back if she was innocent. An earthquake threw open the earth on which she was standing. She was buried under. When her son Kusha saw this happening, he ran forward to save her but could only catch her hair. The earth closed, while these hairs remained outside. The hairs turned into grass and were named after Kusha as he had tried to save her. Since that time, the grass has been held sacred (R. Kumar 2003, 17–21).

Vishwamitra, the raja rishi and Rama's teacher, was a Kshatriya by birth and belonged to the royal Kaushika gotra, whose name is derived from

kusha grass. Subsequently, the gotra was shared by Brahmanas and Kshatriyas.

Mahabharata (1.30.15) describes this grass as long, with sharp stalks, used to cover the ground and as strainers at the sacrifice.

According to the Mahabharata, the sacredness and immortality of kusha grass is also because of its having been sprinkled with amrita (Roy 1956, 91).

According to Hindu mythology, Kadru and her Naga sons cheated Garuda's mother Vinata and enslaved mother and son. Later, the Nagas agreed to free them on condition that Garuda bring amrita, the nectar of immortality, which was in Indra's possession. Garuda brought the amrita and freed himself and his mother. He placed the pot of amrita on the kusha grass. However, he did not want the Nagas to drink the amrita and become immortal, so he asked the Nagas to take a bath first. When the Nagas went to bathe, Indra took back the amrita. The Nagas were disappointed and rolled on the grass where the pot of amrita was kept. This gave them the ability to shed their skin and always remain young. They licked the kusha grass which was sprinkled with amrita, but the blades of the grass were sharp and split their tongues into two. Since that day, all snakes have split tongues.

In the Jatakas, we find people accustomed to the art of ascertaining the presence of water through its vegetable accessories, amongst which darbha or kusha is mentioned as one (Vanaspati, 138–39).

According to the Vayu Purana (75.17–18; 83.79), this grass is used in the shraadh ceremony. According to the Kurma Purana (2.20.38), this grass is essential for the performance of every rite. Rites performed without darbha grass reach the rakshasas. It is an essential requisite for a Brahman's bath (Kurma Purana, 2.18.56). The girdle of a Brahman is made of darbha grass (Kurma Purana, 2.12, 14).

In the Vishnu Purana, kusha grass is considered essential for all religious ceremonies. There is a reference to kusha grass in the cult of Soma, where the sacrificial altar was made of kusha grass. Confectioners keep a few

blades of kusha grass in their vessels during an eclipse (S.M. Gupta 1991, 31).

According to a story in the Bhagavata Purana, Sita first had one son, Lava. While going out, she would leave him behind in Valmiki's ashram. One day she carried him along. On not finding Lava there, Valmiki thought some animal had carried away Lava and felt Sita would not be able to survive the grief. So he made a baby resembling Lava out of kusha grass and placed him in Lava's cot. When Sita returned, she found another baby in the cot. On being asked about this strange phenomenon, Valmiki replied, 'Blameless one, receive this second son named kusha because I, by my power, have created him out of kusha grass.' This first appears in the later Uttara kanda. When Sita heard the sage's story, she decided to adopt and bring up the second child as her own. Thus Lava and Kusha became twin brothers. Kusha became the ruler of Kasur (Kusha-ur) in ancient times, and the present city in Pakistan still has this name (Penzer 1968, 82).

The sacred mythical island Kusha dvipa is so named because of a clump of kusha grass growing there. The island is believed to be surrounded by the Ghrta Sea or the sea of butter.

The darbha grass grows wild on marshy lands and on the banks of the rivers. While pulling it out, the priest utters the mantra *Om phat swahu*. The darbha grass is strewn over the small platform (vedi), which is used for marriage rites. If a man swears the truth, he puts a small piece of it with water in his hand. If a person dies in a far-off land with no religious rites performed after his death, an effigy is made out of darbha grass, which is known as darbha putrika and is burnt in the fire.

Sadhus tie a girdle of darbha grass around their waist so that no malicious spirit can torment them (Upadhyay 1964, 15–34).

According to the sthala purana of the Tirupullani temple, in his attempt to bring his consort Sita back from Lanka, Rama was perplexed about how to cross the sea. He chose a bed of darbha grass to perform penance for three days and nights. Then Shri Adi Jagannatha appeared before him and handed him the weapon of victory, the divya chapa and blessed him. Hence the

place is known as Tirupullani and the deity is known as Darbhasayana Rama.

Tirunallar temple is dedicated to Saturn or Shani. According to the local legend (sthala purana) of the Darbha-Aranyeshwara temple at Tirunallar, King Nala, the ruler of Nidadha country, was cursed by Shani and lost his wife and children. He came to the darbha forest at Tirunallar. As soon as he entered the forest, he was rid of the curse and found the Swayambhu (self-appearing) lingam in the midst of darbha grass. He worshipped the lord and went back to his country. Hence people still come to this temple to worship Shani. It is believed that by worshipping Lord Shani, one is relieved of curses and suffering and obtains the blessings of Lord Shiva for a happy and prosperous life.

People, particularly unmarried girls, circumambulate darbha grass after worshipping the lord and tie a knot of two grass blades. Even today, people believe in the efficacy of this rite.

Kusha grass is sacred to Ketu.

### ***Medicinal Uses***

The root of the darbha grass is sweet, has a cooling effect, controls bleeding, promotes the discharge of urine, and increases the flow of milk. It cures dysentery, loosens bowels, and reduces painful urination and other diseases of the bladder (Sivarajan and Balachandran 1994, 127).

A decoction of darbha grass is applied to swellings and other skin diseases and is also given as an antidote for poison (Shanmugam 1989, 609–10).

The plant is used in Yunnan as a drug for treating snakebite (Asolkar, Kakkar, and Chakre 1992, 367). It is recommended by Sushruta as a cure for urinary disorders (Sutrasthana, 38.75.76; Vanaspati, 93–99).

Kautilya says that the oil extracted from its grains, if poured over fire, keeps it burning even in a storm (Arthashastra, 2.15.39).

## Crape Jasmine

Botanical name:	<i>Tabernaemontana divaricata</i> (L.) R. Br. ex Roem. and Schult.
Common names:	Chaandni (Hindi) Nandiyaavatai (Tamil) Nandivriksha (Sanskrit)
Habit:	Shrub
Distribution:	Throughout India, China, Myanmar, Thailand

The genus inherits its name from J.T. Tabernaemontanus, a botanist and physician. The species name refers to its spreading habit.

It is a shiny and laticiferous shrub attaining a height of 6 feet. It is found throughout India.

The milky juice of the wood contains a resin. A perfume is prepared from its wood and used as incense.

The pulp of the seed is used as a red dye (Cowen 1984, 31–32).

### ***Mythological and Religious Associations***

It is sacred to Lord Shiva. According to the sthala purana of the Karumbishar temple at Kovilvenni, the place was densely covered with this shrub and Lord Venni Karumbishwara stood under this shrub in the form of a Swayambhu lingam. Later, King Muchukunda built a temple over this lingam, and the shrub, which sheltered the lingam, became the sthala vriksha of the temple.

It is also sacred in the Jain religion. Aaranatha, the eighteenth Jain Tirthankara, uses the nandivriksha as his symbol (B.C. Bhattacharya 1974, 53).



*Crape jasmine*

In northern India, the flowers are commonly used in puja. Flowers of this shrub are used in the early morning puja, as well as in garlands for pujas. They are also used to express grief, sorrow, and condolences.

### ***Medicinal Uses***

Traditionally, the juice of its flower is used to soothe burning sensation in sore eyes and skin diseases (Sivarajan and Balachandran 1994, 321).

Toothache can be cured by chewing the root. A decoction of the root can remove intestinal worms (Shanmugam 1989, 471; Dastur 1962, 72).

## Cus-cus

Botanical name:	<i>Vetiveria zizanioides</i> (L.) Nash
Common names:	Khas-Khas, Khas (Hindi) Vettiver (Tamil) Ushira, Usira, Rashira (Sanskrit)
Habit:	Grass
Distribution:	Indian subcontinent Naturalized in Australia Cultivated in Africa, North America

The generic name, *Vetiveria*, is derived from the Tamil word vettiver, which refers to root that is dug up. The species name *zizanioides* means ‘by the riverside’, reflecting the fact that the plant is commonly found along the waterways.

It is a perennial grass with short rhizomes. It grows at altitudes up to 900 m above sea level. Loose sandy soil is most suitable for it.

In India, it yields a chemical pulp which can be used as a medium for writing and printing paper. It is a good soil binder and controls soil erosion.

The tender shoots are eaten by cattle.

The roots are woven into mats and curtains to help cool rooms. The oil obtained by distillation of the root is violet in colour and used as a fixative for perfumes (Krishnamurthy 1993, 145, 493).

### ***Mythological and Religious Associations***



According to the Shrimad Bhagavatam (11.27.30–31), the worshipper should bathe the deity every day, as opulently as his assets permit, using waters scented with sandalwood, ushira root, camphor, kumkum, and aguru.

According to local belief, after worshipping the Lord Ushiravaneshwara, the worshippers, particularly unmarried girls, circumambulate the ushira grass and knot two blades together. Even today it is believed that this practice helps girls get married early.

Lord Shiva stands in the form of a Swayambhu lingam in the midst of ushira grasslands, and thus is known as Ushiravaneshwara.

### ***Medicinal Uses***

A decoction of the root is used to treat swelling and pain in the joints, fever, jaundice, indigestion, and anaemia. It is taken along with sugar to stop vomiting. The oil extracted from its root strengthens hair and helps it grow. The oil is also used to cure rheumatic pains. The scent prevents heatstroke and headache, and delays senility. The infusion of the root reduces thirst and burning sensation during urination (Shanmugam 1989, 263–64).



*Cus-cus grass*

## Custard Apple

Botanical name:	<i>Annona squamosa</i> Linn.
Common names:	Aatoa, Sitaphal, Sharifa (Hindi) Seethapalam (Tamil) Sitaphala, Gandagatra, Shubha (Sanskrit)
Habit:	Tree
Distribution:	West Indies Naturalized in the Tropics; cultivated elsewhere

Custard apple is native to the West Indies and is grown throughout the tropics. It is best suited to a hot and relatively dry climate. It is cultivated extensively in India for its fruit. The tree is very common in the dry deciduous forests of central India, Rajasthan, Gujarat, West Bengal, Assam, Andhra Pradesh, and the Deccan Plateau. It is also known as the poor man's apple (O.P. Khantwal, 'A Custard Apple Treat', *The Hindu*, 30 August 2004).

It is native to tropical America and naturalized in India. According to Randhawa (1982, 187), the custard apple was introduced into India by the Portuguese in the 16th century CE. But the tree must have grown in India from very early times considering that it is mentioned in the Ramayana, ca 1000 BCE, and sculpted at Bharhut, ca 2nd century BCE.

The generic name is derived from the Haitian word Anon, which means edible fruiting trees. The specific name means scaly in Latin, referring to

the scale-like texture of the outside of the fruit.

### ***Mythological and Religious Associations***

Many shrubs are sacred to Sita, but the sharifa or custard apple is special, because it is full of seeds (Forlong 2008, 307).

The custard apple is also made known by various names in mythical and traditional literature. Groups of diverse ethnic communities in India have much in common in their mythical folklore. The contingents of aboriginal people in remote regions have their myths, legends, and traditions, which have contributed up to the present times to oral folk literature, sporadically published by ethnographers. Through these sources, the custard apple is known by names such as seetaphala in Hindi and Bengali, seetapholo in Odia, seetaphalamu in Telugu, and seethapalam in Tamil, as the ‘fruit of Sita’. Bullock’s heart (*Annona reticulata*) is called ramaphala (Hindi, Kannada), ramopholo and ramositapholo (Odia), ramasita (Tamil), and raamaaphalamu and raamaasitaphalamu (Telugu). Similarly, soursop (*Annona muricata*) is also epitomized as mullaraamaphala in Kannada, mulluseeta in Tamil, and mulluseethapalamu in Telugu. In Kerala, the same species is called ramachakkamarum (the tree with the fruit of Lord Rama). *Annona squamosa* is commonly called sitaphala (the fruit of Sita) because of a popular belief that Sita, while in exile, subsisted on the fruit of this tree (Saraswat, Rajagopalan, and Ravi Prasad 2006, 283–307). The fruit could also symbolize fertility since a large number of seeds are found in it (Sorenson and Johannessen 2004, 65).

At least four Sanskrit names were used for the tree, and its fruit is associated with the sacred figure, the wife of Lord Rama, in the Ramayana record. The fruit is sculpted at the Bharhut stupa, 2nd century BCE, and at the Ajanta Caves and in other sacred art since then.

Custard apple seeds have been excavated from a cave site in the island of Timor dated to the middle of the 3rd millennium BCE (together with two other plants of American origin) and excavated in India only from 700 BCE.

The custard apple and all its other relatives like bullock's heart and cherimoyer (*Annona cherimolia*), respectively known as ramphal and hanumanphal, originally belong to tropical America and the West Indies. It is inexplicable how the ancient sculptures of our land have depictions of the custard apple if it was not native to India.

The distinctive fruit was clearly represented on a bas-relief in the Bharhut stupa (2nd century BCE) where not only the fruit but also the leaves are depicted. It has also been identified in Sanchi, Ajanta, and Mathura sculptures (S.M. Gupta 1996, 19; Watt 1885, 259; Cunningham [1879] 1962, 47).



*Custard apple*

Further evidence of the custard apple, before the European entry into India, has been corroborated by sculptures of the fruit in the hands of various deities such as Vishnu, from Bengal (9th–10th century CE); Kartikeya in the Madhukesvara temple, Mukhalingam, Andhra Pradesh (8th century CE); Kubera at the Hoyasaleshvara temple, Karnataka (12th century CE); and Shiva in a Kakatiya (12th century CE) lintel sculpture showing the Trinity from Warangal, Andhra Pradesh.

Bussagli and Sivaramamurti (1978, 189) depict an 8th century CE sculpture of Varuna, lord of the waters, seated with his consort on a makara monster and holding in his hand an annona fruit.

At least three species of the tropical fruit annona have been identified in ancient Indian art and referenced in mythic literature (S.M. Gupta 1996, 19). Johannessen and Siming (1998, 9–36) discovered the *Annona squamosa* fruit depicted in the hands of a goddess from the 10th century CE, at the Durga temple at Aihole, Karnataka, India. The custard apple was

thought to be native to India from its occurrence in ancient literature, paintings, and sculptures (Pokharia et al. 2009, 923–30). It has been said that the archaeological discovery of the fruit and seeds of the annona, dated prior to 1000 CE, suggests that Indian influence had travelled as far as Timor (Glover 1977, 42–61).

The occurrence of the wild plant in India, Sanskrit names mentioned in the Ain-i-Akbari, and appearances in old paintings and carvings have made people believe that this fruit is of Indian origin.

### ***Medicinal Uses***

The Sanskrit name sitaphal is derived from the word shitah, which means cold, and phal, which means fruit. Eating a lot of it can give you a cold. It has a cooling effect on your body and hence the name shitahphal.

The plant is traditionally used to treat epilepsy, dysentery, cardiac problems, worm infestation, constipation, haemorrhage, bacterial infection, dysuria, fever, and ulcers. It also has anti-fertility, anti-tumour, and abortifacient properties (Chandrashekar and Kulkarni 2011, 1831–32).

Ethanollic extracts of the leaves and stem are reported to demonstrate anti-cancerous activity. The aqueous leaf extract is reported to ameliorate hyperthyroidism, which is often considered a causative factor of diabetes mellitus. The bark and shell of the plant are used in home-made medicine.

## Cutch Tree

Botanical name:	<i>Senegalia catechu</i> (L.f.) P.J.H. Hurter and Mabb.
Common names:	Katha, Kaira (Hindi) Karungali (Tamil) Khadirah (Sanskrit)
Habit:	Tree
Distribution:	Asia (temperate, tropical)

It is a deciduous thorny tree found in India, China, and other countries of Asia. It is ubiquitously found in Khair-sissu forests, southern thorn forests, ravine thorn forests, and very dry teak forests (Champion and Seth 1968, 181–82, 222–23, 231, 240). It is found widely in Jammu, Punjab, Himachal Pradesh, Uttar Pradesh, Madhya Pradesh, Bihar, Andhra Pradesh, and Odisha. *Catechuoides* is found in Sikkim, Assam, and West Bengal, whereas sundra, generally known as lal khair (Red catechu) is found in the Deccan, Gujarat, Rajasthan, and southern Maharashtra (Singh and Lal 2006, 109–12).

Charcoal is made from the wood of this tree.

### ***Mythological and Religious Associations***

The Rig Veda (III.53.19) mentions the khadira frequently and the Atharva Veda (III.6.1; V.5.5; VIII.8.3; X.6.6) describes it as a tree with hard wood. According to Patanjali, it has a white and hard trunk and small leaves. The Aitareya Brahmana (Haug 1922, 73) prescribes that a yupa (sacrificial post)

made of khadira wood be used if one wishes to attain heaven. According to the Shatapatha Brahmana, the tree emerged, at the time of creation, out of Prajapati's bones (III.4.4.9).

The Ramayana says the poles of this tree were erected as yupas in the yagna (1.4.2). It is a tree found in the Panchavati forest (3.15.18).

This plant has been mentioned in the Bhagavata Purana and other ancient Indian scriptures. The Vayu Purana (74.9) mentions its use in the shraadh.

Its wood is used to make the sacrificial post and also acts as fuel for the fire. Since the wood of the tree is very hard, it is used as a sacrificial ladle. The inflorescence of khadira is essential in marriage ceremonies in certain parts of India.



*Cutch tree*

It is said that when the Buddha had attained enlightenment for eight years, he went to stay in a khadira forest (khadiravana) near Sumarakhiri in Bhaktathi. Nagarjuna wrote about the khadiravana as the abode of the Green Tara, a Bodhisattva of compassion. According to legend, the Bodhisattva was born as a woodpecker and lived in a forest of khadiravana trees, and was known as Khadiravaniya (Crooke 1993, 254–55).

There are references to it in the Jataka stories. The wood of this tree is considered sacred by Hindus and Buddhists. It is considered to be one of the sacred trees for the people who lived in the Siwalik Range of the western Himalayas and brings mukti (salvation) to the soul. Its wood is considered sacred. It is used in religious ceremonies; it is one of the religious plants along with bhojpatra (*Betula utilis*) used at the funeral ceremony (Singh and Lal 2006, 109–12).

### ***Medicinal Uses***

The bark and roots of this tree are used to treat mouth ulcers, bronchial asthma, and indigestion. The bark is especially useful for treatment of piles, sore throat, ulceration, eczema, and certain forms of leprosy. A powder of catechu is used for plugging tooth cavities to relieve pain (Dastur 1962, 4).

The decoction of its bark mixed with milk is consumed to cure cough and cold. The decoction is either drunk alone or in combination with opium to arrest acute diarrhoea.

Katha (a concentrated, filtered extract) is dried and applied to a slice of lemon and taken on an empty stomach to cure piles.

The heartwood of the cutch tree is boiled with other ingredients to prepare a decoction. It is drunk as a tea by pregnant women to keep their bodies warm. It also acts as a cure for fever and cold during pregnancy. A decoction, prepared by boiling khadira with elaichi (green cardamom), is served to women after two or three days of delivering a baby. It is believed that it helps recuperation and aids in secretion of milk. Water boiled with the heartwood chips of khadira is used to bathe women after delivery. It also relieves body pain (Singh and Lal 2006, 109–12).



## Deodar

Botanical name:	<i>Cedrus deodara</i> (Roxb.ex D. Don) G. Don
Common names:	Debdar, Deyodar (Hindi) Tevataram (Tamil) Deva-daaru (Sanskrit)
Habit:	Tree
Distribution:	Himalayan region of India, Nepal, Pakistan, Afghanistan, and China

The English name of the tree deodar is derived from the Sanskrit words deva (god) and daaru (wood). Deodar is considered to be the abode of gods, because of its lofty, awe-inspiring height. It is one of the world's four varieties of cedars and is found in the Himalayas, at heights between 1000 m and 3000 m above sea level.

### ***Mythological and Religious Associations***

Because of its gigantic height, the deodar is considered to be the abode of the gods. In the Kumaon Hills and Kulu Valley of the western Himalayas, people offer prayers to the tree to remove illness, keep away death, and counter the destruction of cattle, sheep, and crops (S.M. Gupta 1991, 7).

According to the Atharva Veda (VIII.2.28) and Taittiriya Samhita (6.2.8), putu-dru is another name for the Deodar.

This tree is sacred in Kashmir and Punjab. It is also mentioned in the Ramayana, where Rama instructs the Vanaras to search for Sita 'among the

Lodhra trees, Padmaka trees and in the woods of Devadaru ...' (4.43.13).

According to the Mahabharata, devadaru is found in the largest forest situated on the eastern side of Meru.

Parshvanatha, the twenty-third Jaina Tirthankara, attained enlightenment under this tree.

Lord Shiva was meditating under a deodar tree when Kamadeva shot his arrow of love, disturbing his penance. Shiva's third eye burnt Kamadeva to cinders. Through this legend, the deodar remains closely connected with the worship of Shiva in the Himalayan region and ancient sages who meditated upon Shiva are believed to have lived in forests of deodar trees.

Deodars are found in an excellent state of preservation in sacred groves near temples dedicated to Shiva.

### ***Medicinal Uses***

The leaves are useful in treating inflammation and tubercular glands.

The oil is an antiseptic and diuretic. It is used to treat wounds, ulcers, fever, leprosy, and other skin diseases.



*Deodar*

## Downy Jasmine

Botanical name:	<i>Jasminum multiflorum</i> (Burm.f.) Andrews
Common names:	Kundphul, Chameli (Hindi) Pinjilam, Kasturimallikai (Tamil) Kunda, Kundah (Sanskrit)
Habit:	Climbing shrub
Distribution:	India Cultivated elsewhere

It is a small climbing shrub whose tender parts are velvety, tomentose, and often rusty. It is found all over India and grows well under different soil, light, and temperature conditions. It is found at an elevation of 1500 m in the Himalayas.

This shrub acts as an environmental purifier (Nayar, Ramamurthy, and Agarwal 1989, 36). Its fragrant, volatile vapours neutralize bad odours and keep temple environments fragrant.

Kunda or chameli is known for its whiteness. Beautiful white teeth are compared to kunda buds.

### ***Mythological and Religious Associations***

Garlands of jasmine flowers are popularly offered to the gods all over India. Its beautiful fragrance and appearance make it a special favourite. Goddess Saraswati is described as pure white like the jasmine, with the coolness of

the moon, brightness of snow and who shines like a garland of pearls (*yakundendu tushaara haara dhavala*).

According to the Ramayana, the Pampa Lake was surrounded by kunda flowers, along with other trees and flowers (3.75.23, 24), but jasmine bushes were found everywhere (4.1.77).

The Shrimad Bhagavatam (3.15.19), while describing the importance of tulsi leaves, says flowering plants like mandara, kunda, kurubaka, utpala, campaka, arna, punnaga, nagakesara, bakula, kumuda, and parijata are full of transcendental fragrance, for they are still conscious of the austerities performed by tulsi, which is given special preference by Vishnu. The kunda is held to be especially sacred to Vishnu.

According to the sthala purana of the Amirtakadeshwara temple at Tirukkadaiyur (Nagapattinam district, Tamil Nadu) this fragrant flowering shrub was brought by Markandeya from Varanasi to worship Lord Amirtakadeshwara. It is believed that one who worships the lord with this flower will have all his wishes fulfilled. A single flower offered in worship is equivalent to offering 100 flowers of different varieties.

In Manipur, kundo flowers are used in worship and are an essential part of the marriage ceremony. The bride garlands the groom with two kundo garlands. The groom then takes one of the two and garlands the bride.

The plant is also associated with Lord Shiva. Although the flower is said to be Tantric, it is offered to Lord Shiva, on account of its symbolism (Birdwood 1992, 87).



*Downy jasmine*

### ***Medicinal Uses***

A decoction made from the root is reputed to be an antidote for cobra venom and that from the leaves is used to stimulate static ulcers (Bor and Raizada 1990, 241).

## Flame of the Forest

Botanical name:	<i>Butea monosperma</i> (Lam.) Taub.
Common names:	Dhak, Palas (Hindi) Purasu (Tamil) Palasha, Kimsuka (Sanskrit)
Habit:	Tree
Distribution:	Asia (tropical) Cultivated elsewhere

The Sanskrit word kimsuka means ‘like a parrot’ or ‘what brightness’. Palasha means both leafy and beauty in Sanskrit. The older name of the tree, parna, means leaf.

*Butea* is also known as the flame of the forest, a well-known tree in India. It is medium in size, with compound leaves, each with three leaflets. The tree is found mainly in mixed or dry deciduous forests. It is commonly found in the plains and lower slopes of hills. It grows luxuriantly in the forests of India.

*Butea monosperma* reduces 75 per cent of dust particles from 1 cubic litre of air and also acts as an air conditioner as it liberates about 10–20 litres of water per day per tree of average height through transpiration. It is an indicator of sulphur dioxide in the atmosphere (Nayar, Ramamurthy, and Agarwal 1989, 36).

In Ritusamhara, Kalidasa (circa 400 CE) describes the jungles of dhak trees as resembling a blazing fire, making the earth look like a newly-wed bride with red garments.

Amir Khusrau compares the flowers of the tree to a lion's claw stained with blood. In Indian poetry, the flowers are compared to the new nail marks on the body of the beloved.

Its wide leaves are stitched and used as umbrellas in rural areas.

It is a valuable host tree for the lac insect. The soft wood is dirty white in colour and durable under water. It is used mainly for making water scoops and charcoal. Red-coloured gum obtained from the stem is rich in gallic acid and kino-tannic acids (Krishnamurthy 1993, 249, 474, 519).

The Santhal tribes make ropes out of its root. The coarse fibre of the inner bark is used in boat making. The leaves are used to wrap babies and to make cups and plates, and as fodder.

A dye obtained from the flower was originally used as gulal or coloured powder during the Holi festival. Since Holi is associated with Krishna, the tree has come to be associated with him.

### ***Mythological and Religious Associations***

The wood is used in rituals and is frequently mentioned in the Vedas.

Its trifoliate leaves represent the Hindu triad, with Brahma on the left, Vishnu in the middle, and Shiva on the right. Its leaves are symbolic of the Hindu Trinity: the Creator, the Preserver, and the Destroyer. The red flowers of the tree are offered to the gods.

In the Rig Veda (X.85.20), this tree is mentioned in the wedding hymn, and the bridal car is said to be adorned with its flowers.

The Ramayana refers variously to a mountain tree, beautiful with its garlands of flowers blooming at the end of winter (2.63.9); it is a charming tree of Panchavati forest (3.15.18); table lands and mountains are made beautiful with these trees in flowers at spring around Pampa Lake (4.1.82); they are in such abundance with flowers as to touch the ground with their sheer weight (5.15.8); the dry and fierce lustre (of the flame) is like a crest of kimshuka flowers (5.54.34); they resemble each other like the red-flowered and large trees (of kimshuka and salmali) (6.40.14).

In the Mahabharata, the sage Jamadagni performs a ritual to the gods in palasha vana (palasha grove), and the ceremony is attended by all the rivers. The tree in full bloom looks like fire on the horizon.

The Buddhists also revere it. Queen Mahamaya seized a branch of the palasha tree at the very moment of the birth of her son Gautama Buddha.

The flower contains the orange-red colour used to dye the robes of Buddhist monks. Wearing this colour means that they have burnt all their desires. It is often depicted in the Buddhist Jataka stories.

In Kalidasa's Kumarasambhava, the flame of the forest is among India's most venerated trees. Indeed, in ceremonies which honour other trees or which inaugurate the planting of trees, twigs of the flame of the forest are rubbed together to ignite a sacred flame.

A log of this sacred wood is used to light a Hindu's funeral pyre.

It was a common custom in ancient India to touch cows with a palasha staff to separate them from their calves. It may be compared with the English rowan tree, which is used by the cowherds of Scotland to ward off evil spirits that try to enter the cowshed. In Germany, it is believed that cows beaten with a stick of the flame of the forest yield more milk (Crooke [1896] 2004, 112).

The tree is associated with the moon and is believed to be immortal, having sprung from the feathers of a falcon intoxicated with soma, the drink of the gods (Cowen 1984, 3).

It is also associated with Brahma, as he was converted into a palasha tree after being cursed by Parvati (Padma Purana, Uttara kanda). According to the Kurma Purana (2.34.22; 17.20), it is a prohibited item of food for eating which Prajapati is prescribed an expiation.





*Flame of the forest*

According to the Vayu Purana (37.18–19), the palasha is found in champaka forests.

During the thread ceremony of a Brahman boy, he must hold a staff of palasha wood; the sacred utensils are also made of this wood (Cowen 1984, 3).

The wood is used in ceremonies connected with the birth of Krishna and the digging of tanks (Purana Index, Vol. II).

According to S.M. Gupta (1991, 27–29) the tree is considered sacred partly on account of its use in producing the sacred fire and partly because of its orange flowers, which are used to dye the coloured dust that is thrown during the Holi festival. According to an ancient ritual, the sacrificial post was to be made out of the wood of the khadira, the bilva, or the palasha. Dry twigs of the plant are used to feed the sacred fire.

It is considered sacred to burn a dead body with palasha wood.

The sacrificial post is prepared out of this wood. Its wood is used to produce the sacrificial fire by rubbing two sticks together.

It is employed in Hindu ceremonies to bless calves to ensure that they become good milk producers.

A popular belief is that if the root of a palasha tree is collected when the Ashvini constellation rules the sharad ritu (autumn season; mid-September to mid-October) and tied to a man's arm, any woman he touches will fall in love with him.

Another story about this tree refers to a time when Indra felt very thirsty. The gods asked the goddess Gayatri to go to the celestial Mountain

Mujavant where the soma creeper grew and bring it back, so that Indra would then have an uninterrupted supply of soma. Gayatri disguised herself as an eagle. She flew to the mountain and found it guarded by the sentries of the Moon. She swooped down, seized the creeper in her beak and, before the startled sentries could do anything, she flew away, screeching triumphantly. One of the sentries, Krishanu, let fly an arrow at the bird. The arrow missed Gayatri but struck the vine. One of the leaves fell off and it fell to earth and grew into the palasha tree.

In another story, a king sent out his four sons to look for this particular tree and asked each to describe it on their return. Each son gave a completely different description because he had seen it in a different season. The palasha, too, has several appearances or moods and each one is striking for its unique beauty.

The orange-red flower of this tree is offered to Goddess Kali. According to Richard Pearson (1988, 42) palasha is a dwelling place of gandharvas and apsaras. According to Birdwood (1992, 87), it is sacred to the Hosts of the Heavens, such as Soma or Chandra.

### ***Medicinal Uses***

The seeds contain proteolytic and lipolytic enzymes. The flowers contain glycosides, butrin, butin, and neterosides, and a number of fatty acids have been isolated from the oil..

The leaves are useful in treating incontinence and curing piles. The wood is used to treat rheumatism.

The gum of the tree is useful in the treatment of diarrhoea and dysentery (Bakhru 1993, 48–50). A hot poultice of the leaves is applied to cure pimples, tumourous piles, ulcers, and swellings. A decoction of the bark is given to treat cold and cough (Dastur 1962, 39–40).

A paste of the seeds mixed with honey is taken orally to cure intestinal worms. The seeds ground with lemon juice is used to treat dhobi's itch—eruption and itching of the skin (Shanmugam 1989, 545).

# Gingelly

Botanical name:	<i>Sesamum indicum</i> Linn.
Common names:	Til (Hindi) Ellu (Tamil) Tili, Tila (Sanskrit)
Habit:	Shrub
Distribution:	Indian subcontinent

It is one of the most ancient oilseed shrubs known to humankind. It was cultivated and domesticated on the Indian subcontinent during the Harappan period (Ali, Yasumoto, and Katsuta 2007, 12–23). Although it is a plant of the Indian subcontinent, it is now grown in many parts of the world.

Sesame oil is used as an ingredient in cooking, soap making, and the manufacture of paints, inks, perfumes, and cosmetics. It is also used as an illuminant and as a lubricant. The residual waste after oil extraction is used as food for livestock.



*Gingelly*

## ***Mythological and Religious Associations***

Grains of this plant and oil extracted from its seeds are mentioned in the Atharva Veda and later works such as the Chhandogya Upanishad, Patanjali's Mahabhasya, Kautilya's Arthashastra, Charaka Samhita and Sushruta's Sutrasthana (Pai 1975, 296).

This plant is believed to have originated from Vishnu's sweat when it fell on the earth. The seeds of this plant have been used in religious ceremonies since early times. The offering of the seeds is considered to cleanse a person of his sins.

Sesame seeds are also said to have sprung from the limbs of Rishi Kashyapa (S.M. Gupta 1991, 29–30).

During the pitru tarpana (rites for forefathers performed on the new moon), water and gingelly seeds are offered to the souls (Padhy 2008, 151–58).

The til is an emblem of Pingala Ganapathi (Stutley 1985, 142). It is also one of the plants used in the worship of Lord Vishnu (Bennet, Gupta, and Vijendra Rao 1992, 14).

### ***Medicinal Uses***

Crushed leaves are used in the treatment of dandruff, and a decoction made from the leaves and root is used to wash hair.

Powdered seeds are consumed with water and butter to cure bleeding piles.

A poultice of sesame seeds is applied externally for treating ulcers, burns, and scalds. External application of a mixture of equal parts of sesame oil and lime water is also effective for these conditions (Dastur 1962, 149–50).

# Grapevine

Botanical name:	<i>Vitis vinifera</i> Linn.
Common names:	Dakh, Drakh (Hindi) Drakshai (Tamil) Draksha, Mrudvika (Sanskrit)
Habit:	Climbing shrub
Distribution:	Africa, Asia (temperate), Europe Cultivated elsewhere

The generic name *Vitis* is derived from Latin and means vine or grapevine; the species name *vinifera* is derived from the Latin words vinum (wine) and fer (bearing). Thus *vinifera* means wine bearing. The name of the vine is derived from the Latin word viere, meaning 'to twist', which is descriptive of the growing habit of the plant.

The grapevine is a deciduous, climbing or trailing shrub. It is native to North Africa, west Asia, Asia Minor, and southern Europe. Grapes grow on wide range of soils, from sandy to clay loams, shallow to very deep soils and from highly calcareous to non-calcareous and very deep, highly fertile soils. In India, grape is grown under two distinct climatic conditions: the subtropical climatic conditions of the north comprising Punjab, Haryana, Uttar Pradesh, Rajasthan, and Delhi and the tropical climatic conditions of peninsular India (the entire Telangana and Rayalseema areas of Andhra Pradesh except the districts of Chittoor and Prakasam; north interior Karnataka; the rain shadow area of the Western Ghats in Maharashtra and

Tamil Nadu; and the districts of Bangalore, Kolar, and Mysore of Karnataka).

### ***Mythological and Religious Associations***

It is a symbol of charity, fruitfulness, good cheer, rural felicity, youth, and intoxication. Wine is regarded as the blood of life in several religions and grapes are symbolic of charity.

The history of Indian viticulture shows that it originated about 2600 years ago. Draksha paka, the grape, does not require much effort to make it yield sweet juice. It is mentioned in Indian literature and medical treatises written between 400 BCE and 650 CE. Kautilya mentions mridvika or grapevine in his Arthashastra (2.25.24). It is also known as draksha in Sanskrit. Both the words mridvika and draksha are mentioned in Brihat Samhita and by Charaka (Brihat Samhita, Vrikshayurveda, 2, 4; Charaka Sutrasthana, 27.126, 132; Chikitsasthan, 4.84). Brahmanas are gratified with it at a shraaddha (Kurma Purana, 2.20.38).

The Vishnu Purana (1.8) says that King Prithu organized a grand yagya. At the time of the somabhishek (bathing with grape wine) during the yagya, a man and a woman appeared out of the earth. Goddess Varuni and the goddess of wine, Sura, came out next. The gods readily accepted Sura and thus they came to be known as Suras.



*Grapevine. Birds offering grapes to the Buddha, 3rd century BCE, Sanchi, Raisen district, Madhya Pradesh*

The Matsya Purana says that grapes made of silver should be presented to Brahmanas at the end of a vrata for Shiva (Akhtar 1972, 1.96.262).

There are several Bacchanalian scenes in Kushana art. A sculpture from Mathura (2nd century CE) shows a woman carrying a pot of wine and a woman standing under a window on a dwarf, holding a bunch of grapes in her right hand and a glass covering the wine pot in the left. In another scene from the Mrichchhakatika, a drunken courtesan is held up by several men. A sculpture from Bharhut depicts a king or warrior standing with a sword in his left hand, a grape twig with a single leaf and a bunch of grapes in his right. In another motif from Bharhut, a lotus flower in the centre of a medallion with petals on the periphery and a circular row of lines depicting stamens is surrounded by an undulating grapevine with leaves and bunches of grapes.

A sculpture at Sanchi of three parrots with prominent hooked beaks are depicted with buffaloes, kadamba, and mango trees; of the three parrots, one holds a bunch of grapes.

The grapevine is also sculpted on the temples of Mount Abu in Rajasthan and the Andal temple at Srivilliputtur in Tamil Nadu, where Rati holds a bunch of grapes (S.M. Gupta 1996, 172).

Commercial varieties were introduced in India by invaders from Iran and Afghanistan. Muhammad Bin Tughlaq introduced Bhokri, Fakhri, and Sahebi cultivars in 1338. Wild grapes grown in Himachal Pradesh were used to prepare local wine. There are references to the Indian grape by several travellers, including Ibn Batuta (1330 CE) and Jean de Thévenot (1666–67). The grape is one of the oldest fruits grown by man. However, despite its long history and wide genetic diversity, commercial manufacture of wine in India began only in the early 20th century. The grape was well known to people in ancient India, but it was not commercially cultivated until the 14th century (Shikhamany 2001, 28–37). It was introduced into south India in 1832 by Christian missionaries from France.

### ***Medicinal Uses***

If grape juice is taken by pregnant women, it checks vomiting, nausea, and the loathing for food.

A decoction of its leaves along with black pepper and cumin is taken for diarrhoea caused by indigestion.

Regularly consumed, grape juice cures intestinal ulcers and strengthens the alimentary canal. It cures hypertension and disorders of the liver and spleen. Burning sensation and drowsiness due to biliousness can be cured by grape juice. It also improves and purifies the blood and acts as an aphrodisiac (Shanmugam 1989, 427; Chatterjee and Pakrashi 1994, 175–76).



## Green Gram

Botanical name:	<i>Vigna radiata</i> (L.) R. Wilczek
Common names:	Moong (Hindi) Paasipayir (Tamil) Mudkaparni (Sanskrit)
Habit:	Shrub
Distribution:	India, Sri Lanka

It is a small herb native to India and widely distributed in tropical and subtropical Asia.

The Buddha (6th century BCE) recommended green gram soup to his disciples. Kashyapa (800 CE) has discussed the agronomy of pulses in detail (Nene 2006, 179–202).

Kalhana (1200 CE) of Kashmir, who authored the famous *Rajatarangini*, surprisingly rated green gram as inferior food. Travellers such as Ibn Batuta (1332–46 CE), Jean-Baptiste Tavernier (1638–43 CE), and Abdur Razzak (1442–45 CE) have mentioned green gram as the most widely used constituent of khichari (rice or other cereals and pulse cooked together). The most popular side dish in India, the papad, made of green gram, was called *parpata* during the Buddhist and Jain periods (ca 400 BCE). The popularity of papad led to professional papad makers called *Kagal Kutas*, who have been mentioned in 14th century documents as part of kings' armies in Rajasthan.



*Green gram*

### ***Mythological and Religious Associations***

According to the sthala purana of Tiruppayitrundhar temple, a merchant once came with a cartload of pepper. He worshipped the lord and asked him to change the pepper into paasipayiru (green gram lentils) at the time of payment of the tariff, so that he could pay a lower amount. The Lord Muktapureeswarar granted his wish and changed the pepper to payiru. Since then, the lord has been known as Tiruppayitrundhar, Lord of the Divine Pulses.

### ***Medicinal Uses***

Green gram soup is recommended during convalescence. It is good for lactating mothers, and is useful to patients of facial paralysis and arthritis. Green gram flour is an excellent substitute for soap; it leaves the skin soft and smooth (Watt 1885).

# Hiptage

Botanical name:	<i>Hiptage benghalensis</i> (L. Kurz)
Common names:	Madhavi lata, Madhumalati (Hindi) Vasanta Kaala Malligai (Tamil) Madhavi, Atimukta (Sanskrit)
Habit:	Climbing shrub
Distribution:	Asia (temperate, tropical) Cultivated elsewhere

A large, handsome, woody evergreen climbing shrub found in forests all over India, the hiptage is a native of India, South East Asia, and the Philippines. Its flower is beautiful and often cultivated in ornamental gardens.

## ***Mythological and Religious Associations***

The plant was well known to ancient Hindus and is repeatedly mentioned in ancient Indian literature. The Ramayana (3.75.23, 24) describes the flowers of this plant at Pampa Lake.

In the stories of Krishna, Madhavi lata with its three-coloured flowers is found everywhere in Vrindavan, creating a wonderful atmosphere with its fragrance. It was said that ‘Vrindavan has atimukta trees, therefore the makers of garlands like it and those who desire liberation come to Vrindavan’.<sup>\*</sup>



*Hiptage*

There are also several legends about this plant. One of these is associated with Madhavi, daughter of King Yayati, the fifth ruler of the Moon Dynasty, who exchanged his old age for the youth of his son Puru to marry Asurvindumati. Very soon, a daughter was born of this marriage and was named Madhavi, the herald of spring. Madhavi grew up into a beautiful young woman. One night she heard a whisper: she followed the whisper and arrived at a mango tree. As soon as she touched the trunk, the mango tree turned into a young man who was the incarnation of Prajapati, the Creator. Prajapati embraced Madhavi and ever since the two have stayed that way. Since then, the mango tree is believed to be the symbol of life, and the madhavi creeper a symbol of love and spiritual success.

### ***Medicinal Uses***

Madhavi lata is a plant of great medicinal value, particularly useful for dermatitis. An application made from the flower is considered highly beneficial in scabies.

Its bark is aromatic and is used in medicine to cure rheumatism and asthma.

The leaves and bark are insecticidal and used in the treatment of biliousness, cough, burning sensation, thirst, and inflammation; it also has the ability to treat skin diseases and leprosy (Agharkar 1991, 203–04).

## Indian Beech

Botanical name:	<i>Pongamia pinnata</i> (Linn.) Pierre
Common names:	Dithouri (Hindi) Pungam, Pungai (Tamil) Karanja (Sanskrit)
Habit:	Tree
Distribution:	Asia (temperate, tropical), Australasia, Pacific

The Indian beech is indigenous to India and Sri Lanka. The generic name *Pongamia* comes from the Tamil name of the tree, ponga or pongam. The species name is a Latin word meaning feathered.

This tree grows so commonly along the coast of Maharashtra that there is a peninsula not far from Mumbai called Karanja after the tree.

It is a medium-sized tree attaining a height of 10 to 20 m, with a spreading crown and a grey-green bark with tubercles. It is native to India and is found along streams or the coast. It is an excellent avenue tree. It can grow in a variety of soils, ranging from sandy to black cotton soil.



*Indian beech*

The wood is commonly used as a fuel (Santapau 1966, 93; Laurie 1945, 17). The leaves are used as fodder for cattle. The green parts are also fed to cattle in Maharashtra (Singh 1982, 264). The extracted seed cake is used as poultry feed.

The wood is also used for making cabinets, carts, ploughs, and posts. It is used in oil mills and also as a source of pulp. The ash is useful in the dyeing industry. The leaves and twigs are widely used as green manure. The oil cake is rich in nitrogen and also used as manure. The seed yields yellowish-brown oil, which is used in soap making and as an illuminant (Sangwan, Rao, and Sharma 2010, 130–39).

Since it is a highly foliated shady tree, it absorbs more carbon dioxide and liberates oxygen, and thus acts as an important factor in controlling the oxygen balance in the atmosphere. It is resistant to drought and checks erosion. The tree is an excellent coppicer (Mathauda 1965, 563–65) to create small groves or woods. The oil has an antimicrobial activity. The tree is a good dust collector and also acts as an environmental purifier because the leaves act as a sink for dust and smoke particles and absorb 75 per cent of the dust particles from the atmosphere (Nayar, Ramamurthy, and Agarwal 1989, 31). It is suitable for reclamation of wastelands (Sastry and Kavathekar 1990, 231).

### ***Mythological and Religious Associations***

The Ramayana says that the Vanaras enjoyed playing on the ashoka, karanja, plaksa, nyagrodha, jambu, myrobalan, and naga trees (6.4.75).

According to the Mahabharata, Karanjanilaya is an ancient goddess of vegetation. The vegetative aspect of Lord Shiva is Durga.

According to the sthala purana of Karanja-aranyam, this site was once predominantly vegetated by the karanja. Hence the place came to be known as Karanja-aranyam. Lord Shiva-loganatha was enshrined under the karanja tree in the midst of the Karanja-aranyam and worshipped by all the gods, the Saptakannimaar (matrikas or mothers), saint Nandanar, and Viraminda nayanar. According to local belief, women worship Shiva and hang cradles on the branches of the pungai tree to be blessed with children, wealth, and prosperity.

The tree is associated with southern Vaishnava lore. Karanja Narasimhaswami is named after the tree. Hanuman, the monkey deity, once did penance to see Lord Rama in Ahobilam, where the lord appeared as Narasimha. Hanuman requested Narasimha to give darshan in the form of Rama. Narasimha obliged and, holding a bow and arrow under the karanja, gave darshan to Hanuman; thus the deity came to be known as Karanja Narasimhar.

Karanja is sacred to the goddess Varahi, consort of Varaha, boar incarnation of Vishnu. She is depicted with a boar's head and a woman's body. She wears a karanda makuta (headgear of *Carissa carandas*, with white or pink flowers and reddish-black berries) and coral ornaments. Her emblems are a plough and spear and her sacred tree is the karanja (Stutley 1985, 69).

### ***Medicinal Uses***

The leaves are an effective remedy for parasitic skin diseases. They are used to treat infected sores and bleeding piles. A hot water bath infused with the leaves relieves pain in the joints and cleans ulcers and sores. The fresh bark is used to stop bleeding. The root extract is applied on ulcers and other areas with abnormal secretions. The flowers are given as a treatment for diabetes.

The seeds are used to treat swelling of the air passage and whooping cough. The paste of the seed is applied to leprosy sores, skin diseases, and painful joints. The seed oil is used as an antiseptic, anti-parasitic, and cleansing agent. The oil of this plant is used in eye drops to improve eyesight. It is the main component in treating skin diseases accompanied by swelling, itching, and ulcers (Dastur 1962, 136; Shanmugam 1989, 592).



## Indian Butter Tree

Botanical name:	<i>Madhuca longifolia</i> (L.) J.F. Macbr.
Common names:	Mahuva, Mahuwa (Hindi) Iluppai (Tamil) Madhu-dugha, Mahua (Sanskrit)
Habit:	Tree
Distribution:	India, Sri Lanka, Myanmar

The generic name *Madhuca* is derived from the Sanskrit word madhu meaning honey.

The Indian butter tree is a common tree of India. It is a large, deciduous tree reaching 20 m in height with a spreading crown. It has thick leaves and small, fleshy, pale or dull white musk-scented flowers in clusters near the ends of branches. It is indigenous to central India, Gujarat, and the Western Ghats east of Chota Nagpur. It is common in the sub-mountainous regions of the Himalayas and is, at certain places, a chief constituent of forest vegetation. It is well adapted to arid regions.

It is often planted as an avenue tree and in temples.

The plant grows in deep loamy or sandy loam soils with good drainage. It also grows on shallow, stony, clayey, and calcareous soils.

Every part of the mahua tree can be used. It is used to build the massive temple chariots—not too many woods can withstand the immense weight. The wood is so strong that, when dried properly, it cannot be shaped by iron chisels. The wood is also used for temple doors, beams, window frames,

posts, furniture, sports goods, musical instruments like drums, oil and sugar presses, boat and ship building, and agricultural implements like rough axes and ploughshares.

The blossoms taste like pressed figs and ooze sweet juice, which can be used in drinks. The fruit is eaten as a vegetable, the inner skin ground into meal, and oil extracted from the seeds.

The wood of the tree purifies the environment and, on burning, the fumes emitted possess antimicrobial activity. It is a pollution-tolerant tree (A.K. Bhattacharya 1994, 658–69).



*Indian butter tree*

### ***Mythological and Religious Associations***

In ancient times, people derived food, intoxicants, and sugar from the flower of this tree. The wine made from its flowers is drunk by almost all the tribes of central India, and also used in their rituals.

Madhuka, the honey-plant, is called Madhu-dugha in the Rig Veda (VI.70.1–5) and madhuka in the Atharva Veda (I.34.4; VI.122, 3). In the Atharva Veda (I.34.5) it is a love spell; an intoxicating drink is made from its flowers.

This tree is mentioned in Valmiki's Ramayana as a charming tree of the Chitrakuta forest (2.94.9); of Panchavati (3.11.74); as also occurring as a great forest by itself where it was the dominant species (3.15.21). The sides of the deer Maaricha were the colour of madhuka flowers (3.42.17); growing around Pampa Lake (4.1.78); blooming in spring (6.4.79); and a tree of Rama's palace garden (7.42.3).

Mark you gloomy mahua forest, stretching over the boundless meadows,  
Pass that wood and turning northward seek an old Nyagrodha tree.

(Ramayana, 5.2.15)

Varahamihira's Brihat Samhita (54.119) gives detailed instructions on tank construction and recommends certain plant species to be planted on the embankment. According to him, the bank should be planted or shaded with the mixed plant species, which include white marudah, banyan, mango, pipal, Indian oak, Indian black plum, palmyra palm, ashoka, Indian butter tree, and Indian medaller among other plants (Bhat 1981, 1066).

Madhuvana is the region of Asura Madhu and his son Lavana (Brahmanda Purana, 3.63.186), sacred to Hari on the bank of the Yamuna. Here, Ambarisha offered prayers by abhisheka to Hari. Here Satrugna killed Lavana and founded the city of Madhura (Bhagavata Purana, 9.4. 30–31), which is modern Mathura.

According to the Bhagavata Purana, Dhruva performed tapas and was visited by Hari in the forest of madhu, a reference to the city of Madhura on the Yamuna. The Harshacharita also refers to this tree.

There is a folk tale about the birth of the mahua. One day, Shiva thought about humans. He wondered how they would offer wine to gods and goddesses without mahua trees. He called the parrot, the tiger, and the boar and instructed them to become mahua trees. In the month of Chaitra (mid-April to mid-May), flowers blossomed on the mahua trees. Flocks of tiny birds came to peck at the flowers and eat them. After eating no more than two or three flowers, they began calling out loudly and raising a din. The people decided that there was definitely some intoxicant in the flowers, or else the birds wouldn't make such a noise. People now began making wine from the same flowers, and began using the brew at all festivals and ceremonies. If a man drinks a tiny quantity of mahua wine, he becomes a parrot and says the same thing over and over again. If he drinks a little more, he becomes a tiger: he doesn't speak, he roars. If he drinks still more, he becomes a boar and rolls on the ground.

According to a local myth, Baba Gorakhnath resides in the mahua tree and is worshipped in Moradabad, Bijnaur, Rampur, Meerut, Bulandshahr,

Muzaffarnagar, Saharanpur, and Jyotibaphule Nagar districts.

The tree is worshipped by the Mundas and Santhals of Bihar during weddings. It is highly respected by many tribes of Madhya Pradesh. The bride and bridegroom of the Bhuyias hold a small branch during their wedding. The Gonds hang the dead bodies of their relatives on a branch of this tree before burying them.

In ancient India, beautiful garlands were made out of mahua flowers at the time of the swayamvara (the ancient practice of choosing a husband from among a list of suitors by a girl of marriageable age) (Upadhyay 1964, 15–34).

Kalidasa has spoken very highly of the beauty and delicacy of the flowers and describes Parvati wearing a garland of mahua flowers at her wedding in his drama *Kumarasambhava*.

The tree is considered a boon by tribals who are forest dwellers and they are keen conservators of this tree. However, the conservation of the tree has been marginalized as non-tribals do not favour propagation of this tree.

Many tribes make the bride and bridegroom walk around a post fixed in the centre of the marriage shed, and each group selects their special holy tree for this purpose. Binjhvars in the Central Provinces plant a trunk of the mahua tree, with two branches, in the marriage shed. The Kurmis place two posts, one longer than the other, to represent the bride and the bridegroom. The most significant example of a marriage pole is from the rituals of the Bhavads of Gujarat. The tree is decorated and the astrologer orders the chief to cut his little finger and mark the stem with blood.

The Mahobia group, whose name is derived from the town of Mahoba, has adopted the mahua tree as its totem. The people dig a small hole in the ground, place in it a little water and the liquor made from mahua flowers, and worship it.

The mahua tree is much revered by the Bhatra tribes of Bastar and south Raipur district of Odisha. Marriage ceremonies are performed by walking around this tree.

The Kol and Lodha tribes used to follow a custom of marrying a young girl to the mahua tree and her groom to the mango tree. The bride and

groom have to walk several times around a tree before the marriage is solemnized. The bride smears vermilion on the mahua tree and embraces it. The groom performs a similar ceremony with a mango tree.

People of the Koya tribe of Malkangiri district in Odisha do not cut or climb the mahua. It is taboo. This tree is worshipped in almost all festivals and ceremonies. It is also called the mullo, which means origin or central. Thus, the Koya consider mahua to be central to their culture and life. The mahua used as a funeral pyre for Koya is considered to be sacred.

Held sacred by the forest tribes, the mahua tree is intimately linked to death: an adult may be cremated under it. Like the bamboo, mango, champa, bilva, and some other trees (Crooke 1926, 404–18), the mahua is also an integral element of the ordinary marriage rituals of many castes and tribes, such as the Bagdi, Kurmi, Munda, and Santhal. The mahua is both a sacred object and a sustenance provider for the tribals of Chhattisgarh. The Kharwars have a sacred mahua tree, known as the Byahi Mahua or ‘mahua of marriage’, on which threads are hung at marriages.

Its virtue is celebrated in numerous folk songs from central to eastern India (Randhawa 1983, 185). It is believed that demons and evil spirits avoid this tree.

There is a proverb in Odisha: ‘Give me your mahul tree, I will pay you liquor and money.’

It is said that Tiruvalluvar, author of the famous south Indian tome Tirukkural, was born under the shade of the sacred iluppai.

This tree is associated with Lord Shiva. Madhuka is one of his names. The Neelakanth-eshwara temple at Iluppaipattu (town of the Indian butter tree), Nagapattinam district, Tamil Nadu, has been praised in song by the Tamil Thevaram saints. According to the sthala purana, Shiva instructed the tree to grow on the south-eastern side. The tree obeyed and, in turn, requested the lord that its oil should be used daily to light the temple lamps, and that it should be found throughout the Chola country. It was blessed accordingly. Thus, the village got the name Iluppaipattu or Madhukavana. Another legend says that sage Romasa advised the Pandavas to visit this

sthalam (place) and light lamps with iluppai oil and obtain the blessings of Lord Shiva.

A Tamil proverb says: *aalai illa oorukku illuppai poo sarkarai*, which means that ‘in a village without a sugar mill, the flower of the Indian butter tree is the sugar’.

A folk song, the ‘Song of Separation’, from Rajasthan says:

The parrots and peacocks are calling;  
Jewel among knights;  
Turn your horse just once;  
The mahua flowers drip mahua juice;  
My jewel of a knight, turn your horse just once ... (Patnaik 1993, 118)

### ***Medicinal Uses***

Traditionally, different parts of the mahua have been used in medicine to treat several ailments.

A decoction made out of the bark can cure itching, bleeding gums, and ulcers. The leaves can arrest bleeding, and the ash of the leaf mixed with butter can provide relief from burns. The flowers help cure cough and swelling in the respiratory tract. The seeds promote formation and flow of milk. The oil extracted from the seeds is applied to counter skin diseases (Dastur 1962, 105). It is also used in food as a substitute for ghee, and in the manufacture of margarine (A.K. Bhattacharya 1994, 658–69).

# Indian Cadapa

Botanical name:	<i>Cadaba farinosa</i> Forssk.
Common names:	Kodhab, Dabi, Kadhab (Hindi) Viludhi, Vizhuthi, Veeli (Tamil) Chekurti (Sanskrit)
Habit:	Shrub
Distribution:	Africa, Asia (temperate, tropical)

The Indian cadapa is a shrub without thorns, straggling and usually with many branches.

## ***Mythological and Religious Associations***

Goddess Parvati was born as Katyayani and married Lord Shiva at Tiruveelimilalai (town of the Indian Cadapa), Nagapattinam district, Tamil Nadu. Vishnu received the cosmic chakra from Lord Shiva at this place after worshipping him with 1000 flowers. The place name Tiruveelimilalai is believed to have come from two legends, which took place here.



*Indian cadapa*

One legend says that this place was once a forested area, rich in sandalwood, champak, jackfruit and veeli, among which the veeli plant was

prominent. Hence, it was called the veeli forest. The second legend involves a hunter named Milalai Kurumbar lived here and would daily offer a wood apple fruit to Lord Shiva. Seeing his devotion, Lord Shiva gave darshan to Milalai Kurumbar. Lord Shiva is named after the veeli shrub and thus got the name Veelinathar. The plant is said to be associated with Lord Shiva from as early as the Dwapara Yuga (*Tiruveelimilalai sthalapuranam*).

### ***Medicinal Uses***

The extract of the leaves taken with castor oil and ghee expels intestinal worms. The leaf juice, when consumed, expels worms of the rectum. The extract of the roots is taken to strengthen the uterus (Shanmugam 1989, 739).



## Indian Cherry

Botanical name:	<i>Cordia myxa</i> Roxb.
Common names:	Bara-lasora, Chokargond, Lasura (Hindi) Uddhala, Utkala, Vidimaram (Tamil) Sleshmaataka (Sanskrit)
Habit:	Tree
Distribution:	India, Iran, Pakistan

According to Monier William's Sanskrit–English Dictionary, the Sanskrit name of the uddala is sleshmaataka, and in English it is called clammy cherry or Indian sherry. The generic name *Cordia* is in honour of German botanist Valerius Cordus. The species name *myxa* means mucous in Greek.

A small- or medium-sized evergreen tree, it is found in a variety of forests ranging from dry deciduous to moist deciduous. It is found singly in moist and shady riverine valleys. Deep, moist sandy loam soils are the best for its growth.

The leaf is good fodder for cattle. It requires strong light and is resistant to drought. It is a suitable tree for afforestation of arid regions (Singh 1982, 108–13). The fruit is sticky, sweet, and edible. The bark is a source of fibre used for caulking boats (Krishnamurthy 1993, 190, 383).

### ***Mythological and Religious Associations***

The Ramayana describes the sleshmaatakavana, the forest of sleshmaataka trees, around Gokarna, where Shiva was concealed as a stag. The Ramayana describes wooden ritual posts, one of which was made of sleshmaataka wood as stipulated (1.14.22–23).



*Indian cherry*

The Indian cherry is mentioned in the Mahabharata (49.2) and by Sushruta.

According to the sthala purana of Ukthavaniswarar temple at Kuthalam, Nagapattinam district, Tamil Nadu, Lord Shiva (Ukthavaniswarar) came to this place to marry Goddess Parvati. While he was here, the Vedas came forth in the form of an umbrella and later became the sacred tree. This tree has never borne flowers and, if it should flower, the local people believe that it would be an omen of a good or bad event in the village.

The town of Kuthalam is also named after the ukthala tree.

### ***Medicinal Uses***

The leaves and stem have an antimicrobial effect (Mahour, Kumar, and Andvihan 2008, 11–13). An infusion of powdered leaves is used to treat wheezing. The leaf extract is applied on pimples and boils. The juice of the bark is mixed with coconut milk for treating stomach aches (Asolkar, Kakkar, and Chakre 1992, 231). A decoction of the bark is used to gargle (Shanmugam 1989, 473; Dastur 1962, 63).

## Indian Gooseberry

Botanical name:	<i>Phyllanthus emblica</i> Linn.
Common names:	Amla, Amlika (Hindi) Nelli (Tamil) Amalaka, Dhatri (Sanskrit)
Habit:	Tree
Distribution:	Indian subcontinent, China, Indonesia, Thailand, Myanmar, Vietnam

It is a small- to medium-sized tree with a rounded crown that attains a height of 9–13 m and has leathery leaves and fleshy fruit. It is commonly found in the mixed dry deciduous forests of the Indian peninsula. It is also cultivated in gardens at home. It is native to India, Sri Lanka, and parts of Burma and can grow in a variety of soils.

The twigs contain tannin. The pulp of the fruit yields a dark brown dye. The fruit is edible and mostly used to make pickles, preserves, jellies, and curries (Krishnamurthy 1993, 55, 197, 348).

The leaves are used as green manure and improve the alkaline content in the soil. It is tolerant to combined gaseous pollutants such as the oxides of sulphur, nitrogen, and carbon emitted from petrochemical and thermal power plants (A.K. Bhattacharya 1994, 658–69).

### *Mythological and Religious Associations*

Amalaka, one of the Sanskrit names for this small tree, translates as ‘The Sustainer’ or ‘The fruit where the Goddess of prosperity resides’. In Hinduism, the tree is worshipped as the Earth Mother, its fruit considered to be nourishing for mankind. The other Sanskrit name, dhatri, means nursing mother.



*Indian gooseberry*

According to MacDonell and Keith (1982, 30), the name of the tree amalaka (*Embllica officinalis*) is mentioned in the Jaiminiya Upanishad Brahmana (I.38.6) and also in the Chandogya Upanishad (7.3.1) denoting the myrobalan fruit. Amalaka is among the plants depicted in the bas-reliefs of the Sanchi stupa.

It is also called amla or amlaka, a medicinal plant, and classified as such by Charaka Sutrasthana (2.26); and Sushruta Sutrasthana (46.139), and the Kurma Purana (I.12.203; 9.10; 49.64).

According to the Uttara kanda of the Padma Purana (47.7–11), when the whole earth was submerged and Brahma was astonished at the deluge, saliva dripped from his mouth out of which the amalaka tree emerged.

The Skanda Purana narrates that once upon a time, when the whole earth was submerged in water and Lord Brahma was immersed in meditating upon Vishnu, he became so emotional that tears started rolling out of his eyes and down upon the earth, and from those tears germinated the amla tree. It was the first tree to manifest itself on the earth, therefore it is known as adiroha or pre-eminent tree.

Lord Vishnu liked this tree very much. One day, while the gods were looking at the amla tree, they heard a voice from the sky: ‘This amla tree is supreme among all the trees because it is dear to Lord Vishnu. By seeing

the amla tree we attain twice the benefit that can be obtained by donating a cow. Eating an amla fruit gets one thrice the benefits that can be obtained by the donation of a cow. Hence, all efforts should be made for its preservation.'

It is believed that one who has performed pindadaana (feeding the ancestral spirits) under this tree gives salvation to the souls of the dead. Ghosts and other evil spirits do not trouble a house where amla fruits are kept.

One who is desirous of acquiring wealth should bathe in water mixed with the juice of the amla every day. A person who washes his hair with the juice of the amla mixed with water attains Vishnuloka by destroying all the sins committed in this yuga (Skanda Purana, 2.4.12.13).

According to the Varaha Purana, the King Nirga observed the vow of fasting on amalaki ekadasi (eleventh day of the waxing moon). While he was sleeping under the tree that night, his enemies attacked him, and from his body emerged Ekadasi who killed all his enemies and merged with his body again (Swami 1986, 57–61).

The tree is worshipped on Shivaratri day, when red and yellow threads are tied around its trunk, and flowers and fruits are offered to the tree, as in any other form of worship.

It is considered to be one of the most sacred trees in Gujarat. In the month of Kartik (October–November) women worship the tree with flowers, sandal paste, and vermilion, particularly on the ninth day of the month, called akshaya (eternal) navami (ninth day after the new moon), when women worship it for giving birth to sons. They circumambulate the tree five times, tying a sacred thread around its trunk each time.

Amalaki is a plant, which transformed itself into a beautiful woman to attract Vishnu away from the charms of Vrinda. The tree is very sacred to the Hindus and credited with magical properties by tribals.

On akshaya navami, a special offering is made to this tree. Brahmanas are fed beneath its shade. This brings boundless merit (punya) to the host. The members of other castes cook their food sitting in its shadow and take their meal there. Where no large trees are available, a sapling serves the

purpose. It is considered meritorious to offer a white pumpkin to the Brahmanas as a gift. A small portion of the pumpkin is cut out and some small pieces of gold, silver, and brass are put into the hole. It is covered with a new cloth and presented to the priest who accepts this as gupta-daan (secret gift), blessing the donor to have a male child.

In Tamil Nadu, it is worshipped by women on Shivaratri. Red and yellow threads are wrapped around it and flowers and fruits are offered to it as in the worship of a deity. As in Gujarat, women worship the tree on the ninth day of Karthikai, called akshaya navami, to be blessed with a male child. An offering of sandal paste and vermilion is made, and they circumambulate the tree five times winding a sacred thread around its trunk each time.

This tree is sacred to both Shiva and Vishnu. It is also associated with Lakshmi and Parvati. Lakshmi, the goddess of prosperity, is believed to reside in the fruit which is therefore worshipped as Mother Earth (S.M. Gupta 1991, 38). The Indian gooseberry is sacred to all Hindus, for it is associated with fertility (Dwivedi and Tiwari 1989, 158–86).

The plant also has medicinal value and is supposed to be planted on the southern side of the temple (Birdwood 1992, 87), (*Subrahmanya swami temple sthala purana, Swamimalai*).

According to Tamil mythology, King Adhiyamaan gave a divine gooseberry to the saint Auvaiyaar to immortalize Tamil language and literature.

### ***Medicinal Uses***

The fresh and dried bark, leaves, flowers, fruit, and nuts are used to prepare medicines. The fruit is rich in vitamin C and is used to treat deficiencies. The fruit juice, when mixed with honey and taken daily, prevents tuberculosis, asthma, bronchitis, bleeding of the gums, sugar complaints, blood infection, cancer, stress, and tension and is said to be a good liver tonic.

The raw fruit has a cooling effect on the eyes and body and loosens the bowels. Fermented liquor obtained from the fruit is used to treat indigestion, jaundice, and nasal complaints (Shanmugam 1989, 516–17; Dastur 1962, 80). The fruit has anti-cancerous properties. Various parts of this plant are used to treat toothache, fever, anaemia, nervous disorders, sores, pimples, and sterility in women (Asolkar, Kakkar, and Chakre 1992, 291–92).

The bark mixed with onion juice is an effective antidote for the sting of a scorpion (Sudharshan, Yellappa Reddy, and Gowda 1993, 10).

## Indian Jujube

Botanical name:	<i>Ziziphus mauritiana</i> Lam.
Common names:	Ber, Pemdiber (Hindi) Ilanthai (Tamil) Badari, Badara, Karkandhu (Sanskrit)
Habit:	Tree
Distribution:	India Naturalized in Africa, Asia (temperate, tropical), Australia, North and South America

*Ziziphus* comes from the Arabic word zizouf meaning nut-bearing lotus. Ziziphon is Greek for jujube, an edible plum-like fruit. Zizyphum, the Latin word, means the same thing.

It is an evergreen deciduous tree, growing up to a height of 10 m, with a greyish-black, rough, and cracked bark. It is found mostly in wild and semi-wild conditions. It is not affected by frost or hot dry weather. It develops a deep root system, which enables it to withstand drought conditions.

The fruit is edible and the semi-ripe fruit is used for preparing pickles. The bark yields a red dye. The stones (endocarp) or seeds are made into bracelets (Krishnamurthy 1993, 239, 364, 458). The leaves are used as fodder. The wood is used for making agricultural implements, wheels, and charcoal.



The tree is a host plant for the lac insect *Tachadia laccad*. The leaves can be used to feed the tussar silkworm. The resinous encrustation from these insects is used to produce shellac (R.K. Gupta 1993, 521).

### ***Mythological and Religious Associations***

There is a mention of karkandhu, another name for the badari, in the Rig Veda (I.112.6).

According to the Atharva Veda and Kaushitaki Sutra, kudi, identified as the badari twig, was tied to the body of the dead to efface their traces, presumably to render the return of the spirit to the old home difficult. It is the common word for jujube, the tree (*Ziziphus jujuba*) and the fruit, from the Yajur Veda onwards (Kathaka Samhita, 3.2, 2; Vajasaneyi Samhita, 19.23.91; 21.32; 24.2).

According to the Ramayana, the tree is hardy because when Rama and Lakshmana were searching for Sita, they came across a badari tree and asked the tree whether it had seen Sita anywhere. The tree answered in the affirmative and said that it had even tried to save her by holding on to her clothes. It pointed to a rag entangled in its branches and said that it was a part of her dress. The tree then pointed to the direction in which Sita had been abducted by Ravana. Rama blessed the tree for having tried to save Sita and gave it a boon that it would not die in any circumstances. It can even grow out of a single root or fresh leaves and branches; thus it obtained the ability to grow in arid zones.



*Indian jujube*

According to the Ramayana, Sabari was a poor tribal woman who was a great devotee of Lord Rama. She offered the badari fruit to Rama when he

was searching for Sita in the forest. Before offering the fruit to Rama, the poor devotee tasted each and every fruit to confirm that it was fully ripe. Rama accepted the fruit, which had been tasted by Sabari, saying that if anything was offered to him with a pure heart and genuine love, it was clean and pure. Since then, the badari fruit has been regarded as sacred and is included in religious ceremonies and offered to various deities.

One day, Rishi Bharadwaja saw the large-eyed apsara Ghrithachi as she passed him by and, seeing her youth and beauty, dropped his vital seed. From his seed placed in a cup was born a girl of unrivalled beauty. Her father, the ascetic Bharadwaja, named her Sruravati. As she grew up, Sruravati led the life of a Brahmacharini and practised severe austerities to obtain Indra, the lord of the celestials, as her husband. Finally, Indra assumed the form of Rishi Vashishtha and came to the hermitage. Beholding the foremost of ascetics, Sruravati addressed him: ‘O adorable one! O tiger among ascetics, tell me your command. O you of excellent vows, I shall serve you according to the measure of my might. I will not, however, give you my hand in consequence of my regard for Sakra. I am gratifying Sakra, the lord of three worlds with vows and rigid observances and ascetic penances.’ Hearing this, the illustrious god answered: ‘You practise penances of the most austere kind. Everything is attainable by penance. Penance is at the root of great happiness. Those men that cast off their bodies after having practised austere penances obtain the status of gods. Bear in mind these words of mine. Now, O blessed damsel, boil these five badari.’

To test Sruravati’s devotion, Indra obstructed the boiling of the badari. Sruravati, having cleansed herself, began her task and started boiling the five badari given to her by Sakra in the guise of Rishi Vashishtha. Seeing that the fire was about to die out, Sruravati began to burn her own limbs to provide fuel for boiling the badari fruits. The words of the rishi—‘cook the badari well’—were fresh in her mind and she continued to cook those five badari fruits, though the latter showed no signs of softening. At last her feet were consumed by Agni. Beholding this sacrificial act of hers, the lord of the three worlds appeared before her in his true form and said: ‘I am

gratified with your penance and vows. Casting off your body, O blessed one, you shall live with me in heaven.'

Another story that mentions the sacredness of the badari relates to the visit of Shiva to Arundhati, the wife of the rishi Vashishtha. Seven rishis lived with Arundhati in Vadarapachana. Once, the rishis left Arundhati and went to Himavat to gather fruits and roots for sustenance. While they were living in a forest on Himavat, a drought occurred and extended for twelve years. The ascetics had already built an asylum for themselves, so Arundhati continued to live alone, devoting herself to penance. Pleased at her devotion, Shiva, assuming the form of a Brahmana, visited her and asked for alms. Arundhati told him that her store of food had been exhausted and asked him if he would eat the badari fruit. Mahadeva asked her to cook the badari for him and Arundhati did so. At the end of the twelve years of drought, the seven rishis returned from the mountains with fruit. Mahadeva then appeared before them in his true form and praised Arundhati for her penance of cooking for twelve years and surviving. He granted her a boon that the tirtha Vadarapachana would be the favourite resort of siddhas and rishis.

Badari fruits are offered in worship mainly to Shiva. The holy River Ganga is believed to rise from the roots of a great badari tree on Mount Kailash.

Duli Chand, a nobleman of the town of Patti, a town in Tarn Taran district of Punjab, had four married daughters and one unmarried one. One day, the five sisters went on a picnic and saw some sadhus singing devotional songs. The youngest sister, Rajni, was so moved that she removed her jewellery and distributed it among the sadhus. When the sisters came home, Duli Chand saw the bare arms and neck of his youngest daughter and was told that she had given away her jewels to sadhus. Infuriated, the father summoned all five daughters and asked, 'Who cherishes and protects you? Who gives you food, clothes, and jewellery?' The four elder sisters answered promptly: 'You, Father.' 'God is my protector,' said the youngest. Duli Chand's anger increased. He found a deformed leper and married the youngest, Bibi Rajni, to him. Bibi Rajni

went from village to village begging for food for her husband and herself. She took her husband to each temple on pilgrimage. One day, Bibi Rajni made her husband comfortable under a badari tree on the bank of a waterhole and went to beg for food. The leper sat under the tree and watched the pool of water. He saw the miracle of jet black crows diving into the water to cool off and emerging a glistening white. He dragged himself to the edge of the water and timidly dipped his body in. With his little finger, he held on to a branch of the ber tree. He was cured immediately, his body coming out whole from the pool. When his wife returned, she did not recognize her husband. Her husband told her what had happened and the happy couple told Guru Ram Dass Ji the story which he repeated to Baba Budha Ji, saying that the pond was the same holy place about which Gum Amar Dass Ji had foretold. The tree under which the leper was sitting came to be known as Dukh Bhanjani Ber as it relieves pains and afflictions, and a gurdwara has been built nearby, a part of the Golden Temple complex in Amritsar. A tank was built around this pool and has, till today, the reputation of miraculous healing. The ber tree on its bank is still known as the Dukh Bhanjani Ber.

Badari is also sacred to Vishnu, who is called Badarinath, Lord of Badari. The town of Badrinath, a place of pilgrimage situated over 3000 m above sea level, derives its name from the badari tree. There is a sulphurous spring there and the ancient tree cult is still associated with it.

The ber tree is found in the Sikh temples at Achal Vatala, Sultanpur Lodhi, Dukhbanjani, and Amritsar, among other places. Many of them are associated with Guru Nanak who said, 'O God, you are an infinite tree and I am a bride under thy protection.' Other trees are associated with Guru Gobind Singh, Guru Arjan Singh, Guru Hargobind Singh, etc. The sacredness of the tree was derived from its association with the gurus (Kaler 2012, 5).

According to the sthala purana of the Pranavavyakrapureeswarar temple at Omamampuliyur in Cuddalore district of Tamil Nadu, the goddess Sivakamasundari was cursed by Lord Shiva to be born on earth to know the meaning of the pranava mantra Om. She undertook a penance under the

ilanthai tree at Omamampuliyur. Shiva appeared here as the guru Dakshinamurti and explained the meaning of Om. Lord Dakshinamurti stands in the moolasthanam, between the Shiva lingam and the goddess (information given by O.N. Venkatesa Gurukkal, Omamampuliyur).

According to another myth, when Radha learnt of Krishna's dalliance with Tulsi, she cursed Tulsi to be born on earth. An aggrieved Tulsi prayed to Brahma to grant her a boon that she should become the wife of Krishna and eventually be reunited with Lord Narayana. In due course, Tulsi was born as the daughter of King Dharmadhavaja and Queen Madhavi. She went to the badari forest to commence a severe penance to attain Lord Narayana as her husband. Her penance lasted 1,00,000 divine years, during which time she lived on fruit and water for 20,000 years, on leaves for 30,000 years, on air for 40,000 years and on nothing for 10,000 years, standing on one foot all the while (Oppert 1972, 352).

Ilanthai fruits were eaten by the Chalcolithic people (1500–1000 BCE) and have been in cultivation for the last 400 years both in India and China. In India, the medicinal uses and consumption of wild plants dates back to ancient Vedic and post-Vedic periods as evidenced from literature like Vrikshayurveda, Charaka Samhita, Sushruta Samhita, and Astanga Hridayam Samhita. Compared with the rest of the world, India has 15,000 species of vascular plants, among which 600 species are threatened by extinction due to rapid degradation and exploitation. There is also a growing concern over dwindling tribal cultures and vanishing ethno-botanical values (Rawat 1992, 66–69).

The badari is sacred to Shiva and Vishnu (Birdwood 1992, 87).

### ***Medicinal Uses***

The leaves are boiled with milk and consumed to heal poisonous wounds in the urethra; boiled leaves are applied over the navel and the bones of the pelvic region to ease difficult urination. An infusion of the leaves is used as an eye lotion. A paste made from the tender leaves and twigs is applied to boils and carbuncles (Shanmugam 1989, 77–78).

The bark is bitter and used to stop continuous bleeding. It is a household remedy for diarrhoea and dysentery (Bakhru 1993, 236).

The berry is a blood purifier and aids digestion. The dried fruit is a mild laxative and expectorant. The seeds are given with buttermilk to settle bilious disorders. An ointment made of the seeds with some bland oil is applied locally to reduce pain (Dastur 1962, 180).

The berry's juice can increase hunger and make one feel refreshed.

## Indian Laburnum

Botanical name:	<i>Cassia fistula</i> Linn.
Common names:	Kirala, Amaltas (Hindi) Konrai, Konnai (Tamil) Aragvadha (Sanskrit)
Habit:	Tree
Distribution:	India, Sri Lanka

The Indian laburnum is native to tropical Asia. The generic name *Cassia* is mentioned in *De Materia Medica* written by Dioscorides (circa 40–90 CE). The species name *fistula* means pipe, referring to the long pipe-shaped pods.

It is a small- to medium-sized deciduous tree with an irregularly rounded crown, attaining a height of 9–11 m. The trunk is smooth and greenish in colour when young, turning dark brown and rough at a mature stage. It is a tree native to India, found in both evergreen and dry deciduous forests.

The wood is hard and used to make carts and agricultural implements. The bark is used in tanning.

The flowers are used as food by the Santhals of Bihar (Randhawa 1983, 129).

It is drought-resistant and an excellent avenue tree. It is tolerant to atmospheric pollutants and acts as a climate purifier. It also acts as an air cooler by liberating 10–20 litres of water per day per tree (of average height), through transpiration and thus has a cooling effect on the environment (Nayar, Ramamurthy, and Agarwal 1989, 35–36).

### ***Mythological and Religious Associations***

The Mahabharata says that Indraprastha was decorated with gardens, waterfalls, and many trees. Amaltas, the rajavriksha, was one of them. Reference to the tree can be found in ancient Sangam literature. In the Tamil epic Silappadikaaram, Lord Krishna is described as playing a flute made of the laburnum pod.

The golden colour of the flowers and long seed pods of Indian laburnum is cited in Sangam literature, where they are compared to the kinkini, an anklet of globular bells depicted in the Pallava sculptures of Mahabalipuram.

It is believed that whenever Shiva embarks on a heroic mission, he wears garlands made of laburnum flowers. According to the Shivamanjari, the Nayanmars, Shaivite saints of Tamil Nadu, consider this tree to be an incarnation of Lord Shiva. As the flowers look like the mystic symbol Om, the tree is called omkaramalar (Om flowers) and sometimes pranava pushpam. Tevaram songs of the Tamil saints have countless references to the bright flowers decorating the lightning-like locks of Shiva. Appar hails Shiva thus: ‘the Lord who wears konrai blooms on His matted hair’. Sundarar describes Shiva as ‘adorned with strings of konrai, that carefully guard honey within’. The konrai is associated with Shiva, and its flower is his favourite flower in Tamil tradition. The flowers are offered to Shiva during the midday puja.



*Indian laburnum*

It is best known in Tamil lore as the flower that adorns Shiva, as the tree that blossoms at his feet, the foothills of Tiruvannamalai, and is praised for adorning Lord Arunachala of Tiruvannamalai.



According to the sthala purana of the Swetharanyeswarar temple at Tiruvenkadu, it is believed that by tying a twine and a cradle to the tree, one is blessed with children and wealth. Flowers of this tree are used during the celebration of Onam festival in Kerala.

### ***Medicinal Uses***

The leaf extract is used to treat ringworm and other cutaneous infections. Its tender shoots and fruits are used to loosen the bowels. A decoction of the flower is taken to destroy intestinal worms and other stomach problems, to stimulate urination, and to cure leprosy. The root extract is used to reduce fever, spasmodic abdominal pain, and vomiting. The bark and leaves, crushed and mixed with oil, are applied to pustules (Dastur 1962, 51; Shanmugam 1989, 288). According to Ayurvedic medicine, the tree has anti-venom and anti-toxic effects (Patnaik 1993, 69).

## Indian Laurel Fig

Botanical name:	<i>Ficus microcarpa</i> L.f.
Common names:	Kamrup, Pinwal (Hindi) Kallal, Kal-athi, Malai-ichi (Tamil) Plaksa, Nandivriksha (Sanskrit)
Habit:	Tree
Distribution:	Asia (temperate, tropical), Australasia



*Indian laurel fig*

It is an evergreen tree with a moderately spreading crown. It is usually found in hilly regions at a height of over 1200 m. The fruits are eaten by birds.

All species of *Ficus* can be considered as climate purifiers. This tree also functions as a filtering labyrinth for polluting gases and as a sink for polluting particles (Nayar, Ramamurthy, and Agarwal 1989, 36).

### ***Mythological and Religious Associations***

Women circumambulate the tree 108 times and tie cradles and threads around the tree trunk in order to be blessed with male children. In general, people circumambulate the tree to be blessed with wealth and prosperity.

The famous Shaiva saint Gnana Sambandar praised Lord Shiva here as one day he had seen the Lord Shiva under the kallaal tree (Indian laurel fig). The sacred kallaal is also called kal-athi, which is associated with Lord Shiva.

### ***Medicinal Uses***

Latex from the root is used in Ayurvedic medicine. The juice of the bark is used to cure liver disorders. A decoction of the bark is used to cure ulcers and leprosy (Tirugnanam 1995, 60–61).

## Indian Lavender

Botanical name:	<i>Guettarda speciosa</i> Linn.
Common names:	Sugandhit vriksh (Hindi) Panneermaram, (Tamil) Hinma, Dharu (Sanskrit)
Habit:	Tree
Distribution:	Africa, India, Pacific, China, Malaysia, Indonesia, the Philippines, Australia

It is a small tree, with a whitish bark, and grows up to a height of about 3 m. The white flowers are small and fragrant. As it blooms at night, the entire surroundings are well scented.

The wood is used to make furniture.

Because of its lovely scent, the flowers are used in temple rituals and to make garlands for the gods. The fragrance clears any bad odours around the temple.



*Indian lavender*

### ***Mythological and Religious Associations***

The Indian lavender is sacred to both Shiva and Vishnu and is used in all temple rituals.

The vibhuti (sacred ash) given to the devotees at Tiruchendur (Tuticorin district, Tamil Nadu) is wrapped in lavender leaves.

### ***Medicinal Uses***

Juice extracted from the flower is used to treat nausea and excessive thirst. A paste of the leaves is applied to pustular swellings in children. The wood is used to treat dysentery (Shanmugam 1989, 552).

## Indian Lotus

Botanical name:	<i>Nelumbo nucifera</i> Gaertn.
Common names:	Padma, Kamala, Kumuda (Hindi) Tamarai (Tamil) Abja, Saroja, Pundarika, Kamala (Sanskrit)
Habit:	Aquatic herb
Distribution:	India, Iran, China, Vietnam to Japan, Malaysia, New Guinea, Australia

The generic name *Nelumbium* means water bean. It is a neo-Latin word, coming from the Singhalese nelumbu. The word lotus is derived from the Greek lotos. The Sanskrit names abja and saroja mean ‘born of water’; kamala means ‘rosy, desirable, excellent’, while pundarika means white lotus.

The lotus is a beautiful flower famous for its tenderness, fragrance, and surpassing beauty. Many celebrated Sanskrit poets have sung hymns in praise of this wonderful flower. It is regarded as the perfect symbol of beauty, purity, prosperity, and unity. It smiles to see the shining sun and closes its eyes (petals) in the darkness of the night. It is a beautiful shrub, which grows throughout India in all water bodies and in moist conditions.

The lotus is a symbol of enlightenment, plenty, and good fortune. The lotus is the national flower of India—the petals represent the flourishing of cultures, religions, and countries that surround India.

Plant parts such as the seed, flower, and rhizome are eaten raw. Lotus leaves are used as plates in rural areas. Lotus seeds are strung together to make rosaries while leaf stalks are used to make wicks for temple lamps. The main use of the plant, however, comes from its flowers, which are used for decorative purposes and during religious rites.

### ***Mythological and Religious Associations***

The Rig Veda (X.142.8) mentions the blossoms of the lotus. The Atharva Veda (X.8.43) compares the human heart to the lotus. Panchavimsha Brahmana (XVIII.9.6) states that the lotus is born from the light of the nakshatras. The Taittiriya Brahmana says that Prajapati, designing to evolve the universe, which in the beginning was fluid, saw a lotus leaf standing erect out of the water. It adds that when the universe was still fluid, Prajapati alone was produced on a lotus leaf (Hastings 1915, 142–46). Later, this description is used to illustrate the icon of Padmanabha, when Brahma or Prajapati is born on a lotus which issues out of the navel of Narayana, who lies on the primordial ocean.

The Ramayana frequently mentions the lotus. It is believed that the water of the Ganga was covered with lotus flowers (2.50.20). Here, a specific lotus is referred to (3.15.1), one whose flowers are as glorious as the sun, one that is large and open the whole day, charmingly fragrant and adorning a whole lotus lake. Pampa Lake overflowed with many lotus flowers that were pressing down on the water (3.75.20–21). Different types of lotuses growing together are called padma saugandhika: a very fragrant padma (which may be the same as that mentioned in 3.15.11), the copper-coloured tamara; the second one was white in colour, forming a white zone; the third was kuvalaya or blue, forming a showy clump with aravinda and utpala. All the varieties were plentiful, in separate clumps, that the whole lake appeared to be painted with many colours. Pampa Lake was covered with nalina, yet another type of lotus (4.1.7), the wind-bearing fragrance of padma saugandhika (4.1.104), water reservoirs charming with fully blown

padma saugandhika, kumuda, and utpala. Rama's chariot was as steady as the stalks of padma flowers (6.107.16).

The Mahabharata narrates a story about the lotus plant. One day, Indra led a group of hermits on a pilgrimage. On their way, the pilgrims passed by Brahmāsaras where sage Agastya lived. Indra was seized with a sudden desire to listen to a discourse by the sage. Agastya had planted lotus flowers around his hermitage. Indra and the other sages plucked and ate all the flowers that Agastya had tended to carefully. The sage learnt of the theft when he returned from the forest to his hermitage. He pursued the pilgrims and, when he caught up with them, identified Indra as the thief. Agastya launched into a long diatribe about duty and morals. Indra listened in satisfaction. When Agastya had finished, Indra said, 'O Sage, had it not been for my eagerness to hear a discourse on duty from you, I would not have stolen your lotus flowers.' So saying, he made the flowers appear again in the hermitage. Agastya was pleased and let Indra and the hermits depart in peace (Gandhi and Singh 1989, 166).



*Indian lotus. 3rd century BCE, Sanchi, Madhya Pradesh*

There is a story in the Mahabharata that a lotus sprang out of Vishnu's forehead, out of which came Shri, another name for Lakshmi; hence it is known as Shripushpa. It also says that the River Mandakini and the Lake Nalini were covered with lotus flowers.

The pundarika (white lotus) is believed to be the plant of enlightenment of Rishi Sikhi (S.M. Gupta 1991, 10).



When the year ends, puja with milk, herbs, and lotus flowers is offered to the gods (S.M. Gupta 1991, 7).

The lotus is sacred to Hindus, Buddhists, and Jains. The lotus flower is the centre of the universe. Lord Vishnu is represented with a lotus emerging from his navel (hence the name Padmanabha meaning 'lotus navel'), on which sits Lord Brahma (S.M. Gupta 1991, 58).

Lakshmi, the goddess of wealth and good fortune, sits on a pink lotus in full bloom as her divine seat and holds a lotus in her right hand. Her many names include padmapriya (beloved of the lotus), padmakshi (lotus-eyed) and padmahastam (holding a lotus) (Zimmer 1953, 159).

Saraswati, the goddess of wisdom, is seated on the white lotus.

Virtually all the gods and goddesses in the Hindu pantheon—Brahma, Vishnu, Shiva, Lakshmi, Saraswati, Parvati, Durga, Agni, Ganesha, Rama, and Surya—are shown sitting on the lotus or holding the lotus flower in their hands. For all female deities, the bud or flower of the lotus in one hand is an important symbol of purity and beauty (Gandhi and Singh 1989, 161–67).

According to Buddhist lore, the Buddha was born from a lotus, and is often depicted as standing or sitting on a giant lotus leaf, holding a lotus bloom in his hand. To Buddhists, the lotus represents purity of body, speech, and mind, floating above the muddy waters of attachment and desire (Sean Conway, 'Lotus Flowers Add New Dimension to Aquatic Garden', *Chicago Tribune*, 6 September 2009).

The lotus has been used in the art of India in all ages and all religions as a conspicuous decorative element. It appears on the oldest architectural monuments of Buddhism, Hinduism, and Jainism all over India. The flower figures on all the Buddhist monuments, which came into being in different parts of the country around 200 BCE. The most striking example is the figure of Goddess Lakshmi in the sculptures of Bharhut, Sanchi, and Udaigiri. She is portrayed as sitting or standing on a lotus flower and holding up a flower in each hand, while she is sprayed with water by two elephants from pots raised by their trunks. Buddha began to be represented in sculpture from

about beginning of our era and his image constantly appears sitting cross-legged, in padmasana.

The international Baha'i community adopted the lotus symbol in the design of the Baha'i temple, popularly known as Lotus Temple, in New Delhi.

### ***Medicinal Uses***

The lotus plant possesses medicinal properties. Due to its astringent qualities, the lotus is widely used to arrest diarrhoea and dysentery, and to treat piles.

Many traditional texts also report its use in treating skin diseases and leprosy. The flowers are recommended as a cardio tonic and are prescribed for liver disorders. The seeds are highly valued for use during conception and blood disorders, for they help to cool the human system (Dastur 1962, 119).

## Indian Mesquite

Botanical name:	<i>Prosopis spicigera</i> (L.) Druce
Common names:	Khejari, Shami (Hindi) Vanni (Tamil) Shami, Agnigarbha (Sanskrit)
Habit:	Tree
Distribution:	Oman, Saudi Arabia, United Arab Emirates, Afghanistan, Iran, India, Pakistan

It is a medium-sized evergreen tree, about 15–18 m tall, with a wide crown and slender branches armed with short, compressed prickles. It has the ability to survive in a variety of soils, including saline soils. Better growth is found in deep sandy loam soils with adequate moisture.

The timber is used to make agricultural implements. Branches of the tree are used as fencing material. The wood is also used to make poles, doors and windows, handles of tools, shafts, spokes, and yokes of carts (R.K. Gupta 1993, 419–26). It is an excellent wood to fuel fires. The leaves are highly valued as top feed for cattle, camels, and goats, providing nutritious, green, and dry fodder. The pods are also eaten by cattle (Faroda and Singh 1972, 3, 56–57).

The trees control erosion because the extensive root system stabilizes shifting sands and is also used as a windbreaker and to afforest dry regions (R.K. Gupta 1993, 419–30). It is a good nitrogen-fixing plant (via microbial

activities) and it improves soil fertility. Soil status is enhanced by the addition of organic matter due to leaf litter decomposition.

### ***Mythological and Religious Associations***

Shami is the name of Indian mesquite tree.

In Part I, we saw how the Indian mesquite or khejari or shami appears on the Indus seals in association with a female figure and a tiger. It is probably the earliest appearance of Goddess Durga and her tiger, in association with the khejari. In later periods, the khejari is excluded though Tamil literature continues to associate the desert plant with Durga as Korraivi.

The Vedas endowed the shami with the property to create fire. According to a Rig Vedic legend (X.95.1–18), Pururavas generated the primeval fire by rubbing together two branches of the shami and ashvattha (pipal) trees. It was the lower part of the two sticks used for kindling the sacred fire (Atharva Veda, VI.11.1; XXX.2.3). In Vedic times, this tree was identified as both *Prosopis spicigera* and *Mimosa suma*. Since Agni resided in the Indian mesquite, the tree is considered sacred and its wood appropriate for fuelling the fire for Vedic sacrifices. It is a very inflammable wood and, to this day, the sacrificial fire is produced by rubbing together two sticks, one of which is of Indian mesquite wood and the other of pipal (MacDonell and Keith 1982, 354–55).

The Indian mesquite is considered to be an incarnation of Devi. Since the tree has fire in it and Rudra is an embodiment of fire, Shiva or Rudra is regarded as the yupa post made of its wood (Jobes 1949–50, 5).

The tree is mentioned in the Taittiriya Brahmana (I.1.3; II.6.4, 5). The Shatapatha Brahmana (IX.5.1.15, 13; III.4.1.22) says the fruit of this tree is called shamidhanya (which means pulses but refers to the fruit of the shami here) (I.1.1.10). The Taittiriya Samhita (5.1.9.6; 4.7.4) also says that the soft wood of this tree was used for the lower of the two sticks (arani) used for kindling the sacred fire. The Atharva Veda says it is destructive to the hair.

Reference to the tree is also found in the Ramayana and Mahabharata. The Valmiki Ramayana says that it is a large tree in the Panchavati forest

(3.15.18); its spreading branches were used for the roof of Rama's cottage at Panchavati, to tie them together firmly (3.15.22).

Rama worshipped the shami tree on the day before proceeding to Ayodhya, after he had killed the demon Ravana and achieved a triumphant victory over the demons.



*Indian mesquite*

In the Mahabharata (4.5.15), when the Pandavas lost everything to the Kauravas in a game of dice between Yudhishtira and Duryodhana, the latter promised that he would return their kingdom to the Pandavas if they stayed in the forest for twelve years and hidden and disguised for another year. If they were recognized during that last year they would have to repeat their exile. After twelve years in the forest, the Pandavas came to the kingdom of Virata and decided to disguise themselves and live in the court of the king of Virata. Before they assumed their disguises, they took off their weapons, given to them by various gods, and hung them on an Indian mesquite tree. They found a corpse close by and suspended it from the branches, saying, 'This is the body of our mother. It must remain here for a year, after which we shall take it down and burn it.' So, of course, no one dared to touch the weapons. When they returned after a year, they found their weapons safe in the branches of the shami. Before taking the weapons, they worshipped the tree to thank it for keeping their weapons safe. When the Pandavas won the battle of Kurukshetra, they worshipped the tree, invoking those special memories. The custom of worshipping the Indian

mesquite on Dusshehra is followed to this day. The comprehensive success of the Pandavas in their endeavour has been extended to the everyday lives of common people even today. People exchange Indian mesquite leaves and wish each other victory.

In Punjab and Rajasthan, it is the jand (Punjabi) which is the fertility-bestowing tree and is worshipped for children by women. A temple is erected or a stone deity placed near or under this tree, with flags and steamers adorning its branches. Often even the marriage processions go to the tree before proceeding to the bride's house or the doli procession goes first to the jand tree before the bride enters her new home.

According to the Matsya Purana, ancient Brahmans permitted two marriages if a man did not have sons. If the man remained heirless, he was married to a shami tree. Raw sugar and boiled rice was offered to the tree. The man placed his hand on the trunk of the tree and said, 'O shami, created by Brahma Deva, may you protect me. O beneficent goddess, I prostrate before you. O Daughter of the Sun, I worship you. Mercifully preserve me, now that you are my wife. You were produced by Brahma Deva for the benefit of all living beings. You are the firstborn of trees who increased towards us the love of the gods. Ward off the dangers of a third marriage.' And to this the priest replied, 'I will give to you of such a tribe, my daughter Arkakanya, the granddaughter of Sarla, the great granddaughter of Aditya, of the tribe of Kashyapa.' After this, curd, honey, and sweets were offered. A veil was drawn between the bridegroom and the shami tree and the marriage was solemnized. The newly-wed husband garlanded the tree and the priest blessed them both. The sacred fire was lit, Vishnu was worshipped, and two cows given to the priest (Gandhi and Singh 1989, 32–33).

According to the Skanda Purana, on one occasion, Durga was angry with Lord Shiva, accusing him of dalliance with the apsaras. Refusing to be satisfied with his denials, she escaped into the jungle and, seating herself in the hollow trunk of an Indian mesquite tree, performed ascetic practices for nine years. She obtained immense magical powers and, in her anger, flames burst forth which scattered all over the animals and shepherds living nearby,

and threatened ruin far and near. Rituals were performed in her honour and, pacified by them, she decided to restrict this combustion to the Indian mesquite. She lives in it as Shamirama, goddess of the Indian mesquite. During the festival for this tree, she bestows abundant wealth and corn on all her worshippers.

The shami is worshipped with the following prayer: ‘The shami tree cleanses sins. Its thorns are red in colour. It is Lord Rama’s favourite tree and in such a tree did the Pandavas hide their arms. O Shami, Lord Rama has worshipped you. I now embark upon my journey to victory. May you make it pleasant and free from obstacles.’

The Garuda Purana mentions the ritual use of plants. It says that the twigs of sacrificial trees or plants such as swallow wort, flame of the forest, catch tree, prickly chaff flower, long pepper, cluster fig, Indian mesquite, Bermuda grass, and cotton-wool grass—all soaked in curd, honey, and clarified butter—should be repeatedly cast into the sacrificial fire, in homa ceremonies, for the propitiation of the planets (S.M. Gupta 1991, 3).

The Indian mesquite is sacred to Shani (Saturn). Shami bhasma is used to control the effects of Shani. If Shani is well placed in the horoscope, it leads to discipline, responsibility, and humility; if Shami bhasma is used by the individual, he has a long life, and is charitable and proficient in everything he does. Indian mesquite wood is used for the Shani homam. This tree has to be planted in the north-eastern corner of the temple (Subrahmanyam 1982, 18).

According to another myth, an asura called Taraka was inflicting atrocities on the devas, who approached Brahma with their grievance. Brahma promised them that he would get rid of Taraka. However, they reminded him of his boon to Taraka, whereby he could not be killed by deities or asuras, but only by their offspring. By Goddess Uma’s curse, the deities could not have any offspring. Brahma remembered that at the time of the pronouncement of the curse by Uma, Agni was not present, having concealed himself in the shami tree and was therefore free from the curse. The deities and rishis then went in search of Agni and found him. Agni

agreed to their request and thus was born Skanda, who killed Taraka, when he was only seven days old (S.M. Gupta 1991, 77).

According to the sthala purana of the Vriddha-girishwara temple at Vriddhachalam, worshippers circle the tree nine times. As they move around, they wind a strand of untwisted cotton round the trunk with offerings in order to be blessed with prosperity and male progeny. After worshipping Girishwara, the worshippers go around the vanni vriksha nine times, then peel off a piece of its bark and eat it. The belief is that the devotee will be blessed with a male child.

The vanni tree is the tutelary tree of the Vanniyars (Mudaliar 1923, 1400). When they die, members of the Vanniyar community are cremated with this wood. This tradition is still followed by the Vanniyars of Cuddalore, Viluppuram, Ariyalur, Perambalur, and Trichirappalli districts.

Freshwater fishermen of Telugu districts called Chembadis worship Gurappa Gurunathudu as their caste deity and connect him, for some unknown reason, to the Indian mesquite (called jammi in Telugu), which they worship with offerings of cooked food. Further, the Devanga caste of Telugu- or Canarese-speaking weavers worship the goddess Kali or Chandeshvari and, in some places, go in procession to a jammi tree and worship a decorated pot on the first day of the festival (Thurston 1909, 32).

In all the above stories, the Indian mesquite is either female or a form of Durga or Parvati, Shiva's spouse. Thus the female yakshi or goddess sitting on the shami on the Indus–Saraswati seals lives on in later Indian traditions.

In 1535 CE, Guru Jamboji founded the Bishnoi movement in the village of Samrathal Deora in Rajasthan. Among the twenty-nine principles he gave his followers for a good life was the protection of the khejari tree, which is essential for survival in the desert. In 1730, Amrita Devi Bishnoi and her daughters, along with others—a total of 363 Bishnois—hugged the khejari trees to prevent them from being cut by the men of the Maharaja of Jodhpur. This was the Chipko or 'hug a tree' movement, which became a clarion call for environmental movements around the world.

### *Medicinal Uses*



The bark of the tree is used to treat muscular and joint pains.

The pulverized mixture of flower and sugar is used as a safeguard against miscarriages.

During the extraction of methanol from the bark, the water-soluble extract of the residue exhibits anti-inflammatory properties.

The juice of the leaf cures flatulence, joint and muscle disorders, liquid formation in the throat, and nose and bilious disorders.

A powdered mixture of leaf, fruit, and bark along with honey acts as an antidote for snake poisoning (Shanmugam 1989, 724).

## Indian Medaller

Botanical name:	<i>Mimusops elengi</i> Linn.
Common names:	Bakul, Bolsari, Maulsarau (Hindi) Mahilam (Tamil) Bakula/Vakula, Chirapushpa (Sanskrit)
Habit:	Tree
Distribution:	Asia (tropical), Australasia, Pacific Naturalized elsewhere

The generic name *Mimusops* is coined from two Greek words: mimo meaning ape and opsis meaning ‘in appearance’, probably due to resemblance of the flowers to the face of an ape. The species name refers to a vernacular epithet in Malabar.

It is a medium-sized evergreen tree with a regular, globular, spreading crown that attains a height of 10–16 m. It is native to India and can grow in all regions with a tropical climate, except in waterlogged areas.

The fruit is edible. The seed kernel yields edible oil that can also be used for illumination. The bark yields a brown dye. The flowers are fragrant and full of nectar. A sweet-scented essential oil obtained from the flowers is mixed with sandalwood oil and used in the preparation of perfumes (Krishnamurthy 1993, 139, 302, 354). Leaf fodder is of medium quality (Laurie 1945, 17) and the wood is only second-class timber. The tree acts as a particulate sink (Nayar, Ramamurthy, and Agarwal 1989, 35).

### *Mythological and Religious Associations*

Bakula or vakula has an important place in religious texts. Its fragrant flowers are celebrated in the Puranas and even placed amongst the flowers of the Hindu paradise.

The name bakula has been mentioned several times in the Ramayana. It has been recorded as a flowering tree growing in the Gandhamadana forest and is one of the trees found in the Panchavati (3.60.22), growing near the lake (3.75.16); in full bloom around Pampa Lake (4.1.78); an attractive tree of the shores (4.27.18); trees adorning the ashoka vatika (5.14.43); trees gathered for constructing a bridge (6.22.59); and the tree adorning Rama's palace garden (7.42.5).

Krishna is said to have fascinated the milkmaids of Vrindavan on the banks of River Yamuna by wearing a garland made of bakula flowers.



*Indian medaller*

It is one of the trees planted near Indraprastha in the Mahabharata (1.209).

According to Fergusson (1971, 104), it is one of the seven sacred trees associated with the Buddha. Bakula trees with flowers are depicted in the reliefs of the Sanchi and Amaravati stupas.

According to B.C. Bhattacharya (1974, 56), it is also sacred to the Jainas as it is an emblem of Naminatha, a Tirthankara. Although he is associated with the blue lotus, he attained enlightenment under the shade of the bakula tree.

According to the Brihat Samhita, bakula has been mentioned as a sacred tree planted near houses, temples, and religious places (Aiyer 1956, 24).

Kalidasa describes this tree in his Raghuvamsha (9.30): its flowers are a symbol of love and beauty; the scent of the flowers of the bakula resembles wine, and the fragrance is likened to the breath of young women (Raghuvamsha, 7.64). He also describes this tree in his Abhijnana Shakuntalam (5), that the flowers when dried in the sun do not lose their fragrance, which lasts for a long time. In Kalidasa's Kumarasambhava and Ritusamhara, bakula flowers have been referred to under the name kesar (Kumarasambhava, 8.25; 3, 55; Ritusamhara, 2.20).

If a woman dines under the shade of this tree, it is known to blossom, while Monier Williams (1981, 719) adds that it is also said to blossom when sprinkled with wine from the mouths of beautiful women.

According to the sthala purana of the Arunachaleshwara temple at Tiruvannamalai, the word mahilam means mangalam or auspicious, so it increases prosperity. Subramania Pillai (1948, 20) states that it is believed that this tree is influenced by certain actions of women.

According to a local folk tale, anybody who sits under this tree will get rid of his sins and diseases after worshipping Lord Arunachaleshwara. It is believed that if women circumambulate the sacred tree and tie a cradle to it, they will be blessed with a male child. Even today one can find many cradles hanging from the branches of the sacred tree.

It is associated with the asterism Anuradha and the second padha of Ashwini, which is one of the twenty-seven asterisms.

Bakula is sacred to Hindus, Buddhists, and Jains. In Hindu tradition, it is sacred to Lord Shiva. It is one of the many sacred trees mentioned in the Hindu religious texts, according to which the bakula is sacred to the Trimurti (Birdwood 1992, 87; S.M. Gupta 1991, 7). Bakula is one of the names of Shiva, and is also identified with a yaksha named Chandramukha who is said to dwell in the tree (Stutley 1985, 16).

Bakula Devi is the mother of Lord Venkatesha of Tirumala in Andhra Pradesh.

### ***Medicinal Uses***

A lotion prepared from the flowers is used to clear wounds and ulcers. A decoction of the bark regenerates tissues, controls bleeding, and cures excessive mucous secretion from the bladder and urethra.

Its bark is a tonic to treat fevers and is used as a mouthwash to protect gums and teeth.

A paste of the roots mixed with vinegar is applied to swellings on the face, and a paste made with water is applied to pustular eruptions of the skin (Dastur 1962, 111).

Regular chewing of the tender fruits strengthens the teeth.

The seeds are used in the preparation of eye drops and antidotes and to treat bowel disorders. The oil extracted from the seed is applied to swellings of the joints (Shanmugam 1989, 636).

## Indian Persimmon

Botanical name:	<i>Diospyros malabarica</i> (Desr.) Kostel
Common names:	Gaab (Hindi) Panicika (Tamil) Tinduka (Sanskrit)
Habit:	Tree
Distribution:	India, Sri Lanka, Myanmar, Thailand, Indonesia, Malaysia

The generic name *Diospyros* is derived from Greek dios meaning gods and pyros meaning wheat. It means the fruit of the gods.

It is an evergreen tree with a spreading crown, which attains a height of about 8–10 m. The wood is dark grey in colour with darker streaks.

It grows usually on hill slopes, on the banks of hill streams, rivers, and backwaters but it is also cultivated.



*Indian persimmon*

The wood is used as fuel and in building construction. The ripe fruit yields a yellow dye, used as a gum in book binding. The seed yields 32 per

cent brownish-yellow fatty oil with the odour of peanut oil (Krishnamurthy 1993, 294).

The tree acts as an indicator of pollution and is tolerant of gaseous pollutants, such as sulphur dioxide, fluoride, and chloride (A.K. Bhattacharya 1994, 658–69). It is an appropriate tree for growing on wastelands.

### ***Mythological and Religious Associations***

The Ramayana says that this tree is found in the wild and terrible forest (1.24.15); it is also found in the Chitrakuta forest (2.94.8). The fruit of this tree is considered to be sacred by Buddhists as it figures in one of the Jataka stories (Tinduka Jataka, II.53). It is a shade-giving tree and therefore much valued in India.

According to the Oraon tribes, the wood is kept in the house to ward off evil spirits and bring good luck and wealth to the house. According to a Muria tribal tale, the reason for the wood of the tinduka being black goes back to the Ramayana. Before the battle of Lanka, Hanuman was sent by Rama to observe the formidable city of Lanka. Hanuman tied a piece of cloth soaked in oil to his tail and lit it. Then he jumped from housetop to housetop, engulfing the city in flames. After he jumped back to safety, he wiped his blackened hands on the tinduka, and since then its wood is black (Elwin 1949, 129).

The tree is associated with Lord Shiva. According to the sthala purana of the Aathivananathar temple at Tiruchengattangudi, the place was fully covered with aathi (persimmon) trees. In the midst of the forest, under an aathi tree, stood the lord who was therefore known as Aathivananathar. In Tiruchengattangudi, one who worships the lord sitting under the kaattathivriksha, in padmasana, uttering the Shri Panchaakshra stotra 1008 times will go to heaven. This practice is still followed by local people and Shaivites.

### ***Medicinal Uses***

The oil is used to treat dysentery and diarrhoea. The bark of the tree helps regenerate tissues and reduces bleeding. When applied as a paste, it cures boils and tumours, and when consumed with black pepper, it cures dysentery and diarrhoea (Dastur 1962, 75). The extract of the bark is used to stimulate the flow of urine and in the treatment of cancer.

The raw fruit is powdered and eaten in the treatment of ulcers and swellings in the mouth and also to cure diarrhoea (Asolkar, Kakkar, and Chakre 1992, 279). The juice of the fruit is used to treat venereal diseases. An extract from the fruit soaked in water is used for gargling to relieve pain and swelling of the mucous lining of the mouth, and also in cases of sore and hoarse throats (Shanmugam 1989, 435).



## Indian Siris

Botanical name:	<i>Albizia lebbbeck</i> (L.) Benth.
Common names:	Sirisa, Shirish (Hindi) Vaagai (Tamil) Madhupushpa, Barhapushpa (Sanskrit)
Habit:	Tree
Distribution:	India, cultivated in the tropics Naturalized elsewhere

The generic name *Albizia* is named after Albizzi, an Italian naturalist. Lebbeck is the rattling noise made by the seeds inside the pods.

It is a large deciduous tree with a spreading crown, attaining a height of 15–20 m and found in both tropical dry evergreen forests and dry deciduous forests.

The wood is used to make furniture and internal panelling. The bark is used in tanning, while the leaves and pods are used as fodder for cattle (R.K. Gupta 1993, 137).

It is a shade-giving tree. The tree releases more oxygen than the carbon dioxide it assimilates, due to its dense foliage (Singh and Rao 1983, 218–24).

It is a suitable species for planting in dry areas, as dew may be an important source of moisture in winter and even in late March. The soil preferred is deep loam or black cotton soil. It also survives in acidic, alkaline, or saline soils.



*Indian siris*

### ***Mythological and Religious Associations***

It is the bodhi tree of Krakuchchanda, a follower of Buddha (Randhawa 1964, 13, 17–18). It is also associated with Suparsvanatha, a Jaina Tirthankara who obtained his divine knowledge under this tree (B.C. Bhattacharya 1974, 43).

According to Tamil literature, the tree is sacred to Lord Shiva and is thus called kadavul vaagai (the sacred siris tree of the lord). Generally, the tree is associated with the goddess Durga as a symbol of victory.

Once, when Arjuna had set off on a pilgrimage, he met Lord Maanikkavannar, who came in the form of a Brahmana and said he lived under the tree. When both reached the tree, the Brahmana gave his staff and ran away with Arjuna's sword and hid it behind a termite hill. Arjuna prayed to the lord to return his sword. A voice directed Arjuna to take the sword from the termite hill. Since then, the place has been known as Vaaloliputhur (sword hidden in the anthill). Since Maanikkavannar disappeared under this tree, it became the sacred tree of Vaaloliputhur (sthala purana). The tree is mentioned by the Shaivite saint Sambandar.

According to the sthala purana of the Maanikkavannar temple at Vaaloliputhur, the goddess Durga performed penance and worshipped Shiva under a vaagai tree to gain energy to fight Mahishasura. The tree is also worshipped as Durga, goddess of victory, and called kadavul vaagai as a symbol of her victory: victorious kings and their soldiers used to wear garlands of vaagai flowers as a token of Durga's favour.

There is a legend of a giant vaagai tree in a cemetery near the ancient port of Puhar, now under the sea, which was believed to have been infested by demons and fairies. This place was called vaagai-mandram (Subramania Pillai 1948, 20).

Another anecdote suggests that, to hide from demons, the divinities took refuge on treetops. Indra selected the shirisha. Flowers of this tree are prohibited in the worship of Lord Ganesha because the tree is associated with Durga, Ganesha's mother, who cannot be offered to her own son.

The name of the district Sirsa (as well as its headquarters) in the state of Haryana is derived from this tree and dates back to the time of the Mahabharata, when Sirsa was also known as Sirsapattan. It is said to be one of the oldest towns of north India. Its ancient name was also Sairishaka, which finds mention in the Mahabharata and in Panini's Ashatadhyayi and Divyavadan. There are many legends about the origin of the town's name. It is said that its ancient name Sairishaka was corrupted to Sirsa. According to local tradition, an unknown king named Saras founded the town in the 7th century CE and built a fort. The material remains of an ancient fort can still be seen in the south-east of the existing town. The derivation of the name Sirsa is attributed to the abundance of sirisa trees.

The tree is sacred to Hindus, Buddhists, and Jains.

### ***Medicinal Uses***

A decoction of the leaf is given to treat night blindness.

The bark and seed control bleeding and cure piles, diarrhoea, dysentery, and venereal diseases.

The powdered bark strengthens the gums. The pulverized root bark is made into tooth powder for curing spongy and ulcerated gums.

The flowers soften boils, eruptions, carbuncles, and swellings.

An ointment made of the seeds is used to treat eye diseases.

The stem, leaves, and flowers are antidotes for snake venom and scorpion stings (Dastur 1962, 13; Tirugnanam 1995, 13).

## Indian Blue Water Lily

Botanical name:	<i>Nymphaea nouchali</i> Burm.f.
Common name:	Neelkamal (Hindi) Neel aambal (Tamil) Kumuda, Krishna kamalam (Sanskrit)
Habit:	Aquatic herb
Distribution:	Throughout the Indian subcontinent and spread to other countries like Thailand and Myanmar

It is an aquatic plant commonly found in tanks and ponds in the warmer parts of the Indian subcontinent. It is a day blooming plant with submerged stems and roots. The leaves are green and round in shape.

### ***Mythological and Religious Associations***

The plant is referred to as Krishna kamal in Sanskrit, signifying the dark complexion of Lord Krishna. The word kumuda means water lily. During Krishna's lilas beautiful water lilies grew in the pond of kumuda flowers. Lord Kapila, an incarnation of Krishna, performed austerities in a kumuda vana in the Treta Yuga.



*Indian blue water lily*

Water lilies have been mentioned in the Valmiki Ramayana (5.57.3): ‘Somewhere in the River Tungabhadra, overspread with blue water lilies, elsewhere with red water lilies she shines forth, and shimmers with the beautiful buds of white water lilies somewhere else’ (4.27.22). ‘Some places of the River Ganga are graced with beds of water lilies in the form of buds and some places are reddened with the pollen of numerous flowers, as though excited with passion’ (2.50.21). ‘On the banks of the Pampa, the jasmines, water lilies and red oleanders have grown up and they have now flowered and wetted with the fragrance of nectar’ (4.1.76). ‘Glorious Hanuman saw the city of Lanka which looked like heaven, decorated with moats filled with lotuses and water lilies’ (5.2.14).

It is said that Lord Rama sought the blessings of Goddess Durga before his final battle with Ravana. He came to know that the goddess would be pleased only if she was worshipped with 100 neelkamal. After travelling and searching the whole world, he could gather only ninety-nine. He then decided to offer one of his eyes, which resembled a blue lily, to the goddess. The goddess, pleased with his devotion, appeared and blessed him.

The neelkamal is one of the five flowers that adorn the tip of Kama’s bow. Ganesha’s fourth hand is used to hold water lilies.

The Varaha Purana says that whoever bathes in a pond of kumuda flowers will be blessed in understanding the purport of the Vedic literature.

### ***Medicinal Uses***

A tonic prepared from the root will arrest diarrhoea and dysentery and cure piles (Shanmugam 1989, 32).

## Ink-Nut/Chebolic Myrobalan

Botanical name:	<i>Terminalia chebula</i> Retz.
Common names:	Balhar, Harad (Hindi) Kadukkaai (Tamil) Abhaya, Haritaki (Sanskrit)
Habit:	Tree
Distribution:	India, Bangladesh, Bhutan, Cambodia, Laos, Nepal, Sri Lanka, Myanmar, Vietnam

It is a medium-sized deciduous tree attaining a height of 20–25 m, native to India. The leaves are crowded at the ends of the branches. It is commonly found in the northern Deccan and the Shevaroy Hills of Tamil Nadu.

The wood is used to make furniture, carts, and agricultural implements and also for building. The leaves are used as fodder. The fruits are collected for making tannins and dyes (Sambamurthy and Subramaniam 1989, 698). The tree is grown mainly for its fruit, which yields oil, gum, and tannins (R.K. Gupta 1993, 503). The seed yields yellowish oil, used in the tanning of leather, which it mellows on account of its astringent, fermentative, and certain acid-forming properties that cause satisfactory blooming of leather.

### ***Mythological and Religious Associations***

It is considered to be a religiously significant tree by the Hindus as it is sacred to Shiva (Hara). It is also called abhaya as it promotes fearlessness. Hara is one of the names of Shiva and one of the eleven rudras, where he

represents the inexorable power of disintegration at the time of the dissolution of the universe.

The Sanskrit name of the plant is haritaki, again after Lord Shiva. It is also called haritaki because it is greenish-yellow in colour. It grows in the place where Hara (Shiva) resides. Haritaki feeds the brain and the nerves and imparts the energy of Shiva (pure awareness).

Hara is believed to be the embodiment of sleep and the eradicator of pain. Meditation on Hara dispels ignorance (Stutley 1985, 53).

Many myths about the origin of this plant are found in Ayurvedic and Tibetan medical literature. In one story, seven drops of nectar fell on the earth from the mouth of Vishnu (according to some, from the mouth of Brahma) from which originated the seven types of haritaki. Another story says that a drop of nectar fell to the earth from the mouth of Indra, giving rise to this plant. According to Zurmckhard Dharmasvami, as quoted in the *Shel phreng*, in the mountain of Gandhamardana situated towards the east of Varanasi, the god of earth Lag-pa-chen-po and the goddess of water Gtsang-chen (Brahmaputra) united and out of that the virya (semen) and artava (egg) got mixed up on the earth. Thus, the forest of haritaki came into being (V.B. Dash 1999, 7).

According to folklore, Kama and the goddess Parvati became intimate. An angry Shiva destroyed Kama or Manmadha, who always took manmadhapanam, a drink prepared from this seed, which is said to increase potency. Since then, it became the sacred tree of the temple at Kurukkai. Since he destroyed Kama, Lord Shiva was named Viratteshwara.

### ***Medicinal Uses***

Haritaki or kadukkaai has been used in Indian medicine since 700 BCE. Information about this plant is available in Charaka Samhita, Sushruta Samhita and Ashtanga Hridaya. Ancient Indian physicians used it to counter many diseases, as the fruit contains a large amount of gallic and chebullic acid (Shanmugam 1989, 140). The fruit's outer layer is boiled in water and given in the case of irregular bowel function and indigestion. The



powder of the fruit and pippali powder are mixed with honey and given to children who have a cough. The fruit shell is powdered and mixed with the rhizome of korai (nut grass, *Cyperus rotundus*) and the roots of adhimadhuram (liquorice, *Glycyrrhiza glabra*) and used to treat difficult urination in mother and child. The drug extracted from the dried fruit can be applied externally on chronic ulcers, wounds, and scalps or used as a gargle to reduce swelling of the mucous membrane of the mouth (Sambamurthy and Subramaniyam 1989, 483).



*Ink-nut/chebulic myrobalan*

This herb is one of the components of the famous Ayurvedic preparation triphala, which is used in the treatment of enlarged livers, stomach disorders, and painful eyes. The juice mixed with that of gooseberry is beneficial in the treatment of acidity and heartburn (Sivarajan and Balachandran 1994, 172). This herb is also an effective remedy for chronic ulcers, diarrhoea, dysentery, and piles.

Eating a piece of the fruit every night reduces asthma. The fresh fruit is fried to a golden-brown colour in castor oil and powdered; half a teaspoon of this taken before bedtime gives relief from piles (Dastur 1962, 162–63). It is also useful in treating jaundice, skin diseases, itching, and nervous disorder. Bakhru (1993, 62) mentions an old Indian proverb: ‘If one bites a piece of kadukkaai every day after a meal and swallows the juice, he will remain free from all disease.’

The fruits are also used to increase potency of alcoholic spirits (Krishnamurthy 1993, 408).

# Jackfruit

Botanical name:	<i>Artocarpus heterophyllus</i> Lam.
Common names:	Katahara, Kathal, Panasa (Hindi) Pala, Verpala (Tamil) Panasa, Phalavrikshaka, Atibrihatphala (Sanskrit)
Habit:	Tree
Distribution:	Western Ghats in India Cultivated in the tropics

It is a medium-sized or large evergreen tree attaining a height of 20–30 m. It is indigenous to the rainforests of the Western Ghats, growing at an altitude of 600–1200 m. It is found in several parts of the subcontinent and is cultivated for its fruit and timber, and other economic reasons. It can grow in a variety of soils.

The tree has many important uses. The young shoot yields white latex, which is used to make yellow dye. The fruit juice gives a kind of rubber. The leaves are used as fodder. The latex extracted from the bark contains a large amount of resin and is used to plug holes in earthenware. Unripe fruits and seeds are cooked and eaten. The wood is highly valued to make furniture and in building construction, since it is free from attack by termites. A strong yellow dye obtained by boiling the sawdust from the tree is used to dye the robes of Buddhist monks (Krishnamurthy 1993, 344). The wood yields yellow colouring matter, morin, and cyanomaclurin, a blue

dye. It is tolerant to combined gaseous pollutants (A.K. Bhattacharya 1994, 658–69).

The wood is used to make the veena, a stringed instrument.

### ***Mythological and Religious Associations***

There are references to this tree in Valmiki's Ramayana. It is a fruit tree in the sage Bharadwaja's garden (2.91.30); it is found in the Chitrakuta forest (2.94.8); in the forest they traverse (3.73.3); at Panchavati (3.60.21); in the deep forest on the way to Pampa (3.73.3); and in the garden of Rama's palace (7.42.3). Valmiki aptly compares the tree to the great Vanara hero Hanuman, incidentally also called Panasa, as he lies helpless and breathless when wounded during the war (6.31.29).

The fruit is associated with Bala Ganapati (Stutley 1985, 106). The leaves are considered auspicious and are used along with mango leaves to decorate the sacred pot or kalasham (Muralidhar Rao 1995, 178).



*Jackfruit*

The jackfruit tree is represented in the ancient Buddhist sculptures of Bharhut and Sanchi. The jackfruit is one of the three auspicious fruits or mukhani of Tamil Nadu, the other two being the mango and banana.

According to the sthala purana of the Kutraleeswarar temple at Kutralam, the jackfruit is the sacred tree of that temple and is revered by devotees. The sacred tree of Kutralam is short and is therefore called kurumpala. It is believed that the gods, agamas, shastras, and Vedas were pleased to gather

under its shade, for it was sacred to Lord Shiva. Watering the tree with a pitcher of water is equal to bathing all the gods (*Kutrala sthala purana*).

The present name of Kutralam is indicative of a species of *Ficus*, whereas the old name Kurumpala refers to a species of *Artocarpus*. Sambandar has sung ten songs and in each song he has mentioned Kutralam and Kurumpala. The two are believed to refer to two separate shrines in the present temple complex. In the main shrine, a jackfruit tree is revered as the sacred tree, while the banyan is not seen anywhere in the complex.

### ***Medicinal Uses***

Latex extracted from the tree is used to cure night blindness; mixed with vinegar, it is applied to reduce swelling. The tender leaves are made into a paste and applied externally on swellings and sore areas. The leaves are used as an antidote for snakebite (Sambamurthy and Subramaniam 1989, 597). The ripe fruit, eaten in large quantities, stimulates the production of gas and reduces hunger. A paste of the root is applied to treat ulcers and wounds. A paste prepared from the pulp of the fruit and the extract of the root cures summer boils and insect bites (Shanmugam 1989, 542). Various parts of the plant are used to treat toothache, caries, stomach ailments, sores, smallpox, swelling, infections, and sterility in women (Asolkar, Kakkar, and Chakre 1992, 97).

## Javanese Wool Plant

Botanical name:	<i>Aerva lanata</i> (L.) Juss.ex Schult.
Common names:	Gorakhgania, Gorkhabundi, Kapurijadi (Hindi) Cerupeelai, Sirukan-peelai (Tamil) Astamabayda, Pashanabheda (Sanskrit)
Habit:	Herb
Distribution:	Africa, India, Sri Lanka, Indonesia, Malaysia, Papua New Guinea, the Philippines, Australia

The Javanese wool plant is found all over India up to an altitude of 900 m. The root has a camphor-like aroma. The dried flowers look like soft spikes. The young shoots are eaten by cattle (Nayar, Ramamurthy, and Agarwal 1989, 41).

### ***Mythological and Religious Associations***

The flower of the Javanese wool plant is one of the dashapushpa or ten auspicious flowers.

According to the sthala purana of the Aabhadhsahaayar temple at Irumpoolai in Alangudi, Tamil Nadu, the leaf of the plant is offered to Lord Aabhadhsahaayar, a form of Shiva.

The plant with flowers is tied in front of the houses during the Pongal festival in the Nilgiri district of Tamil Nadu.

### *Medicinal Uses*

The entire plant finds use in Ayurvedic medicine to stimulate the flow of urine and to eliminate intestinal worms. It is also used in treating swelling of the connective tissues, difficult passage of urine, and bladder stones (Ram Manohar 1994, 29).

The plant is said to be a diuretic, its action being very effective in the treatment of urethral discharges and gonorrhoea.

The root acts as an antidote to snake poison and also has an antibacterial effect (Shanmugam 1989, 360). It is given with pepper and milk to those suffering from piles (Nayar, Ramamurthy, and Agarwal, 1989, 41). The root is used in the treatment of snakebite.

A decoction of the flowers and root is a diuretic and cure for kidney stones.

A decoction of the leaves is prepared as a gargle for treating sore throats. Babies that have become unconscious during an attack of malaria are washed with a leaf decoction and, at the same time, made to inhale smoke from the burning plant. The leaf sap is also used for eye complaints. An infusion is given to cure diarrhoea and applied to sores.

For pains in the lower part of the back, leaves and flowers are reduced to ash, which is rubbed into cuts on the back.



*Javanese wool plant*

## Krishna's Butter Cup

Botanical name:	<i>Ficus benghalensis</i> L. var. <i>krishnae</i> C.DC.
Common names:	Makhankatori (Hindi) Krishna aal (Tamil) Vata (Sanskrit)
Habit:	Tree
Distribution:	India, Myanmar, Thailand, South East Asia, southern China, Malaysia

It is an ornamental plant, an unusual variant of the banyan. The leaves, smaller than the banyan's, have a cup-like pouch on their back at the base above the leaf stalk.

### ***Mythological and Religious Associations***

The tree is closely associated with Lord Krishna and is named after him. It is believed that Krishna was very fond of butter and would even steal it. Once, when he was caught by his mother, Yashodha, Krishna tried to hide the butter by rolling it up in a leaf of this tree. Since then, its leaves have retained this shape. The butter hidden by Krishna started to melt and flow to the ground. The melting butter is associated with the milky juice (latex) coming out from the base of the leaf. The leaf is thus referred to as 'Krishna's butter cup'.

According to another legend, Krishna used to make cups from the leaves of this tree to steal curd and butter from the gopis. Since then, the base of the leaf is rolled up to form a cup, hence the name makhankatori.



*Krishna's butter cup*

### ***Medicinal Uses***

The leaves are used in the treatment of diabetes (Lakshmi et al. 2010, 14–18).



# Lemon

Botanical name:	<i>Citrus limon</i> (L.) Burm.f.
Common names:	Jamiri nimbu, Bara-nimbu (Hindi) Elumitchai, Elumichai (Tamil) Jambira, Mahajambiraphalam (Sanskrit)
Habit:	Tree
Distribution:	China Cultivated in India and elsewhere

It is a small tree, 4–5 m high. It originated in South East Asia where it has been cultivated since ancient times. The fruits are yellow in colour when ripe, and the tree is commonly cultivated around houses and fields in India.

Lemons are not eaten because they are very sour but the juice is used to make a fresh drink, and the rind is used to flavour and garnish food. Pickles made of fresh lemon are stored for a long time (Sambamurthy and Subramaniyam 1989, 565).

Lemon oil is used in aromatherapy for it enhances mood. The low pH of the juice makes it antibacterial. Lemons used to be the primary commercial source of citric acid.

Lemon juice is used to clean and remove stains from cloth. Half a lemon dipped in salt or baking powder is used to brighten copper dishes. The juice can remove grease and bleach stains, and also disinfect and remove stains from plastic food storage containers.

Lemon peel oil has several uses: as a wood cleaner and polish, and to dissolve old wax, fingerprints, and grime. Lemon oil is also used as a nontoxic insecticide treatment.

Lemon flowers and leaves contain fragrant oil, which is used to make perfumes and bath oils (Patnaik 1993, 141)

### ***Mythological and Religious Associations***

Kautilya and Sushruta have included it in the list of prohibited foods. According to Hindu mythology, the fruit is a symbol of fertility. This plant was found in the garden of Ritumat situated in the valley of the Trikuta Mountain (Shrimad Bhagavatam, 8.14).



*Lemon*

The lemon is one of Ganesha's favourite fruits. The fruit is an emblem of the yakshas, Brahma, Ishana, Kubera, Lakshmi, Parvati, Sadashiva, and Visvarupa (Patnaik 1993, 141). It is also an emblem of Devi or Shakti or Amman (as she is known in south India). Garlands of lemon are offered to the goddess.

The tree is also associated with Lord Shiva. It is the sacred tree in the Shiva sthala at Tiru Anniyur, Nagapattinam district of Tamil Nadu. Vikucharanyeswarar, a form of Lord Shiva, is believed to have appeared here under a lemon tree.

The lemon is believed to ward off evil forces. Cutting off a lemon tree after reciting certain mantras is considered an effective method to drive away evil spirits.

### ***Medicinal Uses***

Lemon juice contains vitamin C, which is essential for healthy skin and hair. Lemon is a traditional hair conditioner, especially in summer when heat and humidity cause the scalp to secrete an excess of sweat and oil. Throughout the year, lemon juice and oil are massaged into the scalp before washing the hair with soapnut extract and other herbal preparations to remove excess grease from the hair.

## Lucky Bean

Botanical name:	<i>Putranjiva roxburghii</i> Wall.
Common names:	Jivputrak, Patji, Putranjiva (Hindi) Irukolli, Karupali, Karupilai (Tamil) Garbhada, Jivanaputra, Putrajiva, Putranjiva (Sanskrit)
Habit:	Tree
Distribution:	Throughout India, Cambodia, Laos, Myanmar, Thailand, Indonesia, Papua New Guinea

It is a moderate-sized, evergreen tree, about 12–18 m tall, having pendant branches and dark grey bark. It is found in the sub-Himalayan tracts of peninsular India up to Sri Lanka. Usually, the tree grows on alluvial soil along the river, or in swamps or evergreen forests. It is quite common in parts of the Western Ghats and often cultivated as an avenue tree in many parts of India.

At times, oil extracted from the seeds is used for burning. The nuts are made into rosaries and necklaces.



*Lucky bean*

### ***Mythological and Religious Associations***

This tree is sacred to Hindu women. Rosaries made with nuts of the fruit are used to keep children healthy and ward off evil spirits.

This tree is mentioned in the Ramayana (2.94.25). According to the Garuda Purana, during the sandhya puja, before sitting on kusha ghas, a man should wear a garland made of crystals, lotus beads, or rudraksha or putranjiva beads.

The tree has a reputation as a protection against the evil eye, especially in the case of children. Chains or rosaries made from the nuts are often used by fakirs and other devout people as protection from evil (S.M. Gupta 1991, 80).

### ***Medicinal Uses***

The plant is reported to cause conception in sterile women, leading to the birth of a male child, hence the name putranjiva or jiyapota.

The leaves are used in treating tonsils and piles, and seeds are used to cure rheumatism (Shanmugam 1989, 599).

# Mango

Botanical name:	<i>Mangifera indica</i> L.
Common names:	Aam (Hindi) Maa, Maangaay (Tamil) Amra (Sanskrit)
Habit:	Tree
Distribution:	India Cultivated in the tropics

The word mango is derived from the Portuguese maangaa, based on the Malay maangaa, which in turn is derived from the Tamil maangaay, a term for the mango. The Sanskrit word amrapali is derived from two Sanskrit words: amra meaning mango and pali meaning young leaves.

Mango is the most popular tree of India. It has a number of varieties, named for shape, colour, and taste. The langra of Varanasi and dashahari of Lucknow are the most important among them. The flower of the mango is called manjari, which is highly spoken of in Sanskrit literature as an object producing sentiments of sexual feeling in the hearts of lovers.

The mango is native to India. It is a large deciduous tree with spreading branches. The crown is round or conical, attaining a height of 12–20 m. It is often found in deciduous forests.

The wood is used to make matchboxes, plywood, packing cases, door panels, and furniture. Wooden planks from the trunk are used as centring for reinforced cement concrete (RCC). Dry twigs are used in yagnas. The leaf is lopped for fodder in times of scarcity. Mango leaves are used to decorate

pandals and the front door during auspicious functions (Nayar, Ramamurthy, and Agarwal 1989, 21). The mango fruit is not only edible but delicious. Unripe fruits are used to make pickles and chutneys, and the ripe fruit is used for manufacturing a variety of food products. The seed kernel is also used as cattle feed.

Nickel (1959, 281–318) discovered that mango leaves have antimicrobial activity, thus establishing that the practice of decorating the home with mango leaves was actually meant to check infection. The leaf of the tree, being smooth-surfaced, acts as a collector of dust particles. According to Nayar, Ramamurthy, and Agarwal (1989, 35), the mango tree has a rotund canopy that functions as a filtering labyrinth for pollutant gases and as a sink for pollutant particles. The fragrant volatile vapours neutralize the bad odour arising from putrefying organic matter.

The mango is the national fruit of India.

### ***Mythological and Religious Associations***

The mango is probably the most loved fruit of India; its rich taste suits the taste buds of sweet-loving Indians. But it is much more. It is the tree of prosperity and auspiciousness; its leaves are used as a decorative torana (hanging ornament) at the entrance of the house on all religious and sacred occasions; five mango leaves flank the coconut that is placed on the kalasha or sacred pot; a mango leaf is used as the spoon for pouring ghee into the sacred fire. Hindus consider the plant to be Prajapati himself, lord of all creation. There is no religious occasion or festivity when the mango leaf is not used.

The mango is a kalpa vriksha, a wish-fulfilling tree, a symbol of love and devotion; it is called the king of fruits and a symbol of fertility.

The Ramayana describes the mango as a forest tree (3.73.3): its flowers are very attractive during spring and grow around Pampa Lake (4.180); its fragrant flowers are added to food to make delicacies (5.10.25); the fruit of the tree is in full blossom at the commencement of spring (5.14.3); it is a forest tree broken by the advancing monkey army (6.4.72); it is full of

flowers and used as a weapon in war (6.59.77); it adorns Rama's palace garden (7.42.2).

The mango is mentioned in the Mahabharata too. The Pandavas saw mango trees graced with blossoms over which black bees were humming (Tirtha-yatra parva).

It is sacred to Buddhists because Buddha was born in the Lumbini garden surrounded by sal and mango trees. Lord Buddha was presented with a grove of mango trees in which he used to rest. The Buddhists therefore consider it as a holy tree. The Buddhist texts refer to the mango tree frequently as the jivaka-amba-vana (Tin Hla 1956, 31–33).

It is depicted in various Buddhist and Jain sculptures, such as the woman-and-tree motif or the couple standing under the mango tree. Several vrikshakas and shalabhanjikas of Bharhut, Sanchi, and later Kushan sculptures are depicted holding a mango branch, accentuating the sensuousness of the fruit and the woman. The mango tree appears frequently in the reliefs of the Sanchi stupa. Various patterns utilizing the mango tree and its fruit are carved on the stupas at Bharhut and Sanchi. The Sanchi gateways are flanked by beautiful, bejewelled, and naked vrikshakas holding a branch of the mango tree with one hand, bringing them to fruit (S.M. Gupta 1996, 97–103).

The Buddha told some monks a tale of his previous life as a monkey. He lived on a mango tree with his clan and all were very careful never to let the fruit fall to the ground, where it might be found by a man, tasted and desired. But one fell into the river and was carried to Varanasi where the king, who was bathing, found and ate it. Delighted with the taste, he and his soldiers set out to search for the tree. When they eventually located it he ordered all the monkeys to be killed. The Buddha saved the other monkeys by making a bridge of his body over the river, into a bamboo forest, but lost his own life in the process. So, to Buddhists, it is a sacred tree (Gandhi and Singh 1989, 112–13).





*Mango, Kushana, 200 CE, Sanghol, Fatehgarh Sahib district, Punjab*

Neminatha, a Jaina Tirthankara, attained enlightenment under this tree and thus it became sacred to Jaina religion. A Jaina yakshi called Tara, Amra, or Kushmandini is also associated with this tree. Ambika, a Jaina yakshi, sits or stands beneath a mango tree accompanied by a small child, for the mango tree is a symbol of fertility.

To the Hindus too, it is of great importance. The tree is associated with Parvati, wife of Shiva. Parvati performed penance to win Shiva as a husband and is depicted standing on one leg under the mango tree with four fires burning on the four sides and the sun blazing above (S.M. Gupta 1996, 97). It is a religious symbol in the Ekamreshwara temple at Kanchi.

The origin of the mango tree is steeped in mythology. The daughter of Surya, the sun god, was pursued by an enchantress. To escape her, the girl threw herself into a pond and turned into a lotus. A king saw the flower and wished to possess it. But before he could take possession, the enchantress burnt it, and from the ashes of the flower arose the mango tree.

There is a poetic reference to the mango in Kalidasa's famous play *Abhijnana Shakuntalam*. When the hermit Kanva discovers that his adopted daughter Shakuntala has met Dushyanta, the man of her choice, he says

that, for long, he had been looking for a handsome mango tree—referring to Dushyanta—and that now that he had found one, he would give his Madhavi lata—Shakuntala—to him in marriage. Kalidasa has also mentioned that the navamallika flower is married to a mango tree (Buddhadasa and Kirtisinghe 1984, 38–42).

During the separation of Shiva and Parvati, Shiva sat under a mango tree and was united with Parvati through the grace of Lalitha, one of the aspects of Goddess Parvati who is also the Adi Shakti responsible for the creation of the world. Amra is the mango tree in Brahmasaras in the shape of Brahma; he who waters the tree will lead the pitrus (spirits of ancestors) to salvation (Vayu Purana, 43.6; Dikshitar 2003, I.166).

Shrimad Bhagavatam (5.16.16) says that a mango tree named Devachyuta found on the lower slopes of Mandara Mountain had mangoes as large as mountain peaks and as sweet as nectar falling from the treetop for the enjoyment of the denizens of heaven. It also says that the mango lives on the banks of the Yamuna River (Canto 10, Part 2.30.10).

According to the Agni Purana (247, 30–31), a mango tree should be watered with the washing of fish. It is still practised by mango growers in certain parts of Bengal.

The mango is given as prasad to devotees, to bring them prosperity and wealth. Small branches and pieces of the mango tree are used in sacrificial rites. The oblation may be offered only in that fire which is made out of this wood.

Some people use its small twigs as a toothbrush. But it is strictly prohibited to use it for this purpose on Sundays and Tuesdays.

In the sacred-thread ceremony, the mango is used in various capacities as a wooden seat (pitha) to sit on and as a slate on which the brahmachari writes down the alphabet.

While performing the marriage rites, the bridegroom sits on a seat of mango wood.

The funeral pyre of a person is made of mango wood, which is regarded as holy and sacred.

Mango is a suitable substitute for chichindi (a plant used as a toothbrush, especially on Rishi Panchami Vrat) on the fifth day of the waxing moon in the month of Bhadrapada (mid-September to mid-October). It is sinful to remove the leaves from this tree at night. A green mango tree is never cut down for it may bring disaster to the person who does so. Its fruit is symbolic of male progeny.

If a Hindu has planted a grove of mangoes, neither he nor his wife may taste the fruits until he has formally married one of the trees, as a bridegroom, to a tree of a different sort, generally a tamarind, which grows nearby (Frazer 1971, 151).

According to the sthala purana of Kayaroganeshwara temple at Nagappattinam, the sacred tree is the mango, which has two branches of two different species. Each branch bears a fruit with a different taste.

The Babur nama says that the mango is one of the fruits peculiar to Hindustan: 'Mangoes when ripe are good, but, though many are eaten, few are first-rate. They are usually plucked unripe and ripened in the house. Unripe, they make excellent condiments, good also preserved in syrup. Taking it altogether, the mango is the best fruit of Hindustan. Some so praise it as to give it preference over all fruits except the musk-melon, but such praise outmatches it. It resembles the kardi peach. It ripens in the rains. It is eaten in two ways: one is to squeeze it to a pulp, make a hole in it, and suck out the juice, the other, to peel and eat it like the kardi peach.' Akbar, the Mughal emperor, planted a garden of 1,00,000 mango trees near Darbhanga (Buddhadasa and Kirtisinghe 1984, 38–42).

According to Goan folklore, the mango tree was brought by Hanuman to India. The mango tree appears in the rituals of several Hindu festivities. Hindu brides, dressed in yellow, worship Gauri Xencor (Parvati and Shankar) so they will keep her soubhaguea (happily married) before a mango tree painted on a wall, between the sun and the crescent moon. Mango leaves are used to make garlands to decorate the mandap and home on special occasions, symbolizing joy and prosperity. The first rice shoot is wrapped in a mango leaf to be hung from the doors of temples and houses. Twigs are used as toothbrushes and leaves as plates at several ceremonies,

such as the panch-pallav. Twigs are also used to light the sacred fire (homa) at the ceremonies to appease the stars. Mango leaves are included in the mixture of five cow elements used to purify pregnant Hindu women. The child's cradle is surrounded by mango leaves as a good omen. One of the Hindu festivals in Goa is Zagor celebrated at the start of the spring. In the village of Carambolim, one of the oldest Comunidades of Goa, Zagor is celebrated with music and folk dances. In one of them the people sing, '*Ambya tujem pann ambotto*' (Oh mango! Your leaf is sour) (do Rego 2010).

According to a tribal tale, it is not only women who embrace the tree but men also walk around and embrace the mango tree a day before their marriage.

In tribal India, the bride and bridegroom walk several times around the mango tree before the actual marriage ceremony takes place. The groom smears the mango bark with vermilion and embraces it. The bride does the same thing to a mahua tree. Tribal songs and riddles usually centre on flora and fauna and the mango tree has its share.

An Odia song of the Dewar tribe highlights the sanctity and love with which the tribals hold the tree:

You have cut a Banyan  
You have cut a Pipal  
But why did you cut the Mango tree?  
It was as if you were carrying  
A cow's leg upon your head  
Why have you cast away your virtue?  
Why have you killed your nephew? (Gandhi and Singh 1989, 111)

According to an Odia tale, the tree was created by the Kittung from the thigh bone of a goat sacrificed to him, a bone left behind accidentally by the worshipper. The tree is also associated with the Kinchesum, a god accepting human sacrifice in the tribal world of India.

A marriage song, translated from Marathi, also deals with the tree theme. It is sung while erecting a marriage mandap (marquee), and goes like this:

The Mango tree talks to the Jambul tree,  
Let us go and invite the Umbar tree,  
I had sown the Umbar seed.

Thirty-three crores of gods witnessed it;  
Let every tree be an Umbar, O Umbar tree.  
Your branches have spread everywhere,  
One has gone to the sky,  
the other has gone to the under world,  
A third has come to the mandap of Ramraj.\*

The Gadaba and Kond tribes associate the mango with the human testicles which, they believe, the seed of the fruit resembles.

According to a Bonda story, death came to the world through the mango. Gadaba and Bondo mourners at a funeral have to step over the mango bark before they can return home. Gadabas also use mango branches in a prophylactic rite to avert disease from a village.

Practically all the tribes in India observe a mango fruit festival, before which it is taboo to eat the fruit.

The wood of the tree being sacred, it is included in the funeral pyres as well as in the sacred agnishtoma (fire) ceremony. The flowers of the mango are dedicated to the moon, to whom they are offered on the second day of Magha (February–March), and also to Madan, the god of love.

The mango tree is sacred to Hindus, Buddhists, and Jainas. In the Hindu religion, it is considered to be an incarnation or manifestation of Prajapati, the lord of creatures (S.M. Gupta 1991, 53). It has also been associated with goddess Ambika and Lakshmi (Huyler 1994, 323–49). It is a symbol of fertility and a happy conjugal life (Jha and Basak 1994, 9–18).

Sekkilar, the 12th century Tamil saint, in his Tirukkurrippu Tondar Puranam (V.75, 86) describes Kanchittanam (Kanchipuram) as a place full of kanchi trees. The commentator says that kanchi means mango, but kanchi is also identified with the river portia tree (Subramania Pillai 1948, 22).

According to a legend, Parvati, in the form of Kamakshi, worshipped Shiva in the form of a Prithivi lingam made out of sand, under a mango tree. Once, the neighbouring Vegavati River overflowed and threatened to destroy the sand lingam. Immediately, Kamakshi embraced it. Touched by her devotion, Shiva appeared before her and married her. Kama-kottam is described as ‘the temple in the mango grove’: kottam means temple

according to the Silappadikaaram (V.11, 171–72) and kāmam means mango tree. Kamakshi's names include Kalikambal (which includes amba or mango) and Dharmadevi, one of the names of the Jaina yakshi Ambika, derived from amba or mango. The temple of Ekamreshwara in Kanchipuram is replete with pillar reliefs of Kamakshi embracing the lingam beneath a mango tree (S.M. Gupta 1996, 95).

The mango tree of Ekamreshwara is believed to have mangoes of four different tastes, representing the four Vedas. Recently, the tree fell down, and a new sapling raised from the old tree has been planted in its place.

### *Medicinal Uses*

Mangiferin, an antioxidant, is extracted from young and old mango leaves and its bark. It has anti-diabetic, antioxidant, anti-fungal, antimicrobial, anti-inflammatory, antiviral, hepato-protective, hypoglycaemic, anti-allergic, and anti-cancer properties.

In Ayurvedic medicine, one of its uses is clearing digestion and acidity due to pitta (heat).

A dried powder of tender leaves is given for diarrhoea and sugar complaints.

The leaves are powdered and used as an antidote for poisonous bites.

A decoction of leaves and bark causes regeneration of the tissues and arrests bleeding. It is an effective mouthwash and relieves toothache and soreness of gums and throat. The bark is given to control excessive menstruation, dysentery, bleeding piles, and also profuse bleeding from the lungs, uterus, and bowels during diarrhoea (Dastur 1962, 106–07). In north India, a beverage is prepared from roasted unripe fruits and used to prevent sunstroke.

## Mangrove (Blinding Tree)

Botanical name:	<i>Excoecaria agallocha</i> L.
Common names:	Tejbala, Gangiva (Hindi) Thillai (Tamil) Agaru, Tilvakah, Ugaru (Sanskrit)
Habit:	Tree
Distribution:	Asia (temperate, tropical), Australasia, Pacific Cultivated elsewhere

The mangrove is also known as the blinding tree. It is a small, densely foliated, evergreen tree, attaining a height of about 2–8 m. It is a monocious, growing in sandy, saline regions. It was once found in plenty on the east and west coast of India.

The Sundarbans on the east coast and Pichavaram on the south-east coast are mangrove swamps. There are several sacred groves of the mangrove in the Sundarbans. The tree controls soil erosion and also acts as a windbreaker.

### ***Mythological and Religious Associations***

Sage Madyadinar learnt the four Vedas and six shastras, after which he wanted to realize the bliss of supreme wisdom. His father asked him to go to Thillai-vana (mangrove forest) near Chidambaram and worship the Swayambhulingam found there to fulfil his desires. Accordingly, the sage reached Thillai-vana and found the lingam under a mangrove tree. The sage

bathed and performed his daily rituals in the Shivaganga tank and prostrated before the lingam. He then erected a hut for himself and a leafy canopy for the lingam to ward off the sun and rain. By the grace of Shiva, Madyadinar obtained the limbs of a tiger and the vision to see in the darkness. Then Shiva named him Vyaghrapada and the Thillai-vana as Puliur or Vyaghrapuram (town of the tiger).

Sage Patanjali, an incarnation of Adishesha, the serpent couch of Lord Vishnu, wanted to see the sacred dance of Shiva, which he performed in the form of Nataraja. Adishesha expressed his desire to Lord Vishnu and, with his permission, came to Thillai-vana and met sage Vyaghrapada. Adishesha assumed the form of a serpent with a human face called Patanjali. Both Patanjali and Vyaghrapada worshipped Lord Shiva in Thillai-vana and, to their delight, the lord began his Ananda tandava, the dance of bliss, which he is believed to continue at Thillai or Chidambaram to this day. The mangrove is the sthala vriksha of the famous Nataraja Temple at Chidambaram, which is not far from the mangrove swamps of Pichavaram. Once upon a time, the sea extended as far inland as Chidambaram.



*Mangrove (blinding tree)*

King Simhavarman, who ruled the Gowda country, had a physical ailment. He heard from a hunter about the Swayambhu lingam at Thillaivana and its worship by Patanjali and Vyaghrapada. He therefore met them in the mangrove forest and told them about his illness and requested their blessings. After worshipping Lord Tirumulanatha, Vyaghrapada was informed by the all-merciful lord to ask Simhavarman to bathe in the



Shivaganga tank. Accordingly, Simhavarman bathed in the Shivaganga with veneration and was cured. Further, his body shone with a golden hue and since then he was known as Hiranyavarman or the gold-armoured. Tradition says that the gold recovered from the well near Chidambaram was utilized for gilding the roof of the temple, which is still visible today. The palaces of Hiranyavarman are believed to have stood to the east of the town (Meyyappan 1998, 5–88).

In the month of Aadi or Aashaadha (June–July), the gods are worshipped with the twigs of this tree. Exudation of this tree is made into incense for it is agreeable to the yakshas, rakshasas, and nagas.

### ***Medicinal Uses***

The latex of the bark and seed is used to treat nervous disorders. The latex of the fresh bark is poisonous and is used as an external application to heal wounds and injuries. It is also used as a caustic in treating obstinate ulcers (Asolkar, Kakkar, and Chakre 1992, 309). The seeds are used as an antidote for poisonous bites and for curing leprosy (Shanmugam 1989, 432).

# Marigold

Botanical name:	<i>Tagetes patula</i> L.
Common names:	Gaenda/Gendu (Hindi) Sendigai/Tuluka Samandhi (Tamil) Sthulapushpa (Sanskrit)
Habit:	Herb
Distribution:	North America Naturalized in Africa, India, Australia, Europe, South America

It is a herbaceous, decorative plant cultivated throughout India. It grows in well-drained soil as well as in heavy clay soil.

The flower extract is sometimes used as a food colouring agent. The flowers are used to prepare fabric dyes and are also used to prepare colours during the festival of Holi.

## ***Mythological and Religious Associations***

The flowers are used as an offering to Lord Vishnu.

Among the Gond tribes of central India, a legend connects the origin of the gaenda with Kondmuli, their folk deity. It is believed that Kondmuli abducted the wife of another god and, in the fierce battle that ensued, the other god emerged victorious after severing Kondmuli's head. Kondmuli's wife wept copiously as she dragged back her husband's body. She dropped her hairpin and, watered by her tears, a marigold sprouted at the place the

hairpin landed. The flower was known as 'gonda' and eventually the name gaenda evolved (Gandhi and Singh 1989, 179–80).

Marigold is one of the flowers commonly used in garlands, and also as offerings to Hindu deities, especially in north India. In Tamil Nadu, however, marigolds are considered inauspicious and never used in religious ceremonies, whereas the garland on a corpse is invariably made of marigold flowers in most parts of India.



*Marigold*

### ***Medicinal Uses***

The juice of the flower is used in traditional medicine to purify the blood and as a remedy for bleeding piles.

The essential oil from the leaves is reported to have anti-fungal and insecticidal properties.

Marigold is used to treat various health complaints. It is said to strengthen the heart when taken as a tea. It acts as an antioxidant that protects the eyes from free radical damage. The leaves are used to heal conjunctivitis, cuts and scratches, and bruises. The fresh leaf is ground, the juice squeezed, and a few drops applied at a time to the affected part (Shanmugam 1989, 334).

## Mountain Ebony

Botanical name:	<i>Bauhinia variegata</i> L.
Common names:	Barial, Kachnar (Hindi) Sigappu Mandarai (Tamil) Raktakanchana, Raktapushpa, Gandari, Yugapatraka, Kantar, Kovidara (Sanskrit)
Habit:	Tree
Distribution:	India, China, Pakistan, Bhutan, Laos, Vietnam, Myanmar, Thailand

It is a small- to medium-sized tree, with a spreading bushy crown and growing to about 15 m in height. It usually grows in sub-Himalayan tracts, Assam, the Khasi Hills and in the western peninsula. It is characteristic of mixed deciduous and sub-montane semi-evergreen forests. It is deciduous in the dry season. The leaves are long, broad, rounded, and bilobed at the base and apex. The flowers are bright pink or white, with five petals, and scented. The fruit is a pod containing several seeds. It is a popular ornamental tree in India, attracting hummingbirds, and is cultivated for its beautiful flowers. It can grow in a variety of soils, from sandy loam to gravel.



*Mountain ebony*

The leaves are used as fodder. Flowers, young leaves, and buds are eaten after either cooking or pickling (Santapau 1966, 15). The wood is used to make agricultural implements and as firewood. The bark of the root, even in small quantities, is poisonous and is used to extract tannin, brown dye, and gum and to make ropes (Krishnamurthy 1993, 184, 344). It is tolerant to air pollution (Das and Prasad 2010, 978–88). The leaves absorb air pollutants through their stomata openings and it has been reported that a leaf can collect about 3.9 gm of dust particles from the atmosphere (Pandey and Chasta 2006, 93–106).

### ***Mythological and Religious Associations***

The mountain ebony is a sacred tree to both Hindus and Buddhists.

It is mentioned frequently in the Ramayana. Bharata's chariot is recognized by a flag with a kovidara ensign. Lakshmana tells Rama of the arrival of Bharata's chariot, bearing a flag with the emblem of the kovidara tree. He also says that the flag could come under their control in a battle (Ramayana, 2.96.18–21).

The whole of Kailasa Hill is decorated with many kinds of trees, of which the kovidara is one (Shrimad Bhagavatam, 4.6.14–15). It is one of the five ever-blooming trees of Indra's heaven.

According to the Kurma Purana (2.14.78; 20.47), studying under the shade of this tree is forbidden. The Shivamanjari states that the flowers are used in early morning worship.

It is sacred to Lord Shiva and is worshipped during Durga Puja (Birdwood 1992, 87). It is mentioned in the Charaka Samhita. According to the Tamil Abhidhana Chintamani, it is an incarnation of sage Mandhara, hence the name mandharai.

### ***Medicinal Uses***

Kachnar is used to cure asthma and ulcers. The buds and roots are good for digestive problems.

Several parts of the tree have medicinal value. An infusion of the flower bud is an excellent remedy for cough, profuse internal or external bleeding, and excessive menstruation. A mixture of the kachnar bark, the bark of the gum arabic tree, and the pomegranate flower is made into a decoction, and given for excessive saliva secretion and sore throat. The flowers have a mild purgative effect (Shanmugam 1989, 649). The root is popularly believed to be a remedy for snake poison (Sinha 1993, 45).

## Needle Flower Jasmine

Botanical name:	<i>Jasminum auriculatum</i> Vahl.
Common names:	Juhi, Juvi (Hindi) Oosimalligai, Vanamalligai (Tamil) Jati, Hemapushpika (Sanskrit)
Habit:	Shrub
Distribution:	India, Nepal, Sri Lanka Cultivated in Pakistan and Thailand

The generic name *Jasminum* is derived from the Persian yasmin, which means ‘gift from God’.

The flower acts as an environmental purifier. In order to keep the temple complex and environment clean, needle flower jasmine shrubs are necessarily grown around sacred places (Nayar, Ramamurthy, and Agarwal 1989, 36).

It is a climbing shrub, often twining. It grows widely and is also cultivated on the plains.

### ***Mythological and Religious Associations***

The needle flower jasmine was worn by the Sapta Kanyas as a symbol of chastity. It is associated with Goddess Kali, the consort of Lord Shiva. The flowers have been traditionally used for making garlands. The flowers are worn in the hair by women in south India and are in great demand for their

fragrance and beauty. According to Subramania Pillai (1948, 46), Goddess Kali had a giant jasmine creeper, whose tendrils reached the moon. Thus, the growing of the jasmine creeper and the wearing of its flowers is deemed as the infallible symbol of feminine purity.



*Needle flower jasmine*

According to the sthala purana of Madhavi-vaneswara temple at Tirukkarukavur, rishis Gautama and Gargeya performed penance at this mullai-vanam (jasmine forest). A couple, Nidura and Vedika, lived there and served the rishis. The rishis advised them to worship the gods and goddesses of the mullai-vanam to be blessed with children. They acted accordingly, and their prayers were answered. One day, sage Urdvapada came to their abode and asked for alms but Vedika did not respond, as she was in an unconscious state owing to her pregnancy. The sage cursed her in anger and, as a result, her foetus disintegrated. Vedika worshipped the goddess to protect her child whom she named Naidruvan. It is believed that she remains in this place as Garbha Rakshambika with special benevolence for pregnant women. Since then, this sacred place has been known as Tirukkarukavur. It is believed that by worshipping this goddess, couples are blessed with children.

The Saraswati Vandana mantra describes the goddess Saraswati thus: ‘as white as a jasmine flower, coloured moon or a snow flake ...’ (Sehgal 1999, 1214).

### ***Medicinal Uses***



Fresh jasmine flower and its oils are applied externally to treat sores. The root extract is used to wash the eyes. Oil extracted from the flower is used as hair oil (Bir and Chatha 1988, 93). When gargled, the leaf extract cures ulcers in the mouth. The flower, fried, crushed and mixed with ghee, is applied to the breasts of a nursing mother to check collection of pus. It also induces menstruation and cures urinary disorders (Tirugnanam 1995, 42–43).

# Neem

Botanical name:	<i>Azadirachta indica</i> A. Juss
Common names:	Nim, Nimb, Nimgachh (Hindi) Vembu, Veppam (Tamil) Nimba, Nimbika (Sanskrit)
Habit:	Tree
Distribution:	India, Bangladesh, Myanmar Naturalized elsewhere

The word neem is derived from the Sanskrit nimba. It is known as the sarva roga nivarini or curer of all illnesses. It has many other names in Sanskrit, including neta, which means leader (of medicinal plants), and arishtha, which means insect-resistant.

The tree has been described as the ‘heal all’, ‘divine tree’, ‘village pharmacy’, and even ‘nature’s drugstore’. The neem is one of the five essential trees prescribed for every Indian garden.

The neem is a fast-growing evergreen tree with an irregularly rounded crown, which reaches a height of 15–20 m. It is native to India and grows throughout the dry regions of the country. The neem tree is resistant to drought and grows in many different types of soil but thrives best in well-drained, deep, sandy soils. It is one of the very few shade-giving trees that thrive in drought-prone areas.

When the fruits are small, yellow berries, they are eaten by birds, bees, and other insects, which are attracted by the sweet-scented flowers (Cowen 1984, 17–18).

Neem leaves are laid on the floor of the room, particularly under the bed of a person affected by measles, mumps, or chickenpox. Neem leaves are hung on the doorway to announce Shitala's (goddess of the poxes) presence in the house. An incidence of smallpox is never mentioned derogatorily, lest the victim is struck dead by Shitala, but is referred to as mai-daya (mother's kindness) or mai-khel (mother's play) (Vaidya 1992, 76–77).

The bark of the tree contains tannin, which is used in tanning and dyeing. A dye prepared from the bark is used to colour fine-textured fabrics and make a deep colour. Gum (amber coloured) is extracted from the bark.

In south India, its wood is used to make furniture. Neem wood is used for carving images of the gods and toys and also for making agricultural implements, carts, boards, and panels all over India. The bark yields fibre that is woven into ropes. Traditionally, dried leaves are used as an insecticide.

The tender leaves can be consumed as curry, while the mature leaves serve as cattle feed. The oil, yellow in colour, is extracted from the seed kernel and used for preparing toothpaste, soap, bath powder, shampoo, skin cream, and mouthwash. The oil is also used as an insecticide and pesticide. The seed cake is used to feed cattle to increase the output of milk.

Neem expels more oxygen than other trees and acts as an air purifier. It is resistant to gaseous pollution (combined gaseous pollutants, emissions of oxides of sulphur, nitrogen, and carbon from chemical industries and thermal power plants). It is also tolerant to sulphur dioxide. The leaf surface collects dust particles from the atmosphere (2.92 gm per m<sup>2</sup> per day), is drought tolerant, and helps reduce soil erosion. It is a tree with wide climatic adaptability and survives adverse soil conditions (Lal 1993, 15–17).

### ***Mythological and Religious Associations***

It is believed that planting a neem tree in the house ensures a passage to heaven. Its leaves are strung on the main entrance to the house to keep away evil spirits, pests, and diseases. Brides bathe in water in which neem leaves

have been soaked. Newborn babies are laid on neem leaves to protect them from infection and disease.

For centuries, the neem has been closely associated with the life and culture of the people in the Indian subcontinent. The tree is called a ‘symbol of truth’. Anyone who utters falsehoods beneath a neem is believed to fall ill. The neem is India’s wonder tree and finds mention in a number of ancient texts.

Considered to be a gift of the gods, it is held sacred by Hindus all over the country. An old proverb says:

The land where the Neem tree abounds,  
Can death, disease there be found?

Neem amulets found in Mohenjo Daro are evidence to show that it was used from the earliest times (Patnaik 1993, 40–42).

When Rama returned to Ayodhya with his wife, Sita, and brother Lakshmana after spending fourteen years in exile, the people of Ayodhya were so happy that they celebrated the day by displaying gudis at the entrances to their homes. A gudi is a long pole at the top end of which a coloured silk cloth is pleated and fixed with a silver or brass pot. It is then decorated with a small garland of the flowers and twigs of the neem tree, the plant that purifies (Vaidya 2005, 34).

The neem was sacred enough to be offered to the gods themselves. Planting a neem tree has been a popular custom since ancient times.

There is mention of this tree in the Varaha Purana (172.39): it was planted during a ceremony called Vana-mahotsava. The Matsya Purana forbids the use of neem timber for construction purposes, since it is sacred. According to the Narada Purana, its stick is used in the homa ceremony. Its wood is used to make the idol of Ganesha and its leaf for worship (Nambiar 1979, 301).

In Buddhist Jataka tales, the neem tree is referred to as nature’s bitter boon (N. Kumar 1998, 29–31).

Sometimes, where there is no temple, a neem tree is worshipped since Devi is supposed to dwell within the plant. In villages where local deities have no temples, they are lodged in the open, under the shadow of a big

tree. The tree is regarded as the embodiment of the deity and receives all acts of worship meant for the deity. The tree usually considered sacred to protect the local deity is the neem (Ramayya 1985, 16).

In forests in south India, neem trees may be found decorated with kumkum and red cloth and garlanded with beads, since they represent Vana Durga, goddess of the forest, while shrines to Kali are situated beneath neem trees. The trees are given the same reverence and offerings as the gods.

In Odisha, the deities Jagannath, Balabhadra, and Subhadra are carved out of neem wood, in a pillar-like form on which the face is painted, while the arms are short stubs (Misra 2007, 67–69). The leaves are used in the feast connected with the last rites of death by certain tribes of Odisha (S.M. Gupta 1991, 3).

The neem is considered to be male in Rajasthan and the Punjab. Since women in purdah do not show their faces to strange men, women in Rajasthan cover their faces with a veil when passing a neem tree.

Among the Govardhan Brahmans of Pune, neem leaves are hung at the front and back doors of the house when a child is born. The purpose is to keep out infections.

There is an inexplicable connection between the neem and the pipal, for wherever the pipal grows, so does the neem. As a result, people in Tamil Nadu and Andhra Pradesh perform the wedding of the pipal and the neem in the summer months, as a fertility rite to invoke rain.

In Andhra Pradesh and Tamil Nadu, pipal and neem trees are planted close to each other so that they may intertwine as they grow. A naga idol is placed under them and worshipped. Women desiring children install snake stones with stylized cobras, representing Nagamma (the snake goddess), under these sacred trees. They are installed to the accompaniment of prayer and ritual. Women take an early morning bath and circumambulate these trees. Vows are taken at a snake shrine with the object of conception, and if a child is born, it is generally named Nagappa or Nagamma.



*Neem*

There are many folk beliefs centred on the neem, which is still valued for its capacity to exorcize demons and evil spirits. An image of the folk goddess Shitala can often be seen suspended from a neem branch, where she stands guard against smallpox. Shitala, ‘The Cool One’, or the goddess of smallpox, is said to inhabit this tree, because neem leaves exercise a curative effect. There are many folk songs in Hindi in which a stirring appeal is made to the goddess to free the patient from torment. In the month of Chaitra (March–April), during nav-ratra, women worship Shitala with offerings of flowers, vermilion, and other fragrant objects.

Leaves of the neem are used to drive away evil spirits. If a man is possessed of a spirit, he is made to smell the bitter smoke of burning neem leaves. To ward off malicious spirits, small pieces of neem are burnt in a fire pot placed near the door of confinement rooms. In north India, neem leaves are used to protect people from spirits of the dead while returning from the cremation ground.

There is a belief in Maharashtra and Gujarat that when a woman is blessed with a child, an earthen pot filled with cow’s urine and neem leaves should be placed outside the door of the confinement room. It is still a custom among the Chitpavan Brahmans of Maharashtra that if a person enters the confinement room, he has to sprinkle cow’s urine on his feet with a neem twig. The neem and cow’s urine are believed to prevent infection.

In Ahmednagar, if a man is bitten by a snake, he is immediately taken to the temple of Bhairav where he is administered neem leaves mixed with black pepper. The priest tries to remove the effect of the bite by uttering charms and touching the body of the patient with a tuft of leaves.

In 1892, writing about the Jogis, a criminal (subsequently denotified) tribe of the former Madras Presidency, Mullaly said that they revered the neem and branded their dogs with a representation of the tree (Mullaly 1892, 20).

The Banjaras test the chastity of their wives by means of this tree. The husband throws a stick of neem on the ground and says, 'If you are a chaste wife, lift up the staff in your hand.'

The Doms of Uttar Pradesh believe that Kali, the Divine Mother, dwells in this tree. Sometimes stones representing Kali are placed before the tree and worshipped.

There is a legend about the powerful medicinal attributes of the neem. A woman, whose husband was about to set out on a voyage, wished to ensure his early return. She consulted a doctor who told her that she must advise her husband to sleep under a tamarind tree every night on the outward journey and under a neem tree every night on the homeward journey. He agreed to do so. The tamarind is reputed to exude unhealthy, acidic vapours so, before too long, the unfortunate man found himself too sick to travel. He returned and the healing power of the neem trees under which he slept every night of his return journey worked so effectively that, by the time he reached home, his sickness was cured.

The neem symbolizes the mother to whom daughters are like sparrows: when they leave it for their new homes, the tree feels lonely like the mother whose daughters leave her when they get married. This sentiment is admirably expressed in a hindol (swing) song in Awadhi. Translated, it goes thus:

Father, never cut this Neem tree,  
The Neem offers rest to sparrows.  
Father, never trouble your daughters,  
Daughters are like the sparrows.  
All the sparrows will fly away,

The Neem will feel so lonely.  
To their father-in-law's (home) will all the daughters leave,  
Mother will feel so lonely.

### *Medicinal Uses*

The Shantiparva of the Mahabharata says that the neem tree is used for medicinal purposes. Kautilya's Arthashastra (2.15, 25) mentions its curative properties and uses in the indigenous medicine of India. Charaka Samhita gives the procedure to prepare decoctions from various parts of the tree and their corresponding use for the treatment of a wide variety of ailments. Sushruta Samhita describes the medicinal uses of the neem bark, leaves, and fruits.

Varahamihira's Brihat Samhita contains a chapter on herbal medicines. It recommends that the neem tree be planted near dwellings; smallpox and chickenpox can be cured or staved off with neem leaves.

The Kanphata (pierced ear) Yogis of Kutch and Saurashtra pierce their ears and then use small pieces of neem in their ear lobes. They apply its oil to cure the wound. This is common in most other parts of India also. The neem twig is an excellent healer of wounds and is worn till the hole on the ear lobe heals, after which it is replaced by a gold earring.

Bathing in an infusion of neem leaves clears away scars, and marks the ritual termination of an attack of chickenpox or measles. Renowned for its antiseptic and disinfectant properties, the tree is thought to be particularly protective of women and children.

The oil extracted from the fruit of the neem tree possesses much medicinal value. Neem oil is not used for cooking purposes. It is used for preparing cosmetics (soap, hair products, and creams) and in Ayurvedic and Unani medicine, in the treatment of a wide range of problems, including skin disorders, fevers, leprosy, malaria, tuberculosis, and rheumatic problems. It has antiseptic, diuretic, anti-inflammatory, and germicidal properties. It is an insect repellent, household insecticide, and bio-pesticide, repelling a wide variety of pests and insects. It is used to prevent the spread of smallpox, chickenpox, mumps, and measles. Neem oil is not harmful to



mammals, birds, worms, and some beneficial insects such as butterflies and bees. A yellowish oil is extracted from the seed kernel and is used for preparing toothpaste and soap.

If a man is thought to have been bitten by a snake, he is asked to chew neem leaves to check whether the venom is still in his body: if he finds its taste bitter, he is regarded as free of the poison.

Its most common use is as a toothbrush and paste. The twig has been used as a toothbrush-cum-paste since ancient times and even now, in places in rural India that have yet to adopt branded toothbrushes and toothpaste, the neem performs this function.

A paste of the leaf with turmeric powder is applied externally on smallpox pustules, for virus infections, itching soles, cracked heels, and to heal boils and burns.

A paste of the flowers, if consumed regularly, stops burning or watering eyes, biliousness, giddiness, vomiting, and heartburn. The ripe fruit can destroy worms in the stomach (Shanmugam 1989, 760–61).

Neem oil is applied as an antiseptic dressing in leprosy, allergies, and skin diseases like itching, scabies, and ringworm. It is also used for treating lice (Dastur 1962, 29–31).

## Night Jasmine

Botanical name:	<i>Nyctanthes arbor-tristis</i> L.
Common names:	Har, Harsingar (Hindi) Parisadam, Pavalamalligai (Tamil) Parijata, Harashingarpushpaka (Sanskrit)
Habit:	Shrub
Distribution:	Asia (tropical), Indian subcontinent

The species name in Latin indicates dull-coloured trees. The tree is called the tree of sorrow, because the flowers lose their brightness during the day; the specific name *arbor-tristis* also means sad tree.

The bark is a source of tannin, and its dried twigs are used as fuel.

An orange-coloured dye called nictanthin, obtained from the bright orange corolla of the flower, is used for dyeing silk. It has also been used in Mithila paintings. The flowers can be used as a source of yellow dye for clothing.

It is a pollution-tolerant shrub whose fragrance freshens the air (Nayar, Ramamurthy, and Agarwal 1989, 36). However, there is a belief that the smell could be toxic.

The parijata flower is the official flower of the state of West Bengal, where it is known as shefali or shiuli.

### *Mythological and Religious Associations*

According to the Ramayana (1.45.17–1; 45.45), the tree originated during the samudra manthan or ‘churning of the ocean’, along with Kamadhenu the ‘wish-giving cow’, and the king of the gods, Indra, returned with it to his paradise. It is believed that the parijata tree grows in Indra’s paradise and its scent perfumes the world. The trifoliate leaves symbolize the Trimurti, the middle leaflet representing Vishnu, the right and left Brahma and Shiva respectively. Usually, Hindus never offer fallen flowers in prayer but, in the case of the parijata, fallen flowers are picked and offered to the gods.



*Night jasmine*

Another legend from the Vayu Purana about its origin says that this shrub was a king’s daughter named Parijatika who fell in love with the sun. But he soon deserted her, upon which she burnt herself, and from her ashes rose the parijata shrub. Hence its flowers bloom at night, as it cannot bear the sight of the sun. This is indeed a sad tale justifying its name, the ‘Sad Tree’ (S.M. Gupta 1991, 65). The tribals of Dandakaranya have a similar story, which explains why the parijata blooms only at night and the flowers fall away at sunrise. According to their story, the daughter of a tribal chief fell in love with the sun god. The god reciprocated her love but soon betrayed her by deserting her. She died of grief and her body was cremated. The ashes blown by the wind fell all over Bharata desha and a tree grew wherever the ashes fell. That explains the distribution of the plant all over

India. The flower, which personified the love the girl bore for the sun god, would not like to see him again. So the tree flowers during the night and the blooms fall at sunrise.

According to the Mahabharata (1.18.48–55), the parijata was brought down from heaven to Dwarka by Lord Krishna. Indra planted the parijata tree, one of the products of the samudra manthan, in his garden. Narada, who delighted in sowing discord, brought a flower of this tree to Dwarka and presented it to Krishna. He waited to see to which of his wives Krishna would give the flower. Krishna gave it to Rukmini, whereupon Narada went straight to Satyabhama and advised her to ask Krishna to bring the parijata tree itself to Dwarka, and plant it near her abode. Satyabhama repaired to the ‘anger chamber’ and, when Krishna tried to console her, said that she would not be satisfied with anything less than the parijata tree itself. Krishna proceeded to Amaravati (Indra’s heaven) with Satyabhama, stole into Indra’s garden, and uprooted the parijata tree. Mounted on Garuda, he escaped with the tree but Indra, warned by Narada, followed him. A battle followed in which Indra was defeated, and Krishna brought the tree to Dwarka. Now he had to face the problem of fulfilling his promise to Satyabhama without offending Rukmini. He solved the problem by planting the tree in such a position that while its base and trunk lay within Satyabhama’s garden, its branches extended over the adjoining palace of Rukmini, scattering flowers in her garden early in the morning.

Indian Muslims plant this shrub near their tombs and beside the tombs (dargahs) of saints so that they may be covered by fallen flowers in the morning.

The Matsya Purana and Padma Purana (4.10.1–4) say that the parijata tree is a kalpa vriksha, because it remains with each one of us from birth, and one gets whatever one desires under its shade.

The flowers of the parijata are also the emblem of Goddess Varuni. Buddhist monks also used this to dye their robes (Cowen 1984, 137).

### ***Medicinal Uses***

Oil extracted from the bark of the shrub is used to treat cough and is also good for the eyes. The powdered seed is a remedy for skin diseases and also used to dust on scaly scalp infections (Dastur 1962, 121).

The tender leaves are mixed with ginger juice and used to treat fever. When the leaves are soaked in water and consumed twice a day, body pain is reduced. The juice extracted from the leaf, when mixed with salt and honey and consumed, eliminates intestinal worms (Shanmugam 1989, 547).

The seeds, flowers, and leaves possess immune-stimulant, hepato-protective, anti-leishmanial, antiviral, and anti-fungal properties. The leaves are used in Ayurvedic medicine to treat sciatica, arthritis, fevers, various painful conditions, and constipation (Puri et al. 1994, 31–37).

## Palmyra Palm

Botanical name:	<i>Borassus flabellifer</i> L.
Common names:	Tal, Taltar (Hindi) Panai (Tamil) Talah, Taladrumah (Sanskrit)
Habit:	Tree
Distribution:	India, Sri Lanka, Myanmar, Thailand, Indonesia, Malaysia, Papua New Guinea

The palmyra palm is a tall, swaying tree. The word *Borassus* is derived from a Greek word meaning ‘the growing spadix of the date with immature fruit’, the leathery covering of the fruit. *Flabellifer* means ‘fan bearer’.

It is a healthy tree that can live for more than 100 years. It reaches a height of 30 m. It bears a terminal crown of large fan-like leaves forming a green-blue canopy, with several fronds spreading across 3 m. The large trunk resembles that of the coconut tree. Young palmyra palms grow slowly in the beginning but then grow faster with age. The stem is black and consists of a hard outer portion, mainly composed of stiff longitudinal fibres. The palmyra palm is native to tropical Africa but it is widely distributed all over tropical and subtropical regions. It grows in the drier regions of peninsular India.

The leaves are used to make fans, umbrellas, baskets, mats, and material for thatching roofs. Timber from the stem is used to make rafters, pillars, and posts in building construction and also for constructing crude bridges.

The timber is used to clear gutters and to make small fancy articles (Cowen 1984, 101–03).

Like the coconut, it has an inestimable value in India. Palm jaggery and sugar are used in the manufacture of sugar candy. The seed consists of a soft, sweet, gelatinous pulp with a little liquid inside, much relished in summer. The young seedlings and fleshy roots yield starch from which flour is made. The leaf stalk contains strong and long fibres used in preparing brushes and brooms. The leaf stalks also yield a fibre called bassine. A kind of black gum is extracted from this tree. In ancient days, the leaves were used as writing material (Santapau 1966, 75).

The leaves of the palmyra palm act as a sink for dust particles. It is a suitable plant for the dry regions of India. It can also be grown in the coastal regions as it controls wind speed.

The tree is the official tree of the state of Tamil Nadu.

### ***Mythological and Religious Associations***

Knotted young palm leaves are used as toranas to adorn entrances at home and temples on auspicious occasions, to signify good fortune. Hindus hang the leaves and fruits on their doorways on ceremonial occasions and on marriage pandals (Cowen 1984, 101–03).

The Ramayana describes it as a tall tree in Bharadwaja's ashram (2.91.50). The large leaves were used for thatching Rama's cottage in Panchavati (23.35.13). It is a charming tree of Panchavati forest (3.15.16); a decorative tall forest tree (3.44.16); with a big leaf, used as a fan (5.56.36); many tala trees surround a lofty mountain (6.22.56); it is used as rafters in bridge construction (6.39.3); it is found in abundance in Lanka's Suvela Mountain (6.67.159); it is used as a long and hefty weapon in war (6.77.61); its ripe fruits are likely to be felled down by strong winds (4.40.53).

In the Mahabharata, it is mentioned that bows were made from this tree. The leaf is used as a seat during worship and in making gifts (S.M. Gupta 1987, 110–16). It has been depicted on the bas-reliefs of Bharhut, Sanchi, and Amaravati.

Palm juice is said to be one of the favourite beverages of Lord Shiva and his followers. The author of Bhagavata Purana has described the votaries of Shiva thus: ‘Let that purity of those whose lives are lost and whose reasoning is clouded, embrace the Shaiva cult and keep matted hair, besmear their bodies with ashes and put on garlands of bones. To those who are thus initiated, the four kinds of wine, viz. gaudi, pausti, madhvi and asava [i.e., made of the juice of the palm tree] are as welcome as the Gods themselves.’ Thus sanyasis, on their initiation into the Shaiva cult, delighted in wine, matted their hair, smeared their bodies with ashes, and worshipped Shiva. There is a legend in the Shrimad Bhagavatam (10.15.33, 34). The asura Dhenuka used to live in the tala forest around Gokul and Vrindavan and terrorize all the inhabitants, although his main target was Krishna. One day, Balarama and Krishna went to the tala forest, which was the abode of Dhenuka, and shook the trees. The fruits, as they fell on the ground, made a loud noise that attracted the attention of Dhenuka who, in the form of a donkey, charged at the two brothers. Balarama killed him and threw his carcass on top of the trees.



*Palmyra palm Shiv ling, Taraknath Temple, Tarakeshwar, Hooghly District, West Bengal*

The pale spikes of the fanned leaves of the palmyra palm were used to make the crown of the Chera kings in ancient Kerala. Even today, in the state of Kerala, these fine white knots gleam against the dark timber of temple arches on ceremonial occasions. Elsewhere, palm leaves are woven into sleeping mats and fans or into capes by workers in the paddy fields, for protection against the violence of tropical storms.

In his hand, a spear ...  
In his black hair ... white leaf needles  
From the crest of the young palmyra

(Purananuru, ca 3rd century CE)



The palmyra has been described by Tamil poets as a kalpa vriksha, in honour of its many uses. The famous Tamil poem ‘Tala Vilasam’ (‘Origin of the Palm Tree’) enumerates no fewer than 801 different purposes for which various parts of this tree are used. This is because every part of the tree is used one way or the other, as much as the parts of the coconut palm.

The tree is sacred to both Hindus and Buddhists. This may be due to its leaves being used for sacred writings (Patnaik 1993, 101). For centuries, the tree was the guardian of scholarship, with palmyra leaves used as the material on which books and records were written until replaced by paper and the printing press.

The Shiv ling at the famous Tarakeshwar temple near Kolkata in West Bengal is made out of the stump of the palmyra tree. The actual name Tarakeshwar is said to be derived from the word ‘tar’, meaning palmyra palm. The leaves and fruits are used for decorating marriage pandals (Cowen 1984, 101–03).

According to Oppert (1972, 501), the palmyra palm is not only associated with Shiva but also with the minor village goddess Panai-veriyamman. She is fond of palmyra toddy and thus known as Tala-vana-vasini.

### ***Medicinal Uses***

The juice of the leaf checks sudden muscular spasms of the respiratory organs and heals wounds. The powdered root increases secretion of urine and is used to treat venereal diseases with painful discharge from the urethra. Ash of the dried flower stalk is consumed as an antacid for heartburn. It is also used for bilious infection and enlarged liver and spleen.

The milky fluid extracted from the unripe fruit cures muscular contraction of the respiratory system. The pulp of the ripe fruit is an external applicant for skin diseases (Dastur 1962, 37; Shanmugam 1989, 550). A poultice of fresh toddy cools the body. The palm sugar prepared from toddy is used as an antidote for poisoning.

# Pipal

Botanical name:	<i>Ficus religiosa</i> L.
Common names:	Pipal (Hindi) Arasu (Tamil) Ashvattha (Sanskrit)
Habit:	Tree
Distribution:	India, Nepal, Bangladesh, Pakistan, Myanmar, Thailand, Vietnam Cultivated elsewhere

The pipal tree is a species of the banyan fig, native to the region extending from the Indian subcontinent to Indo-China and south-west China. The pipal leaves are cordate or heart-shaped, with a distinctly extended tip. It is an average-sized tree with a large crown and branches that spread wide. The pipal is a deciduous tree that can grow up to 30 m in height, with a trunk that is almost 1 m in diameter. The tree sheds its leaves in March and April, the months of spring. The pipal bears a fruit, a small fig, which ripens in the month of May. These figs grow in pairs, just below the leaves and look like purple berries. The bark of this tree is light grey and smooth, and peels off in patches.

The pipal is one of the nine plants whose twigs are used in yagnas (sacrificial fires). The leaves are used as fodder for elephants and cattle. Its wood is used for making packing cases, yokes, spoons, bowls, and matchsticks. Dark red colour is extracted from its bark and used in tanning.

Dried pipal leaves are used for decoration. The leaves are cleaned, dried, and painted with gold acrylic.

The pipal tree releases oxygen all day and night. One tree can supply the oxygen requirement of four persons per day (Nayar, Ramamurthy, and Agarwal 1989, 35).

### ***Mythological and Religious Associations***

The Maha Bodhi tree, a pipal tree located at Bodh Gaya, Bihar, is recorded as having been planted in 288 BCE by Emperor Ashoka. This is the oldest verified age of any angiosperm or flowering plant. It is believed that Siddhartha Gautama, the founder of Buddhism, achieved enlightenment or bodhi under this tree in Gaya. He came to be known as Gautama Buddha or more commonly as the Buddha. Even Lord Buddha has said: 'He who worships the pipal tree will receive the same reward as if he worshipped me in person.' It is for this reason that this tree is sacred to the followers of Buddhism. A sapling from a branch of the original tree was planted in Ceylon (now Sri Lanka) in 228 BCE and is still alive.

Hindus believe that Lord Vishnu was born under this tree and Lord Krishna died under it. Also, since the Vedic period, Hindu holy men have been known to meditate sitting under this tree. Hence, this tree is also sacred for the followers of Hinduism.

In many of the narrative scenes on pottery, it is observed that the deities emerge from the centre of a pipal tree or stand under an arch of pipal leaves.

Historically, the pipal tree holds a lot of significance. It is among the oldest known trees to be depicted. The first reference to the worship of the pipal tree was found on a seal discovered at Mohenjo Daro, one of the major cities of the Indus Valley Civilization. On another seal from Mohenjo Daro, two unicorn heads emerge from the stem of a stylized pipal tree. Painted pottery of the Indus Valley often included pipal trees (Crooke 1993, 254–55). A well found in Mohenjo Daro has been constructed in the shape of a pipal leaf.

The pipal and banyan are quite common in Hindu mythology, where they serve as important symbols of fertility, protection, and death.

Ganesha idols or snake stones are often placed at the base of the pipal tree to pray for children. Rituals to the goddess Savitri are also performed beneath the tree to ensure children and avoid widowhood.

The word 'pipal' is derived from the word pippala. Ashvattha is the Sanskrit name for the pipal tree, and literally means 'where horses stood'. In the past, when horses were the main form of transportation, it is likely that they were tethered to the ashvattha trees that were planted along roads in every village, providing shelter to all creatures.

According to Adi Shankara, the pipal tree represented the entire cosmos and the word 'ashvattha' meant 'one that does not remain the same tomorrow', or the universe itself.

The pipal is probably the best-known tree of India and is found in almost all the villages of the country. It is the most sacred tree because it is the dwelling place of the Hindu Trinity: Brahma, Vishnu, and Mahesh (or Shiva). Its roots, it is believed, represent Brahma, its bark Vishnu and its branches Shiva. The tree has been described as 'Tree of Knowledge', 'Tree of Life', 'Tree of Eternal Life', and 'Tree of Creation'. It spreads its branches to bring blessings to all creation. It is closely connected with fertility: it is worshipped by women for fertility and longevity. It is looked upon as an incarnation of Lord Vishnu and as an embodiment of Goddess Lakshmi. To fell a pipal tree was looked upon as a great sin. On the other hand, anyone who planted a pipal was said to receive the blessings of future generations who will continue to benefit from this act.

The sanctity of the pipal tree can also be traced to the Vedic ritual of kindling the sacrificial fire at religious ceremonies by rubbing two pieces of wood, one of which was the ashvattha. The ceremony was called the birth of Agni, or fire (Ragozin 1961, 159).

The Rig Veda (X.5.10) says that this tree is a symbol of the cosmos, which is described as a tree with 1000 branches. It also refers (I.35.8; X.97.5) to utensils and vessels fashioned out of the wood of the ashvattha tree. The tree was closely connected to the Maruts. For offerings made to

the Maruts, the leaves of the pipal served as containers and vessels were made of its wood (Shatapatha Brahmana, IV.3.3.6).

The Atharva Veda (V.4.3) refers to the pipal tree as the permanent seat of the gods. Thus revering the ashvattha was reverence for the gods themselves, as it is believed that this tree was grown in heaven: asvatthodeva sadanah (Atharva Veda, XIX.39.6).

In the Upanishads, the fruit of the pipal is used as an example to explain the difference between the body and the soul: the body is like the fruit which, being outside, feels and enjoys things, while the soul is like the seed, which is inside and therefore witnesses things.

The Mahabharata (6.126) says that the pipal tree must be worshipped daily after the morning bath. Its branches are enlarged by its qualities. Its sprouts are the objects of sense. Its roots lead to action, extending to the world of men. Its form cannot be known or its end, or its beginning, or its support.



*Pipal representing the Buddha, 3rd century BCE, Sanchi, Madhya Pradesh*

The pipal is a source of knowledge for all: serpents, the keepers of divine knowledge and treasure; the Buddha who achieved enlightenment beneath it; Dakshinamurti, Shiva as the divine teacher; and several beings—human and divine—who sat beneath the tree to acquire or impart learning.

Describing his vibhuti (power and attributes) in the Bhagavat Gita (10.26), Krishna says: ‘I am the ashvattha, lord of trees’ (*ashvattha sarva*

*vrikshanam devarshinam cha*). Krishna also compares human life with the ashvattha tree. Echoing the Kathopanishad, he compares human life to the eternal ashvattha tree, with roots growing above and branches beneath. This tree is never cut down, as it is believed that Krishna died while sitting under this tree, and thus it is venerated by everybody (Dubois 1906, 652–53).

Sheetalnatha, the tenth Jaina Tirthankara, attained omniscience under a pipal tree in the month of Paush (December–January). In Sammetshikhar near Giridih in Jharkhand, he attained nirvana on the second day of the month of Vaishakha (April–May).

There are references to the ashvattha in Panini's Ashtadhyayi (4.3.48), Kautilya's Arthashastra (1.20), and Varahamihira's Brihat Samhita (59.5).

The Vishnu Purana says that just as the pipal tree is contained in a small seed, so is the whole universe contained in Brahma.

The Brahma Purana and the Padma Purana relate how once, when the demons defeated the gods, Vishnu hid in the pipal. Therefore worship offered to a pipal tree is equivalent to the worship of Vishnu, and does not require either image or temple.

According to the Padma Purana, Alakshmi or misfortune occupies this tree every Saturday; hence it is worshipped on Saturday, the day ascribed to Lord Saturn, who is also associated with misfortune (S.M. Gupta 1991, 10).

The Skanda Purana considers the pipal to be a symbol of Vishnu, who is believed to have been born under this tree. Besides, if a person does not have a son, he may consider the pipal to be his own child. As long as the tree lives, the family name will continue. Any person who waters the tree earns merit for his progeny. One who cuts this tree will go to hell.

The Vayu Purana recommends the use of ashvattha twigs for the shraadh ceremony.

An ashvattha tree is believed to be growing on the mythical island of Plaksha Dvipa. The gods are said to sit under the ashvattha tree in the third heaven.

The leaf of the pipal tree is shaped like the heart and is considered by Sikhs as the 'sweet loving palm of Thy Hand' (Mitra 1994, 95–98).

According to the sthala purana of Tirupullani in Tamil Nadu, once upon a time Pullavar Kalavar and Kanvar Maharshi performed penance to Lord Vishnu. Vishnu appeared before the sages in the form of a pipal and thus, at Tirupullani, the pipal is believed to be an incarnation of Lord Vishnu.

According to the sthala purana of the Patteeswarar temple at Tirupperur, Coimbatore district, Tamil Nadu, Lord Shiva came with the devas and performed his divine dance under the pipal tree on Panguni Utthiram (the full-moon day in the month of Panguni or Phalguni). From then on, the pipal tree was worshipped by the people of Tamil Nadu.

The Chakkilian people of Tamil Nadu place the Gangamma ghatam (pot of water regarded as Ganga Devi) under a pipal tree that grows on the banks of the River Kaveri and worship it for ten days.

Some of the places named after the pipal or arasa tree are Arisili, Arasadi, and Arasur in Tamil Nadu. The deity named after this tree is Arisilinathar.

In Bengal, a ritual called Ashvatthapatra-vrata is observed by women on the last day of the month of Vaisakha (April–May). Five leaves of the ashvattha are required for this ritual, each signifying a different stage of human life: a new leaf for the birth of a son, a young green leaf for beauty and youth, an old leaf for the long life of the husband, a dry leaf for increased happiness and wealth, and a withered leaf for wealth beyond expectations.

In Purabi, the dialect of eastern Uttar Pradesh, there is a saying to expel evil spirits or to describe someone's evil temper: Jagdipa, who made the town desolate and because of whom even the demon fled the pipal, is now coming with a pestle in her hand. Jagdipa was, in folklore, an exceedingly quarrelsome woman. She fought with everyone in the village, all the time. She abused and hit them and made life so unpleasant that the villagers started leaving the village and settling down elsewhere. One day, there was no one left. Jagdipa was undaunted. She picked up her broom and attacked the pipal tree, shouting abuses all the while. The demon in the tree stood it for a few days. Finally, even his nerve gave way and he rushed away from the tree and sought refuge elsewhere!

According to the folklore of the Saharia tribe of central India, a marriage party once took shelter under a pipal tree because it was raining. Within a short time, the branches and leaves of the pipal arranged themselves closely to save the marriage party from the heavy showers. Since then, they worship the pipal tree.

It is the totemic tree of the Barodia clan of central India.

In many Indian states, the pipal is regarded as a male symbol and is ceremoniously married to a neem tree, which is symbolic of the female. In several agricultural villages in India, these two trees usually grow side by side, with a platform built around them. The wedding is generally performed in summer, in May, with Brahman priests and Vedic rituals, before the southwest monsoon, in the belief that it symbolizes fertility and will ensure a good rainfall and harvest. This symbolic association of the sexes is reversed in Rajasthan and Punjab, where the neem tree is considered a male.

According to Kosambi (1964, 46), in Maharashtra, the pipal is the totemic tree of the Pimpleys. A later Vedic Brahman clan is also named Paippalada after the pipal tree.

In Odisha, marriages are performed between the vata or banyan, which is considered to be male, and the ashvattha or pipal, which is considered to be female. The ashvattha tree is frequently planted near a vata tree in order to mix their foliage and stems, from a superstitious belief that they are of two different sexes and their growing together will ensure fertility in the form of good rains and a bumper harvest. The tree is invested with the sacred thread, like a Brahmana, and with the same attendant ceremonies as the thread ceremony of a Brahmana.

In Balia village on the outskirts of Balasore town in Odisha, a marriage between a banyan and a pipal is organized by the residents. The wedding is performed amidst chanting of mantras by priests. The people divide themselves into families of the bride and the bridegroom. They garland the trees and tie them together with a thread. With the shankha, sindoor, and tupura, all symbols of the Odia wedding ritual in place, it is every bit a traditional wedding. Since times immemorial, many villages have arranged



the marriage of banyan and pipal trees if they are found to be growing next to each other. It is believed that such a marriage will bring prosperity to the village, besides protecting the people from the killing heat waves, which threaten Odisha. Such a marriage is not new. In ancient times, marriages between banyan and pipal trees were arranged by childless couples to propitiate the gods and seek a child (Jatindra Dash, 'Banyan Marries Peepal, Sends Green Signal', *Hindustan Times*, 16 May 2007).

In Tamil Nadu, pipal and neem trees are planted close to each other so that they often mix with each other. A platform is built around them and an idol of a snake is placed under the trees and worshipped. This is believed to bless the worshipper with wealth and prosperity. Several intertwined or coiled snake stones—symbols of fertility—are installed beneath the trees by childless couples and worshipped. In villages, women bathe early in the morning and circumambulate the trees.

In Tamil Nadu, when the new moon appears on a Monday, women circumambulate the pipal tree 108 times, perform their rituals and then give 108 gifts to 108 married women to ensure the long lives of their husbands.

Hindu girls perform many fasts connected with this tree from their childhood. If a girl's horoscope predicts widowhood, she is first married to a pipal tree because, in the past, when remarriage was forbidden for widows, young girls were married to the pipal and then to their chosen husbands.

The pipal trees live long: some pipal trees in Haridwar are much older than the present town!

### ***Medicinal Uses***

The pipal fruit acts as a laxative. The fruit and tender leaf buds are also eaten during famine. The ripe fruit is used to cure diseases of the blood and heart. Powdered and dried pipal fruit is extremely beneficial for asthma patients.

The latex, when hardened into gum, is employed as lac or sealing wax to fill cavities. The tree is an important host for lac insects (Sinha 1993, 83).

Traditionally, all parts of the plant are used in medicine for the treatment of various diseases. The bark is useful for mending and binding fractures of the bone. The juice of the bark is used as a mouthwash, for curing toothaches, and for strengthening the gums. The root bark is used for rheumatic pain of the hip and below the ribs, and for cleaning ulcers (Hocking 1993, 219).

The seed is used to treat leprosy. It is soaked in coconut toddy for one week and then dried in the sun. The dried powder can be applied to the ulcers of the affected area (Shanmugam 1989, 25).

Juice extracted by soaking a piece of tender bark in water overnight is given for preventing excessive urination during jaundice (Bakhru 1993, 139). The raw juice is very effective in arresting excessive bleeding; 50 ml of juice or 1 tablespoon of dry leaf powder taken with water can work wonders. This recipe, when consumed with an equal quantity of tender leaves, coriander leaves, and sugar, can act against dysentery. Juice extracted from pipal leaves and held close to the fire can be used as ear drops. Juice from the root bark is effective against gout and stomatitis and heals ulcers.

Pipal leaves are also used for the treatment of mumps, boils, bruises, and wounds. Finely ground leaves mixed with jaggery form a paste that can be taken daily with milk as an effective painkiller.

Chewing the roots of the pipal is known to prevent gum disease. The pipal is an excellent remedy for swollen lymphatic glands. A paste prepared by mashing its roots in water is applied to the affected region of the neck.

Since the smoke of the twigs has germicidal and antimicrobial effects, it prevents diseases like sepsis, particularly in women during childbirth.

The greatest importance of the pipal tree lies in the amount of oxygen it releases into the air: one tree can supply the oxygen requirement of four people per day (Nayar, Ramamurthy, and Agarwal 1989, 35). It is therefore an excellent species for planting around industrial and highly populated areas.

# Plantain

Botanical name:	<i>Musa paradisiaca</i> L.
Common names:	Kela, Mouz (Hindi) Vaalai (Tamil) Kadali, Rambha, Mocha (Sanskrit)
Habit:	Herb
Distribution:	Native to South East Asia and India Cultivated in tropical and subtropical regions

It is a herbaceous plant with a large pseudo stem and a globosely perennial rhizome. It is native to Indo-Malaya. It is a tropical plant and grows well in a warm humid climate. Soil containing lime and humus is suitable for its growth. It is widely cultivated in the tropics for its edible and nutritious fruits.

Although it is called a tree, the banana is really an outsized, broad-leafed, perennial, herbaceous plant. The deep green leaves are enormous but so soft that they are torn easily by strong winds or storms. Each leaf emerges tightly rolled around its own midrib and slowly opens out. The leaves that emerge later are shorter, the very last one being very short and hanging protectively over the flower bud.

*Musa* is named after Antonio Musa, physician to Octavius Augustus Caesar (63–14 BCE), while *paradisiaca* means ‘of Paradise’, of which it is

supposed to have been the first inhabitant. It is said that this tree flourished in the Garden of Eden and its leaves were the first garments of Adam and Eve.

The Sanskrit word for plantain is kadali, which means flag or banner. The Hindi word kela also means shaking or trembling. The Sanskrit word mocha means juicy and also ascetic. The botanist Rumphius writes that the banana came from east India, growing first on either side of the Ganga River, and from there it went to Persia, Syria, Arabia, and Egypt. Buddhist sculptures show banana leaves, while a drink called mochapana is mentioned in the Buddhist book of monastic rules.

The plantain fruit grows in clusters; hence it is regarded as a symbol of fertility.

Kautilya says that the dried powder of kadali is used to soften metals. Unripe bananas are used as vegetables. In south India, the leaves are used as plates and for wrapping food and, at the end of the meal, are fed to the cattle. Peeled leaf sheaths are used as packing material. The fibre is used for making ropes, mats, coarse paper, and paper pulp. It is also used for making cloth, as in saris.



*Plantain held by a vrikshaka, 11th century CE, Rajarani temple, Odisha*

### ***Mythological and Religious Associations***

Many references to the plantain are found in the Ramayana. The drooping plant looks sad and is used in comparison to a drooping and unhappy Kausalya (2.20.3); it is shaken violently by strong winds as are frail persons—another simile to Kausalya (2.117.80). The stem is glaucous and smooth and is compared to the soft thighs of women (3.62.4). It grows as a border around settlements and houses (still in practice), and around the ashrams of Rama (3.42.13) and Agastya (6.123.47).

A story in the Mahabharata says that before the outbreak of the battle between the Kauravas and the Pandavas, Krishna went to the Kauravas as a mediator. The Pandavas did not want to go to war against their cousins but the Kauravas were adamant and would not listen to Krishna's sane advice even after he predicted the destruction of the entire Kuru race. Defeated at his mission of bringing about a rapprochement between the two rival sections of the family, Krishna went to the house of Vidura, who was a half-brother of Pandu and Dhritarashtra, and thus an uncle to both the Pandavas and the Kauravas. Vidura was not at home and his wife Sulabha offered Krishna the kadali fruit. She was so enraptured by the presence of Krishna that she absentmindedly threw away the fruit and offered only the banana peel to Krishna. Krishna had noticed this but kept on eating the banana peel as it was offered to him with a pure heart and unflinching devotion.

In the Mahabharata, kadalivana or the garden of plantains, on the banks of Kuberapushkarni, is the home of the monkey god Hanuman.

Another name for this plant in Sanskrit is rambha, also the name of a celebrated apsara, wife of Nalakubera. The couple worship the plant in order to be blessed with a male child. As it is a symbol of fertility, the fruit is given to the bride at the wedding ceremony, hoping that she will bear a son (Monier Williams 1981, 867).

In the Vishnu Purana, a salutation to Vishnu goes as follows: 'As the bark and leaves of the kadali tree are to be seen in its stem, so art thou the stem of the universe and all things are visible in you.' Kadali plants are considered auspicious by Hindus, by followers of both Vishnu and Shiva, as the plant is believed to be the incarnation of both Parvati, wife of Shiva, and Lakshmi, wife of Vishnu. The kadali plants, particularly the leaves, are

considered sacred for purposes of religious ceremonies and entire plants are placed at the entrances of houses of marriage; they are also used to decorate pandals erected for marriage ceremonies to symbolize fertility and plenty. Kadali fruit is also offered to the deities at the temples.

The status of Shiva in the Shunya Purana is well described in the following passage: ‘When Maheshwara travelled naked from door to door begging for alms with the name of God on his lips, Bhagavati Adya advised him to take to cultivation: “Grow in your fields all the varieties of crops and grow bananas also, so that we may get all the necessary things on the occasion of Dharma worship”’ (S.M. Gupta 1991, 56).

The plant is worshipped in the month of Kartik (October–November) by women desirous of male progeny. The plantain deity, identified with Lakshmi and Parvati, is an agricultural deity called Navapatrika (nine plants). A life-sized statue is carved out of the kadali plant and dressed like a beautiful bride with bilva (Bengal quince) fruit as her breasts, supported by a piece of sugarcane. The leaves are twisted like a bow to represent the head and hair of the deity. Kachu (black taro), haridra (turmeric), jayanti (barley), dadima (pomegranate), ashoka, and dhanya (grain) represent the different parts of her body. This Navapatrika is worshipped as Lakshmi. She is also placed in front of a bilva tree and worshipped as an incarnation of Durga. The nava patrika are the symbols of Durga but are also associated with the sun. In West Bengal, Ganesha is associated with the plantain tree during Durga Puja, the Kala Bo who represents Durga, the mother of Ganesha. The Kala Bo is intended to serve as a symbol for the nine types of leaves (nava patrika). The priests tie a bunch of eight plants on the trunk of the plantain tree. The group of nine plants, all of whom have medicinal properties, constitute the Kala Bo. The Kala Bo is the plant form of Durga. Ganesha is associated with this vegetation myth and Ashtadashaushadhishrishti (creator of the eighteen medicinal plants) is a name of Ganesha.

The plant is specially worshipped on the third day of Shravan (July–August). It is used to worship the goddesses of wealth and prosperity and

also to perform Satyanarayana Puja on a full-moon day. It is used in rituals at the time of birth and death.

In those temples where flowers tied with cotton thread are prohibited, only those tied with banana fibre are accepted, since it is available throughout the year and occupies pride of place in the offerings made to the deity (Dagar 1995, 3–4).

According to the sthala purana of the Neeli-vana-nathar temple at Thiruppainneeli, Tiruchirapalli district, Tamil Nadu, devotees consider the plantain to be an incarnation of Lord Shiva and worship it. When the great Shaiva saint Appar arrived at this temple the place was covered with a forest of banana trees. He lay down under the banana tree but was unable to sleep, due to his old age, long walk, and intense hunger. Seeing his devotee's suffering, Lord Shiva served Appar a good meal on a banana leaf (*painneeli vaalai*). As the temple was once covered by the banana tree the lord is also called Neeli-vana-nathar. The fruit of the plantain tree in this temple is used only as offering during the abhishekham (ritual bath of the deity), after which it is put into the river.

The plantain is used in the worship of Shri Satyanarayana (Muralidhar Rao 1995, 178).

The banana fertilizes itself without cross-pollination. So it is regarded as an incarnation of Goddess Parvati. In the Western Ghats, the plantain tree is believed to be the goddess Nanda Devi. Her images are carved out of the stalk and, in the month of Kartik, floated down the river.

The plant is considered sacred to the nine forms of the Hindu goddess Kali. In Bengal, marriages are performed under it and it is worshipped in the month of Shravan (July–August). Since the plant is cut only after the fruit is harvested, it has become a folk simile for the bad man destroyed by the fruit of his own deeds. In Nainital district of Uttarakhand, the image of Nanda Devi—Shiva's consort—is carved out of a banana trunk (Bhatla, Mukherjee, and Singh 1984, 37–42).

The hill people worship the goddess on the occasion of Nandashtami. If a woman in Tamil Nadu has a premature delivery, the newborn baby is made to sleep each day on a fresh banana leaf.

According to an Odia tribal story, the plant was the creation of the Savara deity Bimma. As the plant bore nourishing fruit and every part of it was useful, his brother Ramma became jealous of Bimma's creation and cursed it to die after producing only one bunch of flowers. The banana fruit is offered by certain tribes of Odisha and Madhya Pradesh to the gods Kittungsum and Mardisum and is used in all religious ceremonies.

The reason why the plantain bears fruit without pollination is described in a very interesting Gadaba tribal story. Long ago, there were five sisters: Mango, Tamarind, Fig, Jamun, and Plantain. When the sisters came of age their father was worried about finding husbands for them. When Plantain was asked what she desired, she said: 'I certainly want children, but not a husband.' Mango, Tamarind, Fig, and Jamun got married and bore so many children that their husbands ran away in sheer fright. The girls in their next life were born as trees and bore many fruits, which symbolically are the children they bore in an earlier birth. Plantain did not marry but produced children and grew old (Birdwood 1992, 87).

In another story about the plantain, there was a sage called Mankanaka who lived in a hermitage situated in a great forest near the city of Ikshumati. Mankanaka married a beautiful celestial maiden named Menaka and they had a daughter who was born inside a banana tree and was named Kadali garbha. One day Dhridha Varman, the king of Madhya desha who was passing the hermitage, happened to see Kadali garbha and her beauty, and fell in love with her. He halted and asked her father's permission to marry her. The sage accepted his request and the marriage was performed with great pomp and show. All the celestial maidens came to bless her and gave her mustard seeds to be sprinkled on the path while going to the palace. Kadali garbha did as advised by the maidens. Dhridha Varman loved his new bride deeply and spent all his time with her. The other wives grew jealous. His principal wife sent her maid to call a female ascetic who knew magic and asked her to get rid of Kadali garbha forever and promised to reward her. The female ascetic agreed, but realized that she did not know any magic. She felt guilty and she went to her barber friend who agreed to help her. He sent bones of arms and legs daily and told the ascetic to give



necessary instructions to the queen about how to destroy Kadali garbha. Every day, the bones were quietly put into her bedroom. The king was informed by an old servant that Kadali garbha was a witch. The king was very upset and Kadali garbha was sent out of the palace. The barber got his due reward from the queen.

Kadali garbha followed the path of mustard seeds, reached home, and told her father. On hearing of the incident, the sage decided to take her back to the palace and speak to the king personally. When the barber heard about the sage's arrival at the palace, he rushed to the king and told him the truth. The queen was banished from the palace and Kadali garbha was called back by the king and they lived happily. Since then, the plantain tree was greatly respected in the palace and grown in most homes (Gandhi and Singh 1989, 51–53).

It is one of the most important sacred plants of India, particularly for Hindus.

### *Medicinal Uses*

The wild banana plant is used to border crop fields as it keeps away termites. The banana contains iron, minerals such as phosphorus, and vitamins. It is one of the most important energy-giving foods and is usually the first solid food given to a baby, as it is easy to digest.

All parts of the plant have medicinal value. Cooked flowers can cure dysentery and piles while the juice of the flower with palm sugar cures infectious venereal diseases and stomach ache.

One who consumes the tender fruit regularly will get rid of bleeding piles, intestinal ulcers, and frequent urination. It also prevents night blindness and purifies the blood. The ripe fruit is reported to be useful in treating low red blood cell count and swelling of the kidneys, painful swelling of the joints due to excessive uric acid in the blood, hypertension, and cardiac diseases. Unripe fruits and cooked flowers are good for treating diabetes (Sambamurthy and Subramaniam 1989, 557).

The juice of the stem dissolves kidney stones and, when mixed with tumbe (*Leucas aspera*), acts as an antidote for snake poisoning (Shanmugam 1989, 732).

The root is prescribed as a cure for thyroid and other glandular diseases and a cold infusion of the root is an effective drink for persons under the influence of alcohol (Dastur 1962, 116–17).

# Pomegranate

Botanical name:	<i>Punica granatum</i> L.
Common names:	Anar (Hindi) Madulai (Tamil) Dalima, Dadima (Sanskrit)
Habit:	Shrub
Distribution:	Afghanistan, Iran, Iraq, Turkey Cultivated elsewhere

It is a fruit-bearing deciduous shrub or a small, bushy tree with slender and spiny branches. It is native to western Asia. It is widely cultivated throughout India.

The fruit is edible. Its flowers and buds are dried and made into a condiment for curries.

The wood is used to make agricultural implements.

## ***Mythological and Religious Associations***

Although pomegranate is not native to India, it is considered to be a symbol of fertility and prosperity. The pomegranate motif is found in temple carvings.

Prophet Mohammad is said to have advised his followers to eat pomegranates as a way to purge the spirit of envy.

The Parsis use its twigs to make their sacred broom. When a Parsi child is invested with the sacred thread, pomegranate seeds are thrown over him to scare away evil spirits. Its juice is squeezed into the mouth of the dying.

Once, a king visited the distant parts of his kingdom. The king was very thirsty when he came to the garden. Each tree was laden with fruit. ‘May I have some pomegranate juice?’ asked the king. The gardener plucked a ripe pomegranate fruit and took it to his hut in the corner. In a few minutes, a beautiful maiden brought a cupful of fresh juice for the king. The king, his eyes dazzled by the girl’s beautiful face, drank the juice greedily. His thirst quenched, he looked around the garden and saw fruit trees growing wild everywhere. ‘How much profit do you make from selling this fruit?’ he asked the gardener. ‘Three hundred dinars,’ replied the unsuspecting gardener. The king saw the profusion of pomegranate trees. The old gardener had recognized his king but feigned ignorance. He could almost see the thoughts passing through the king’s mind as his eyes roved greedily over the pomegranate trees. He went in and brought out a cup with only a few drops of juice in it. The king was puzzled. ‘Where is the juice?’ he asked. ‘My lord, when you asked for pomegranate juice the first time, your heart was large and the pomegranate gave of its juice freely. Our king has a large heart. Now, the fruit has felt that the king wishes to impose a tax on it. So it feels that the blessing has passed from it and its juice has dried up.’ The king felt ashamed of his greedy thoughts and banished the idea of imposing a tax from his mind. The gardener watched his mood change. The king asked for more juice. This time his cup brimmed over with red juice. He thanked the gardener and his beautiful daughter and rode away (Gandhi and Singh 1989, 135–37).



*Pomegranate*

### ***Medicinal Uses***

Every part of the tree has medicinal properties. Oil extracted from the seeds of the pomegranate is commonly used in cosmetic products such as soap, massage oils, facial care products, and cosmetic products to rejuvenate dull or mature skin.

Recent studies have indicated that it supports the immune system and helps the body fight cancer, obesity, diabetes, and heart diseases.

Compounds found only in pomegranates, called punicalagins, can benefit the heart and blood vessels. They lower cholesterol and lower blood pressure and increase the speed at which heart blockages (atherosclerosis) melt away.\*

## Prickly Chaff Flower

Botanical name:	<i>Achyranthes aspera</i> L.
Common names:	Chirchita, Latjira, Onga (Hindi) Naayuruvi (Tamil) Adhashalya, Durgraha, Apamarga (Sanskrit)
Habit:	Herb
Distribution:	Throughout India and the tropical world

It is a herbaceous plant that is commonly found in degraded lands and along roadsides, footpaths, and railroads. This small herb is found all over India.



*Prickly chaff flower*

### ***Mythological and Religious Associations***

It is frequently used in witchcraft and for medical purposes (Atharva Veda, IV.17.6; VII.67.2). It is described by the Atharva Veda as a revertive and is supposed to ward off spells by causing them to recoil on the user (MacDonell and Keith 1982, 25).

It is sacred to Mercury (Birdwood 1992, 87). It is believed that this plant is ideal in controlling any ill effects of the planet. The use of this plant makes an individual happy, educated, fortunate, and highly respected.

### ***Medicinal Uses***

The plant is highly valued by traditional healers and is used in the treatment of asthma, bleeding, boils, bronchitis, cold, cough, colic, debility, dropsy, dog bite, dysentery, ear disorders, headache, leucoderma, pneumonia, renal complications, scorpion bite, snakebite, and skin diseases. It also facilitates child delivery.

The root is used for cleaning the teeth (Shanmugam 1989, 486).

A paste of the fresh leaves is applied externally to cure insect bites (Dastur 1962, 7).

# Rice

Botanical name:	<i>Oryza sativa</i> L.
Common names:	Chaaval (Hindi) Arisi (rice), Nellu (paddy) (Tamil) Vrihi, Dhanya, Annam (Sanskrit)
Habit:	Herb
Distribution:	Cultivated throughout tropical, subtropical, and warm temperate regions

Rice is a herbaceous plant. It is cultivated throughout India. The word rice is derived from the Old French ris, which comes from the Italian riso, the Latin oriza, and the Greek oruza. The original source for all these words is the Tamil arisi.



*Rice Goddess Annapoorna*



Rice is the seed of the monocot plant *Oryza sativa* (Asian rice). The Sanskrit word for raw rice is *vrihi* and for cooked rice is *annam*. The importance of rice is evident from the fact that *annam* also means food. There is no mention of rice in the Rig Veda: it is first mentioned in the Yajur Veda. However, the word *akshata*, used in the Rig Veda for unbroken or unhusked barley corns, also found in sites of the Indus Civilization, was later transferred to mean rice, as the Vedic people moved eastwards.

Rice is a cereal grain and the staple food for the majority of people in India. The earliest remains of rice in India have been found in the Indo-Gangetic plains dating to 7000 to 6000 BCE.

The paddy is milled using a rice huller to remove the outer husks of the grain. This is called brown rice. If the milling is continued, the rest of the husk is removed, creating white rice. White rice keeps longer but lacks important nutrients, while brown rice helps to prevent beriberi.

White rice may be polished either by hand or in a rice polisher. This is called polished rice. Parboiled rice is steamed or parboiled while still a brown rice grain. Nutrients from the outer husk, especially thiamine, are thereby absorbed into the grain. Parboiled rice does not stick to the pan during cooking, as happens when cooking regular white rice. This type of rice is eaten in several parts of India, especially among rural farming communities, for it is believed to provide greater energy than polished white rice.

Paddy straw and husk are used as cattle feed, fuel, mushroom beds, for mulching in horticultural crops, and in preparation of paper and compost. Rice husk is used as a fuel, in board and paper manufacturing, in making packing and building materials, and as an insulator.

Rice bran oil is used as edible oil. It is also used in cosmetics, synthetic fibres, detergents, and emulsifiers. It is nutritionally superior and provides better protection for the heart.

Rice cultivation is thought to be responsible for 6–29 per cent of annual methane emissions. More water is required to produce rice than other grains.

### *Mythological and Religious Associations*

The Atharva Veda (VI.140.2; VIII.7, 20; IX.6.14) describes rice as the ‘sons of heaven who never die’. According to the Taittiriya Brahmana, Annadevata, the god of rice, is the first progenitor of the sacrifice.

Taittiriya Upanishad (2.1) says that the Supreme Being Purusha is formed of rice (anna) and the vital essences (rasa). Taittiriya Upanishad (2.2) has several injunctions connected with rice: do not look down on rice; do not neglect rice; multiply rice many times over; obtain an abundance of rice. He who knows the discipline and glory of rice attains that which he seeks (3.10–16).

According to the Shatapatha Brahmana, rice originated from the body of Indra: ‘From his marrow his drink, the soma juice flowed, and became rice: in this way his energies, or vital powers, went from him’ (Hamilton 2003, 255–72).

In the Mahabharata, Krishna gives Draupadi, the wife of the five Pandavas, an akshaya patra, a bowl that was always full of rice. The concept is repeated in the later Tamil epic Manimekhalai where the sage Aputran owns a similar bowl.

Because of its importance as a staple food, rice is culturally very important. Rice is deemed a sacred symbol to denote auspiciousness, wealth, and fertility. Hindus associate rice with Goddess Annapoorna and Goddess Lakshmi and refer to the grain as Dhanya Lakshmi. In south India, rice is so sacred and essential to life that the two deities are combined and called Annalakshmi.

Annapoorna (full of rice) is the goddess of rice, depicted with a bowl (of rice) in one hand and a spoon in the other. Once upon a time, all food disappeared from the earth and all creation was in danger of dying out. They appealed to Lord Brahma for help. Lord Brahma consulted Lord Vishnu and together they decided to give Lord Shiva the task of restoring prosperity on earth. Lord Shiva invited Annapoorna to the earth and begged her for rice. She did so, and her temple was constructed in Kashi, where she is the consort of Lord Vishweshvara or Vishwanath. Here, Annapoorna is a

manifestation of Parvati, consort of Lord Shiva. Most traditional Hindu home pujas will contain a small image of Annapoorna, who is worshipped to keep the home prosperous.

This story also confirms an important archaeological discovery: that rice was first cultivated in India in the region surrounding Kashi. This is what makes Kashi the holiest of Indian cities.

Lakshmi, goddess of prosperity, is also regarded as the goddess of rice in Bengal and Odisha, and as Dhanya Lakshmi, goddess of grain, depicted holding a few sheaves of paddy in her hand. The strength of the cult of Dhanya Lakshmi travelled to Java where she is worshipped by Muslims as Dewi Sri (or Sri Devi, another name for Lakshmi) and to Bali as Batari Sri Dewi, the focus of the most sacred temple on the island, Pura Besakih (Krishna 2003a, 273–76).

There are local rice goddesses in Tamil Nadu such as Ponni Amman who is worshipped in the northern districts of Tamil Nadu during the month of Aadi (July–August). She is the village goddess in many places. Her image may be a full statue, or she may be one of the Sapta Matrikas, or she may be represented as a stone head placed on the earth, which makes up her body (Bahadur 2003, 89–100).

Nelliappar, the Rice God of Tirunelveli, is male; the name of the town means Deity of the Rice Boundary. Rice is also considered to be Prajapati or Janardana, because it is one of the earliest cereals known to humans and thus is held sacred and worshipped.

Rice cultivation rites form an important part in the life of the farmer in Manipur. Agricultural activity is initiated with the rite of Loutaba, when rice, flowers, eight Burma agrimony (*Eupatorium birmanicum*) buds, sweets, and a handful of rice are offered to the gods, with a prayer for protection from all dangers. The farmer prays for a doubling of the previous year's yield. After the harvest, Phoureima or Phouoibi, goddess of rice, and Phounngthou, god of rice, are taken home as a basketful of rice. Rice is an invariable part of Meitei rites of passage: the ipanthaba held on the sixth day after a child's birth; the chengluk lubak kaiba on the wedding day when the bridegroom brings a basket of rice to the bride's house; the tarpon, an

offering of rice made to the dead ancestors in the month of September–October for fifteen days after the full moon. Rice is considered a magico-religious offering used on festivals, to expel spirits, given to the clan deity and on a variety of other occasions (Krishna 2003b, 393–407).

Many Hindu rituals utilize rice. These include akshata, rice grains mixed with turmeric that are sprinkled on the head of young persons by their elders; naivedya, or the ritual food offering to the deity at the home and temple; kumbham or kalasham, the sacred pot which is filled with water and placed on rice; havis, the boiled rice offered to the sacrificial fire; and kolam, the ritual designs drawn on the floor. It is one of the navadanya or nine sacred grains.

Rice is used in every samskara—life rites that must be performed from birth to death. During the namakarna or naming ceremony, the name is written on a heap of paddy or rice. At the Annapraasanam, the first time a baby is fed solid food, a rice mixture is first offered to Vac, goddess of speech, and then fed to the child. At the karnavedham or ear-piercing ceremony, a bag of rice is gifted to the goldsmith. The chudakaranam or first haircut ceremony ends with a gift of rice to the barber. At the aksharaabhyam or the commencement of a child's education, the father holds the child on his lap, holds the child's first finger and writes Om on a heap of paddy or rice. When a girl reaches puberty, she is given steamed rice cake to eat. The upanayanam, wedding, and death ceremonies involve rice so many times and in so many different ways, depending on the caste and region. A bride enters her husband's home by kicking a measure of rice placed on the doorstep into the house, or by carrying a pot of rice, signifying an abundance of prosperity. Some communities, like the Baliya Naidus of Andhra Pradesh, pour rice on each other as a symbol of prosperity and fertility. During the thirteen or sixteen days of the death ceremonies, rice is fed to the departed soul and ancestors. Every ritual involves rice in some way. Finally, the Seven Virgin Mothers are offered seven different rice mixtures. Rice plays a vital role in most of the important activities of human life. It is offered to deities along with flowers during prayers (Hermes 1980, 162–64).

There are numerous festivals connected with the sowing, planting, and harvesting of rice. The most important harvest festivals include Pongal in Tamil Nadu, Onam in Kerala, and Hutri in Coorg.

### ***Medicinal Uses***

Rice water is used for external application on any inflamed area. Rice can also be used to treat skin diseases. Rice boiled in water, drained, allowed to cool, and then mashed into a paste can be applied to boils, sores, swellings, and skin disorders. Rice water is effectively used as an enema during constipation (Shanmugam 1989, 515).

## Sacred Basil

Botanical name:	<i>Ocimum tenuiflorum</i> L.
Common names:	Vrinda, Tulsi (Hindi) Tulasi (Tamil) Tulasi, Vishnupirya, Manjari, Vrinda (Sanskrit)
Habit:	Shrub
Distribution:	Throughout India, Sri Lanka, Indonesia, Malaysia, the Philippines

The generic name comes from the Greek word *ocimum*, which means sweet herbs, and the species name *tenuiflorum* means slender flowers.

Tulsi means matchless. Vrinda means a cluster of flowers. The name tulsi is used all over India.

It is an erect, profusely-branched shrub, 30–75 cm tall, with hairy stems and simple green leaves that are strongly scented. It is native to India. It is grown near temples and in homes throughout the country. Tulsi is found in a wide variety of conditions, up to 1800 m in the Himalayas and down in the Andaman and Nicobar Islands.

It is also known as the elixir of life because it promotes longevity. It is a symbol of virtue.

The oil extracted from the tulsi contains eugenol, caracole, and caryophyllene, which have antimicrobial and insecticidal properties (Bakhru 1993, 104–06). The stem is made into beads and used as a rosary

by Hindus (Krishnamurthy 1993, 457). It is also an environment purifier (Nayar, Ramamurthy, and Agarwal 1989, 16–17).

Tulsi is cultivated for religious and medicinal purposes, and for its essential oil. It is widely known across South Asia as a medicinal plant and a herbal tea, commonly used in Ayurveda.

The tulsi plant emits oxygen for twenty hours and ozone for four hours. It is a cyclo-oxygenase which regulates oxygen evolution, a mechanism found only in the tulsi (A. Nair, 'Tulsi Has Environmental Benefits Too', *Times of India*, 8 April 2012).

### ***Mythological and Religious Associations***

In Hindu tradition, a house without a tulsi plant is considered to be incomplete. Hindus plant the tulsi in front of or near their homes, often in a special square base about 60–75 cm high. It is worshipped daily and tended carefully by the housewife as a source of good health and long life for the members of the family.

Tulsi plays an important role in the Vaishnavite tradition of Hinduism, in which devotees perform worship involving tulsi plants or leaves.

Tulsi is worshipped as an incarnation of Goddess Lakshmi. Water mixed with tulsi petals is given to the dying, so that their departing souls may reach heaven. Tulsi is regarded as a consort of Krishna.



*Sacred basil*

There are three types of tulsi. Rama tulsi has light green leaves and is larger in size. Shyama or Krishna tulsi has purple leaves and is important in

the worship of Hanuman. In Varanasi, it is grown next to Hanuman temples, for it is an expression of Sita. The third is the Vana or wild leaf tulsi, which is found in the Himalayas and the plains of India, where it grows as a naturalized plant. Although all three types of tulsi are used in Ayurveda, Rama and Krishna tulsi are the most common.

In the Shrimad Bhagavatam (3.15.19), it is said that although flowering plants are full of transcendental fragrance, they are still conscious of the austerities performed by tulsi, for tulsi is given special preference by the lord, who garlands himself with tulsi leaves.

The Skanda Purana praises the tulsi, offering respectful obeisance to the plant which can destroy all sin. Seeing or touching the plant relieves a person from sorrow and disease. By worshipping and watering the tulsi, one is free of the fear of punishment by Yama (god of death). If one plants a tulsi, one becomes devoted to Lord Krishna. Tulsi leaves are offered in devotion at the lotus feet of Krishna.\*

Padma Purana (6.24.31–32) says that the tulsi plant is the abode of Brahma, Vishnu, and Shiva. It also says that Lord Vishnu takes up abode in a village or a house where the tulsi is grown. In such a house no one will suffer from poverty, sickness, or problems in married life.

According to the Vishnu Purana, in the story of the churning of the ocean (samudra manthan), the tulsi was among the articles which emerged from the ocean and is sacred to Krishna.

The Garuda Purana says that the tulsi must always be offered as the naivedya (food offered to the deity). Puja, bathing, and offering of food and drink performed without tulsi cannot be considered as puja to Lord Krishna. The lord does not eat or drink anything that is without tulsi.\*

The sthala purana of the Viratteswarar temple at Tiruvirkudi, in Tiruvarur district of Tamil Nadu, says that Tulsi was married to Jalandhara, who was born out of the sweat of Lord Shiva that fell into the sea. Jalandhara prayed for invincibility and Lord Vishnu rewarded him for his penance with the boon that he would be unconquerable by gods and demons as long as his wife remained faithful to him. Jalandhara became arrogant and committed several atrocities. Vishnu decided to kill him and approached Tulsi in the



guise of her husband, Jalandhara, and seduced her, after which the demon was easily killed. Once she discovered the trick played on her, Tulsi confronted Vishnu, who told her that she would always be worshipped by women to avoid widowhood and for her faithfulness to her husband. He said her name would be immortal. Tulsi committed sati upon her husband's death and from her ashes arose the tulsi plant. Since then the tulsi has been the sacred plant of the temple at Tiruvirkudi.

According to another version, Saraswati once cursed Lakshmi to turn into a tulsi plant and forced her to live on earth, causing Vishnu to come down from heaven and stay near her as the Salagrama stone. That is why the Salagrama is to be found in the River Gandaki on the banks of which the sal tree grows, and also in the Narmada River from which many Brahman communities migrated to south India later.

The Salagrama became Tulsi's consort. This sacred stone is an ammonite fossil, which is also eulogized in the Puranas.

The sacred tulsi is believed to be a destroyer of demons and evil spirits. During an eclipse, leaves sprinkled with Ganga water are put into drinking water. Widows and the old worship the shrub to attain salvation; unmarried girls worship the tulsi for a happy married life and married couples worship the plant for happiness and to be blessed with children (Chatterjee 1992, 58–64). Tulsi is ceremonially married to Vishnu annually in the month of Kartika. This festival continues for five days and concludes on the full-moon day, which falls in mid-October. This ritual is called tulsi vivaaha, or the wedding of the tulsi plant to Lord Vishnu. This day also marks the end of the four-month chaturmasya period, which is considered inauspicious for weddings and other rituals. The annual marriage season begins with the tulsi vivaaha.

The ritual lighting of lamps each evening during Kartika includes the worship of the tulsi plant, which is held to be auspicious.

Mythological stories relating to the Uppiliyappan temple of Tamil Nadu also refer to the tulsi plant. During the Utthaana Dwadashi vrata, a twig of the aamalaki plant with fruit is planted beside the tulsi plant and

worshipped. There are many vows and rituals where the fresh leaves of the tulsi plant play an important role.

Bhondaris are barbers of the Odisha state living in Ganjam district. They follow the form of Vaishnavism inculcated by Chaitanya, known as Paramartho Matham. They wear a string of tulsi seeds as a necklace, without which they will not worship or eat.

According to the Brihan Naradiya Purana, 'as by chanting the name of Ganga, one becomes free from all kinds of worldly sins, if someone chants the name of Tulsi or chants the glories of Lord Hari with devotion, he gets the same merit'. The Skanda Purana says that 'by touching Tulsi devi, one's body becomes pure. By praying to her, all diseases are removed. If one waters her or makes her wet, the fear of Yama (Death) is destroyed.'

The Tulsi Manas Mandir at Varanasi is a famous temple where Tulsi is worshipped along with other gods. Vaishnavites revere the tulsi leaf because it pleases Vishnu the most and thus is an inherent part of the naivedya offerings. Vrindadevi, the goddess of Vrindavan, is another name for Tulsi in the Gaudiya Vaishnava tradition. Vrindhavani is the one who was manifested first in Vrindavan (Growse 2000, 215).

The tulsi plant is invariably seen in Hindu temples dedicated to Vishnu. Some temples have exclusive tulsi groves or a special greenhouse for their tulsi plants. At such temples, they prepare large garlands of tulsi leaves for the image of Krishna. It is said that tulsi will not grow well where there is no devotion to the lord. Vaishnava devotees use the wood to make beads and wear two or three strands of tulsi bead necklaces around their necks, signifying their devotion to the lord. They also make their japamala or chanting beads from the wood of the tulsi plant. Tulsi is considered to be a pure devotee of the lord who has taken the form of a plant.

Vaishnavites use japamalas made from tulsi stems or roots as a symbol of initiation. Tulsi malas are considered to be auspicious for the wearer, and believed to put them under the protection of Hanuman. They have such a strong association with Vaishnavas that followers of Hanuman are known as 'those who wear the tulsi around the neck'.

### ***Medicinal Uses***

The juice extracted from the leaf cures fever, dysentery, skin infections, and intestinal worms and reduces vomiting. The juice mixed with honey cures cough, cold, bronchitis, and mouth infections. The oil extracted from its leaf is an antiseptic. A paste of its root acts as an antidote to snake poisoning and scorpion bite (Dastur 1962, 122–23).

Tulsi has been used for thousands of years in Ayurvedic medicine. It is mentioned in the Charaka Samhita. Tulsi is considered to balance different processes in the body and helps adapt to stress. Marked by its strong aroma and astringent taste, it is regarded in Ayurveda as an ‘elixir of life’ that promotes longevity.

Tulsi leaves are used to cure coughs and colds, headaches, stomach disorders, heart disease, some forms of poisoning, and malaria. Traditionally, tulsi is taken as herbal tea, dried powder, fresh leaf, or mixed with ghee.

Essential oil extracted from the tulsi is used for medicinal purposes and in herbal cosmetics, and is widely used in skin preparations due to its antibacterial activity (Gandhi and Singh 1989, 159).

Dried tulsi leaves are mixed with stored grains to repel insects (Raaz et al. 2012, 67–69).

Tulsi plays such an important role in the maintenance of good health in the Indian tradition that homes all over India keep a tulsi plant in the central courtyard as a preventive against coughs, colds, and fever. Members of the family are expected to water it and encourage its growth on a daily basis.

# Sal

Botanical name:	<i>Shorea robusta</i> C.F. Gaertn.
Common names:	Sal, Sekuva (Hindi) Kungiliyam (Tamil) Sala, Shala, Ashvakarna, Dirghaphala (Sanskrit)
Habit:	Tree
Distribution:	Throughout India, southern Himalayas, Myanmar, Bangladesh, Nepal

The word sal is derived from the Sanskrit word shala, which means rampart. The generic word *Shorea* was named after Dr Charles W. Shore, a Kentucky botanist, and the species name *robusta* means stout.

The sal is native to South Asia, found in the southern Himalayas, Myanmar, Bangladesh, Nepal, Assam, Bengal, and Jharkhand, and west to the Siwalik Hills in Haryana, east of the Yamuna. It is also found throughout the Eastern Ghats and the eastern Vindhya and Satpura Ranges of central India.

It is one of the most important hardwood trees of India. During the British rule, its wood was used extensively for building ships, boats, bridges, railway coaches, sleepers, furniture, and cartwheels. The wood is also very suitable for constructing door and window frames.

The dry leaves are used to produce plates and bowls in northern and eastern India. The leaves are also used fresh to serve readymade paan (betel

nut preparation) and small snacks. The used leaves and plates are eaten by goats and cattle.

The aromatic oleoresin of this tree is used as incense while the oil extracted from the fruit and seed is used for lamp and vegetable fat.

### ***Mythological and Religious Associations***

The shala is believed to be a lucky tree. Burmese Buddhists hoard pieces of shala wood because it is sacred. According to Buddhist belief, Buddha died under a shala tree, thereby sanctifying it. This custom has been picked up by many other castes and communities.

Ramayana refers to the shala tree and forests. There were mighty and majestic shala trees (2.20.32; 3.60.21), whose leaves were large and wide and were therefore used to thatch Rama's parna-shala (leafy abode) (2.19.19). They formed the forests on the outskirts of Kalinga-nagara, bordering Ayodhya (2.17.10); they were found in the interior of the forest (3.11.74); they formed the dense foliage canopy of the mountain forests (3.15.13–18); they were extensive in the ashram regions of coastal southern India along with other tall trees of tala (palmyra palm) and tamala (Indian bay-leaf tree) and were full of flowers (3.35.13); there were numerous healthy leaves and fine flowers (4.5.18); seven sala trees, grown in a line, had an extensive foliage and the support of many branches, which were all felled at one stroke by Rama (4.11.67; 4.16.23–24), uprooted and used as a mighty weapon of war (5.44.12–13).

There is a legend about the shala tree in the Ramayana (4.12.2–5). Rama and Lakshmana were in search of Sita who had been abducted by Ravana, the demon king of Lanka. In their wanderings through the forest, they came across the vanquished and exiled monkey king Sugriva. He had been defeated by his brother Vali and exiled from his kingdom, and lived in mortal fear of his brother whom he hoped to vanquish one day, to recover his throne and his wife. On meeting Rama and Lakshmana, Sugriva promised to place his entire Vanara army at the service of Rama to rescue Sita from the clutches of Ravana, if Rama would first help him regain his

kingdom and his wife. Rama promised to do so but Sugriva, who was aware of his brother Vali's valour and strength, was apprehensive whether Rama's strength would match that of his brother. Vali's strength was an impassable barrier for Sugriva and, although Rama had promised to help him, Sugriva doubted Rama's ability. He wanted to measure Rama's capability to kill Vali but could not be discourteous and betray his suspicions. One day, he approached Rama and cautiously told him of Vali's strength. Lakshmana, who was also present, understood Sugriva's doubts. To boost Sugriva's confidence and allay his doubts, he suggested that Rama should demonstrate his strength. Rama bent his bow and, pulling the string, shot an arrow through seven sala trees standing in a row. The arrow pierced the trees and returned to Rama's quiver. Seeing the miracle, Sugriva was happy and confident of Rama's ability to slay Vali. From that day, the sal has been associated with Vishnu since Rama was his incarnation, and it is held sacred by Hindus.

There are many texts that say that the Buddha was born and died beneath this tree. There are many Jataka tales associated with this tree. According to one, Queen Maya dreamed that a six-tusked white elephant holding a white lotus flower in its trunk circled her three times and then entered her womb. At that moment, she conceived Gautama, to whom she would give birth painlessly while standing up and holding a shala branch in the garden at Lumbini. The legend states that immediately upon entering the world, the young Siddhartha took seven steps and made the following statement: 'I am born for Enlightenment, for the good of the world; this is my last birth in the world of phenomena' (Ashvaghosha's *Buddhacharita*, 2.4).



*Sal, representing the Buddha, 3rd century BCE, Sanchi, Madhya Pradesh*

Shalabanjika sculptures in Bharhut, Sanchi, and Mathura represent a girl gathering the flowers of a sal tree; standing close to the tree; or touching the tree with her foot. Symbolism links the chaste maiden with the sal tree through a rite called dohada or the fertilization of plant life through contact with a young woman (Settar 2003, 12–25).

Poet Kalidasa compares King Dilipa to this tree and writes that he was as tall as a sal tree, thereby paying him a lofty tribute.

The tribals of Chota Nagpur plant a sal pole during their marriage ceremonies. It is believed that unless the bridegroom sits at an altar made of this tree, the marriage ceremony is deemed incomplete.

The blossoming of the sal is celebrated as a festival called Sarhul, the whole festival revolving around the sal tree (Sinha 1993, 65–68). Sarhul is celebrated in Chota Nagpur during the spring, when sal trees get new flowers on their branches. The village deity, who is the protector of the tribes, is worshipped with music and dance and sal flowers. When the puja is finished, boys carry the village priest on their shoulders, with girls dancing ahead, and take him to his house where his wife welcomes him by washing his feet. The priest then offers sal flowers to his wife and the villagers, and puts sal flowers on the roof of every house. The sal flowers represent brotherhood and friendship among the villagers. Prasad is a rice

beer called handia, which is distributed among the villagers, who celebrate with singing and dancing during the festival of Sarhul.

The Bagdis and Bauris of Bengal are married under an arbour made of sal branches. It is a sacred tree for the tribals who consider it to be the home of the spirits, and they build their shrines under its shade. In villages, the sal tree in full bloom is worshipped by childless couples praying for offspring (S.M. Gupta 1991, 87–90).

### ***Medicinal Uses***

The resin is used in treating skin diseases, diabetes, and flatulence caused by body heat. The resin, when taken along with sugar, stops dysentery and relieves indigestion (Shanmugam 1989, 245).

The gum resin is commonly used in the preparation of ointments for chilblains and ulcers (Dastur 1962, 150).



# Sandalwood

Botanical name:	<i>Santalum album</i> L.
Common names:	Chandral, Safed Chandan (Hindi) Sandanam (Tamil) Chandana (Sanskrit)
Habit:	Tree
Distribution:	Throughout India, Sri Lanka, Indonesia, Malaysia and Northern Australia

The generic name is derived from the Greek santalon meaning sandalwood, and the species name from the Latin albus meaning white, an allusion to the bark.

It is a parasitic, small evergreen tree with drooping branches. It is native to India. It is believed to be an indigenous tree of the western peninsula extending southwards from Nasik in the north. Sandalwood can also be found in Indonesia, Australia, Sri Lanka, South Pacific, Chile, Hawaii, and the Ogawara Islands of Japan. Red ferruginous loam and metamorphic rocks, chiefly gneiss, are considered the best soil, while it is tolerant of shallow rocky ground and stony or gravelly soil as well.

Leaf fodder is of medium quality. The fruit is edible. The wood is used in the manufacture of cosmetics and decorative toys, as it retains its pleasant perfume for a long time. The wood powder is used for making agarbattis and as incense (Hocking 1993, 295).

### *Mythological and Religious Associations*

The Ramayana refers to this tree frequently. It is used as a cosmetic anointment (2.15.33). The breeze wafts clean with the intoxicating scent of sandal (2.71.28). It is a tree of Panchavati (3.15.18). Ravana saw this tree in the coastal forests on the mountains of southern India on his aerial journey through the gentle forests of sandalwood trees; the fragrance was gratifying (3.35.21). It is a tree adorning the Prasravana peak (4.27.17).

Mahabharata (1) says that carvings and boxes are made of sandalwood. Kautilya's Arthashastra (2.11.43) includes sandalwood as a precious article of the treasury. It is also mentioned as a drug by Charaka (Chikitsasthana, 3.143). The wood has priority in worship. It is also used for carving images of gods and goddesses. It is considered most sacred; during worship, sandalwood paste is applied on the forehead (Dagar 1995, 3–4).



*Sandalwood*

There are references to sandal as early as the Milinda Pahna (200 BCE), Dhamma pada, Jataka, Vinaya, and Pitaka (400–300 BCE).

It has been described as surrounded by snakes, which are attracted by its fragrance. It is believed that the wind passing through it has the property to transform other trees into sandalwood. Sanskrit poets have given a fine description of the cool breeze coming from the malay-malayanil (spring breeze from the mountain) as soothing as the tender hearts of lovers.

The sandal is cut into small pieces, or powdered and mixed with ghee, then offered into the fire, along with barley and sesame, as an oblation to

the gods.

It is the fortunate few whose funeral pyre is made out of sandalwood. The poor who cannot afford the luxury of it put at least one or two sticks into the pyre of the dead. Beside Hindus, the Parsis or Zoroastrians burn sandal dust in their houses. It is commonly believed that no evil spirit can dare come near the house where its fragrance pervades. It is used also for extracting oil and scents.

According to the sthala purana of the Vilinathar temple at Tiruvilimilalai, Nagapattinam district, Tamil Nadu, the sandalwood tree is the sacred tree of the Krita Yuga. The different transformations of this tree are highly imaginative, but devotees attach much importance to this tree with firm religious faith.

The Chandan clan of central India worship the sandalwood tree and never harm it.

The sandalwood is believed to be one of the five trees growing in Indra's paradise (Stutley 1985, 54).

Hindus apply sandal paste to their foreheads.

Indian Roman Catholics also apply sandal paste in their church ceremonies.

The Parsis use it for feeding the fire in their temples.

### ***Medicinal Uses***

Sandalwood oil has been used in Ayurveda for many centuries.

The wood is bitter and is used as a cardiac tonic and cooling agent. It arrests bleeding and promotes the flow of urine.

Sandal powder and its oil mixed with milk are beneficial in the treatment of venereal diseases, painful and difficult urination, swelling of the bladder, and gastric irritability.

Sandalwood paste relieves headaches and brings down the temperature during fever.

Sandalwood is also beneficial in the treatment of dysentery and gastric trouble. It is a good household remedy for prickly heat. Dry sandalwood

powder is mixed in rose water and applied over the parts of the body where there is profuse sweating.

A mixture of sandal oil and mustard oil can cure pimples (Bakhru 1993, 156–57).

It calms the mind and body by increasing circulation, digestion, and respiration. It helps in awakening the mind, increasing devotion, and promoting meditation (Frawley and Lad 1994, 144).

The oil is used as perfume in toiletries and in insecticides. Since it has antimicrobial and insecticidal effects, it purifies the environment around the temple complex (Nayar, Ramamurthy, and Agarwal 1989, 34).

## Sand Paper

Botanical name:	<i>Streblus asper</i> Lour.
Common names:	Siora, Karchanna (Hindi) Paraay Maram, Piraamaram (Tamil) Sakhota, Shakhotaka, Akshadhara (Sanskrit)
Habit:	Tree
Distribution:	Throughout India, Bhutan, Nepal, Sri Lanka, Thailand, Laos, Cambodia, Indonesia, Malaysia, the Philippines and Vietnam

It is an evergreen tree with a highly variable crown and small, wedge-shaped leaves. It is found throughout the tropical forests in the moist regions of the country.

The wood is tough and elastic and is used for making cartwheels. The bark is used for making paper and the twigs are used as toothbrushes (Bir and Chatha 1988, 113). The leaves are used for polishing articles made of ivory and wood. The fruits are sweet and edible (Krishnamurthy 1993, 515).



*Sand paper*

### ***Mythological and Religious Associations***

According to the sthala purana of the Dharukavaneswarar temple at Tiruparaaithurai, the place was covered with a dense forest of paraai trees. The lord stood in the form of the Swayambhu lingam under this tree and since then the place and the deity have been named after this sacred tree.

Bhondaris, barbers of Odisha living in the Ganjam district, follow the form of Vaishnavism taught by Krishna Chaitanya and known as Paramartho Matham. A man of this caste should not marry his maternal uncle's or paternal aunt's daughter. Infant marriage is the rule and, if a girl has not secured a husband before she attains maturity, she has to go through a pseudo-marriage ceremony called dharma bibha. She is taken to a sahada or shadi tree and married to it. She may not, for the rest of her life, touch the *Streblus* tree or use its twigs as a toothbrush (Thurston 1909, 232).

### ***Medicinal Uses***

The roasted resin of the leaves is mixed and ground with ghee, palmyra palm, and sugar and consumed three times a day to control dysentery. The latex heals cracks in the hands and heels (Shanmugam 1989, 245). The latex is applied to the chest and also taken internally to ease swelling of the lungs. It is also applied around sore eyes.

The bark extract is used to treat red-urine disease. The decoction of the bark, if taken with warm water, cures stomach pain.

## Screw Pine

Botanical name:	<i>Pandanus odoratissimus</i> L.f.
Common names:	Kewda, Kewra (Hindi) Thazham Poo (Tamil) Ketaki, Dhuli Pushpam (Sanskrit)
Habit:	Shrub
Distribution:	Coastal areas of south India, the Andamans, Pacific

The Latin word pandanus is derived from the Malayan word pandan, which means screw pine, and odoratissimus meaning full of fragrance.

It is an erect perennial tree or shrub, which grows up to 5 m in height. The leaves are long, with marginal and medial spines. Male flowers are in numerous subsessile spikes, with fragrant spathe, while the female flowers are solitary in spadix. Fruits are oblong or cylindrical and yellowish in colour when ripe. The stem contains numerous leaf marks and is supported by aerial roots.

It grows wild in the coastal areas of south India, Burma, and the Andamans.

A Gujarati Adivasi song says:

The Sun rises behind the kewra tree  
The moon applies antimony to its eyes.  
The night is lit with soft moonlight.

The fragrant flowers are used to make aromatic oils and perfumes. The flowers are also used to flavour food. The tender leaves are eaten either raw or cooked.

In India, the flower is famous for its fragrance but the tree is not planted near a house since it is regarded as the dwelling place of snakes, which are attracted by its perfume. The dry leaves are used for making mats, baskets, and other fancy items.

The plant is frequently mentioned in Tamil classics as having flowers that neutralize—with their strong perfume—the foul fish odour pervading the sea coast. The flowers are swan-like in shape and are worn in the hair. The plant is also used to fence in seaside villages.



*Screw pine*

### ***Mythological and Religious Associations***

The Ramayana says that the flowers of this plant have an oily yellow hue, much like mineral ore (2.94.6); it is a flowering tree of Panchavati (3.1.11); a tree adorning Pampa Lake (3.75.24); and abundant with flowers (4.1.77); an attractive tree of shores (4.27.10); the whole hill becomes fragrant because of its flower (4.28.9).

The fragrant flower is offered to all Hindu deities except Lord Shiva. It is believed to have been despised by Shiva for bearing false witness to Brahma. Once, Vishnu and Brahma were fighting for supremacy. The heated argument led to an intense fight. The Devas, horrified by the fight, asked Shiva to intervene. Shiva assumed the form of a cosmic flame. Both Brahma and Vishnu were awestruck by the fiery column. Shiva challenged both of them to measure the beginning and end of the flame. Immediately, Brahma took the form of a swan and went to find the base while Vishnu



assumed the form of the boar Varaha and went deep into the earth. Both searched thousands of miles but neither could find the beginning or the end. Vishnu, unable to touch the base, admitted defeat. On the other hand, Brahma, during his journey upwards came across a ketaki flower waffling down slowly. Upon being inquired from where she had come, ketaki replied that she had been placed at the top of a huge pillar of light. Unable to find the upper limits of the flame, Brahma decided to take the flower back to bear witness that he had reached the top of the pillar. He gloated over the defeated Vishnu. This infuriated Shiva. Brahma was punished for uttering a falsehood and cursed that people would never worship him. (The legend explains why there are hardly any Brahma shrines in the country. According to the Skanda Purana [1.1.6], Brahma was denied all worship for uttering this falsehood.) Similarly, ketaki was also cursed that she would never again be used in the worship of Shiva. Thus, it is forbidden to offer ketaki in worship to Lord Shiva even to this day (Gandhi and Singh 1989, 132–33).

Mughal emperor Babur in his Babur nama, 1525 CE, says, ‘Musk has the defect of being dry; this [the screw pine] may be called moist musk. It has a very agreeable scent ... from the centre of the flower comes the excellent perfume.’ Jahangir, in his memoir Tuzuk-i-Jahangiri, describes the important flowers of India. About the kewra flower, he writes that its scent is so strong and penetrating that it even obscures that of musk (Patnaik 1993, 154).

Although this flower is forbidden in the worship of Lord Shiva, it is the preferred flower on the Shivaratri day in the Lingaraja temple in Bhubaneswar and in the other Shiva temples of Odisha.

The screw pine flower is used to decorate the image of Varalakshmi, and is braided into a plait, as if braided with her hair.

### ***Medicinal Uses***

All parts of the plant have tremendous medicinal value. The oil and the fragrant distillation of the plant are used for treating headache and rheumatism.

The roots are used as an antiseptic and the juice obtained from the roots is used to cure wounds, ulcers, fever, and leprosy (Shanmugam 1989, 419).

# Shoe-Flower

Botanical name:	<i>Hibiscus rosa-sinensis L.</i>
Common names:	Gurhal (Hindi) Sembaruthi (Tamil) Japa Pushpam (Sanskrit)
Habit:	Shrub
Distribution:	Cultivated throughout India

It is an evergreen shrub native to east Asia. It has been cultivated throughout India as a hedge and decorative plant.

## ***Mythological and Religious Associations***

According to a legend, Devi took the form of Kali, as requested by the gods, to destroy evil. Jasun was an ardent devotee of Devi. He offered red flowers to fit into the eyes of the goddess, so that she could look very ferocious. Kali was pleased with her devotee's sacrifice. She gave a boon that the red flower shall be her favourite flower and it would henceforth be called by different names such as jathon, deviphool, and japakusam. Since then the flower of the hibiscus is offered to Kali by her devotees (Gandhi and Singh 1989, 183). The resplendent complexion of Devi is often compared to the glow of the flower.

The flower of the plant is also sacred to the Sun God (Birdwood 1992, 87). In support of this, one can cite a famous shloka in praise of the Sun God:

*japa kusuma-sankasam, kasyapeyam maha-dyutim,*

*tamo-rim sarva-papa-ghnam, pranato smi divakaram,*

which means ‘I pray to the Sun, the day-maker, destroyer of all sins, the enemy of darkness, of great brilliance, the descendent of Kaashyapa, the one who shines like the japa flower.’

### ***Medicinal Uses***

The hibiscus plant has a wide array of uses. The juice of the leaves and the flowers is considered effective in inducing hair growth. It acts as a natural hair-conditioning agent and is commonly used in the preparation of herbal shampoos and hair oils. When crushed, the flowers turn black. Women traditionally use crushed flowers to colour their hair and eyebrows (Karnataka Forest Department 1988, 33). It is also used as a shoe polish and hence is referred to as ‘shoe-flower’. The flower infusion cures urinary diseases and also acts as a coolant to the human system. The sherbet made out of the flower quenches thirst and heat, and relieves burning sensations (Sudharshan, Yellappa Reddy, and Gowda 1993, 102). It is also supposed to cure indigestion, constipation, and urinary infection. The leaf extract is used to provide relief during bouts of giddiness (Shanmugam 1989, 385).



*Shoe-flower*

## Soma

Botanical name:	<i>Cynanchum viminale</i> (L.) <i>Bassi/Ephedra sinica</i>
Common names:	Somalata (Hindi) Somam, Kodikkalli (Tamil) Soma (Sanskrit)
Habit:	Creeper
Distribution:	Africa, peninsular India, Myanmar, Thailand, Vietnam, the Philippines

There has been much speculation on what is most likely to have been the identity of the original plant. There is no solid consensus on the question, although most Western experts outside the Vedic and Avestan religious traditions now seem to favour a species of *Ephedra*, perhaps *Ephedra sinica*.

The Soma plant is known only from Sanskrit literature. It is not merely a plant but a creeping, somewhat twisting, semi-shrub with a series of leafless shoots, which contain an acidulous milky juice. On the other hand, there is evidence for the search of alternatives to the Soma plant in the Vedic age itself, which indicate the scarce availability or extinction of the actual plant in course of time. ‘The Soma plant has a hanging bough, is bare of leaves and is of a light brown colour; knotty joints containing an abundance of slightly astringent, milky juice in a fibrous cane like outer rind’ (Bakels 2003).

The Rig Veda suggests that the Soma-growing areas were distant and unknown to the Vedic Aryans in the early parts of the Rig Veda. The Soma plant and its ritual were introduced to them by priests from Soma-growing areas. The location of Soma is referred to as being far away (Rig Veda, IV.26.6; IX.68.6; X.11.4; 144.4) in an area also known as the dwelling of Tvashtra (Rig Veda, IV.18.3), one of the most obscure gods of the Vedic pantheon derived from outside the range of Vedic tribes. Tvashtra is the guardian of Soma, which is called the mead of Tvashtra (Rig Veda, I.117.22), and Indra conquers Tvashtra to obtain the Soma. Soma is regarded as growing in areas so distant that it is constantly identified with the heavens (Rig Veda, IV.26.6; 27.3, 4; VIII.100.8; IX.63.27; 66.30; 77.2; 86.24, etc.). The only specific information we have about Soma is that it grows on the mountains (Rig Veda, I.93.6; III.48.2; V.43.4; 85.2; IX.18.1; 62.4; 85.10; 95.4; 98.9, etc.) (MacKenzie 1913, 63).

The family mandalas of the Rig Veda do not mention where the Soma grows, but from descriptions we can deduce that it is the areas near the Susoma and Arjikiya Rivers (the Soan and Haro, tributaries of the Indus, north of the Punjab and north-west of Kashmir) (Rig Veda, VIII.64.11). The mountains gave rise to these rivers (Rig Veda, VIII.7.29). The best Soma grows on the Mujavant Mountains: the Mujavant tribes are identified with the Gandharas (Atharva Veda, V.22.14). The Soma plant which grew on Mujavant Mountain has long stalks and is of yellow or tawny colour, yielding a milky, acidulous, narcotic juice, according to the Mahabharata (10.785; 14.180). In Vedic India, an intoxicating concoction was prepared from its juice mixing it with milk, butter, barley, and water. This drink was used during Vedic rites, in honour of Lord Indra. There were rituals attendant at every step of the extraction of the juice. The plant was laid on the consecrated spot before being pressed. Abhishava (pressing) was the process of extraction of the juice of the Soma plant and its consecration with mantras.

Gordon Wasson, an American ethno-mycologist, has proposed that the fly agaric (*Amanita muscaria*) is in fact the Soma talked about in the

ancient Rig Veda texts of India. Although the theory has been refuted by anthropologists, it gained common credence when first published in 1968.

Bhang, popularly consumed as an intoxicant in north India, is an epithet of Soma in the Rig Veda. Bhang or hemp (*Cannabis sativa*) is a medicinal shrub grown on the foothills of the *Soma* Himalayas and in Pakistan. This seems the most likely explanation for Soma. The Sushruta Samhita (537–38) and Charaka Samhita (29.28–31) locate the best Soma in the upper Indus and Kashmir region.



*Soma*

The Graeco-Russian archaeologist Viktor Sarianidi claims that vessels with residues and seed impressions left behind during the preparation of Soma, and mortars used to prepare Soma in Zoroastrian temples have been found in Bactria. However, his claims have not been sustained by subsequent investigations (Sarianidi 2003, vol. 9). Besides the residue of ephedra, residues of poppy seeds and cannabis were also found, connecting the concoction to bhang, which is made with cannabis seeds; sometimes poppy seeds are added to make the ritual drink bhang-ki-thandai.

The identity of the ancient plant known as Soma is one of the greatest unsolved mysteries in the field of religious history. Common in the religious lore of both ancient India and Persia, the sacred Soma plant was considered a god. When Soma was pressed and made into a drink, the ancient worshipper who imbibed it gained the powerful attributes of this god.

### ***Mythological and Religious Associations***

Soma is variously described as a god, a drink, and a plant. It occupies an important place in the galaxy of Vedic gods. The plant and its juice were considered to have divine powers and were worshipped as the incarnation of Soma—the revered Vedic god, the moon and lord of the stars and vegetation.

The ninth mandala (chapter) of the Rig Veda is devoted to Soma. The original Soma grew in heaven. Like fire, the plant is believed to have been brought to earth by superhuman powers. Here are some excerpts:

Sanctify Soma our mind, our heart, our intellect;  
and may thy worshippers delight in thy friendship, like cattle in fresh pasture,  
in thine exhilaration (produced) by the sacrificial food;

For thou art mighty.  
Like the winds violently shaking the trees, the draughts of Soma have lifted me up,  
For I have often drunk of the Soma.  
The praise of the pious has come to me like a lowing cow to her beloved calf,  
For I have often drunk of the Soma.  
Both heaven and earth are not equal to one half of me,  
For I have often drunk of the Soma  
I am the sun, the greatest of the great, raised to the firmament;  
For I have often drunk of the Soma.

The ninth mandala is known as Soma mandala and consists entirely of hymns addressed to Soma Pavamana (purified Soma). The drink Soma was kept and distributed by the Gandharvas. The Rig Veda associates Sushoma, Arjikiya, and other regions with Soma (VIII.7.29; 8.64.10–11).

Sharyanavat, described as ‘green-tinted’ and ‘shining bright’, was probably the name of a pond or lake on the banks of which Soma could be found (Rig Veda IX.42.1; IX.61.17). The Rig Veda (VIII.48.3) says:

We have drunk Soma and become immortal; we have attained the light, the Gods discovered.  
Now what may the foe’s malice do to harm us? What, O Immortal, mortal man’s deception?

Soma was a ritual drink of importance among the early Indo-Iranians. If it is frequently mentioned in the Rig Veda, the Haoma of the Zend Avesta dedicates the entire yast 20 and yasna 9–11 (hymns of the Zend Avesta) to it. Both Soma and the Avestan Haoma are derived from Proto-Indo-Iranian *sauma-*. The name of the nomadic Iranian Scythian tribe, Hauma-varga is



obviously related to the word and probably connected with the ritual. The word is derived from the Sanskrit sav-/su 'to press', i.e., sau-ma-is the drink prepared by pressing the stalks of a plant. In both Vedic and Zoroastrian tradition, the name of the drink and the plant are the same, the three forming a religious or mythological unity.

The Rig Veda (IX.42.2) calls the plant the 'God for Gods', giving it precedence above Indra and other gods.

Soma is associated with the moon and Somavara or Monday is named for it. According to Mackenzie, 'Soma worship appears to be connected with the belief that life was in the blood; literally the life blood ... the blood of trees was the name for the sap; its sap was water impregnated or vitalized by Soma, the essence of life. Water worship and Soma worship were probably identical, the moon which was believed to be the source of growth and moisture, being the fountainhead of the water of life' (S.M. Gupta 1991, 86).

The ritual of Somayajna is still held in south India. The somalatha (creeper) is procured in small quantities from the Himalayan region and used to prepare soma rasam or juice. It is also used in Ayurveda and Siddha medicine since times immemorial. The herb used is *Cynanchum viminale*.

In art, Soma was depicted as a bull or bird, till he evolved into a lunar deity. The moon is the cup from which the gods drink Soma, for full moon is the time to collect and press the divine drink. Soma's twenty-seven wives were the nakshatras or stars, daughters of the divine progenitor Daksha, who told their father that Soma paid too much attention to Rohini, one of the twenty-seven. Daksha therefore cursed Soma to wither and die, but the wives intervened and the death became periodic and temporary, symbolized by the waxing and waning of the moon. Somavara is Monday, the day of the moon, in Sanskrit and other Indian languages.

### ***Medicinal Uses***

The dry stems are emetic. The infusions of its roots are prescribed to treat dog bites.

## Steaved Tree

Botanical name:	<i>Crateva adansonii</i> DC
Common names:	Barna, Bel-patri (Hindi) Mavilangam (Tamil) Varuna, Ajapavaruna (Sanskrit)
Habit:	Tree
Distribution:	Asia (temperate and tropical), Australia, and Pacific regions

It is a small or moderate-sized deciduous tree, with a smooth, pale grey bark. It can be seen in almost all districts, often planted along the banks of rivers and streams. The plant is native to the Indian peninsula.

The fruit is used as a mordant in dyeing. The wood is fairly hard and used to make drums, combs, and turnery articles. The bark is a source of tannin and saponin (Forest Department 1983, 13).

### ***Mythological and Religious Associations***

Varuna is one of the earliest and most important of the Vedic gods, who also resembles the Avestan deity Ahura Mazda. Varuna is one of the Adityas and hence he is associated with the celestial order, as well as with mundane morality. Varuna is venerated as a rainmaker. Varuna is also the steaved tree, which is believed to possess both medicinal and magical properties. Amulets are made from its wood (Atharva Veda, VI.85, 1).



*Steaved tree*

The plant is sacred to the Trimurti and to Shiva (Birdwood 1992, 87). Its Sanskrit name varuna means ‘Lord of Oceans’ and it is said to be one of the names of Lord Shiva (Monier Williams 1981, 921).

### ***Medicinal Uses***

The bark is used to treat biliousness. The bark and leaves are a good external treatment for rheumatic swellings and boils. A decoction of the bark if taken regularly cures chronic ulcers and swellings of the testicles. The powder of the bark is used to cure nasal disorders (Shanmugam 1989, 673). The juice of the bark is given to women to reduce postnatal pain (Asolkar, Kakkar, and Chakre 1992, 236).

## Sugarcane

Botanical name:	<i>Saccharum officinarum</i> L.
Common name:	Pundia, Paunda, Gannah (Hindi) Karumbu (Tamil) Ikshu, Dhanya Sarkara, Kanda (Sanskrit)
Habit:	Grass
Distribution:	Cultivated in India, extensively in tropics and subtropics, and throughout the world

Sugarcane in India is predominantly used for manufacturing jaggery and sugar. Molasses, cane juice, and other by-products are fermented and then distilled to produce rum, an alcoholic beverage. The fibrous residue of sugarcane, called bagasse, is used as a fuel and also serves as the raw material for making paper. It is also used in the preparation of many industrial chemicals. Sugar is used as a preservative for fruit and meat. The leaves or reeds are used for making thatched roofs.



*Goddess Rajarajeshwari holding a sugarcane stalk*

### ***Mythological and Religious Associations***

Ikshu, the Sanskrit name for the sugarcane, is first mentioned in the Atharva Veda and the later Samhitas (MacDonell and Keith 1982, 74).

The plant signifies fertility and is associated with Lord Ganesha, who is often depicted holding the sugarcane—Ikshu-karmukha. Sugarcane is also associated with other deities including Devi, Krishna, and Skanda. An offering of sugarcane is made to Lord Ganesha, especially during the festival of Ganesha Chaturthi.

Goddess Rajarajeshwari and Goddess Kamakshi of Kanchipuram are always depicted holding sugarcane stalks. Sugarcane cultivation was introduced in south India from China (hence the name chini) and there is a distinct correlation in time (around the 6th–7th century CE) between the introduction of sugarcane cultivation and the development of these two goddesses.

The bow of Kamadeva, god of love, is made of sugarcane, with honeybees on it (Stutley 1985, 56).

### ***Medicinal Uses***

It is used in Ayurvedic medicine to cure skin and urinary tract infections, bronchitis, heart problems, cough, anaemia, and constipation.

The juice also helps purify the blood (Caius 1989, 89). Sugarcane juice can heal physical wounds and stimulate the immune system.

Consuming raw sugarcane or drinking sugarcane juice can arrest tooth decay. A paste made by mixing sugar and washing soap is used externally to treat boils.

## Swallow Wort

Botanical name:	<i>Calotropis procera</i> (Aiton) W.T. Aiton
Common names:	Akada, Madar (Hindi) Vellerukku, Vellai erukku (Tamil) Arka, Arkaparna, Arkavrikshaha (Sanskrit)
Habit:	Shrub
Distribution:	Asia (tropical, temperate), Africa Naturalized elsewhere

It is a shrub which grows as high as a tree. The trunk and branches are yellowish-white in colour and furrowed. The young branches, leaves, and stems are all covered by a cottony pubescence. On breaking, all parts yield a profuse milky-white discharge. Usually it grows in dry and semi-arid conditions. Commonly found all over the plains of India, it is now endangered in many places.

The leaves and stem are used as green manure. The stem fibre is used in rope making. The floss obtained from the fruit is used as a stuffing material (Krishnamurthy 1993, 382, 397, 450).

It is a suitable plant for growing around sewage-treatment plants (Stutley 1985, 12, 56). The leaves, flowers, root, and bark oil have an antimicrobial and nematicidal effect (Dymock, Warden, and Hooper 1891, 428–37).

### *Mythological and Religious Associations*

Arka means belonging or relating to the sun; it also means ray and a religious ceremony.

Arkaparna is the name of the snake demon. Arkaputra is Saturn.

The Atharva Veda says that the arka plant is closely associated with Rudra, and hence is auspicious (VI.72.1).

It is often referred to in the Shatapatha Brahmana (IX.1.1.4, 9). It is associated with the star Shravana.

According to the Mahabharata (1.716), this plant would blind those who approached it.

The Agni Purana says that it is sometimes used in the solar cult. Its leaves, if worn on the body by a prince, ensure the success of his mission. The wood is one of the nine woods used in the sacrifice.

According to the Shivamanjari, it is one of the eight flowers which came to be used for early morning worship of Lord Shiva.



*Swallow wort*

According to the Narada Purana, it is a milky tree, the flowers of which are used in the worship of Shiva. The plant is said to have originated from Shravana, the birth star of Vishnu. Arka is not only associated with Vedic gods but also with village deities. It is associated with the goddess Yakkala Devi, otherwise called Arkamma (Oppert 1972, 501).

Since times immemorial, Devaganas worshipped Lord Palamalainatha at Vriddhachalam. The Devaganas came to Erukathampuliyur, worshipped Lord Kumaresha, and attained liberation. On hearing this, the sages of Naimisharanya came to live here in the form of trees and worshipped the lord. The hunters, who were the local inhabitants, were pleased to see this



sudden growth of dense trees and started cutting them to sustain their life. The sages placed their grievance before Lord Kumaresha and asked him to save them from the hunters. The lord converted them into the vellerukku. One can see the bushy shrub near the main deity. It is believed that the sages of Naimisharanya still worship Lord Kumaresha and live in the form of the vellerukku tree, which has a high medicinal value (sthala purana).

According to the Taittiriya school, when the gods were performing a ritual to the sun, they spilled a jar of scalding milk on to the earth. From this sprang the swallow wort, which was named arka after the sun.

Hindu mythology contains an ancient tribal caution about the poison contained in its milky latex, but offering the leaves of the swallow wort in religious rituals is believed to enhance the good health of the devotee. The leaves are used for ritual oblations to the sun, after which they are burnt (Patnaik 1993, 66).

During Ratha-saptami day, many communities in Andhra Pradesh and Karnataka place the leaves, along with sesame seeds, on the head and bathe while chanting *sapta saptey maha saptey, saptame ratha saptame* for good health and prosperity. Ratha means chariot and saptami means seventh. On this day, the sun rides on his chariot of seven horses from south-east to north-east, gifting the season of spring to south India.

There is a curious superstition in western India that the leaf of the arka fetched from the tree with certain ceremonies prevents difficult labour. The friends of the woman take a packet of betel nut and leaf and some money and proceed to the plant, which they address in the most respectful manner, placing the offering, requesting a leaf and promising to return shortly. Then they take a leaf and place it upon the head of the parturient woman, where it remains for a short time, and is afterwards returned to the plant. This practice appears to be connected with the worship of the Maruts or winds, demigods subject to Rudra, to whom these plants are sacred. The Maruts are worshipped on Saturday with a garland of the flowers. The twigs are used as samits (sacred twigs used in fire rituals), while the leaves are used in the Shakti puja, to propitiate the goddess of parturition.

It is also the kul or family tree of the Bhandari caste, whose business it is to tend the palm gardens and extract the juice of the trees.

Another custom general among Hindus is that a man who has lost three wives must marry the arka, after which he may take another wife (Dymock, Warden, and Hooper 1891, 428–37).

An amulet of arka wood is said to bestow virility.

### *Medicinal Uses*

As a medicine, Calotropis is mentioned by Sushruta and other medical writers, some of whom mention two varieties, arka and alarka, ‘a white flowered Calotropis’.

The ash of the burnt leaves and flowers is used for the treatment of asthma and bronchitis (Shanmugam 1989, 103). Inhaling the smoke of the burning leaves can cure asthma and cough. A powder of dried leaves is dusted over wounds, ulcers, and sores. Oil extracted by boiling the leaves is generally used in dressing paralysed parts of the body. A poultice of slightly roasted leaves is applied to inflammations and painful joints and muscles. The leaf juice is used to treat skin diseases and sores in the mouths of children (Dastur 1962, 150).

A paste of charcoal prepared from the roots, made with some bland oil, is applied over skin affected by a chronic ulcer or leprosy. The milky juice of the plant is used to treat leprosy.

It is known as vegetable mercury because of its usefulness in treating typhus and chronic venereal disease.

The dried latex is used as an antispasmodic and as a nerve tonic. The latex is commonly used for treating ringworm of the scalp, for relieving pain in the joints, for countering swellings and piles, and for removing unwanted hair. The latex mixed with honey is used to relieve toothache. One or two grains of the dried flowers are given to cure leprosy (Tirugnanam 1995, 42–45). The latex or milk is also used to treat snake poisoning (Asolkar, Kakkar, and Chakre 1992, 158–59).

## Sweet-Scented Oleander

Botanical name:	<i>Nerium indicum</i> Miller
Common names:	Chandni, Kanir (Hindi) Alari (Tamil) Karavira, Asvamaraka, Karavirabheda (Sanskrit)
Habit:	Shrub
Distribution:	Africa, Asia (temperate), India, Nepal, Pakistan Cultivated elsewhere

It is an evergreen erect shrub, native to the Mediterranean region. Young shoots secrete milky latex. Flowers and fruits occur throughout the year in cultivation.

### ***Mythological and Religious Associations***

The Ramayana (3.75.23, 24) says that the flowers of this plant surround the Pampa Lake.

It is sacred to both Shiva and Vishnu. The fragrant flowers are offered to Lord Shiva (Birdwood 1992, 87).

In the month of Shravan, the gods should be worshipped with the offerings of karavira flowers, clarified butter, and cushions, and toothbrushes of karavira twigs should be dedicated to him with the repetition of the mantra: 'Om, obeisance to the mace-bearing god who is without any origin'.

### ***Medicinal Uses***

The root is poisonous but, if administered carefully, can be a powerful cardiac tonic. A paste of the root is applied externally to treat ulcers, leprosy, skin diseases, scorpion stings, and snakebites (Bor and Raizada 1990, 217–19; Sivarajan and Balachandran 1994, 223–25).



*Sweet-scented oleander*

Fresh leaf juice is used as eye drops to reduce swelling and improve eyesight.

The plant is a collector of dust and gaseous pollutants from the atmosphere. It is a suitable shrub to be planted along effluent drains, roads with heavy vehicular traffic, and industrial areas.

# Tamarind

Botanical name:	<i>Tamarindus indica</i> Linn
Common names:	Amlī, Imli (Hindi) Puli (Tamil) Tintrani, Tintrini (Sanskrit)
Habit:	Tree
Distribution:	Native to tropical Africa Grows extensively throughout the Indian subcontinent, South East Asia and West Indies

The term ‘tamarind’ originated from Madagascar. It is derived from the Persian word tamar-i-Hind meaning date of India.

The tamarind is a large, handsome evergreen tree with a densely spreading crown attaining a height of 24–30 m. The bark is longitudinally fissured and horizontally cracked. The tamarind tree is native to tropical Africa and it grows extensively throughout the Indian subcontinent, South East Asia, and the West Indies. The tree is cultivated for its fruit and planted as an avenue tree.

The wood is hard and used for making agricultural implements, tools, handles, wheels, mallets, rice pounders, oil mills, turnery articles, printing blocks, and tent pegs. It is also used in construction and as a substitute for teak. It is a good fuel wood and gives excellent charcoal, valued for gunpowder (Hocking 1993, 307).

The leaf is good fodder for cattle and has about 12–15 per cent protein (Singh 1982, 340–43). It also yields a red dye.

The seeds are used in the textile and jute industries for sizing, and as filler for adhesives in plywood industries. The seed coats contain tannin used in tanning leather. The seeds give amber-coloured oil, which is made into a varnish to paint idols. The seeds are used in jam and jelly making, confectionery industry, and in making condiments (Hocking 1993, 307).

The fruits are valued for the acidic pulp used in preparing curries and chutneys.

The tamarind tree is a shade giver and the mature trees are hardy to drought and frost. It can tolerate slightly alkaline or saline soil.



*Tamarind*

### ***Mythological and Religious Associations***

According to a tribal myth, this tree had large and broad leaves. Rama, his brother Lakshmana, and Sita built a hut under it. Although this tree had sheltered them from rain and sun and protected them from heat and cold, they were supposed to lead a life of inconvenience and so Rama ordered Lakshmana to shoot the leaves and split them. Lakshmana did as he was told and shot at the leaves with his bow and arrow. Since then the leaves are finely divided (Barooah 1992, 58–59).

According to another myth, when god planted the tamarind tree and tended it, it bore long, finger-like fruit. He liked the taste and decided to share it with mankind. But he did not tell the birds about it as there may not

have been enough for men. God called man and told him to guard the tree well and to plant it on the hills as it would be profitable to him (Patnaik 1993, 110).

According to a Sambalpuri legend, long ago, when both gods and demons walked the earth, Bhasmasur was the chief of the asura army. He challenged Mahadeo or Shiva, the Destroyer, to a duel. The winner, it was decided, would become the ruler of the earth. Mahadeo took up the challenge. The two fought and Bhasmasur was wounded several times. He ran for his life, fleeing through the forest, looking for a place to hide. Then he saw a tamarind tree with huge spreading branches and giant leaves. He climbed up hastily and covered himself with the leaves. Mahadeo found that the demon had vanished. He looked everywhere and as he passed under the tamarind tree Bhasmasur shifted nervously and the leaves rustled. Mahadeo looked up. He knew his enemy had been found but he couldn't see him. He tried with one eye, and then with both but the leaves hid the demon from sight. Mahadeo's patience was exhausted. With a roar of rage, he opened the magical third eye in the centre of his forehead. Each leaf disintegrated into small pieces. Mahadeo saw Bhasmasur and killed him. The earth was saved from the demon, but the leaves of the tamarind have always remained small.

The Oraons revere the tamarind and bury their dead under its shade.

The tree was a special favourite with the early Muslim conquerors and the finest specimens of it will be found in their cemeteries and near their original settlements (Crooke 1926, 109).

The tamarind tree is the sacred tree of Alwar Tirunagari, situated between Tirunelveli and Tiruchendur in Tamil Nadu. The tamarind tree of that temple stood in the northern prakara, with seven branches. One can find the flowers and young fruits, but the fruits never mature and the leaves never close: that is why the people call this tree urangaa puli (the tamarind tree that never sleeps). This tree is supposed to be the oldest, so local people preserve and conserve it.

According to the sthala purana of Thirukurungudi, Adi Shesha took the form of the tamarind tree and sheltered the lord.

It is believed that the tamarind tree is sacred to Krishna. The great Vaishnava saint Nammalvar was born under this tree (Oppert 1972, 501). Nammalvar meditated under the tree and sang hymns in praise of Vishnu. The saint Chaitanya meditated upon Krishna seated under a tamarind tree.

The tamarind tree is associated with Usha, the adopted daughter of Goddess Parvati. According to another legend, the tamarind is the daughter of Banasur of Tezpur, given in adoption to the goddess Parvati. The fruit of this tree symbolizes the wife of Brahma the Creator.

Fruits or flowers of the tamarind are never used for any auspicious ceremony owing to the sour taste (S.M. Gupta 1991, 24–27).

In Tamil Nadu, a village deity named after this tree is called Pulividai Valiyamman. Goddess Mariyamma also resides under this tree.

There is a belief that the spirits of the dead reside in the tamarind and tamarind groves are avoided at night, nor do people sleep beneath a tamarind tree. Scientifically, ancient Indians realized that the tree emits more carbon dioxide than other plants.

### ***Medicinal Uses***

The juice of the leaf is given to treat bilious fever and scalding urine. A decoction of the leaves is given to children as an anthelmintic to expel worms and is also useful in treating jaundice. The dried leaves are powdered and dusted over foul ulcers, wounds, and sore eyes and also used for gargling.

The bark is used as a binder and the tonic is used for reducing fever and as an antiseptic. The pulp of the fruit is given to cure lassitude, intoxication, bilious vomiting, fever, and dysentery. A hot poultice of the pulp is applied over inflammatory swellings, while a paste of the pulp made with salt is used as a liniment to treat muscular and joint pain.

Tamarind water is used as a mouthwash for sore throat (Dastur 1962, 150; Sudharshan, Yellappa Reddy, and Gowda 1993, 13).

The seed paste is mixed with salt and applied to scorpion stings (Shanmugam 1989, 607).



# Trumpet Flower

Botanical name:	<i>Stereospermum suaveolens</i> DC
Common names:	Paadal, Paadaria (Hindi) Paatali maram, Paatiri (Tamil) Paatala, Paatali (Sanskrit)
Habit:	Tree
Distribution:	Throughout India

It is a large deciduous tree with branches ascending up to 25 m with a smooth, greyish bark. It is a tree of the tropical and subtropical areas. It can grow in a variety of soils and even in grasslands. The leaves are good fodder for cattle. The wood has very little use.

## ***Mythological and Religious Associations***

The Ramayana says that this tree is found in the forest (1.24.15). It is a tree of Panchavati (3.15.18), an attractive tree with flowers (4.1.80), and an attractive flowering tree of the forests (6.4.80).

It is sacred to the Buddhists since this tree was identified as a symbol of Vipacin in the tales on the Sanchi stupa.

The paatala is associated with Vasupujya, the eleventh Jaina Tirthankara who received his divine knowledge under this tree. In another legend about the paatala, a Jaina yaksha and his consort Anantamati (Amkusha) were also associated with this tree (B.C. Bhattacharya 1974, 48).

According to the Vayu Purana, Uma, the consort of Shiva, undertook penance on the southern side of Himavat Mountain. As Aparna, she

practised austerity in food. As Ekaparna, she ate only leaves, and as Ekapata, ate only the fruits and flowers of the paatala tree. Paatala is also mentioned by Charaka, Sushruta, and Varahamihira.

According to the sthala purana of the Paadaleeshwarar temple at Tiruppadhiripuliyur, Cuddalore district, Tamil Nadu, the tree produces twelve types of flowers between the months of April and June. The flowers are fragrant and sweet smelling and are used only for worshipping the lord. Goddess Parvati is supposed to have performed a puja under this tree.

Another legend about this sacred tree differs significantly from others. The various parts of the tree are forms of different cosmic forces, such as the Vedas, Agamas, Panchaakshra, Vayu Purana, and pure knowledge. Naadakala (cosmic music) is represented by the roots, energy by the trunk, Vedas by the leaves, Agamas by the flowers, and the Panchaakshra stotra by the fragrance of the flowers. All these are a part of the pure knowledge which the sthala purana has mentioned.



*Trumpet flower, 3rd century BCE, Sanchi, Madhya Pradesh*

Many people come here to worship the lord and tie a cradle on the branches of the paatali vriksha to be blessed with a male child, a good husband, and wealth. This practice of worship is still followed.

It is associated with Goddess Shakti.

### ***Medicinal Uses***

The leaves, barks, flowers, and tender fruits are used in medicine. A decoction of the leaf is good for disorders of the uterus. The flowers control bleeding and diarrhoea and are good for diseases of the throat. The fruit is useful in treating hiccups and blood diseases. An infusion of the root relieves stomach ache (Sivarajan and Balachandran 1994, 362–63). It is regarded as a cooling and diuretic tonic and generally used in combination with other medicines. The ashes of this plant are used to prepare alkaline water and caustic pastes (Singh and Panda 2005, 799). The extract of the bark is believed to cure stomach ache, cough, and anaemia. The extract is prepared by soaking the bark in water in the ratio of 1:10 for an hour; 15 ml of this must be taken twice a day (Shanmugam 1989, 559).

# Turmeric

Botanical name:	<i>Curcuma longa</i> L.
Common name:	Haldi (Hindi) Manjal (Tamil) Haridra (Sanskrit)
Habit:	Herb
Distribution:	India Cultivated elsewhere

The word turmeric was derived from the Latin *terramerita*, or deserving earth.

Turmeric is a perennial herb of the ginger family, native to tropical South Asia and cultivated throughout India and in the southern parts of Asia. Turmeric needs a considerable amount of annual rainfall to thrive. Plants are gathered annually for their rhizomes, and propagated from the rhizomes in the following season.

Turmeric rhizome is widely used in India as a culinary spice to add colour and flavour to food. Extracts from the rhizome are added to many cosmetic products.

In medieval Europe, turmeric was known as Indian saffron since it was used as an alternative to saffron, a very expensive spice.

## ***Mythological and Religious Associations***

Turmeric is considered to be highly auspicious and has been used extensively in various Indian ceremonies for millenniums. It is used in

every corner of the country during wedding and religious ceremonies.

Turmeric plays a very important role in Hindu and Buddhist religious ceremonies. It symbolizes purity, prosperity, and fertility. Turmeric mixed in water is poured on deities in temples as a part of the abhishekham (ritual bath). Turmeric paste is also smeared over the idols, especially in temples in south India. This is referred to as manjal-kaappu (turmeric cover).

Dried turmeric root and vermilion (haldi-kumkum) are distributed to women during religious ceremonies and other auspicious occasions.

Turmeric paste is an indispensable item at Indian weddings. The paste is applied over the face and arms of the bride and bridegroom in many parts of India. Gayeholud (literally ‘yellow on the body’) is a ceremony observed in West Bengal. It takes place one or two days before the wedding ceremony. The turmeric paste is applied by friends to the bodies of the couple. This is said to soften the skin, but also colours them with the distinctive yellow hue that gives its name to this ceremony.



*Turmeric tied to the pongal pot in Tamil Nadu*

In Hindu weddings, the dried turmeric root tied on a thread and coloured with turmeric powder is the mangal sutra or taali that is tied around the bride's neck by the groom, and this marks the union of the two in holy wedlock. Today, the turmeric is replaced by a gold pendant, which is based on the family's religious and caste affiliation. The Hindu Marriage Act recognizes this custom. In western coastal India, during Maharashtrian and Konkani weddings, turmeric tubers are tied with strings by the couple to their wrists during a ceremony called kankana bandhana (tying of bangles).

It is believed that Goddess Parvati created an image of a boy out of turmeric paste and infused life into it, and thus Ganesha was born. Even today, at any Hindu ceremony, people create a tiny idol of Ganesha out of turmeric paste (S. Suresh, 'Season of Plenty', *The Hindu*, 14 January 2002).

Turmeric powder is used in all auspicious ceremonies, reflecting the sanctity people attach to turmeric. The use of turmeric was promoted by projecting it as a symbol of divinity (B.N. Hareesh, 'Road Map to Build a Peaceful Society', *The Hindu*, 5 October 2004).

During the Tamil festival of Pongal, a whole turmeric plant with fresh rhizomes is offered as a thanksgiving offering to Surya, the sun god. A fresh plant is tied around the sacred pot in which the offering of pongal is prepared.

### ***Medicinal Uses***

Turmeric has been used in India for over 2500 years and is a major part of Ayurvedic medicine. It was first used as a dye and later for its medicinal properties.

Daily consumption of 1 gm of the turmeric rhizome helps fight decaying metabolism and prevent cancer. The essential oil from the rhizome is anti-arthritic, anti-fungal, anti-inflammatory, and antibacterial.

The rhizome is a household remedy for cough, cold, and skin diseases.

A paste of turmeric and neem leaf is applied externally to the eruptions of smallpox or chickenpox (Dastur 1962, 69–70).

Oil extracted from turmeric is used in the preparation of perfumes and medicines. It is shown to have antibacterial, anti-fungal, anti-inflammatory, and antioxidant properties and is used in traditional medicines (Patnaik 1993, 137).

The low incidence of Alzheimer's disease in India has been attributed to turmeric. Scientists have discovered that turmeric has an ingredient—curcumin—which helps fight dementia and Alzheimer's.

## Tuscan Jasmine

Botanical name:	<i>Jasminum sambac</i> (L.) Aiton
Common names:	Moghra (Hindi) Kundumalligai (Tamil) Mallika (Sanskrit)
Habit:	Shrub
Distribution:	India

The generic name jasmine originated from the Arabic and Persian word yasmin or yasaman, so we may assume that the plant first known by this name was probably the Arabian jasmine, or to give it its botanical name, *Jasminum sambac*. The species name *sambac* is an ancient Indian name for the species.

A sub-erected shrub with pubescent branches, it is native to South Asia and is found in India, Myanmar, and Sri Lanka. It is the national flower of the Philippines and Indonesia. It is believed to be indigenous to south India and is cultivated. It is a symbol of divine hope, elegance, innocence, purity, and nobility. The garlands are used to welcome guests or as offerings or adornments in religious altars.

The flowers are used to make garlands and to adorn the hair. Oil obtained from jasmine flowers is used to make perfumes and medicines. The leaves contain a resin, a salicylic acid, an alkaloid called jasminine, which is an astringent principle that arrests bleeding.

Since the shrubs grow around temple complexes, their fragrance cleans up the environment by neutralizing the bad odour from putrefying organic

matter (Nayar, Ramamurthy, and Agarwal 1989, 36).

### ***Mythological and Religious Associations***

Jasmine attar is considered to be divine. It develops a sense of balance, confidence, attractiveness, and mental stimulation. It is used during the worship of Lord Shiva and is considered to be connected with the aroma of the deep forests of the lower Himalaya region where Lord Shiva used to live with his followers. *Jasminum sambac*, *Jasminum undulatum*, and some other species of jasmine are forbidden to be offered to Lord Shiva. But in Tantric worship, these flowers are offered to Lord Shiva on account of their fancied symbolism in Shakti worship (Birdwood 1992, 87).



*Tuscan jasmine*

The jasmine is mentioned in the Ramayana (4.1.76): ‘on the banks of the Pampa, jasmines, water lilies, red oleanders have grown’.

The white, sweet-scented flowers are considered to be sacred to Vishnu and are used to make garlands for the lord.

According to the sthala purana of the Navanidishwara Temple at Tiruchikkal in Nagapattinam district of Tamil Nadu, Sage Vashishtha made a Shiva lingam with the butter from Kamadhenu’s milk and worshipped it. This place is called malligai-vanam because it was once fully covered with jasmine shrubs. The lord stood under the bush where sage Vashishtha worshipped the lingam and later a temple was built there. Finally, sage Vashishtha attained salvation.



In Indian lore, Kama, god of love, tips his arrows with flowers to pierce the heart through the senses. One of the scents he fired from his bow is the jasmine (Miller 1990, 74).

### *Medicinal Uses*

The whole plant is used for removing intestinal worms. It also stimulates urine flow. The perfume extracted from the flower is used for treating mental disorders, jaundice, and venereal diseases (Bor and Raizada 1990, 244–46).

The juice is an antidote for the sting of a scorpion. The flower buds are useful in treating ulcers, vesicles, boils, skin diseases, and diseases of the eye (Sudharshan, Yellappa Reddy, and Gowda 1993, 104).

The leaf extract has an antibacterial effect and acts against breast tumours (Asolkar, Kakkar, and Chakre 1992, 376).

## White Marudh

Botanical name:	<i>Terminalia arjuna</i> (Roxb.ex DC) Wight and Arn.
Common names:	Anjan, Arjan (Hindi) Marudhu (Tamil) Arjuna, Kakudha (Sanskrit)
Habit:	Tree
Distribution:	India, Sri Lanka, Myanmar

The Sanskrit name of the tree is arjuna, which means white. It is also the name of one of the heroes of the Mahabharata. In this case, it refers to the white bark of the tree.

It is a dry evergreen tree with a broad crown and shallow roots, attaining a height of 20–30 m. It is a tree native to India. Generally it grows along river valleys and plains up to an altitude of 1200 m, along water channels or marshy belts and alluvial bars. It is a suitable plant to grow in alkaline soil.

The wood is hard and strong and is used for making agricultural implements, poles, cartwheels, boats, and buildings. It tolerates air pollution and collects dust particles from the atmosphere. Pandey and Saleem (1994) have reported that it collects 4.49 gm per m<sup>2</sup> of leaf surface. According to Nayar, Ramamurthy, and Agarwal (1989), it acts as an environmental purifier and also as an antimicrobial agent.

The arjuna tree is mentioned in early Sanskrit literature under the name Nadisarjja, and an ancient physician named Vagbhatta first prescribed the bark of this tree for heart diseases. Later, Chakradatta, another great Indian

physician, described it as a tonic and an astringent, and recommended its use either in a decoction with milk and water or as a ghrita (a preparation with ghee or clarified butter) for heart diseases (Sudharshan, Yellappa Reddy, and Gowda 1993, 21).

### ***Mythological and Religious Associations***

*Terminalia arjuna* has been mentioned in the Ramayana. Sita loved this tree for its flower (3.60.14), which decorated Prasravana Mountain (4.27.10). It grows in multitudes along with the sandalwood tree, and in rows with a rich canopy of foliage held high so that these offer a grand sight as the setting sun glows up a whole garland of them (4.28.41). Rain winds bear the fragrance of the arjuna (4.30.25). Big trees are used in bridge construction (6.22.56). It is a tree adorning Rama's palace garden (7.42.4).



*White marudh, Marudeeshwarar temple, Tiruvidaimarudur, Thanjavur district, Tamil Nadu*

According to a story in the Bhagavata Purana, Nalakubera and Manigriva were the sons of the Yaksha king Kubera, the god of wealth. Power made them arrogant and disrespectful of other semi-divine beings. Once, intoxicated with drink, they were playing stark naked with Gandharva girls in a river when Narada passed by. The boys were so maddened with power

that they completely ignored Narada. Narada wanted to teach them a lesson and thought that poverty was the only remedy for those who thought highly of themselves. Since the sons of Lokapala Kubera were deep in ignorance, insolence, and intoxication, he punished them by converting them into arjuna trees. But he did not make them lose their memory. In fact, he said that after 100 Deva-years, the touch of Krishna would save them. As a consequence of this curse, the sons of Kubera became a pair of arjuna trees in Vraja. One day Krishna was fastened to the husking mill and his attention was drawn by the pair of arjuna trees. He remembered the words of Narada and, since he did not want Narada to be proved wrong, he approached the trees; drawing the husking machine behind him and placing himself between the two trees, he uprooted them. As the trees fell down with a crash, two fiery spirits emerged, illumining space by the splendour of their bodies. After praying to Krishna, they rose upwards and disappeared. The gopis were engaged in their household duties and the crash of the two lofty trees attracted their attention. The gopas who had witnessed the miracle narrated to the people of Vraja what had happened: the liberation of the sons of Kubera from the arjuna trees and the fact that the two boys had lived as arjuna trees for 100 Deva-years, and made the trees sacred (S.M. Gupta 1991, 92). It is interesting that a seal from Mohenjo Daro has a male figure pushing apart two arjuna trees. One wonders how old this legend may be.

It is the sacred tree of the Dandaayudha-paani temple at Marudhamalai in Coimbatore district of Tamil Nadu. Perhaps the hillock and the nearby places are named after the marudham grove that existed in that region in ancient times. People worship the temple tree and make offerings to it.

The folklore surrounding the tree compels a certain amount of reverence, which is shown in the form of rituals carried out before felling even one of these trees. An arjuna tree marked for felling is propitiated through the night before the day when it is due to be axed. At dawn, on the appointed day, holy water is sprinkled on the tree, the blade of the axe is honed with butter and honey and before the wood is made ready for making the implement, it is carved into an image of religious significance.

### ***Medicinal Uses***

A drug extracted from the bark acts as a cooling agent and its expectorant reduces fever and cardiac stimulants. It is a valuable remedy for heart diseases. A decoction or powder made out of its bark, if taken regularly along with milk and jaggery every morning, stimulates the heart. It is also used to treat asthma and, if taken with honey, it strengthens fractured bones. The decoction also cures dysentery. A paste made out of the bark mixed with honey cures pimples and eruptions on the skin. Ash made out of the bark is applied on the area stung by a scorpion (Dastur 1962, 150). Besides this, the powdered bark acts as an aphrodisiac, if taken regularly with milk over a period of time (Shanmugam 1989, 658).

## Wood Apple

Botanical name:	<i>Limonia acidissima</i> L.
Common names:	Beli, Katbel, Kavita (Hindi) Vila (Tamil) Kapittha (Sanskrit)
Habit:	Tree
Distribution:	India, China, Pakistan, Sri Lanka, Myanmar, Thailand

It is a deciduous tree found throughout the dry tropical forests of India. It is indigenous to south India. The branches are thorny and the leaves are pinnate.

The gum obtained from the bark of its stem and branches is used as a substitute for gum (Krishnamurthy 1993, 245). The leaves yield an essential oil.

The fruits are edible and contain calcium, phosphorous, iron, carotene, thiamine, riboflavin, niacin and vitamin C. They are also rich in oxalic, malic, citric, and tannic acids.

Kautilya's Arthashastra (II.15.39) says that oil is extracted from this plant.

### ***Mythological and Religious Associations***

The Brihat Samhita describes the method of its planting (Brihat Samhita, Vrikshayurveda, 22).

In the Ramayana (2.91.30), Bharata's army found the wonderful creations of Vishvakarma at Bharadwaja's hermitage where trees such as bilva, kapittha, panasa, citron, amalaki, and mango, loaded with fruits, appeared. According to the Kurma Purana (217.23; 14.78), studying in the shade of this plant is prohibited.

Ganesha is described as the consumer of kapittha jambu phala saara, or the 'juice of the wood apple and rose apple [Indian black plum] fruits', which are favourites of elephants. The fruit is offered to elephants.

Shrimad Bhagavatam (2.14–19) says that in a valley of the Trikuta Mountain, there was a garden called Ritumat belonging to Varuna where flowers and fruits grew in all seasons. Among them were the kumuda, kahlara, utpala, and satapatra, which added beauty to the mountain, and also the bilva, kapittha, jambira, and bhallataka trees.

The tree is sacred to Lord Shiva.

### ***Medicinal Uses***

The pulp of the raw fruit controls bleeding. Mashed seedless pulp of raw or ripe fruit, mixed with cardamom, honey, and cumin seed, cures dysentery, diarrhoea, and piles. It is also useful in preventing breast and uterine cancer and curing sterility (Bakhru 1993, 32–34). The ripe fruit strengthens the nerves, bones, heart, and alimentary canal. It also regulates the heartbeat and cures liver and spleen disorders (Shanmugam 1989, 740).



*Wood apple*

A powder or a decoction prepared from the bark cures bilious disorders. The juice of the tender leaves mixed with milk and sugar is used to treat the bowel problems of children.

The gum oozing from the stem softens the skin and mucous membrane.

The fresh leaf juice, mixed with cumin, is useful in treating allergies. It may be applied to skin eruptions caused by biliousness.



## Wooden Beggar-Bead

Botanical name:	<i>Elaeocarpus sphaericus</i> (Geartn.) K. Schum.
Common names:	Rudraksh, Rudrak (Hindi) Rudraksham, Uttiratcam (Tamil) Rudraksha (Sanskrit)
Habit:	Tree
Distribution:	Asia (tropical), Indian subcontinent, Indo-China, Malaysia, Australia, south-western Pacific

Rudraksha is the name of the dark berry of the wooden beggar-bead, used to make Shaiva rosaries or necklaces. The five divisions of the berry signify Shiva's five faces (Stutley 1985, 119). It is found in Nepal, eastern Himalayas, Arunachal Pradesh, Bihar, Madhya Pradesh and the Konkan Ghats of western India (Chatterjee 1996, 85–86).

The white wood of the tree has great strength. It is commercially useful for its timber. The wood is an ideal raw material for making airplane propellers, which obviously have to be light but strong.

The fruits also constitute the diet of the fruit bats or flying foxes in the Himalayan region.

The main use of the tree, however, comes from the seeds or beads that are generally worn by people on their wrists or forearms, or around the neck.

### ***Mythological and Religious Associations***

The word rudraksha comes from two Sanskrit words: Rudra, a synonym for Lord Shiva, and aksha meaning eyes. It is believed that the Hindu god Shiva meditated on the welfare of all mankind and cried tears of compassion, peace, and joy. These tears, upon hitting the earth, crystallized to form these seeds. The divine qualities of this bead were first noted in ancient Hindu scriptures. They bless one with peace of mind; protect against evil doers and spirits; and usher in peace and prosperity. According to the Mahabharata, the tears from Lord Shiva's eyes turned into rudraksha beads. Lord Shiva drew his bow and unleashed his arrows at the Tripuras (triple city), burning its demons for the welfare of creation (Patnaik 1993, 33). According to the Skanda Purana (11), rudraksha originated from the tears shed by Shiva for the benefit of humanity (Hazra 1958, 325–26).



*Wooden beggar-beads—rudraksha beads*

The Agni Purana says that Lord Shiva himself described the method and types of rudraksha beads to be worn (Dutt 1967, 1209). A man should wear rudraksha beads firmly threaded together and even in number. The seeds should have a single mouth, or three or five mouths. Seeds having two, four, or six mouths with unbroken thorns on the surface and not marked by any fissure are considered the most auspicious. The rudraksha seeds are divided into four classes: Shiva, Shikha, Yoti, and Savitra. It is believed that the sages have been wearing rudraksha for centuries to maintain mental alertness, physical well-being, and robust health to move forward on their divine path to enlightenment. Because of their association with Shiva,

rudraksha beads are considered sacred by the followers of Shiva, Rudra being one of his names.

Rudraksha's tubercled seeds are made into rosaries and bracelets and used for making akshamalās (Kurma Purana, 2.18.78).

The Garuda purana says that 'for the sandhya vandana, sitting on kusha grass, a man should wear a garland of beads made of crystal, lotus and rudraksha or putrajiva beads'.

In the Padma Purana (57), Lord Shiva explains the significance of the rudraksha to his son Kartikeya: 'Seeing the rudraksha carries lakhs of punya; wearing it will fetch ten crore punyas; and performing japa with it brings countless punyas.'

Rudraksha beads have ridges and burrows which are the so-called 'faces'. Rudrakshas are differentiated depending on the faces. A bead may have just one or up to twenty-one faces. Each number has its own connotation. For example, a rudraksha with one face is the rarest kind. By wearing this bead, one is forgiven even the murder of a Brahman, one of the five deadly sins or panchapaataka. Other rare rudraksha beads are those with eleven faces, fourteen faces, and twenty-one faces. The two-faced rudraksha represents Shiva as Ardhanaarishvara and is supposed to be worn by all Shaivites. By wearing this bead, one is forgiven sins committed knowingly and unknowingly.

It is believed that wearing the rudraksha is good for controlling one's blood pressure.

It is also believed that wearing the rudraksha distracts the evil eye, and that if a person is wearing a rudraksha at the time of death, he or she is spared further rebirth.

The Rudraksha Japalopanishad says that 'in the crust of the rudraksha dwells Brahma; in its hollow rests Vishnu; and in it is located Shiva; while in the bindu abide all the celestials' (Hazra 1958, 325–26).

Another widespread tradition relates the rudraksha to Shiva's consort Parvati. Soon after their marriage, Parvati discovered that Shiva lived like a sadhu, practising austerities all the time, and was indifferent to feminine charms and women's love for ornaments. Shiva did not see any worth in

such earthly things and scorned Parvati for being childish. Further, he told her to devote her time to listening to discourses of cosmic significance. This only enraged Parvati and she redoubled her desire for jewels and earthly comforts. However, when spring arrived, the blue sky, the flowers in their myriad hues, and the bees and butterflies hopping from flower to flower to suck nectar cried eternal joy. Parvati was filled with longing for jewellery and asked again for them. This time the lord had to give in. He stretched his hands and rudraksha fruits fell from heaven into his hands. He gave them to Parvati and asked her to make necklaces, bangles, armlets, and earrings of these beads (Barooah 1992, 68–73).

Twelve types of rudraksha came from the sun-eye of Shiva, sixteen from the moon-eye, and ten from the fire-eye. The first ones were blood coloured, the second white, and the third black (S.M. Gupta 1991, 36–37).

The rudraksha bead is associated with Lord Shiva and is considered very sacred by the Hindus. Lord Shiva is always depicted wearing the rudraksha beads on his head, arms, and hands.

### ***Medicinal Uses***

The wearing of the rudraksha is believed to give psychic powers, good health, and prosperity to the individual. Rudraksha is known to keep blood pressure under control and impart mental peace, self-confidence, meditation, spiritual progress, and a higher level of consciousness.

The rudraksha berry is used for treating a variety of health problems, including indigestion, nausea, physical injuries, and epilepsy.

#### TREE WORSHIP IN THE EPICS, PURANAS, JAINISM, AND BUDDHISM

- \* A yuga is an era or epoch. The first was the Satya or Krita, which lasted for 17,28,000 human years; the next was Treta which lasted 12,96,000; the third was the Dwapara yuga, which went on for 8,64,000 years; the present era is the Kali yuga which shall last for 4,32,000 years.

## CONCLUSION

\* <http://www.chitralakshana.com/trees.xhtml>

BANYAN

- \* John Milton, *Paradise Lost*, edited by Thomas H. Luxon, The Milton Reading Room,  
[http://www.dartmouth.edu/~milton/reading\\_room/pl/book\\_9/index.shtml](http://www.dartmouth.edu/~milton/reading_room/pl/book_9/index.shtml)  
(accessed 4 April 2014).

## BOTTLE FLOWER TREE

- † The ninth volume of the Tirumurai, the twelve-volume collection of Tamil Shaivite devotional poetry.



## HIPTAGE

\* <http://www.flowersofindia.net/mythology.shtml>.

MANGO

\* <http://www.chitralakshana.com/trees.xhtml>

## POMEGRANATE

\* <http://www.drfuhrman.com/library/article19.aspx>

SACRED BASIL

- \* <http://www.harekrsna.com/practice/sadhana/morning/tulasi-arati/tulasi-arati.htm>
- \* <http://www.vrindavan-dham.com/vrinda/worshiping-tulasi.php>

# Plant Names in Indian Languages

English	Sanskrit	Hindi	Tamil
Alexandrian Laurel	Nagachampa, Punnaga	Sultan champa, Surpan, Surpunka, Undi	Punnai, Punnagam, Pinnay
Ashoka	Ashokam/ Madhupushpam	Ashok	Asogam
Bamboo	Venu	Baans	Moongil
Banyan	Nyagrodha	Vata	Aal
Baobab	Gorakshi, Sarpadandi	Gorak-chinch	Anaipuli, Perruka
Bengal Quince	Bilva	Bael, Bel	Vilvam
Bermuda Grass	Durva	Dhub, Doob, Harialil	Arugam pullu
Betel Vine	Tambuli, Tambulavali, Nagini, Nagavalli	Paan	Vetrialai
Bile Killer	Amrita	Giloy, Guduchi	Vanji/Seendhil kodi
Bombay Atalantia	Atavi-jambira	Banjamir nimbu, Bannimbu	Kurundai
Bottle Flower Tree	Parapata	Bingi Papadi	Kura
Butterfly Pea	Aparajita	Aparajit	Sangu pushpam
Cannonball	Naga pushpam	Shiv ling, Shiv kamal, Kailaspati, Nag ling	Nagalingam
Castor Oil Plant	Erandah	Erand, Arandi	Amanakku
Champaka	Champakah	Champa	Shenbagam
Clearing Nut Tree	Katakah	Nirmali	Tetrankottai
Cluster Fig	Udumbara, Hemadugdhaka, Jantuphala, Sadaphalah, Yajnanga	Gular, Ambar, Doomar	Atthi
Coconut	Narikela	Nariyal	Thennai
Common Bur-Flower	Kadambaryya, Haripriya, Kadambah	Kadam, Kadamba	Vellaikadambu

English	Sanskrit	Hindi	Tamil
Cotton-Wool Grass	Darbha, Kusha	Dabh, Darbha	Darbai
Crape Jasmine	Nandivriksha	Chaandni	Nandiyaavatai
Cus-cus	Ushira, Usira, Rashira	Khas-Khas, Khas	Vettiver
Custard Apple	Sitaphala, Gandagatra, Shubha	Aatoa, Sitaphal, Sharifa	Seethapalam
Cutch Tree	Khadirah	Katha, Kaira	Karungali
Deodar	Deva-daaru	Debdar, Deyodar	Tevataram
Downy Jasmine	Kunda, Kundah	Kundphul, Chameli	Pinjilam, Kasturimallikai
Flame of the Forest	Palasha, Kimsuka	Dhak, Palas	Purasu
Gingelly	Tili, Tila	Til	Ellu
Grapevine	Draksha, Mrudvika	Dakh, Drakh	Drakshai
Green Gram	Mudkaparni	Moong	Paasipayir
Hiptage	Madhavi, Atimukta	Madhavi lata, Madhumalati	Vasanta Kaala Malligai
Indian Beech	Karanja	Dithouri	Pungam, Pungal
Indian Butter Tree	Madhu-dugha, Mahua	Mahuva, Mahuwa	Iluppai
Indian Cadapa	Chekurti	Kodhab, Dabi, Kadhab	Viludhi, Vizhuthi, Veeli
Indian Cherry	Sleshmaataka	Bara-lasora, Chokargond, Lasura	Uddhala, Utkala, Vidimaram
Indian Gooseberry	Amalaka, Dhatri	Amla, Amlika	Nelli
Indian Jujube	Badari, Badara, Karkandhu	Ber, PemdiBer	Ilanthai
Indian Laburnum	Aragvadha	Kirala, Amaltas	Konrai, Konnai
Indian Laurel Fig	Plaksa, Nandivriksha	Kamrup, Pinwal	Kallal, Kal-athi, Malai-ichi
Indian Lavender	Hinma, Dharu	Sugandhit vriksh	Panneermaram
Indian Lotus	Abja, Saroja, Pundarika, Kamala	Padma, Kamala, Kumuda	Tamarai
Indian Mesquite	Shami, Agnigarbha	Khejari, Shami	Vanni
Indian Medaller	Bakula/Vakula, Chirapushpa	Bakul, Bolsari, Maulsarau	Mahilam
Indian Persimmon	Tinduka	Gaub/Gaab	Panicika
Indian Siris	Madhupushpa, Barhapushpa	Sirisa, Shirish	Vaagai
Indian Blue Water Lily	Kumuda, Krishna kamalam	Neelkamal	Neel aambal
Ink-Nut/Chebulic Myrobalan	Abhaya, Haritaki	Balhar, Harad	Kadukkaai
Jackfruit	Panasa, Phalavrikshaka, Atibrihatphala	Katahara, Kathal, Panasa	Pala, Verpala

English	Sanskrit	Hindi	Tamil
Javanese Wool Plant	Astamabayda, Pashanabheda	Gorakhgania, Gorkhabundi, Kapurijadi	Cerupeelai, Strukan- peelai
Krishna's Butter Cup	Vata	Makhankatori	Krishna aal
Lemon	Jambira, Mahajambiraphalam	Jamiri nimbu, Bara-nimbu	Elumitchai, Elumichai
Lucky Bean	Garbhada, Jivanaputra, Putrajiva, Putranjiva	Jivputrak, Patji, Putranjiva	Irukolli, Karupali, Karupilai
Mango	Amra	Aam	Maa, Maangaay
Mangrove (Blinding Tree)	Agaru, Tilvakah, Ugaru	Tejbala, Gangiva	Thillai
Marigold	Sthulapushpa	Gaenda / Gendu	Sendigai / Tuluka Samandhi
Mountain Ebony	Raktakanchana, Raktapushpa, Gandari, Yugapatraka, Kantar, Kovidara	Bariial, Kachnar	Sigappu Mandarai
Needle Flower Jasmine	Jati, Hemapushpika	Juhi, Juvi	Oosimalligai, Vanamalligai
Neem	Nimba, Nimbika	Nim, Nimb, Nimgachh	Vembu, Veppam
Night Jasmine	Parijata, Harashingarpushpaka	Har, Harsingar	Parisadam, Pavalamalligai
Palmyra Palm	Talah, Taladrumah	Tal, Taltar	Panai
Pipal	Ashvattha	Pipal	Arasu
Plantain	Kadali, Rambha, Mocha	Kela, Mouz	Vaalai
Pomegranate	Dalima, Dadima	Anar	Madulai
Prickly Chaff Flower	Adhashalya, Durgraha, Apamarga	Chirchita, Latjira, Onga	Naayuruvi
Rice	Vrihi, Dhanya, Annam	Chaaval	Arisi (rice), Nelli (paddy)
Sacred Basil	Tulasi, Vishnupriya, Manjari, Vrinda	Vrinda, Tulsi	Tulasi
Sal	Sala, Shaala, Ashvakarna, Dirghaphala	Sal, Sekuva	Kungiliyam
Sandalwood	Chandana	Chandral, Safed Chandan	Sandanam
Sand Paper	Sakhota, Shakhotaka, Akshadhara	Siora, Karchanna	Paraay Maram, Piraamaram
Screw Pine	Ketaki, Dhuli Pushpam	Kewda, Kewra	Thazham Poo



English	Sanskrit	Hindi	Tamil
Shoe-Flower	Japa Pushpam	Gurhal	Sembaruthi
Soma	Soma	Somalata	Somam, Kodikkalli
Steaved Tree	Varuna, Ajapavaruna	Barna, Bel-patri	Mavilangam
Sugarcane	Ikshu, Dhanya Sarkara, Kanda	Pundia, Paunda, Gannah	Karumbu
Swallow Wort	Arka, Arkaparna, Arkavrikshaha	Akada, Madar	Vellerukku, Vellai erukku
Sweet-Scented Oleander	Karavira, Asvamaraka, Karavirabheda	Chandni, Kanir	Alari
Tamarind	Tintrani, Tintrini	Amla, Imli	Puli
Trumpet Flower	Paatala, Paatali	Paadal, Paadaria	Paatali maram, Paatiri
Turmeric	Haridra	Haldi	Manjal
Tuscan Jasmine	Mallika	Moghra	Kundumalligai
White Marudh	Arjuna	Anjan, Arjan	Marudhu
Wood Apple	Kapittha	Beli, Katbel, Kavita	Vila
Wooden Beggar-Bead	Rudraksha	Rudraksh, Rudrak	Rudraksham, Uttiratcam

## References

- Abbott, J. 2003. *Keys of Power: A Study of Indian Religion and Belief*. Whitefish, USA: Kessinger Publishing LLC.
- Aerts, R. 2007. 'Church Forests in Ethiopia'. *Frontiers in Ecology and the Environment* 5 (2): 66.
- Agharkar, S.P. 1991. *Medicinal Plants of Bombay Presidency*. Jodhpur: Scientific Publishers.
- Agrawala, V.S. 1970. *Ancient Indian Folk Cults*. Varanasi: Prithivi Prakashan.
- Aiyer, A.K. Yegna Narayan. 1956. *The Antiquity of Some Field and Forest Flora of India*. Bangalore: Bangalore Printing and Publishing Co.
- Akhtar, Jamnadas, ed. 1972. *Matsya Purana*. Part 1. Delhi: Oriental Publishers.
- Ali, Ghulam M.; S. Yasumoto; and M. Katsuta. 2007. 'Assessment of Genetic Diversity in Sesame (*Sesamum indicum* L.) Detected by Amplified Fragment Length Polymorphism (AFLP) Markers'. *Electronic Journal of Biotechnology* 10 (1): 12–23.
- Amirthalingam, M. 2005. 'Sacred Trees of Tamil Nadu'. In *Ecological Traditions of Tamilnadu*, edited by N. Krishna, 66. Chennai: C.P.R. Environmental Education Centre.
- Amirthalingam, M.; and P. Sudhakar. 2013. *Plant and Animal Diversity in Valmiki's Ramayana*. Chennai: C.P.R. Environmental Education Centre.
- Asolkar, L.V.; K.K. Kakkar; and O.J. Chakre. 1992. *Glossary of Indian Medicinal Plants with Active Principles*. New Delhi: Publication and Information Directorate.
- Bahadur, Mutua. 2003. 'Rice Culture in Manipur, India'. In *The Art of Rice*, edited by Roy W. Hamilton, 89–100. Los Angeles: UCLA Fowler Museum of Cultural History.
- Bakels, C.C. 2003. 'The Contents of Ceramic Vessels in the Bactria-Margiana Archaeological Complex, Turkmenistan' *Electronic Journal of Vedic Studies* 9 (1C): 3.
- Bakhrui, H.K. 1993. *Herbs That Heal: Natural Remedies for Good Health*. Delhi: Orient Publishers.
- Barooah, P.P. 1992. *The Tale of Trees*. New Delhi: Publication Division, Ministry of Information and Broadcasting, Government of India.
- Bennet, S.S.R.; P.C. Gupta; and R. Vijendra Rao. 1992. *Venerated Plants*. Dehradun: Indian Council of Forestry Research and Education.
- Bhat, M.R., trans. 1981. *Varahamihira's Brihat Samihita*. Part I and II. New Delhi: Motilal Banarsidass Publishers.
- Bhatla, N.; T. Mukherjee; and G. Singh. 1984. 'Plants: Traditional Worshipping'. *Indian Journal of the History of Science* 19 (1): 37–42.
- Bhattacharya, A.K. 1994. 'Efficiency of Tree Species towards Gaseous Pollutants and Its Significance in Air Pollution Control by Plantation of Pollution Resistant Trees'. *The Indian Forester* 120 (8): 658–69.
- Bhattacharya, B.C. 1974. *The Tirthankaras, Jaina Iconography*. New Delhi: Motilal Banarsidass Publishers.
- Bir, S.S.; and G.S. Chatha. 1988. *Forest Vegetation Characteristics of Indian Hills (Palani Hills and South India)*. New Delhi: Today and Tomorrow's Printers and Publishers.
- Birdwood, G.C.M., ed. 1992. *The Art of India*. Calcutta: Rupa and Co.

- Biswas, T.K.; and P.K. Debnath. 1972. 'Asoka (*Saraca indica* Linn)—a Cultural and Scientific Evaluation'. *Indian Journal of History of Science* 7 (2): 99–114.
- Blench, Roger. 2004. 'Savanna Woodlands of Northern Ghana: Sacred Forests and Management of Trees'. Paper presented at the Conference on Trees, Rain and Politics in Africa, organized by Oxford University, Oxford, 29 September to 1 October.
- Bor, N.L.; and M.B. Raizada. 1990. *Some Beautiful Indian Climbers and Shrubs*. Bombay: Bombay Natural History Society.
- Brokensha, D.; and A.H.P. Castro. 1988. 'Common Property Resources'. Paper presented at the FAO Expert Consultation on Forestry and Food Security, Rome, 15–20 February.
- Buddhadasa; and P. Kirtisinghe. 1984. 'The Mango: Spiritually and Culturally Indian but Universally a Gourmet's Delight'. *The India Magazine* 4 (6): 38–42.
- Bussagli, Mario; and Calembus Sivaramamurti. 1978. *5000 Years of the Art of India*. New York: Harry N. Abrams, Inc.
- Caius, J.F. 1989. *The Medicinal and Poisonous Legumes of India*. Jodhpur: Scientific Publishers.
- Champion, H.G.; and S.K. Seth. 1968. *A Revised Survey of the Forest Types of India*. New Delhi: Publication Division, Government of India.
- Chandrashekar, C.; and V.R. Kulkarni. 2011. 'Isolation Characterization and Antimicrobial Activity of Annona Squamosa Leaf'. *Journal of Pharmacy Research* 4 (6): 831–32.
- Chatterjee, A.; and S.C. Pakrashi. 1994. *The Treatise on Indian Medicinal Plants*. Vol. 3. New Delhi: Publications and Information Directorate.
- Chatterjee, G. 1992. 'Tulsi: Vishnu's Consort on Earth'. *The India Magazine* 12:175–76.
- \_\_\_\_\_. 1996. *Sacred Hindu Symbols*. New Delhi: Sundeep Prakashan.
- Chaturvedi, B.K. 2004. *Shiva Purana*. New Delhi: Diamond Pocket Books.
- Coomaraswamy, A.K. 1927. *History of Indian and Indonesian Art*. New York: E. Weyhe.
- \_\_\_\_\_. (1928) 1980. *Yaksas*. Reprint, New Delhi: Munshiram Manoharlal Publishers Pvt. Ltd.
- Cowen, D.V. 1984. *Flowering Trees and Shrubs in India*. Bombay: Thacker and Co. Ltd.
- Crooke, W. (1896) 2004. *The Popular Religion and Folklore of Northern India*. Vol. 11. Reprint, New Delhi: Munshiram Manoharlal Publishers.
- \_\_\_\_\_. 1926. *Religion and Folklore of Northern India*. New Delhi: S. Chand and Co.
- \_\_\_\_\_. 1993. *Folklore of India*. New Delhi: Aryan Books International.
- Cunningham, A. (1879) 1962. *The Stupa of Bharhut: A Buddhist Monument Ornamented with Numerous Sculptures Illustrative of Buddhist Legend and History in the Third Century B.C.* London. Reprint, Varanasi: Indological Book House.
- Dagar, J.C. 1995. 'Trees and Shrubs in Religion and Mythology'. *Tree World* 3 (6): 3–4. Newsletter of Peekay Tree Crops Development Foundation, Kerala.
- Das, Sasmita; and Pramila Prasad. 2010. 'Seasonal Variation in Air Pollution Tolerance Indices and Selection of Plant Species for Industrial Areas of Rourkela'. *Indian Journal of Environmental Protection* 30 (12): 978–88.
- Dash, Durgamadhab. 2008. 'Images of Sri Jagannath Installed outside the Sanctum Sanctorum in the Grand Temple at Puri'. *Orissa Review* (July): 19–22.
- Dash, V.B. 1999. *Fundamentals of Ayurvedic Medicine*. New Delhi: Sri Satguru Publications.
- Dastur, J.F. 1962. *Medicinal Plants of India and Pakistan*. Bombay: D.B. Taraporevala Sons and Co.
- Dikshitar, V.R.R. 2003. *The Purana Index*. Delhi: Motilal Banarsidass Publishers Pvt. Ltd.
- do Rego, Fernando. 2010. 'Mangoes ... the Goan Inheritance—4'. [http://www.colaco.net/1/FdeR\\_GoaMango4.htm](http://www.colaco.net/1/FdeR_GoaMango4.htm) (accessed 12 January 2010).
- Dubois, J.A. 1906. *Hindu Manners, Customs and Ceremonies*. Oxford: Clarendon Press.
- Dutt, M.N., trans. 1967. *Agni Purana*. Vol. 2. Varanasi: Chowkhamba Sanskrit Series Office.

- Dwivedi, A. 2011. 'The Sacred Tree in Early Indian Art'. In *Proceedings of Indian Art History Congress*, XIX Session, Kanyakumari, 39–46.
- Dwivedi, O.P.; and B.N. Tiwari. 1989. 'Environmental Protection in the Hindu Religion'. In *World Religions and the Environment*, edited by O.P. Dwivedi. New Delhi: Gitanjali Publishing House.
- Dymock, W.; C.J.H. Warden; and D. Hooper. 1891. *A Pharmacographia Indica*. Vol. 2. Dehradun: M/s Bishan Singh, Mahendra Paul Singh; Delhi: M/s Periodical Experts.
- Elwin, V. 1949. *Myth of Middle India*. Bombay: Oxford University Press.
- Faroda, A.S.; and A.N. Singh. 1972. 'A Note on the Performance of Sheep Fed on Some Top-Feed Species'. *Indian Journal of Animal Production* 3:56–57.
- Fergusson, J.A. 1971. *Tree and Serpent Worship*. Varanasi: Indological Book House.
- Forest Department, Government of Tamil Nadu. 1983. *List of More Common Plants of Tamil Nadu and Their Uses*. Madras.
- Forlong, G.R.J. 2008. *Encyclopaedia of Religion*. Vol. 3. New York: N–Z, Cosimo Inc. Publications.
- Foucher, A. 1914. *The Beginnings of Buddhist Art and Other Essays in Indian and Central Asian Archaeology*. Paris: Paul Geuthner.
- Frawley, D.; and Vasant Lad. 1994. *The Yoga of Herbs: An Ayurvedic Guide to Herbal Medicine*. Delhi: Motilal Banarsidass Publishers.
- Frazer, J.G. 1971. *The Golden Bough: A Study in Magic and Religion*. Vol. 1. London: Macmillan and Co.
- Gadgil, M.; and V.D. Vartak. 1973. 'Groves Dedicated to Gods'. *Illustrated Weekly of India* 35:19–21.
- Gandhi, Maneka; and Y. Singh. 1989. *Brahma's Hair: On the Mythology and Religious Associations of Indian Plants*. New Delhi: Rupa and Co.
- Githiro, A. 1998. 'Institutional Challenges in Conservation: The Case of the Sacred Kaya Forests of Kenya Coast'. The World Bank/WBI's CBNRM Initiative.
- Glover, Ian C. 1977. 'The Late Stone Age in Eastern Indonesia'. *World Archaeology* 9 (1): 46–61.
- Gopinatha Rao, T.A. 1971. *Elements of Hindu Iconography*. Varanasi: Indological Book House.
- Growse, F.S. 2000. *Mathura-Brindaban: The Mystical Land of Lord Krishna*. New Delhi: Diamond Pocket Books.
- Gupta, R.K. 1993. *Multipurpose Trees for Agroforestry and Wasteland Utilization*. Delhi: Oxford and IBH.
- Gupta, S.M. 1987. 'Floral Motifs Based on Legends'. In *A Manual of Ethnobotany*, edited by S.K. Jain. Jodhpur: Scientific Publishers.
- \_\_\_\_\_. 1991. *Plant Myths and Traditions in India*. Delhi: Munshiram Manoharlal Publishers.
- \_\_\_\_\_. 1996. *Plants in Indian Temple Art*. Delhi: B.R. Publishing.
- Gupta, S.P., ed. 1985. *Kushana Sculptures from Sanghol*. Vol. 1. New Delhi: National Museum, Janpath.
- Gupte, R.S. 1972. *Iconography of the Hindus, Buddhists and Jains*. Bombay: D.B. Taraporevala Sons and Co. Pvt. Ltd.
- Hamilton, Roy W. 2003. 'The Goddesses of Rice'. In *The Art of Rice*, edited by Roy W. Hamilton. Los Angeles: UCLA Fowler Museum of Cultural History.
- Hastings, James. 1915. *Encyclopaedia of Religions and Ethics*. Vol. 8. Edinburgh: T & T Clark.
- Haug, M., ed. and trans. 1922. *Aitareya Brahmana*. Allahabad: Sacred Books of the Hindus.
- Hazra, R.C. 1958. *Studies in the Upapuranas*. 2 vols. Calcutta: Sanskrit College Research Series, Sanskrit College.
- Hermes, G.G. 1980. *An Illustrated Manual of Philippine Materia Medica*. Vol. 1. Manila: National Research Council of Philippines, Tagig, Metro Manila.
- Hocking, D., ed. 1993. *Trees for Drylands*. New Delhi: Oxford and IBH Publishing Co. Pvt. Ltd.

- Hopkins, E.W. 1968. *Epic Mythology*. Varanasi: Indological Book House.
- Hughes, J.D. 1990. 'Artemis: Goddess of Conservation'. *Forest and Conservation History* 34 (4): 191–97.
- Huyler, S.P. 1994. 'A Survey and Case Study of Ritual Terracotta Planters for Tulsi the Goddess Incarnate as a Basil Bush in Coastal Orissa'. In *Living Traditions Studies in the Ethnoarchaeology of South Asia*, edited by Bridget Alchin. Delhi: Oxford and IBH Co. Pvt. Ltd.
- Jain, S.K. 1962. 'Studies in Ethnobotany: Plants Used in Medicine by the Tribals of Madhya Pradesh'. *Bulletin of Regional Research Laboratory Jammu* 1 (2): 126–28.
- Jha, V.; and P.K. Basak. 1994. 'Ethnobotanical Aspects of Mithila Painting'. *Ethnobotany* 6: 9–18.
- Jobes, Gertrude. 1949–50. *Dictionary of Folklore Mythology and Symbols*. Vols. 1 and 2. Lanham, USA: Scarecrow Press.
- Johannessen, Carl L.; and Wang Siming. 1998. 'American Crop Plants in Asia before A.D. 1500'. *Pre-Columbiana: A Journal of Long-Distance Contacts* 1:9–36.
- Kaler, P.L. 2012. 'Sacred Trees of Punjab'. In *Ecological Traditions of Punjab*, edited by N. Krishna, 5–8. Chennai: C.P.R. Environmental Education Centre.
- Kanitkar, Kumud. 2011. 'Sculptural Art of Maharashtra'. In *Proceedings of Indian Art History Congress, XIX Session, Kanyakumari, 2010*.
- Karnataka Forest Department. 1988. *Sacred Plants: A Book on Vratas, Gardens, and the Connected Plants Described in Our Vedas and Puranas*. Bangalore.
- Khan, Shafaat Ahmad. 1927. *John Marshall in India: Notes and Observations in Bengal, 1668–1672*. London: Oxford University Press.
- Kosambi, D.D. 1964. *The Culture and Civilization of Ancient India in Historical Outline*. London: Routledge and Kegan Paul.
- Krishna, Nanditha. 1980. *The Art and Iconography of Vishnu-Narayana*. Bombay: D.B. Taraporevala Sons and Co., Pvt. Ltd.
- \_\_\_\_\_. 1999. 'From Chaitya Vriksha to Sthala Vriksha'. In *Platinum Jubilee Volume of the Journal of Indian History*, 53–62. Trivandrum: University of Kerala.
- \_\_\_\_\_. 2003a. 'Ponniyamman, a Tamil Rice Goddess from South India'. In *The Art of Rice*, edited by Roy W. Hamilton, 273–76. Los Angeles: UCLA Fowler Museum of Cultural History.
- \_\_\_\_\_. 2003b. 'Rice in the Human Life Cycle'. In *The Art of Rice*, edited by Roy W. Hamilton, 393–407. Los Angeles: UCLA Fowler Museum of Cultural History.
- \_\_\_\_\_. 2009. *Madras-Chennai*. Chennai: C.P.R. Publications.
- \_\_\_\_\_. 2012. 'Radha in South Indian Tradition'. In *Radha: From Gopi to Goddess*, edited by Harsha V. Dahejia, 181–87. Ottawa: Carleton University Press.
- Krishna Sastri, H. 1916. *South-Indian Images of Gods and Goddesses*. Madras: Madras Government Press.
- Krishnamurthy, T. 1993. *Minor Forest Products of India*. Delhi: Oxford and IBH Publishing, Co. Pvt. Ltd.
- Krishnan, M. 2005. 'The Physical and Traditional Attributes of the 5 Thinais'. In *Ecological Traditions of Tamil Nadu*, edited by N. Krishna. Chennai: C.P.R. Environmental Education Centre.
- Kumar, N. 1998. 'New Roles for Old Neem'. *Kurukshetra* 47 (3): 29–31.
- Kumar, Romesh. 2003. *Durva-Kusha Ghas: Rituals and Legends*. Jammu: Kashmir Sentinel.
- Lakshmi, S.M.; A. Saravana Kumar; S. Srikanth; K. Tejo Vidyulatha; G. Jyothi; D. Choudari; Mounica; and O. Lavanya. 2010. 'Anti-diabetic and Anti-hyperliperlipidemic Activity of Ficus Krishnae L. in Alloxan Induced Diabetic Rats'. *International Journal of Preclinical and Pharmaceutical Research* 1 (1): 14–18.
- Lal, Hari Shankar; Sanjay Singh; and P.K. Mishra. 2014. 'Trees in Indian Mythology'. *Discovery* 12 (29): 16–23.

- Lal, Ramji. 1993. 'Grow Neem Tree to Sustain Ecological Balance'. *Kisan Word* 20:15–17.
- Laurie, M.V. 1945. *Fodder of India*. Indian Forest Leaflet 82 (Silviculture), Forest Research Institute, Dehradun.
- Little, P.D.; and D.W. Brokensha. 1987. 'Local Institutions, Tenure and Resource Management in East Africa'. In *Conservation in Africa: People, Policies and Practices*, edited by D. Anderson and R. Grove. Cambridge: Cambridge University Press.
- MacDonell, A.A.; and A.B. Keith. 1982. *Vedic Index*. Vol. 1. New Delhi: Motilal Banarsidass Publishers.
- MacKenzie, D.A. 1913. *Indian Myth and Legends*. London: Gresham.
- Mahdihassan, S. 1987. 'Three Important Vedic Grasses'. *Indian Journal of History of Science* 22 (4): 286–91.
- Mahour, K.; A. Kumar; and V.S. Andvihan. 2008. 'Antimicrobial Activity of Cordia Dichotama Plant Leaves Extract with Their Pharmacognostical Investigation'. *Electronic Journal of Pharmacology and Therapy* 1:11–13.
- Mathauda, G.S. 1965. 'Pongamia pinnata (L.) Pierre (Syn. Pongamia glabra Vent.) Fam. Leguminosae-Papilionaceae'. *Indian Forester* 81 (9): 563–65.
- McWilliam, A. 2001. 'Prospects for the Sacred Grove: Valuing Lulic Forests on Timor'. *The Asia Pacific Journal of Anthropology* 2 (2): 89–113.
- Meyyappan, S. 1998. *Chidambaram Temple*. Madras: Manivasagar Pathippagam.
- Miller, Iona. 1990. *The Magical and Ritual Use of Perfumes*. Dorset, UK: Destiny Books.
- Misra, S.N. 2007. 'Jagannath and the Orissan Society'. *Orissa Review* 63 (11–12): 67–69.
- Mitra, R. 1994. 'The Sacred Aswatha: The Most Worshipped Tree in India'. *Journal of Society of Ethno Botanist* 6 (1–2): 95–98.
- Monier Williams, M. 1981. *A Sanskrit–English Dictionary*. Delhi: Motilal Banarsidass Publishers.
- Mudaliar, A. Singaravelu. 1923. *Abithana Chintamani: The Encyclopaedia of Tamil Literature*. New Delhi: Asian Educational Services.
- Mullaly, F.S. 1892. *Notes on Madras Criminal Classes or Tribes of Madras Presidency* Madras: Government Press.
- Muralidhar Rao, D. 1995. *Hidden Treasure of Vastu Shilpa Shastra and Indian Traditions*. Bangalore: Sapna Book House.
- Nambiar, K.D. 1979. *Narada Purana: A Critical Study*. Varanasi: All-India Kashiraj Trust.
- Nayar, N.P.; K. Ramamurthy; and V.S. Agarwal. 1989. *Economic Plants of India*. Vol. 1. Calcutta: Botanical Survey of India.
- Nene, Y.L. 2006. 'Indian Pulses through the Millennia'. *Asian Agri-history* 10 (3): 179–202.
- Nickel, L.G. 1959. 'Antimicrobial Activity of Vascular Plants'. *Economic Botany* 13:281–318.
- Oppert, G.S. 1972. *On the Original Inhabitants of Bharatvarsha or India*. Delhi: Oriental Publishers.
- Padhy, S. 2008. 'Ethno Biological Analysis from Myth to Science, IX: Pancha Yajnya (Five Sacrifices), the Composite Principle for Applied Human Ecological Environment'. *Journal of Human Ecology* 23 (2): 151–58.
- Pai, G.K. 1975. *Cultural History from the Kurma Purana*. Cochin: Sukrtindra Orient Research Institute.
- Pandey, D.K.; and M. Saleem. 1994. 'Controlling Air Polluting through Tree'. *Yojana* 38 (10): 13–14.
- Pandey, J.; and A. Chasta. 2006. 'Evaluation of Air Pollution Phytotoxicity in Urban Environment of Udaipur, Rajasthan'. *Plant Archives* 6 (1): 93–96.
- Patnaik, Naveen. 1993. *The Garden of Life: An Introduction to the Healing Plants of India*. New York: Doubleday.
- Pearson, Richard. 1988. 'Palasha: The Flame of the Forest'. *The Heritage* 4 (3): 42–43.

- Penzer, N.M. 1968. *The Ocean of Story*. Vol. 2. Delhi: Motilal Banarsidass.
- Pokharia, A.K.; B. Sekar; J. Pal; and A. Srivastava. 2009. 'Possible Evidence of Pre-Columbian Transoceanic Voyages Based on Conventional LSC and AMS  $^{14}\text{C}$  Dating of Associated Charcoal and a Carbonized Seed of Custard Apple (*Annona squamosa* L)'. *Radiocarbon* 51 (3): 923–30.
- Puri, A.; R. Saxena; R.P. Saxena; K.C. Saxena; V. Srivastava; and J.S. Tandon. 1994. 'Immunostimulant Activity of *Nyctanthes arbor-tristis* L'. *Journal of Ethnopharmacol* 42 (1): 31–37.
- Raaz, Maheswari; Bina Rani; Rajesh Kumar Yadav; and Magan Prasad. 2012. 'Usage of Holy Basil for Various Aspects'. *Bulletin of Environment, Pharmacology and Life Sciences* 1 (10): 67–69.
- Ragozin, Z.A. 1961. *Vedic India as Embodied Principally in the Rig-Veda*. New Delhi: Munshiram Manoharlal Publishers.
- Ram Manohar, P. 1994. *Nomenclature and Taxonomy in Vrikshayurveda*. Monograph No. 11. Madras: Lok Swasthya Prampara Samvardhan Samithi.
- Raman, K.V. 2005. 'Ecological Tradition in Tamil Literature and Epigraphy'. In *Ecological Traditions of Tamil Nadu*, edited by N. Krishna. Chennai: C.P.R. Environmental Education Centre.
- Ramayya, N.V. 1985. *An Essay on the Origin of the South Indian Temple*. New Delhi: Asian Education Services.
- Randhawa, M.S. 1964. *The Cult of Trees and Tree-Worship in Buddhist-Hindu Sculpture*. New Delhi: All India Fine Arts and Crafts Society.
- \_\_\_\_\_. 1982. *A History of Agriculture in India*. Vol. 2. New Delhi: Indian Council for Agricultural Research.
- \_\_\_\_\_. 1983. *Flowering Trees*. New Delhi: National Book Trust.
- Rao, M. 2011. 'Vivid Forms of Lotus at Sanchi Stupa'. In *Proceedings of the Indian Art History Congress*, Section XIX, 2010. Gauhati.
- Rao, P.R.R. 1956. *The Art of Nagarjunakonda*. Madras: Rachana.
- Rawat, G.S. 1992. 'Rare Plants and Endangered Species'. *The India Magazine* (August): 66–69.
- Rayapasenaijja. 1894. Becaradas Jivraj Dosi.
- Roy, P.C. 1956. *Translation of the Mahabharata*. Calcutta: Oriental Publishing.
- Russell, R.V.; and R.B.H. Lai. 1995. *The Tribes and Castes of the Central Provinces of India*. New Delhi: Asian Educational Services.
- Sambamurthy, A.V.S.S.; and N.S. Subramaniam. 1989. *A Text Book of Economic Botany*. Delhi: Wiley Eastern Company.
- Sangwan, S.; D.V. Rao; and R.A. Sharma. 2010. 'A Review on *Pongamia pinnata* (L.) Pierre: A Great Versatile Leguminous Plant'. *Nature and Science* 8 (11): 130–39.
- Santapau, H. 1966. *Common Trees*. Delhi: National Book Trust.
- Saraswat, K.S.; G. Rajagopalan; and G.V. Ravi Prasad. 2006. 'A Pivotal Evidence of Custard Apple: Evocative of Some Pre-Columbian Network of Contact between Asia and America'. *Pragdhara* (18): 283–307.
- Sarianidi, V.I. 2003. 'Margiana and Soma-Haoma'. *Electronic Journal of Vedic Studies* 9 (1c). <http://www.heritageinstitute.com/zoroastrianism/merv/sarianidi.htm>.
- Sastry, T.C.S.; and K.Y. Kavathekar. 1990. *Plants for Reclamation of Wastelands*. New Delhi: Publications and Information Directorate.
- Sehgal, Sunil. 1999. *Encyclopaedia of Hinduism*. New Delhi: Sarup and Sons.
- Settar, S. 2003. 'Hoysala Heritage'. *Frontline* 20, no. 8 (April): 12–25.
- Shah, Natubhai. 1998. *Jainism: The World of Conquerors*. Oregon, USA: Sussex Academic Press.
- Shanmugam, N.K. 1989. *Mooligai Kalai Kalanjiyam*. Madras: Nakkeeran Publishers.

- Sharma, P.C.; V. Bhatia; N. Bansal; and A. Sharma. 2007. 'A Review on Bael Tree'. *Natural Product Radiance* 6 (2): 171–78.
- Shashi, S.S. 1999. 'The Tree Cult'. In *Encyclopaedia Indica*, 241–46. New Delhi: Anmol Publications.
- Shaw, M.E. 2006. *Buddhist Goddesses of India*. Woodstock: Princeton University Press.
- Shikhamany, S.D. 2001. *Grape Production in India*. Rome: Food and Agriculture Organization of the United Nations (Asia and the Pacific).
- Singh, K.N.; and Brij Lal. 2006. 'Notes on Traditional Uses of Khair (*Acacia catechu* Willd.) by Inhabitants of Shivalik Range in Western Himalaya'. *Ethnobotanical Leaflets* 10:109–12.
- Singh, M.P.; and H. Panda. 2005. *Medicinal Herbs with Their Formulations*. Vol. 2. New Delhi: Daya Publishing House.
- Singh, R.V. 1982. *Fodder Trees of India*. Delhi: Oxford and India Book House Pub. Co. Pvt. Ltd.
- Singh, S.K.; and D.N. Rao. 1983. 'Evaluation of Plants for Their Tolerance to Air Pollution'. In *Proceedings of the Symposium on Air Pollution Control*, 218–24, Indian Association for Air Pollution Control, New Delhi.
- Sinha, R.P.N. 1993. *Our Trees*. New Delhi: Publication Division, Ministry of Information and Broadcasting, Government of India.
- Sinha, R.V.; D. Valani; and S. Sinha. 2009. *Study of Micromediation, Phytoremediation and Vermiremediation Biotechnologies for Contaminated Land and Soil by Environmentally Adapted Microbes, Plants and Earthworms*. New York: Nova Science Publishers.
- Sivananda, Swami. 1997. *Hindu Fasts and Festivals*. Rishikesh, India: The Divine Life Trust Society.
- Sivarajan, V.V.; and Indra Balachandran. 1994. *Ayurvedic Drugs and Their Plant Sources*. New Delhi: Oxford University Press and India Book House Publishing Co. Pvt. Ltd.
- Smith, B.L. 1976. 'The Izhavas of Kerala and Their Historic Struggle'. In *Regional and Social Conflict in South Asia*, 26–30. The Netherlands: E.J. Brill.
- Sorenson, J.L.; and C.L. Johannessen. 2004. 'Scientific Evidence for Pre-Columbian Transoceanic Voyages'. *Sino-Platonic Papers* (133): 62–66.
- South Indian Inscriptions*. (1932) 1986. Vol. VII.399. Reprint, Madras: Archaeological Survey of India.
- Srinivasa Iyengar, P.T. 1982. *History of the Tamils from the Earliest Times to 600 AD*. New Delhi: Asian Educational Services.
- Srivastava, A.L. 1983. *Life in Sanchi Sculpture*. New Delhi: Abhinav Publications.
- Stutley, M. 1985. *The Illustrated Dictionary of Hindu Iconography*. London: Routledge and Kegan Paul.
- Subrahmanyam, T.V. 1979. 'Medicinal Role of Betel Leaf'. *The Indian Review* 75 (8): 22–27.
- \_\_\_\_\_. 1982. 'Some Facts about Sami Tree'. *The Indian Review* 79 (10): 18.
- Subramania Pillai, G. 1948. *Tree Worship and Ophiolatry*. Chidambaram: Annamalai University Publications.
- Sudharshan, S.R.; A.N. Yellappa Reddy; and B. Gowda. 1993. *Oshadhi Kosha: Cyclopaedia of Medicinal Plants*. Vol. 1. Bangalore: Kalpatharu Research Academy. Swami, Krishna Balaram. 1986. *Ekadasi: The Day of Lord Hari*. Bombay: Bhakti Vedanta Institute Press.
- Tamil Lexicon*. 1982. Madras: University of Madras.
- Tanwani, D. 1997. 'Marriage among Various Communities'. In *Marital Adjustment in Tribal and Non-working Women*. New Delhi: M.D. Publications.
- Thurston, E. 1909. *Castes and Tribes of South India*. Vol. 1 (A–B). Madras: Government Press.
- Tin Hla, M.A. 1956. 'The Meaning of Samannaphala in the Light of the Buddha's Discourse'. *The Light of the Buddha* 1 (1): 31–33.
- Tirugnanam, S. 1995. *Temple Trees and Its Medicinal Uses*. Tiruchirapalli: Selvi Publishers.



- Upadhyay, K.D. 1964. 'Indian Botanical Folklore'. *Folklore* 5 (3): 15–34.
- Vaidya, Prem. 1992. 'The Neem Tree: The Plant That Purifies'. *The India Magazine for Her People and Culture*: 76–77.
- \_\_\_\_\_. 2005. 'Neem Tree and the Patent War'. *Organiser* 56 (48): 34.
- Wakankar, V.S. 1975. 'Pre-historic Cave Paintings'. *Marg* 28 (4): 19–27.
- Warrier, P.K.; V.P.K. Nambiar; and C. Ramankutty, eds. 1994. *Indian Medicinal Plants*. Vol. 5. Madras: Orient Longman.
- Watson, Burton. 1993. *The Lotus Sutra*. New York: Columbia University Press.
- Watt, George. 1885. *A Dictionary of the Economic Products of India*. Vol. 1. Calcutta: Superintendent of Government Printing.
- Wilson, H.H., trans. 1961. *Vishnu Purana*. Calcutta: Punthi Pustak.
- Zimmer, H. 1953. *Myths and Symbols of Indian Art and Civilization*. Bollingen Series 6. New York: Pantheon Books.

## Select Bibliography

*Atharva Veda*. Hoshiarpur: Vishveshvaranand Indological Series, 1960–64.

*Rig Veda*. Hoshiarpur: Vishveshvaranand Indological Series, 1963–66.

Amirthalingam, M. *Sacred Trees of Tamil Nadu*. Chennai: C.P.R. Environmental Education Centre, 1998.

Shamasastri, R., trans. *Arthashastra*. Mysore: Wesleyan Mission Press, 1929.

Sharma, P.V., trans. *Sushruta Samhita*. Varanasi: Chaukhambha Visvabharati, 2004.

Sharma, R.K.; and V.B. Dash., trans. *Charaka Samhita*. Varanasi: Chowkhamba Sanskrit Series, 2004.



# THE BEGINNING

Let the conversation begin...

Follow the Penguin [Twitter.com@PenguinIndia](https://twitter.com/PenguinIndia)

Keep up-to-date with all our stories [YouTube.com/PenguinIndia](https://YouTube.com/PenguinIndia)

Like 'Penguin Books' on [Facebook.com/PenguinIndia](https://Facebook.com/PenguinIndia)

Find out more about the author and  
discover more stories like this at [penguinbooksindia.com](https://penguinbooksindia.com)

## PENGUIN BOOKS

Published by the Penguin Group

Penguin Books India Pvt. Ltd, 7th Floor, Infinity Tower C, DLF Cyber City, Gurgaon – 122 002, Haryana, India

Penguin Group (USA) Inc., 375 Hudson Street, New York, New York 10014, USA

Penguin Group (Canada), 90 Eglinton Avenue East, Suite 700, Toronto, Ontario M4P 2Y3, Canada

Penguin Books Ltd, 80 Strand, London WC2R 0RL, England

Penguin Ireland, 25 St Stephen's Green, Dublin 2, Ireland (a division of Penguin Books Ltd)

Penguin Group (Australia), 707 Collins Street, Melbourne, Victoria 3008, Australia

Penguin Group (NZ), 67 Apollo Drive, Rosedale, Auckland 0632, New Zealand

Penguin Books (South Africa) (Pty) Ltd, Block D, Rosebank Office Park, 181 Jan Smuts Avenue, Parktown North, Johannesburg 2193, South Africa

Penguin Books Ltd, Registered Offices: 80 Strand, London WC2R 0RL, England

[www.penguinbooksindia.com](http://www.penguinbooksindia.com)

First published by Penguin Books India 2014

Copyright © Nanditha Krishna and M. Amirthalingam 2014

The views and opinions expressed in this book are the authors' own and the facts are as reported by them which have been verified to the extent possible, and the publishers are not in any way liable for the same.

Cover: Shiva (2009) by Olivia Fraser

All rights reserved

ISBN: 978-0-143-06626-2

This digital edition published in 2013.

e-ISBN: 978-9-351-18691-5