STUDIES ON TAXONOMY, ECOLOGY, DISTRIBUTION AND CONSERVATION VALUES OF STHALAVRIKSHAS (Temple plants) IN TAMIL NADU, SOUTHERN INDIA

Thesis submitted to the
BHARATHIAR UNIVERSITY, COIMBATORE

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DEGREE OF DOCTOR OF PHILOSOPHY

in
BOTANY

By

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CERTIFICATE

This is to certify that the thesis, entitled **"Studies on Taxonomy, Ecology, Distribution and Conservation values of Sthalavrikshas (Temple Plants) in Tamil Nadu, Southern India"**, submitted to the Bharathiar University, in partial fulfillment of the requirements for the award of the Degree of **Doctor of Philosophy** in **Botany**, is a record of original research work done by **Mr. M. Gunasekaran** during the period 2001- 2007 of his research in the Division of Landscape Ecology at Sálim Ali Centre for Ornithology and Natural History, under my supervision and guidance and the thesis has not formed the basis for the award of any Degree/Diploma/Associateship/Fellowship or other similar title of any candidate of any University.

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I, **M. Gunasekaran** hereby declare that the thesis, entitled **"Studies on Taxonomy, Ecology, Distribution and Conservation values of Sthalavrikshas (Temple Plants) in Tamil Nadu, Southern India"**, submitted to the Bharathiar University, in partial fulfillment of the requirements for the award of the Degree of **Doctor of Philosophy** in **Botany** is a record of original and independent research work done by me during 2001-2007 under the Supervision and guidance of **Dr. P. Balasubramanian,** Senior Scientist, Division of Landscape Ecology of Sálim Ali Centre for Ornithology and Natural History, Coimbatore and it has not formed the basis for the award of any Degree/Diploma/Associateship/ Fellowship or other similar title to any candidate of any university.

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M. Gunasekaran

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Summary

Nature worship has been in practice in India from ancient times. This primitive practice has evolved in to 'Tree worship'. Most of the Hindu temples in Tamil Nadu have their own plants to nurture, symbolize and adore as equally as the prime deity of the temple. This kind of reverence of trees is known as "*Sthalavriksha*" worship. The Sanskrit term *Sthal* refers place or locality and *Vriksha* means tree. Cultural richness of Tamil Nadu evolved the tree worship as sthalavriksha practice and this has become a unique practice of Tamil Nadu later on. Several references on sthalavriksha worship are found in Sangam Tamil literatures, dating back to 2000 years ago. Sthalavriksha worship helps in conserving plant biodiversity. Such an important plant worship practice is under threat due to many socio-cultural factors. This study aims to evaluate and analyse the sthalavrikshas' taxonomical identification, economic importance, role in local ecology, geographical distribution and current socio-cultural customs and beliefs of this worship practice.

A review of previous studies in this field reveals that the information is found scattered. Only a handful of scholars have conducted research in this field and that too based on medicinal, religious and mythological literature. Hence, a systematic study is felt as the need of the hour with the following objectives.

1. To conduct taxonomic survey of sthalavrikshas and bring out an authentic list of sthalavrikshas of Tamil Nadu.
2. To assess the ecological importance and conservation values of sthalavrikshas.
3. To document the role of traditional customs and beliefs of sthalavriksha worship in conserving the botanical resources.

Tamil Nadu state along with union territory of Puducherry comprises the study area. Tamil Nadu (8° 5' and 13° 35' N Latitude and 76° 15' and 80° 20' E Longitude) is situated in the southern part of peninsular India. Tamil Nadu has wide range of land forms such as Coast, Plains and Ghats and is often known as the land of temples. There are about 25,000 temples in the state. A questionnaire was designed and used to collect the required information on temple biography, botanical aspects of sthalavriksha, customs and beliefs associated with sthalavriksha worship. Photographs of sthalavriksha plants were taken apart from collection of plant specimens for taxonomical identification. Priests and devotees were interviewed to record beliefs associated with sthalavriksha worship.

During the temple survey, GBH (Girth at Breast Height) and height of sthalavriksha trees were physically measured. Plant species were identified by referring to standard books on flora. The Herbariums of Botanical Survey of India, Coimbatore and Institute of Forest Genetics and Tree Breeding, Coimbatore, were consulted for confirming the identity of species. To understand the ecological value

consulted for confirming the identity of species. To understand the ecological value of sthalavrikshas, animal-feeding and bird nesting on sthalavrikshas were also recorded. The reasons for selection of a particular species as sthalavriksha were analyzed. To find out the geographical distribution of sthalavrikshas, 'Global Positioning System' (GPS) was used to locate the temples in terms of latitude, longitude and altitude.

Of the 1165 temples surveyed, sthalavrikshas were recorded in 822 temples. A total of 112 species were documented as sthalavrikshas which is represented by various life forms. The majority of the sthalavrikshas are trees (74 %), followed by shrubs (15 %) and others (11 %). Among the 112 species, "Bengal Quince" *Aegle marmelos* was found in majority (40 %) of the temples. All the sthalavrikshas are Angiosperms and most of them (91 %) are dicotyledons. Most of the sthalavriksha plants are used as medicine by devotees to cure from headache to cancer. 'Bengal Quince' is the most common sthalavriksha used to cure several ailments.

Sthalavrikshas play a vital role in the conservation of local ecosystems, by providing food and shelter to many avian and arboreal fauna. A total of 84 species of birds, six bats, 20 butterflies, five reptiles, two primates and Three-striped Squirrel were noticed depending on sthalavrikshas. Among the 118 animal species recorded in sthalavrikshas, 63 species used them for feeding, 19 for nesting and 108 for roosting.

Of the 112 sthalavriksha species, five are threatened and four are endemics. Seven varieties of *Musa* genus were also recorded as sthalavrikshas. Most of the sthalavriksha trees are giant sized and some of them are with rare features. In some temples, dry stumps are also in worship.

The activities of human beings are the major threat to nature. Instead of supporting them, people exploit the natural resources. In this scenario myth, beliefs and folklore associated with trees play a major role in the conservation of plants, one important belief is that sthalavriksha worship would bring timely marriage, child birth, wealth, wisdom, boon, relief from the diseases and sins. Thus the sthalavriksha worship practice plays a major role in conservation of plant diversity in Tamil Nadu. This is also evident from the fact that certain plant species survive mainly in temple premises due to the sthalavriksha status. In many temples, sthalavrikshas are maintained very well, but in some temples it is missing. Hence, reintroduction of relevant sthalavriksha species is suggested. Some mitigating measures are suggested for effective protection of existing sthalavrikshas.

Chapter - I

NATURE WORSHIP AND STHALAVRIKSHA CONCEPT

1.1 Introduction

In the course of human evolution, hunter-gatherer families were closely related with each other and formed groups leading to the formation of civilization. Individuals congregated in need of food, fire and shelter, thereafter these groups jointly hunted animals and gathered plant materials for their livelihood. These groups later progressed into ethnic clans. In each group a dominant male assumed the role of a leader. This primitive social setup later evolved into a barbaric kingdom. Nature provided their basic needs. As a gesture of their gratitude, they started venerating them. Eventually this practice might have transformed into worshipping the entities like **Sun, moon, mountains, forests, rivers, fire, animals and plants**. The renowned German Philosopher Max Muller has referred this form of primitive practice as 'Naturism'. They followed certain beliefs and rituals to worship Nature Gods. The primitive societies feared and believed that thunder, lightning, volcanic eruption and hurricane were the exposure of a super natural power and the manifestation of its wrath. In order to pacify the super natural power, they sacrificed birds, animals and even human beings in the name of beliefs.

Plant worship is one of the early practices of nature worship. Trees provided food, shelter and protection. Huge trees were worshiped by the primitive societies. Fear of the mighty size of trees might have induced them to worship trees. This practice was observed in almost all ancient civilizations. Plant worshipping practice varied depending on their geographical distribution e.g. Figs (*Ficus benghalensis, Ficus religiosa*) in India, Baobabs (*Adansonia digitata*) in Africa, Olives and Oaks (*Quercus* sp.) in Europe and Palm (*Phoenix sylvestris)* in Egypt and Middle East. According to local believes and customs, apart from individual plant, a group of plants also attained the sacred status. These customs and believes also protected these plant species from excess utilization (over exploitation). The impact of civilization influenced the primitive societies to structure their own political organization.

1.2 Animism and Animatism

Belief and worship of spirits and performance of rituals to them is known as *Animism.* Making the spirit to dwell upon living or nonliving things is known as

Animatism (Plate I-A). This theory was first proposed by Tylor (1871) and supported by Frazer (1911-15 3rd ed Lond) in *The Golden Bough*. People in ancient times believed that the plants, especially trees and stones were the abodes of spirits. This belief was common among different civilization throughout the world. Pearson (1974) refers that sacrificial shrines were erected for botanical animism in the African country of Mali. The *Bonga* people in Central Asia and in Northern India named this practice as *Bongaism*. In the Polynesian Islands of Indonesia it is termed as *Manaism* and the local magician practiced *Mana* (Plant worship). Frazer (1911-15) reported that the Red-Indians believed, by worshiping the spirit whose abode was the corn plant, would increase the yield. The *Talein* tribe of Burma, offer prayers to the spirit dwelling tree, before they cut them. In Tamil Nadu, tree spirits were worshiped in grape and paddy fields and effigies made of rice straw were installed in the cultivation fields for better yield.

1.3 Ancestral Worship

Tylor (1871) believes that the ancestor-worship of later primitive societies commenced by way of construction of small tomb-like structures on the burial sites of their ancestors. These structures were built after the culmination of d*ry funeral* or *second funeral*, which was preceded by the *green* or *first funeral*. Ancestral worship was one of the earliest forms of worship of primitive societies and tombs were the earliest structure of temples. Manhirs (Plate I-B), dolmans (Plate I-C) and cairn circle or stone circle (Plate I-D) are some of the examples.

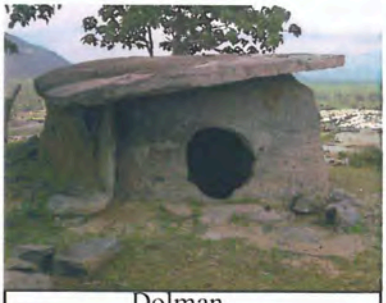
In Gold coast of Africa, even human beings were sacrificed to the silk cotton and odum trees (a kind of poisonous tree), which were believed to be the dwelling place of the evil spirits (Anonymous, 1958). Evidence of human sacrifice was found in Odin's grave at Uppsala, Sweden and slave centers of Punjab. In Lousiade Islands of British New Guinea, religious feasts were usually conducted under the 'Sacred Tree' and a portion of the food was laid aside for the spirit-occupants. In Senegal, ethnic groups *Eev, Yeruba, Pila* and *Pariba* sacrificed goat, Rooster and offered cola nut, millets to the tree-spirits which resides in Baobab (*Adansonia digitata*) and Peepal (*Ficus religiosa)* trees. In Congo, *Luvango* tribe believes that the *Mpudu* tree was the abode of evil spirit and worship the tree to prevent bad luck. In south Nigeria, *Eev, Gogo* and Tagomi ethnic groups believed that the tree spirits were gigantic in size and venture out in the form of snakes. These believes also induced people to worship the tree-spirits.

Plate - I Ancient form of worship- Animatism and Ancestral worship

A. Animatism - Animated Aravan worship, Coimbatore

Menhir at Megalithic burial site
B. Mathippanur, Erode Dist.

Ancestral worship



Dolman
C. Dharmapuri

Cairn Circle
D. The Nilgiris

Hero stone - Bull fighter
E Dharmapuri District

Evolution of Temples in Tamil Nadu

Stone Pakoda
F. Chervarayan Hills

Rock cut temple- Pallava style
G. Mamallapuram

Monolithic temple- Pallava style
H. Mamallapuram

Structural temple- Pallava style
I. Mamallapuram

Structural temple Medivel period
J. Kovilur

Structural temple-Later period
K. Kalayarkoil

African tree-cutters, before cutting the trees used to dig fresh water spring which serves as a new abode for the spirit living tree. Indonesian wood-cutters also appeal to the tree-spirits before they cut a tree to pardon them. In Western Africa *Ashanti* ethnic groups worshiped the *Gyadua* or sacred trees for the protection of their community. In North India, Bishnoi community follows a similar worship pattern. Bennet ***et al*** (1992) referred a total of 213 such plants which are venerated in India.

Banarjee (1969) mentioned that the *Kuvi-Kandha* tribes of Orissa celebrate the festival of *Mudia-rani-paraba* for the field spirit for bumper crop of ragi (*Eleusine coracana*). A cow used to be sacrificed on behalf of the village and a little blood is sprinkled in the *ragi* field to recover the fertility of the soil. *Kohra-marnu-parba* and *Kuli-marna-parba* are the thanks-giving ceremonies to the respective deities for good yield. These tribes believed that if the sacrifices were not performed to the Gods and Goddess, they might have to face the fury of the Gods in the form of loss of human lives.

1.4 Ancient Civilizations and Sacred Plants

Both Indus Valley and Sumerian civilizations have scant evidences of big temples; whereas more evidences were found about the plant worship of those periods, in Indus Valley civilization. Certain seals which are found in the excavations at these sites have depictions of tree worship. Clay blocks carrying the graffiti marks of trees and leaves reinforce the theory. Jayakar (1980) referred the worship of Aavttha tree (*Ficus religiosa*) in Harappan seal of 3rd millennium B.C. In Babylonia, a sacred Palm was found in a seal with Sun-God and a Post. Babylonians believed that the palm tree was the abode of divine sprits and the seals excavated there, contained an 'Anthropomorphic deity' whose head was surrounded by the horns of divinity and from whose body, branches of tree protruded (Anonymous, 1958). Ancient Babylonian sanctuary's boundary limits were determined by the position of sacred trees (Anonymous, 1958).

In Assyria and Arabia, date palm tree was considered sacred (Anonymous, 1958). In Cyprus the terracotta figures depict three women dancing round a palm tree, which was a solid proof for worship of sacred trees by women (Anonymous, 1958). In Hebrew religion, female sacred tree was the emblem of Sun-God (Anonymous, 1958). Ancient Egyptians worshiped *Osiris* God and *Osiris* cult was associated with the post (Anonymous, 1958). In the Japanese tree cult, trees were considered as *Kami*, which means divine or wonderful. In *Shintoism,* ritual trees were considered as sacred and worshiped.

In Europe, May tree (*Delonix regia*) was the common sacred tree. This practice still continues as May-pole celebrations and dances are held in many villages. This practice is also common in Bohemia, Swabia and other parts of Germany. Sweden and Ireland celebrate this festival and they believe that *May pole* prevents sterility in women and cattle. Anthropologists say that this practice is common all over the world and they call it as *fertility cult*. In England's Saxony area, people planted May trees or *May pole* in front of their houses, cattle sheds, and stables and even in front of the rooms of their sweet hearts.

1.5 Sangam Period and Plant Worship

Tamil literature of the *Sangam* age are the most ancient ones in India. Rasu (2001) refers that *Sangam* age is considered as period extended from 8th Century B.C. to 2nd Century A.D. Literature of the *Sangam* period (an academic congregation of the Tamil poets and scholars) refer many tree-spirits and their worship. Kurunthogai (*Sangam* Tamil work) quotes the spirit of Kadampa (*Neolamarckia cadamba*) tree chase the cruel tough away.

(Mandra mara atha pemuthir kadavul
Kodiorth thoruum yenba ... Kurunthogai - 87)

Natrinai (*Sangam* Tamil work) referred that worship of 'Vengai' (*Pterocarpus marsupium*) tree spirit would increase the yield of paddy.

(Yerimarul vangaik kadavul kakkum
Kurugar kalani ... Natrinai - 216: 7)

Agananuru (*Sangam* Tamil work) quotes that the Vengai (*Pterocarpus marsupium*) tree as the abode of a spirit in the city of Kamur and God is a bursar.

(Mavan kadavul kamur aangan
Boothan thantha periyari vengai
Thankamal puthumalar narum ....Agananuru -68)

In Tamil Nadu the 'Aravan' festival is one of the common and traditional festivals. In Singanallur, Coimbatore District the 'Aravan' (Plate I-A) structure is made up of Aathi (*Bauhinia racemosa*) twig. Before collecting the Aathi twig, priests perform rituals and carefully watch the tree for the presence of spirit. The movement of even a single leaf, when the entire tree is motionless, indicates the presence of the spirit. That particular twig would be collected for making and animating Aravan structure.

Before the arrival of Aryans from Central Asia, many local chieftains ruled the southern parts of India. In those days, they constructed small temples for their favourite deities and worshiped. These deities were consecrated beneath a tree inside the grove. Culturally rich Tamils revolutionized the temple architecture and escalated it to a unique divine art form with a traditional status. Tree and plant worship was quoted in *Tholkappiam,* a classical Tamil grammatical work by Tholkappiar of early *Sangam* period. According to *Tholkappiam,* trees were worshiped as deities for a long period. After the death of the particular tree, the dried stump was also worshiped as a deity dwelling tree. In course of time the tree would be reduced as a dwarf trunk stock and the worship continued with the same reverence. Immortal stones were later replaced by the wooden post. It was believed that the abode of spirit in strong medium was better than perishable tree trunk. The present day practice of *Lingam Worship* or Monolithic worship might have evolved from this practice.

Kodinilai kandhzhi valliyendra... verse 85 of Porulathikaram of 'Tholkappiam'

The above hypothesis was first proposed by Subramania Pillai (1948) in his paper 'Tree worship and Ophiolatry'. Other scholars accepted his theory. Aravanan (1984) in *'Mara vazhipadu Dravida Africa Oppidu'* and Sobitharaj (1994) in *Thalamarangal,* endorsed the same opinion.

The Badagas, an indigenous community living on the Nilgiris, constructed wooden *Akka- Bakka* or entrance-stone to their *hatty* or village. Outsiders were not allowed to enter the village through the *Akka-Bakka;* but the members of the Badaga community come through the *Akka-Bakka* and respond to outsider's call. As wooden structures could not withstand the climatic conditions of the hill station, they were replaced by the stones (*Akka-Bakka*). This is a live reference to the above said conjecture (Analogy was given by Dr. C. Maheswaran, Curator, Government Museum, Erode, Tamil Nadu).

Elmore (1913) in *Dravidian Gods in Modern Hinduism* referred that Lord Siva was not represented by idol but by *Lingam* or phallic post, which was the contribution of Dravidian people as there was no such reference in the *Vedas* about the *Lingam* or its worship. Presence of many Siva temples in South India, especially in Tamil Nadu and the idols of Siva, is in the form of *Lingam,* strengthen the statement of Elmore. *Sangam* literature also quote the worship of *Lingam* or *Kandhu*. In Tamil, *Kandhu* refers *Lingam* or

structure of single stem. Tamil language originated from Proto-Dravidian stock and it still retains 90% of the original characters of Proto-Dravidian (personal communication with Dr. C. Maheswaran, Curator Govt. Museum, Erode, Tamil Nadu). The Tamil literature of the *Sangam* period strengthens the theory of plant worship. Prevalence of plant worship is mentioned in several occasions in these literature. Pattinappalai, a *Sangam* literary work refers that the women folk, after a holy dip, lit lamps and worshiped the *Lingam* or *phallic post* at evenings.

(Kandhudaip podhiyil...Pattinappalai - 249)

In Ettuthogai (compilation of eight books another renowned literary work of *Sangam* period), the presence of plant worship in those days, has been recorded. Apart from the above said references, there are many more versions available from the epics and related Tamil literature of *Sangam* period. In one of the legendary epics, namely *Silapathigaram* belonging to the later part of *Sangam* period, many references are available on *vaagai* worship (*Albizia lebbeck*).

(Maamalar perunchinai vaahai mandram... VI 80-89).

1.6 Hero Stone Worship and Sacred Plants

Hero stones (Plate I-E) or memorial stones were the primitive and first form of idol worship in Tamil culture. A plain stone with or without pictorial depiction was placed in memory of a hero who fought and sacrificed his life for the benefit of his community. Numerous literary quotations are available in praise of the martyr from *Sangam* literature. In practice, these stones were installed beneath a tree, which provided shelter and protection. To honour the hero, who lost his life for a common cause, the community venerated these stones and trees. The worship location would have been transformed as a temple and the tree, as a sacred plant. Eventually, this kind of worship had metamorphosed into 'Anthropomorphic worship'.

(The poem counsels the poets to worship, sing and praise the hero stones installed in their jungle path during their travel).

"Kalerithu yeluthiya nallavarai mara antha

Kadavul ongiya kadesu kavalai" ... (Malaipadukadaam 395-396)

These lines from Malaipadukadaam confirm the above saying.

1.7 Tholkappiam and Landscape Classification

Ancient Tamils derived a treasure of wisdom by observing environment. 'Tholkappiam' an ancient Tamil grammatical work and oldest among all available *Sangam* literature classified the land into five types based on the physical and floral diversity. This is the only available bio-geographic classification ever known through the history. *Tholkappiam* classified the land as five sections including specific components of the land like the deity, flowers, trees, birds, animals, water bodies, food, village type, drums, lyric, lyre, occupation, culture of the ethnic group, which were specific to a particular region. Such a vast mention of data could not be found in any other culture or language. The land classifications are as follows; Kurinji, Mullai, Marudham, Neithal and Paalai.

Mountainous region was referred to as Kurinji land, where Kurinji, a rare plant (*Strobilanthes kunthiana*) that flowers once in 12 years was commonly found. Forest and its surrounding landscape were referred as "Mullai" land, where a flowering creeper (*Jasminum auriculatum*) grows predominantly. Third one is "Marudham" that refers to (*Terminalia arjuna)* a common tree occurring along streams. This is an indigenous hardwood tree found in this area, which is useful for making agriculture implements and plough tools. "Neithal" refers to the aquatic plant (*Nymphaea nouchali)* "Neithal" land refers to seashore and backwater area. The last one was "Paalai" that refers to a xerophytic plant (*Wrightia tinctoria).* This type of plant was found in dry land; hence dry land was named as Palai. Based on these landscapes, ethnic communities were formed. They constructed primitive type of temples for the local deities.

1.8 Origin of Temples

The *Sangam* works explain the topography of the land and culture of the people of those days. Based on the availability of construction materials, primitive type of temples were built for the deities. Wood was abundantly available in all the lands and wooden temples were the first form of temples constructed, which was followed by wood and mud mixed temples. Later bricks and limestone were utilized. Finally stone was used as a construction material.

Manimeghalai, a *Sangam* epic quotes that there were numerous temples in those days as *Kottam.* Temples of Goddess (*Kottravai*), knights, kings, saints, virgins were also mentioned. *Silappathigaram,* an another *Sangam* period epic, referred many deities and

their temples such as Lord Siva, Lord Vishnu, Lord Muruga, Lord Balaraman including the tree *Karpaghatharu* (Celestial boon tree) and white elephant (*Iyravatham*). *Silapathigaram* adds that the residences of Kings were also called Temple (*Koyil*).

Rasamanickam (2000) in his book 'Pallavar Varalaru' (History of the Pallavas), mentioned that there was no stone temple in the region of Tamil Nadu before Mahendra Pallava. Kings constructed temples except stone *vimanas* (Temple tower) and Cave temples. Most the above said types of temple have its own sacred plants.

1.9 Types of Plant worship

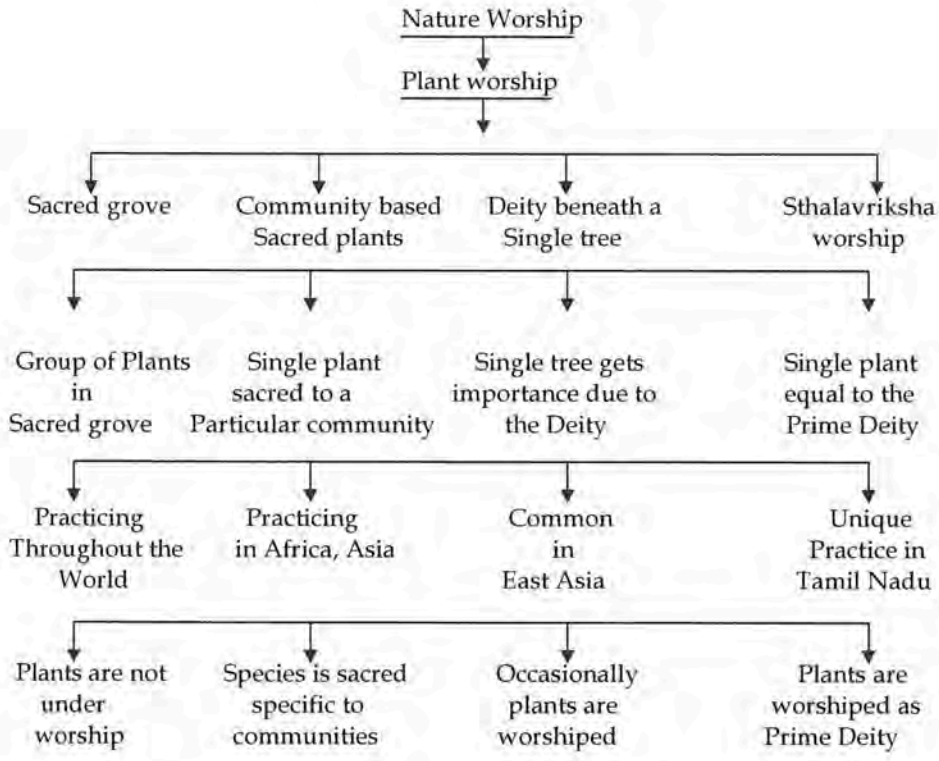
Plant worship can be classified into many types. After a careful scrutiny of the hierarchy of plant worship, the present study recognizes four major categories. The reverence of plants is thus categorized as sacred groves, community based sacred plants, deity beneath a single tree and sthalavrikshas. The plant worshipping patterns were analyzed and shown below.

1.9.1 Sacred Groves

Sacred groves are maintained with or without proper temples or shrines. In some places there may be monolithic structure or stone circles where mostly stone deities were worshiped. Sacred grove is the most primitive version of plant reverence and it is practiced world wide from time immemorial. Ancient people believed these groves are the abode of spirits and trespassing it, would invite the wrath of the spirits. It may be an evil spirit or deity but the taboo protected the grove from exploitation. Entering and collecting food materials or firewood, collecting honey or hunting the animals were prohibited inside those groves. But on very rare occasions a few were allowed to enter the sacred grove to perform rituals.

Sacred groves are patches of natural or near-natural vegetation varying from a few square meters to many square kilometers. It has different names in different parts the world. In Korea, it is known as village groves, Monastery Grove and Garden in China. Traditional Chinese religion honoured sacred mountains and it was known as Monastery groves. In Balinese islands of Indonesia, sacred groves are known as 'Monkey Forest' to honour the Monkey-god *Hanuman*. In ancient Greece there were sacred groves for deities, (Hughes, 1998). In rural Africa there was Kings Grove where only the tribal leaders were allowed. In ancient Egypt, sacred grove and sacred lakes were preserved along with the temple. Matunga (1994) reported sacred sites in New Zealand.

Classification of Plant Worship



Mountains and lakes in North East Region of India are considered as sacred landscapes. Meghalaya's sacred forest is classified into three types viz, *Law Lyngdoh, Law Kyantang* and *Law Niam*. In Assam sacred groves are called by various names by different tribes, viz, Bodo and Rabha tribes call the sacred forest as *Than* and Dhimsa tribes call it as *Madaco*. In Western India and Himachal Pradesh it is known as *Deovan*. In Rajasthan it is called *Orans* by the Bishnoi community. Dagla ***et al*** (2007) referred that the Orans of Rajasthan protected the biodiversity of Thar Desert. *Sarnas* or *Jaherthan* are the sacred groves in Madhya Pradesh and Central India. It is called *Devarai* or *Devarahati* in Maharastra and *Davarabana* or *Davarakadu* or *Nagabana* in Karnataka. In Kerala it is called as *Ambalakavu* or *Sharbakavu* and in Tamil Nadu *Koyilkadu*.

In India, several studies have been conducted on sacred groves; Gadgil and Varthak (1975), (Burman, 1992), (Rudgers, 1995), (Chandran ***et al*** 1998). In Maharastra extensive studies were conducted by Gadgil and Vartak (1976, 1981, 2004), Vartak (1983)

and several other workers i.e. Deshmukh *et al* (1998), Godbole (1998) and Ghate *et al* (2004). Anonymous (1996) documented the sacred groves of Andhra Pradesh.

Notable works on Sacred groves of Kerala include Induchoodan and Balasubramanyan (1991) and Balasubramanyan and Induchdoodan (1996). Further studies were made by Puspaganthan *et al* (1998) and Chand Basha (1998). Sacred groves of Tamil Nadu were surveyed by Samy *et al* (1998), Amirthalingam (1998 a), Balasubramanian and Gunasekaran (2005). Sacred groves are getting importance because people believed that some deity or spirit reside within the grove. Taboo is protecting the groves from over exploitation and actually it is not the true plant worship or *Phytolatry*.

1.9.2 Community Based Sacred Plants

Community based sacred plants is another type of plant worship followed throughout the world. Single tree or a plant is important to a particular community or ethnic group and the people of that particular community do not harm the plant species. Cutting the plant is prohibited and even cutting a branch of the plant is restricted. People believed that nursing the plant would bring fortune to their community. These beliefs might have lead to the 'Totem' practices of the ethnic group. In Bhopal 'Indira Gandhi National Museum of Mankind' a separate plot was under exhibit with community based sacred plants with live examples (personal communication Dr. C. Maheswaran, Curator, Dist. Museum, Erode, Tamil Nadu).

Gikuyu tribe of Kenya believed *Moguna* and *Motoyo* species were sacred to their community (Aravanan, 1984). Bariba community of Congo believed planting and worshipping *Nkala* and *Peepal* trees would bring prosperity. In Western Africa, Ashanti people planted *Gyadua* trees for sacred purposes. In Nigeria, Ewe and Yoruba people worshiped Peepal and Baobab trees. Cutting of these trees were prohibited and if found, would be sentenced to death. In Africa, Ntete species were planted at the head quarters of the kings and it is the *Totem* of the community. In India, certain plant species were considered as sacred to a particular community i.e. 'Tendu' *Diospyros melanoxylon* is a sacred plant of Gonds of Madhya Pradesh. For Bishnoi people (Rajasthan) 'Khejari' *Prosopis cineraria*, for Gowda, (Karnataka), 'Senbagam' *Michelia champaca*. In Tamil Nadu 'Bikki' *Elaeocarpus tectorius* is sacred plant to Badaga community, for Toda 'Naval' *Syzygium cumini* and for Vanniyar 'Vanni' *Prosopis cineraria*. Gounder (clan-

Velankuttam) 'Vellavelamaram' *Acacia leucophloea* is sacred, for (clan-Pannaikuttam) 'Pannaikeerai' *Celosia argentea* and Kurumba community in Nilgiri district *Meliosma simplicifolia* are the sacred plants. Gunasekaran and Somasudaram (2007) referred 'Mala' *Anaphalis marcescens* as a most sacred plant for Mannadiyar community of Palni hills, Tamil Nadu.

1.9.3 Deity Beneath a Single Tree

Deity beneath a single tree is common throughout India and other eastern countries where anthromorphic worship is followed. It is an intermediate stage in the evolution of plant worship. Here the deity is installed beneath a tree and the plant is not given much importance, it plays only a minor role as a shelter of the deity. Stone deities are worshiped and the devotees conduct rituals. Through these practices trees are also worshiped, particularly at the time of rituals. Placing the stone deities under the tree in modern 'Hinduism' have evolved from the primitive religion of the Dravidian cult.

In olden days villagers gather under the trees situated at the centre of the village. A raised platform used to be constructed under the banyan tree and the local village leaders conduct meetings and enquiries regarding disputes among the villagers. In this public arena, under the tree, stone deities were placed. Later, people started worshipping the tree. This practice still continues, usually the Peepal (*Ficus religiosa*) is planted as a shelter tree and local deities were positioned under the tree. In Tamil Nadu, at a later stage '*Vinayaka*' (Elephant headed God) idol was placed under the Peepal trees. 'Neem' (*Azadirachta indica*) trees used to be planted along with Peepal and marriages would be conducted between these two trees under the assumption of Peepal as male and 'Neem' as female. People believe that this practice brings marriage to their sons and daughters at right time. As an advanced stage of this evolution, 'Serpent worship' was also followed under these trees along with *Vinayaka* or other deities. Small or medium sized stones with the depiction of bas-relief structure of two mating snakes were placed under these trees and anthropologists referred this practice as '*fertility cult*'.

1.9.4 Sthalavriksha Worship

"Sthalavriksha is referred as a plant (mostly single tree) which is equally venerated from time immemorial, by the devotees as holy as the presiding deity of a temple". The Sanskrit term 'Sthalavriksha' means, tree of the locality (Sthal = place; Vriksha = tree). Most of the temple myth (*sthalapuranas*) and temple history

(*sthalavaralaru*) referred that the prime deity was first unearthed or found under the plant. After construction of temples these plants were treated as Sthalavriksha or temple trees (plants). Among the sects of Hinduism in Tamil Nadu, the Shaivam (Lord Siva is the presiding deity of these temples) strictly followed sthalavriksha worship. Saints belonging to Modern Hinduism especially in Shaivam refer three important aspects viz., *Moorthy*, (Deity), *Sthalam*, (Shrine and Sthalavriksha) and *Theertham*, (Sacred tank or water body associated with temple) these three prime entities to learn the antiquity of a temple or a place of worship. According to the saint and emanate Tamil poet Thayumanavar, (1963) the worship of these three important entities will yield wisdom even without a *guru* or teacher.

Tamil Nadu is a land of temples; more then 25,000 ancient temples are found all over the state. These heritage sites not only act as conserving centers of art, architecture and culture but also as a living laboratory of local ecosystem. Ancient history of Tamil Nadu reveals the origin and development of temple tradition in the state. There are epigraphical evidences to these assertions. The history has also been authenticated by various Tamil literary works and poems. Tamil country was ruled by many kings and chieftains belonging to various dynasties in different periods. The history of Tamil country starts with the age of *Sangam*. The *Sangam* literature refer to the region of three dynasties and many chieftains.

The *Sangam* age was followed the rule of the Kalabbras (3rd - 6th century A.D.), the Pallavas (6th – 9th century A.D.), the Later Cholas (9th – 12th century) and Later Pandiyas (12th - 13th century), followed by the Nayakas (Vijayanagar), the Marathas, the Nawabs and the British. The Gangas of Banavasi the Hoysalas of Halabid, Hyder and Tippu also ruled over parts of Tamil country for brief periods.

Early ruling dynasties patronized Jainism and Buddhism upto the 6th century A.D. Ever since the *Bhakthi* movement (revival of Hinduism) the construction of temple complex was taken up by the great monarchs. The grandest of them all was the Chola kingdom. Pallava kings first introduced rock cut and monolithic temples in south India and later structural temples. In Tamil Nadu, temples constructed during this period or after only are available today. Many temples of this age could not withstand the test of time and nature's fury. Some of them still stand tall and tell to us the tale of the glorious past and the prosperity of the bygone years. The Chola kings ruled the eastern part of the Tamil Country continually up to 12th century. The 'Imperial Cholas' were staunch Shaivaits; Vijayalaya Chola, started constructing temples.

Rajaraja I was a great builder in medieval period who carried on temple constructions. His successors also continued the same tradition with construction and renovation of temples. Hence numerous old Siva temples are found in the eastern region (Cholamandalam) of Tamil Nadu. In the present day Tamil Nadu, most of these temples and their properties are managed by a separate government department known as the 'Hindu Religious and Charitable Endowment' under a separate ministry. Certain temples are managed by Shaivait Adeenams (Monasteries), e.g., Thiruvavaduthurai, Dharumapuram, Thirupananthal and Madurai. Some temples are managed by particular communities, e.g., Nataraja Temple in Chidambaram by Brahmins and Vaideeswaran temple in Poonthamalli by Thondaimandala Mudaliyars. The custodians may vary but the worshipping practices are same in all the temples.

Sthalavrikshas are integral part of the temple worship especially in Shaivisam. This practice is still in vogue in the territories of ancient Tamil country viz., present Tamil Nadu state, and the buffer zones such as bordering states of Kerala, Karnataka, Andhra Pradesh and neighbouring Island nation of Sri Lanka.

Sthalavriksha worship is an advanced stage in plant worshipping practice among all above mentioned practices and is still vogue in the temples of Tamil Nadu. Medieval Tamil literature quote many references about these plants. Shaivam the main division of the 'Modern Hinduism' in Tamil Nadu is following this practice and it is mandatory in these temples (Lord Siva is the presiding deity of these Temples). Other branches such as Vaishnavam Lord Vishnu is the presiding deity) *Saktham* (Skathi or *Kotravai* is the Goddess), *Kowmaram* (Lord Muruga is the deity of this cult) and Ganpathy or *Vinayaga* is the worship entity of the Ganapathiam practice, where the Sthalavriksha practice is normally not strictly followed. Sowram is another discipline where 'Sun' is the main deity and Sun temples are less in number in Tamil Nadu. Srinivasan (1972) mention that sthalavriksha worship is mostly associated with Shaivam. Nedunchezhiyan (2005) refer that sthalavrikshas were the trees got the divine power from the deities, which were treated as equal to the God.

1.10 Sthalavrikshas and Sacred Hymns

Many medieval Tamil literature quote sthalavrikshas and the associated Deities. Thiruvasagam written by Saint Manikavasagar and Devaram by Thirugnanasambathar, Thirunavukkarasar and Sundarar contains many references about Lord Siva present

beneath the sthalavriksha tree. According to the sthalapurana all previous Palm trees were male in Thiruvothur (Cheyyaru). Thirugnanasambanthar sung one *pathigam* (ten set of hymns) to change the male Panai tree (*Borassus flabelliber*) into female plant, to stop the criticism by the Jains.

"Kurumbai yanpanaiyeen Kulaiyathur" (Davaram - 1319)

To mark that occasion, a stone Palm tree was planted with engravings of fruits and male flowers. Even now four female Palm trees are found in the temple. *Panai* (*Borassus flabellifer*) is the native tree species and it is Tamil Nadu's state tree. This species is the Sthalavriksha in several temples in the state.

Devaram (Shaivait hymns sung by three great Tamil saints namely Thirugnanasambathar, Thirunavukkarasar, Sundarar) refer the Shenbagam plant (*Michelia champaca*) in Sivapuram, Thirunageswaram, Thirunanipalli and Thenkudithittai temples sthalavrikshas. It referred about Kondrai plant (*Cassia fistula*) in Thiruputhur and Thiruthuraiyur about Punnai plant (*Calophyllum inophyllum*) in Thirupunavail, Thirunanipalli, Thirupurampayam, Mylapore and Thirumaraikadu and about Vahzi plant (*Musa paradisiaca*) in Thirukudavail, Thiruthevyur and Mullai plant (*Jasminum auriculatum*) at Thirukarukavur. In Thiruvenainallur it quotes about Moongil plant (*Bambusa arundinacea*) and in Thirumayendrappalli it referred the sthalavriksha Kandal (*Rhizophora apiculata*) are some examples from Shaivaite temple hymns referring the sthalavrikshas.

Naalayirathdhivya prabantham or four thousand holy verses on Lord Thirumal is a sacred work for Vaishnavas. This hymns quotes reference about Sthalavrikshas of many Temples viz Punnai (*Calophyllum inophyllum*) plant in Thirukovilur as

"Irumpunni mutharumbi semponkattch" ...Thirukovilur (Divyapprabantham: 32)

In Thiruppuliyur and Thirupullam puthangudi Punnai plant is the sthalavriksha and it is referred as

"Punnaiyam pozhil sul Thiruppuliyur" ... (Divyapprabantham: 140)

"Punnai ponnei thaduirkum pullamputhakudithane"... (Divyapprabantham: 66)

Thiruvelliyangudi's sthalavriksha is Vazhai (*Musa paradisiaca*) and it is quoted in this hymn as

"Kayntha neelkmugum kathalim" ... Velliyangudiyathve (Divyapprabantham: 64)

Mango tree (*Mangifera indica*) is the Sthalavriksha in Thirusrivaramangai and it referred as

"Thenamam pozhil thansrivara mangaththvar" ... (Divyapprabantham: 84)

Nayanmar (Shaivat saints) and *Aalwars* (Vaisnavait saints) believed sthalavriksha to be sacred as it is revered equal to the presiding deity of the temple. Hence many hymns were written on sthalavriksha plants. According to the hymns in *Devaram* and *Thiruvasagam* the presiding deity was positioned beneath the sthalavriksha plant or under its shadow or the deity and the temple was present in the grove of that particular sthalavriksha plant.

After the establishment of states in *Sangam* period, king was the head of the state and he is armed with supreme powers. The king was conferred ceremonial honour in all the religious and cultural activities conducted in the Kingdom. All the activities of the king from dawn to dusk were praised. Each kingdom had a tree, which was considered as most sacred to the particular regime and it is known as *Kadimaram* or *Kaval maram* (Guarding tree). Later this practice was followed in the temples and each temple has its own tree, depending on the abundance of the plant at that particular region or its association with the Deity. Possibly *Kadimaram* might have the original Tamil term of the sthalavriksha. This practice of reverence evolved after setting up of kingdoms and it attained the status of *Totem* of that particular kingdom, viz., Panai (*Borassus flabellifer)* for Chera kingdom, Aathi (*Bauhinia racemosa)* for Chola kingdom and Neem (*Azadirachta indica)* for the Pandia kingdom. Seetharaman (1997) referred Pandiaya coins contains *Kadimanam* and it was the emblem of the state.

1.11 Review of Literature

A review of literature on sthalavriksha studies shows that information on sthalavrikshas is scanty. Only a few scholars have done research in this field and that depending on secondary sources i.e., medicinal, mythological and divine literature. Only three research work, Sobitharaj (1991), Amirthalingam (1998 b) and Narasimhan & Rathnavathy (2003) have been conducted field studies. Sobitharaj (1991) published his first and second parts of compendium of essays titled *"Tamizhil Thaavara Seithikal"* (*Notes on plants in Tamil*). In 1994, he published another book *"Thalamarangal"* (Sthalavrikshas). He recorded the presence of sthalavrikshas in 263 Shaiva temples and 94 Vaishnava temples in Tamil Nadu. Altogether he recorded 74 plant species including their

medicinal uses. Amirthalingam (1998 b) recorded 60 sthalavriksha species based on his survey in 300 temples of Tamil Nadu. He discussed the traditional medicinal uses, religious and mythological values associated with sthalavrikshas. His prime contribution included the explanation of the sthalavriksha's relevance with religion, mythology and folklore. Narasimhan & Rathnavathy (2003) identified 14 sthalavriksha species in Northern Tamil Nadu.

Few other scholars also highlighted the sthalavriksha worship practice, but they were based on secondary sources such as sthalapuranas (Temple myth). Samy (1978) identified 50 sthalavrikshas from 274 temples. Aravanan (1984) made a comparative study of tree worship in African culture with Dravidian culture. He discussed worship pattern of sthalavrikshas and customs followed in the temples of Tamil Nadu. Thirugnanam (1995) documented 69 sthalavriksha species and its medicinal values, preparation and application methods of medicines. Authors who conducted field surveys have so far recorded 74 Sthalavriksha species from 400 temples.

1.12 Scope of the Present Study

1) As there are nearly 25,000 temples in Tamil Nadu, scope for further studies was found plenty.
2) Taxonomical identification of the plant species were found misleading: For example, sthalavriksha of Thiruparankundram temple has been misquoted by various authors; *Ficus racemosa* by Sobitharaj (1994), *Ficus tinctoria* by Thirugnanam (1995) and *Ficus retusa* Amirthalingam (1998). The sthalavriksha of Karur temple was referred as *Polyalthia longifolia* and *Bassia longifolia* by Samy (1978), based on its Tamil names Vanchi and Vanjulam. Vanchi originally refer to *Salix tetrasperma* and Vanjulam to *Saraca asoca* in "*Sanga Ilakkiya Thavarangal*" (Srinivasan, 1987), (Plants of *Sangam* Tamil literature).
3) Sthalavrikshas are expected to play an important role in local eco-system, particularly in supporting animal life.
4) In the changing socio-cultural background of people, whether the practice is still in vogue is not known.

1.13 Objectives

The objectives of the study are as follows

1. To conduct taxonomic survey of sthalavrikshas and bring out an authentic catalogue of sthalavrikshas in Tamil Nadu.
2. To assess the ecological significance and conservation values of sthalavrikshas.
3. To document the religious and cultural background associated with sthalavriksha worship.

Chapter - II

STUDY AREA AND METHODOLOGY

2.1 Study Area - Topography

Tamil Nadu state is situated at the south-eastern tip of the Indian peninsular and it is the southern most state of mainland India. It is located between 8° 05′ and 13° 35′ North latitudes and 76° 15′ and 80° 20′ East longitudes and covers an area of 1,30,058 sq km, occupying 4.08 % of the total area of India. It has a coast line of 990 km and a land boundary of 1200 km. Andhra Pradesh in the north, Karnataka in Northwest, Kerala on the west, Bay of Bengal in the east and Indian Ocean in the South bound it. The geographical area of the state has a roughly rhomboidal appearance with the longer diagonal of it stretching from Pulicat Lake in the north to Kanyakumari in the south and the shorter diagonal from Gudalur in the west to Point Calimere in the east.

The union territory of Puducherry including Karaikkal is within the geographical region of the state. A chain of twenty coral islands collectively termed as Rameswaram and Krusadai group of islands and several reefs extend along the northern shore of Gulf of Mannar. Administratively, a total number of 30 districts have been demarcated in Tamil Nadu. Chennai, formerly Madras is the capital of the state. The various districts are Chennai, Coimbatore, Cuddalore, Dharmapuri, Dindigul, Erode, Kanchipuram, Kanyakumari, Karur, Krishnagiri, Madurai, Nagapattinam, Namakkal, Nilgiris, Perambalur, Pudukottai, Ramanathapuram, Salem, Sivaganga, Thanjavur, Theni, Tiruchirappalli, Tirunelveli, Tiruvallur, Tiruvannamalai, Tiruvarur, Tuticorin, Vellore, Villupuram and Virudhunagar (Map 1). Topographically, the landmass of the state can be divided broadly into three natural divisions namely the Eastern coasts, central plains including the Eastern Ghats and the Western Ghats

2.1.1 East Coast

Coromandal coast and plains of lowland in the eastern part of Tamil Nadu are comprising the districts of Chennai, Cuddalore, Kanchipuram, Tiruvallur and Villupuram. The alluvial fertile coastal plains of the Cauvery delta, comprising of Thanjavur, Nagapattinam and Tiruvarur districts. In south, Kanyakumarai, Tirunelveli, Tutukudi, Ramanathapuram and part of Pudukottai districts form east coast districts.

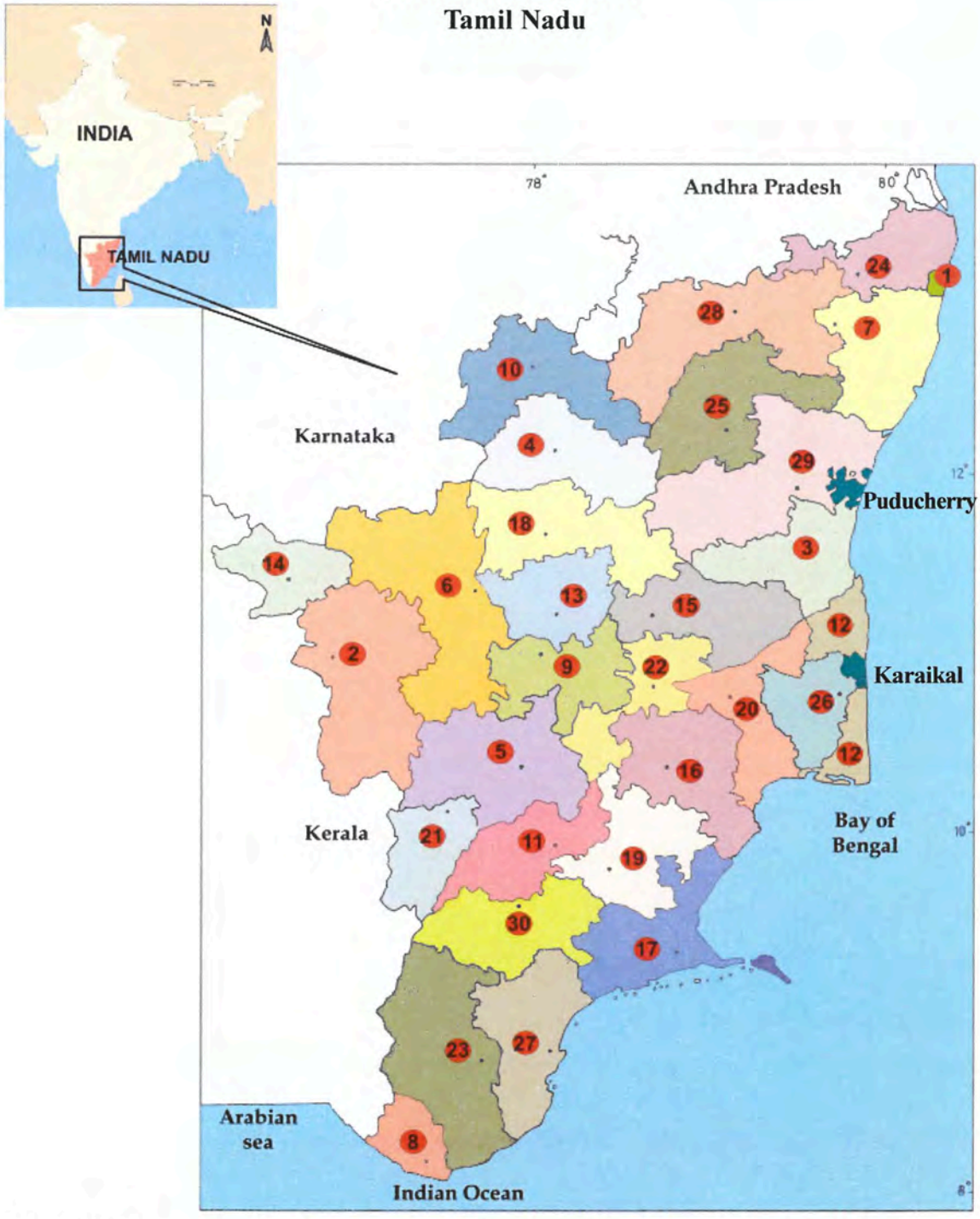
2.1.2 Central plains

Certain districts are located both in eastern coast line and central plains i.e. Thiruvallur, Vilupuram, Kanchipuram, Cuddalore, Thiruvarur, Thanjavur, Pudukottai, Thuthukudi, Tirunelveli and Kanyakumari. Several districts are totally situated in central plains region i.e. Vellore, Thiruvannamalai, Dharmapuri, Krishnagiri, Salem, Namakkal, Perambalur, Tiruchirapalli, Karur, Madurai, Erode and Sivagangai. The plains extend almost up to the foot hills of the Western Ghats and only minor elevation and small hills are found here. Eastern Ghats, a stretch of disconnected hills also in the region found from Nilgiris to Orissa state. The Eastern Ghats enter the state from Andhra Pradesh in the north and cut across the state and merge with Nilgiri hills on the Western Ghats. In Tamil Nadu, Eastern Ghats are in the form of detached hill groups, viz. Javadi, Shervaroy, Kalrayans, Pachamalai, Kollimalai and Kanjamalais. All these form a chain of low flat topped hills.

2.1.3 Western Ghats

Western Ghats starts from Rann of Cutch, Gujarat state and ends in Kanyakumari, Tamil Nadu. These ghats in Tamil Nadu are extended to Kanyakumari, Tirunelveli, Viruthunagar, Theni, Dindigul and Coimbatore districts. Nilgiri district is situated on the conjecture of Western Ghats and Eastern Ghats. Western Ghats run southward and ends at Kanyakumari, along the whole length of the western part of Tamil Nadu. The major hill ranges include Nilgiris, Anamalais, Palni hills, Cardamom hills, Varsanadu, Andipatti and Agasthiyamalai. The altitudinal range of Western Ghats from Kanyakumari towards the north becomes elevated higher and higher, averaging about 1220 m above msl and rising to 2637 m at Doddabetta in Nilgiris, the highest peak of Tamil Nadu. They are connected by the Eastern Ghats and at the point of junction, form the elevated plateau of Nilgiris. The Western Ghats have comprised of a chain of mountain ranges except for an interrupted gap of about 25 km width near Palghat of Kerala and Coimbatore district of Tamil Nadu, known as Palghat gap. The hills lying south of the Palghat gap are known as Anamalais and Cardamom hills. On the east, follows Palni hills which are offshoots of Anamalais. Western Ghats have tropical evergreen, semi-evergreen and deciduous forests, as well as savannahs punctuated with cultivated lands and settlements.

Plate II - Study Area
Tamil Nadu



District Names

1. Chennai
2. Coimbatore
3. Cuddalore
4. Dharmapuri
5. Dindigul
6. Erode
7. Kanchipuram
8. Kanyakumari
9. Karur
10. Krishnagiri
11. Madurai
12. Nagapattinam
13. Namakkal
14. Nilgiris
15. Perambalur
16. Pudukottai
17. Ramanathapuram
18. Salem
19. Sivaganga
20. Thanjavur
21. Theni
22. Tiruchirappalli
23. Tirunelveli
24. Tiruvallur
25. Tiruvannamalai
26. Tiruvarur
27. Tuticorin
28. Vellore
29. Villupuram
30. Virudhunagar

2.2 Rivers and Water Resources

Western Ghats form the fountain head of many rivers, which flow eastwards towards the Bay of Bengal; of these, Cauvery, Ponniyar, Palar, Vaigai and Tamiraparani are perennial rivers. Vellar, Chittar, Noyyal, Suruli, Gundar, Moyar, Bhavani, Amaravathi, Vaippar, Varparai and Varshali are non-perennial rivers. Cauvery, Palar, Vaigai, Tamiraparani are the main rivers which irrigate Tamil Nadu with many dams constructed across them. Cauvery, the biggest river of the state originates from Coorg of Karnataka and runs across the state from west to east with major tributaries such as Amaravathi, Noyyal, Bhavani etc. and near Kollidam, the river branches off and flows with many tributaries depositing fertile alluvial soil in the delta extending over 8000 sq. km. Other major rivers are Palar, Pennai and Cheiyyar in the North and Vaigai, Vaippar and Tamiraparani with major tributaries Ramanadhi, Ghatana, Pachaiyar and Chittar in the south. The delta regions of the above region support rich riparian vegetation. The Buckingham canal connects river Krishna in Andhra Pradesh, with Chennai. The state has a rich wetland ecosystem. Wetlands of Tamil Nadu comprise lakes, ponds, reservoirs and seasonally water logged areas. According to Vijayan *et al.* (2004) there are 1175 clearly recognizable inland wetlands in Tamil Nadu which occupy 1.24 % of the total area of the state.

2.3 Geology

Tamil Nadu forms a part of peninsular shield which is one of the ancient land masses of the world. About 73.5 % of the total area is underlined by crystalline rocks of Precambrian period. The sedimentary belt occupies about 26.5 % of the total area all along the coast flanking the main crystalline masses on the west. Tamil Nadu is flanked by Eastern Ghats and Western Ghats respectively. In between these hills, an elaborate plateau with variable topography and vegetation is found. Many low altitude hillocks mostly of crystalline igneous rocks and crystalline gneissic metamorphic rocks are found in this plateau.

The northern and western hilly regions of old crystalline rocks of the plateau have important mineral deposits. A wealth of minerals like clay, feldspar, granite, gypsum, graphite, limestone and lignite are found abundantly in the state. Besides these, small quantities of copper, kaolin, bauxite, asbestos, Titanium etc. are also found here. Granite gneisses are reported in many places of hills. Nilgiri gneiss occurs in Western

Ghats. Magnesite deposits are found in Chalk hills of Salem and Shervaroys. Chengalpattu, Coimbatore, Tiruchirappalli and Tirunelveli districts have gypsum deposits. Other important deposits are limonite (Kanyakumari and Tirunelveli), and limestone in Tiruchirappalli, Ramanathapuram and Tirunelveli districts.

2.4 Soils

Tamil Nadu has various types of soils and there are extensive areas with barren rocky plains and hills are also available. Black soil and cracking clay soil are found in the deccan trap covering southern parts of Coimbatore, Ramanathapuram, Tiruchirappalli, Tirunelveli and parts of Cuddalore, Dharmapuri, Kanchipuram, Madurai, Salem, Sivaganga, Tiruvannamalai, Tuticorin, Vellore and Virudhunagar districts. Alluvial soils cover river banks and Cauvery delta. Red soils cover most parts of the state. Red loamy soils are predominantly in Dharmapuri, Salem, Tiruvallur, Tiruvannamalai and Vellore districts. Laterite soils occur in Nilgiris and Anamalais. Some parts of Western Ghats also have a rich humus soil. Red sandy soil is found in Madurai, Ramanathapuram and Tirunelveli districts and parts of Coimbatore and Nilgiris districts. A long stretch of coastal sandy soil forming dunes is found in plenty in Ramanathapuram, Thanjavur, Nagapattinam, Cuddalore, Kanchipuram and Kanyakumari districts. In various islands of Gulf of Mannar and Palk Strait, the substratum is mostly of coralline conglomerate or sandstone, favouring the existence of marine wild life and algae.

2.5 Climate

Tamil Nadu has an equatorial, tropical climate in the inland and an equatorial maritime climate in its coastal regions.

2.5.1 Temperature

The climate in general is very warm and dry except on the hill tops. December and January are the coolest months and May and June are the hottest. The average temperature for most parts of the state range between 28° C and 40° C in the summer season and between 18° C and 26° C in the short-lived winter season. In the hilly terrains, the maximum temperature may be as low as 26° C and the minimum temperature may go down to 3° C.

2.5.2 Rainfall

The annual average rainfall of the state is 958.5 mm and the total rainfall is 1304.1 mm. Tamil Nadu get rainfall from both monsoons. North-east monsoon gives the major portion of rainfall to the state during October to December and the rest from south-west monsoon during June to September. Nilgiris receive an annual rainfall of 152 to 178 cm from both the monsoons. Many districts are drought-prone and there are large tracts with semi-arid conditions. Depending on the rainfall and crop distribution, the state has been grouped under 7 agro-climatic zones, namely northeast, northwest, west, southern, high rainfall, high altitude hilly and Cauvery delta (Nathan 1995).

2.6 Vegetation Types and Floristic Wealth

The total recorded forest area in Tamil Nadu is 22,871 Sq km. constituting 17.59% of geographical area (Annamalai 2004 a). The vegetation of the state is broadly classified into four major types namely Coastal vegetation, Island vegetation, Vegetation of the interior plains and Vegetation of the hills and mountains. Coastal vegetation is further divided as strand vegetation, estuarine vegetation and Coastal tropical dry evergreen vegetation. Vegetation of the interior plains is prominently occupied by xerophytes with the adaptations of succulent, stunted and thorniness. Vegetation of hills and mountains are further classified to six major types viz., Tropical thorn forests (scrub jungle), Tropical dry deciduous forests, Tropical moist deciduous forests, Tropical evergreen forests, Montane wet temperate forests (Sholas) and Montane grassland. Annamalai (2004 b) referred the occurrence of 5640 species of Angiosperms in Tamil Nadu. In addition, 64 species of Gymnosperms, 228 species of Pteridophytes, 368 species of Bryophytes, 400 species of Lichens and 1081 species of Algae were also recorded from Tamil Nadu.

2.7 Protected Areas

Protected areas of the state include Biosphere reserves, National parks and sanctuaries. Two biosphere reserves present in the state are Gulf of Mannar Biosphere Reserve and Nilgiri Biosphere Reserve. Gulf of Mannar Biosphere Reserve was established exclusively to protect marine wildlife of the state. Nilgiri Biosphere Reserve with an area of 5545 sq. km., was established in 1986.

Mukuruthi National Park and Mudumalai Wildlife Sanctuary form part of the Nilgiri Biosphere Reserve. Indira Gandhi Wildlife Sanctuary of Anamalais, Kalakad-

Mundanthurai Tiger Reserve in Tirunelveli and Point Calimere Wildlife and Birds sanctuary are some of the important protected areas of the state. Important wild animals of the state include Asian elephant, Tiger, Panther, Nilgiri Tahr, Gaur, Sambar, Chital, Sloth bear, Lion tailed Macaque, Dhole and so on.

2.8 Fauna

Some heronries are declared as sanctuaries to protect Avifauna of the state. Some such sanctuaries are Vedathankal water-bird sanctuary, Pulicat bird Sanctuary, Vellode bird Sanctuary and Vettangudi bird Sanctuary. These bird sanctuaries serve as the breeding grounds for resident and local migratory bird species. Some important local migratory birds are Painted Stork, Openbilled Stork, Large Cormorant, Darter, Spot-billed Pelican, Grey Heron, White Ibis and Black Ibis. Important forest birds include Indian Pea Fowl, Grey Jungle Fowl, partridges, woodpeckers, owls and hornbills. Some common birds of prey are Brahminy Kite, Pariah Kite, Blackwinged Kite, Honey Buzzard and Black Eagle. Noteworthy long distance migratory birds include Pintail duck, Northern Shoveller and waders.

2.9 Agriculture

Major occupation of the people is agriculture. A total of 7.6 million hectare, both irrigated and rain fed lands are under cultivation in Tamil Nadu. In irrigated lands Paddy, Sugarcane, Cotton, Coconut, Banana, Grape and Tobacco are grown as cash crops. Tamil Nadu is one of the major rice producing states in India. In dry lands and rain fed lands millets are cultivated. Ground nut, Tapioca, Cashew, Yam and vegetables are cultivated in small scale. Plantation crops namely Tea, Coffee, Cocoa, Pepper, Cardamom and Rubber are also cultivated in the state.

2.10 People

Ethnic history of Tamil Nadu starts from early Paleoliphic period (1,50,000-50,000 years B.C.). Stone tool of that period was discovered in Pallavaram near Chennai in 1863. Many ethnic tribes living in Tamil Nadu including Negrito and Proto-Australoid group. Some the important tribes in Tamil Nadu are Toda, Malasar, Kurumba, Irula, Malaimalasa, Eruvar, Kothas, Paniya, Palliya, Sholigar. Most of these tribes are still living inside or at the periphery of the forest areas. Apart from the tribes, several other communities and religious groups live in Tamil Nadu. Total population of the state is 6,24,05,679 (2001 census). Majority of the people have religious faiths. Tamil, the official

language of the State is considered as the mother of other Dravidian languages. Tamil literature and grammar are related to the period 500 BC. Tamil Nadu is known for the large number of temples. Many of them are ancient and huge with towering structures called *Gopurams* (Temple towers). Intricate rock carvings, festivals, classical music and dances highlight the cultural heritage and make Tamil Nadu the cultural citadel of the country.

2.11 Methodology

Field survey was carried out in all the districts of Tamil Nadu (Table 2.2). A questionnaire was exclusively designed to collect required information on sthalavrikshas. This questionnaire was prepared after consulting Conservationists, Archeologists, Anthropologists, Historians, Scientists, Tamil scholars and Temple authorities. A model questionnaire is enclosed as Appendix-I. Apart from this questionnaire, photographs of sthalavrikshas were taken. Because sthalavriksha worship is an ancient practice, the study was focused primarily on temples that were constructed 100 years and more (Table 2.1). Five recently constructed temples were surveyed to find whether this practice still continues or not. Vaidianathan (1995) was referred to determine the age of the temples. A glossary of Indian terms referred in this thesis is given separately.

Table 2.1 **Age of temples surveyed**

	Category	Age of temples in years	No of temples Surveyed
1	A	< 100	5
2	B	100 - 500	312
3	C	500 - 1000	470
4	D	> 1000	378
Total			1165

2.11.1 Taxonomy of Sthalavrikshas

Plant specimens were collected and pressed for taxonomical identification. Specimens were processed as per the methods given in Santapau (1955). Herbarium specimens were identified on the basis of Flora of the British India (Hooker, 1872-1897) Flora of Presidency of Madras (Gamble, 1915-1936), Flora of Tamil Nadu (Nair and Henry, 1983) (Henry ***et. al.***, 1987,1989). Flora of the Tamil Nadu Carnatic (Matthew,

1983) and Flora of the Palni Hills (Matthew, 1999). The Herbarium at the Botanical Survey of India, Southern Circle and Institute of Forest Genetics and Tree Breeding, Coimbatore were consulted for identification. After confirming the botanical identity the Herbarium specimens were deposited in the Herbarium of Salim Ali Centre for Ornithology and Natural History, Coimbatore. During the field survey the GBH (Girth at Brest Height) and height of sthalavriksha trees were measured. Data collected on economic uses of plants were supplemented by adding information from the Wealth of India series (Anonymous, 1985), Singh *et. al.* (1996), Pillai (1931), Natarajan (1995), Thirugnanam (1997), Randhawa (1983), Santapu (1995) and Rao (1995). In addition to the sthalavrikshas several other plants were recorded from the temple premises. These species are dealt as "other flora" (other than sthalavrikshas) in this thesis.

2.11.2 Ecological role of sthalavrikshas

During the temple survey, in addition to documenting the sthalavrikshas, animals associated with sthalavrikshas were also recorded. Activities recorded include roosting, perching, feeding and nesting by various animals. Visual encounter method was applied to record the fauna in the temple premises. Animals recorded include birds, bats, butterflies, primates and reptiles. Ali and Ripley (1989) were referred for the identification of birds. Gunathilagaraj *et. al.*, (1998) and Kunte (2000) were referred for the identification of Butterflies. Larson (1987-88) was referred for correct scientific nomenclatures of butterflies. Daniel (1992), Das (1997), Whitaker and Captain (2004) were referred for identification of reptilian fauna. Ingermar (1990) and Vanitharani (2004) were referred for bat identifications.

2.11.3 Myths and Beliefs associated with sthalavriksha worship

Information related to beliefs, rituals and culture associated with sthalavriksha worship were documented from the temples, by interviewing the priests and devotees. Several plant names are mentioned in Astrology, as favorite plants of planets and stars (Deshikar 1992). Sacred hymns of Devaram and Nalayitathiviyaprabantham, the ancient divine literatures mention several plant-based place names and deity names, and the sthalavrikshas. Plant based place names of temple towns were collected during the field survey. The relationship between sthalavrikshas and names of towns and deities were examined and discussed. Data on age of the temples was obtained from the literatures published by state Archeology, Museum and department of Hindu Religious and Charitable Endowment bulletins.

2.11.4 Distribution of Sthalavrikshas in Tamil Nadu

The survey included a minimum of 30 temples in each district. Most of the temples surveyed are more than 500 years old. All the 30 districts of Tamil Nadu and Puducherry Union Territory were covered during the survey. Temple survey was conducted in all the geo climatical zones of the state. To find out the geographical distribution of sthalavrikshas, Global Positioning System (GPS) was used to mark the latitude, longitude and elevation of the temple. These information were plotted on the Tamil Nadu Map with the help of Mapinfow Software to depict the distributional pattern of sthalavrikshas.

2.11.5 Conservation values of sthalavrikshas

To find out the factors that determine sthalavriksha selection, 'Binary Logistic Regression' was used. Factors such as religious value, medicinal value and abundance of the plant were the parameters for the analysis. Medicinal uses were obtained from both personal interviews and literature screening. Threatened status of sthalavriksha species were determined based on the Red data book of Indian Plants (Nayar and Sastry, 1987, 1988, 1990). Areas adjoining temple premises were surveyed to find out the occurrence of sthalavriksha species in the locality. Girth at Breast Height of sthalavrikshas was measured to match with the wild trees of the same species. To find whether the temple trees are significantly different from the same species found in the wild the 't' test was applied and the results are discussed.

Table 2.2 **List of temples surveyed in Tamil Nadu and Puducherry**

	District Name	≡	U	ψ	↑	Ô	Total
1	Cuddalore	32	5				37
2	Chennai	17	4				21
3	Coimbatore	27	4	4	7		42
4	Dharmapuri	20	14				34
5	Dindigul	15	11		4		30
6	Erode	22	3	3	4		32
7	Kanchipuram	28	8		3		39
8	Kanniyakumari	35	3	2	1		41
9	Karur	29	5	1	2		37
10	Krishnagiri	18	15				33
11	Madurai	18	13		2		33
12	Nagapattinam	74	6				80
13	Namakkal	20	7	1	3		31
14	Nilgiri	1					1
15	Perambalur	31	11	1			43
16	Pudukottai	35	4	1	2		42
17	Ramanathapuram	24	7		1		32
18	Salem	24	2	4	1		31
19	Sivagangai	28	6	1	1	1	37
20	Thanjavur	37	7		1		45
21	Theni	17	13	2	2		34
22	Tiruchirapalli	38	7	1			46
23	Thiruvannamalai	28	9	1			38
24	Thiruvarur	52	4				56
25	Tirunelveli	50	21		5		76
26	Tiruvallur	25	5		2		32
27	Thuthukudi	21	17		2	1	41
28	Vellore	25	13		2		40
29	Vilupuram	24	8		1		33
30	Viruthunagar	26	13	1	1		41
31	Puducherry and Karaikal	5	1		1		7
	Total	846	246	23	48	2	1165

≡ - Siva Temples, U - Vishnu Temples, ψ - Amman Temples

↑- Murugan Temples, Ô - Other Deity Temples

Chapter - III

TAXONOMY OF STHALAVRIKSHAS

3.1 Survey Details

The temple survey was conducted so as to cover all the geo-climatical regions of the state. In Tamil Nadu, eastern and southern regions have more number of temples than any other regions. During the study, temples constructed in the kingdoms of Chera, Chola, Pandia, Pallava, Nayakas and the latest period (20th century) were surveyed. In all the districts except Chennai, a minimum of 30 temples were surveyed. Chennai is a metropolitan city and smallest district in the state. This has only small numbers of historic temples. Hence, Chennai district and the adjoining Thiruvallur and Kanchipuram districts, only 20 temples were surveyed. Maximum numbers of temples were surveyed in Nagapattinam and Tirunelveli districts viz., 80 and 76 respectively. List of all the 1165 temples is given in Table 3.1.

Data tabled include the prime deity of the temple, name of the location and the symbols of major sects viz., '≡' representing Siva temple, '' representing Vishnu temple, ' ' representing Murugan temple, 'ψ ' representing Amman temple and 'Ŏ 'representing other deity temple. Age of the temple has been classified into four categories viz., 'A' represents temples below 100 years, 'B' represents temples of 101 to 500 years, 'C' represents temple of 501 to 1000 years and 'D' represents temples above 1000 years old. If sthalavriksha species present in the temple, the name of the species is given.

Table 3.1 **Sthalavrikshas recorded in various temples of Tamil Nadu**
Cuddalore District

No	Temple Name and Location	Age of Temple	Sthalavriksha species
1	Natarajar, Chidambaram ≡	D	*Excoecaria agallocha*
2	Uchinathar, Sivapuri ≡	D	*Phyllanthus emblica*
3	Pasupadeswar, Thiruvetkalam ≡	D	*Bambusa arundinacea*
4	Palvannanathar, Thirukalippalai ≡	D	Absent
5	Sistagurunatheswar, Thuraiyur ≡	D	*Cassia fistula*
6	Veeratteswar, Panrutti ≡	D	*Cassia fistula*
7	Padaleswarar, Cuddlore ≡	D	*Stereospermum colais*
8	Thirunavukkarasu, Thiruvamur ≡	D	*Salvadora persica*
9	Suyamprakasaeswarar, Thirunaraiyur ≡	D	*Calophyllum inophyllum*
10	Varadarajaperumal, Veeranatham	C	Absent
11	Anandeeswarar, Kattumannarkoil ≡	D	*Aegle marmelos*
12	Veeranarayanaperumal, Kattumannarkoil	D	*Tabernaemontana heyneana*
13	Veertrindaperumal, Kuppankuzhi	B	*Aegle marmelos*
14	Dholiswarar, Rajendiracholagan ≡	C	Absent
15	Ruthirakodiswarar, Kizhakadambur ≡	D	Absent
16	Amirthakadeswarar, Melakadambur ≡	D	*Anthocephalus cadamba*
17	Pranavaviyakarapuriswarar, Omappuliyur≡	D	*Zizipus mauritiana*
18	Padanjaliswarar, Kanattammullur ≡	D	*Artocarpus heterophyllus*
19	Poovarakasamy, Srimushnam	B	*Ficus religiosa*
20	Nitheeswarar, Srimushnam ≡	C	Absent
21	Thirukumaresar, Rajendirapattinam ≡	D	*Calotropis procera*
22	Narthanavallabeswarar, Kudalaiyarttur ≡	D	Absent
23	Vedapuriswarar, Bhuvanagiri ≡	B	*Aegle marmelos*
24	Margashayar, Orthur ≡	B	Absent
25	Sivaloganathar, Sathamangalam ≡	B	Absent
26	Agastheeswarar, C.Sathamangalam ≡	B	Absent
27	Somasundareswarar, Puduvilagam ≡	B	Absent
28	Vanmeeganathar, T. Neduncheri ≡	B	Absent
29	Viruthagiriswarar, Viruthachalam ≡	D	*Prosopis spicigera*
30	Vamanapuriswarar, Thirumanikuzhi ≡	D	*Cassia fistula*
31	Devanadhasamy, Thiruvahindrapuram	D	*Aegle marmelos*
32	Kailasanathar, Nellikuppam ≡	C	*Prosopis spicigera*
33	Nadanapadeeswarar, Thirukandeeswaram ≡	C	*Prosopis spicigera* *Aegle marmelos* *Phyllanthus emblica*
34	Thirusopuranathar, Thirusopuram ≡	D	*Cassia fistula*
35	Sivakozhudeeswarar, Thithanagiri ≡	D	*Cassia fistula*
36	Bhajandeeswarar, Aalampakkam ≡	B	*Aegle marmelos*
37	Vaideeswarasamy, Tittakudi ≡	C	*Pterocarpus marsupium*

Chennai District

No	Temple Name and Location	Age of Temple	Sthalavriksha species
38	Kasiviswanathar, T. Nagar ≡	B	*Aegle marmelos*
39	Kapaliswarar, Mylapore ≡	D	*Calophyllum inophyllum*
40	Nandhiswarar, Adampakkam ≡	C	Absent
41	Marunthiswarar, Thiruvanmaiyur ≡	D	*Prosopis spicigera*
42	Thiruvaliswarar, Padi ≡	D	*Cassia fistula*
43	Gangatheswarar, Purasaivakkam ≡	C	*Butea monosperma*
44	Vaigundaperumal, Koyambedu ⊔	C	*Artocarpus hetrophyllus*
45	Kurungaleeswarar, Koyambedu ≡	D	*Aegle marmelos*
46	Thiruvettiswaran, Thiruvallikeni ≡	D	*Aegle marmelos*
47	Ekambareswarar, Park town ≡	B	*Prosopis spicigera*
48	Malliswarar, Park town ≡	B	*Aegle marmelos*
49	Kachaliswarar, Beech ≡	C	*Ficus recemosa*
50	Dhandapaniswarar, Vellacheri ≡	D	*Aegle marmelos*
51	Karneeswarar, Saidapet ≡	C	*Mangifera indica*
52	Agastheswarar, Thiruvottiyur ≡	D	*Mimusops elengi*
53	Adipuriswarar, Thiruvottiyur ≡	B	Absent
54	Parthasarathy, Thiruvallikeni ⊔	D	Absent
55	Thirisulanathar, Thirisulam ≡	C	*Millingtonea hortensis*
56	Ranganathaperumal, Thiruneermalai ⊔	D	*Wrightia tnictoria* (Hill)
57	Ranganathaperumal, Thiruneermalai ⊔	D	*Mimosa pudica*
58	Agastheeswarar, Pozhisalur ≡	C	*Mangifera indica*

Coimbatore District

No	Temple Name and Location	Age of Temple	Sthalavriksha species
59	Maruthasalamurthy, Maruthamalai ↑	C	*Terminalia arjuna*
60	Amanaligeswarar, Thirumurthimalai ≡	D	*Terminalia arjuna*
61	Thondeswaram, Kolumam ≡	C	*Aegle marmelos*
62	Arasambalavanar, Perur ≡	D	*Stereospermum colais*
63	Viswanathar, Akkarakarasamakkulam ≡	B	*Aegle marmelos*
64	Kavayakaliamman, Kovilpalayam ψ	C	Absent
65	Kumarakoil, Saravanampatty ↑	B	*Prosopis spicigera*
66	Ranganathar, Palamalai	B	*Canthium parviflorum*
67	Kalyanavenkatramaperumal, Seyur	C	*Prosopis spicigera*
68	Kabaleeswarar, Sevur ≡	D	Absent
69	Ramalingasowdeswarai, Coimbatore ψ	B	*Aegle marmelos*
70	Navakodinarayanaperumal,OKMandapam	C	*Dichrostachys cinerea*
71	Pattiswarar, Perur ≡	D	*Guettarda speciosa*
72	Valiswarar, Kuruchi ≡	C	*Aegle marmelos*
73	Ranganathar, Karamadai	C	*Canthium parviflorum*
74	Kuzhandaivelayudan, Kurundamalai↑	C	*Atalantia monophylla*
75	Senniyandavar, Viralikkadu ↑	B	*Dodonea viscosa*
76	Muruganathan, T. M. Poondi ≡	D	Absent
77	Madavivanawesvar, T. M. Poondi ≡	C	*Crateva magna*
78	Sokkalingeswar, P. N. Playam ≡	C	*Syzygium cumini*
79	Ponmalaivelayuthan, K. Kadavu ↑	B	Absent
80	Subramanian, Anuvavi ↑	B	*Mangifera indica*
81	Virundeswarar, Vadamathurai ≡	D	*Moringa pterygosperma*
82	Puttridangodeswar, O. K. Mandapam ≡	C	Absent
83	Murugan, Muthumalai ↑	B	Absent
84	Adiswarar, Periyakalanthai ≡	D	*Aegle marmelos*
85	Soliswarar, Somanur ≡	C	Absent
86	Vaideswaran, Sulur ≡	C	*Aegle marmelos*
87	Sangameswarar, Kottai ≡	C	*Mimusops elengi*
88	Theniswarar, Vellalur ≡	C	*Prosopis spicigera*
89	Viswanathar, Raja street ≡	B	Absent
90	Manniswarar, Annur ≡	C	*Prosopis spicigera*
91	Ulegeswarar, Allalapuram ≡	B	*Aegle marmelos*
92	Thaliswarar, Kovilpalayampudur ≡	B	*Aegle marmelos*
93	Angalamman, Koduvai ψ	B	*Vitex negundo*
94	Nageswarasawamy, Koduvai ≡	C	*Prosopis spicigera*
95	Avinashiappan, Avinashi ≡	D	*Stereospermum colais*
96	Uthamalingeswarar, Perumanallur ≡	C	*Aegle marmelos*
97	Mokkaniswarar, Mokkaniswaram ≡	D	Absent
98	Visvanathar, Nallur ≡	C	*Aegle marmelos*
99	Vanabathrakaiamman, Thekkampatti ψ	B	*Capparis divaricata*
100	Umamaheswarar, Vellalore ≡	B	*Commiphora caudata*

Dharmapuri District

No	Temple Name and Location	Age of Temple	Sthalavriksha species
101	Mallikarjunasamy, Dharmapuri ≡	D	Absent
102	Paravasudevasamy, Dharmapuri	C	*Holoptelea integrifolia*
103	Chendrayaperumal, Adiyamankottai	C	Absent
104	Someswarar, Adiyamankottai ≡	D	Absent
105	Bhiravar, Adiyamankottai ≡	C	*Aegle marmelos*
106	Thirthagiriswarar, Thirthamalai ≡	D	*Nyctanthes arbor-tristis*
107	Thirthagiriswarar, Thirthamalai (Hill) ≡	D	*Nyctanthes arbor-tristis*
108	Varneeswarar, Harur ≡	B	*Aegle marmelos*
109	Varadarajaperumal, Mambadi	B	Absent
100	Valiswarar, Harur ≡	B	*Aegle marmelos*
111	Varadarajaperumal, Harur	B	*Ficus religiosa*
112	Karivaradarajaperumal, Palayapatti	B	*Ficus religiosa*
113	Kalyanaramar, Thenkaraikottai	C	Absent
114	Nanjundeswarar, Thenkaraikottai ≡	C	Absent
115	Margasahayar, Bhommasamuthiram ≡	B	*Strychnos nux-vomica*
116	Chennakesavaperumal, Indur	C	Absent
117	Annamalaiar, Indur ≡	B	Absent
118	Muthubasavesa, Kuthapadi ≡	B	Absent
119	Desanadhiswarar, Hogenakkal ≡	C	*Aegle marmelos*
120	Parameswararn, Palakode ≡	B	*Aegle marmelos*
121	Kadiriappan, Thirumalvadi	A	*Ficus benghalensis*
122	Aruneswarar, Karimangalam ≡	C	*Aegle marmelos*
123	Laxminarayanan, Adakapadi	B	Absent
124	Someswarar, Kadakathur ≡	B	*Aegle marmelos*
125	Laxminarayanaperumal, Kambainallur	C	*Nyctanthes arbor-tristis*
126	Desanadhiswarar, Kambainallur ≡	C	*Aegle marmelos*
127	Chennakesavaperumal, Morappur	C	*Nyctanthes arbor-tristis*
128	Perumalappan, Sivadi	B	Absent
129	Kasiviswanathar, Sivadi ≡	B	Absent
130	Choleeswarar, Adiyamankottai ≡	B	*Aegle marmelos*
131	Chendrayaperumal, Irumathur	C	Absent
132	Chindamaniswarar, Irumathur ≡	C	*Aegle marmelos*
133	Hariharanathar, Dharmapuri ≡	C	*Jasminum cuspidatum*
134	Prasannavenkatramanasamy, Dharmapuri	C	*Calophyllum inophyllum*

Dindigul District

No	Temple Name and Location	Age of Temple	Sthalavriksha species
135	Sowndirarajaperumal, Thadikombu	C	*Aegle marmelos*
136	Kadirnarashimaperumal, R.Chaithiram	B	*Azadirachta indica*
137	Gopinathasamy, Kamachipuram	B	*Wrightia tinctoria*
138	Katharinarashimaperumal, Ammaianayakkanur	B	*Aegle marmelos*
139	Dhandayuthapani, Palani †	C	Absent
140	Thiruavinankudi, Palani ≡	C	*Phyllanthus emblica*
141	Laxminarshimar, Bathalagundu	B	Absent
142	Viswanathar, Bathalagundu ≡	C	*Aegle marmelos*
143	Chendrayaperumal, Palayabathalagundu	B	*Albizia amara*
144	Natrajar, Nilakkottai ≡	B	*Aegle marmelos*
145	Agobilanarashimar, Nilakkottai	C	*Aegle marmelos*
146	Malliswarar, Vellathampatti ≡	B	*Ficus religiosa*
147	Thimmarayaperumal, Vellathampatti	B	Absent
148	Sundereeswarar, D. Gudalur ≡	B	*Aegle marmelos*
149	Sundarajaperumal, D. Gudalur	C	Absent
150	Viswanathar, Thindakkal ≡	B	Absent
151	Kailasanathar, Natham ≡	C	*Aegle marmelos*
152	Narashingaperumal, Vedasanthur	B	Absent
153	Kasiviswanathar, Vedasanthur ≡	B	*Aegle marmelos*
154	Kalahasthiswarar, Dindigul ≡	C	*Phyllanthus emblica*
155	Subramaniasamy, Thirumalaikeni †	B	*Syzygium cumini*
156	Kasiviswanathar, Aathur ≡	B	*Aegle marmelos*
157	Venkatasalapathyperumal, Siddayankottai	B	*Aegle marmelos*
158	Jegatheeswarar, Siddayankottai ≡	C	*Aegle marmelos*
159	Malliswarar, Mallayapuram ≡	B	*Albizia amara*
160	Somalingasamy, Kannivadi ≡	B	*Aegle marmelos*
161	Choleeswarar, Periakottai ≡	B	*Aegle marmelos*
162	Choleeswarar, Ayakudi ≡	C	*Aegle marmelos*
163	Kurunjiandavar, Kodaikanal †	C	*Strobilanthus kunthiana*
164	Kuzhalanthaivelappar, Poomparai †	A	*Michelia champaca*

Erode District

No	Temple Name and Location	Age of Temple	Sthalavriksha species
165	Mariamman, Bhannari ψ	B	Absent
166	Vedagiriswar, Bhavani ≡	B	*Ficus benghalensis*
167	Sangameswarar, Bhavani ≡	D	*Ziziphus mauritiana*
168	Muventhareswarar, Nasiyanur ≡	D	*Prosopis spicigera*
169	Choliswarar, Perundurai ≡	D	*Aegle marmelos*
170	Thondeswaramudayar, Erode ≡	C	*Prosopis spicigera*
171	Kasthrirangaperumal, Erode	C	*Aegle marmelos*
172	Magudeswarar, Kodumudi ≡	D	*Prosopis spicigera*
173	Bathrakaliamman, Mathipanur ψ	C	*Albizia amara*
174	Murugan, Sivanmalai ↑	C	*Capparis divaricata*
175	Veerakumarasami, Vellakoil ↑	C	*Ehretia ovalifolia*
176	Bhavaiswarar, Sathiyamangalam ≡	B	*Aegle marmelos*
177	Choliswarar, Vellakoil ≡	C	*Aegle marmelos*
178	Chokkanathar, Dharapuram ≡	C	*Aegle marmelos*
179	Agasthiswarar, Dharapuram ≡	D	*Cassia fistula*
180	Nageswarar, Vijayamangalam ≡	C	*Aegle marmelos*
181	Karivaradharajaperumal, V.mangalam	C	*Zizipus mauritiana*
182	Kasiviswanathar, Kangayam ≡	B	*Prosopis spicigera*
183	Agastheswarar, Kangayam ≡	C	*Aegle marmelos*
184	Jayangondeswarar, Nathakadayur ≡	C	*Bauhinia purpurea*
185	Putridangodeswarar, Arachalur ≡	B	*Ficus religiosa*
186	Arasalaiamman, Arachalur ψ	C	*Crateva magna*
187	Puspavaneswarar, Avalpoondurai ≡	C	*Aegle marmelos*
188	Dhamodaraperumal, Avalpoondurai	B	*Crateva magna*
189	Choliswarar, Muthur ≡	C	*Aegle marmelos*
190	Pondiswarar, Kannapuram ≡	C	*Aegle marmelos*
191	Sukriswarar, Sarkarperiapalayam ≡	D	*Aegle marmelos*
192	Kailasanathar, Uthukkuli ≡	C	*Aegle marmelos*
193	Vertivelayuthasamy, Kadithamalai ↑	B	*Wrightia tinctoria*
194	Chenniandavar, Chennimalali ↑	C	*Tamarindus indica*
195	Allaleswarar, Iengur ≡	B	*Phoenix sylvestris*
196	Choleswarar, Moolanur ≡	D	*Aegle marmelos*

Kanyakumari District

No	Temple Name and Location	Age of Temple	Sthalsvriksha species
197	Kasiviswanathar, Vadaseri ≡	B	*Prosopis spicigera*
198	Kasiviswanathar, Kanyakumari ≡	D	*Aegle marmelos*
199	Muthraman, Vadugapattu ψ	B	*Aegle marmelos*
200	Agasthiwarar, Agasthiswaram ≡	D	*Bauhinia recemosa*
201	Danumalayan, Suseendaram ≡	C	*Cassia fistula*
202	Yeduthaythmudaiar, Therur ≡	D	*Aegle marmelos*
203	Kailasanathar, Karuppukotai ≡	C	*Aegle marmelos*
204	Kasiviswanathr, Devakulam ≡	C	*Aegle marmelos*
205	Neelagandar, Kalkulam ≡	C	*Aegle marmelos*
206	Cholaraja, Nagarkoil ≡	C	*Aegle marmelos*
207	Mahadevar, Melangodu ≡	C	*Mangifera indica*
208	Mahadevar, Keralapuram ≡	C	*Aegle marmelos*
209	Mahadevar, Thiruvithankoadu ≡	C	*Ficus religiosa*
210	Vanamaleesvarar, Parvathipuram	A	*Seaevola plumieri*
211	Sadayappar, Thiruvidaikoadu ≡	B	*Ficus religiosa* *Ficus benghalensis* *Azadirachta indica*
212	Kumarasamy, Kumarakoil †	C	*Pterocarpus marsupium*
213	Mahadevar, Thirupparapu ≡	C	*Aegle marmelos*
214	Nandhiswarar, Thirunanthikarai ≡	C	*Ficus religiosa*
215	Madhusuthanaperumal, Parakkai	B	*Calophyllum inophyllum*
216	Mahadevar, Thirunanthikarai ≡	C	*Artocarpus hirsutus*
217	Achaleeswarar, Thumbakodu ≡	B	*Schleichera oleosa*
218	Mahadevar, Parakkai ≡	B	*Calophyllum inophyllum*
219	Mahadevar, Ponmanai ≡	C	*Aegle marmelos*
220	Mahadevar, Pannipagam ≡	B	*Mangifera indica*
221	Mahadevar, Munjirai ≡	B	*Phyllanthus emblica*
222	Parthasarathy, Puthukadai	C	*Ficus religiosa*
223	Mahadevar, Thirunarttalam ≡	C	*Canthium diccocum*
224	Mahadevar, Thirupantrikodu ≡	C	*Ficus religiosa*
225	Mahadevar, Thikkuruchi ≡	C	*Ficus religiosa*
226	Bhuthalingar, Bhuthappandi ≡	C	*Aegle marmelos*
227	Ragawesurar, Therisanagkopu ≡	B	*Nyctanthes arbor-tristis*
228	Srikandaeswaramuadaiyar, Kadukkarai ≡	B	*Aegle marmelos*
229	Vadakkuvasalselvi, Kadukkarai ψ	B	*Azadirachta indica*
230	Mahadevar, Anaikarai ≡	B	*Ficus religiosa*
231	Panjananthiswar, Esanthimangalam ≡	B	*Mangifera indica*
232	ArulmoliMahadevar, Vadaseri ≡	C	*Ficus religiosa*
233	Uthyamarthandaswarar, Irachakulam ≡	B	*Aegle marmelos*
234	Umeswaramudaiyar Nayanar, Thuvarankoadu ≡	C	*Aegle marmelos*
235	Kodeswaramudaiyar Nayanar, Seethapal ≡	C	*Aegle marmelos*
236	Thenparaividagan, Thenparai ≡	B	*Ficus benghalensis*
237	Jeyanthiswaraudaiya Nayanar, Azhkiyapandipuram ≡	D	*Aegle marmelos*

Kanchipuram District

No	Temple Name and Location	Age of Temple	Sthalavriksha species
238	Nageswarasamy, Kundrathur ≡	C	*Michelia champaca*
239	Ramanatheeswarar, Sirukalathur ≡	C	Absent
240	Amaratheeswarar, Sirukalathur ≡	B	*Crateva magna*
241	Sundreswarar, Koavur ≡	C	*Naringi crenulata*
242	Someswarar, Thandalam ≡	B	Absent
243	Kandaleeswarar, Kundrathur ≡	C	*Aegle marmelos*
244	Kottaimurugan, Vallakottai ↑	D	*Stereospermum chelonoides*
245	Irulneekiyaeswaran, Irayur ≡	C	*Anthocephalus cadamba*
246	Ekambareswarar, Kanchi ≡	D	*Mangifera indica*
247	Suregeswarar, Kanchi ≡	C	*Aegle marmelos*
248	Kailasanathar, Kanchi ≡	D	*Aegle marmelos*
249	Kachaleeswarar, Kanchi ≡	D	*Butea monosperma*
250	Vaikundaperumal, Kanchi ∪	D	Absent
251	Oneswarar, Kanchi ≡	D	*Tamarindus indica*
252	Sathayanadeswarar, Kanchi ≡	D	Absent
253	Thirumakaraleeswarar, Makaral ≡	D	*Citrus aurantifolia*
254	Varatharajaperumal, Kanchi ∪	D	*Ficus religiosa*
255	Ruthrakottiswarar, Kanchi ≡	C	*Ficus recemosa*
256	Metraleeswarar, Kanchi ≡	D	*Mangifera indica*
257	Choleeswarar, Kanchi ≡	C	*Aegle marmelos*
258	Kailasanathar, Sevulimedu, Kanchi ≡	B	*Aegle marmelos*
259	Anekathagavathaneswarar, Kanchi ≡	D	Absent
260	Pantriswarar, Dhamal ≡	D	*Aegle marmelos*
261	Thiruvaleeswarar, Aarpakkam ≡	C	*Aegle marmelos*
262	Adikesavaperumal, Aarpakkam ∪	B	*Nyctanthes arbor-tristis*
263	Veertrirunthaperumal, Makaral ∪	C	Absent
264	Viyakkarapulisearar, Thirupulivanam ≡	D	*Aegle marmelos*
265	Bhakthavatchalaeswarar, Thirukkazhukundaram ≡	D	*Musa paradisiaca*
266	Vedagiriswarar, Thirukkazhukundaram ≡	D	Absent
267	Sthalasayanaperumal, Mamallapuram ∪	D	*Calophyllum inophyllum*
268	Ekambaranathar, Chengalpattu ≡	B	*Aegle marmelos*
269	Sundaravaradarajaperumal, U. merur ∪	C	Absent
270	Balasubramaniar, Utharamerur ↑	C	Absent
271	Rettaithaligaieswarar, Utharamerur ≡	C	*Aegle marmelos*
272	Vaigundaperumal, Utharamerur ∪	C	Absent
273	Kailasanathar, Utharamerur ≡	C	Absent
274	Adikesavaperumal, Sriperumputhur ∪	C	Absent
275	Bhudapuriswarar, Sriperumputhur ≡	C	*Mimusops elengi*
276	Subramaniyar, Kundrathur ↑	B	*Aegle marmelos*

Karur District

No	Temple Name and Location	Age of Temple	Sthalavriksha species
277	Kalayanapasupathiswar, Karur ≡	D	*Saraca asoca*
278	Kasiviswanathar, Nerur ≡	B	*Aegle marmelos*
279	Agastheeswarar, Thirumukkudal ≡	C	*Ficus benghalensis*
280	Agnipuriswarar, Nerur ≡	C	Absent
281	Kalyanavihirtheeswarar, Venjamakudal ≡	D	*Aegle marmelos*
282	Kasiviswanathar, Aravakuruchi ≡	B	*Aegle marmelos*
283	Kasiviswanathar, Rajapuram ≡	B	*Prosopis spicigera*
284	Munimukdeeswarar, Chinnadarapuram ≡	C	*Aegle marmelos*
285	Kalyanavenkatramanaperumal, K. Paramathi ∪	B	Absent
286	Sadieswarar, K. Paramathi ≡	B	Absent
287	Kalyanamaragatheeswarar, Molapalayam ≡	B	*Crateva magna*
288	Kasiviswanathar, Periaandankoil ≡	B	Absent
289	Vanjuleeswarar, Karur ≡	D	*Aegle marmelos*
290	Kalyanavenkatramanasamy, Thanthonimalai ∪	D	Absent
291	Raveeswarasamy, Vangal ≡	B	Absent
292	Chinthamaniswarar, Nanniyur ≡	B	*Prosopis spicigera*
293	Manikandeeswarar, Manmangalam ≡	B	Absent
294	Balasubramaniar, Vennaimalai †	B	Absent
295	Pukazhimalaimurugan, Pugalur †	C	Absent
296	Kadambavaveswarar, Kulithalai ≡	D	*Anthocephalus cadamba*
297	Rathnagiriswarar, Iyarmalai ≡	D	*Azadirachta indica*
298	Sivapuriswarar, Sivayam ≡	C	*Aegle marmelos*
299	Kalyanasundreeswarar, Thohaimalai ≡	B	*Wrightia tinctoria*
300	Meenakshisundereswarar, Kulithalai ≡	B	*Aegle marmelos*
301	Neelamehaperumal, Kulithalai ∪	B	Absent
302	Kaiviswanathar, Manathattai ≡	B	Absent
303	Simmapuriswarar, Karupathur ≡	B	*Aegle marmelos*
304	Yoganarashimmar, Chinthalvadi ∪	B	*Absent*
305	Kasiviswanathar, Mahadanapuram ≡	C	*Aegle marmelos*
306	Someswarar, Mettumahadanapuram ≡	C	Absent
307	Thirukanmaliswarar, Krishnarayapuram ≡	C	*Aegle marmelos*
308	Azhahiyanachiamman, P. Jeyankondam ψ	B	Absent
309	Alavandeeswarar, Palayajayankondam ≡	C	Absent
310	Mathiyapuriswarar, Manaseri ≡	B	Absent
311	Viyakkarapuriswarar, Puliyur ≡	C	*Aegle marmelos*
312	Choleeswarar, Nathamedu Athur ≡	C	*Aegle marmelos*
313	Abayapradana Ranganathar, Karur ∪	C	*Ziziphus mauritiana*

Krishnagiri District

No	Temple Name and Location	Age of Temple	Sthalavriksha species
314	Somanadeswarar, Rayakottai ≡	B	Absent
315	Laxminarayanperumal, Rayakottai	C	Absent
316	Narshimmaperumal, Krishnagiri	C	Absent
317	Someswarar, Krishnagiri ≡	B	*Aegle marmelos*
318	Kaviswarar, Krishnagiri ≡	B	*Aegle marmelos*
319	Nagariswarar, Kaveripattinam ≡	B	*Aegle marmelos*
320	Prasanavenkatramasamy, Kaveripattinam	C	*Nyctanthes arbor-tristis*
321	Jalakandeesearar, Kaveripattinam ≡	C	*Aegle marmelos*
322	Iravadeeswarar, Sulakkarai ≡	C	*Cassia fistula*
323	Perumalappan, Sulakkarai	B	Absent
324	Kasiviswanathar, Uthangarai ≡	C	*Aegle marmelos*
325	Laxminarayanaperumal, Uthangarai	B	Absent
326	Ranganathar, Devarkulam	C	*Ficus benghalasis*
327	Penneswarar, Penneswararmadam ≡	C	Absent
328	Someswarar, Barur ≡	C	*Aegle marmelos*
329	Laxminarayanaperumal, Barur	B	Absent
330	Adikesavaperumal, Arasampatti	B	*Aegle marmelos*
331	Gopinathasamy, Arasampatti	B	Absent
332	Laxmivenkatramana, Hosur	C	Absent
333	Chandirasudeswarar, Hosur ≡	C	*Aegle marmelos*
334	Varadarajaperumal, Sulagiri	C	Absent
335	Kasiviswanathar, Sulagiri ≡	B	*Aegle marmelos*
336	Kalahasthiswarar, Sulagiri ≡	B	*Aegle marmelos*
337	Iravadeswarar, Athimugham ≡	C	*Aegle marmelos*
338	Kailasanathar, Berigai ≡	B	*Aegle marmelos*
339	Laxmivenkatramana, Berigai	B	Absent
340	Hariheswarasamy, Madakondapalli ≡	C	*Aegle marmelos*
341	Gangadeeswarar, Thally ≡	C	*Aegle marmelos*
342	Venugopalakrishnan, Thally	B	Absent
343	Devarajeswarar, Denkanikottai ≡	C	*Aegle marmelos*
344	Pettarayasamy, Therpettai	C	*Ziziphus mauritiana*
345	Venkatesaperumal, Mallapadi	B	Absent
346	Thirthathuudaiyar, Thirtham ≡	C	*Aegle marmelos*

Madurai District

No	Temple Name and Place	Age of Temple	Sthalavriksha species
347	Sundraswarar, Madurai ≡	D	*Anthocepalus cadampa*
348	Subramaniyar, Thiruparankundram †	D	*Ficus mollis*
349	Thirumarainathasamy, Thiruvadavur ≡	D	*Mimusops elengi*
350	Navaneethakrishnan, Madurai	B	Absent
351	Sundararajaperumal, Azhakarkoil	D	*Santalum album*
352	Cholaimalaimurugan, Pazhamuthircholai †	D	*Syzygium cumini*
353	Prasannavenkatasalapathi, Thallakulam	C	Absent
354	Kudazhahiyaperumal, Madurai	D	*Ensete edule*
355	Madanagopalasamy, Madurai	C	Absent
356	Inmaiyilnanmaitharuvar, Madurai ≡	C	*Naringi crenulata*
357	Muktheeswarar, Theppakulam ≡	B	*Aegle marmelos*
358	Thiruvappudaiyar, Appanur ≡	D	Absent
359	Yedaganathasamy, Thiruvedakam ≡	D	*Aegle marmelos*
360	Piralayanathasamy, Cholavanthan ≡	B	*Aegle marmelos*
361	Mulanathasamy, Thenkarai ≡	C	*Aegle marmelos*
362	Janagainarayanaperumal, Cholavanthan	D	Absent
363	Chidarathavallabaperumal, Kuruvikarai	C	Absent
364	Sokkanathar, Thirumangalam ≡	C	*Aegle marmelos*
365	Venkatasalapathy, Sindupatti	B	Absent
366	Yoganarashimaperumal, Narashingam	D	Absent
367	Kalamehaperumal, Thirumohur	D	*Aegle marmelos*
368	Kalyanasundareswarar, Melur ≡	B	*Aegle marmelos*
369	Agastheeswarar, Thiruchunai ≡	C	*Syzygium cumini*
370	Choleeswarar, Chokkanathapuram ≡	C	*Aegle marmelos*
371	Thirukottiswaramudayar, Tharkakudi ≡	C	*Ziziphus mauritiana*
372	Veeraraghavaperumal, Vandiyur	B	Absent
373	Kalyanasundareswarar, Avaniyapuram ≡	B	*Aegle marmelos*
374	Thiruvengataperumal, Usilampatti	B	Absent
375	Gopalasamy, Thidiyan	C	Absent
376	Kailasanathar, Thidiyan ≡	C	*Lepisanthes tetraphylla*
377	Sundareswarar, Melathirumanickam ≡	C	*Morinda pubescens*
378	Agniswarar, T. Kallupatti ≡	C	*Aegle marmelos*
379	Sundaramahalingam, Sapptur ≡	C	Absent

Nagapattinam District

No	Temple Name and Location	Age of Temple	Sthalavriksha species
380	Sivaloganathar, Achalpuram ≡	D	*Mangifera indica*
381	Thirumeniyalagar, Mahenthirapalli ≡	D	Absent
382	Mullaivanananthar, Thirumullaivayil ≡	D	*Jasminum auriculatum*
383	Velvidainathar, Thirukurukavur ≡	D	*Aegle marmelos*
384	Kutramporuthanathar, Thalaignyiru ≡	D	*Jasminum auriculatum*
385	Kunthalanadeswar, Thirukurakkaval ≡	D	Absent
386	Sivaloganathar, Thirupungur ≡	D	*Pongamia pinnata*
387	Vaidiyanathar, Vaideeswarankoil ≡	D	*Azadirachta indica*
388	Kalyanaranganathar, Thirunagari	D	*Aegle marmelos*
389	Pallavanathar, Poompukar ≡	D	Absent
390	Thirusaikadudaiyar, Thirusaikadu ≡	D	Absent
391	Thiruvalampuranathar, Vallapuram ≡	D	*Borassus flabellifer*
392	Kudamadukuthar, Arimeyavinagaram	D	*Butea monosperma*
393	Madangeesar, Nangur ≡	D	*Prosopis spicigera*
394	Sangaraneswar, Thalaisangkadu ≡	D	*Butea monosperma*
395	Brammapuriswar, Thirukadavur ≡	D	*Cassia fistula*
396	Amirthakadeswar, Thirukadavur ≡	D	*Jasminum grandiflorum*
397	Kameshwarar, Thiruvidaikazhi ≡	D	*Tarenna asiatica*
398	Rathinagirisar, Thirumarugal ≡	D	*Musa paradisiaca*
399	Somanathar, Needur ≡	D	*Mimusops elengi*
400	Manavalaweswar, Thiruvelvikudi ≡	D	*Aegle marmelos*
401	Uthwedeswar, Uthalam ≡	D	*Cordia myxa*
402	Kalyanasundaram, Thirumanacheri ≡	D	Absent *Aegle marmelos* *Prosopis spicigera*
403	Mathyaneswar, Thirumanacheri ≡	D	*Aegle marmelos*
404	Manikavannar, Valholiputhur ≡	D	*Albizia lebbek*
405	Neelagandar, Iluppaipattu ≡	D	*Madhuca longifolia*
406	Veeratuswarar, Korukkai ≡	D	*Terminalia chebula*
407	Mayuranathar, Mayiladuthurai ≡	D	*Mangifera indica*
408	Thuraikattumvallar, Thiruvillanagar ≡	D	*Andropogon sp*
409	Veerateswar, Thirupariyalur ≡	D	*Aegle marmelos*
410	Thanthontriswar, Thiruakkur ≡	C	*Cassia fistula*
411	Swarnapuriswar, Sembanarkoil ≡	D	*Aegle marmelos*
412	Surageeswar, Sembanarkoil ≡	D	*Aegle marmelos*
413	Laxmipuriswar, Thiruniriyur ≡	D	Absent
414	Kannayaramudaiyar, Kurumanakudi ≡	D	*Cassia fistula*
415	Kadaimudinathar, Keezhyur ≡	D	*Commiphora caudata*
416	Vadavaranyaweswarar, Thiruvalankadu ≡	D	Absent
417	Komugtheswarar, Thiruvaduthurai ≡	D	*Ficus religiosa*
418	Bhramapuriswarar, Dharmapuram ≡	C	*Aegle marmelos*
419	Bhramapuriswar, Amparperunthirukoil ≡	D	*Calophyllum inophyllum*

420	Navaneetheswarar, Sikkal ≡	D	*Jasminum sambac*
421	Kayakaronar, Nagai ≡	D	*Calophyllum inophyllum*
422	Agnipuriswarar, Thirupugalur ≡	D	*Calophyllum inophyllum*
423	Ganapathiswarar, Thiruchengattankudi ≡	D	*Bauhinia recemosa*
424	Thirupayitrunathar, Thirupayaithangudi ≡	D	*Ochna obtusata*
425	Veerateswarar, Virkudi ≡	D	*Ocimum tenuiflorum*
426	Sowndreswarar, Thirupanaiyur ≡	D	*Borassus flabellifer*
427	Kolilinathar, Thirukuvalai ≡	D	*Strychnos potatorum*
428	Vaimurnthar, Thiruvaimur ≡	D	*Artocarpus heterophyllus*
429	Sowndireswarar, Yettukudi ≡	D	*Prosopis spicigera*
430	Manathunainathar, Valivalam ≡	D	*Calophyllum inophyllum*
431	Ramanathasmy, Ramanandhiswaram ≡	D	Absent
432	Thirumulanathar, Keelthanjavur ≡	D	Absent
433	Viswanathar, Vazhalakudi ≡	B	*Nyctanthes arbor-tristis*
434	Viswanathar, Thulasiapattinam ≡	B	*Syzygium cumini*
435	Bhairavar, Thakattur ≡	D	*Syzygium cumini*
436	Navakodisiddar, Kodiakkarai ≡	D	Absent
437	Kuzhakar, Kodiakkarai ≡	D	Absent
438	Agnipuriswarar, Agathianpalli ≡	D	*Prosopis spicigera*
439	Vedaranyaeswarar, Vadaranyam ≡	D	*Prosopis spicigera* *Calophyllum inophyllum*
440	Yelumeshwarar, Koilkulam ≡	B	Absent
441	Dhanuskodeeswarar, Panjanadikulam ≡	D	Absent
442	Pannakaraparameswarar, Pannaitheru ≡	C	*Calophyllum inophyllum*
443	Agastheeswarar, Vilathur ≡	D	Absent
444	Bhrammapuriswarar, Thirusargamangai ≡	C	*Cassia fistula*
445	Sowndararajaperumal, Nagai ∪	D	*Mangifera indica*
446	Sundareswarar, Poravacheri ≡	B	Absent
447	Kediliappar, Keelvelur ≡	D	*Ziziphus mauritiana*
448	Vedapuriswarar, Thevur ≡	D	*Musa paradisiaca*
449	Vedapuriswarar, Satiyakudi ≡	C	*Prosopis spicigera*
450	Nadutharinathar, Koilkandappur ≡	D	Absent
451	Rishipapuriswarar, Kundaiyur ≡	D	*Bauhinia racemosa*
452	Ranganathaperumal, Kizhayur ∪	B	Absent
453	Arunachaleswarar, Kizlayur ≡	B	*Artocarpus heterophyllus*
454	Umamaheswarar, Konerirajapuram ≡	D	*Ficus religiosa*
455	Bhrammapuriswarar, Sirkazhi ≡	D	*Nyctanthes arbor-tristis* *Bambusa arundinacea*
456	Suvedavanaeswarar, Thiruvenkadu ≡	D	*Cassia fistula* *Ficus benghalensis* *Aegle marmelos*
457	Sowndirarajaperumal, Thirukannapuram ∪	D	Absent
458	Vijayagodandaramasamy, Mahendirapalli ∪	C	Absent
459	Thalapuriswarar, Thirukolaca ≡	D	*Cassia fistula*

Namakal District

No	Temple Name and Location	Age of Temple	Sthalavriksha species
460	Arapaleeswarar, Kollimalai ≡	D	Absent
461	Arthanariswarar, Thiruchenkodu ≡	D	*Madhuca longifolia*
462	Kasiviswanathar, Thiruchenkodu ≡	C	*Prosopis spicigera*
463	Narasingaperumal, Namakal	D	*Artocarpus heterophyllus*
464	Kailasanathar, Rasipuram ≡	C	*Aegle marmelos*
465	Veereswarar, Pattanam ≡	B	*Prosopis spicigera*
466	Venugopalasamy, Namagiripettai	B	*Aegle marmelos*
467	Chevantheswarar, Sirappalli ≡	D	Absent
468	Kasiviswanathar, P. Velur ≡	B	Absent
469	Ranganathar, Namakal	D	Absent
470	Godandaramasamy, Paramathy	B	Absent
471	Bhimeswarar, Mavurutti ≡	B	Absent
472	Balasubramaniar, Kabilarmalai †	C	Absent
473	Kasiviswanathar, Pandamangalam ≡	B	*Prosopis spicigera*
474	Kalyanapresanavenkatramanasamy, Pandamangalam	B	Absent
475	Pandeeswarar, Kuttchipalayam ≡	C	*Prosopis spicigera*
476	Neelagandeeswarar, Vengarai ≡	C	*Aegle marmelos*
477	Vengaraiamman, Vengarai ψ	B	*Bauhinia recemosa*
478	Kasiviswanathar, Pothanur ≡	B	Absent
479	Thiruvoleeswarar, Nanjai Idaiyaru ≡	D	Absent
480	Bhimeswarar, Manapalli ≡	B	Absent
481	Asaladeepeswarar, Mohanur ≡	D	*Aegle marmelos*
482	Sundarapandeeswarar, Kumaramangalam ≡	C	*Naringi crenulata*
483	Sirkazhinathar, Unchanai ≡	B	Absent
484	Suyambueswarar, Puthur ≡	C	*Aegle marmelos*
485	Balamurugan, Vaippamalai †	B	Absent
486	Choleeswarar, Mallasamuthram ≡	C	*Aegle marmelos*
487	Varadarajaperumal, Mallasamuthram	B	Absent
488	Kandasamy, Kalipattai †	B	*Prosopis spicigera*
489	Chentrayaperumal, Kalipatti	B	*Capparis divaricata*
490	Bhrammalingeswarar, Kokkarayanpettai ≡	B	*Ziziphus mauritiana*

Nilagiri District

No	Temple Name and Location	Age of Temple	Sthalavriksha species
491	Kasiviswanathar, Kanthal ≡	B	*Magnolia grandiflora*

Perambalur District

No	Temple Name and Location	Age of Temple	Sthalavriksha species
492	Madurakaliamman, Chiruvachur ψ	B	*Terminalia arjuna*
493	Madanagopal, Perambalur	C	*Tabernaemontana heyneana*
494	Bhrammapuriswarar, Perambalur ≡	C	*Aegle marmelos*
495	Valiswarar, Valikandapuram ≡	C	*Crateva magna*
496	Jotheeswarar, Thirumandurai ≡	C	Absent
497	Marudandeeswarar, Pennakonam ≡	C	Absent
498	Varadarajaperumal, Pennakonam	C	Absent
499	Abaradaratshahar, S. Aduthurai ≡	C	*Ficus recemosa*
500	Panjanadhiswarar, Kurumbalur ≡	C	Absent
501	Arunachalaeswarar, Melapuliyur ≡	B	Absent
502	Viruthasalaeswarar, Venganur ≡	C	*Prosopis spicigera*
503	Kailasanathar, Arumbavur ≡	D	*Aegle marmelos*
504	Kasiviswanathar, Thondaimanthurai ≡	D	*Aegle marmelos*
505	Dharupuriswarar, Vengalam ≡	C	*Aegle marmelos*
506	Kalahasthiswarar, Esanai ≡	B	*Aegle marmelos*
507	Venugopalasamy, Esanai	C	Absent
508	Ekambareswarar, Chettikulam ≡	C	*Aegle marmelos*
509	Kasivisvanathar, Sathanur ≡	C	*Prosopis spicigera*
510	Kasivisvanathar, Iluppaikudi ≡	B	Absent
511	Varadarajaperumal, Iluppaikudi	B	Absent
512	Adeeswarasamy, Kolakanatham ≡	B	*Aegle marmelos*
513	Venugopalan, Kolakalnatham	B	Absent
514	Peruvudaiyar, Gangaikondacholapuram ≡	C	*Calophyllum inophyllum*
515	Kodandaramasamy, Ariyalur	C	*Aegle marmelos*
516	Alanduraiyar, Ariyalur ≡	C	*Aegle marmelos*
517	Kailasanathar, Ariyalur ≡	C	*Guettarda speciosa*
518	Kaliyugavaradarajaperumal, Kallankuruchi	B	*Crateva magna*
519	Ponnapaeswarar, Oottakoil ≡	B	*Aegle marmelos*
520	Rajagambireswarar, Rayapuram ≡	B	*Aegle marmelos*
521	Laxminarayanaperumal, Rayapuram	B	Absent
522	Dhirugapuriswarar, Chennivanam ≡	C	*Prosopis spicigera*
523	Varadarajaperumal, Senthurai	C	Absent
524	Sivathandaveswarar, Senthurai ≡	D	*Aegle marmelos*
525	Kalumalainathar, Jayakondacholapuram ≡	C	*Phyllanthus emblica*
526	Varadarajaperumal, Jayakondacholapuram	C	Absent
527	Choliswarar, Jayakondacholapuram ≡	C	Absent
528	Pyireeniswarar, Udayarpalayam ≡	B	*Mimusops elengi*
529	Prasannavenkatesaperumal, Udayarpalayam	B	Absent
530	Alanduraiyar, Kilpaluvur ≡	D	*Ficus benghalensis*
531	Avanikandarvaeswarar, Keelayur ≡	C	*Aegle marmelos*
532	Sundareswarar, Melapaluvur ≡	C	*Ficus religiosa*
533	Vaidiyanadasamy, Thirimazhapadi ≡	D	*Borassus flabellifer*
534	Kailasanathar, Thirumanur ≡	C	*Aegle marmelos*

Pudukottai District

No	Temple Name and Location	Age of Temple	Sthalavriksha species
535	Kudiminathar, Kudimiyanmalai ≡	D	*Mimusops elengi*
536	Kailasanathar, Narthamalai ≡	D	Absent
537	Rajarajacholiswarar, Ponnamaravathy ≡	C	Absent
538	Azhahiyaperumal, Ponnamaravathy ∪	B	Absent
539	Thiruvalvoliswarar, Thirukalambur ≡	C	*Aegle marmelos*
540	Vaideeswarar, Thirukalambur ≡	C	*Musa paradisiaca*
541	Chokkalingeswarar, Venthanpatti ≡	C	*Prosopis spicigera*
542	Chokkalingaperuman, Melaisivapuri ≡	C	*Musa paradisiaca*
543	Athmanathar, Avudaiyarkoil ≡	D	*Pleiospermium alatum*
544	Arjuneswarar, Mimisal ≡	C	*Aegle marmelos*
545	Viruthapuriswarar, Thirupunavayil ≡	D	*Calophyllum inophyllum* *Atalantia monophylla* *Mimusops elengi*
546	Bhavaniswarar, Ponpethi ≡	C	*Strychnos nux-vomica*
547	Viswanathar, Aranthangi ≡	C	*Aegle marmelos*
548	Sundararajaperumal, Aranthangi ∪	B	Absent
549	Rajendiracholeeswarar, Aranthangi ≡	C	Absent
550	Kasiviswanathar, Erichi ≡	B	Absent
551	Ponanmbalanathasamy, Sillathur ≡	B	Absent
552	Subramaniyar, Chidambaraviduthi †	B	Absent
553	Agastheeswarar, Ettianthal ≡	C	Absent
554	Santhanathasamy, Pudukottai ≡	C	*Aegle marmelos*
555	Varadarajaperumal, Pudukottai ∪	B	Absent
556	Mahizhavaneswarar, Thirukokarnam ≡	D	*Mimusops elengi*
557	Viyakarapuriswarar, Thiruvengaivasal ≡	C	*Mimusops elengi*
558	Viruthapuriswarar, Annavasal ≡	D	*Aegle marmelos*
559	Kangeswarar, Thandiswaram ≡	B	*Terminalia bellirica*
560	Ponvasinathar, Iluppur ≡	C	*Mimusops elengi*
561	Muvarkoil, Kodumbalur ≡	C	Absent
562	Subramaniyar, Viralimalai †	C	*Crescentia cujeta*
563	Arungulathunathar, Thiruvarangulam ≡	D	*Bauhinia recemosa*
564	Namapuriswarar, Alangudi ≡	C	*Aegle marmelos*
565	Suganthaparimaleswarar, Thirumanacheri ≡	C	Absent
566	Bhakthaleeswarar, Ambukoil ≡	C	*Aegle marmelos*
567	Abathsahayeswarar, Gandarvakottai ≡	C	Absent
568	Kasiviswanathar, Adanakottai ≡	B	*Aegle marmelos*
569	Vamsathdarahar, Perungalur ≡	C	*Prosopis spicigera*
570	Agastheeswarar, Varappur ≡	C	*Mimusops elengi*
571	Uthamaneswarar, Keeranur ≡	C	*Mimusops elengi*
572	Sundareswarar, Arimalam ≡	C	Absent
573	Vilangiyamman, Arimalam ψ	C	*Alangium salvifolium*
574	Prasannameenakshisundareswarar, Rayavaram≡	B	Absent
575	Sathiyamurthy, Thirumeiyam ∪	D	*Ficus benghalensis*
576	Sathiyagiriswarar, Thirumeiyam ≡	D	*Mimusops elengi*

Ramanathapuram District

No	Temple Name and Location	Age of Temple	Sthalavriksha species
577	Ramanathasamy, Rameswararm ≡	D	Absent
578	Mangalanathar, Utharakosamangai ≡	D	*Ziziphus mauritiana*
579	Adijeganathasamy, Thirupullani ∪	D	*Ficus religiosa*
580	Chokkanathar, Keezhakarai ≡	C	*Aegle marmelos*
581	Kailanathar, Sayalkudi ≡	D	*Aegle marmelos*
582	Chensadainathar, Thirumalukandankottai ≡	C	*Anthocephalus cadamba*
583	Chokkanathar, Ramanathapuram ≡	C	*Aegle marmelos*
584	Kodandaramasamy, Melpatti ∪	B	Absent
585	Bhrammapuriswarar, Nochivayal ≡	B	*Aegle marmelos*
586	Naganathar, Nayinarkoil ≡	C	*Aegle marmelos*
587	Chokkanathar, Parthibanur ≡	D	*Crateva magna*
588	Attlachokkanathar, Melaperungarai ≡	B	*Ficus religiosa*
589	Sundareswarar, Paramakudi ≡	C	*Anthocephalus cadamba*
590	Chandrasekarar, Paramakudi ≡	B	Absent
591	Sundararajaperumal, Paramakudi ∪	B	*Ficus benghalensis*
592	Emaneswaramudayiar, Emaneswaram ≡	D	*Aegle marmelos*
593	Varadarajaperumal, Emaneswaram ∪	B	*Ficus religiosa*
594	Mukkthiswarar, Urapuli ≡	C	Absent
595	Kumarakadavul, Melakodumalur †	B	*Acacia sp*
596	Kalyanavaradarajaperumal, Abiramam ∪	B	*Aegle marmelos*
597	Sundareswarar, Kamuthi ≡	B	*Aegle marmelos*
598	Kailasanathar, Mandalamanickkam ≡	B	*Aegle marmelos*
599	Thilageswarar, Devipattinam ≡	C	*Aegle marmelos*
600	Kadaladithaadijeganathar, Devipattinam ∪	C	Absent
601	Mandiramurthy, Thirupalaikudi ≡	C	*Prosopis spicigera*
602	Kailasanathar, Rajasigamangalam ≡	D	*Aegle marmelos*
603	Chidambareswarar, Thondi ≡	C	*Aegle marmelos*
604	Unthiputhaperumal, Thondi ∪	C	Absent
605	Adirathneswarar, Thiruvadanai ≡	D	*Aegle marmelos*
606	Vanmiganathar, Thiruvoriyur ≡	D	*Aegle marmelos*
607	Thirumeninadhar, Aanathur ≡	C	Absent
608	Ekambareswarar, Sundarapandiapattinam ≡	C	*Aegle marmelos*

Salem District

No	Temple Name and Location	Age of Temple	Sthalavriksha species
609	Kailasanathar, Tharamangalam ≡	C	*Prosopis spicigera*
610	Mariamman,, Tharamangalam ψ	B	Absent
611	Vana Bhathrakali, Tharamangalam ψ	B	*Ficus religiosa*
612	Ilameswaran, Tharamangalam ≡	C	*Ficus virens*
613	Velayudasamy, Tharamangalam ↑	B	*Aegle marmelos*
614	Kaveriamman, Yearcaud ψ	B	*Ficus nervosa*
615	Annamalaiyar, Yercaud ≡	B	Absent
616	Chokkanathar, Mettur ≡	B	*Aegle marmelos*
617	Bathrakaliamman, Mecheri ψ	B	*Prosopis spicigera*
618	Malleswarar, Vellar ≡	B	*Aegle marmelos*
619	Madeswarar, Jalakandapuram ≡	B	*Aegle marmelos*
620	Suriswarar, Jalakandapuram ≡	B	*Ficus religiosa* *Azadirachta indica*
621	Laxminarashimar, Nangavalli	B	*Aegle marmelos*
622	Someswarar, Nangavalli ≡	B	*Aegle marmelos*
623	Kasiviswanathar, Omalur ≡	B	*Prosopis spicigera*
624	Vasantheeswarar, Omalur ≡	C	*Mimusops elengi*
625	Presannavenkatramanasamy, Chinnathirupathi	B	*Albizia amara*
626	Ekambaranathar, Kanjanayakanpatti ≡	B	*Prosopis spicigera*
627	Someswarar, Dharapuram ≡	C	Absent
628	Chokkanathar, Amarakunthi ≡	B	*Aegle marmelos*
629	Sukavaneswarar, Salem ≡	C	*Stereospermum colais*
630	Jalakandeswarar, Palavadi ≡	B	*Aegle marmelos*
631	Nanjundaeswarar, Eaipadi ≡	C	*Prosopis spicigera*
632	Pasupathiswarar, Vellanayakanpalayam ≡	B	*Aegle marmelos*
633	Kailasanathar, Poolampatty ≡	B	*Prosopis spicigera*
634	Siddeswarar, Kanjamalai ≡	B	Absent
635	Vaideeswaran, Madathur ≡	B	*Aegle marmelos*
636	Seerkazhiswarar, Aiynur ≡	B	*Aegle marmelos*
637	Karapuranathar, Uthamacholapuram ≡	D	*Aegle marmelos*
638	Someswarar, Sankagiri ≡	C	*Prosopis spicigera*
639	Thanthondriswarar, Pelur ≡	D	*Ficus benghalensis*

Sivagangai District

No	Temple Name and Location	Age of Temple	Sthalavriksha species
640	Kotravaliswarar, Kovilur ≡	C	*Prosopis spicigera*
641	Sanmughanathan, Kundrakudi ↑	D	Absent
642	Marutheesar, Pillayarpatti ≡	D	*Terminalia arjuna*
643	Valarlolinathar, Vairavanpatti ≡	C	*Alangium salvifolium*
644	Thiruthalinathar, Thirupathur ≡	D	*Cassia fistula*
645	Kailasanathar, Kandramanickkam ≡	B	*Aegle marmelos*
646	Suganthavanawesvarar, Perichikoil ≡	B	*Prosopis spicigera*
647	Somasundarar, Pattamangalam ≡	D	*Ficus benghalensis*
648	Soemiyanarayanaperumal, Thirukostiyur U	D	Absent
649	Sundareswarar, Kilsevalpatti ≡	C	Absent
650	Kailasanathar, Ilayathankudi ≡	C	*Aegle marmelos*
651	Mangaipagar, Thirukodungundram ≡	D	*Capparis zeylanicus*
652	Pariamarudeeswarar, Pariamaruthupatti ≡	C	*Terminalia arjuna*
653	Manamothakandazhiswarar, Nerkuppai ≡	C	*Aegle marmelos*
654	Ekambeswarar, Thiruvekambam ≡	C	*Aegle marmelos*
655	Rajendiracholeeswarar, Ilayangudi ≡	D	*Aegle marmelos*
656	Madanavenugopalaperumal, Ilayangudi U	C	Absent
657	Azhahiyavarathar, Thiruvallur Ô	B	*Manilkara hexandra*
658	Kasiviswanathar, Sivagangai ≡	B	*Aegle marmelos*
659	Sundararajan, Sivagangai U	B	Absent
660	Sasivarneswarar, Sivagangai ≡	C	*Aegle marmelos*
661	Swarnakaliswarar, Kallayarkoil ≡	D	*Bauhinia acuminata*
662	Karikalacholeeswarar, Nattarasankottai ≡	C	*Aegle marmelos*
663	Venkatesaperumal, Nattarasankottai □	B	Absent
664	Kannudayanayagi, Nattarasankottai ψ	B	Absent
665	Pushpavananathar, Thirupoovanam ≡	D	*Artocarpus heterophyllus*
666	Thirunokkia Azhahianathar, Thirupachethi ≡	C	*Nyctanthes arbor-tristis*
667	Thiyagavinodaperumal, Manamadurai U	C	Absent
668	Somanathasamy, Manamadurai ≡	D	*Aegle marmelos*
669	Veerazhakar, Manamadurai U	C	Absent
670	Arulmozhinathar, Cholapuram ≡	C	Absent
671	Chokkanathar, Karaikudi ≡	C	Absent
672	Someswarar, Kottaiyur ≡	C	Absent
673	Meenakshisundareswarar, V. Surakkudi ≡	C	*Ziziphus mauritiana*
674	Sornamurthiswarar, Kandadevi ≡	C	*Syzygium cumini*
675	Viswanathar, Eluvankottai ≡	C	Absent
676	Sundareswarar, Devakottai ≡	D	*Aegle marmelos*

Thanjavur District

No	Temple Name and Location	Age of Temple	Sthalavriksha species
677	Swaminathan, Swamimalai †	D	*Phyllanthus emblica*
678	Kasiviswanathan, Kumbakonam ≡	D	*Aegle marmelos*
679	Nageswarar, Kumbakonam ≡	D	*Aegle marmelos*
680	Sarangapani, Kumbakonam	D	Absent
681	Adikumbeswarar, Kumbakonam ≡	D	*Prosopis spicigera*
682	Sakkarapani, Kumbakonam	D	Absent
683	Irudayaweswarar, Tharasuram ≡	C	*Aegle marmelos*
684	Sadaimudinathar, Thiruvalansuli ≡	D	*Aegle marmelos*
685	Kodiswarar, Kottayaur ≡	D	*Ricinus communis*
686	Pasupathiswarar, Panthanallur ≡	D	*Cassia fistula*
687	Iyaruappar, Thiruvaiyar ≡	D	*Aegle marmelos*
688	Palanathar, Thirupalanam ≡	D	*Musa paradisiaca*
689	Sortuthurainathar, Sortuthurai ≡	D	*Aegle marmelos*
690	Vaitheswaran, Veerasiganpettai ≡	C	*Aegle marmelos*
691	Vedapuriswaran, Thiruvedikudi ≡	D	*Aegle marmelos*
692	Bhrammapuriswaran, Kandiyur ≡	D	*Aegle marmelos*
693	Punthuruthinathar, Punthuruthi ≡	D	*Aegle marmelos*
694	Neipadiyar, Thiruneithanam ≡	D	*Aegle marmelos*
695	Naganathar, Thirunageswaram ≡	D	*Michelia champaca*
696	Agastheswarar, Ivarpadi ≡	C	*Ficus benghalensis*
697	Tenupuriswarar, Pattiswaram ≡	D	*Prosopis spicigera*
698	Peruvudaiyar, Thanjavur ≡	C	*Prosopis spicigera*
699	Sensadayappar, Thirupanathal ≡	D	*Borassus flabellifer*
700	Vajreswarar, Vallam ≡	C	*Stereospermum colais*
701	Yoghanarashimaperumal, Vallam	C	*Santalum album*
702	Kongeswarar, Thanjavur ≡	B	*Mimusops elengi*
703	Rajagopalasamy, Thanjavur	C	*Ficus recemosa*
704	Ramalingeswarar, Papanasam ≡	C	*Aegle marmelos*
705	Papanasaperumal, Papanasam	C	*Calophyllum inophyllum*
706	Palaivananathar, Thiripalaithurai ≡	D	Absent
707	Mullaivananathar, Thirukarukavur ≡	D	*Jasminum auriculatum*
708	Kailasanathar, Uthukkadu ≡	C	*Aegle marmelos*
709	Pasupathiswarar, Aavur ≡	D	*Aegle marmelos*
710	Sivasuriyaperumal, Suriyanarkoil ≡	D	*Calotropis procera*
711	Prananathasamy, Thirumangalakudi ≡	D	Absent
712	Mahalingeswarar, Thiruvidaimaruthr ≡	D	*Terminalia arjuna*
713	Kambeswarar, Thirupuvanam ≡	D	*Aegle marmelos*
714	Sivayoganathar, Thiruvisayanallur ≡	D	*Mimusops elengi*
715	Karkadeswarar, Thiruthdevankudi ≡	D	Absent
716	Kolavalliramar, Thiruvelliyathankudi	D	*Musa paradisiaca*
717	Agnipuriswarar, Kanjanur ≡	D	*Butea monosperma*
718	Kodiswarar, Thirukodica ≡	D	*Calamus rotang*
719	Karumbeswarar, Koilvenni ≡	D	*Tabernaemontana divaricata*
720	Ramasamy, Kumbakonam	B	Absent
721	Someswarar, Kumbakonam ≡	D	*Aegle marmelos*

Theni District

No	Temple Name Location	Age of Temple	Sthalavriksha species
722	Kowmariamman, Veeapandi ψ	B	Absent
723	Kanniswaramudaiyar, Veeapandi ≡	C	*Aegle marmelos*
724	Gopinathasamy, Kottor ⊔	B	*Ficus religiosa*
725	Malligarjuneswarar, Kottor ≡	C	Absent
726	Malligarjuneswarar, Silayanpatti ≡	B	*Aegle marmelos*
727	Poolanandeeswarar, Chinnamanur ≡	D	*Securinega leucopyrus*
728	Suyambusaniswarar, Kuchanur ≡	C	*Dichrostachys cinerea*
729	Thirukallatheeswarar, Uthamapalayam ≡	C	*Michelia champaca*
730	Narashimmar, Uthamapalayam ⊔	C	Absent
731	Bhuthanarayanan, Surulimalai ⊔	C	*Schleichera oleosa*
732	Vellappar, Surulimalai †	B	Absent
733	Kasiviswanathar, Cumbam ≡	C	*Aegle marmelos*
734	Vanmeeganathar, Gudalur ≡	C	*Ficus benghalensis*
735	Kudazhahiyaperumal, Gudalur ⊔	C	Absent
736	Neelagandeswarar, Pudupatti ≡	B	Absent
737	Thirumalairayaperumal, Kombai ⊔	B	Absent
738	Ranganathar, Devaram ⊔	B	Absent
739	Avinashiswarar, Devaram ≡	C	*Ficus benghalensis*
740	Narashingaperumal, Rasingapuram ⊔	B	Absent
741	Srinivasaperumal, Bodi ⊔	B	*Aegle marmelos*
742	Subramaniyar, Bodi †	B	Absent
743	Rajendracholeeswarar, Periakulam ≡	C	*Lepisanthes tetraphylla*
744	Kalahastheeswarar, Periakulam ≡	C	*Limonia acidissima*
745	Varadarajaperumal, Periakulam ⊔	B	Absent
746	Pallikondaranganathar, Melmangalam ⊔	C	Absent
747	Mayapandeeswarar, Melmangalam ≡	C	*Prosopis spicigera*
748	Chokkanathar, Jayamangalam ≡	C	*Aegle marmelos*
749	Venkatesaperumal, Jayamangalam ⊔	B	Absent
750	U. Sowdararajaperumal, Kullapuram ⊔	B	Absent
751	Thiruneelagandeswarar, Kullapuram ≡	C	*Aegle marmelos*
752	Sundareswarar, Andipatti ≡	C	*Aegle marmelos*
753	K. Narashingaperumal, Jambuliputhur ⊔	C	*Mimusops elengi*
754	Kamachiamman, Devadanapatti ψ	B	*Bambusa arundinacea*
755	Kallatheeswarar, Ganguwarpatti ≡	C	*Aegle marmelos*

Thiruvannamalai District

No	Temple Name and Location	Age of Temple	Sthalavriksha species
756	Annamalaiyar, Thiruvanamalai ≡	D	*Mimusops elengi*
757	Valeeswarar, Kuranganilmuttam ≡	D	*Ziziphus mauritiana*
758	Vedanathar, Cheyyaru ≡	D	*Borassus flabellifer*
759	Thalapuriswarar, Thirupangadu ≡	D	*Borassus flabellifer*
760	Ramanathaeswarar, Venpakkam ≡	B	*Aegle marmelos*
761	Sankaranarayanan, Bhrammadesam ≡	B	Absent
762	Chandramowleeswarar, Bhrammadesam ≡	D	*Borassus flabellifer*
763	Kannigeswarar, Bhrammadesampudur ≡	C	Absent
764	Uthrakodiswarar, Bhrammadesampudur ≡	C	Absent
765	Ramanathaeswarar, Thirupanamur ≡	C	Absent
766	Jalakandeeswarar, Vandavasi ≡	C	*Aegle marmelos*
767	Thirumulattaneswarar, Thellaru ≡	D	*Aegle marmelos*
768	Tambeswarar, Seeyamangalam ≡	D	Absent
769	Ranganathar, Thirumalpadi	C	Absent
770	Kasiviswanathar, Desur ≡	B	*Aegle marmelos*
771	Adikesavaperumal, Desur	B	Absent
772	Thirumamundeeswarar, Kalasapakkam ≡	B	*Aegle marmelos*
773	Amirthalingeswarar, Pillur ≡	C	Absent
774	Karaikandeeswarar, Poondi ≡	C	*Aegle marmelos*
775	Palakirutheswarar, Pazhankoil ≡	B	*Aegle marmelos*
776	Varadarajaperumal, Pillur	B	Absent
777	Sowrganarayanaperumal, Kalasapakkam	B	*Mimusops elengi*
778	Laxminaryanaperumal, Polur	B	*Nyctanthes arbor-tristis*
779	Kailasanathar, Polur ≡	B	*Aegle marmelos*
780	Somanatheeswarar, Polur ≡	C	*Aegle marmalos*
781	Kailasanathar, Arani ≡	C	*Prosopis spicigera*
782	Varadarajaperumal, Arani	B	Absent
783	Gngaikondacholeeswarar, Kuzhamandal ≡	C	*Aegle marmelos*
784	Pesumperumal, Kuzhamandal	C	Absent
785	Renugambal, Padavedu ψ	C	*Mangifera indica*
786	Yogaramachandrasamy, Padavedu	C	*Michelia champaca*
787	Ramanatheeswarar, Kannamangalam ≡	B	*Aegle marmelos*
788	Ekambareeswarar, Nadukuppam ≡	B	*Aegle marmelos*
789	Virupatchieeswarar, Sambuvarayanallur ≡	C	*Aegle marmelos*
790	Chandrasekarar, Kamakkur ≡	D	*Mimusops elengi*
791	Rishibeswarar, Chengam ≡	C	*Mimusops elengi*
792	Venugopalaparthasarathy, Chengam	B	*Mimusops elengi*
793	Karaikandiswarar, Kanji ≡	C	*Aegle marmelos*

No	Temple Name and Location	Age of Temple	Sthalavriksha species
794	Thiyagesar, Thiruvarur ≡	D	*Stereospermum colais*
795	Iravatheswar, Kottram ≡	D	*Nyctanthes arbor-tristis*
796	Kailasanathar, Kudavasal ≡	D	*Citrus medica*
797	Sutsumapuriswar, Sirukudi ≡	D	*Aegle marmelos*
798	Pamureswar, Thirupampapuram ≡	D	*Prosopis spicigera*
799	Mukktheswar, Thithlaipathi ≡	D	*Bauhinia purpurea*
800	Piravimarundeesar, Thiruthuraipoondi ≡	D	*Aegle marmelos*
801	Agastheswarar, Poonthottam ≡	C	*Artabotrys hexapetalus*
802	Veezhinathar, Thiruveezhinathar ≡	D	*Cadaba fruticosa*
803	Mahalanathar, Koilthirumalam ≡	D	*Acacia chundra*
804	Parvatheeswarar, Injikudi ≡	C	*Santalum album*
805	Suyambunathasamy, Peralam ≡	C	*Aegle marmelos*
806	Maduvaneswarar, Nannilam ≡	D	*Aegle marmelos* *Michelia champaca* *Cochlospermum religiosum* *Hiptage benghalensis* *Pterocarpus marsupium*
807	Vanjinathar, Thiruvanjiyam ≡	D	*Santalum album*
808	Pasupatheswaram, Thirukandeswaram ≡	D	*Aegle marmelos*
809	Kannainathar, Thirukarayil ≡	D	Absent
810	Kaichinanathar, Kaichinam ≡	D	Absent
811	Agastheswarar, Palayangudi ≡	C	*Averrhoa carambola*
812	Nellivanathar, Thirunellica ≡	D	*Phyllanthus emblica*
813	Vellimalainathar, Thiruthengur ≡	D	*Cocos nucifera*
814	Agnipuriswarar, Thirukollikadu ≡	D	*Prosopis spicigera*
815	Thiruvendurai Nathar, Thiruvendurai ≡	D	*Aegle marmelos*
816	Ramanathasamy, Thirurameswaram ≡	C	Absent
817	Sundeswarar, Palaynur ≡	C	Absent
818	Jeganatheswarar, Ogaiperaiyur ≡	D	*Citrus pennivesiculata*
819	Arunachleswarar, Vadapathimangalam ≡	B	*Aegle marmelos*
820	Rathinapuriswarar, Thirunattiyathagudi ≡	D	*Crateva magna*
821	Vanmeganathar, Thiruneiperur ≡	D	*Artocarpus heterophyllus*
822	Umapatheswarar, Pandukudi ≡	C	Absent
823	Kodandaramasamy, Mudikondan	B	Absent
824	Sundeswarar, Iayanpettai ≡	C	*Prosopis spicigera*
825	Ekambaraeswarar, Anumanvanthakudi ≡	C	Absent
826	Viswanathar, Pattur ≡	C	*Cassia fistula*
827	Punniyakodiswarar, Thiruvidaivayil ≡	C	Absent
828	Sadurangavallabanathar, Puvanur ≡	D	*Artocarpus heterophyllus*
829	Naganathasamy, Pamani ≡	D	*Mangifera indica*
830	Rajagopalasamy, Mannarkudi	C	*Calophyllum inophyllum*
831	Kolundeeswarar, Kottur ≡	D	*Prosopis spicigera*
832	Maniambalanathar, Keelkottur ≡	D	*Prosopis spicigera* *Aegle marmelos*
833	Parijathavanaweswarar, Thirukalar ≡	D	*Nyctanthes arbor-tristis*

834	Azhahianathar, Kalappal ≡	D	Absent
835	Mandirapuriswarar, Muthupettai ≡	C	*Mangifera indica*
836	Thillaiambalanathar, Thillaivilakam ≡	C	Absent
837	Sargunanathasamy, Idumbavanam ≡	D	*Aegle marmelos*
838	Karpaganadasamy, Thirukadikulam ≡	D	*Artocarpus heterophyllus*
839	Neenerinathar, Thandalaicheri ≡	D	*Atalantia* sp
840	Saptharishiswarar, Ezhilur ≡	B	*Aegle marmelos*
841	Yedapuriswarar, Namam ≡	D	*Aegle marmelos*
842	Ranganathar, Adirangam	B	Absent
843	Varthamanaeeswarar, Sekal ≡	B	*Ziziphus mauritiana*
844	Somanadhasamy, Achudamangalam ≡	C	*Aegle marmelos*
845	Gothandaramasamy, Athambar	B	Absent
846	Agnipuriswarar, Anniyur ≡	D	*Prosopis spicigera*
847	Sarguneswarar, Karuvilikottadai ≡	C	*Artocarpus heterophyllus*
848	Jambuharanyewarar, Kunthalur ≡	D	Absent
849	Abathsahayar, Alankudi ≡	D	Absent

Thuthukudi District

No	Temple Name and Location	Age of Temple	Sthalavriksha species
850	Kallapiran, Srivaigundam	D	Absent
851	Vijiyasana Perumal, Srivaragunamangai	D	Absent
852	Srikasinivarathaperumal, Thirupuliangudi	D	*Borassus flabellifer*
853	Aravidalosanar, Tholavillimangalam	D	Absent
854	Srinivasan, Tholavillimangalam	D	*Limonia acidissima*
855	Thiruvalutheeswarar, Perungulam ≡	D	*Aegle marmelos*
856	Sridevarpiran, Perungulam	D	Absent
857	Maharanedunkuzhainathar, Thenthiruperai	D	*Aegle marmelos*
858	Kailasanathar, Thenthiruperai ≡	C	Absent
859	Vairamudiperumal, Thirukolur	D	Absent
860	Cheracholapandeeswarar, Thirukolur ≡	C	*Tamarindus indica*
861	Adinathaperumal, Alwarthirunagari	D	*Tamarindus indica*
862	Kailasanathar, Srivaigundam ≡	C	*Aegle marmelos*
863	Kailasanathar, Murappanadu ≡	C	Absent
864	Laxminarayanaperumal, Murappanadu	C	Absent
865	Thirumulanathar, Vallanadu ≡	B	Absent
866	Azhivilangunperumal, Vallanadu	C	Absent
867	Chokkalingam, Manakkarai ≡	C	*Aegle marmelos*
868	Veerapandeeswrar, Kongarayakuruchi ≡	C	*Aegle marmelos*
869	Marthandeeswarar, Karungulam ≡	C	Absent
870	Sivakolundeeswarar, Thiruchendur ≡	B	Absent
871	Senthilandavar, Thiruchendur †	D	Absent
872	K V K K Pandeeswarar, Kulasekarapattinam ≡	D	*Mangifera indica*
873	Srivinnavaramperumal, Kulasekarapattinam	C	Absent
874	Iyinduveettusamy, Chettipathu	C	*Bauhinia recemosa*
875	Karkuvel Ayynar, Therikudiyiruppu Ô	B	*Diospyros sp*
876	Sangumugaeswarar, Palayakayal ≡	B	Absent
877	Veeraraghavaperumal, Palayakayal	B	Absent
878	Chandarasekarasamy, Maramangalam ≡	B	Absent
879	Ramaparameswarar, Mukkani ≡	B	Absent
880	Someswarar, Aathur ≡	B	Absent
881	Kailasanathar, Senthapoomangalam ≡	C	*Absent*
882	Vaikundapathi, Thuthukudi	B	*Absent*
883	Sankrarameshwarar, Thuthukudi ≡	C	*Aegle marmelos*
884	Vaiswanathar, Ottapidaram ≡	C	Absent
885	Kasiviswanathar, Kulasekaranallur ≡	B	Absent
886	Kailasanathar, Pasuvanthanai ≡	C	*Aegle marmelos*
887	Poovananathar, Koilpatti ≡	C	*Carissa carandas*
888	Sundararajaperumal, Koilpatti	B	Absent
889	Kazhukachalamurthy, Kazhukumalai †	D	*Terminalia catappa*
890	Rajagopal, Koilpatti	B	Absent

No	Temple Nme and Location	Age of Temple	Sthalavriksha species
891	Suyambulingam, Uvari ≡	C	Absent
892	Sankara Nayinar, Sankarankoil ≡	D	*Calophyllum inophyllum*
893	Balasubramaniar, Puliankudi †	B	Absent
894	Chokanathar, Chinthamani ≡	C	*Aegle marmelos*
895	Madyanathasamy, Dharugapuram ≡	D	*Mangifera indica*
896	Chinthamaniswarar, Vasudevanallur ≡	C	*Tamarindus indica*
897	Venkadesaperumal, Vasudevanallur	C	Absent
898	Thiruneelagandar, Sivagiri ≡	B	Absent
899	Palvannanathar, Karivalamvanthanallur ≡	D	*Carissa carandas*
900	Thiripuranatheeswarar, Thenmalai ≡	C	*Mangifera indica*
901	Courtalanathar, Courtalam ≡	D	*Artocarpus heterophyllus*
902	Kasiviswanathar, Thenkasi ≡	C	*Michelia champaca*
903	Porundinintraperumal, Thenkasi	C	*Stereospermum colais*
904	Kariamanicaperumal, Kadayanallur	C	*Phyllanthus emblica*
905	Kadakaleeswarar, Kadayanallur ≡	C	*Aegle marmelos*
906	Venkadesaperumal, Nayinaragaram	C	Absent
907	Kulasekarnathar, Nayinaragaram ≡	C	Absent
908	Balasubramaniar, Ayikudi †	B	*Ficus religiosa* *Crateva magna* *Azadirachta indica* *Punica granatum* *Murraya koenigii*
909	Kalakandeswarar, Ayikudi ≡	B	*Aegle marmelos*
910	Laxminarayanaperumal, Ayikudi	B	Absent
911	Mahalingasamy, Kambili ≡	B	*Ficus microcarpa*
912	Srimoolanathar, Sambuvarvadakarai ≡	B	*Aegle marmelos*
913	Vedanarayanaperumal, Svkarai	C	Absent
914	Veerapandiswarar, Surandai ≡	C	*Aegle marmelos*
915	Thiruvaliswarar, Kilapavur ≡	C	Absent
916	Venkadasalapathyperumal, Kilapavur	C	Absent
917	Sadasivamurthy, Puliyari ≡	B	Absent
918	Madunathasamy, Elathur ≡	B	*Tamarindus indica*
919	Kulasekaranathasamy, Sencottai ≡	C	Absent
920	Azhahiyamanavalaperumal, Sencottai	B	Absent
921	Nagareeswarar, Paimpozhil ≡	D	Absent
922	Kumarasamy, Thirumalai †	C	*Tamarindus indica*
923	Ilangikumaran, Ilanji †	C	*Mimusops elengi*
924	Manathiappar, Kalidaikuruchi ≡	B	*Aegle marmelos*
925	Subramaniar, Kalidaikuruchi †	B	*Syzygium cumini*
926	Kulasekaramudayar, Kalidaikuruchi ≡	C	*Mangifera indica*
927	Papanasar, Papanasam ≡	D	*Carissa carandas*
928	Krishnasamy, Amabasamuthiram	C	Absent
929	Mathrubudeswarar, Ambai ≡	C	Absent
930	Veeramarthandeswarar, Ambai ≡	D	Absent

931	Rajagopalasamy, Mannarkoil	D	Absent
932	Kailasanathar, Kadayam ≡	C	*Aegle marmelos*
933	Vilvavananathar, Kadayam ≡	D	*Aegle marmelos*
934	Sivasilanadasamy, Sivasilam ≡	D	*Anthocephalus cadamba*
935	Sivanthiappar, Vikaramasingapuram ≡	B	*Aegle marmelos*
936	Thirumulanathasamy, Ambai ≡	D	*Phyllanthus emblica*
937	Kasinathar, Ambasamuthiram ≡	C	*Phyllanthus emblica*
938	Thiruvaliswarar, Thiruvalisuram ≡	C	*Mangifera indica*
939	Kailasanathar, Bhrammadesam ≡	C	*Zizipus mauritiana*
940	Arikesariswaramudaiyar, A K nallur ≡	C	*Aegle marmelos*
941	Puspavanameswarar, Thenthitibuvanam ≡	D	*Aegle marmelos*
942	Narunpoonathar, Thirupudaimaruthur ≡	C	*Terminalia arjuna*
943	Bhuminathasamy, Veeravanallur ≡	C	Absent
944	Sowndararajaperumal, Veeravanallur	C	Absent
945	Vikaramapandeeswarar, Veeravanallur ≡	C	Absent
946	Adivarahaperumal, Kallidaikuruchi	B	Absent
947	Venuvananathar, Tirunelveli ≡	D	*Bambusa arundinacea*
948	Vaidianathasamy, Cheranmadevi ≡	C	Absent
949	Ramanathasamy, Cheranmadevi	C	Absent
950	Ammananthasamy, Cheranmadevi	C	*Phyllanthus emblica*
951	Bhakthvachalaperumal, Cheranmadevi	D	Absent
952	Venkadasalapathy, Cheranmadevi	C	*Streblus asper*
953	Vilvavananathar, Pathamadai ≡	C	*Aegle marmelos*
954	Adithavarneswarar, Melasaval ≡	B	Absent
955	Vaikundapathi, Gangaikondan	C	Absent
956	Kailasanathar, Gangaikondan ≡	D	*Tamarindus indica*
957	Nellaiappar, Thachanallur ≡	B	*Aegle marmelos*
958	Ambalavanar, Manur ≡	C	Absent
959	Kailasanathar, Marandai ≡	C	*Prosopis spicigera*
960	Azhhiamannarajagopalar, Palayamkottai	C	*Mimusops elengi*
961	Ramasamy, Palayamkottai	C	Absent
962	Thiripurandeeswarar, Palayamkottai ≡	D	Absent
963	Thirunageswarar, Nanguneri ≡	C	Absent
964	Vanamamalai Perumal, Nanguneri	B	*Mangifera indica*
965	Sathiyavaheeswarar, Kalakadu ≡	D	*Calophyllum inophyllum*
966	Azhahiyanambi, Thirukurungudi	D	*Borassus flabellifer*

Thiruchirapalli District

No	Temple Name and Location	Age of Temple	Sthalavriksha species
967	Nallandavar, Manapparai	B	*Prenna latifolia*
968	Nhizhivanathar, Thirupainhizhi ≡	D	*Musa paradisiaca*
969	Pundarikatcha Perumal, Thiruvellarai	D	Absent
970	Jambulingeswarar, Thiruvanaikaval ≡	D	*Syzygium cumini*
971	Ranganathar, Srirangam	D	*Calophyllum inophyllum*
972	Mariamman, Samayapuram ψ	B	Absent
973	Thayumanavar, Malaikottai ≡	D	*Aegle marmelos*
974	Adinathar, Kumaravayalur ≡	C	*Prosopis spicigera*
975	Panchavarneswarar, Wuraiyur ≡	D	*Aegle marmelos*
976	Purusothaman, Uthamarkoil ≡	D	*Musa paradisiaca*
977	Bhuminadasamy, Manachanallur ≡	D	*Aegle marmelos*
978	Paraaithurainathar, Thiruparaithurai ≡	D	*Streblus asper*
979	Vadathirthanathar, Anthanallur ≡	D	*Ficus benghalensis*
980	Chandirasekrasamy, Thiruchendurai ≡	D	*Artocarpus heterophyllus*
981	Panchanadeeswarar, Allur ≡	D	Absent
982	Kailasanathar, Kambarasanpettai ≡	B	*Aegle marmelos*
983	Erumbeesar, Thiruverumbur ≡	D	*Aegle marmelos*
984	Marundeeswarar, Kuthaipar ≡	D	*Prosopis spicigera*
985	Nithiyasundareswarar, Thirunedungalam ≡	D	*Nerium oleander*
986	Choleeswarar, Thuvakudi ≡	B	*Aegle marmelos*
987	Ugaivanadasamy, Uiyakondanthirumalai ≡	D	*Aegle marmelos*
988	Ranganargar, Nachiyarkoil	D	Absent
989	Saptharishiswarar, Lalkudi ≡	D	*Ficus religiosa*
990	Chidambaraeswarar, Pullampadi ≡	C	*Prosopis spicigera*
991	Thirumulanadasamy, Poovalur ≡	C	*Aegle marmelos*
992	Sundararajaperumal, Anbil	D	Absent
993	Bhrammapuriswarar, Anbil ≡	C	*Aegle marmelos*
994	Alanduraiyar, Anbil ≡	D	*Ficus benghalensis*
995	Samavedaeswarar, Thirumangalam ≡	C	*Artocarpus heterophyllus*
996	Abarandeeswarar, Nagar ≡	C	*Aegle marmelos*
997	Manduraiyar, Mandurai ≡	D	*Mangifera indica*
998	Maruthandanadeswarar, Angarai ≡	B	*Aegle marmelos*
999	Kailasanathar, Valadi ≡	B	*Aegle marmelos*
1000	Kasiviswanathar, Valadi ≡	C	*Aegle marmelos*
1001	Choleeswarar, V.Thuraiyur ≡	C	Absent
1002	Valliswaranathar, V.Thuraiyur ≡	C	Absent
1003	Ruthreswarar, Pallivadi ≡	C	*Azadirachta indica, Ficus religiosa*
1004	Muktheeswarar, Mahalikudi ≡	C	Absent
1005	Bhojeeswarar, Samayapuram ≡	C	*Aegle marmelos*
1006	Sundararathineswarar, Urttathur ≡	D	*Aegle marmelos*
1007	Kodandaramar, Urttathur	B	Absent
1008	Bhrammapuriswarar, Thirupattur ≡	D	*Mimusops elengi*
1009	Kasiviswanathar, Thirupattur ≡	C	Absent
1010	Marturaivaradeeswarar, Thiruvasi ≡	D	*Prosopis spicigera*
1011	Nandhiswarar, Turaiyur ≡	D	*Mimusops elengi*
1012	Venugopalasamy, Turaiyur	D	*Mimusops elengi*

Thiruvallur District

No	Temple Name and Location	Age of Temple	Sthalavriksha species
1013	Masilamaninathar, Thirumullaivayil ≡	D	*Jasminum cuspidatum*
1014	Bhathavachalaperumal, Thirunindravur	D	*Nyctanthes arbor-tristis*
1015	Irudayaleeswarar, Thirunindravur ≡	D	*Madhuca longifolia*
1016	Vaidiyanathar, Poonthamalli ≡	D	*Corypha umbraculifera*
1017	Vedapuriswarar, Thiruverkadu ≡	D	*Acacia leucophloea*
1018	Thirumanageeswarar, Melur ≡	C	*Cassia fistula*
1019	Ekambaranathar, Meenjur ≡	C	*Mangifera indica*
1020	Paliswarar, Thirupalaivanam ≡	C	*Manilkara hexandra*
1021	Nurttiettueswarar, Chinnakavanam ≡	C	*Alangium salvifolium*
1022	Karikrishnaperumal, Ponneri	C	*Mimusops elengi*
1023	Dharaniswarar, Thandalam ≡	B	*Aegle marmelos*
1024	Imugeswarar, Periapalayam ≡	C	*Aegle marmelos*
1025	Sambangipitchadanar, Arani ≡	C	*Telosma minor*
1026	Subramaniarm, Andarkuppam †	D	*Aegle marmelos*
1027	Agastheeswarar, Panjesti ≡	C	*Aegle marmelos*
1028	Kalliswarar, Thirukallil ≡	D	*Euphorbia nivulia*
1029	Veeraragavasamy, Thiruvallur	D	Absent
1030	Theerthiswarar, Thiruvallur ≡	C	*Mimusops elengi*
1031	Thirupasunathar, Thirupasur ≡	D	*Bambusa arundinacea*
1032	Thiripuranthagasamy, Koovam ≡	D	*Aegle marmelos*
1033	Vadavaranyaeswarar, Thiruvalankadu ≡	D	*Ficus benghalensis*
1034	Paliswarar, Gummidipundi ≡	C	*Aegle marmelos*
1035	Agastheeswrar, Ponneri ≡	C	*Aegle marmelos*
1036	Jadarayaraeswarar, Palaverkadu ≡	B	Absent
1037	Suryaeeswarar, Palaverkadu ≡	C	*Aegle marmelos*
1038	Adinarayanaperumal, Palaverkadu	C	Absent
1039	Undriswarar, Poondi ≡	D	Absent
1040	Pushpagiriswarar, Poondi ≡	C	*Aegle marmelos*
1041	Somanathaeswarar, Ramancheri ≡	C	*Madhuca longifolia*
1042	Subramanaiar, Thiruthani	D	Absent
1043	Agastheeswarar, Arungulam ≡	C	*Aegle marmelos*
1044	Kalyanavaratharajaperumal, Arungulam	B	*Ficus religiosa*

Vellore District

No	Temple Name and Location	Age of Temple	Sthalavriksha species
1045	Jalanatheeswarar, Thakkolam ≡	D	Absent
1046	Someswarar, Thakkolam ≡	C	*Aegle marmelos*
1047	Jalagandeswarar, Vellore ≡	B	Absent
1048	Balamurugan, Rathinagiri †	B	Absent
1049	Panjiswarar, Kondapuram ≡	C	*Aegle marmelos*
1050	Abayavaratharajaperumal, Kaveripakkam	B	Absent
1051	Konganiswarar, Kaveripakkam ≡	C	*Mimusops elengi*
1052	Azhakuramar, Kaveripakkam	C	*Mimusops elengi*
1053	Mukkthiswarar, Kaveripakkam ≡	C	*Cassia fistula*
1054	Kodandaramar, Thisaimugancheri	C	Absent
1055	Narashimeswarar, Thisaimugancheri ≡	D	Absent
1056	Ekambaranathar, Walajapet ≡	B	*Aegle marmelos*
1057	Venugopalasamy, Walajapet	B	Absent
1058	Kasiviswanathar, Walajapet ≡	B	*Aegle marmelos*
1059	Varadarajaperumal, Arcot	B	Absent
1060	Kailasanathar, Arcot ≡	B	*Madhuca longifolia*
1061	Kasiviswanathar, Arcot ≡	B	*Aegle marmelos*
1062	Valiswarar, Thiruparkadal ≡	D	*Mangifera indica*
1063	Prasanavenkatesaperumal, Thiruparkadal	C	*Aegle marmelos*
1064	Ranganathar, Thiruparkadal	C	*Calophyllum inophyllum*
1065	Laxminarashimmar, Kondapuram	C	Absent
1066	Ramar, Kondapuram	C	*Ficus religiosa*
1067	Laxminarashimmar, Solingar	C	*Nyctanthes arbor-tristis*
1068	Cholapuriswarar, Solingar ≡	C	*Aegle marmelos*
1069	Vilvavananathar, Thiruvalam ≡	C	*Aegle marmelos*
1070	Subramaniasamy, Vallimalai †	C	Absent
1071	Somanatheesawarar, Melpadi ≡	C	*Aegle marmelos*
1072	Somanatheeswarar, Sembakkam ≡	B	*Aegle marmelos*
1073	Kasiviswanathar, Melmanavur ≡	C	*Aegle marmelos*
1074	Kasiviswanathar, Virinjipuram ≡	C	*Aegle marmelos*
1075	Margapantheeswarar, Virinjipuram ≡	D	*Borassus flabellifer*
1076	Aditheeswarar, Vaniambadi ≡	C	Absent
1077	Azhahiyaperumal, Vaniambadi	C	*Aegle marmelos*
1078	Suyambu Naganathar, Ambur ≡	C	*Aegle marmelos*
1079	Bhidumadavan, Thuthipattu	C	*Mimusops elengi*
1080	Naganathar, Palligonda ≡	C	*Aegle marmelos*
1081	Uthrarangaperumal, Palligonda	C	*Stereospermum colais*
1082	Karumpuliswarar, Gudiatham ≡	C	*Prosopis spicigera*
1083	Bhrammeswarar, Thiruppathur ≡	C	*Calophyllum inophyllum*
1084	Gajendiravaradarajaperumal, Thirupathur	C	Absent

Vilupuram District

No	Temple Name and Location	Age of Temple	Sthalavriksha species
1085	Kirubapuriswarar, Thiruvennainallur ≡	D	*Bambusa arundinacea*
1086	Vaigundavasaperumal, Thiruvennainallur ≡	C	*Calophyllum inophyllum*
1087	Bhakthajaneswar, Thirunavalur ≡	D	*Syzygium cumini*
1088	Veerattaneswarar, Thirukovilur ≡	D	*Cassia fistula*
1089	Thiruvikaraman, Thirukovilur	D	*Calophyllum inophyllum*
1090	Agastheeswarar, Manalurpettai ≡	C	*Aegle marmelos*
1091	Adiranganadhasamy, Thiruvarangam	C	*Calophyllum inophyllum*
1092	Janbunathasamy, Jambai ≡	D	*Aegle marmelos*
1093	Vikramapandeeswarar, Siddalingamadam ≡	D	*Cassia fistula*
1094	Marudeeswarar, T. Eadaiyaru ≡	D	*Terminalia arjuna*
1095	Adikesavaperumal, T. Eadaiyaru	C	*Aegle marmelos*
1096	Sivaloganadasamy, Thirumundeesawaram	C	Absent
1097	Adivaliswarar, Vilupuram ≡	D	*Aegle marmelos*
1098	Valiswarar, Kolianur ≡	C	*Prosopis spicigera*
1099	Padaliswarar, Valavanur ≡	B	Absent
1100	Jayankodeeswarar, Valavanur ≡	B	*Prosopis spicigera*
1101	Kailasanathar, Keelperumpakkam ≡	B	*Aegle marmelos*
1102	Vaikundavasaperumal, Vilupuram	D	Absent
1103	Vedapuriswarar, Emappur ≡	C	*Aegle marmelos*
1104	Adulyanadeswarar, Arakandanallur ≡	D	*Aegle marmelos*
1105	Laxminarashimmar, Athili	B	*Ficus religiosa*
1106	Thirithiniswarar, Tindivanam ≡	D	Absent
1107	Laxminarashimmar, Tindivanam	D	*Phyllanthus emblica*
1108	Subramaniasamy, Mylam †	B	Absent
1109	Chandaramouliswarar, Thiruvakkarai ≡	D	*Aegle marmelos*
1110	Mahaleswarar, Irumbaimahalam ≡	D	*Madhuca longifolia*
1111	Arisilinathar, Thiruarisili ≡	D	*Ficus religiosa*
1112	Padaleeswarar, Bhrammadesam ≡	D	Absent
1113	Bhrammapuriswarar, Bhrammadesam ≡	D	*Aegle marmelos*
1114	Azhahianarashingaperumal, Ennayiram	C	Absent
1115	Ramanandeeswaram, Esalam ≡	C	*Borassus flabellifer*
1116	Abirameswarar, Thiruvamathur ≡	D	Absent
1117	Panagatteesan, Thirupanaiyur ≡	D	*Borassus flabellifer*

Viruthunagar District

No	Temple Name and Place	Age of Temple	Sthalavriksha species
1118	Thirumeninathar, Thiruchuzhi ≡	D	*Calophyllum inophyllum*
1119	Virupachinathar, Narikudi ≡	C	*Crateva magna*
1120	Kailasanathar, Veeracholan ≡	C	Absent
1121	Harichakaramurthy Perumal, Veeracholan	C	Absent
1122	Chokkanathar, Virudunagar ≡	C	*Aegle marmelos*
1123	Kailasanathar, Palavanatham ≡	C	*Bauhinia purpurea*
1124	Amuthalingeswarar, Aruppukottai ≡	B	*Aegle marmelos*
1125	Chokkanathar, Chokkalingapuram ≡	D	Absent
1126	Chokknathar, Kulasekaranallur ≡	C	Absent
1127	Azhahiyaperumal, Koilankulam	C	Absent
1128	Niravikasivisvanathar, Palayampatti ≡	B	*Aegle marmelos*
1129	Subramaniasamy, Palayampatti	B	Absent
1130	Venugopalasamy, Palayampatti	B	Absent
1131	Chidambareswar, Sathur ≡	C	Absent
1132	Sathurappan, Sathur	C	*Ficus religiosa*
1133	Kailasanathar, Irukkankudi ≡	C	*Aegle marmelos*
1134	Mariamman, Irukkankudi ψ	C	*Capparis divaricata*
1135	Prasannavenkatasalapathy, Nenmeni	B	*Ficus religiosa*
1136	Sundareswarar, Kolvarpatti ≡	C	Absent
1137	Nintranarayanaperumal, Thiruthangal	D	*Ficus benghalensis*
1138	Karunellinthar, Thiruthangal ≡	C	*Phyllanthus emblica*
1139	Kasiviswanathar, Sivakasi ≡	C	*Prosopis spicigera*
1140	Chokkanathasamy, Vembakottai ≡	C	*Aegle marmelos*
1141	Sunaikathavaidiyalingeswarar, Edirkottai ≡	C	*Aegle marmelos*
1142	Venugopalasamy, Edirkottai	C	Absent
1143	Rajalingabhuminathar, Maraneri ≡	C	*Aegle marmelos*
1144	Rangamannar, Srivilliputhur	D	*Stereospermum colais*
1145	Vaidiyanathasamy, Madavarvilakam ≡	C	*Prosopis spicigera*
1146	Mayuranathasamy, Rajapalayam ≡	C	Absent
1147	Srinivasaperumal, Thiruvannamalai	C	Absent
1148	Sethunarayanaperumal, Vathrairuppu	B	Absent
1149	Kasiviswanathar, Vathrairuppu ≡	C	*Aegle marmelos*
1150	Thirukanniswarar, Sethur ≡	C	*Aegle marmelos*
1151	Srinivasaperumal, Sethur	C	Absent
1152	Nachadaithavirthuaruliyasamy, Devadanam ≡	D	*Cassia fistula*
1153	Sundararajaperumal, Kollankondan	C	*Phyllanthus emblica*
1154	Vikkaramapandeeswarar, Kollankondan ≡	C	*Ficus religiosa*
1155	Kalatheeswarar, Ilanthiraikondan ≡	B	Absent
1156	Venkatasalapathiperumal, Cholapuram	C	Absent
1157	Vikkaramapandeeswarar, Cholapuram ≡	C	*Aegle marmelos*
1158	Paravaiannamkatharuliasamy, Pudupalayam ≡	B	Absent

Puduchery and Karaikal

No	Temple Name and Place	Age of Temple	Sthalavriksha species
1159	Parvathiswar, Thiruthelicheri, ≡	D	Aegle marmelos
1160	Kandan, Kanthankudi, Karaikkal ↑	C	*Guettarda speciosa*
1161	Dharbaranyar, Thirunallar, Karaikkal ≡	D	*Imperata cylindrica*
1162	Yazhmurinathar, Tharumapuram ≡	D	*Ensete edule*
1163	Srivaradarajar, Pondicherry □	A	Absent
1164	Vedapuriswarar, Pondicherry ≡	A	*Prosopis spicigera*
1165	Thirumaniyazhakar, Thiruvettakudi ≡	D	*Calophyllum inophyllum*

Prime deity of the temple

≡ Shiva Temple
□ Vishnu Temples
ψ Amman Temple
↑ Murugan Temple
Ô Other Deity Temple

Age of temple in years

A < 100
B 101 - 500
C 501 - 1000
D > 1000

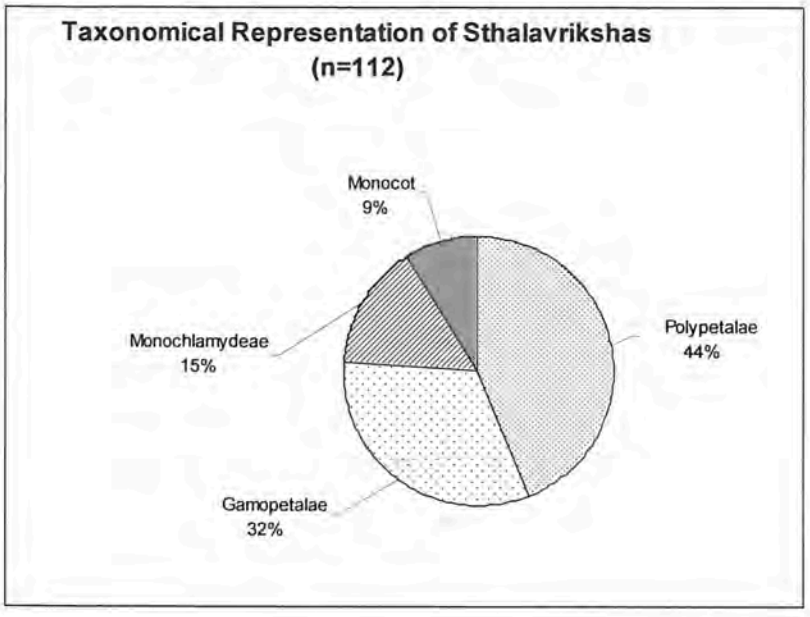
3.2 Results

Of 1165 temples surveyed, sthalavrikshas were present in 820 temples. In total 112 species of sthalavrikshas belonging to 41 families were recorded. Among the 112 species, Bengal quince *Aegle marmelos* was recorded in maximum number (n = 328) of temples followed by *Prosopis cineraria* (n =63). The leaves of the *A. marmelos* are used as offerings to Lord Siva. This tree is found comparatively less in the wild and is a popular sacred tree in Tamil Nadu.

3.2.1 Classification of Sthalavrikshas

All the 112 sthalavriksha species recorded are angiosperms. Of the 112 species, 102 are dicotyledons belonging to 78 genera and 38 families, ten species belonging to monocotyledons, representing 3 families. Among the dicotyledons 49 species belong to polypetalae, 36 species gamopetalae and 17 species monochlamydeae (Fig. 3.1).

Figure 3.1



Among the 41 families recorded, Moraceae is the most dominant family represented by ten species, followed by Rutaceae and Mimosaceae both represented by eight species each (Fig. 3.2).

Figure 3.2

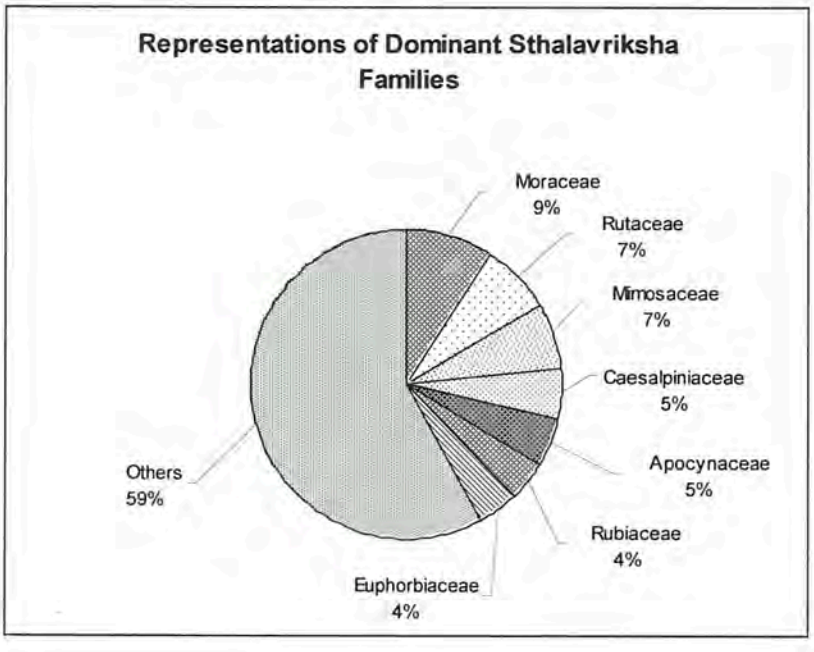


Figure 3.2 **Representations of Dominant Sthalavriksha Families**

The most dominant genus among sthalavrikshas was *Ficus* represented by seven species. The other dominant genera were *Jasminum* and *Terminalia* represented by four species each. *Acacia* and *Bauhinia* were represented by three species (Table 3.2).

Table 3.2 **Dominant Genera**

S.No	Dominant genera	No. of species	%
1	*Ficus*	7	7.95
2	*Jasminum*	4	4.55
3	*Terminalia*	4	4.55
4	*Acacia*	3	3.41
5	*Bauhinia*	3	3.41
6	Others	67	76.14

3.2.2 Dominant Sthalavrikshas Present in Temples

Of the 1165 temples surveyed, sthalavrikshas were found in 822 temples. The 'Bengal quince' *Aegle marmelos* found in 328 (40%) temples formed the most dominant sthalavriksha. This was followed by *Prosopis cineraria* in 63 temples (8%) and *Mimusops elengi* in 34 temples (4%). Peepal tree *Ficus religiosa* and *Calophyllum inophyllum* are the other prominent sthalavriksha species. These five species contributed a major share (58.76 %) to the sthalavrikshas of temples in Tamil Nadu (Table 3.3).

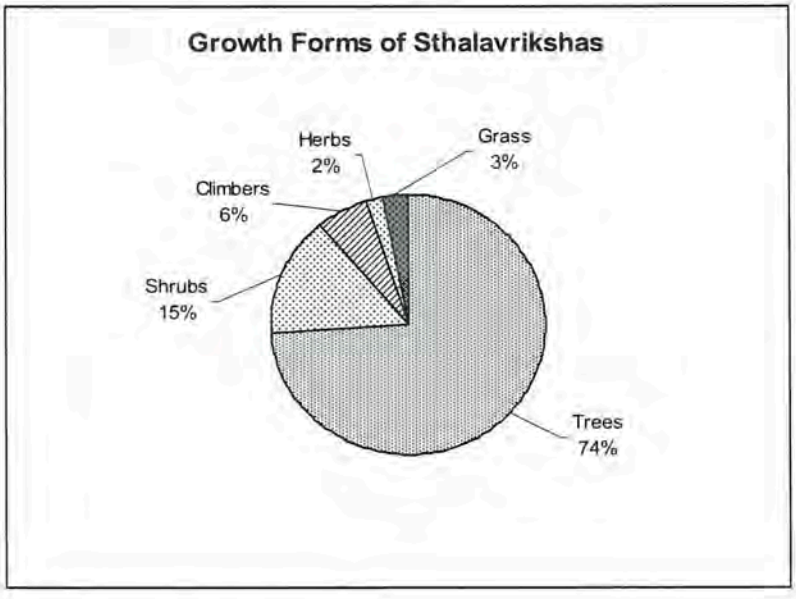
Table 3.3 **Dominant Sthalavriksha species in Tamil Nadu**

Rank	Species Name	No. of Temples	%
1	*Aegle marmelos*	328	39.90
2	*Prosopis cineraria*	63	7.66
3	*Mimusops elengi*	34	4.13
4	*Ficus religiosa*	32	3.89
5	*Calophyllum inophyllum*	26	3.16
	Other species	339	41.24

3.3 Growth Forms of Sthalavrikshas (n=112)

Of the 112 sthalavriksha species recorded during the survey, major share (74.10 %) is contributed by trees followed by shrubs (15.18 %) and others (10.72%) (fig. 3.3).

Figure 3.3 **Growth forms of Sthalavrikshas**



3.4 Sthalavrikshas Recorded in Tamil Nadu

Sthalavriksha species recorded during the study are given in Table 3.4

Table 3.4 **List of Sthalavrikshas Recorded During the Survey**

No	Name	Family	Tamil Name
1	*Acacia leucophloea*	Mimosaceae	Velavel
2	*Acacia chundra*	Mimosaceae	Karungali
3	*Acacia farnesiana*	Mimosaceae	Odaimaram
4	*Aegle marmelos*	Rutaceae	Vilvam
5	*Alangium salvifolium*	Alangiaceae	Alangiam
6	*Albizia amara*	Mimosaceae	Osilai
7	*Albizia lebbeck*	Mimosaceae	Vahai
8	*Andropogon* sp.*	Poaceae	Vizhal
9	*Neolamarckia cadamba*	Rubiaceae	Kadampu
10	*Artabotrys hexapetalus*	Annonaceae	Manoranjitham
11	*Artocarpus heterophyllus*	Moraceae	Pala
12	*Artocarpus hirsutus*	Moraceae	Ayini
13	*Atalantia monophylla*	Rutaceae	Kurunthai
14	*Azadirachta indica*	Meliaceae	Vembu
15	*Bambusa arundinacea* *	Poaceae	Moongil

16	*Bauhinia acuminata*	Caesalpiniaceae	Mantharai
17	*Bauhinia purpurea*	Caesalpiniaceae	Mantharai
18	*Bauhinia racemosa*	Caesalpiniaceae	Mantharai
19	*Borassus flabellifer* *	Arecaceae	Panai
20	*Butea monosperma*	Papilionaceae	Purasu
21	*Cadaba fruticosa*	Capparaceae	Vizhi
22	*Calamus rotang* *	Arecaceae	Pirambu
23	*Calophyllum inophyllum*	Clusiaceae	Punnai
24	*Calotropis procera*	Asclepiadaceae	Velerukku
25	*Canthium parviflorum*	Rubiaceae	Karai
26	*Capparis divaricata*	Capparaceae	Thoratti
27	*Capparis zeylanica*	Capparaceae	Peyarillamaram
28	*Carissa carandas*	Apocynaceae	Kala
29	*Carissa spinarum*	Apocynaceae	Kala
30	*Cassia fistula*	Caesalpiniaceae	Sarakondrai
31	*Citrus aurantifolia*	Rutaceae	Yelumichai
32	*Citrus pennivesiculata*	Rutaceae	Narathai
33	*Cocos nucifera* *	Arecaceae	Thennai
34	*Commiphora caudata*	Burseraceae	Kiluvai
35	*Cordia domestica*	Boraginaceae	Uthalam
36	*Corypha umbraculifera* *	Arecaceae	Thalapanai
37	*Crescentia cujeta*	Bignoniaceae	Thiruvottukai
38	*Crateva magna*	Capparaceae	Mavilangam
39	*Dichrostachys cinerea*	Mimosaceae	Vedathalan
40	*Diospyros montana*	Ebenaceae	Vakkanai
41	*Dodonaea viscosa*	Sapindaceae	Virali
42	*Seaevola plumieri*	Goodeniaceae	Rutharacham
43	*Ensete edule* *	Musaceae	Monthan
44	*Ehretia ovalifolia*	Boraginiaceae	Karukattan
45	*Euphorbia nivulia*	Euphorbiaceae	Ilaikalli
46	*Excoecaria agallocha*	Euphorbiaceae	Thillai
47	*Ficus benghalensis*	Moraceae	Aal
48	*Ficus religiosa*	Moraceae	Arasu
49	*Ficus virens*	Moraceae	Ithi
50	*Ficus racemosa*	Moraceae	Athi
51	*Ficus mollis*	Moraceae	Kalathi
52	*Ficus nervosa*	Moraceae	Selamaram
53	*Ficus microcarpa*	Moraceae	Kallal
54	*Guettarda speciosa*	Rubiaceae	Panneer
55	*Holoptelea integrifolia*	Ulmaceae	Aacha
56	*Imperata cylindrica* *	Poaceae	Tharupai
57	*Jasminum auriculatum*	Oleaceae	Mullai
58	*Jasminum grandiflorum*	Oleaceae	Jathimalli
59	*Jasminum cuspidatum*	Oleaceae	Mullai
60	*Jasminum sambac*	Oleaceae	Malligai

61	*Lepisanthes tetraphylla*	Sapindaceae	Neikotta
62	*Limonia acidissima*	Rutaceae	Vila
63	*Madhuca longifolia*	Sapotaceae	Ilupai
64	*Magnolia grandiflora*	Magnoliaceae	Malaimagudam
65	*Mangifera indica*	Anacardiaceae	Ma
66	*Manilkara hexandra*	Sapotaceae	Paala
67	*Millingtonia hortensis*	Bignoniaceae	Maramalli
68	*Michelia champaca*	Magnoliaceae	Senpagam
69	*Mimosa pudica*	Mimosaceae	Thottachinungi
70	*Mimusops elengi*	Sapotaceae	Mahizham
71	*Morinda pubescens*	Rubiaceae	Manjanathi
72	*Moringa pterygosperma*	Moringaceae	Murungai
73	*Murraya koenigii*	Rutaceae	Karuveppilai
74	*Musa paradisiaca* *	Musaceae	Vazhai
75	*Naringi crenulata*	Rutaceae	Mahavilvam
76	*Nerium oleander*	Apocynaceae	Arali
77	*Nyctanthes arbor-tristis*	Nyctanthaceae	Pavazhamalli
78	*Ochna obtusata*	Ochnaceae	Silanthi
79	*Ocimum tenuiflorum*	Lamiaceae	Thulasi
80	*Phoenix sylvestris* *	Arecaeae	Icham
81	*Phyllanthus emblica*	Euphorbiaceae	Nelli
82	*Pleiospermium alatum*	Rutaceae	Kurunthai
83	*Pongamia pinnata*	Papilionaceae	Pungam
84	*Premna latifolia*	Verbenaceae	Kattuminnai
85	*Prosopis cineraria*	Mimosaceae	Vanni
86	*Pterocarpus marsupium*	Papilionaceae	Vengai
87	*Punica granatum*	Punicaceae	Madulai
88	*Ricinus communis*	Euphorbiaceae	Amanaku
89	*Salvadora persica*	Salvadoraceae	Kalar Ugai
90	*Santalum album*	Santalaceae	Santhanam
91	*Saraca asoca*	Caesalpiniaceae	Asokam
92	*Schleichera oleosa*	Sapindaceae	Poovan
93	*Securinega leucopyrus*	Euphorbiaceae	Venpoola
94	*Stereospermum chelonoides*	Bignoniaceae	Pathiri
95	*Stereospermum colais*	Bignoniaceae	Pathiri
96	*Stobilanthes kunthiana*	Acanthaceae	Kurunji
97	*Streblus asper*	Moraceae	Parai
98	*Strychnos nux-vomica*	Loganiaceae	Yetti
99	*Strychnos potatorum*	Loganiaceae	Thettra
100	*Syzygium cumini*	Myrtaceae	Naval
101	*Tabernaemontana divaricata*	Apocynaceae	Nanthiavattai
102	*Tabernaemontana heyneana*	Apocynaceae	Nanthiavattai
103	*Tamarindus indica*	Caesalpiniaceae	Puli
104	*Tarenna asiatica*	Rubiaceae	Kura
105	*Telosma minor*	Asclepiadaceae	Sambangi

106	*Terminalia arjuna*	Combretaceae	Marutham
107	*Terminalia bellirica*	Combretaceae	Thani
108	*Terminalia catappa*	Combretaceae	Badam
109	*Terminalia chebula*	Combretaceae	Kadukkai
110	*Vitex negundo*	Verbenaceae	Nochi
111	*Wrightia tinctoria*	Apocynaceae	Palai
112	*Zizyphus mauritiana*	Rhamnaceae	Ilandai

* Monocot

One species (Vazhai) *Musa paradisiaca,* a sthalavriksha represented by five cultigens and two wild relatives of cultivated varieties are found in temples.

3.5. Sthalavriksha Species Identified from Sthalapuranas (temple myth)

Certain sthalavriksha species are referred in ancient sacred hymns and sthalapuranas of the temples but at present it is absent in temples (Table 3.5). Herbs, creepers, shrubs and small trees are found in the category e.g., *Aerva lanata, Azima tetracantha, Datura metel, Euphorbia antiquorum, Hiptage benghalensis, Ipomoea pes-caprae, Pandanus fascicularis, Piper longum, Rhynchaspora corymbosa* and *Actinopteris radiata.*

Table 3.5 **Sthalavriksha Species Identified from Sthalapuranas**

No	Name	Family	Vernacular Name
1	*Aerva lanata* Ø	Amaranthaceae	Poolai
2	*Aquilaria agallocha* Ø	Thymelaeaceae	Akil
3	*Averrhoa carambola* Ø	Averrhoaceae	Thamarathai
4	*Azima tetracantha* Ø	Salvadoraceae	Sangu
5	*Canthium dicoccum* Ø	Rubiaceae	Puchari
6	*Citrus limetta* Ø	Rutaceae	Kolumichai
7	*Cochlospermum religiosum* Ø	Cochlospermaceae	Kongilavu
8	*Dalbergia latifolia* Ø	Papilionaceae	Karunthuvarai
9	*Datura metel* Ø	Solanaceae	Omathai
10	*Euphorbia antiquorum* Ø	Euphorbiaceae	Sadurakalli
11	*Hiptage benghalensis* Ø	Malphigiaceae	Kurukathi
12	*Ipomoea pes-caprae* Ø	Convolvulaceae	Kadambukodi
13	*Kandelia candel* Ø	Rhizophoraceae	Kandal
14	*Pandanus fascicularis* Ø	Pandanaceae	Thazhalai
15	*Piper longum* Ø	Piperaceae	Valmilagu
16	*Rhynchospora corymbosa* Ø	Cyperaceae	Painjai
17	*Actinopteris radiata* Ø	Polypodiaceae	Kalpanai

Ø Presently not in temple

Plate III- Sthalavrikshas of Tamil Nadu

Acacia leucophloea
A. Thiruverkadu

Acacia farnesiana
B. Melakodumalur

Aegle marmelos
C. Kanchipuram

Albizia lebbeck
D. Valholiputhr

Albizia amara
F. Mallapuram

Alangium salvifolium
E. Chinnakavanam

Andropogon sp.
G. Thiruvizhanagar

Artabotrys hexapetalus
H. Poonthottam

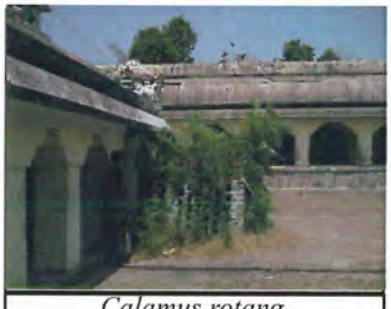
Azadirachta indica
I. Vaideeswarankoil

Bauhinia acuminata
J. Kalayarkoil

Bauhinia purpurea
K. Thithalaipathi

Bauhinia racemosa
L. Thiruchengatankudi

Cadaba fruticosa
M. Thiruvizhimizhilai



Calamus rotang
N. Thirukodikka

Calophyllum innophyllum
O. Thirupunavasal

Plate IV- Sthalavrikshas of Tamil Nadu

Calotropis procera
A. Suriyanarkoil

Canthium parviflorum
B. Karamadai

Capparis divaricata
C. Irukkankudi

Carrisa carandas
D. Papanasam

Cassia fistula
E. Panthanainallur

Citrus aurantifolia
F. Anndarpanthi

Cocos nucifera
G. Thiruthenka

Cordia domestica
H. Uthalam

Crateva magna
I. Nattiyathankudi

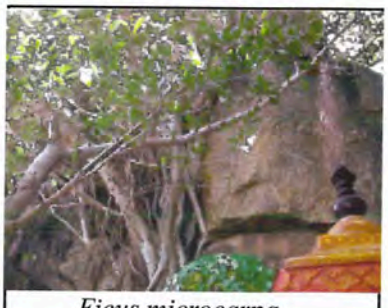
Dichrostachys cinerea
J. Kuchanur

Diospyros ebenum
K. Therikudiyiruppu

Ficus benghalensis
L. Pattamagalam

Ficus mollis
M. Thiruparangundram

Ficus religiosa
N. Thirupullani



Ficus microcarpa
O. Kambili

Plate V- Sthalavrikshas of Tamil Nadu

Jasminum auriculatum
A. Thalaignayiru

Jasminum cuspidatum
B. Thirumullaivayil

Jasminum grandiflorum
C. Thirukadavur

Jasminum sambac
D. Sikkal

Guettarda speciosa
E. Kandankudi

Lepisanthes tetraphylla
F. Periakulam

Magnolia grandiflora
G. Kandal

Manilkara hexandra
H. Thiruvallur

Michelia champaca
I. Thenkasi

Millingtonia hortensis
J. Thitisulam

Mimusops elengi
K. Needur

Morinda pubescens
L. Melathirumanickam

Five Trees
M. Ayikudi

Pleiospermium alatum
N. Avudaiyarkoil

Pongamia pinnata
O. Thirupungur

Plate VI- Sthalavrikshas of Tamil Nadu

Premna latiflia
A. Manapparai

Prosopis cineraria
B. Vedaranyam

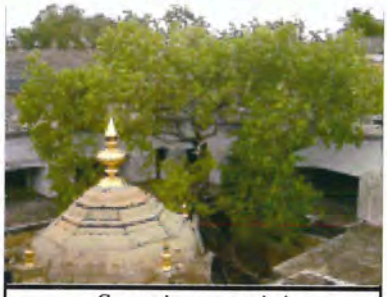
Salvadora persica
C. Thiruvamur

Santalum album
D. Srivangium

Schleichera oleosa
E. Thumbakodu

Strobilathes kunthiana
F. Kodaikanal

Strychnos potatorum
G. Thirukuvalai



Syzygium cumini
H. Thiruvanaikaval

Tabernaemontana divaricata
I. Koilvenni

Tamarindus indica
J. Chennimalai

Tarenna asiatica
K. Thiruvidaikazhi

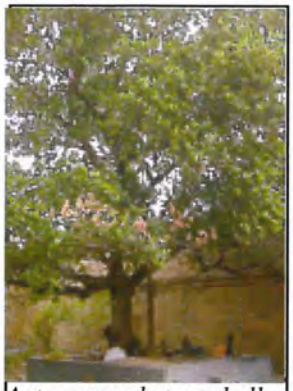
Terminalia chebula
L. Korukkai

Ochna obtusata
M. Thirupayathankudi

Wrightia tinctoria
N. Kadithamalai

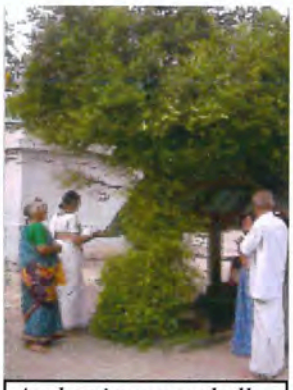
Ziziphus mauritiana
O. Utharakosamangai

Plate VII- Sthalavrikshas of Tamil Nadu



Artocarpus heterophyllus
A. Thiruchedurai

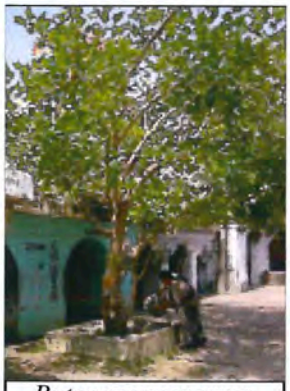
Artocarpus hirsutus
B. Thirunandhikarai



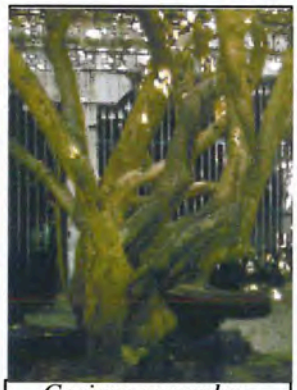
Atalantia monophylla
C. Thandalaicheri

Bambusa arundinacea
D. Thirunelveli

Borassus flabellifer
E. Thiruvothur



Butea monosperma
F. Kanjanur



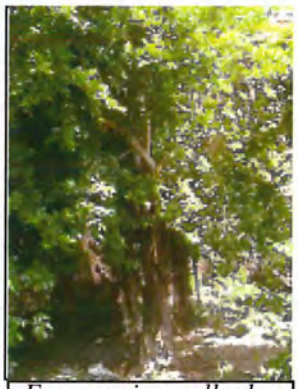
Carissa carandas
G. Karivalamvanthanallur

Commiphora caudata
H. Vellalore

Capparis zeylanica
I. Pranmalai

Crescentia cujeta
J. Viralimalai

Dodonaea viscosa
K. Viralikadu



Excoecaria agallocha
L. Chidambaram

Flueggea leucopyrus
M. Chinnamanur

Holoptelea integrifolia
N. Dharmapuri

Imperata cylindrica
O. Thirunallaru

Limonia acidissima
P. Tholaivilimangalam

Plate VIII - Sthalavrikshas of Tamil Nadu

Madhuca longifolia
A. Thiruchenkodu

Mangifera indica
B. Kanchipuram

Moringa pterygosperma
C. Vadamadurai

Musa paradisiaca
D. Thiruvelliathankudi

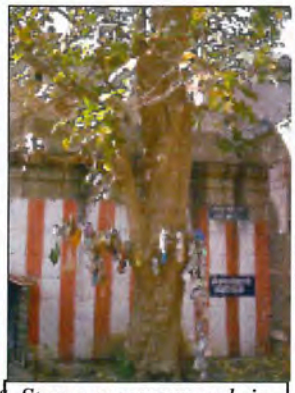
Neolamarckia cadamba
E. Madurai

Nerium oleander
F. Thirunedunkalam

Phyllanthus emblica
G. Pazhani

Saraca asoca
H. Karur

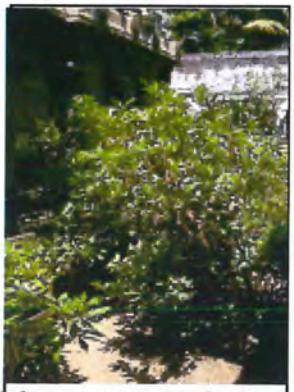
Stereospermum chelonoides
I. Vallakottai



Stereospermum colais
J. Palligonda

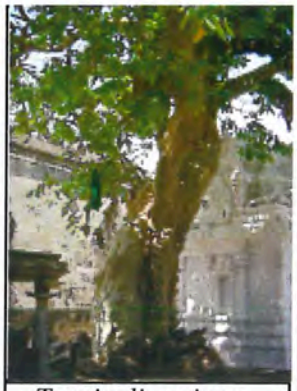
Streblus asper
K. Thiruparaithurai

Scaevola plumieri
L. Kanyakumarai



Tabernaemontana heyneana
M. Perambalur

Telosma minor
N. Arani



Terminalia arjuna
O. Thiruvidaimaruthur

Terminalia bellirica
P. Thiruthandeeswaram

3.6 Taxonomical Description of Sthalavrikshas

A total of 112 species of sthalavrikshas have been documented during the survey and is described below. Dichotomous bracketed keys have been provided to the families, genera and species. In systemic treatment, the genera under the family and species within a genus are arranged in alphabetical order. Recent binomial name followed by synonyms given in the "Flora of Tamil Nadu", correct citation, vernacular name, English name, description, phenology, local distribution, economic importance, interesting morphological features if any, religious importance if any and specimen examined are given for each species. The species are arranged on the basis of modified Bentham and Hooker's system of classification.

ENUMERATION

Key to the families

1a	Floral whorls in 5 s, less often 4 s, seldom 3 s; vascular bundle in a concentric ring, enclosing a central pith; bark separable; cotyledons 2	2
1b	Floral whorls in 3's, seldom 4's; vascular bundles scattered or in several concentric rings, without a central pith; bark inseparable; cotyledon 1	41
2a	Perianth 2-seriate; outer sepaloid, inner petaloid	3
2b	Perianth 1-seriate (apetalous), 2-seriate (monochlamydeous) or o (achlamydeous)	37
3a	Petals free	4
3b	Petals connate, atleast at base	23
4a	Polypetaloid dicots with superior ovary	5
4b	Polypetaloid dicots with inferior or half inferior ovary	20
5a	Pistil 1 or more, free (apocarpus)	6
5b	Pistil united (syncarpus)	7
6a	Sepals and petals valvate; anthers extrorse; flowers not showy	**Annonaceae**
6b	Sepals and petals imbricate; anthers introrse; flowers showy	**Magnoliaceae**
7a	Stamens in 4 or 5 bundles	**Clusiaceae**
7b	Stamens free, not as in bundles	8
8a	Stamens more than twice as many as petals	9
8b	Stamens as many, or twice as many as petals, rarely fewer	11
9a	Ovary borne on gynophore	**Capparaceae**
9b	Ovary not as above	10

10a Leaves lobed or compound, with oil glands.....**Rutaceae**

10b Leaves simple, without oil glands.....**Ochnaceae**

11a Stamens twice as many as petals or fewer.....**12**

11b Stamens as many as petals or fewer.....**Rhamnaceae**

12a Fruit a legume/ loment; placentation marginal.....**13**

12b Fruit other than legume/ loment; placentation other than marginal.....**15**

13a Flowers actinomorphic; calyx and corolla valvate in bud.....**Mimosaceae**

13b Flowers zygomorphic; calyx and corolla predominantly imbricate in bud.....**14**

14a Corolla caesalpiniaceous, ascendingly imbricate, the posterior petal innermost.....**Caesalpiniaceae**

14b Corolla papilionaceous, descendingly imbricate, the posterior petal outermost.....**Fabaceae**

15a Disc intra-staminal; flowers actiomorphic.....**Anacardiaceae**

15b Disc extra-staminal; flowers zygomorphic.....**16**

16a Leaves 2-3-pinnate; fruit > 30 cm long.....**Moringaceae**

16b Leaves other than 2-3-pinnate; fruit < 5 cm long.....**17**

17a Stamens connate; flowers bisexual.....**Meliaceae**

17b Stamens free; flowers polygamous.....**18**

18a Fruits winged; leaves gland-dotted.....**Sapindaceae** (p.p)

18b Fruits not winged; leaves not gland-dotted.....**19**

19a Stamens alternately long and short, inserted on or below the disc.....**Burseraceae**

19b Stamens nearly equal, inserted within the disc or unilateral.....**Sapindaceae** (p.p)

20a Ovary 1-celled.....**21**

20b Ovary 2-or more celled.....**22**

21a Petals 10; flowers in clusters; ovule solitary.....**Alangiaceae**

21b Petals 4-5; flowers in spikes; ovules 2-5.....**Combretaceae**

22a Leaves decussate, gland-dotted.....**Myrtaceae**

22b Leaves alternate, not gland-dotted.....**Punicaceae**

23a Stamens epipetalous.....**24**

23b Stamens free, not epipetalous.....**Ebenaceae**

24a Whole plant succulent atleast semi-succulent.....**Goodeniaceae**

24b Plants not succulent.....**25**

25a Stipules inter-petiolar; ovary inferior or half inferior.....**Rubiaceae**

25b Stipules other than inter-petiolar; ovary superior.....26

26a Leaves alternate.....27

26b Leaves opposite.....28

27a Stamens more than corolla lobes.....**Sapotaceae**

27b Stamens as many as or less than corolla lobes.....**Boraginaceae**

28a Latex milky; seeds with coma; pistil 2, apocarpus or partially connate.....29

28b Latex absent or if present, watery; seeds without coma; pistil 1, syncarpus.....30

29a Anthers inseparable, connate with stigma; pollen masses, collected in pollinia; corona present.....**Asclepiadaceae**

29b Anthers separable, connate around stigma; pollen free, not collected in pollinia; corona absent.....**Apocynaceae**

30a Corolla actinomorphic; stamens equal, without staminodes.....31

30b Corolla zygomorphic; stamens didynamous, with staminodes.....34

31a Ovary 1-celled; ovule 1.....**Salvadoraceae**

31b Ovary 2-celled; ovules 2.....32

32a Stamens 2.....33

32b Stamens 5.....**Loganiaceae**

33a Leaves scabrid; branchlets prominently 4-angled .....**Nyctanthaceae**

33b Leaves other than scabrid; branchlets terete or obscurely 4-angled.....**Oleaceae**

34a Leaves pinnately compound; fruits clearly enlarged, woody; seeds winged.....**Bignoniaceae**

34b Leaves simple or digitate; fruits not or hardly enlarged, not woody; seeds not winged.....35

35a Fruit a capsule; seeds a few to numerous; placenta axile.....**Acanthaceae**

35b Fruit a drupe, pyrene or nutlet; seeds 4; placenta basal.....36

36a Plants aromatic; calyx distinctly bilabiate; ovary 4-lobed; style gynobasic.....**Lamiaceae**

36b Plants not or scarcely aromatic; calyx not so; ovary entire; style terminal.....**Verbenaceae**

37a Inflorescence a syconium; flowers inconspicuous, crowded within receptacle (Ficus).....**Moraceae** (p.p)

37b Inflorescence other than syconium; flowers conspicuous, exposed on the receptacle.....38

38a Stamens epiphyllus; ovary inferior.....**Santalaceae**

38b Stamens free from perianth; ovary superior.....**39**

39a Inflorescence a cyathium; filaments jointed to the stalk (pedicel).....**Euphorbiaceae**

39b Inflorescence other than cyathium; filaments not jointed to the stalk.....**40**

40a Stamens inflexed in bud; anthers reversed; stipules inconspicuous or absent..... **Moraceae** (p.p)

40b Stamens erect in bud; anthers not reversed; stipules conspicuous.....**Ulmaceae**

41a Flowers zygomorphic.....**Musaceae**

41b Flowers actinomorphic.....**42**

42a Inflorescence of spadices.....**Arecaceae**

42b Inflorescence of spikes or racemes.....**Poaceae**

DICOTYLEDONS

POLYPETALAE

MAGNOLIACEAE

Key to the genera

1a Flowers axillary, < 7 cm across; follicles lax, rounded.....***Michelia***

1b Flowers terminal, > 12 cm across; follicles compact, beaked.....***Magnolia***

MAGNOLIA Linnaeus

Magnolia grandiflora L., Syst. Nat. (ed.10) 2: 1082. 1759; Matthew in Rec. Bot. Surv. India 20 (1): 37. 1969; Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1: 3.1983. (Plate V-G).

Vernacular name: Malaimagudam.

English name: Big flowered magnolia.

Habit: Tree, up to 10 m high.

Leaves: Broadly elliptic to ovate, thick coriaceous, rusty below, acute or cuneate at base, entire or undulate at margins, acute to short acuminate at apex; petiole ca.2 cm long.

Inflorescence type: Solitary.

Flower: Flowers > 20 cm across; pedicel stout. Perianth lobes 12, convex, cream; Receptacle ca. 2 x 1.8 cm. Stamens ca. 35, ca. 2.5 cm long. Pistils > 35, woolly, 1-celled; ovule(s) 1 or 2.

Fruits: Aggregate of follicles.

Flowering: March-July.

Fruiting: July-September.

Local distribution: Western Ghats.

Economic importance: Planted as ornamental tree in gardens for its attractive flower.

Specimen examined: PB & MG: 95.

MICHELIA Linnaeus

Michelia champaca L., Sp. Pl. 536.1753; Hook. f., Fl. Brit. India 1:42.1872; Gamble, Fl. Pres. Madras 1:6.1957 (repr.ed.); Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1: 3.1983; Matthew, Fl. Tamil Nadu Carnatic 1: 3.1983. (Plate V-I)

Vernacular name: Chenbagam.

English name: Chempak, Beetle's foe.

Habit: Tree, up to 20 m high.

Leaves: Alternate, ovate-lanceolate or elliptic-lanceolate, 7-20 x 3-8 cm, acute or cuneate at base, entire or undulate at margins, acute to short acuminate at apex; petiole ca.2.5 cm long.

Inflorescence type: Axillary, solitary.

Flower: Yellow, fragrant, ca. 4 cm across. Perianth 9, pale yellow, in 3 series, ca. 4 x 1.5 cm. Stamens numerous; anthers linear, apiculate at apex. Pistil ovoid, axillary, solitary.

Fruits: Aggregate of follicles.

Flowering: January-May.

Fruiting: February-July.

Local distribution: Coast, Plains and Western Ghats.

Interesting morphological features: Huge tree (287 cm girth) under worship in Kuzhalthai Velappar temple at Poomparai.

Economic importance: Grafted hybrid plants introduced in gardens.

Religious importance: Fragrant flowers used for ornamentation of deities

Specimen examined: PB & MG: 125.

ANNONACEAE

ARTABOTRYS R.Brown

Artabotrys hexapetalus (L.f.) Bhandari in Baileya 12 (4):149.1964; Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1: 3.1983; Matthew, Fl. Tamil Nadu Carnatic 1: 8. 1983. *Annona hexapetala* L.f., Suppl. Pl. 270.1781. *A. odoratissimus* R. Br. in Edward's Bot. Reg. 423. 1820; Hook. f., Fl. Brit. India 1: 54.1872; Gamble, Fl. Pres. Madras 1:10.1957 (repr. ed.). (Plate III-H)

Vernacular name: Manoranjitham.

English name: Cupids plant, Climbing ylang-ylang.

Habit: Straggler.

Leaves: Oblong-lanceolate, 4-12 x 1.5-3.5 cm glossy above, acute or cuneate at base, entire at margins, acuminate at apex; petiole ca.2 cm long.

Inflorescence type: Axillary, solitary.

Flower: Fragrant flower, sepals 3, ovate, ca. 7.5 x 6 mm, pubescent, recurved. Petals fleshy 3 + 3, lanceolate, green. Stamens ca. 80; anthers oblong. Carpels ca. 35, oblong; ovules 2 per cell; stigma clavate.

Fruits: Monocarps.

Flowering: March-May.

Fruiting: April-July.

Local distribution: Coast.

Economic importance: Introduced in gardens and for its fragrant flowers.

Religious importance: Flowers used for ornamentation of deities.

Specimen examined: PB & MG: 321.

CAPPARACEAE

Key to the genera

1a Leaves simple.....2

1b Leaves 3-foliolate.....*Crateva*

2a Stamens 4, inserted half way up the gynophore; torus not enclosed within calyx.....*Cadaba*

2b Stamens numerous, inserted at the base of the gynophore; torus enclosed within calyx.....*Capparis*

CADABA Forsskal

Cadaba fruticosa (L.) Druce in Bot. Exch. Club. Soc. Brit. Isles 3: 415. 1914; Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1: 12. 1983; Matthew, Fl. Tamil Nadu Carnatic

1: 37. 1983. *Cleome fruticosa* L., Sp. Pl. 671. 1753. *Cadaba indica* Lam., Encycl. 1: 544. 1785; Hook. f., Fl. Brit. India 1:172.1872; Gamble, Fl. Pres. Madras 1: 31. 1957 (repr.ed.). (Plate III-M)

Vernacular name: Vizhuthi.

English name: Indian cadaba, Chilli-fruited caper, Caper bush.

Habit: Straggling shrub.

Leaves: Simple, oblong or lanceolate, 3-5 x 1-2 cm, rounded or truncate at base, entire at margins, acute or obtuse at apex; petiole short.

Inflorescence type: Terminal corymbs.

Flower: Cream, ca. 2 cm across. Sepals 4, ca. 1.2 x 0.8 cm. Petals cream, 4, greenish, spathulate, ca. 1.5 x 0.5 cm. Androphore ca. 1 cm long. Stamens 4. Gynophore ca. 1.5 cm long. Ovary ca. 8 x 2 mm.

Fruits: Berry red.

Flowering: 2 peaks; January-March; July-October.

Fruiting: Throughout the year.

Local distribution: Coast.

Specimen examined: PB & MG: 85.

CAPPARIS Linnaeus

Key to the species

1a Flowers solitry..... *C. divaricata*

1b Flowers in racemes, or in clusters.....*C. zeylanica*

Capparis divaricata Lam., Encycl. 1:606.1785; Hook. f., Fl. Brit. India 1:174.1872; Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1:13.1983; Matthew, Fl. Tamil Nadu Carnatic 1:39.1983. *C. stylosa* DC., Prodr. 1: 246.1824; Gamble, Fl. Pres. Madras 1:32.1957 (repr.ed.). (Plate IV-C)

Vernacular name: Thoratti.

English name: Straight thorned caper.

Habit: Armed shrub.

Leaves: Elliptic or lanceolate, 3-5 x 0.5-2 cm, cuneate at base, entire at margins, acute or obtuse at apex, petiole ca. 1 cm long.

Inflorescence type: Axillary, solitary.

Flower: Sepals 4, elliptic-orbicular, ca. 1.5 x 1 cm. Petals 4, cream-greenish yellow, oblong, ca. 3 x 1.5 cm. Stamens > 50. Gynophore ca. 3 cm long. Ovary ovoid, ca. 7 mm long.

Fruits: Berry corrugated, red when ripening.

Flowering: April-June.

Fruiting: June-July.

Local distribution: Coast, Central plains and Western Ghats.

Economic importance: Leaves used in Siddha medicine to cure skin diseases.

Specimen examined: PB & MG: 63.

Capparis zeylanica L., Sp. Pl. ed. 2. 720.1762; Gamble, Fl. Pres. Madras 1:33. 1957 (repr.ed.); Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1:14.1983; Matthew, Fl. Tamil Nadu Carnatic 1: 43. 1983. *C. horrida* L. f., Suppl. Pl. 264.1781; Hook.f., Fl. Brit. India 1:178.1872. (Plate VII-I)

Vernacular name: Peyarillamaram.

English name: Ceylon caper, Thorny caper bush.

Habit: Small tree, up to 6 m high.

Leaves: Ovate-elliptic or elliptic-lanceolate, ca. 6 x 4.5 cm, coriaceous, cuneate at base, entire at margins, strongly mucronate at apex.

Inflorescence type: Axillary clusters.

Flower: White, ca. 5 cm across. Sepals 4; outer pair orbicular or elliptic, 1-1.5 x 0.5-1 cm; inner pair elliptic or oblong, ca.1 x 0.8 cm. Petals 4, oblong, ca. 2 x 1 cm. Stamens ca. 75. Disc ca. 1 mm long. Gynophore ca. 5 cm long. Ovary ellipsoid, ca. 2 mm long.

Fruits: Berry globose.

Flowering: February-April.

Fruiting: March-August.

Local distribution: Central plains.

Interesting morphological features: Huge tree (365 cm girth GBH) under worship in Mangaipagar, Thirukodungundram.

Specimen examined: PB & MG: 483.

CRATEVA Linnaeus

Crateva magna (Lour.) DC., Prodr. 1: 243.1824; Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1: 15. 1983; Matthew, Fl. Tamil Nadu Carnatic 1: 51.1983. *Capparis magna* Lour.,

Fl. Cochinch. 1:331.1790. *Crataeva nurvala* Bunch.- Ham. in Trans. Linn. Soc. London 15: 121.1827, "*narvala*". *C. religiosa* Forst. f., var. *nurvala* (Buch.-Ham.) Hook. f. & Thoms. in Hook. f., Fl. Brit. India 1: 172.1872. *C. religiosa* sensu Dunn in Gamble, Fl. Pres. Madras 1: 34.1957 (repr.ed.). (Plate IV-I)

Vernacular name: Mavilangam.

English name: Ovoid berried lingam; sacred lingam tree.

Habit: Tree, up to 10 m high.

Leaves: 3-foliolate; leaflets ovate, elliptic or lanceolate, 10-23 x 5-7.5 cm, thin chartaceous, rounded at base, entire at margins, caudate-acuminate at apex.

Flower: Large, polygamous. Sepals 4, adnate to the lobed disc. Petiole 4, long-clawed, open in bud. Stamens numerous, inserted at the base of the gynophore. Ovule many, on 2 parietal placentas.

Fruits: Globose Berry, yellowish-grey with powdery tomentum.

Flowering: April-May.

Fruiting: May-June.

Local distribution: Coast and Plains.

Religious importance: Leaves used for ornamentation of deities.

Specimen examined: PB & MG: 67.

CLUSIACEAE

CALOPHYLLUM Linn.

Calophyllum inophyllum L., Sp. Pl. 513.1753; Hook. f., Fl. Brit. India 1: 273.1874; Gamble, Fl. Pres. Madras 1: 55.1957 (repr. ed.); Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1: 27.1983; Matthew, Fl. Tamil Nadu Carnatic 1: 93. 1983. (Plate III-O)

Vernacular name: Punnai.

English name: Alexandrian laurel, Common poon.

Habit: Tree, up to 12 m high.

Leaves: Decussate, oblong-obovate, 8-14.5 x 4-9.5 cm, thick-coriaceous, glossy above, glabrous beneath, dark green, tunicate at base, entire at margins, rounded at apex.

Inflorescence type: Axillary, subcorymbose racemes.

Flower: ca. 2 cm across, polygamous. Sepals 4, unequal, ovate-orbicular, concave; outer pair ca. 7 x 5 mm; inner pair obovate, ca. 1 x 0.8 cm, petaloid. Petals 4, white, oblong ca. 1.5 x 0.5, reflexed. Stamens numerous, in 4 or 5 bundles; filaments ca.

7 mm long, free; anthers oblong, ca. 1.5 mm long. Ovary 1- celled; ovule 1, erect; style ca. 5 mm long, flexuous; stigma peltate.

Fruits: Drupe globose.

Flowering: April-August.

Fruiting: Throughout the year.

Local distribution: Coast and Plains.

Interesting morphological features: Huge size tree (1082 c m girth) recoded in Viruthapuriswarar temple, Thirupunavayil.

Economic importance: Wood used to make Catamaran and seed oil has various uses.

Religious importance: Sacred tree associated with Krishnaleela (Vishnu worship).

Specimen examined: PB & MG: 12.

RUTACEAE

Key to the genera

1a	Leaves unifoliate	2
1b	Leaves 3- or more foliate	3
2a	Petioles winged	***Citrus***
2b	Petioles not winged	***Atalantia***
3a	Flowers polygamous or unisexual	***Limonia***
3b	Flowers bisexual	4
4a	Stamens > 30	***Aegle***
4b	Stamens 8-10	5
5a	Petioles winged; plants armed	6
5b	Petioles not winged; plants unarmed	***Murraya***
6a	Leaves alternate, 3-foliolate; panicles elongated; ovary 5- celled	***Pleiopermium***
6b	Leaves 3-5 in a cluster, 3-7 foliolate; panicles umbellate; ovary 4-celled	***Naringi***

AEGLE Correa

Aegle marmelos (L.) Corr., Serr. Trans. Linn. Soc. London 5:223.1800; Hook. f., Fl. Brit. India 1:516.1875; Gamble, Fl. Pres. Madras 1:115.1957 (repr.ed.); Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1: 57.1983; Matthew, Fl. Tamil Nadu Carnatic 1: 199.1983. *Crateva marmelos* L., Sp. Pl. 444.1753. (Plate III-C)

Vernacular name: Vilvam.

English name: Bengal quince, Bael.

Habit: Tree, up to 12 m high.

Leaves: 3-5-foliolate, ca. 5 cm long; leaflets elliptic, lanceolate or oblong-obovate, attenuate at base, entire at margins, obtuse at apex; petiole ca. 2 cm long; petiolule ca. 3 mm long.

Inflorescence type: Axillary panicle.

Flower: 5-merous. Calyx-tube cupular, ca. 5 mm long. Petals 5, white. Stamens numerous. Ovary ovoid, > 10-celled.

Fruits: Large globose berry.

Flowering: February-April.

Fruiting: Throughout the year.

Local distribution: Coast, Plains and Western Ghats.

Interesting morphological features: Huge tree (449 cm girth) under worship in Kailasanatahar temple at Sivalimedu.

Economic importance: Fruit pulp and leaves used in Siddha medicine.

Religious importance: Leaves used as important offerings to Lord Shiva.

Specimen examined: PB & MG: 3.

ATALANTIA Correa

Atalantia monophylla (L.) Corr., Serr. Ann. Mus. Natl. Hist. Nat. 6:383.1805; Hook. f., Fl. Brit. India 1:511.1875; Gamble, Fl. Pres. Madras 1:113.1957 (repr.ed.); Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1: 57.1983; Matthew, Fl. Tamil Nadu Carnatic 1:200.1983. *Limonia monophylla* L., Mant. Pl. 237.1771. (Plate VII-C)

Vernacular name: Kurunthai.

English name: Wild lime, Monkey lime.

Habit: Armed tree, up to 8 m high.

Leaves: Uni-foliolate, lanceolate or elliptic, 3-5 x 1.5-3 cm, obtuse at base, entire or very rarely shallowly crenulate at margins, obtuse at apex.

Inflorescence type: Axillary racemes or panicles.

Flower: ca. 1 cm across, whitish or cream. Calyx-tube campanulate, ca. 3 mm long. Petals 4, cream, obovate, ca. 9 x 4 mm. Stamens 8. Ovary oblong, ca. 2.5 mm long.

Fruits: Berry globose.

Flowering: February-August.

Fruiting: March-September.

Local distribution: Coast and Western Ghats.

Economic importance: Fruits and leaves used in Siddha medicine.

Specimen examined: PB & MG: 62.

CITRUS Linnaeus

Key to the species

1a Fruits < 5 cm across.....***C. aurantifolia***

1b Fruits > 8 cm across.....***C. pennivesciculata***

Citrus aurantifolia (Christm. & Panz.) Swingle, J. Wash. Acad. Sci. 3: 465. 1913; Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1: 58.1983; Matthew, Fl. Tamil Nadu Carnatic 1: 203.1983. *Limonia aurantifolia* Christm. & Panz. in Linn. Pflanzensyst. 1: 618.1777. *Citrus medica* L. var. *acida* (Roxb.). Hook. f., Fl. Brit. India 1:515.1875; Gamble, Fl. Pres. Madras 1:115.1957 (repr.ed.). *C. acida* Roxb., Fl. Ind. 3:391.1832. (Plate IV-F)

Vernacular name: Yelumichai.

English name: Acid lime, Sour lime.

Habit: Shrub or small tree, up to 6 m high.

Leaves: Alternate, uni-foliolate, lanceolate or elliptic, 3-5 x 1.5-3 cm, cuneate at base, entire at margins, obtuse at apex; petiole winged.

Inflorescence type: Axillary corymbs.

Flower: Sepals 4-5. Petals (4)-5(10). Stamens ca. 4 times as petals. Disc annular. Ovary 8-18-celled, each cell with 2 collateral ovules.

Fruits: Berry globose, 4-6 cm across, pericarp greenish yellow.

Flowering: January-May.

Fruiting: Throughout the year.

Local distribution: Coast and Plains.

Economic importance: Fruits used in pickles and other culinary uses.

Religious importance: Fruits used as offerings in Mother Goddess worship.

Specimen examined: PB & MG: 35

Citrus pennivesiculata (Lush.) Tanaka in J. Indian Bot. Soc. 16: 239.1937; Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1:59.1983. *C. megaloxycarpa* Lush. var. *pennivesiculata* Lush. in Indian Forester 36: 345. 1910.

Vernacular name: Naarthai.

English name: Sour orange.

Habit: Tree, up to 7 m high.

Leaves: Alternate, simple or uni-foliolate, lanceolate or elliptic, cuneate at base, entire at margins, obtuse at apex; petiole winged.

Inflorescence type: Axillary, solitary or in corymbose cymes.

Flower: Axillary solitary or in small cyme. Sepals 4-5. Petals (4)-5(10). Stamens ca. 4 times as petals. Disc annular. Ovary 8-18 celled.

Fruits: Hesperidium with leathery pericarp, greenish yellow.

Flowering: April-June.

Fruiting: May-August.

Local distribution: Coast.

Economic importance: Fruits used to make pickles and culinary.

Specimen examined: PB & MG: 41.

LIMONIA Linnaeus

Limonia acidissima L., Sp. Pl. (ed.2) 554.1762; Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1:61.1983; Matthew, Fl. Tamil Nadu Carnatic 1:208.1983. *Feronia elephantum* Corr., Serr. Trans. Linn. Soc. London. 5:225.1800; Hook. f., Fl. Brit. India 1: 516.1875; Gamble, Fl. Pres. Madras 1: 160.1957 (repr.ed.). (Plate VII-P)

Vernacular name: Vila.

English name: Wood apple, Elephant apple, Curd fruit, Monkey fruit.

Habit: Armed tree, up to 20 m high.

Leaves: 1-3, in a cluster, odd-pinnate, ca. 8 x 5.5 cm; leaflets 1-4 pairs, opposite, oblong or obovate, ca. 4 x 2 cm, attenuate at base, entire at margins, obtuse at apex.

Inflorescence type: Racemes axillary or terminal, ca. 5 x 3 cm.

Flower: 5-merous, polygamous, Male flowers: Calyx-tube small; lobes 5, ca. 1 mm long. Petals 5, cream, ca. 5 mm long. Disc thick, annular. Stamens 10-12, free. Bisexual flowers: Ovary ovoid ca. 6 mm long.

Fruits: Berry globose, ca. 8 x 5 cm, woody; seeds numerous.

Flowering: January-July.

Fruiting: March-September.

Local distribution: Plains and Western Ghats.

Economic importance: The edible fruit pulp is rich in nutrients and the wood used to make agricultural implements.

Specimen examined: PB & MG: 280.

MURRAYA Linn.

Murraya koenigii (L.) Spreng., Syst. Veg. 2:315.1826; Hook. f., Fl. Brit India 1: 503. 1875; Gamble, Pres. Madras 1: 111. 1957 (repr.ed.); Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1: 61.1983; Matthew, Fl. Tamil Nadu Carnatic 1:209.1983. *Bergera konigii* L., Mant. Pl. 565. 1771. (Plate V-M)

Vernacular name: Karuveppilai.

English name: Curry leaf tree.

Habit: Large shrub or small tree, up to 6 m high.

Leaves: Imparipinnate, ca. 17 cm long; leaflets 2.5- 5 x 1-2.5 cm, ovate or ovate-elliptic, oblique at base, entire or crenulate at margins, acuminate at apex; petiole ca. 5 cm long; petiolule ca 5 cm long.

Inflorescence type: Terminal, corymbose panicles.

Flower: Sepals ca. 1 mm long. Petals ovate-elliptic, white. Disc glabrous. Stamens 10. Ovary ca. 3 mm long.

Fruits: Berry globose, black when ripe.

Flowering: June-September.

Fruiting: July-October.

Local distribution: Plains.

Economic importance: Leaves used in cuisine.

Specimen examined: PB & MG: 370.

NARINGI Adanson

Naringi crenulata (Roxb.) Nicolson in Saldanha & Nicolson, Fl. Hassan 387.1976; Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1: 61.1983; Matthew, Fl. Tamil Nadu Carnatic 1: 211. 1983. *Limonia crenulata* Roxb., Pl. Coromandel t. 86.1798 & Fl. Ind. 2:381.1832; Gamble, Fl. Pres. Madras 1:112.1957 (repr.ed.). *L. acidissima* auct non L.: Wight & Arn., Prodr. Fl. Ind. Orient. 92.1834; Hook. f., Fl. Brit. India 1:507.1875.

Vernacular name: Magavilvum.

English name: Dog wood apple, Musk deer plant.

Habit: Armed tree, up to 15 m high.

Leaves: 3-5 in a cluster, 5-10 cm long; leaflets 3 pairs, oblong, ovate or elliptic, 2-7 x 1-3 cm, attenuate at base, crenulate at margins, obtuse at apex.

Inflorescence type: Racemes axillary.

Flower: 4- or 5-merous, Calyx-tube campanulate; lobes 4 or 5, ca. 2 mm long. Petals 4 or 5, white. Disc annular. Stamens 8-10, free. Ovary oblong-obovoid, ca. 2 mm long.

Fruits: Berry globose.

Flowering: May-August.

Fruiting: June-September.

Local distribution: Plains.

Economic importance: Leaves has medicinal values and main ingredient of Siddha and tribal medicine.

Religious importance: Leaves used as important offerings to Lord Shiva.

Specimen examined: PB & MG: 51.

PLEIOSPERMIUM Swingle

Pleiospermium alatum (Wallich ex Wight & Arn.) Swingle, J. Wash. Acad. Sci. 6:427.1916; Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1: 62.1983; Matthew, Fl. Tamil Nadu Carnatic 1:212.1983. *Limonia alata* Wallich ex Wight & Arn., Prodr. Fl. Ind. Orient. 92.1834; Hook. f., Fl. Brit. India 1: 508.1875; Gamble, Fl. Pres. Madras 1: 112.1957 (repr.ed.). (Plate V-N)

Vernacular name: Kurunthai.

Habit: Armed tree, up to 5 m high.

Leaves: 3-foliate, 3.5-7 cm long; leaflets obovate, ovate or elliptic, 2.5-6.6 x 2-4 cm, thin coriaceous, glabrous, cuneate at base, subentire at margins, obtuse, retuse at apex; petiole winged, ca. 2 cm long.

Inflorescence type: Racemes, axillary.

Flower: 4-or 5-merous, bisexual, ca. 1.5 cm across. Calyx-tube campanulate, gland-dotted, pubescent; lobes 4 or 5, ovate, ca. 2 mm long. Petals 4 or 5, cream, obovate, ca 8 x 3 mm, Disc thick, cupular, ca. 10 lobed. Stamens 10, free. Ovary oblong-obovoid, 5- celled; ovules 2 per cell.

Fruits: Berry globose.

Flowering: January-April.

Fruiting: February-May.

Local distribution: Coast.

Economic importance: Leaves have medicinal value and used in Siddha medicine.

Specimen examined: PB & MG: 462.

OCHNACEAE

OCHNA Linneaus

Ochna obtusata DC. var. ***gamblei*** (King ex Brandis) Kanis in Blumea 16: 34. 1968; Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1: 64.1983; Matthew, Fl. Tamil Nadu Carnatic 1: 222. 1983. *O. gamblei* King ex Brandis, Indian Trees 128. 1906; Gamble, Fl. Pres. Madras 1:118.1957 (repr.ed.). *O. beddomei* Gamble in Kew Bull. 1916. 34. 1916 & Fl. Pres. Madras 1:118. 1957 (repr.ed.). (Plate VI-M)

Vernacular name: Silanthi.

English name: Golden blossomed pear tree.

Habit: Small tree, up to 5 m high.

Leaves: Apically clustered on branchlets, obovate, elliptic, 6-8.5 x 3-5 cm, cuneate at base, serrate or entire at margins, obtuse or acute at apex; petiole ca. 2 mm long; stipules ca. 1.5 mm long.

Inflorescence type: Terminal or axillary racemes.

Flower: ca. 2 cm across. Sepals oblong, ca. 1.5 x 0.7 cm. Petals 5, golden yellow, oblong, ca. 1.5 x 0.4 cm. Stamens ca. 50; filaments ca. 2 mm long; anthers ca. 6 mm long. Ovary 10-lobed, lobes ca. 1.5 mm long; ovule 1 per lobe; style ca. 7 mm long.

Fruits: Drupe.

Flowering: February-March.

Fruiting: April-July.

Local distribution: Coast.

Religious importance: Devotees use the flowers to conduct rituals.

Specimen examined: PB & MG: 387.

BURSERACEAE

COMMIPHORA N. J. Jacquin

Commiphora caudata (Wight & Arn.) Engl. in A. & C. DC., Monogr. Phan. 4:27.1883; Gamble, Fl. Pres. Madras 1: 122.1957 (repr.ed.); Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1: 65.1983; Matthew, Fl. Tamil Nadu Carnatic 1:227.1983. *Protium caudatum* Wight & Arn., Prodr. Fl. Orient. 176. 1834; Hook. f., Fl. Brit. India 1: 530.1875. (Plate VII-H)

Vernacular name: Kiluvai.

English name: Hill mango.

Habit: Tree, up to 15 m high.

Leaves: Alternate, 3-7-foliolate; leaflets opposite, ovate-oblong or elliptic, 4-5 × 2-2.5 cm, chartaceous, glabrous, glossy above, attenuate or cuneate at base, entire at

margins, caudate acuminate at apex; petiole ca.5 cm long; petiolule ca. 5 mm long.

Inflorescence type: Axillary, panicled cymes.

Flower: Male flowers: ca. 3 mm across. Calyx-tube campanulate, ca. 2.5 mm long; lobes 4. Petals 4, cream, oblanceolate, ca. 4 mm long. Stamens 8, free. Female flowers: ovary ovoid or oblong, ca. 1.5 mm long, 2-celled.

Fruits: Drupe globose.

Flowering: March-May.

Fruiting: April-June.

Local distribution: Coast and Plains.

Interesting morphological features: Huge tree (258 cm girth) and uneven (peculiar) trunk shape in Umamaheswarar temple at Vellalore.

Specimen examined: PB & MG: 47.

MELIACEAE

AZADIRACHTA A. H. L. Jussieu

Azadirachta indica Adr. Juss., Mem. Mus. Hist. Nat. 19: 221.t.2.f.5.1832: Gamble, Fl. Pres. Madras 1:127.1957 (repr.ed.); Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1: 67.1983; Matthew, Fl. Tamil Nadu Carnatic 1: 234.1983. *Melia azadirachta* L., Sp. Pl. 385.1753; Hook. f., Fl. Brit. India 1: 544.1875. (Plate III-I)

Vernacular name: Vembu.

English name: Neem tree, Margosa, Indian lilac.

Habit: Tree, up to 20 high.

Leaves: Imparipinnate, ca. 15 cm long; leaflets oblong-lanceolate, falcate, 4-7 × 1-2.5 cm, oblique at base, serrate at margins, acuminate at apex; petiole ca. 5 cm long; petiolule ca. 2 mm long.

Inflorescence type: Axillary panicle.

Flower: 5-merous, ca. 7.5 mm across. Calyx-lobes 5, ovate, ca. 0.8 mm long. Petals 5, white, free, oblong-obovate, ca. 6 × 2 mm. Staminal-tube ca. 5 mm long. Stamens 10. Ovary oblong.

Fruits: Drupe oblong-ovoid.

Flowering: March-May.

Fruiting: April-June.

Local distribution: Coast and Plains.

Interesting morphological features: Huge tree (755 cm girth) in worship at Vaideeswaran temple.

Economic importance: Whole plant used as medicine in all the Indian medicinal systems. Wood is used to make agricultural implements. Seed oil used as insecticide.

Religious importance: Leaves and the tree are important in mother Goddess worship.

Specimen examined: PB & MG: 25.

RHAMNACEAE

ZIZYPHUS P. Miller

Ziziphus mauritiana Lam., Encycl. 3: 319. 1789; Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1: 78.1983; Matthew, Fl. Tamil Nadu Carnatic 1: 271.1983. *Z. jujuba* (L.) Gaertner, Fruct. Sem. Pl. 1: 203.1788; Hook. f., Fl. Brit. India 1: 632.1875; Gamble, Fl. Pres. Madras 1: 157.1957 (repr.ed.). *Rhamnus mauritiana* L., Sp. Pl. 194.1753. (Plate VI-O)

Vernacular name: Ilanthai.

English name: Indian jujube, Common jujube, Indian plum.

Habit: Tree, up to 15 m high.

Leaves: Alternate, orbicular-rotund, 2-3 x 1.5-3 cm, oblique at base, serrulate at margins, acute or obtuse at apex; petiole ca. 8 mm long.

Inflorescence type: Cymes axillary, 15-20-flowered, in dense fascicles.

Flower: Calyx-tube ca. 0.5 mm long. Petals greenish, obovate, ca. 1 mm long. Disc 10-lobed, pitted. Stamens 5. Ovary embedded in disc.

Fruits: Drupe globose.

Flowering: June-August.

Fruiting: July-September.

Local distribution: Coast and Plains.

Interesting morphological features: Huge tree (540 cm girth) found in Mangalanathar temple at Utharakosamangai.

Economic importance: Fruits edible and used in culinary; leaves have as medicinal properties.

Specimen examined: PB & MG: 31.

SAPINDACEAE

Key to the genera

1a Leaves simple; fruit a capsule.....*Dodonaea*

1a Leaves pinnate; fruit a drupe 2

2a Seeds arillate; leaflets 7, rusty when dry.....*Schleichera*

2a Seeds not arillate; leaflets < 5, greenish yellow when dry.....*Lepisanthes*

DODONAEA P. Miller

Dodonaea angustifolia L.f., Suppl. Pl. 218. 1782; Matthew, Fl. Tamil Nadu Carnatic 1: 294.1983. *D. viscosa* (L.) Jacq., Enum. Pl. Carib. 19.1760; Hook. f., Fl. Brit. India 1:697.1875; Gamble, Fl. Pres. Madras 1:181.1957 (repr.ed.); Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1:84.1983. *Ptelea viscosa* L., Sp. Pl. 118. 1753. (Plate VII-K)

Vernacular name: Virali.

English name: Australian native hop, Golla's plate, Switch sorrel.

Habit: Shrub, up to 3 m high.

Leaves: Simple, alternate, elliptic-lanceolate, ca. 8 x 2.5 cm, coriaceous attenuate at base, entire at margins, acute at apex.

Inflorescence type: Axillary or terminal, racemes or panicles.

Flower: Small, polygamous. Sepals 4 (5), oblong, ciliate. Petals 0. Disc rudimentary. Stamens 4-10. Ovary globose, 2-4-celled; stigma 2-or 3-fid.

Fruits: Capsule winged; seeds globose, ca. 3 mm long.

Flowering: September-November.

Fruiting: October-December.

Local distribution: Plains.

Specimen examined: PB & MG: 7.

LEPISANTHES Blume

Lepisanthes tetraphylla (Vahl) Radlk. in Sitzungsber. Math.-Phys. Cl. Koenigl. Bayer. Akad. Wiss. Muenchen 8: 276. 1878; Gamble, Fl. Pres. Madras 1:176.1957 (repr.ed.); Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1: 85.1983; Matthew, Fl. Tamil Nadu Carnatic 1: 296.1983. *Sapindus tetraphylla* Vahl, Symb. Bot. 3. 54.1794. *Hemigyrosa canescens* (Roxb.) Blume in Rumphia 3: 166. 1849; Hook. f., Fl. Brit. India 1:671.1875; *Molinaea canescens* Roxb., Pl. Cor.t. 60.1796. (Plate V-F)

Vernacular name: Neikottlamaram.

English name: Fig mango, Nicotah.

Habit: Tree, up to 15 m high.

Leaves: Even-pinnate, 15-25 x 10-16 cm; leaflets alternate, 2 pairs, oblong-elliptic, 8.5-20 x 4.5-5 cm, thick-coriaceous, attenuate at base, entire at margins, obtuse-round at apex; petiole ca. 7 cm long; petilolule ca. 5 mm long.

Inflorescence type: Panicles axillary.

Flower: ca. 5 mm across, regular. Male: ca. 5 mm across, regular or irregular. Sepals 2 + 3, imbricate, subequal, obtuse at apex, 2-fid, fimbriate, inner surface callous at base and with 2-3 scales. Disc thick, 4-5 lobed. Stamens 8; filaments ca. 4 mm long, subequal, free, pilose; anthers ovoid, ca. 0.7 mm long, Bisexual: filaments shorter than petals, ca. 2 mm long. Ovary globose, 2-celled; ovule 1.

Fruits: Drupe.

Flowering: March-April.

Fruiting: April-May.

Local distribution: Plains.

Interesting morphological features: Huge tree (173 cm girth) under worship in Rajendracholeeswarar temple at Periakulam.

Economic importance: Seeds used to remove dirt from gold and silver ornaments.

Specimen examined: PB & MG: 172.

SCHLEICHERA Willdenow

Schleichera oleosa (Lour.) Oken, Allg. Naturgesch. 3(2):1341.1841. Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1: 85.1983; Matthew, Fl. Tamil Nadu Carnatic 1: 299. 1983. *Pistacia oleosa* Lour., Fl. Cochinch. 2:615.1790. *Schleichera trijuga* Willd., Sp. Pl. 4:1096.1805; Hook. f., Fl. Brit. India 1: 681.1875; Gamble, Fl. Pres. Madras 1:177.1957 (repr.ed.). (Plate VI-E)

Vernacular name: Poovan.

English name: Lac tree, Ceylon oak, Macassar oil tree.

Habit: Tree, up to 20 m high.

Leaves: Even-pinnate, ca. 20 x 12 cm; leaflets (2)3 pairs, sessile, oblong-elliptic, ca. 15 x 5 cm; cuneate at base; entire at margins, obtuse at apex; petiole ca. 6 cm long.

Inflorescence type: Terminal and / or axillary, interrupted, slender, racemose panicles or fascicles.

Flower: Polygamous. Sepals 5, cream. Petals 0. Disc flat. Stamens 6-8, inserted inside the disc. Ovary ovoid; stigma 2-3-lobed.

Fruits: Drupe ovoid.

Flowering: March-May.

Fruiting: April-June.

Local distribution: Western Ghats.

Interesting morphological features: Huge tree (600+ cm girth) under worship in Achaleeswarar temple at Thumbakodu.

Economic importance: Fruits are edible, seeds oil yielding and wood used to make household and agricultural implements.

Specimen examined: PB & MG: 65.

ANACARDIACEAE

MANGIFERA Linnaeus

Mangifera indica L., Sp. Pl. 200.1753; Hook. f., Fl. Brit. India 2:13.1876; Gamble, Fl. Pres. Madras 1:185.1957 (repr.ed.); Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1:88.1983; Matthew, Fl. Tamil Nadu Carnatic 1: 308. 1983. (Plate VII-B)

Vernacular name: Mamaram.

English name: Mango tree.

Habit: Tree, up to 20 m high.

Leaves: Elliptic-lanceolate, ca. 20 × 4 cm, coriaceous, cuneate at base, entire at margins, acute to acuminate at apex; petiole ca. 3 cm long.

Inflorescence type: Terminal panicles.

Flower: Polygamous. Calyx-lobes 5, ovate. Petals 5, cream, oblong-obovate. Disc cupular. Stamens 5, only 1 or 2 fertile. Staminodes 4 or 3. Ovary oblique, 1-celled.

Fruits: Drupe ovoid-oblong; seed 1, obovoid-oblong.

Flowering: April-July.

Fruiting: May-August.

Local distribution: Coast, Plains and Western Ghats.

Economic importance: Fruits are edible; wood is used for house hold purpose. Original strains are in temple and grafted plants are cultivated for its fruits.

Religious importance: Leaves are auspicious and tied at the entrance of the homes and used in rituals.

Specimen examined: PB & MG: 55.

MORINGACEAE

MORINGA Adanson

Moringa pterygosperma Gaertnner, Fruct. Sem. 2: 314. 1791; Hook. f., Fl. Brit. India 2: 45.1876; Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1:90.1983. *M. oleifera* auct. non Lam. 1785; Bedd., Fl. Sylv. t. 80. 1871; Gamble, Fl. Pres. Madras 1: 192. 1957 (repr. ed.); Matthew, Fl. Tamil Nadu Carnatic 1: 314.1983. (Plate VIII-C)

Vernacular name: Murungai.

English name: Drumstick tree.

Habit: Tree, up to 10 m high.

Leaves: Leaves 2-pinnate, ca. 60 × 40 cm; primary pinnate 5-8 pairs, ca. 20 × 8 cm; leaflets odd pinnate, 4-6 pairs, rotund at base, entire at margins, obtuse at apex, retuse, apiculate; petiole ca. 10 cm long, pulvinate; petiolule ca. 3 mm long.

Inflorescence type: Axillary panicles.

Flower: Bisexual, irregular. Calyx cupular; lobes 5, oblong, ca. 1.5 × 0.6 cm. Petals 5, white, oblong-obovate. Fertile stamens 5, alternating with 5-7 staminodes. Ovary 1-celled.

Fruits: Elongate capsule, 3-valvate, ca. 60 cm long; seeds numerous, ca. 2 × 1.5 cm.

Flowering: September-February.

Fruiting: October-March.

Local distribution: Coast, Plains and Ghats.

Economic importance: Fruits and leaves used as green vegetable and the resin is used in Indian medicinal systems.

Specimen examined: PB & MG: 35.

FABACEAE (PAPILIONACEAE)

Key to the genera

1a Fruits winged.....*Pterocarpus*

1b Fruits not winged.....**2**

2a Flowers red, > 3cm across.....*Butea*

2a Flowers pinkish white, < 1 cm across.....*Pongamia*

BUTEA J. Konig ex Roxburgh

Butea monosperma (Lam.) Taub. in Engler & Prantl, Pflanzenf. 3(3): 336. 1894; Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1: 93. 1983; Matthew, Fl. Tamil Nadu Carnatic 1: 344.1983. *Erythrina monosperma* Lam., Encycl. 1: 391. 1785. *Butea frondosa* Koen. ex Roxb., Asiat. Res. 3: 369.1792; Hook. f., Fl. Brit. India 2: 194. 1876; Gamble, Fl. Pres. Madras 1: 252. 1957 (repr. ed.). (Plate VII-F)

Vernacular name: Purasu.

English name: Flame of the forest, Bastard teak, Bengal kino.

Habit: Tree, up to 12 m high.

Leaves: 3-foliate, ca. 30 x 25 cm; obovate, ca. 10 x 7 cm, cuneate at base, entire at margins, obtuse or retuse at apex; petiole ca. 20 cm long; petiolule ca. 6 mm long.

Inflorescence type: Axillary or terminal racemes.

Flower: Large, ca. 5 cm across. Calyx-tube ca. 1 cm long, velvety; upper lobes connate, ca. 5 mm long; lower ones deltoid, ca. 4 mm long. Corolla red; standard ovate-lanceolate, ca. 5 x 2 cm long; wings falcate, ca. 4 x 1.5 cm. Stamens 9 + 1. Ovary ca. 2.5 cm long.

Fruits: Pods oblong.

Flowering: March-May.

Fruiting: April-June.

Local distribution: Coast and Plains.

Economic importance: The flowers yield a fugitive orange-red dye.

Specimen examined: PB & MG: 15.

PONGAMIA Ventenat

Pongamia pinnata (L.) Pierre, Fl. Forest. Cochinch. Sub t. 385. 1899; Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1: 117.1983; Matthew, Fl. Tamil Nadu Carnatic 1: 441. 1983. *Cytisus pinnatus* L., Sp. Pl. 741. 1753. *Pongamia glabra* Vent., Jard. Malm. 28. t. 28.1803; Hook. f., Fl. Brit. India 2: 240. 1876; Gamble, Fl. Pres. Madras 1: 272.1957 (repr.ed.). (Plate V.O)

Vernacular name: Pungam.

English name: Indian beech.

Habit: Tree, up to 17 m high.

Leaves: Alternate, odd-pinnate, 20 x 15 cm; leaflets 3-5 pairs, ca. 9 x 4 cm, obtuse-cuneate at base, entire at margins, acuminate at apex; petiole ca. 5 cm long; petiolule ca. 1 cm long.

Inflorescence type: Axillary racemes.

Flower: ca. 1 cm across. Calyx-tube campanulate, ca. 4 mm across. Corolla pinkish-white, clawed; standard orbicular, ca. 1.3 x 1 cm; wings oblong, ca. 1.2 x 0.6 cm. Stamens 10. Ovary subsessile, ca. 6mm long; style incurved.

Fruits: Pod obliquely oblong, woody.

Flowering: June-December.

Fruiting: July-January.

Local distribution: Coast.

Economic importance: Trees are grown in gardens and road sides for shade. Seed oil used in Siddha medicine.

Specimen examined: PB & MG: 17.

PTEROCARPUS N.J. Jacquin

Pterocarpus marsupium Roxb., Pl. Coromandel t. 116. 1799 & Fl. Ind. 3: 234. 1832; Hook. f., Fl. Brit. India 2: 239. 1876: Gamble, Fl. Pres. Madras 1: 271.1957 (repr.ed.); Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1: 118.1983; Matthew, Fl. Tamil Nadu Carnatic 1: 445.1983.

Vernacular name: Vengai.

English name: Indian kino tree, Malabar kino tree.

Habit: Tree, up to 25 m high.

Leaves: Odd-pinnate, ca. 2.5 x 18 cm, coriaceous; leaflets 3 pairs, elliptic-oblong, ca. 10 x 6 cm, obtuse-truncate at base, entire at margins, emarginate at apex. petiole ca. 5 cm long; petiolule ca. 8 mm long.

Inflorescence type: Panicles axillary and terminal, ca. 20 cm long.

Flower: ca. 2 cm across. Calyx-tube campanulate, ca. 8 mm long. Corolla bright yellow, long clawed; standard orbicular, ca. 1.5 x 1 cm; wings ca. 1 x 0.8 cm. Stamens 10. Ovary tomentose.

Fruits: Pod orbicular, ca. 4.5 x 3.5 cm; seed(s) 1 or 2.

Flowering: March-June.

Fruiting: April-July.

Local distribution: Plains.

Economic importance: Wood has timber value and resin 'Kino' used in medicine.

Specimen examined: PB & MG: 421.

CAESALPINIACEAE

Key to the genera

1a Flowers red.....*Saraca*

1b Flowers other than red.....2

2a Leaves 2-lobed at apex.....*Bauhinia*

2a Leaves not 2-lobed (entire) at apex.....3

3a Leaflets > 3.5 cm long, < 7 pairs.....*Cassia*

3a Leaflets < 1 cm long, > 15 pairs.....*Tamarindus*

BAUHINIA Linnaeus

Key to the species

1a Leaves acuminate at apex.....*B. acuminata*

1b Leaves rounded or acute at apex.....2

2a Flowers white; petals < 1.5 cm long; pod twisted.....*B. racemosa*

2b Flowers pink; petals > 3.5 cm long; pod not twisted.....*B. purpurea*

Bauhinia acuminata L., Sp. Pl. 375. 1753; Hook. f., Fl. Brit. India 2: 276. 1878; Gamble, Fl. Pres. Madras 2: 289. 1957 (repr. ed.); Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1:127.1983. (Plate III-J)

Vernacular name: Kokkumantharai.

English name: Dwarf white bauhinia, Crane's feather.

Habit: Shrub, up to 3 m high.

Leaves: Shallowly 2-lobed, 7-15 x 6-12 cm, sub cordate at base, entire at margins, obcordate at apex; petiole ca. 2.5 cm long.

Inflorescence type: Terminal corymbs.

Flower: White, ca. 1.5 cm across. Calyx-tube campanulate, 5-lobed; lobes oblong, ca. 7.5 mm long. Petals 5, white, oblong, ca. 1.7 cm long. Stamens 10. Ovary pubescent, ca. 9 mm long.

Fruits: Pod oblanceolate.

Flowering: November-April.

Fruiting: December-May.

Local distribution: Plains.

Economic importance: Planted in gardens as ornamental.

Specimen examined: PB & MG: 242.

Bauhinia purpurea L., Sp. Pl. 375. 1753; Hook. f., Fl. Brit. India 2: 284. 1878; Gamble, Fl. Pres. Madras 1: 288. 1957 (repr. ed.); Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1:127.1983; Matthew, Fl. Tamil Nadu Carnatic 1: 485.1983. *Phanera purpurea* (L.) Benth. in Pl. Jungh. 262. 1852. (Plate III-K)

Vernacular name: Mantharam.

English name: Butterfly tree, Orchid tree, Geranium tree.

Habit: Tree, up to 10 m high.

Leaves: Alternate, simple, 2-lobed, palmately 9-11 nerved, sub cordate at base, entire at margins, obcordate at apex; petiole ca. 3 cm long.

Inflorescence type: Racemes terminal and or axillary.

Flower: Calyx-tubular, splitting at maturity in to two segments, tomentose; segments oblong. Petals 5, oblong, lanceolate, clawed, prominently nerved, showy, ca. 5 x 1.5 cm. Stamens 3-4 only fertile, shorter than corolla; filaments stout at base, staminodes unequal. Ovary compressed, grooved.

Fruits: Pod oblong, flat; seeds ca. 10, ovoid, flat; seeds ca. 10, ovoid, flat.

Flowering: February-May.

Fruiting: March-June.

Local distribution: Plains.

Economic importance: Tree is grown in gardens as ornamental.

Specimen examined: PB & MG: 74.

Bauhinia racemosa Lam., Encycl. 1: 390. 1785; Hook. f., Fl. Brit. India 2: 276. 1876; Gamble, Fl. Pres. Madras 1: 288. 1957 (repr.ed.); Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1: 128.1983; Matthew, Fl. Tamil Nadu Carnatic 1: 485. 1983. (Plate III-L)

Vernacular name: Aathi.

English name: Mountain ebony.

Habit: Tree, up to 12 m high.

Leaves: 2-lobed, ca. 4 x 5.2 cm, subcoriaceous, cordate at base, entire at margins, obcordate at apex; petiole ca. 1 cm long.

Inflorescence type: Terminal and axillary racemes, ca 12 cm long.

Flower: white or pale yellow, ca. 1.5 cm across. Calyx-tube campanulate, 5-lobed; lobes oblong, ca. 7.5 mm long. Petals 5, white or pale yellow, oblong, ca. 1.7 cm long. Stamens 10. Ovary pubescent, ca. 9 mm long.

Fruits: Pod oblong, twisted; seeds ca. 10, ovoid.

Flowering: February-May.

Fruiting: April-June.

Local distribution: Plains and Western Ghats.

Interesting morphological features: Huge (247 cm girth) uneven shaped plant is worship in Ganapatheeswarar temple at Thiruchenghattankudi.

Economic importance: Pod and leaves used to cure stomach-ache. Bark is used to extract tannin.

Specimen examined: PB & MG: 327.

CASSIA Linnaeus

Cassia fistula L., Sp. Pl. 377. 1753; Hook. f., Fl. Brit. India 2: 261. 1878; Gamble, Fl. Pres. Madras 1: 283. 1957 (repr. ed.); Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1: 129.1983; Matthew, Fl. Tamil Nadu Carnatic 1: 500. 1983. (Plate IV-E)

Vernacular name: Sarakkonnai.

English name: Indian laburnum, Golden-shower.

Habit: Tree, up to 12 m high.

Leaves: Imparipinnate; leaflets 4-5 pairs, oblong-ovate, 3-10 x 2-7.5 cm, cuneate at base, entire at margins, acute to acuminate at apex. petiole ca. 6 cm long; petiolule ca. 1 cm long.

Inflorescence type: Drooping racemes, ca. 35 cm long, pendulous.

Flower: Yellow. Calyx-lobes 5, ovate, ca. 1.2 x 0.8 cm. Petals 5, yellow, obovate, ca. 4 x 2.5 cm. Stamens 10. Ovary appressed-pubescent.

Fruits: Pod oblong, terete, 30-60 cm long, 2 cm across; seeds numerous.

Flowering: March-June.

Fruiting: April-July.

Local distribution: Coast, Plains and Western Ghats.

Interesting morphological features: Huge trees (467 cm girth) under worship in Sivakozhundeeswarar temple at Thirthanagiri.

Economic importance: Tree is planted for its ornamental value. Bark has medicinal properties.

Religious importance: Flowers used as offering to Lord Shiva.

Specimen examined: PB & MG: 142.

SARACA Linnaeus

Saraca asoca (Roxb.) Willde. in Blumea 15: 393.1968; Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1: 133.1983. *Jonesia asoca* Roxb. in Asiat. Res. 4: 365. 1799. *Saraca indica* auct. non L. 1769; Baker in Hook.f., Fl. Brit. India 2: 271.1878; Gamble, Fl. Pres. Madras 1: 289. 1957 (repr. ed.). (Plate VIII-H)

Vernacular name: Asokam.

English name: Sorrow less tree, Asoca.

Habit: Tree, up to 7 m high.

Leaves: Atlernate, pinnate, up to 20 cm long; leaflets 4-6 pairs, ovate or oblong, 3-10 x 2-7.5 cm; petiole ca. 5 cm long.

Inflorescence type: Axillary corymbs.

Flower: Bracteoles 2, spathulate-oblong, amplexicaul, coloured, at base of calyx tube. Calyx tubular, yellow when young, later turns orange and finally red, cylindrical, solid at base, 4-lobed; lobes oblong, obovate. Stamens 8, rarely less, exserted; filaments slender.

Fruits: Pod linear-oblong.

Flowering: March-June.

Fruiting: March-June.

Local distribution: Plains.

Economic importance: Flowers and bark used in Indian medicinal systems.

Religious importance: Flowers used as offering to Lord Shiva.

Specimen examined: PB & MG: 463.

TAMARINDUS Linnaeus

Tamarindus indica L., Sp. Pl. 34. 1753; Hook. f., Fl. Brit. India 2: 273.1878; Gamble, Fl. Pres. Madras 1: 290. 1957 (repr. ed.); Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1:133.1983; Matthew, Fl. Tamil Nadu Carnatic 1: 516.1983. (Plate VI-J)

Vernacular name: Puliyamaram.

English name: Tamarind tree.

Habit: Tree, up to 30 m high.

Leaves: Paripinnate; ca. 7 x 2 cm; leaflets ca 8 x 2.5 mm long, oblong-elliptic, rounded at base, entire at margins, acute, apiculate at apex; petiole ca. 1 cm long; petiolule reduced.

Inflorescence type: Terminal racemes.

Flower: Yellow stiped. Calyx-lobes 4, oblong, ca. 1.2 cm long. Petals 3 + 2, ca. 11 x 3 mm. Stamens 3, with 4 or 5 staminodes. Ovary stipitate.

Fruits: Pod oblong.

Flowering: June-September.

Fruiting: July-October.

Local distribution: Plains and Western Ghats.

Interesting morphological features: In temple trees leaves do not droop during night hours as happen in wild trees, Fruit pulp is in sweet taste instead of sour.

Economic importance: Fruit pulp used in cookery.

Specimen examined: PB & MG: 218.

MIMOSACEAE

Key to the genera

1a Plants armed.....2

1b Plants unarmed.....*Albizia*

2a Inflorescence bicoloured; branchlets spine-tipped; pods indehiscent..... *Dichrostachys*

2b Inflorescence con colourous; branchlets with either internodeal prickles or stipular spines at nodes; pods dehiscent..... 3

3a Flowers 4-merous; stamens 4 or 8; pods bristl or spinous on margins.....*Mimosa*

3b Flowers 5-merous; stamens 10 or numerous; pods unarmed.....4

4a Pinnae pairs 3 or more; pods compressed.....*Acacia*

4b Pinnae pairs 2 or more; pods inflated.....*Prosopis*

ACACIA P. Miller

Key to the species

1a Flowers in spikes.....*A. chundra*

1b Flowers in heads.....2

2a Leaf-rachis eglandular.....*A. farnesiana*

2b Leaf-rachis glandular.....*A. leucophloea*

Acacia chundra (Roxb. ex. Rottl.) Willd., Sp. Pl. 4: 1078. 1806; Hook. f., Fl. Brit. India 2: 295. 1878; Gamble, Fl. Pres. Madras 1: 303.1957 (repr.ed.); Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1: 133. 1983; Matthew, Fl. Tamil Nadu Carnatic 1: 524.1983. *Mimosa chundra* Roxb. ex. Rottl., Ges. Naturf. Freunde Berlin Neue Schriften 4: 207. 1803.

Vernacular name: Karungali.

English name: Catechu tree, Cutch.

Habit: Tree, up to 8 m high.

Leaves: Paripinnate, 6-15 cm long; leaflets 30-50 pairs, elliptic, ca. 5 x 2 mm, oblique at base, entire at margins, subacute at apex, petiole ca. 2 cm long.

Inflorescence type: Spikes or spike like racemes.

Flower: ca. 2 mm across. Calyx-tube 5-lobed, ca. 0.7 mm long. Petals 5, white, ca. 2.5 mm long. Stamens numerous. Ovary stipitate, falcate, ca. 2 mm long; style ca. 3 mm long.

Fruits: Pod stipitate; seeds ca. 6, ovoid.

Flowering: April-September.

Fruiting: May-November.

Local distribution: Coast, Plains and Western Ghats.

Economic importance: Wood used for agricultural purposes.

Specimen examined: PB & MG: 438.

Acacia farnesiana DC., Prodr. 2: 458. 1825; Hook. f., Fl. Brit. India 2: 295. 1878; Gamble, Fl. Madras I: 428 (303). 1919; Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1: 133. 1983; Matthew, Fl. Tamil Nadu Carnatic 1: 526.1983. (Plate III-B)

English name: Cockspur thorn.

Habit: Tree, up to 8 m high.

Leaves: Paripinnate; ca. 5 cm long; leaflets 15-25 pairs, oblong, 0.3-1 x 0.1-0.3 cm, glaucous, oblique at base, sparsely ciliate, at margins, subacute at apex; nerves prominent above, midnerve near distal margin; petiole ca. 2-3 cm long.

Inflorescence type: Axillary, clustered heads.

Flower: Flowers ca. 3 mm across. Calyx-tube 5-lobed, ca. 1 mm long puberulous. Petals 5, yellow, ca. 1 mm long. Stamens numerous ca. 4 mm long, basally connate. Ovary stipitate, terete, ca. 1 mm long; style ca. 3 mm long.

Fruits: Pod stipitate.

Flowering: April-September.

Fruiting: May-October.

Local distribution: Coast.

Interesting morphological features: Tree is in uneven shape such a huge liane.

Economic importance: Wood used for making agricultural implements. Leaves used to cure knee joint pain and treat infertility.

Specimen examined: PB & MG: 477.

Acacia leucophloea (Roxb.) Willd., Sp. Pl. 4: 1083. 1806; Hook. f., Fl. Brit. India 2: 294.1878; Gamble, Fl. Pres. Madras 1: 302.1957 (repr.ed.); Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1: 135.1983; Matthew, Fl. Tamil Nadu Carnatic 1: 527. 1983. (Plate III-A)

Vernacular name: Vellaivelan.

English name: White babool.

Habit: Tree, up to 20 cm high.

Leaves: Paripinnate, 2-4.5 cm long; leaflets 10-30 pairs, elliptic, ca. 2.5 x 0.7 mm, oblique at base, ciliate at margins, acute at apex; petiole ca. 1 cm long.

Inflorescence type: Terminal panicles.

Flower: Pale yellow. Calyx-tube 5-lobed, ca. 1.2 mm long. Petals 5, cream to yellow, ca. 2.5 mm long. Stamens 25-30. Ovary stipitate, ca. 0.7 mm long.

Fruits: Pod sessile.

Flowering: August-September.

Fruiting: September-October.

Local distribution: Coast, Plains and Western Ghats.

Economic importance: Pods used as a fodder for livestock.

Specimen examined: PB & MG: 10.

ALBIZIA Durazzini

Key to the species

1a Leaflets 1-2 cm broad; pinnae 2-3 pairs; pod 4-5 cm across.....*A. lebbeck*

1b Leaflets 2-8 mm broad; pinnae 5-15 pairs; pod 3-3.5 cm across.....*A. amara*

Albizia amara (Roxb.) Boivin in Encycl. XIXme Siecle 2: 34. 1838; Hook. f., Fl. Brit. India 2: 301. 1878; Gamble, Fl. Pres. Madras 1: 306.1957 (repr.ed.); Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1:136.1983; Matthew, Fl. Tamil Nadu Carnatic 1: 535.1983. *Mimosa amara* Roxb., Pl. Coromandel. t. 122. 1799 & Fl. Ind. 2: 548. 1832. (Plate III-F)

Vernacular name: Usilai.

English name: Black sirissa, Washing tree.

Habit: Tree, up to 7 m high.

Leaves: Paripinnate, 4-7 cm long; leaflets 20-25 pairs, elliptic, ca. 9 x 3 mm, acute sub at base, sparsely ciliate at margins, obtuse at apex. petiole ca. 5 cm long.

Inflorescence type: Terminal or axillary, racemose panicles or cluster heads, ca. 2.5 cm across.

Flower: Pinkish white. Calyx-tube ca. 1.5 mm long. Petals 5, cream, ca. 5 mm long. Stamens 30-40. Ovary stipitate, ca. 3 mm long.

Fruits: Pods flat.

Flowering: February-June.

Fruiting: March-July.

Local distribution: Plains and Western Ghats.

Economic importance: Young tender leaves used as natural shampoo by the village folk.

Specimen examined: PB & MG: 271.

Albizia lebbeck (L.) Benth. in Hook. f., Lond. J. Bot. 3: 87. 1844; Hook. f., Fl. Brit. India 2: 298. 1878; Gamble, Fl. Pres. Madras 1: 306.1957 (repr.ed.); Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1: 137.1983; Matthew, Fl. Tamil Nadu Carnatic 1: 538.1983. *Mimosa lebbeck* L., Sp. Pl. 516. 1753. (Plate III-D)

Vernacular name: Vaagai.

English name: Siris, East Indian walnut, Sizzling tree.

Habit: Tree, up to 25 m high.

Leaves: Paripinnate, 10-20 cm long; leaflets 4-8 pairs, laterals oblong-elliptic; terminal obovate, 2.5-4.5 x 1-2.5 cm, oblique at base, entire at margins, obtuse-retuse at apex; petiole ca. 8 cm long; petiolule ca. 2.5 mm long.

Inflorescence type: Terminal or axillary, racemose panicles or clusters. Heads ca. 3.5 cm across.

Flower: Flowers ca. 6 mm across. Calyx-tube 5-lobed, ca. 3.5 mm long. Petals 5, greenish, lanceolate, ca. 8 mm long. Stamens 25. Ovary subsessile, ca. 5 cm long.

Fruits: Pod flat, compressed; seeds ca.10.

Flowering: February-June.

Fruiting: March-July.

Local distribution: Coast and plains.

Economic importance: Wood is used in building construction and to make agricultural implements.

Specimen examined: PB & MG: 139.

DICHROSTACHYS (A.P. de Candolle) R. Wight & Arn.

Dichrostachys cinerea (L.) Wight & Arn., Prodr. 271. 1834; Hook. f., Fl. Brit. India 2: 288. 1878; Gamble, Fl. Pres. Madras 1: 297. 1957 (repr. ed.); Nair & Henry, Fl. Tamil Nadu

Series I: Analysis 1: 138. 1983; Matthew, Fl. Tamil Nadu Carnatic 1: 540.1983. *Mimosa cinerea* L., Sp. Pl. 520. 1753, non. L. 517. 1753. (Plate IV-J)

Vernacular name: Vedathalan.

English name: Sensitive tree, Sore eye plant.

Habit: Shrub, up to 4 m high.

Leaves: Paripinnate, 2-5 cm long; leaflets elliptic, ca. 3 x 1.5 mm, obtuse at base, entire at margins, acute at apex. petiole ca. 1 cm long.

Inflorescence type: Spikes on axillary branchlets.

Flower: Yellow and pink, ca. 2.5 mm across, polygamous, bicoloured; upper flowers bisexual, yellow; lower ones male and sterile, pink. Calyx-tube 5-lobed, ca. 0.7 mm long. Petals 5, yellow-pink, ca. 1 mm long. Stamens 10. Ovary stipitate, ca. 1 mm long.

Fruits: Pod linear, flat, coiled; seeds 4-6, ovoid, copressed.

Flowering: April-July.

Fruiting: May-August.

Local distribution: Plains and Western Ghats.

Specimen examined: PB & MG: 142.

MIMOSA Linnaeus

Mimosa pudica L., Sp. Pl. 518. 1753; Hook. f., Fl. Brit. India 2: 291. 1878; Gamble, Fl. Pres. Madras 1:298. 1957. (repr. ed.); Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1: 138. 1983; Matthew, Fl. Tamil Nadu Carnatic 1: 545. 1983.

Vernacular name: Thottal sinungi.

English name: Sensitive plant, Touch-me-not.

Habit: Armed, prostrate herb.

Leaves: Paripinnate, ca 4 cm long; leaflets; 10-18 pairs, elliptic-oblong, 5-7 x 1-1.5 mm, truncate-obtuse at base, entire at margins, acute at apex; petiole ca. 1 cm long.

Inflorescence type: Axillary, globose heads, ca. 1.5 cm across.

Flower: Lilac. Calyx-tube 4-lobed, ca. 1.5 mm long. Petals 4, pink, ca. 1 mm long. Stamens 4. Ovary subsessile, globose, ca. 2 mm long.

Fruits: Pods clustered, falcate; seeds 5-7, ovoid, flat.

Flowering: October-January.

Fruiting: Throughout the year.

Local distribution: Coast, Plains and Western Ghats.

Economic importance: This species is planted as an ornamental in gardens.

Specimen examined: PB & MG: 329.

PROSOPIS Linnaeus

Prosopis cineraria (L.) Druce in Bot. Exch. Club Soc. Brit. Isles 3: 422. 1914; Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1: 138. 1983. *Mimosa cineraria* L., Sp. Pl. 517. 1753, *'cinerea'*. *Prosopis spicigera* L., Mant. Pl. 68. 1767; Hook. f., Fl. Brit. India 2: 288. 1878; Gamble, Fl. Pres. Madras 1: 297. 1957 (repr. ed.). (Plate IV-B)

Vernacular name: Vannimarm.

English name: Indian mesquite, Arjuna's penance tree.

Habit: Armed Tree, up to 10 m high.

Leaves: Paripinnate, 2-5 x 0.5-1.2 cm; pinnae 5-10 paired; leaflets 20-30 pairs, elliptic-oblong, 0.5-1 x 0.1 -0.3 cm, obtuse at base apex, entire at margins; petiole ca. 4 cm long.

Inflorescence type: Narrow spikes or subcapitate racemes, terminal and/or axillary.

Flower: Cream, ca. 1.5 mm across. Calyx-tube campanulate, 5-toothed. Petals 5, cream, pilose within. Stamens 10, free; filaments ca. 4 mm long. Ovary stipitate, ca. 2.2 mm long, pubescent; style ca. 2.5 mm long; stigma simple.

Fruits: Pod oblong-linear, flat, compressed; seeds flat.

Flowering: December-March.

Fruiting: January-April.

Local distribution: Coast and Plains.

Interesting morphological features: Giant tree (1000 ± cm girth) with uneven shape trunk is under worship in Vedaranyeeswarar at Vedaranyam.

Economic importance: The hard wood is used to make agricultural implements and leaves used as fodder for livestock.

Religious importance: Leaves used as offerings to Lord Shiva during rituals.

Specimen examined: PB & MG: 267.

COMBRETACEAE

TERMINALIA Linnaeus

Key to the species

1a Fruits winged.....*T. arjuna*

1b Fruits not winged.....**2**

2a Leaves apically clustered, subcordate or cuneate at base;

drupes 2- or 5-ridged, when dry.....3

2b Leaves distributed throughout the stem, subopposite, rounded at base; drupes not ridged.....*T. chebula*

3a Glands absent; drupes subglobose, 5- ridged; new foliage red.....*T. bellirica*

3b Glands present; drupes ellipsoid, 2- ridged; new foliage green.....*T. catappa*

Terminalia arjuna (Roxb. ex DC.) Wight & Arn., Prodr. 314.1884; Hook. f., Fl. Brit. India 2:447.1878; Gamble, Fl. Pres. Madras 1:329.1957 (repr.ed.); Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1:149.1983; Matthew, Fl. Tamil Nadu Carnatic 1: 581. 1983. *Pentaptera arjuna* Roxb. ex DC., Prodr. 3:14.1828. (Plate VIII-O)

Vernacular name: Vellaimaruthu.

English name: Arjuna myrobalan, Arjoon, White murdah.

Habit: Tree, up to 30 m high.

Leaves: Oblong or obovate-oblanceolate, 7-12 x 3.5-5 cm, with 2 glands on the base of leaf blade, obtuse-subcordate at base, crenate-serrate at margins, obtuse at apex. petiole ca. 1.5 cm long.

Inflorescence type: Spikes of axillary, panicles, ca. 10 cm long.

Flower: Calyx tube ca. 2 mm long; lobes 5, ca. 1.5 mm long. Stamens 10; filaments 3-4 mm long. Ovary ovoid, ca. 3.5 mm long, 1-celled.

Fruits: Drupe 5-angled, 5-winged.

Flowering: April-June.

Fruiting: May-July.

Local distribution: Coast, Plains and Western Ghats.

Economic importance: Wood used to make furniture and agricultural implements.

Religious importance: Tree closely associated with Lord Shiva worship.

Specimen examined: PB & MG: 336.

Terminalia bellirica (Gaertner) Roxb., Pl. Cor. t. 198. 1805, "*bellerica*"; Hook. f., Fl. Brit. India 2: 445. 1878; Gamble, Fl. Pres. Madras 1:328.1957 (repr.ed.); Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1:149.1983; Matthew, Fl. Tamil Nadu Carnatic 1: 581.1983. *Myrobalanus bellirica* Gaertner, Fruct. 2:90.t.97. ff. a-d.1791, "*bellirina*". (Plate VIII-P)

Vernacular name: Thani.

English name: Belleric myrobalan, Devil's abode.

Habit: Tree, up to 30 m high.

Leaves: Ovate-obovate or broadly elliptic, 10-21 x 5-10 cm, pellucid-dotted above, obtuse or cuneate-attenuate and oblique at base, entire or subcrenulate at margins, rotund or emarginate at apex; petiole ca. 8 cm long.

Inflorescence type: Spike axillary, solitary or clustered.

Flower: Calyx tube ca. 1 mm long; lobes 5, cream, ca. 2 mm long. Stamens 10; filaments 2.5-3 mm long. Ovary ca. 1.5 mm long, 1-celled.

Fruits: Drupe subglobose, obscurely 5-ridged.

Flowering: March-May.

Fruiting: April-June.

Local distribution: Plains and Western Ghats.

Interesting morphological features: Huge size tree (628 cm girth) is worship in Kanegeswarar temple at Thandiswararm.

Economic importance: Seeds used in Siddha medicine.

Specimen examined: PB & MG: 224.

Terminalia catappa L., Syst. Nat. ed. 12.2:674.1767; Hook. f., Fl. Brit. India 2:444.1878; Gamble, Fl. Pres. Madras 1:328.1957 (repr.ed.); Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1:150.1983; Matthew, Fl. Tamil Nadu Carnatic 1: 582.1983.

Vernacular name: Bathani.

English name: Country almond, Indian almond, Bengal almond, Olive berry tree.

Habit: Tree, up to 25 m high.

Leaves: Clustered at the ends of branchlets, alternate, obovate, 15-25 x 10-15 cm, subcordate-cuneate at base, entire at margins, obtuse-rotund, retuse at apex. petiole ca. 1 cm long.

Inflorescence type: Axillary spikes, ca. 10 cm long.

Flower: Calyx-tube ca. 2 mm long, tomentose; lobes 5, ca.1 mm long. Stamens 10; filaments 2-3 mm long. Ovary ca. 5 mm long, 1-celled.

Fruits: Drupe ellipsoid, ± compressed, 2-ridged when dry.

Flowering: March-June.

Fruiting: April-July.

Local distribution: Plains.

Economic importance: Seeds edible and is rich protein and fat. Planted in gardens for its umbrella shape canopy.

Specimen examined: PB & MG: 461.

Terminalia chebula Retz., Obs. Bot. 5:31.1789 incl.forma *tomentosa*; Hook. f., Fl. Brit. India 2:446.1878 p.p.; Gamble, Fl. Pres. Madras 1:328.1957 (repr.ed.); Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1:150.1983; Matthew, Fl. Tamil Nadu Carnatic 1: 583. 1983. *Myrobalanus chebula* (Retz.) Gaertn., Fruct. 2:91. t.97.1791. (Plate VI-L)

Vernacular name: Kadukkai.

English name: Indian myrobalan, Gallnut tree, Black myrobalan, Ink nut tree.

Habit: Tree, up to 25 m high.

Leaves: Alternate or opposite, ovate or elliptic-obovate, 7-12 x 4-6 cm, glands 2, at the base of leaf-blade, obtuse or rounded at base, entire at margins, subacute-obtuse and apiculate at apex; petiole ca. 2.5 cm long, simple or branched.

Inflorescence type: Axillary spikes.

Flower: ca. 4 mm across. Calyx-tube ca. 2 mm long; lobes 5, ca. 1.5 mm long. Stamens 10; filaments 4-6 mm long. Ovary ca. 2 mm long, 1-celled.

Fruits: Drupe obovoid or oblong-ellipsoid.

Flowering: March-August.

Fruiting: April-September.

Local distribution: Coast.

Economic importance: Seeds used in Siddha medicine.

Specimen examined: PB & MG: 189.

MYRTACEAE

SYZYGIUM J.Gaertner

Syzygium cumini (L.) Skeels, U. S. D. A. Bur. Pl. Industr. Bull. 248:2.1912; Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1:156.1987; Matthew, Fl. Tamil Nadu Carnatic 1: 594. 1983. *Myrtus cumini* L., Sp. Pl. 471.1753. *Eugenia jambolana* Lam., Encycl. 3:198.1789; Hook. f., Fl. Brit. India 2:499.1879. *Syzygium jambolanum* (Lam.) DC. Prodr. 3:259.1828; Gamble, Fl. Pres. Madras 1:340.1957 (repr.ed.). (Plate VI-H)

Vernacular name: Naval.

English name: Jambolan, Black plum, Jaman, Java plum.

Habit: Tree, up to 25 m high.

Leaves: Decussate, elliptic or ovate-lanceolate, 5-10 x 2-6 cm, cuneate at base, entire at margin, acuminate at apex; petiole ca. 2.5 cm long.

Inflorescence type: Axillary or terminal, paniculate cymes ca. 12 cm long.

Flower: ca. 1 cm across. Calyx-tube turbinate, ca. 2.5 mm long; lobes 4, obscure. Petals 4, cream, orbicular, ca. 2.5 mm long. Stamens numerous. Ovary 2-celled, ca. 2 mm long.

Fruits: Berry globose; seed solitary.

Flowering: March-April.

Fruiting: April-May.

Local distribution: Coast, Plains and Western Ghats.

Interesting morphological features: Very huge tree (1000 cm girth) under worship in Bhairavar temple at Thakattur.

Economic importance: Fruits are edible and seed used as blood sugar reducing agent in Siddha medicine.

Specimen examined: PB & MG: 29.

PUNICACEAE

PUNICA Linnaeus

Punica granatum L., Sp. Pl. 472. 1753; Wight, Ill.1: t. 97.1840; Hook. f., Fl. Brit. India 2:581.1879; Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1:167.1983; Matthew, Fl. Tamil Nadu Carnatic 1: 619. 1983. (Plate V-M)

Vernacular name: Mathulai.

English name: Pomegranate.

Habit: Tree, up to 7 m high.

Leaves: Decussate, simple, elliptic-ovate or obovate, 2-5 x 1-2.5 cm, attenuate at base, entire at margins, obtuse or acute at apex. petiole ca. 1 cm long.

Inflorescence type: Solitary or in terminal clusters.

Flower: Bisexual, blood red. Calyx tubular, adnate to the ovary; lobes 5-7, valvate. Petals 5-7, imbricate. Stamens numerous; filaments free. Ovary inferior; style slender, 1; stigma capitate.

Fruits: Berry, crowned by calyx-lobes.

Flowering: March-April.

Fruiting: Throughout the year.

Local distribution: Plains.

Economic importance: Fruits are edible and arils and exocarp used in Indian medicinal systems.

Specimen examined: PB & MG: 89.

ALANGIACEAE

ALANGIUM Lamarck

Alangium salvifolium (L.f.) Wang. in Engler, Pflanz. 41:9.1910; Gamble, Fl. Pres. Madras 1:404.1957 (repr. ed.); Nair & Henry, Fl. Tamil Nadu Series I: Analysis 1: 183. 1983; Matthew, Fl. Tamil Nadu Carnatic 1: 687.1983. *Grewia salvifolia* L.f., Suppl. Pl. 409.1781. *Alangium lamarckii* Thw., Enum. Pl. Zeyl. 133.1859; Hook. f., Fl. Brit. India 2:741.1879. (Plate III-E)

Vernacular name: Alinji.

English name: Sage-leaved Alangium, Hill sack.

Habit: Tree, up to 10 m high.

Leaves: Simple, alternate, oblong-lanceolate, ca. 12 x 3 cm, subcoriaceous, oblique and obtuse-subacute at base, entire at margins, attenuate or subacute, slightly retuse at apex; petiole ca. 1.5 cm long.

Inflorescence type: Axillary clusters.

Flower: ca. 2.5 x 1.5 cm, Calyx-tube cupular; lobes ca. 10, triangular-ovate. Petals 10, white, linear-oblong, ca. 2.5 x 0.4 cm. Stamens ca. 20. Ovary turbinate, 1-celled.

Fruits: Berry globose, crowned by calyx; seed solitary, ovoid.

Flowering: February-May.

Fruiting: March-June.

Local distribution: Coast and Plains.

Interesting morphological features: Huge tree (1127 cm girth) with much branched stem recorded in Nurteeswarar temple at Chinnakavanam.

Economic importance: The wood is used to make agricultural implements.

Specimen examined: PB & MG: 293.

GAMOPATALAE

RUBIACEAE

Key to the genera

1a Flowers aggregated in globose heads.....2

1b Flowers fascicles, cymes or solitary.....3

2a Leaves elliptic-oblong to obovate; stigma 2-fid.....*Morinda*

2b Leaves cordiform or oblong-elliptic; stigma entire.....*Neolamarckia*

3a Leaves ovate-pandurate; calyx-lobes indistinct; flowers 7-8 merous.....*Guettarda*

3b Leaves elliptic-oblong to suborbicular; calyx-lobes distinct; flowers 4-5 merous.....4

4a Plants unarmed; cymes terminal .....*Tarenna*

4b Plants armed; cymes axillary or rarely leaf-opposed .....*Canthium*

CANTHIUM Lamarck

Canthium parviflorum Lam., Encycl. 1: 602.1785; Hook. f., Fl. Brit. India 3:136. 1880; Matthew, Fl. Tamil Nadu Carnatic 2: 699. 1983. Henry et al., Fl. Tamil Nadu Series I: Analysis 2: 2.1987. *Plectronia parviflora* (Lam.) Bedd., For. Man. Bot. 134/5. 1872; Gamble, Fl. Pres. Madras 2: 441.1957 (repr.ed.). (Plate IV-B)

Vernacular name: Karai.

English name: Wild jasmine, Common honey thorn.

Habit: Armed shrub or small tree, up to 6 m high.

Leaves: Opposite, simple, oblong or elliptic, 1-3 x 1-2 cm, cuneate at base, entire at margins, obtuse at apex, shining; petiole ca. 1 cm long.

Inflorescence type: Axillary, cymose fascicles.

Flower: Calyx 4, connate at base; lobes triangular, pointed at open. Corolla white; tube inflated at base; lobes ovate, acute at apex, reflexed; mouth hairy. Stamens 4; filaments short, hairy; Ovary inferior, 2-celled; ovules solitary in each cell; style simple.

Fruits: Drupe globose.

Flowering: August-October.

Fruiting: September-November.

Local distribution: Plains and Western Ghats.

Specimen examined: PB & MG: 117.

GUETTARDA Linnaeus

Guettarda speciosa L., Sp. Pl. 991. 1753; Hook.f., Fl. Brit. India 3:126.1880; Matthew, Fl. Tamil Nadu Carnatic 2: 706.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2: 5.1987. (Plate V-E)

Vernacular name: Panneermaram.

English name: Dew flower, Evening flower, Pigeon wood.

Habit: Tree, up to 8 m high.

Leaves: Decussate, apically clustered, ovate-pandurate, 10-15 x 6-9 cm, subcoriaceous, lateral nerves 6-9, pubescent below, rounded to acute at base, entire at margins, obtuse at apex, petiole ca. 1 cm long.

Inflorescence type: Axillary cymes, ca. 10 cm across.

Flower: 7-(8) merous, (sub) sessile. Calyx truncate, ca. 6 mm long, rim wavy, oblique, tomentose without. Corolla white, ca. 1.5 cm across, funnel-shaped; tube ca. 2.5 cm long; lobes 7(8), ovate, ca. 0.5 cm long, obtuse at apex. Stamens 7(8), attached at the middle of the tube, included; filaments ca. 2 mm long; anthers linear, ca. 4 mm long. Ovary ca. 3 mm long, 5-locular; ovule 1 per cell, laterally pendulous; style ca. 2.5 cm long; stigma capitate or cup-shaped.

Fruits: Drupe ovaid or obovoid, rarely oblongoid.

Flowering: March-August.

Fruiting: August-October.

Local distribution: Coast and Plains.

Economic importance: Planted in gardens and temples for its flowers.

Religious importance: Flowers used in rituals and ornamentation of deities. Leaves used to give deity's *prasatahm* (offerings).

Specimen examined: PB & MG: 339.

MORINDA Linnaeus

Morinda pubescens Smith. in Rees, Cycl. 24. n. 3.1813; Vedcourt, Kew Bull. 37:543.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2:14.1987. *M. coreia* Buch.-Ham., Trans. Linn. Soc. London 13: 537. 1822; Matthew, Fl. Tamil Nadu Carnatic 2: 718. 1983. *M. tinctoria* Roxb., Fl. Ind. 2:197.1824 & 1: 543.1832; Hook. f., Fl. Brit. India 3:156.1880; Gamble, Fl. Pres. Madras 2:459.1957 (repr. ed.). (Plate V-L)

Vernacular name: Manjanathi.

Habit: Tree, up to 10 m high.

Leaves: Elliptic, oblong-lanceolate or obovate, attenuate at base, entire at margins, acute at apex; petiole ca. 1.5 cm long.

Inflorescence type: Terminal and/or axillary, simple head.

Flower: Calyx ca. 5 x 4 mm. Corolla white, ca. 2 cm across; tube ca. 1.5 cm long; lobes 5, oblong, ca. 1 cm long. Stamens 5. Ovary oblong.

Fruits: Syncarpium ovoid.

Flowering: March-June.

Fruiting: April-July.

Local distribution: Plains.

Economic importance: Wood yellow in colour, used to make furniture; dye extracted from wood.

Specimen examined: PB & MG: 415.

NEOLAMARCKIA A Rich.

Neolamarckia cadamba (Roxb.) Bosser in Adansonia ser. 4.6: 247.1984; Henry et al., Fl. Tamil Nadu Series I: Analysis 2: 17. 1987. *Nauclea cadamba* Roxb., Fl. Ind. 2: 121.1824. *Neolamarckia cadamba* (Roxb.) Miq., Fl. Ind. Bat. 2: 135. 1856; Hook. f., Fl. Brit. India 3: 23.1880. *A. indicus* A. Rich., Mem. Rubiac. 157. 1830; Gamble, Fl. Pres. Madras 2: 411.1957 (repr. ed.). Plate VIII-E)

Vernacular name: Cadambu.

English name: Wild cinchona, Parvaty's tree.

Habit: Tree, up to 25 m high.

Leaves: Elliptic, oblong-lanceolate or obovate, 12-25 cm long, rounded or rarely subcordate at the base, entire at margins, acute at apex; petiole ca. 7 cm long.

Inflorescence type: Terminal, simple head.

Flower: Sepals erect, oblancelote, ca. 3 mm long. Corolla orange, ca. 3 mm long, Stigmas far exserted, white, ovary very small.

Fruits: Syncarpium large, fleshy, orange, 5-6 mm across.

Flowering: May-July.

Fruiting: Throughout the year.

Local distribution: Plains and Western Ghats.

Economic importance: Hard wood used for household items and Agricultural implements.

Specimen examined: PB & MG: 428.

TARENNA J. Gaertner

Tarenna asiatica (L.) Kuntze ex K. Schum., Bot. Tidsskr. 24:332.1902; Matthew, Fl. Tamil Nadu Carnatic 2: 744.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2:25.1987. *Rondeletia asiatica* L., Sp. Pl. 172.1753. *Webera corymbosa* Willd., Sp. Pl. 1:1224.1798; Hook. f., Fl. Brit. India 3:102.1880. *Chomelia asiatica* (L.) Kuntze, Rev. Gen. Pl. 1:278.1891; Gamble, Fl. Pres. Madras 2: 432.1957 (repr.ed.). (Plate VI-K)

Vernacular name: Kura.

English name: Common bottle flower, Bhrama's pavetta.

Habit: Shrub or small tree, up to 5 m high.

Leaves: Opposite, simple, elliptic-oblong, acute-cuneate at base, entire at margins, acute-short acuminate at apex. petiole ca. 2.5 cm long.

Inflorescence type: Terminal cymes, ca. 10 cm across.

Flower: White, 5-merous; bracts small; bracteole small, below the calyx. Calyx deciduous. Corolla dirty white, tubular, shortly 5-lobbed; twisted. Stamens 5, inserted near the mouth of the tube; anthers linear. Ovary 2 celled; ovules many in each cell; style stout, hairy; stigma grooved.

Fruits: Berry with persistent calyx.

Flowering: April-June.

Fruiting: May-July.

Local distribution: Coast.

Specimen examined: PB & MG: 423.

GOODENIACEAE

SCAEVOLA Linnaeus

Scaevola plumieri (L.) Vahl, Symb. Bot. 2: 36. 1791; Gamble, Fl. Pres. Madras 2:516. 1957 (repr. ed.); Henry et al., Fl. Tamil Nadu Series I: Analysis 2: 55.1987. *Lobelia plumieri* L., Sp. Pl. 929.1753. *Scaevola lobelia* Murr. Syst. Veg.ed. 13.178.1774; Hook. f., Fl. Brit. India 3: 421.1881. (Plate VIII-L)

Vernacular name: Rutharacham.

Habit: Succulent shrub, up to 3 m high.

Leaves: Alternate, clustered at apex, spathulate, obovate-oblanceolate, 10-15 x 2-8 cm, succulent, attenuated in to short petiole at base, entire at margins, rounded, cuneate, obtuse or rarely emarginate at apex.

Inflorescence type: Axillary, racemose clusters, ca. 5 cm long.

Flower: Calyx 5-6-lobed. Corolla white or greenish yellow, 5-6-lobed. Stamens free. Ovary 2- celled; Ovules 1-2; stigma truncate.

Fruits: Drupe white, glossy, fleshy, smooth and fairly prominent among the foliage.

Flowering: October-December.

Fruiting: November-February.

Local distribution: Coast.

Religious importance: Planted in newly constructed temple as sacred plant.

Specimen examined: PB & MG: 188.

SAPOTACEAE

Key to the genera

1a Calyx-lobes 4.....*Madhuca*

1b Calyx-lobes 6 or 8.....2

2a Leaf apex acute to acuminate; calyx-lobes 8; stamens 8.....*Mimusops*

2b Leaf apex obtuse-emarginate; calyx-lobes 6; stamens 6.....*Manilkara*

MADHUCA Hamilton ex J.F. Gmelin

Madhuca longifolia (Koen.) Macbr. in Contr. Grey Herb. n.s. 53:17.1918; Matthew, Fl. Tamil Nadu Carnatic 2: 858.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2: 63.1987. *Bassia longifolia* Koen. in L., Mant. Pl. 563.179; Hook. f., Fl. Brit. India 3:544.1882; Gamble, Fl. Pres. Madras 2:537.1957 (repr. ed.). (Plate VIII-A)

Vernacular name: Iluppai.

English name: South Indian Mahua, Mowra butter tree, Wild sapota tree, Honey tree.

Habit: Tree, up to 20 m high.

Leaves: Oblanceolate, 7-15 x 2-5 cm, sub-coriaceous, entire at margins, acute at both ends; petiole ca. 3 cm long.

Inflorescence type: Axillary clusters.

Flower: Calyx-lobes triangular, ca. 7 mm long, rusty-pubescent. Corolla ca. 1 cm across; tube ca. 7.5 mm long; lobes ca. 7 mm long. Stamens ca. 18. Ovary ca. 2.5 mm long.

Fruits: Berry ellipsoid.

Flowering: February- April.

Fruiting: March-May.

Local distribution: Coast and plains.

Interesting morphological features: Huge tree (428 cm girth) in Arthanareeswarar temple at Thiruchenkodu.

Economic importance: Fruit and leaf powder used in Siddha medicine.

Specimen examined: PB & MG: 61.

MANILKARA Adanson

Manilkara hexandra (Roxb.) Dubard in Ann. Inst. Bot. Geol. Colon. Marseille 23: 9.f.2.1915; P.Royen in Blumea 7: 408. 1953; Matthew, Fl. Tamil Nadu Carnatic 2: 859. 1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2: 64.1987. *Mimusops hexandra* Roxb., Pl. Cor. t. 15.1795; Hook. f., Fl. Brit. India 3:549.1882; Gamble, Fl. Pres. Madras 2:538. 1957 (repr. ed.). (Plate V-H)

Vernacular name: Pala.

English name: Indian ape flower, Ceylon iron wood.

Habit: Tree, up to 20 m high.

Leaves: Alternate, thick, glabrous, shining, coriaceous, green, ca. 9 x 5 cm, obovate-oblong, rounded or truncate at base, entire at margins, emarginate at apex; petiole ca. 5 cm long.

Inflorescence type: Axillary, solitary.

Flower: Calyx tomentose; tube short; lobes 6, ovate, acute at apex, reflexed. Corolla cream, tubular, short, lobed; lobes 18, linear or lanceolate, acute at apex, shortly clawed. Stamens 6; anthers equaling to the filaments. Ovary pubescent, six-celled, style subulate.

Fruits: Berry ellipsoid, slightly curved.

Flowering: September-January.

Fruiting: October-February.

Local distribution: Coast and plains.

Interesting morphological features: Huge tree (1094 cm girth) under worship in Azhakiyanathar temple at Thiruvallur.

Economic importance: Shoots used as root stock to graft with *Manilkara zopota* (L.) - a commercial edible fruit and the wood is useful in making agricultural implements.

Specimen examined: PB & MG: 77.

MIMUSOPS Linnaeus

Mimusops elengi L., Sp. Pl. 349.1753; Hook. f., Fl. Brit. India 3: 549.1882; Gamble, Fl. Pres. Madras 2: 538. 1957 (repr. ed.); Matthew, Fl. Tamil Nadu Carnatic 2: 860.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2: 64.1987. (Plate V-N)

Vernacular name: Mahizham.

English name: West Indian medlar.

Habit: Tree, up to 20 m high.

Leaves: Elliptic-ovate, ca. 10 x 3 cm, subcoriaceous, acute-attenuate at base, entire at margins, acute-acuminate at apex. petiole ca. 3 cm long.

Inflorescence type: Axillary, solitary.

Flower: Calyx-lobes 4 + 4, thick, 6-9 x 2-3.5 mm. Corolla cream, ca. 1 cm across; lobes 8 + 8 + 8 in 3-rows, ca. 7.5 x 3 mm. Stamens 8; filaments ca. 1.2 mm long; anthers oblong, cordate, ca. 3.5 mm long. Ovary oblong-globose, 6-8- celled.

Fruits: Berry ovoid, ca 1.5 cm across; seed 1, oblong, black.

Flowering: February-May.

Fruiting: March-June.

Local distribution: Coast and Plains.

Interesting morphological features: Huge trees (380 cm girth) under worship in Somanathar temple, Needur.

Economic importance: Wood useful in agricultural implements.

Religious importance: Flowers used in rituals and ornamentation of deities.

Specimen examined: PB & MG: 439.

EBENACEAE

DIOSPYROS Linnaeus

Diospyros montana Roxb., Pl. Cor. t. 48.1795; Hook. f., Fl. Brit. India 3:555.1882; Gamble, Fl. Pres. Madras 2: 545.1959 (repr. ed.); Matthew, Fl. Tamil Nadu Carnatic 2: 867.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2:67.1987. (Plate IV-K)

Vernacular name: Vakkanai.

English name: Mountain persimmon, Bombay ebony.

Habit: Tree, up to 15 m high.

Leaves: Ovate or oblong, elliptic-ovate, 3-7 x 1.5-3.5 cm, truncate to subcordate at base, subacute or obtuse at apex; petiole ca. 1 cm long.

Inflorescence type: Axillary clusters.

Flower: Male flowers: Calyx-lobes 4, ovate, ca. 3 mm long, ciliate, basally connate. Corolla greenish, ca. 8 mm across, tubular-campanulate; tube ca. 5 mm long; lobes 4, ovate ca. 2.5 mm long. Stamens 16. Pistillode conical. Female flowers:

solitary, axillary. Ovary globose, ca. 0.9 mm across. Staminodes 4, linear-lanceolate, ca. 6 mm long.

Fruits: Berry ca. 2.2 cm across; orange when ripe.

Flowering: March-May.

Fruiting: April-June.

Local distribution: Coast.

Economic importance: Hard wood used for making house hold items and Agricultural implements.

Specimen examined: PB & MG: 56.

OLEACEAE

JASMINUM Linnaeus

Key to the species

1a Leaves compound.....2

1b Leaves simple.....3

2a Leaves 3-foliolate; calyx lobes shorter than calyx-tube.....*J. auriculatum*

2b Leaves imparipinnate, 5-7; calyx lobes longer than calyx-tube.....*J. grandiflorum*

3a Calyx-lobes > ¾ th the length of corolla-tube.....*J. sambac*

3b Calyx-lobes < half as long as corolla-tube.....*J. cuspidatum*

Jasminum auriculatum Vahl, Symb. Bot. 3:1.1794; Hook. f., Fl. Brit. India 3:600.1882; Gamble, Fl. Pres. Madras 2:555.1957 (repr.ed.); Matthew, Fl. Tamil Nadu Carnatic 2: 879. 1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2:71.1987. (Plate V-A)

Vernacular name: Mullai.

English name: Eared jasmine, Needle jasmine.

Habit: Straggler, up to 8 m.

Leaves: Simple, deltoid-ovate, 1.5-4 x 1-2.5 cm; lateral leaflets reduced; leaflets truncate at base, entire at margins, acute at apex. petiole ca. 5 cm long.

Inflorescence type: Terminal and axillary cymes; cymes trichotomous, ca. 5 cm long.

Flower: White. Calyx-lobes 5, triangular ovate, ca. 3.5 mm long, puberulous. Corolla ca. 1.2 cm across; tube ca. 1.2 cm long; lobes 5-7, obovate, ca. 6.5 mm long. Stamens 2. Ovary oblong, ca. 0.7 mm long; petiole ca. 5 mm long; stigma 2-fid.

Fruits: Berry globose-ovoid, ca. 9 mm across.

Flowering: June-November.

Fruiting: July-December.

Local distribution: Coast and Plains.

Economic importance: Flowers used in perfume industry and loose flowers are preferred by women folk.

Religious importance: Flowers used to make garlands, which used for ornamentation of deities.

Specimen examined: PB & MG: 87.

Jasminum cuspidatum Rottl. in Ges. Naturf. Freunde Berlin Neue Schriften 4:192.1803; Matthew, Fl. Tamil Nadu Carnatic 2: 882.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2:71.1987. *J. rigidum* Zenk., Pl. Ind. 5. t. 6.1835; Hook. f., Fl. Brit. India 3:598.1882; Gamble, Fl. Pres. Madras 2:555.1957 (repr.ed.). (Plate V-B)

Vernacular name: Oosimalli.

English name: Privet leaved jasmine.

Habit: Straggler, up to 5 m.

Leaves: Simple, obovate, 2.5-7.5 x 1.5-3 cm, coriaceous, acute at both ends, cuspidate at apex, entire at margins; petiole ca. 5 cm long.

Inflorescence type: Terminal and axillary, corymboid cymes, 3-7- flowered.

Flower: Calyx-lobes 4 (5), linear-subulate, ca. 1.2 cm long, acuminate at apex. Corolla ca. 4 cm across; tube ca. 2.5 cm long; lobes 5-7, obovate, ca. 1.8 cm long. Stamens 2. Ovary oblong, ca. 1.5 mm long.

Fruits: Berry oblong-globose, ca. 8 x 5 mm.

Flowering: February-April.

Fruiting: March-May.

Local distribution: Coast.

Economic importance: Flower used in perfume industry and loose flowers are preferred by women folk.

Religious importance: Flowers used in rituals and ornamentation of deities.

Specimen examined: PB & MG: 141.

Jasminum grandifloram L., Sp. Pl. ed. 2. 1. 9. 1762; Hook.f., Fl. Brit. India 3: 603.1882; Gamble, Fl. Pres. Madras 2: 556. 1957 (repr.ed.); Matthew, Fl. Tamil Nadu Carnatic 2: 883. 1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2:71.1987. (Plate V-C)

Vernacular name: Jathimalli.

English name: Spanish jasmine, Common jasmine.

Habit: Straggler, up to 7 m.

Leaves: Decussate; leaflets glabrous, chartceous, cuneate at base entire at margins, acute at apex, sessile; petiole ca. 5 cm long, petiolule reduced.

Inflorescence type: Terminal and axillary cymes, 3-5-9 flowered.

Flower: Bracts and bractioles linear. Calyx-lobes 5, linear-subulate, ca. 1 cm long. Corolla white, ca. 3.5 cm across; tube ca. 2.5 cm long; lobes 5, obovate, ca. 1.5 x 1 cm, obtuse apex. Stamens 5.

Fruits: Berry globose-ovoid, ca. 6 mm across.

Flowering: May-July.

Fruiting: June-August.

Local distribution: Coast.

Economic importance: Flower used in perfume industry and loose flowers are preferred by women folk.

Religious importance: Flowers used in rituals and ornamentation of deities.

Specimen examined: PB & MG: 312.

Jasminum sambac (L.) Ait., Hort. Kew. ed. 1. 1: 8. 1789; Hook. f., Fl. Brit. India 3: 591.1882; Gamble, Fl. Pres. Madras 2: 554.1957 (repr.ed.); Matthew, Fl. Tamil Nadu Carnatic 2: 885. 1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2:71.1987. *Nyctanthes sambac* L., Sp. Pl. 6. 1753. (Plate V-D)

Vernacular name: Malli.

English name: Arabian jasmine, Tuscan jasmine.

Habit: Erect or scadent shrub, up to 2 m.

Leaves: Opposite, simple, brodly ovate, ca. 8 x 6 cm, subcordate at base, entire at margins, acute at apex; petiole ca. 6 cm long.

Inflorescence type: Terminal and axillary cymes, ca. 2.5 cm long, ca. 3-flowered.

Flower: Bracts linear, subulate hairy. Calyx campanulate, hairy; lobes 5-9, linear, ca. 7 mm long, subulate. Corolla tubular ca. 2.5 cm across; tube equaling the calyx-lobes; lobes 5-9 or many. Stamens 2, ovary 2-celled; ovules two in each cell; style and stigma simple.

Fruits: Berry globose, ca. 9 x 7 mm; seed globose.

Flowering: May-August.

Fruiting: June-September.

Local distribution: Coast.

Economic importance: Flower used in perfume industry and loose flowers are preferred by women folk.

Religious importance: Flowers used in rituals and ornamentation of deities.

Specimen examined: PB & MG: 239.

NYCTANTHACEAE

NYCTANTHES Linnaeus

Nyctanthes arbor-tristis L., Sp. Pl. 6:1753; Hook. f., Fl. Brit. India 3: 303.1882; Gamble, Fl. Pres. Madras 2: 556.1957 (repr. ed.); Matthew, Fl. Tamil Nadu Carnatic 2: 890.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2: 74.1987.

Vernacular name: Pavazhamalli.

English name: Night jasmine, Coral jasmine, Weeping nyctanthes.

Habit: Small tree, up to 6 m high.

Leaves: Ovate-obovate, 5-8 x 3-5 cm, scabrous on both surfaces, truncate at base, coarsely toothed at margins, acute at apex; petiole ca. 2.5 cm long.

Inflorescence type: Terminal and axillary, trichotomous cymes.

Flower: Calyx-lobes 5. Corolla ca. 2.5 cm across, salver-form; tube orange; lobes white. Stamens 2. Ovary globose, ca. 1.5 mm long.

Fruits: Capsule obovoid.

Flowering: Throughout the year.

Fruiting: Throughout the year.

Local distribution: Coast and Plains.

Economic importance: Tree planted in gardens as ornamentals.

Religious importance: Flowers used in rituals and ornamentation of deities.

Specimen examined: PB & MG: 97.

SALVADORACEAE

SALVADORA Linnaeus

Salvadora percica L. var. ***wightiana*** (Planch. ex Thw.) Verdc. in Kew Bull. 19:150.1964; Matthew, Fl. Tamil Nadu Carnatic 2: 895.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2: 74.1987. *S. wightiana* Planch. ex Thw., Enum. Pl. Zeyl.190. 1860. *S. percica* sensu Roxb., Fl. Ind. 1: 389.1832, non L. 1753; Hook. f., Fl. Brit. India 3: 619.1882; Gamble, Fl. Pres. Madras 2: 562. 1957 (repr. ed.). (Plate VI-C)

Vernacular name: Kalarugai.

English name: Saltbush, Mustard tree, Tooth-brush tree.

Habit: Small tree, up to 12 m high.

Leaves: Elliptic-oblong, 3-5 x 1-2.7 cm, rounded to acute at base, entire at margins, acute at apex, apiculate; petiole ca 2.5 cm long.

Inflorescence type: Axillary or terminal panicles.

Flower: Bisexual, actinomorphic. Calyx cupular, ca. 1.2 x 1.7 mm; lobes 4. Corolla cream, ca. 3.5 mm across, shortly tubular; lobes 4. Stamens 4; filaments filiform, ca. 1 mm long; anthers semi-circular. Ovary 4-lobes, ca. 1 mm long; ovule 1; stigma truncate.

Fruits: Drupe globose, ca 5 mm across; seed 1, globose.

Flowering: April-June.

Fruiting: May-July.

Local distribution: Coast.

Interesting morphological features: Huge tree (654 cm girth) under worship in Thirunavukarar temple at Thiruvamur.

Economic importance: Leaves used in Siddha medicine.

Specimen examined: PB & MG: 226.

APOCYNACEAE

Key to the genera

1a Armed; ovary simple, ovoid.....*Carissa*

1b Unarmed; ovary of 2 distinct carpels.....2

2a Corolla-throat with corona-scales; stamens exserted, attached at the mouth of corolla-tube.....*Wrightia*

2b Corolla-throat without corona-scales; stamens included, inserted in corolla-tube.....3

3a Leaves either verticillate or alternate; corolla funnel-shaped..... *Nerium*

3b Leaves decussate; corolla salver-form.....*Tabernaemontana*

CARISSA Linnaeus

Key to the species

1a Leaves obovate to oblanceolate; fruits >2.5 cm across.....*C. carandas*

1b Leaves elliptic-ovate; fruits < 1.5 cm across.....*C. spinarum*

Carissa carandas L., Mant. Pl. 52.1767; Hook. f., Fl. Brit. India 3:630.1882; Gamble, Fl. Pres. Madras 2:565.1957 (repr.ed.); Matthew, Fl. Tamil Nadu Carnatic 2: 905.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2:76.1987. (Plate IV-D)

Vernacular name: Kilaakkaai.

English name: Christ's thorn, Karaunda, Two-seeded Bengal currant.

Habit: Straggling, bushy shrub, up to 6 m.

Leaves: Obovate-oblanceolate, 2-5 x 2-3 cm, coriaceous, acute-cuneate at base, entire at margins, obtuse-emarginate at apex; petiole ca. 2 cm long.

Inflorescence type: Cymes 2-3-chotomous, terminal or in upper axils.

Flower: Calyx lobes 5, linear-lanceolate, ca. 4 mm long, pubescent. Corolla ca. 2 cm across, white; tube ca. 2 cm long; lobes 5, elliptic, ca. 1 cm long, mucronate at apex. Stamens 5. Disc 0. Ovary 2-celled.

Fruits: Berry ellipsoid, ca. 3 cm across, dark blue when ripe.

Flowering: June-October.

Fruiting: August-November.

Local distribution: Western Ghats.

Interesting morphological features: Huge tree (150 cm girth) is under worship in Papanasar temple, Papanasam.

Economic importance: Fruits are edible and are used in pickle industry.

Specimen examined: PB & MG: 421.

Carissa spinarum L., Mant. Pl. 559. 1771. Hook. f., Fl. Brit. India 3: 631. 1882; Gamble, Fl. Pres. Madras 2: 565.1957 (repr. ed.); Matthew, Fl. Tamil Nadu Carnatic 2:906. 1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2: 76. 1987. (Plate VII-G)

Vernacular name: Sirukila .

English name: Downy Bengal current.

Habit: Shrub, up to 4 m.

Leaves: Ovate or suborbicular, ca. 4 x 2.5 cm, cuneate at base, sometimes emarginate, rounded or slightly acute, entire at margins, obtusely, slightly acute and mucronate at apex; petiole ca. 3 cm long.

Inflorescence type: 2-3-Chotomous cymes, terminal or rarely axillary.

Flower: Calyx-lobes 5, lanceolate ca. 2.5 mm long, acuminate at apex. Corolla ca. 1.5 cm across; tube ca. 1.5 cm long; lobes oblong, ca. 8 mm long. Stamens 5. Ovary ca. 1.5 mm long.

Fruits: Berry globose, ca. 1 cm across.

Flowering: March-June.

Fruiting: May- October.

Local distribution: Western Ghats.

Interesting morphological features: Much branched (6) big, (240 cm girth) tree is under worship in Palvannanathar temple at Karivalamvanthanallur.

Economic importance: Fruits are edible and are used in pickle industry.

Specimen examined: PB & MG: 179.

NERIUM Linnaeus

Nerium oleander L., Sp. Pl. 209.1753; Matthew, Fl. Tamil Nadu Carnatic 2: 914.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2:78.1987. *N. indicum* Mill., Gard. Dict. ed. 8.n.2.1768. *N. odorum* Soland. in Ait. Hort. Kew. ed. 1.1:297.1789; Hook. f., Fl. Brit. India 3:655.1882; Gamble, Fl. Pres. Madras 2:577.1957 (repr.ed.). (Plate VIII-F)

Vernacular name: Arali.

English name: Indian oleander, Sweet-scented oleander.

Habit: Shrub, up to 3 m high.

Leaves: Whorled, oblong-lanceolate or linear-lanceolate, ca. 15 x 3 cm, thick coriaceous, rounded at base, entire at margins, acute or obtuse at apex, apiculate; petiole ca. 2 mm long.

Inflorescence type: Cymes polychasial, terminal or in upper axils.

Flower: Calyx-lobes lanceolate, ca. 8 x 3 mm. Corolla funnel-shaped, pink or white; tube ca. 1.5 cm long; lobes obovate, ca. 3.5 x 1.5 cm; corona in the throat 3-4-toothed. Stamens 5. Carpels 2, free.

Fruits: Mericarps paired, ca. 25 cm long.

Flowering: Throughout the year.

Fruiting: Throughout the year.

Local distribution: Plains.

Economic importance: Planted in gardens as ornamentals.

Religious importance: Flowers used in rituals and ornamentation of deities.

Specimen examined: PB & MG: 385.

TABERNAEMONTANA Wall.

Key to the species

1a Tree, > 6 m high; leaves clustered at apex only; petals 1- seriate.....*T. heyneana*

1a Shrub, < 4 m high; leaves distributed throughout the stem; petals multiseriate.....*T. divaricata*

Tabernaemontana divaricata (L.) R. Br. ex Roem. & Schultes, Syst. 4:427.1819; Henry et al., Fl. Tamil Nadu Series I: Analysis 2:79.1987. *Nerium divaricatum* L., Sp. Pl. 209.1753. *Tabernaemontana coronaria* (Jacq.) Willd., Enum. Pl. Hort. Berol. 275.1809; Hook. f., Fl. Brit. India 3:646.1882. *Nerium coronarium* Jacq., Coll. Bot.1:138.1786. *Ervatamia coronaria* (Jacq.) Stapf in Dyer, Fl. Trop. Africa 4:127.1902; Gamble, Fl. Pres. Madras 2:571.1957 (repr.ed.). (Plate VI-I)

Vernacular name: Adukku Nanthiyaavattai.

English name: East Indian rosebay, Adame's apple.

Habit: Shrub, up to 2 m high.

Leaves: Oblanceolate to oblong or elliptic, 9-15 x 3-5 cm, subcoriaceous, cuneate-attenuate at base, entire at margins, acuminate at apex; petiole ca. 1 cm long.

Inflorescence type: Terminal cymes.

Flower: ca. 5 cm across. Calyx cupular, ca. 4.5 mm long; lobes 5, ovate, ca. 2.5 mm long. Corolla white, 3-4 mm across, salver-form; tube ca. 2 cm long; lobes 5, broadly oblong, ca. 2.5 x 0.7 cm. Stamens 5. Ovary ca. 1.5 mm long.

Fruits: Mericarps, paired.

Flowering: Throughout the year.

Fruiting: Throughout the year.

Local distribution: Coast and Plains.

Economic importance: Planted in gardens as ornamentals.

Religious importance: Flowers used in rituals and ornamentation of deities.

Specimen examined: PB & MG: 137.

Tabernaemontana heyneana Wall. in Edwards., Bot. Reg.15:t.1273.1829; Hook.f., Fl. Brit. India 3:646.1882; Henry et al., Fl. Tamil Nadu Series I: Analysis 2:79.1987. *Ervatamia heyneana* (Wall.) Cooke, Fl. Pres. Bombay 2: 134.1904; Gamble, Fl. Pres. Madras 2: 572.1957 (repr.ed.). (Plate VIII-M)

Vernacular name: Nanthiyaavattai.

Habit: Small tree, up to 5 m high

Leaves: Opposite, elliptic-lanceolate or ovate-lanceolate, attenuate at base, entire at margins, acuminate at apex; petiole ca. 2 cm long.

Inflorescence type: Terminal or lateral corymbose cymes.

Flower: White. Calyx cupular, with basal glands; lobes 5, oblong. Corolla-tube 1.5-3 cm long, throat yellow. Stamens 5. Ovary of 2 carpels, ca. 1.5 mm long, distinct, globose.

Fruits: Mericarps paired, semi-woody.

Flowering: December-February.

Fruiting: January-March.

Local distribution: Plains.

Economic importance: Flowers used to cure eye diseases and the shrub planted in gardens as ornamentals.

Religious importance: Flowers used in rituals and ornamentation of deities.

Specimen examined: PB & MG: 447.

WRIGHTIA R. Brown

Wrightia tinctoria (Roxb.) R. Br., Mem. Wern. Nat. Hist. Soc. 1: 74.1811; Hook.f., Fl. Brit. India 3:653.1882; Gamble, Fl. Pres. Madras 2:573.1987 (repr.ed.); Matthew, Fl. Tamil Nadu Carnatic 2: 921.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2:80.1987. *Nerium tinctorium* Roxb., Orient. Repert. 1:39.1791. (Plate VI-N)

Vernacular name: Veppalai.

English name: Pala Indigo-plant.

Habit: Tree, up to 10 m high.

Leaves: Elliptic-oblong, 6-15 x 3-5 cm, truncate or attenuate at base, entire at margins, acuminate at apex; petiole ca. 7 cm long.

Inflorescence type: Inflorescence a paniculate, 2-chotomous, terminal or pseudo-axillary cymes.

Flower: Calyx small, ca. 2 x 3 mm. Corolla ca. 2.5 cm across; tube ca. 5 mm long; lobes 5, oblong, ca. 1.5 mm long; corona-scales in 2-3 series, fimbriate. Stamens 5. Ovary ca. 1.5 mm long.

Fruits: Mericarps paired, ca. 15 cm long.

Flowering: Throughout the year.

Fruiting: Throughout the year.

Local distribution: Coast, Plains and Western Ghats.

Economic importance: Seed used in Siddha medicine to cure impotency.

Specimen examined: PB & MG: 357.

ASCLEPIADACEAE

Key to the genera

1a Erect shrub.....*Calotropis*

1b Climbing or straggling vine.....*Telosma*

CALOTROPIS R. Brown

Calotropis procera (Ait.) R. Br. in Ait. Hort. Kew. ed. 2.2:78.1811; Hook.f., Fl. Brit. India 4:18.1883; Gamble, Fl. Pres. Madras 2: 585.1957 (repr.ed.); Henry et al., Fl. Tamil Nadu Series I: Analysis 2:81.1987. *Asclepias procera* Ait., Hort. Kew. ed. 1.1: 305. 1789 (Plate IV-A)

Vernacular name: Vellerukku.

English name: Dead sea apple, Milkweed, Sodom apple, Swallow-wort.

Habit: Shrub, up to 2 m high; branchlets with latex.

Leaves: Opposite, simple, oblong, 5-15 x 3-7 cm, amplexical and cordate at base, entire at margins, obtuse or acute at apex, covered with white powdery on both surfaces.

Inflorescence type: Axillary, corymbose cymes.

Flower: Calyx small, cup-shaped, or almost free to base; lobes, ovate-acute, white, grey-tomentose outside; glandular within. Corolla broadly campanulate or rotate, white; lobes 5, broad ovate-acute; staminal corona of 5 fleshy compressed processes, tip muticous. Stamens with single pollinium in each cell, waxy, flattened. Ovary 2, free; ovules many; stigma depressed, 5-lobed.

Fruits: Mericarps paired.

Flowering: Throughout the year.

Fruiting: Throughout the year.

Local distribution: Coast and Plains.

Economic importance: Leaves and latex used in Siddha medicine.

Specimen examined: PB & MG: 292.

TELOSMA Coville

Telosma minor (Andr.) Craib in Kew Bull. 1911:418.1911; Gamble, Fl. Pres. Madras 2:594.1957 (repr.ed.); Matthew, Fl. Tamil Nadu Carnatic 2: 959. 1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2: 88.1987. *Pergularia minor* Andr., Bot. Repos. t. 184.1801; Hook. f., Fl. Brit. India 4:38.1883. (Plate VIII-N)

Vernacular name: Sambangi.

Habit: Climber, up to 3 m.

Leaves: Cordiform, 2-5 x 1.5-3 cm, chartaceous base cordate at base, basal lobes imbricate, acuminate at apex; petiole ca. 6 cm long.

Inflorescence type: Axillary condensed, umbellate raceme.

Flower: Bract ca. 1 cm long; bracteole ca. 0.5 cm long, herbaceous; pedicel ca. 1.5 cm long. Calyx-lobes lanceolate, imbricate, ca. 7 mm long, herbaceous, truncate at base, ciliate, acute at apex, glandular. Corolla yellowish, ca. 1.5 cm across, tubular-campanulate; tube ca. 1 cm long, villous, inflated below; lobes equal, oblong, twisted towards right in bud, ca. 1 x 0.6 cm. Corona flat single, staminal, forked into short, outer lobes and long, incurved in to lobes, acute; staminal column ca. 4 mm long. Ovaries oblong-cylindric, ca. 2 mm long; style ca. 1 mm long; stigma conical.

Fruits: Mericarps 2, lanceolate, terete.

Flowering: July-September.

Fruiting: September-December.

Local distribution: Coast.

Economic importance: Flower used in perfume industry and loose flowers preferred by the women folk.

Religious importance: Flowers used in rituals and ornamentation of deities.

Specimen examined: PB & MG: 459.

LOGANIACEAE

STRYCHNOS Linnaeus

Key to the species

1a Transverse nerves of leaves irregular, insconspicuous; corolla greenish; berry orange, > 5 cm across.....*S. nux-vomica*

1b Transverse nerves of leaves regular, conspicuous; corolla whitish; berry dark blue, < 2 cm across.....*S. potatorum*

Strychnos nux-vomica L., Sp. Pl. 189.1753; Hook. f., Fl. Brit. India 4:90.1883; Gamble, Fl. Pres. Madras 2:610.1957 (repr.ed.); Matthew, Fl. Tamil Nadu Carnatic 2: 966.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2:92.1987.

Vernacular name: Yetti.

English name: Poison nut, Snake wood, Strychnine tree, Vomit nut tree.

Habit: Tree, up to 20 m high.

Leaves: Orbicular to elliptic-ovate, 7-8 x 5-6 cm, 3(5)-nerved, attenuate-obtuse or cuneate at base, entire at margins, acute-short acuminate at apex; petiole ca. 1 cm long.

Inflorescence type: Cymes, terminal or axillary.

Flower: 5-merous. Calyx cupular, ca. 2 mm long; lobes 5, pubescent. Corolla greenish, ca. 8 mm across; tube ca. 7 mm long; lobes 5, ca. 2.5 mm long. Stamens 5. Ovary ca. 1.5 mm long, pubescent.

Fruits: Berry ca. 6 cm across; orange when ripe; seeds ca. 4, globose or compressed.

Flowering: February-July.

Fruiting: March-August.

Local distribution: Coast and Plains.

Economic importance: Entire plant is used in Siddha medicine.

Specimen examined: PB & MG: 328.

Strychnos potatorum L.f., Suppl. Pl. 148.1781; Hook. f., Fl. Brit. India 4:90.1883; Gamble, Fl. Pres. Madras 2:610.1957 (repr.ed.); Matthew, Fl. Tamil Nadu Carnatic 2: 967. 1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2:92.1987. (Plate VI-G)

Vernacular name: Setthankottai.

English name: Clearing nut, Water-filter nut.

Habit: Tree, up to 7 m high.

Leaves: Ovate or elliptic, ca. 7 x 4 cm, chartaceous, 5-nerved, truncate at base, entire at margins, acuminate or mucronate at apex; petiole ca. 5 cm long.

Inflorescence type: Cymes terminal or axillary.

Flower: 5-merous. Calyx ca. 1.5 mm long; lobes 5(6). Corolla cream, ca. 4 mm across, salver-form; tube ca. 4.5 mm long, villous within; lobes 5, reflexed, ca. 2.5 mm long. Stamens 5. Ovary subglobose, 2-celled.

Fruits: Berry globose, ca. 1.5 cm across; deep blue when ripe; seed 1, suborbicular.

Flowering: January-May.

Fruiting: February-June.

Local distribution: Coast.

Economic importance: Seeds used as detergents.

Specimen examined: PB & MG: 432.

BORAGINACEAE

Key to the genera

1a Style 4; stigma 4 ..... *Cordia*

1b Style 1 or 2; stigma 1 or 2..... *Ehretia*

CORDIA Linnaeus

Cordia domestica Roth., Nov. Pl. Sp. 123.1821; Gamble, Fl. Pres. Madras 2:624.1957 (repr.ed.); Matthew, Fl. Tamil Nadu Carnatic 2: 998.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2: 97.1987. *C. myxa* L. var. *domestica* (Roth) Clarke in Hook.f., Fl. Brit. India 4: 137. 1883. (Plate IV-H)

Vernacular name: Uthalam.

English name: Common sebesten, Assyrian plum, Devil's tree.

Habit: Tree, up to 8 m high.

Leaves: Broadly ovate, elliptic, 2-5 x 1-2.5 cm, fulvous-pubescent above, densely so below, lateral nerves ca. 5 pairs, truncate to rounded at base, obtuse to (sub) acute at apex; petiole ca. 2 cm long.

Inflorescence type: Terminal corymbose cymes, ca 7 cm long.

Flower: Calyx ca. 7 mm long, fulvous-pubescent without; lobes 5, each ca. 2 mm long, Corolla ca. 1.5 cm across; tube ca. 8 mm long, lobes 5, ca. 1 cm long. Stamens 5; filaments ca. 6 mm long; anthers ca. 3.5 mm long. Ovary ca. 1.5 mm long; style ca. 9 mm long.

Fruits: Drupe ellipsoid, ca. 1.7 cm long; fruiting calyx ribbed.

Flowering: January-February.

Fruiting: March onwards.

Local distribution: Coastal.

Interesting morphological features: Huge tree under worship (680 cm girth) in Uthwedeswarar temple at Uthalam.

Specimen examined: PB & MG: 169.

EHRETIA P. Browne

Ehretia ovalifolia Wight, Icon. Pl. Ind. Orient. t. 1383. 1848; Hook. f., Fl. Brit. India 4: 143. 1883; Gamble, Fl. Pres. Madras 2:626.1957 (repr.ed.); Matthew, Fl. Tamil Nadu Carnatic 2: 1002.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2: 99.1987.

Vernacular name: Karukattan.

English name: Ovate leaved ivory wood.

Habit: Tree, up to 5 m high.

Leaves: Broadly elliptic-ovate, 3-5 x 2.5-3.5 cm, subcoriaceous, thinly appressed-pubescent on both surfaces, mature ones glabrous; truncate at base, entire to coarsely toothed at margins, obtuse to subacute at apex; petiole ca. 1 cm long.

Inflorescence type: Terminal or axillary dichotomous cymes, ca. 3.5 cm long.

Flower: Calyx-lobes 5, oblong, ca. 2.5 mm long, thinly pubescent without, acute at apex. Corolla ca. 4 mm across; tube ca. 2 mm long; lobes oblong, ca. 2 mm long, subacute at apex. Stamens 5; filaments ca. 3.5 mm long; anthers ca. 1 mm long. Ovary ca. 1.5 mm long; style ca. 2 mm long, divided from near the middle.

Fruits: Drupe globose.

Flowering: July-August.

Fruiting: September-October.

Local distribution: Plains.

Interesting morphological features: Much branched huge tree (310 cm girth) under worship, in Veerakumarasamy temple, Vellakoil.

Economic importance: Wood is used to produce agricultural implements.

Specimen examined: PB & MG: 164.

BIGNONIACEAE

Key to the genera

1a Fruits > 12 cm broad.....*Crescentia*

1b Fruits < 2.5 cm broad.....2

2a Leaves 1-pinnate.....*Stereospermum*

2b Leaves 2-pinnate.....*Millingtonia*

CRESCENTIA Linnaeus

Crescentia cujeta L., Sp. Pl. 626.1753; Henry et al., Fl. Tamil Nadu Series I: Analysis 2: 134.1987. (Plate VII-J)

Vernacular name: Tiruvottukkai.

English name: Calbash, Bagger's bowl.

Habit: Tree, up to 15 m high.

Leaves: Obovate-oblanceolate, spathulate, 2.5-10 x 1-3 cm, attenuated in to a short petiole at base, entire at margins, rounded, retuse or obtuse at apex; petiole very short.

Inflorescence type: Solitary, cauliflorous.

Flower: Bisexual. Calyx campanulate. Corolla red; tube ca. 5 cm long. Stamens 4; filaments ca 5 cm long; anthers ovate-oblong, ca 2.5 mm long, 2-celled. Ovary superior, 2-celled; style elongate; stigma 2-lamellate.

Fruits: Capsule, ca 30 cm across, woody.

Flowering: August-December.

Fruiting: ± throughout the year.

Local distribution: Plains.

Economic importance: Thick seed coat is used for making beggar's bowl.

Specimen examined: PB & MG: 434.

MILLINGTONIA Linnaeus f.

Millingtonia hortensis L.f., Suppl. Pl. 291.1781; Hook. f., Fl. Brit. India 4:377.1884; Gamble, Fl. Pres. Madras 2:699.1957 (repr. ed.); Matthew, Fl. Tamil Nadu Carnatic 2: 1131.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2:135.1987. (Plate V-J)

Vernacular name: Maramalli.

English name: Indian cork tree.

Habit: Tree, up to 15 m high.

Leaves: Even-pinnate; leaflets elliptic-ovate, ca. 5 x 4 cm, chartaceous, rounded or oblique at base, coarsely toothed at margins, acuminate at apex; petiole ca. 10 cm long, petiolule ca. 1 cm long.

Inflorescence type: Terminal, corymbose panicles, ca. 25 cm across.

Flower: Calyx cupular, ca. 4 mm long, puberulous; lobes 5, obtuse at apex, ca. 1 mm long. Corolla white, ca. 2.5 cm across; tube narrow, cylindric, ca. 7 cm long; throat wided; limb 2-labiate. Stamens 4; filament pairs ca. 1 and ca. 1.5 cm long; anthers oblong, 1 cell fertile. Ovary ca. 3 mm long; style ca. 8 cm long.

Fruits: Capsule terete, ca. 30 x 2 cm.

Flowering: Throughout the year.

Fruiting: Throughout the year.

Local distribution: Coast.

Economic importance: Planted in home gardens and temple gardens for the fragrant flowers.

Specimen examined: PB & MG: 284.

STEREOSPERMUM Chamisso

Key to the species

1a Leaves imparipinnate; distantly serrate at margins, cupidate at apex.....*S. chelonoides*

1b Leaves paripinnate; entire at margins, acuminate at apex.....*S. colais*

Stereospermum colais (Buch.-Ham. ex Dillwyn) Mabb., Taxon 27:553.1978; Henry et al., Fl. Tamil Nadu Series I: Analysis 2: 137.1987. *Bignonia colais* Buch.-Ham. ex Dillwyn, Rev. Hort. Malab. 28.1839. *Stereospermum tetragonum* DC., Prodr. 9:210.1845; Gamble, Fl. Pres. Madras 2:701.1957 (repr. ed.). *S. chelonoides* sensu Wight, Icon. Pl. Ind. Orient. t. 1341.1845; Hook. f., Fl. Brit. India 4:382.1884. *S. personatum* (Hassk.) Chatterjee in Bull. Bot. Soc. Bengal 2:70.1948; Matthew, Fl. Tamil Nadu Carnatic 2: 1133.1983. *Dipterosperma personatum* Hassk., Flora 25(2): Biebl. 28.1842. (Plate VIII-J)

Vernacular name: Sempadiri.

English name: Fragrant trumpet flower, Yellow snake tree.

Habit: Tree, up to 25 cm high.

Leaves: Even-pinnate; leaflets 5-7, obovate-lanceolate, ca. 15 x 6 cm, acute at base, minutely toothed at margins, acuminate at apex; petiole ca. 1 cm long.

Inflorescence type: Axillary corymbs, ca. 12 cm across.

Flower: Calyx campanulate, 2-labiate, ca. 8 mm long. Corolla bell-shaped, pink, ca. 1.5 cm across; tube ca. 1.5 cm long; lobes 5, ca. 1 cm long. Stamens 4. Ovary ca. 2.5 mm long; style ca. 1 cm long; stigma ovate-oblong.

Fruits: Capsule, 20-30 x 1-1.3 cm.

Flowering: April-July.

Fruiting: May-August.

Local distribution: Coast, Plains and Western Ghats.

Economic importance: Wood is used to make agricultural implements.

Specimen examined: PB & MG: 357.

Stereospermum chelonoides (L. f.) in Biblioth. Universelle Geneve 2.17:125.1838 et Prodr. 9: 210. 1845; Henry et al., Fl. Tamil Nadu Series I: Analysis 2: 136.1987. *Bignonia chelonoides* L.f., Suppl. Pl. 282. 1781 p.p. excl. Rheede, Hort. Malab. 6:47.t.26. *Stereospermum suaveolens* (Roxb.) DC., Prodr. 9: 211.1845; Hook. f., Fl. Brit. India 4:382. 1884; Gamble, Fl. Pres. Madras 2: 701. 1957 (repr. ed.). *S. chelonoides* Roxb., Fl. Ind. 3: 104.1832. (Plate VIII-I)

Vernacular name: Venpadiri.

English name: White trumpet flower.

Habit: Tree, up to 20 m high.

Leaves: Odd-pinnate; leaflets 7-9, obovate to lanceolate, 7-15 x 4-7 cm, thin-coriaceous, lateral nerves ca. 8 pairs, flattened above, raised below, acute at base, entire to

minutely toothed at margins, acuminate at apex; petiolule ca. 1 cm long; for terminal leaflet ca. 5 cm long.

Inflorescence type: Axillary corymbs, ca. 15 cm across.

Flower: Calyx campanulate, bilabiate, ca. 0.7 cm long. Corolla white or yellow with pink dots, bell-shaped, ca. 1.5 cm across; tube ca. 1.5 cm long, gradually widened towards apex, villous in the middle from below upwards; lobes 5, subequal, ca. 1 cm long, margin crisped. Stamens 4; filament pairs ca. 6 and 8 mm long, with a tuft of woolly hairs below; anthers divaricate; ca. 2 mm long. Ovary oblong-cylindric, ca. 4 mm long, ovules 2-seriate; style ca. 1 cm long, stigma ovate-oblong, subacute at apex.

Fruits: Capsule terete or 4-gonous, 30-40 x 1- 1.5 cm, elongate, twisted; seeds compressed, trigonous.

Flowering: April-June.

Fruiting: Throughout the year.

Local distribution: Coast.

Economic importance: Wood is used to make agricultural implements.

Specimen examined: PB & MG: 172.

ACANTHACEAE

STROBILANTHES Blume

Strobilanthes kunthianus (Nees) T. And. ex Benth., Fl. Hong. 262.1861; Hook. f., Fl. Brit. India 4: 434. 1884; Gamble, Fl. Pres. Madras 2: 726. 1957 (repr.ed.); Matthew, Fl. Tamil Nadu Carnatic 2: 1204.1983. *Phlebophyllum kunthianum* Nees in Wall., Pl. Asiat. Rar. 3: 83. 1832; Henry et al., Fl. Tamil Nadu Series I: Analysis 2: 156. 1987. (Plate VI-F)

Vernacular name: Kurinchi.

English name: Kurunji.

Habit: Shrub, up to 1.5 m high.

Leaves: Elliptic-lanceolate to obovate, ca. 5 x 3.5 cm thick-coriaceous, acute at base, serrate at margins, acute to shortly acuminate at apex; petiole ca. 1 cm long.

Inflorescence type: Terminal and lateral spikes, ca. 15 cm long.

Flower: Calyx floccose-villous, ca. 1.5 cm long; lobes 5, linear-lanceolate. Corolla tube ca. 6 mm long; lobes 5. Stamens 2. Ovary globose, ca 2 cm long.

Fruits: Capsule, ca. 1.5 x 4 cm.

Flowering: Once in 12 years between August-December.

Fruiting: Once in 12 years between September-February.

Local distribution: Western Ghats.

Specimen examined: PB & MG: 82.

VERBENACEAE

Key to the genera

1a Leaves digitately 3-5 foliolate.....*Vitex*

1b Leaves simple.....*Premna*

PREMNA Linnaeus

Premna latifolia Roxb. var. ***mollissima*** (Roth) Clake in Hook. f., Fl. Brit. India 4:578.1885; Gamble, Fl. Pres. Madras 2:767.1957 (repr.ed.); Matthew, Fl. Tamil Nadu Carnatic 2: 1228. 1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2:167.1987. *P. mollissima* Roth, Nov. Pl. Sp. 286.1821. (Plate VI-A)

Vernacular name: Kattuminnai.

Habit: Tree, up to 10 m high.

Leaves: Broadly ovate to orbicular, 4-6 x 3-5 cm, rounded at base, entire at margins, obtuse to acute at apex; petiole ca. 2 cm long.

Inflorescence type: Terminal and axillary corymbose cyme, ca. 7 cm across.

Flower: Calyx cupular, ca. 2.5 mm long, obscurely 2-lipped, 2 + 3. Corolla white, ca. 4 mm across; tube ca. 2.5 mm long; lobes ovate, ca. 2 mm long. Stamens 4. Ovary 1 mm long; style ca. 5 mm long.

Fruits: Drupe globose, ca. 5 mm across.

Flowering: May-July.

Fruiting: ± throughout the year.

Local distribution: Plains.

Economic importance: Fruits edible; wood used to make agricultural implements.

Specimen examined: PB & MG: 39.

VITEX Linnaeus

Vitex negundo L., Sp. Pl. 638.1753; Hook.f., Fl. Brit. India 4:583.1885 incl. var. *incisa*; Gamble, Fl. Pres. Madras 2:771.1957 (repr.ed.); Matthew, Fl. Tamil Nadu Carnatic 2: 1240.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2:170.1987

Vernacular name: Nochi.

English name: Five-leaved chaste tree, Negundo.

Habit: Shrub or small tree, up to 6 m high.

Leaves: 3-5-foliolate; leaflets oblanceolate or elliptic-lanceolate, 7-12 x 2-3 cm, acute at base, entire at margins, acuminate at apex; petiole ca. 7 cm long; petiolule ca. 1.5 cm long.

Inflorescence type: Panicles terminal and from the upper axils, ca. 25 cm long.

Flower: Calyx ca. 3 mm long, 5-toothed; teeth triangular. Corolla purple-violet, ca. 7 mm across; tube ca. 5 mm long; upper lip ca. 2 mm long; lower ca. 3.5 mm long. Stamens 4; filaments ca. 3.5 mm long. Ovary ca. 1 mm long.

Fruits: Drupe globose, ca. 5 mm across.

Flowering: January-July.

Fruiting: Throughout the year.

Local distribution: Coast, Plains and Western Ghats.

Economic importance: Leaves used in Siddha medicine.

Specimen examined: PB & MG: 158.

LAMIACEAE

OCIMUM Linnaeus

Ocimum tenuiflorum L., Sp. Pl. 597. 1753; Matthew, Fl. Tamil Nadu Carnatic 2: 1271. 1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2: 180.1987. *O. sanctum* L., Mant. Pl. 85. 1767; Hook.f., Fl. Brit. India 4: 609. 1885; Gamble, Fl. Pres. Madras 2: 778. 1957 (repr. ed.).

Vernacular name: Thulasi.

English name: Sacred basil.

Habit: Subshrub, up to 90 cm high.

Leaves: Elliptic-oblanceolate, 1-4 x 0.5-2 cm, truncate at base, serrate at margins, acutely apiculate at apex; petiole ca. 2 cm long.

Inflorescence type: Terminal racemes, ca. 10 cm long.

Flower: Calyx lobes 5; 2-lipped, 1.5-2 mm long. Corolla white, 2-lipped ca. 3.5 x 1.2 mm; tube ca. 1 mm long; lobes 5. Stamens 4. Ovary ca. 0.7 mm long; style ca. 5 mm; long calyx not much enlarged in fruits.

Fruits: Nutlets.

Flowering: October-January.

Fruiting: November-February.

Local distribution: Coast.

Economic importance: Whole plant used in Siddha medicine. Preferred household medicine for cold, cough and fever.

Religious importance: Plant used in temple rituals.

Specimen examined: PB & MG: 210.

MONOCHLAMYDEAE

SANTALACEAE

SANTALUM Linnaeus

Santalum album L., Sp. Pl. 349. 1753; Hook.f., Fl. Brit. India 5: 231. 1886; Gamble, Fl. Pres. Madras 2: 883. 1957 (repr.ed); Matthew, Fl. Tamil Nadu Carnatic 2: 1381. 1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2: 219. 1983. (Plate VI-D)

Vernacular name: Santhanam.

English name: Sandal wood tree.

Habit: Tree, up to 12 m high.

Leaves: Opposite below, alternate above, ovate or elliptic, ovate-lanceolate, ca. 8 x 4 cm, subcoriaceous, rounded to acute at base, entire or undulate at margins, acute to short acuminate at apex; petiole ca. 1.5 cm long.

Inflorescence type: Terminal or in axillary paniculate cymes, 3-chotomous, ca. 2.5 cm long.

Flower: Brownish purple, bisexual, 5-merous. Tepals 5; lobes ca. 2.5 x 1.5 mm. Stamens 5. Disc of 5, ovoid scales. Ovary superior, globose, ca. 1 mm long.

Fruits: Drupe globose, ca. 1.2 x 0.8 cm, beaked with basal part of style.

Flowering: July-November.

Fruiting: ± throughout the year.

Local distribution: Coast, Plains and Western Ghats.

Economic importance: Wood and wood oil used in cosmetics and perfumes. Wood paste used in traditional medicinal systems.

Religious importance: Wood used to make anthropomorphic deities in temple; wood paste used as offerings in temples.

Specimen examined: PB & MG: 294.

EUPHORBIACEAE

Key to the genera

1a Male and female flowers much reduced, enclosed within a common, ususlly cupular, involucre; stamen 1.....*Euphorbia*

1b Male and female flowers not enclosed within a common, cupular, involucre; stamen more than 1.....2

2a Leaves peltate, multifid, palminerved .....*Ricinus*

2b Leaves other than above, penninerved.....3

3a Plants with latex; calyx lobes dentate.....*Excoecaria*

3b Plants without latex; calyx-lobes entire.....4

4a Leaves pinnate; pistillode absent in male flowers.....*Phyllanthus*

4b Leaves simple; pistillode present in male flowers.....*Flueggea*

EUPHORBIA Linnaeus

Euphorbia nivulia Bunh.-Ham. in Trans. Linn. Soc. London 14: 286. 1825: Hook. f., Fl. Brit. India 5: 255. 1887; Gamble, Fl. Pres. Madras 2: 893. 1957 (repr.ed); Matthew, Fl. Tamil Nadu Carnatic 2: 1435.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2: 229. 1987.

Vernacular name: Elaikkalli.

English name: Spiral leaved milk hedge, Five tubercled spurge.

Habit: Small armed, succulent tree, up to 6 m high.

Leaves: Alternate, spathulate or oblanceolate, 10-20 x 3-7 cm, subsucculent, lateral nerves obscure, cuneate at base, broadly obtuse at apex.

Inflorescence type: Cyathia in pairs, axillary or subterminal.

Flower: Involucre broadly cupular, ca. 0.5 x 1 mm, coriaceous; glands 5, oblong, ca. 2 x 6 mm, thick; appendage 0. Male: florets roughly in 5 groups of 8 each, with sterile floret, bracteolate; stalk ca. 2 mm long; anther ca. 0.7 mm long, dehiscence vertical. Female: laterally pendulous. Ovary ca. 3 x 5 mm; style stout, branched from above the middle, erect, ca. 2 mm long; stigma broad.

Fruits: Capsule ca. 5 mm across; seeds 4 angular.

Flowering: December-March.

Fruiting: March-May.

Local distribution: Coast.

Economic importance: Planted as live fence in agricultural lands.

Specimen examined: PB & MG: 83.

EXCOECARIA Linnaeus

Excoecaria agallocha L., Syst. Nat. ed.10. 1288.1759; Hook. f., Fl. Brit. India 5: 472.1888; Gamble, Fl. Pres. Madras 2: 941.1957 (repr.ed.); Matthew, Fl. Tamil Nadu Carnatic 2:1442. 1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2:230.1987. (Plate VII-L)

Vernacular name: Thillai.

English name: Blinding tree, Tiger's milk spurge.

Habit: Tree, up to 5 m high.

Leaves: Alternate, elliptic-obovate, 6-10 x 3-5 cm, acute at base, shortly acuminate at apex, lateral nerves ca. 8 pairs; petiole ca. 3 cm long.

Inflorescence type: Axillary spikes.

Flower: Male spikes ca. 10 cm long, bractioles linear. Tepals 3. Stamens 3; filaments ca. 3 mm long; anthers ca. 0.7 mm long. Female spikes ca. 4 mm long. Tepals 3, ovate, concave, ca. 1.5 mm long. Ovary 3-lobed, ca. 2 mm long; style recurved, ca. 3 mm long.

Fruits: Capsules of 3-cocci, depressed, ca. 1 cm across.

Flowering: June-September.

Fruiting: July-October.

Local distribution: Coast.

Economic importance: Wood is used to make agricultural implements.

Specimen examined: PB & MG: 407.

FLUEGGEA Willdenow

Flueggea leucopyrus Willd., Sp. Pl. 4:759.1805; Hook.f., Fl. Brit. India 5:328.1887; Gamble, Fl. Pres. Madras 2:907.1957 (repr.ed.). *Securinega leucopyrus* (Willd.) Muell.-Arg. in DC., Prodr. 15 (2):451.1866; Matthew, Fl. Tamil Nadu Carnatic 2: 1475.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2:240.1987. (Plate VII-M)

Vernacular name: Venpoolan.

English name: Indian snow berry, Cool pot.

Habit: Shrub, up to 5 m high.

Leaves: Obovate, 2-4 x 1.5-3 cm, acute-cuneate at base, entire at margins, obtuse or emarginate at apex; petiole ca. 5 mm long.

Inflorescence type: Axillary fascicles.

Flower: Male flowers: ca. 2.5 mm across. Tepals concave, ca. 1 mm long. Stamens 5, ca. 2.5 mm long. Pistillodes 2, ca. 1.5 mm long. Female flowers: ca. 1 mm across. Tepals 5, ovate, ca. 1 mm long. Ovary ca. 0.5 mm long.

Fruits: Capsule globose ca. 6 mm across, white.

Flowering: February-May.

Fruiting: March-June.

Local distribution: Western Ghats.

Economic importance: Leaves and fruits used in Siddha medicine.

Specimen examined: PB & MG: 340.

PHYLLANTHUS Linnaeus

Phyllanthus emblica L., Sp. Pl. 982.1753; Hook. f., Fl. Brit. India 5:289.1887; Matthew, Fl. Tamil Nadu Carnatic 2: 1466.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2:236.1987. *Emblica officinalis* Gaertn., Fruct. 2:122.1791; Gamble, Fl. Pres. Madras 2:906.1957 (repr.ed.). (Plate VIII-G)

Vernacular name: Nelli.

English name: Indian gooseberry, Emblic myrobalan.

Habit: Tree, up to 10 m high.

Leaves: Oblong; leaflets elliptic-oblong, 1-1.5 x 0.3-0.5 cm, truncate-subcordate at base, entire at margins, apiculate at apex.

Inflorescence type: Axillary fascicles; male and female mixed.

Flower: Male flowers: ca. 3.2 mm across. Tepals 6, oblanceolate, ca.1.7 mm long. Stamens 3, connate, ca. 0.5 mm long; anthers oblong, ca. 1.2 mm long. Disc-glands 6. Female flowers: ca. 5 mm across. Ovary ca. 1.7 mm long; style fimbriate, ca. 3 mm long.

Fruits: Drupe depressed globose, fleshy, juicy, ca. 3 cm across; seeds 3-gonous.

Flowering: January-March.

Fruiting: April onwards.

Local distribution: Coast, Plains and Western Ghats.

Interesting morphological features: Bonsai shape plant in worship in Thirumulanathasamy temple Ambasamuthutiram.

Economic importance: Fruits form the main ingredient in most of the Siddha medicines including 'Kayakalpa' (medicine that prevents ageing in humans).

Specimen examined: PB & MG: 131.

RICINUS Linnaeus

Ricinus communis L., Sp. Pl. 1007.1753; Hook.f., Fl. Brit. India 5:457. 1887; Gamble, Fl. Pres. Madras 2:933.1957 (repr. ed.); Matthew, Fl. Tamil Nadu Carnatic 2: 1471. 1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2: 239.1987.

Vernacular name: Amanakku.

English name: Castor oil plant, Palma Christi.

Habit: Monoecious shrub or small tree, up to 7 m high.

Leaves: Alternate, palmatifid, 6-10 lobed, peltate at base, serrate at margins, acuminate at apex; lobes lanceolate, 10-20 x 3-8 cm; petiole ca. 20 cm long.

Inflorescence type: Terminal, paniculate racemes, ca. 25 cm long.

Flower: Male flowers below, ca. 1.5 cm across, female ones above, ca. 6 mm across. Male: Perianth cupular, splitting in to 3-5 lobes, lanceolate, valvate, ca. 4 mm long, inrolled at margins, acuminate at apex. Stamens numerous; filaments connate and repeatedly branched; anther cells divergent, ca. 4 mm long. Female: Tepals 5, subequal, lanceolate, valvate, ca. 5 mm long, acute at apex. Ovary globose, echinate, ca. 3 mm long, 3-locular; ovules 3, pendulous; style 3, stout, ca. 4 mm long, papillose, stigmatiferous. Disc 0.

Fruits: Capsule globose, echinate, ca. 2 cm across.

Flowering: September-January.

Fruiting: Throughout the year.

Local distribution: Coast.

Economic importance: Seed used for oil extraction.

Specimen examined: PB & MG: 159.

ULMACEAE

HOLOPTELEA J.E. Planchon

Holoptelea integrifolia (Roxb.) Planch., Ann. Sci. Nat. Bot. Ser. 3.10: 259.1848; Hook.f., Fl. Brit. India 5:481.1888; Gamble, Fl. Pres. Madras 3:943.1957 (repr. ed.); Matthew, Fl. Tamil Nadu Carnatic 2: 1503.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2: 250. 1987. *Ulmus integrifolia* Roxb., Pl. Cor. t. 78. 1798. (Plate VII-N)

Vernacular name: Aacha.

English name: South Indian elm, Jungle cork tree.

Habit: Tree, up to 20 m high.

Leaves: Distichous, elliptic-ovate, ca. 12 x 8 cm, subcoriaceous, rounded at base, entire at margins, acute at apex; petiole ca. 1 cm long.

Inflorescence type: Axillary fascicles or on old shoots.

Flower: Unisexual. Tepals 4, imbricate, ciliate. Stamens 7-9; anthers introrse. Ovary compressed-ovoid, 1-celled; style arms 2.

Fruits: Samara winged, compressed, ca. 1.2 x 0.8 cm; wings membranous, ca. 3 cm across.

Flowering: January-March.

Fruiting: April onwards.

Local distribution: Plains.

Economic importance: Wood used to make agricultural implements.

Specimen examined: PB & MG: 376.

MORACEAE

Key to the genera

1a Male inflorescence of pedunculate heads; stamens inflexed in bud; anther reflexed later..... ***Streblus***

1b Male inflorescence on the receptacle; stamens anther straight in bud..... 2

2a All flowers crowded on the inner wall of a hypanthium..... ***Ficus***

2b Male flowers crowded on the upper surface of a fleshy receptacle..... ***Artocarpus***

ARTOCARPUS J.R. Forster et J.G.A. Forster

Key to the species

1a Mature leaves < 10 cm wide, cuneate at base; stipules spathaceous; mature fruits > 25 cm long..... ***A. heterophyllus***

1b Mature leaves > 15 cm wide, truncate to rounded at base; stipules linear-elliptic; mature fruits < 10 cm long..... ***A. hirsutus***

Artocarpus heterophyllus Lam., Encycl. 3: 210. 1789, "*heterophylla*"; Matthew, Fl. Tamil Nadu Carnatic 2: 1509.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2: 251. 1987. *A. integrifolia* auct.non L.f., 1781; Wight, Icon. Pl. Ind. Orient. t. 678. 1840; Hook.f., Fl. Brit. India 5: 541. 1888; Fischer in Gamble, Fl. Pres. Madras 3: 957. 1957 (repr.ed.) (Plate VII-A)

Vernacular name: Pala.

English name: Jack fruit tree.

Habit: Tree, up to 25 m high.

Leaves: Elliptic-ovate, ca. 14 x 10 cm, coriaceous, rounded to acute at base, entire at margins, obtuse to shortly acute at apex; petiole stout, ca. 3 cm long.

Inflorescence type: Cauliflorous and also from on main trunks.

Flower: Unisexual. Male flowers: Perianth 2-lobed. Stamen 1. Female flowers: Perianth protruding, ca. 2.5 mm long. Ovary obovoid, 1-celled.

Fruits: Syncarp oblong-globose, 30-60 x 20-35 cm; seeds elliptic-oblong.

Flowering: January-April.

Fruiting: Throughout the year.

Local distribution: Coast, Plains and Western Ghats.

Economic importance: Fruit is edible and unripe fruit used as vegetable. Wood used for construction purposes.

Specimen examined: PB & MG: 236.

Artocarpus hirsutus Lam., Encycl. 3: 210. 1789, *"hirsuta"*; Hook. f., Fl. Brit. India 5: 541. 1888; Fischer in Gamble, Fl. Pres. Madras 3: 957. 1957 (repr.ed.); Henry et al., Fl. Tamil Nadu Series I: Analysis 2: 251.1987. (Plate VII-B)

Vernacular name: Ayini pala.

English name: Wild jack, Jungle jack, Wild bread fruit.

Habit: Tree, up to 30 m high.

Leaves: Ovate, ca. 25 x 15 cm, thick-coriaceous, rounded to acute at base, entire at margins, obtuse to shortly acute at apex; petiole ca. 2 cm long.

Inflorescence type: Axillary fascicles.

Flower: Male and female mixed. Male inflorescence: narrow cylindric, ca. 15 x 1 cm; peduncle hirsute, ca. 3 cm long. Tepals 2, connate below. Stamen 1, erect. Female inflorescence: ovoid, ca. 3 x 1.5 cm. Perianth tubular. Ovary ovoid, 1-celled.

Fruits: Syncarp, globose or ellipsoid.

Flowering: April-May.

Fruiting: May-July.

Local distribution: Western Ghats.

Economic importance: Fruit edible wood used in construction purposes and making agricultural implements.

Specimen examined: PB & MG: 289.

FICUS Linnaeus

Key to the species

1a Figs on special shoots; achenes lenticular.....*F. racemosa*

1b Figs on branchlets; achenes other than lenticular.....2

2a Figs sessile.....3

2b Figs stalked.....6

3a Branchlets and figs fulvous-tomentose .....*F. mollis*

3b Branchlets and figs glabrous or puberulous.....4

4a Leaf-tip (cusp) > 4 cm long.....*F. religiosa*

4b Leaf-tip (cusp) <1.5 cm long.....5

5a Figs < 1 cm across, orange when ripening; leaves with secondary lateral nerves.....*F. microcarpa*

5b Figs > 1.5 cm across, red when ripening; leaves with intercostal.....*F.benghalensis*

6a Peduncle < 4 mm long; figs cream when ripening.....*F. virens*

6b Peduncle > 8 mm long; figs yellow to red when ripening.....*F. nervosa*

Ficus benghalensis L., Sp. Pl. 1059. 1753; Hook. f., Fl. Brit. India 5: 499. 1888; Fischer in Gamble, Fl. Pres. Madras 3: 952. 1957 (repr.ed); Matthew, Fl. Tamil Nadu Carnatic 2: 1518.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2: 252. 1987. *Urostigma benghalense* (L.) Gasp., Nov. Gen. Fic. 7. 1844. (Plate IV-L)

Vernacular name: Aalamaram.

English name: Banyan tree, Indian fig, Bengal fig.

Habit: Tree, up to 20 m high.

Leaves: Elliptic-ovate, or ovate-oblong, 10-15 x 7-10 cm, coriaceous, broadly rounded to subcordate at base, entire at margins, obtuse-subacute at apex; petiole ca. 5 cm long.

Flower: Monoecious, axillary. Tepals 4-6. Male flower: Stamen 1. Female flowers: Ovary 1-celled.

Fruits: Fig globose, reddish, ca. 2 cm across.

Flowering: April-July.

Fruiting: May onwards.

Local distribution: Coast, Plains and Western Ghats.

Interesting morphological features: Huge tree (25 m girth) under worship in Vadavaranyaweswarar temple, Thirivalankadu.

Economic importance: Planted as a shade tree.

Religious importance: Common sacred tree found throughout Tamil Nadu.

Specimen examined: PB & MG: 171.

Ficus microcarpa L.f., Suppl. Pl. 442. 1781; Matthew, Fl. Tamil Nadu Carnatic 2: 1522.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2: 254. 1987. *F. retusa* auct. non. L. 1767; King, Ann. Roy. Bot. Gard. (Calcutta) 1: 50. tt. 61 & 84 p. 1887 & in Hook. f., Fl. Brit. India 5: 511. 1888; Fischer in Gamble, Fl. Pres. Madras 3: 952. 1957 (repr.ed.). *F. retusa* var. *nitida* auct. non. Thunb. 1781-1801; Hook. f., Fl. Brit. India 5: 511. 1888; Fischer in Gamble, Fl. Pres. Madras 3: 952. 1957. (Plate IV-O)

Vernacular name: Kallal.

English name: Shining leaved fig.

Habit: Tree, up to 10 m high.

Leaves: Elliptic-ovate to obovate, 5-7 (10) x 3-5 cm, coriaceous, acute-cuneate at base, entire-undulate at margins, rounded to acute at apex or rarely obtuse; petiole ca. 1 cm long.

Flower: Monoecious, axillary or on leaflets branchlets. Tepals 3-4, free, ovate-lanceolate, ca. 1.5 mm long. Male fig disperse. Stamens 1. Female fig sessile. Ovary ovoid-globose, red-brown, ca. 1 mm long.

Fruits: Fig globose, orange, ca. 6 mm across.

Flowering: April-July.

Fruiting: May-August.

Local distribution: Western Ghats.

Interesting morphological features: Huge tree covering a whole rock at Mahalingasamy temple, Kambili.

Specimen examined: PB & MG: 307.

Ficus mollis Vahl, Symb. Bot. 1: 82. 790; Matthew, Fl. Tamil Nadu Carnatic 2: 1524.1983. *F. tomentosa* Roxb. ex Willd., Sp. Pl. 4: 1136. 1806; Hook.f., Fl. Brit. India 5: 501.1888; Fischer in Gamble, Fl. Pres. Madras 3: 952.1957 (repr.ed.); Henry et al., Fl. Tamil Nadu Series I: Analysis 2: 254. 1987. (Plate IV-M)

Vernacular name: Kallathi.

English name: Gray wooly banyan, Hill banyan.

Habit: Tree, up to 15 m high.

Leaves: Elliptic-ovate, 6-15 x 3-10 cm, subcoriaceous, subcordate at base, entire at margins, broadly acute at apex; petiole ca. 3 cm long.

Flower: Monoecious, axillary. Tepals 3-4, ovate-lanceolate, ca. 1 mm long. Male fig disperse, subsessile. Stamen 1. Female fig sessile. Ovary ovoid-globose, red-brown, ca. 1 mm long.

Fruits: Fig globose, brownish, ca. 2 cm across.

Flowering: November-February.

Fruiting: December-March.

Local distribution: Plains.

Economic importance: Latex and fruits used in Siddha medicine.

Specimen examined: PB & MG : 330.

Ficus nervosa Heyne ex Roth in Roem. & Schultes, Syst. 1: 513. 1817; Hook. f., Fl. Brit. India 5: 512.1888; Fischer in Gamble, Fl. Pres. Madras 3: 954.1957 (repr.ed.); Matthew, Fl. Tamil Nadu Carnatic 2: 1525.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2: 254. 1987.

Vernacular name: Kallathi.

Habit: Tree, up to 20 m high.

Leaves: Oblanceolate or elliptic-ovate, 8-15 x 4-10 cm, subcoriaceous, rounded to acute at base, entire at margins, acuminate at apex; petiole ca. 1.5 cm long.

Flower: Monoecious, axillary. Tepals 3, lanceolate, ca. 1 mm long. Male fig disperse, subsessile. Stamen 1. Female fig sessile. Ovary obovoid-globose, ca. 1 mm long.

Fruits: Figs depressed- globose to pyriform, yellowish.

Flowering: November-February.

Fruiting: December-March.

Local distribution: Plains.

Economic importance: Latex and fruits used in Siddha medicine.

Specimen examined: PB & MG: 417.

Ficus racemosa L., Sp. Pl. 1060. 1753; Matthew, Fl. Tamil Nadu Carnatic 2: 1526.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2: 255. 1987. *F. glomerata* Roxb., Pl. Cor. t. 123. 1799; Hook.f., Fl. Brit. India 5: 535.1888; Fischer in Gamble, Fl. Pres. Madras 3: 954.1957 (repr.ed.).

Vernacular name: Atthi.

English name: Glomerous fig, Sacrificial fig, Country fig, Wild fig.

Habit: Tree, up to 12 m high.

Leaves: Elliptic-obovate or obovate-oblanceolate, 9-15 x 3-7 cm, subcoriaceous, glabrous beneath, rounded to acute at base, entire at margins, acute at apex; petiole ca. 4 cm long.

Flower: Monoecious, cauliflorus. Tepals 3-5, ovate-lanceolate, ca. 1.5 mm long. Male fig: ostiolar. Stamens 2, exserted. Female Fig: Ovary sessile or shortly stalked, ca. 1.5 mm long.

Fruits: Fig subglobose, purplish-red, ca. 5 cm across.

Flowering: Throughout the year.

Fruiting: Throughout the year.

Local distribution: Coast, plains and Western Ghats.

Economic importance: Latex and fruits used in Siddha medicine.

Specimen examined: PB & MG: 397.

Ficus religoisa L., Sp. Pl. 1059. 1753; Hook.f., Fl. Brit. India 5: 513. 1888; Fischer in Gamble, Fl. Pres. Madras 3: 953. 1957 (repr.ed.); Matthew, Fl. Tamil Nadu Carnatic 2: 1527.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2: 256. 1987. (Plate IV-N)

Vernacular name: Arasamaram.

English name: Peepal tree, Peepul, Pipal.

Habit: Tree, up to 35 m high.

Leaves: Ovate, 5-12 x 5-10 cm, subcoriaceous, truncate or rounded at base, sinuate at margins, abruptly caudate-acuminate at apex; cup ca 7.5 cm long; petiole ca. 6 cm long.

Flower: Monoecious, axillary. Tepals 2, free, ovate-lanceolate, ca. 0.8 mm long. Stamen 1. Female Tepals 3-4, free, linear-lanceolate, ca. 1 mm long. Ovary ovoid-oblong, ca. 1 mm long. Gall flowers similar.

Fruits: Fig obovoid or globose, purple or black, ca. 1 cm across.

Flowering: July-August.

Fruiting: Throughout the year.

Local distribution: Plains and Western Ghats.

Interesting morphological features: Huge tree (±1500 cm girth) recorded in Poovarahasamy temple, Srimushnam.

Economic importance: Peepal is a common sacred tree found in temples. Young shoots, latex, fruits used in Siddha medicine.

Religious importance: Common sacred tree found throughout Tamil Nadu and deities placed beneath the tree.

Specimen examined: PB & MG: 468.

Ficus virens Aiton, Hort. Kew ed. 1. 3: 451. 1789; Matthew, Fl. Tamil Nadu Carnatic 2: 1531.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2: 256. 1987. *F. infectoria* Roxb., Fl. Ind. 3: 551. 1832, non. Willd. 1806; Hook.f., Fl. Brit. India 5: 515. 1888; Fischer in Gamble, Fl. Pres. Madras 3: 953. 1957 (repr.ed.).

Vernacular name: Ichchi maram.

English name: White fig.

Habit: Tree, up to 10 m high.

Leaves: Oblong-obovate, 7-12 x 4-8 cm, subcoriaceous, rounded to truncate or rarely subcordate at base, entire at margins, abruptly acuminate at apex; petiole ca. 1.5 cm long.

Flower: Monoecious, axillary, Tepals 2-4 (5), lanceolate ca. 1.5 mm long. Male: Stamen 1. Female: sessile. Ovary obovoid, ca. 1.5 mm long.

Fruits: Fig globose, often obconical, white, ca. 2.5 cm across.

Flowering: January-April.

Fruiting: February-May.

Local distribution: Plains and Western Ghats.

Economic importance: Latex and fruits used in Siddha medicine.

Specimen examined: PB & MG: 115.

STREBLUS Loureiro

Streblus asper Lour., Fl. Cochinch. 2: 615. 1790; Hook.f., Fl. Brit. India 5: 489. 1888; Fischer in Gamble, Fl. Pres. Madras 3: 947. 1957 (repr.ed); Matthew, Fl. Tamil Nadu Carnatic 2: 1534.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 2: 257. 1987. (Plate VIII-K)

Vernacular name: Paraai.

English name: Sandpaper tree, Siamese rough-bush, Demon tree.

Habit: Tree, up to 12 m high.

Leaves: Elliptic-obovate to rhomboid, ca. 7 x 3 cm, scabrid, cuneate at base, bluntly toothed at margins, acute at apex; petiole ca. 6 cm long.

Inflorescence type: Stalked clusters, axillary.

Flower: Unisexual. Male flowers in stalked clusters; peduncle ca. 1 cm long. Tepals 4, free, lanceolate, concave, ca. 2.5 mm long; Stamens 4; filaments ca. 2.5 mm long; anthers ca. 1 mm long. Female flower (2) 3-5; stalk ca. 1 cm long, elongating in fruit; bracts and bracteoles ovate, ca. 2.5 mm long, puberulous, obtuse at apex. Tepals 4, ovate, concave, ca. 4 mm long, puberulous, sub-acute at apex. Ovary ovoid, ca. 3 mm long; style branching below, ca. 9 mm long.

Fruits: Drupe globose or ovoid, ca. 1 cm across.

Flowering: March-May.

Fruiting: April-June.

Local distribution: Plains.

Interesting morphological features: Giant tree (girth 239 cm) under worship in Paraithurainathar temple, Thuruparaithurai.

Economic importance: Leaves used to polish wood and ivory articles.

Specimen examined: PB & MG: 209.

MONOCOTYLEDONS

MUSACEAE

Key to the genera

1a Stoloniferous; stooling perennial herbs with cylindrical pseudostems; fruits edible; seed < 1 cm across n=10 or 11.....*Musa*

1b Non stoloniferous; 1-stemed, monocarpic herbs, with pseudostems; dilated at base; fruits edible; seeds > 1 cm across n=9.....*Ensete*

ENSETE Horaninow

Ensete edule Horan., Prodr. Monog. Scitam. 41.1862; Matthew in Rec. Bot. Surv. India 20(1):208.1969; Henry et al., Fl. Tamil Nadu Series I: Analysis 3:30. 1989. (Plate 1-a)

Vernacular name: Monthanvazhai.

English name: Abyssinian Banana.

Habit: Arborescent, up to 10 m high.

Leaves: Oblong, ca. 250 x 70 cm, pinnatly parallel-veined, spirally arranged; midrib stout, red.

Inflorescence type: Terminal pendulous spike.

Flower: Unisexual, ca. 4 cm long; female ones below and male ones above. Calyx tubular, splitting on one side, toothed apically. Stamens 5, free; filaments

filiform, ca. 2.5 cm long. Staminodes ca. 4 cm long, knobbed, lobed apically. Male: outer tepal 3-lobed, 1-3 variable, with 2 wings and an apiculam; staminodes variable. Ovary inferior, 3 celled; ovule numerous, on axile placentae; style filiform, stigma lobed.

Fruits: Fleshy indehiscent.

Flowering: Throughout the year.

Fruiting: Throughout the year.

Local distribution: Coast, Plain.

Economic importance: Fruits, pith of the pseudostem are edible and leaves used as plates for serving dishes. Fibrous bark of the pseudostem used for rope making.

Specimen examined: PB & MG: 187.

MUSA Linnaeus

Musa paradisiaca L., Sp. Pl.1043.1753; Fischer in Gamble, Fl. Pres. Madras 3: 1046. 1957 (repr. ed.); Matthew, Fl. Tamil Nadu Carnatic 3: 1620.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 3:31. 1989. *M. sapientum* L., Syst. Nat. ed. 10.1303. 1759; Hook. f., Fl. Brit. India 6:262.1892. (Plate VIII-D)

Vernacular name: Vazhai.

English name: Plantain tree.

Habit: Arborescent, up to 10 m high.

Leaves: Spiral, oblong, ca. 3 x 0.7 m long, narrowed below in to the sheathing leaf-base that completely encircled the pseudo stems; upper leaves passing in to bracts.

Inflorescence type: Terminal spike pendulous.

Flower: Unisexual, ca. 4.5 cm long; usually in 2 rows inside each bract; lower bracts female, upper ones male. Calyx tubular below, ca. 1.5 cm long, splitting laterally upwards, boat-shaped, purple veined, 5-lobed, outer 3 larger, inner 2 smaller. Free tepal boat-shaped, ca. 2 x 2.5 cm long, tapering towards apex, with a longitudinal groove. Stamens 5, free; subequal; 3 bigger ones with filaments ca. 2.5 cm long, anthers ca. 1.8 cm long; filaments flattened. Staminode 1, knobbed, lobed apically, ca. 4 cm long. Ovary inferior, 3 celled; style filiform; stigma lobed.

Fruits: Fleshy indehiscent.

Flowering: Throughout the year.

Fruiting: Throughout the year.

Local distribution: Coast, Plain.

Economic importance: Fruits and pith of the pseudostems are edible and leaves used as plates for serving dishes. Unripe fruits and flowers used as vegetable. Fibrous bark used for making rope. Pith juice used in Siddha medicine.

Religious importance: Fruits used as common offerings to deities.

Specimen examined: PB & MG: 279.

ARECACEAE

Key to the genera

1a Leaves compound, 1-or 2- pinnate.....2

1b Leaves simple, fan-like.....4

2a Stragglers.....*Calamus*

2b Shrubs or trees.....3

3a Dioecious; lowest leaflets spinulose; ovary of 3 free carpels .....*Phoenix*

3b Monoecious; no leaflets spinulose; ovary of 1 carpel..... .....*Cocos*

4a Inflorescence terminal; monocarpic.....*Corypha*

4b Inflorescence interfoliar; polycarpic.....*Borassus*

BORASSUS Linnaeus

Borassus flabellifer L., Sp. Pl. 1187. 1753; Hook. f., Fl. Brit. India 6:482.1892; Fisher in Gamble, Fl. Pres. 3:1090.1957 (repr. ed.); Matthew, Fl. Tamil Nadu Carnatic 3: 1670.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 3: 51. 1989. (Plate VII-E)

Vernacular name: Panai.

English name: Palmyra palm, Brab tree, Indian wine tree.

Habit: Tree, up to 25 m high.

Leaves: Simple, palmate, plicately multifid, leaflets 60-80, induplicate, acuminate at apex; petiole stout, spinous, broad at base, split.

Inflorescence type: Spadices interfoliar, large, dioecious.

Flower: Male flowers small, clustered; bracts scaly, secund, overlapping. Sepals 3, oblong, ca. 3 mm long. Petals 3, obovate-spathulate, ca. 2 mm long. Stamens 6; anthers ca. 1 mm long, pistillodes small, bristly. Female flowers large, globose. Perianth fleshy, accrescent. Sepals reniform, imbricate. Petals smaller, convolute. Ovary globose, entire or 3- or 4-cleft, 3-or 4-celled; ovule basal; stigma 3 sessile, recurved; staminodes 6-9.

Fruits: Drupes, yellow when ripe.

Flowering: February-June.

Fruiting: Through out the year.

Local distribution: Coast and Plains.

Economic importance: Tender endoplasm of fruits edible and used as cooling agent in Siddha medicines. Juice obtained from the inflorescence is sweet. It is used to make jaggery and toddy. Mature leaves used in thatching.

Specimen examined: PB & MG: 496.

CALAMUS Linnaeus

Calamus rotang L., Sp. Pl. 325.1753; Hook. f., Fl. Brit. India 6: 447.1892, Fisher in Gamble, Fl. Pres. 3:1094.1957 (repr. ed.). Matthew, Fl. Tamil Nadu Carnatic 3: 1671.1983. Henry et al., Fl. Tamil Nadu Series I: Analysis 3:52. 1989. (Plate III-N)

Vernacular name: Pirambu.

English name: Common rattan cane, Rotang, Chair bottom cane.

Habit: Armed, scandent shrub.

Leaves: Leaflets numerous, narrowly lanceolate, 10-25 x 0.7-1 cm, cuneate at base, bristly-ciliate at margins, gradually acuminate at apex; petiole short, with recurved spines.

Inflorescence type: Axillary spadices.

Flower: Polygamo-dioecious; male and female inflorescence is superficially similar. Calyx cupular, 3-lobed, ca. 1.5 mm long. Petals 3, yellow, free, ca. 2.5 mm long in male, tubular in female. Stamens 6. Ovary incompletely 3 celled, clothed with retrorse scales; style short; stigma 3.

Fruits: Drupes subglobose; seed solitary.

Flowering: March-July.

Fruiting: April-August.

Local distribution: Coast.

Economic importance: Cane used for making furniture and other household articles.

Specimen examined: PB & MG: 46.

COCOS Linnaeus

Cocos nucifera L., Sp. Pl. 1188.1753; Hook. f., Fl. Brit. India 6:482.1893; Fisher in Gamble, Fl. Pres. Madras 3:1086.1957 (repr. ed.); Matthew, Fl. Tamil Nadu Carnatic 3: 1672.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 3:52. 1989. (Plate IV-G)

Vernacular name: Thennai.

English name: Coconut tree.

Habit: Tree, up to 25 m high.

Leaves: Pinnatisect, ca. 6 m long; leaflets ca. 50 x 5.5 cm long, reduplicate, base attenuate at base, acute at apex; petiole ca. 2 m long, stout.

Inflorescence type: Interfoliar, spadices ca. 90 cm long, panicled; branches ca. 40 cm long, lower spathes ca. 1.5 m long, oblong, woody.

Flower: Flowers monoiceous, subsessile. Male: paired. Perianth 3 + 3; outer ovate; inner narrower, ca. 8 mm long. Stamens 6; pistillode short. Female: globose, 1 per branch. Perianth 3 + 3; outer broadly ovate, ca. 2.5 cm long across; inner ones orbicular, ca. 1 cm across. Ovary 3-celled; ovule 1 per cell; style short.

Fruits: Drupe trigonous.

Flowering: Throughout the year.

Fruiting: Throughout the year.

Local distribution: Coast and plains.

Economic importance: Nuts edible, oil yielding. Stem used to construct low cost houses.

Religious importance: Fruits used as offerings to deities.

Specimen examined: PB & MG: 157.

CORYPHA Linnaeus

Corypha umbraculifera L., Sp. Pl. 1127.1753; Hook. f., Fl. Brit. India 6:428.1898; Fisher in Gamble, Fl. Pres. 3:1089.1957 (repr. ed.); Matthew, Fl. Tamil Nadu Carnatic 3: 1673.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 3:53. 1989.

Vernacular name: Thalapanai.

English name: Talipot palm.

Habit: Tree, up to 30 m high.

Leaves: Pinnatisect, fan-like, ca. 15 m long; attenuate at base, acute at apex; petiole ca. 5 m long, stout; leaf-stalks with massive spines.

Inflorescence type: Terminal spadices, ca. 2 m long.

Flower: Monoiceous. Carpals free.

Fruits: Drupe; seeds solitary, without stony coat.

Flowering: Flowering takes place after 40 years; monocarpic.

Fruiting: Fruiting continues one year after flowering.

Local distribution: Plains.

Economic importance: After producing flower, the stem pith becomes soft and it is edible.

Specimen examined: PB & MG: 259.

PHOENIX Linnaeus

Phoenix sylvestris (L.) Roxb., Fl. Ind. 3: 787.1832; Hook. f., Fl. Brit. India 6: 425.1892; Fischer in Gamble, Fl. Pres. 3:1088.1957 (repr. ed.). Matthew, Fl. Tamil Nadu Carnatic 3: 1673.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 3:53. 1989. *Elate sylvestris* L., Sp. Pl. 1189.1753.

Vernacular name: Eecham.

English name: Wild date palm.

Habit: Tree, up to 7 m high.

Leaves: Pinnate; base sheathing, fibrous; leaflets ca. 35 x 1.3 cm narrow at base, acuminate and spinous at apex.

Inflorescence type: Spadices interfoliolar, ca. 1 m long; spathes as long as spadices; spike numerous in clusters.

Flower: Monoiceous. Male spikes: perianth 3 + 3, outer angular; inner oblong, ca. 7 cm long. Female spikes: Perianth 3 + 3. Ovary free, blong, ca. 1.6 cm long.

Fruits: Drupe oblong-ellipsoid, ca. 2 cm long; seed solitary

Flowering: January-May.

Fruiting: Throughout the year.

Local distribution: Coast and Plains.

Economic importance: Fruits edible. Leaves used for making brooms.

Specimen examined: PB & MG: 32.

POACEAE

Key to the genera

1a Culms woody; arborescent; leaf blade articulating with leaf-sheaths.....***Bambusa***

1b Culms not woody; herbs; leaf blade not articulating with leaf-sheaths.....**2**

2a Pedicelled spikelets similar to sessile ones, in shape, both fertile.....***Imperata***

2b Pedicelled spikelets differing to sessile, in shape and sex.....***Andropogon***

ANDROPOGON Linnaeus

Andropogon pumilus Roxb., F1. Ind. 1:277.1820; Hook.f., Fl. Brit. India 7:170:1896; Fischer in Gamble, Fl. Pres. Madras 3:1215.1957 (repr.ed.); Matthew, Fl. Tamil Nadu Carnatic 3: 1799.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 3:88. 1989. (Plate III-G)

Vernacular name: Vizhal.

English name: Cus-cus grass.

Habit: Shrub; culms erect, up to 50 cm high.

Leaves: Linear, 5-15 x 0.3-0.5 cm, hairy on both surfaces; ligule ovate, scarious.

Inflorescence type: Terminal racemes.

Flower: Spikelets ca. 5 mm long, linear-lanceolate; sessile spikelets awned; lower glume oblong, ca. 4 mm long, chartaceous, flat at back, keels 2, narrowly winged. Upper glume boat-shaped, ca. 4 mm long, 3-nerved, 1-keeled. Ovary ovoid, ca. 0.3 mm long.

Fruits: Caryopsis oblong.

Flowering: November-March.

Fruiting: December-April.

Local distribution: Coast.

Economic importance: Grass is used as a sand binder and roofing material.

Specimen examined: PB & MG: 263.

BAMBUSA Schreber

Bambusa arundinacea (Retz.) Willd., Sp. Pl. 2: 245. 1799; Hook. f., Fl. Brit. India 7: 395. 1896; Fischer in Gamble, Fl. Pres. Madras 3:1286.1957 (repr. ed.); Matthew, Fl. Tamil Nadu Carnatic 3: 1808.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 3:93.1989. *Bambos aurndinacea* Retz., Obs. Bot. 5:24.1788. *Bambusa bambos* (L.) Voss, Blumengartnerei (ed.3), Sieb. & Voss 1:1189.1895; Xia, N.H .and C.M.A. Stapleton, Kew Bull. 52: 697.1997. *Arundo bambos* L., Sp. Pl. 81.1753. (Plate VII-D)

Vernacular name: Moongil.

English name: Spiny Bamboo, Thorny bamboo.

Habit: Arborescent, up to 30 m high.

Leaves: Lanceolate, 5-15 x 1.5-2 cm; sheaths linear, ca. 12 x 1.2 cm, glabrous; ligule short; petiole short.

Inflorescence type: Paniculate spike.

Flower: Spikes leafy or leafless, with spikelets clustered in heads on spicate branchlets. Spikelets oblong, terete, 0.8-2 cm long, ca. 4 mm across, 3-6-flowered. Bracts glume-like. Glumes broadly ovate, ca. 5.5 mm long, mucronate at apex. Lemmas lanceolate, ca. 6.5 mm long, glabrous, mucronate at apex. Paleas ca. 7 mm long, ciliate. Stamens 6. Style 1; stigmas 3.

Fruits: Caryopsis.

Flowering: Once in after 40 years.

Fruiting: Continues one year after flowering.

Local distribution: Coast and Plains.

Economic importance: Major raw material in pulp industries. Also used as construction material by the lower economic group. Tender shoots and grains are consumed during famine.

Specimen examined: PB & MG: 388.

IMPERATA Cyrillo

Imperata cylindrica (L.) Raeusch., var. ***major*** (Nees) Hubbard ex Hubbard & Vaughan, Grass. Maur. 96.1940; Matthew, Fl. Tamil Nadu Carnatic 3: 1864.1983; Henry et al., Fl. Tamil Nadu Series I: Analysis 3:121.1989. *Lagurus cylindricus* L., Sys. Nat. (ed.10) 878. 1759. *Imperata cylindrica* (L.) Raeusch. var. *keonigii* (Retz.) T. Durand and Schinz, Consp. Fl. Afric. 5:694.1894; Fischer in Gamble, Fl. Pres. Madras 3:1184.1957 (repr.ed.). *Saccharum keonigii* Retz., Obs. Bot. 5:16.1789. *Imperata koenigii* var. *major* Nees, Fl. Afr. Austral. Ill. 89. 1841. *Imperata arundinacea* Cirillo, Pl. Rar. Neapol. 2:27.1792 p.p.; Hook.f., Fl. Brit. India 7:106.1896. (Plate VII-O)

Vernacular name: Daruppai.

English name: Cotton grass, Thatch grass, Lalong grass, Lalang, Alang-alang.

Habit: Shrub, up to 3 m high.

Leavers: Linear-lanceolate, 4-20 x 1-1.5 cm, flat.

Inflorescence type: Terminal panicle, oblong-lanceolate, ca. 15 x 3 cm.

Flower: Spikelet narrowly elliptic, ca. 3.5 mm long. Lower glume oblong, ca. 3 mm long. Upper glume ca. 3 mm long. Lower lemma oblong, ca. 1.5 mm long, epaleate. Upper lemma ovate-lanceolate, ca. 1.5 mm long. Palea ca. 1.2 mm long. Anthers 3, ca. 2 mm long.

Fruits: Caryopsis.

Flowering: October-December.

Fruiting: November-January.

Local distribution: Coast.

Economic importance: Grass used as roofing material in low cost constructions.

Religious importance: Grass is sacred and used in rituals.

Specimen examined: PB & MG: 171.

3.7 Economic Importance of Sthalavrikshas

Plants that are useful to the mankind directly or indirectly are known as economically important plants. All the sthalavrikshas have economic values and useful in various ways eg., food plants, medicinal plants, Timber yielding plants, Plants used for breeding, Oil yielding plants, etc (Table 3.6).

Table 3.6 **Economic Importance of Sthalavrikshas**

No	Name of the species	Uses									
		Ed	Md	Ve	Tm	Pb	Hp	Or	Oy	Ns	Ou
1	*Acacia leucophloea*		+				+				+
2	*Acacia farnesiana*		+								
3	*Acacia chundra*						+				
4	*Aegle marmelos*		+				+				
5	*Alangium salvifolium*		+								
6	*Albizia amara*									+	
7	*Albizia lebbeck*				+						
8	*Andropogon* sp.										+
9	*Neolamarckia cadamba*		+								
10	*Artabotrys hexapetalus*		+	+							
11	*Artocarpus heterophyllus*	+	+		+						
12	*Artocarpus hirsutus*	+			+						
13	*Atalantia monophylla*		+								
14	*Azadirachta indica*		+	+					+		
15	*Bambusa arundinacea*	+			+		+				
16	*Bauhinia acuminata*		+	+		+		+			
17	*Bauhinia purpurea*		+	+		+		+			
18	*Bauhinia racemosa*		+								
19	*Borassus flabellifer*		+		+						
20	*Butea monosperma*		+	+							
21	*Cadaba fruticosa*		+								
22	*Calamus rotang*				+						+
23	*Calophyllum inophyllum*		+						+		
24	*Calotropis procera*		+	+							
25	*Canthium parviflorum*		+								
26	*Capparis divaricata*		+				+				
27	*Capparis zeylanica*		+								+
28	*Carissa carandas*	+	+				+				
29	*Carissa spinosa*	+					+				
30	*Cassia fistula*		+	+				+			
31	*Citrus aurantifolia*	+	+								
32	*Citrus pennivesiculata*	+	+								
33	*Cocos nucifera*	+		+	+				+		
34	*Commiphora caudata*		+				+				
35	*Cordia domestica*		+								

36	*Corypha umbraculifera*							+			
37	*Crescentia cujeta*										+
38	*Crateva magna*		+								
39	*Dichrostachys cinerea*		+				+				
40	*Diospyros montana*		+		+						
41	*Dodonaea viscosa*		+								
42	*Scaevola plumieri*										+
43	*Ensete edule*	+				+					
44	*Ehretia ovalifolia*		+								
45	*Euphorbia nivulia*		+				+				
46	*Excoecaria agallocha*		+								
47	*Ficus benghalensis*		+								
48	*Ficus religiosa*		+								
49	*Ficus virens*		+								
50	*Ficus racemosa*		+								
51	*Ficus mollis*		+								
52	*Ficus nervosa*		+								
53	*Ficus microcarpa*		+								
54	*Guettarda speciosa*			+							
55	*Holoptelea integrifolia*										+
56	*Imperata cylindrica*										+
57	*Jasminum auriculatum*		+	+		+		+			
58	*Jasminum grandiflorum*		+	+		+		+			
59	*Jasminum cuspidatum*		+	+		+		+			
60	*Jasminum sambac*		+	+		+		+			
61	*Lepisanthes tetraphylla*		+							+	
62	*Limonia acidissima*		+								
63	*Madhuca longifolia*		+		+				+		
64	*Magnolia grandiflora*			+	+			+			
65	*Mangifera indica*	+	+		+						
66	*Manilkara hexandra*		+		+						+
67	*Millingtonia hortensis*			+				+			
68	*Michelia champaca*		+	+				+			
69	*Mimosa pudica*		+								
70	*Mimusops elengi*		+	+				+			
71	*Morinda pubescens*		+		+						
72	*Moringa pterygosperma*	+	+								
73	*Murraya koenigii*	+	+								
74	*Musa paradisiaca*	+	+			+					+
75	*Naringi crenulata*		+								+
76	*Nerium oleander*			+				+			
77	*Nyctanthes arbor-tristis*			+				+			
78	*Ochna obtusata*			+							+
79	*Ocimum tenuiflorum*		+								
80	*Phoenix sylvestris*										
81	*Phyllanthus emblica*	+	+								
82	*Pleiospermium alatum*		+								

83	*Pongamia pinnata*		+						+		
84	*Premna latifolia*		+								
85	*Prosopis cineraria*		+								
86	*Pterocarpus marsupium*		+		+						
87	*Punica granatum*	+	+								
88	*Ricinus communis*		+						+		
89	*Salvadora persica*		+								
90	*Santalum album*		+						+		
91	*Saraca asoca*		+	+				+			
92	*Schleichera oleosa*				+						
93	*Securinega leucopyrus*		+								
94	*Stereospermum chelonoides*		+	+				+			
95	*Stereospermum colais*		+	+				+			
96	*Stobilanthus kunthiana*			+							
97	*Streblus asper*		+								
98	*Strychnos nux-vomica*		+								
99	*Strychnos potatorum*		+								
100	*Syzygium cumini*	+	+		+						
101	*Tabernaemontana divaricata*		+	+				+			
102	*Tabernaemontana heyneana*		+	+				+			
103	*Tamarindus indica*	+			+						
104	*Tarenna asiatica*		+								
105	*Telosma minor*			+				+			
106	*Terminalia arjuna*		+								
107	*Terminalia bellirica*		+		+						
108	*Terminalia catappa*				+						
109	*Terminalia chebula*		+								
110	*Vitex negundo*		+								
111	*Wrightia tinctoria*		+								
112	*Ziziphus mauritiana*	+	+				+				

Uses:

Ed	Edible	Md	Medicine	Fl	Veneration
Tm	Timber	Pb	Plants useful for breeding	Hp	Hedge plant
Or	Ornamental	Oy	Oil yielding	Ns	Natural shampoo
Ou	Other Uses				

3.7.1 Food plants

Among the 112 sthalavrikshas recorded, 13 species belonging to nine families have edible values. eg., fruits of *Citrus aurantifolia, C. limetta, C. pennivesiculata, Mangifera indica, Musa paradisiaca, Punica granatum, Syzygium cumini* are edible. Four species has culinary value *Murraya koenigii, Tamarindus indica, Phyllanthus emblica, Zizyphus mzuritiana.* Two species eg., 'Drumstick' *Moringa pterygosperma,* and 'Monthan Vazhi' *Ensete edule* are used as vegetables.

3.7.2 Medicinal uses

The devotees and local traditional medical practitioners (Nattu Vaidiyars) use several sthalavriksha plants for treating various ailments. Normally, the priests and the 'Vaidiyas' prescribe medicines with devotion and devotees consume the medicines with great belief. During the field survey the researcher recorded some existing medicinal practices related to the utilization of 11 sthalavrikshas, which are given in Table 3.7. In addition, 91 other sthalavrikshas are said to contain medicinal properties (Table 3.8)

Table 3.7 **Medicinal Uses of Some Sthalavriksha Species Recorded in Temples**

S. No.	Sthalavriksha	Parts used	Disease treated
1	*Acacia farnesiana*	Leaf paste	Knee and Joint pain, Infertility
2	*Aegle marmelos*	Fruit pulp with milk	Diarrhoea
		Fruit pulp	Skin boils
		Leaves soaked in water in a copper container and next morning the extract consumedFruits	Diabetes, Hyper tension Vilvadhilegium prepared by local Vaidiyas
		Leaves (sweet leaves)	Diabetes, Skin disease by local Vaidiyas
		Leaves & Fruits	Cold and cough
		Leaf juice	Menstrual disorder in women
		Leaves	Blood sugar reduction
		Leaves juice Fruits paste	Cold, cough, chest Diseases, Knee pain, Sprain
		Fruit	Psoriasis by local Vaidiyas
		Leaves of *A. marmelos* with Cumin seeds and Pepper seeds special dish	Improve newly born baby's health
3	*Neolamarckia*	Bark powder decoction	Rheumatism

	cadamba		
4	*Bauhinia racemosa*	Bauhinia and Neem paste with Thirumani (Sacred soil)	Cough, Cancer
5	*Capparis divaricata*	Bark paste Leaf juice with milk	Dysentery and stomach problems Infertility , Stomach problem
6	*Manilkara hexandra*	Leaf paste Bark powder paste	Infertility Veterinary medicine
7	*Tabernaemontana heyneana*	Flowers	Flowers used to cure eye diseases
8	*Terminalia arjuna*	Bark powder decoction Bark powder paste	Blood pressure Cut wounds
9	*Terminalia bellirica*	Leaves (Prasatham)	Infertility, Diabetes
10	*Vitex negundo*	Leaf decoction	Skin diseases, Cough
11	*Ziziphus mauritiana*	Leaf paste	Stomachache

Table 3.8 **Medicinal Uses of Sthalavrikshas**

S.No	Name	Parts used	Disease treated
1.	*Acacia leucophloea*	Bark	Tooth ache
		Gum	Tooth ache
2.	*Acacia chundra*	Bark	Tooth ache
3.	*Alangium salvifolium*	Bark	Antidote
		Seeds	Laxative
4.	*Albizia amara*	Leaves	Dandruff
5.	*Albizia lebbeck*	Bark	Tooth ache
		Leaves	Antidote
		Seeds	Eye diseases
6.	*Andropogon* sp.	Roots	Joint pain
7.	*Artocarpus heterophyllus*	Leaves	Skin diseases, Ulcer
		Root	Asthma, Diarrhoea
8.	*Artocarpus hirsutus*	Leaves	Buboes plague
9.	*Atalantia monophylla*	Leaves	Itching
		Root	Joint pain
		Oil	Paralysis
10.	*Azadirachta indica*	Bark	Astringent, Leprosy
		Leaves	Antiseptic, Measles
		Flowers	Liver diseases
		Fruit	Cut wounds
		Root	Antidote
		Seed	Dandruff
		Oil	Laxative, Ringworm,
11.	*Bambusa arundinacea*	Leaves	Cooling tonic, Asthma, Cough
12.	*Bauhinia acuminata*	Bark	Stone in bladder

		Leaves	Leprosy, Asthma
		Flowers	Cooling effect
		Root	Burns
13.	*Bauhinia purpurea*	Bark	Ulcer
14.	*Borassus flabellifer*	Flower Juice	Refrigerant
		Fruit	Boils, Diarrhoea
15.	*Butea monosperma*	Seeds	Ringworm
16.	*Cadaba fruticosa*	Leaves	Intestine worms
17.	*Calamus rotang*	Tuber	Cold, Cough, Fever
18.	*Calophyllum inophyllum*	Bark	Bleeding
		Leaves	Eye diseases
		Flowers	Fever
19.	*Calotropis procera*	Bark	Dysentery
		Flowers	Cold, Cough, Asthma
20.	*Canthium parviflorum*	Leaves	Dysentery, Diarrhoea
		Flowers	Refrigerant
21.	*Capparis zeylanica*	Bark	Fever
		Leaves	Stomach problems
22.	*Carissa carandas*	Flowers	Eye diseases
		Fruit	Vomiting, Dropsy
23.	*Carissa spinarum*	Flowers	Eye diseases
		Fruit	Vomiting, Dropsy
24.	*Cassia fistula*	Bark	Laxative, Fever
		Fruit	Laxative
25.	*Citrus aurantifolia*	Fruit	Scurvy, Dysentery
		Oil	Stimulant
26.	*Citrus pennivesiculata*	Fruit	Dysentery
		Oil	Stimulant
27.	*Cocos nucifera*	Tender Fruit	Coolant
		Flower juice	Stimulant, Natural Vinegar
28.	*Commiphora caudata*	Bark	Diarrhoea
		Leaves	Dysentery
29.	*Cordia domestica*	Bark	Stomach ache, Mouth Ulcer
30.	*Crescentia cujeta*	Bark	Cleaning wounds, Head ache
		Fruit	Refrigerant
31.	*Crateva magna*	Bark	Laxative, Ulcer
		Leaves	Fever
32.	*Dichrostachys cinerea*	Leaves	Eye complaints
33.	*Diospyros montana*	Fruit	Boils
34.	*Dodonaea viscosa*	Leaves	Wounds, Swelling, Burns
35.	*Ensete edule*	Stem Juice	Peptic Ulcer, Bladder stone
		Bark	Burn ulcer
		Flowers	Dysentery, Diarrhoea
		Fruit	Ulcer
36.	*Euphorbia nivulia*	Bark	Boils
		Stem	Ulcers in nails
		Latex	Knee and joint pain, Laxative

37.	*Excoecaria agallocha*	Flowers	Eye diseases
		Root	Tooth ache, Intestinal worms
		Oil	Joint pain, Leprosy
38.	*Ficus benghalensis*	Bark	Dysentery
		Leaves	Diarrhoea
		Seeds	Refrigerant
		Latex	Pains, Bruises
39.	*Ficus religiosa*	Bark	Ulcer
		Leaves	Cut wounds
		Latex	Piles, Diarrhoea
		Fruit	Laxative
		Seeds	Refrigerant
40.	*Ficus virens*	Seeds	Refrigerant
41.	*Ficus racemosa*	Bark	Ulcer
		Leaves	Bilious infections
		Fruit	Laxative
		Seeds	Refrigerant
		Root	Dysentery
42.	*Ficus mollis*	Bark	Urinary infections
43.	*Ficus microcarpa*	Bark	Fever
44.	*Guettarda speciosa*	Bark	Dysentery, Cut wounds
45.	*Holoptelea integrifolia*	Bark	Rheumatism
46.	*Imperata cylindrica*	Leaves	Sedative
		Root	Diarrhoea
47.	*Jasminum auriculatum*	Leaves	Ulcers in mouth and throat
		Flowers	Eye diseases, Head ache
48.	*Jasminum grandiflorum*	Flowers	Ulcer
49.	*Jasminum cuspidatum*	Leaves	Fever
		Flowers	Ulcer
50.	*Jasminum sambac*	Leaves	Fever
		Flowers	Swelling in testis
51.	*Lepisanthes tetraphylla*	Seeds	Dandruff
52.	*Limonia acidissima*	Bark	Vomiting
		Leaves	Cough, Cold, Prickle heat boils
		Fruit	Ulcers in throat and mouth
53.	*Madhuca longifolia*	Bark	Skin diseases
54.	*Mangifera indica*	Bark	Vomiting, Cracks on foot
		Leaves	Dysentery, Diarrhoea, Throat pain
		Seed	Diarrhea
		Gum	Cracks on foot, Ulcer
55.	*Michelia champaca*	Bark	Cold and fever, Boils
		Leaves	Stomach ache
		Flowers	Fever, Urinary problems
56.	*Mimosa pudica*	Leaves	Cut wounds
57.	*Mimusops elengi*	Bark	Tooth ache, Uterus problems
		Leaves	Tooth ache
		Fruit	Tooth ache

		Seeds	Male sterility
58.	*Morinda pubescens*	Leaves	Scabies, Ulcer
		Fruit	Tooth ache
		Root	Sedative
		Oil	Skin diseases
59.	*Moringa pterygosperma*	Bark	Fever, Fits
		Leaves	Laxative
		Flowers	Cough, Male sterility
		Fruit	Infertility
		Gum	Male sterility
60.	*Murraya koenigii*	Leaves	Indigestion
		Fruit	Increasing blood secretion
61.	*Musa paradisiaca*	Stem Juice	Peptic Ulcer, Bladder stone
		Bark	Burn ulcer
		Flowers	Dysentery, Diarrhoea
		Fruit	Ulcer
62.	*Naringi crenulata*	Bark	Fever
		Leaves	Cold, Cough
63.	*Nerium oleander*	Bark	Ear pain
64.	*Nyctanthes arbor-tristis*	Bark	Skin diseases
		Leaves	Fever, Back-pain, Intestine worms
		Seeds	Scabies, Herpes
65.	*Ocimum tenuiflorum*	Bark	Fever
		Leaves	Cold, Fever, Ear pain, Chest pain
		Flowers	Cough
		Seed	Heat diseases
		Root	Fever
66.	*Phoenix sylvestris*	Root	Tooth ache
67.	*Phyllanthus emblica*	Leaves	Mouth ulcer
		Fruit	Fever, Blood pressure
		Root bark	Tongue ulcer
68.	*Pongamia pinnata*	Oil	Scabies, Leucoderma
		Leaves	Fever
		Flowers	Skin diseases
		Root	Skin diseases
69.	*Premna latifolia*	Leaves	Diuretic
70.	*Prosopis cineraria*	Bark	Tooth ache
		Leaves	Cold, Cough, Fever
		Flowers	Prevent miscarriage
		Gum	Dysentery
71.	*Pterocarpus marsupium*	Bark	Tooth ache
		Flowers	Fever
		Gum	Tooth ache
72.	*Punica granatum*	Fruit	Dysentery, Diarrhoea
73.	*Ricinus communis*	Leaves	Stomach ache
		Oil	Sedative
74.	*Salvadora persica*	Leaves	Diabetics

75.	*Santalum album*	Wood	Pebbles, Urinary infections
76.	*Saraca asoca*	Bark	Skin diseases
		Flowers	Dysentery, Diarrhoea
77.	*Schleichera oleosa*	Fruit	Refrigerant
78.	*Securinega leucopyrus*	Leaves	Warms sores
79.	*Stereospermum chelonoides*	Flowers	Diabetic boils
80.	*Stereospermum colais*	Flowers	Ring worms
81.	*Streblus asper*	Bark	Antidote
		Leaves	Dysentery, Diarrhoea
		Latex	Crack in foot, Tooth ache
82.	*Strychnos nux-vomica*	Leaves	Body boils
83.	*Strychnos potatorum*	Bark	Cholera
		Leaves	Ulcers
84.	*Syzygium cumini*	Leaves	Dysentery, Diarrhoea
		Fruit	Reduce blood sugar
		Seed	Diabetes
85.	*Tabernaemontana divaricata*	Flowers	Eye diseases
		Root	Tooth ache
86.	*Tamarindus indica*	Bark	Peptic ulcer
		Leaves	Stomach ache, Diarrhoea
		Flowers	Eye pain
		Fruit	Uterus problems
		Seed	Vomiting, Dysentery, Tooth ache
87.	*Tarenna asiatica*	Leaves	Antidote
88.	*Telosma minor*	Flowers	Refrigerant
89.	*Terminalia catappa*	Gum	Cough, Dysentery
90.	*Terminalia chebula*	Seed	Eye disease, Stomach ache
		Fruit	Cold, Cough
91.	*Wrightia tinctoria*	Bark	Fever, Dysentery, Diarrhoea
		Leaves	Tooth ache
		Seed	Infertility, Dysentery

Most of the devotees use sthalavriksha plants as a source of local medicine in their day today life. This knowledge is traditionally taught by the elderly people. For example Thirunartalam in Kanyakumari district, *Canthium dicoccum* is the sthalavriksha which is in dry condition and is still worshipped.

3.7.3 Flower Yielding (fragrant) Plants

Twelve fragrant flower-yielding plants are under worship as sthalavriksha are found in 35 temples. Nine species of fragrant flowers eg., *Artabotrys odoratissimus, Michelia champaca, Millingtonia hortensis* and *Nyctanthes arbor-tristis* are used for worship in different temples. Loose flowers '*Jasminum sambac*', *Jasminum auriculatum, Jasminum grandiflorum*', *Jasminum cuspidatum* and *Telosma minor* are used for worship. Some

flowers are used only for the ornamentation of Deities; *Nerium oleander, Tabernaemontana heyneana* and *T. divaricata.*

3.7.4 Timber Yielding Plants

Several economically valuable wood yielding plants are being worshipped as sthalavrikshas eg., 'Sandal wood' *Santalum album,* is found in four temples, 'Jack fruit' *Artocarpus heterophyllus,* 'Wild jack', *Artocarpus hirsutus* in one temple and 'Mango' *Mangifera indica,* 'Indian Kinno' *Pterocarpus marsupium,* 'Lac tree' *Schleichera oleosa,* 'Tamarind' *Tamarindus indica* in nine temples are under worship. *Terminalia bellirica* and *Diospyros montana* are other important timber species. Other valuable plants such as Cane *Calamus rotang,* Bamboo *Bambusa arundinacea,* are recorded as sthalavrikshas in some temples. Wood of 'Mahowa tree' *Madhuca longifolia* is most sacred and it is used in making flag post (Dujasthambam) and wood carvings in temple cars (Ther).

In certain temples, idol of the prime deities are made up of wood only i.e. 'Sandal wood' *Santalum album* used in Marthandeeswarar temple at Karungulam and 'Palmyra palm' *Borassus flabellifer* in Jadarayaeeswarar temple in Palaverkadu and 'Sacrificial fig' *Ficus racemosa* in Varadaraja Perumal temple in Kanchipuram. During specific occasions like 'Kudamuzhukku' (consecration) *Ficus racemosa* trees are used to make animated structure of deities while removing the idol from the sanctum sanctorum.

3.7.5 Plants Used in Breeding Experiments

Species useful in breeding experiments are also recorded as sthalavrikshas. Example, highly valuable Jasmine flowers, *'Jasminum sambac', J. auriculatum, J. grandiflorum'* and *J. cuspidatum.* In Musa genus seven cultigens, Thenkadali, Peyan, Sevvazhai, Karpuravalli, Poovan, Kalvazhai and Amuthuvazhai are worshipped as sthalavrikshas.

3.7.6 Plants Used for Hedges

Some sthalavriksha species are common thorny hedge plants *Euphorbia nivulia, Commiphora caudata, Bambusa arundinacea, Calotropis procera.* Certain Hedge plants such as *Capparis divaricata, Carissa spinarum, C. carandas* and *Ziziphus mauritiana* are also worshipped as sthalavrikshas.

3.7.7 Avenue and Ornamental Trees

A small number of sthalavriksha species are used as avenue and ornamental trees. 'Indian Laburnum' *Cassia fistula* is Sthalavriksha in 22 temples. 'Butterfly tree' *Bauhinia purpurea, Bauhinia acuminata,* 'Champak' *Michelia champaca* and 'Indian Cork tree' *Millingtonia hortensis* which has aromatic flowers are worshipped as sthalavrikshas.

3.7.8 Oil Yielding Plants

Some of the oil yielding sthalavrikshas include Coconut palm, Mahowa tree, Castor plant, Indian beeach. 'Mahowa' *Madhuca longifolia* oil is used to lit lamps in temples and it is considered as a highly valuable offering to God. Probably that is the reason, why ancient kings had planted this tree around the temple. This species is found in several temple premises. 'Neem' *Azadirachta indica* is another oil yielding Sthalavriksha, found in eight temples. This is a common sacred tree found in almost all the temples of Tamil Nadu. A few lesser-known oil producing trees are also under worship in some temples, e.g. 'Alexandrian Laurel' *Calophyllum inophyllum,* and 'Indian beech' *Pongamia pinnata.*

3.7.9 Natural Shampoo

Some plant parts are used as natural soaps for bath and detergent purposes. *Lepisanthes tetraphylla* fruits (epicarp) are used for cleaning jewels. 'Washing tree' *Albizia amara* leaves are used as natural shampoo. Natural sapon present in these plants act as may cleaning agents.

3.7.10 Miscellaneous Uses

Fruit pulp of Bengal quince tree, *Aegle marmelos,* exudates from 'Neem' *Azadirachta indica* and 'Green commiphora' *Commiphora caudata* are used as adhesive.

3.8 Other Flora Recorded in Temple Premises

Other than sthalavrikshas, several other plant species are grown inside the temple premises. These plants act as botanical resource of the temples. These plants are utilized at the time of festivals and rituals. *Nanthavanam* (Temple garden) is an important component in such a kind; it is a flower garden, which meets the day-to-day requirements of flowers for worship. Flowers also used to make garlands to ornament the deities. Most of the plants grown in Nanthavanam are shrubs, whose flowers are easy to pluck. Several trees are also grown in open corridors of temple viz., Neem *Azadirachta indica,* Mango *Mangifera indica,* Mahowa *Madhuca longifolia* and Coconut *Cocos nucifera.* It is considered that the leaves of Mango tree are auspicious and used

during several ceremonies. Leaves of Neem are used to ward off evil eyes and spirits. Mahowa seed oil used to lit lamps in temples. Coconut is used as common offerings to the deities. The number of plant species recorded in the temple premises comprised 100 species. (Table 3.9)

Table 3. 9 **List of Other Plants Recorded in Temples**

S.No	Botanical Name	Tamil Name	Family	Habit
1.	*Abrus precatorius*	Kundumani	Papilionaceae	Climber
2.	*Abutilon indicum*	Thuthi	Malvaceae	Shrub
3.	*Acacia nilotica*	Karuvel	Mimosaceae	Tree
4.	*Acacia planiformis*	Kodivelam	Mimosaceae	Tree
5.	*Acacia torta*	Ingi	Mimosaceae	Tree
6.	*Adenanthera pavoniana*	Manjadi	Mimosaceae	Tree
7.	*Aerva lanata*	Poolai	Amaranthaceae	Herb
8.	*Ailanthus excelsa*	Perumaram	Simaroubaceae	Tree
9.	*Allamanda cathartica*	Alamanda	Apocynaceae	Shrub
10	*Alstonia scholaris*	Paala	Apocynaceae	Tree
11	*Anacardium occidentale*	Munthiri	Anacardiaceae	Tree
12	*Anamirta cocculus*	Pulathivalli	Menispermaceae	Climber
13	*Annona reticulata*	Ramaseetha	Annonaceae	Tree
14	*Annona squamosa*	Seetha	Annonaceae	Tree
15	*Areca catechu*	Pakku	Arecaceae	Tree
16	*Averrhoa carambola*	Thamarathai	Averrhoraceae	Tree
17	*Azima tetracantha*	Sangam	Salvadoraceae	Shrub
18	*Bauhinia tomentosa*	Mantharam	Caesalpiniaceae	Tree
19	*Bauhinia variegata*	Sekappumantharai	Caesalpiniaceae	Tree
20	*Bombax ceiba*	Ilavam	Bombacaceae	Tree
21	*Caesalpinia pulcherrima*	Maiylkondrai	Caesalpiniaceae	Shrub
22	*Callistemon lanceolatus*	Bottle brush	Myrtaceae	Tree
23	*Calotropis gigantea*	Yrukku	Asclepiadaceae	Shrub
24	*Canthium dicoccum*	Puchari	Rubiaceae	Tree
25	*Carica papaya*	Pappali	Caricaceae	Tree
26	*Cariyota urenus*	Kunthalpanai	Arecaceae	Tree
27	*Cascabela thevetia*	Ponnarali	Apocynaceae	Tree
28	*Cassia alata*	Meluguvarthimaram	Caesalpiniaceae	Shrub
29	*Cassia auriculata*	Aavarai	Caesalpiniaceae	Shrub
30	*Cassia siamea*	Seemaikondrai	Caesalpiniaceae	Tree
31	*Casuarina equisetifolia*	Savukku	Casuarinaceae	Tree
32	*Chloroxylon swietenia*	Porasu	Rutaceae	Tree
33	*Cipadessa baccifera*	Pullipamchedi	Meliaceae	Tree

34	*Cissus quadrangularis*	Pirandai	Vitaceae	Climber
35	*Citrus limetta*	Kolumichai	Rutaceae	Tree
36	*Citrus limon*	Malaiellumichai	Rutaceae	Tree
37	*Citrus medica*	Kolumichai	Rutaceae	Tree
38	*Clitoria ternatea*	Sanguppu	Papilionaceae	Climber
39	*Cochlospermum religiosum*	Kongilavu	Cochlospermaceae	Tree
40	*Commiphora berryi*	Mulkiluvai	Burseraceae	Tree
41	*Cordia sebestiana*	Naruvizhi	Boraginaceae	Tree
42	*Couroupita guianensis*	Nagalingam	Lecythidaceae	Tree
43	*Crossandra infundibuliformis*	Kanakabaram	Acanthaceae	Herb
44	*Cycas circinalis*	Cycas	Cycadaceae	Tree
45	*Dalbergia latifolia*	Eetti	Papilionaceae	Tree
46	*Datura metel*	Omathai	Solanaceae	Herb
47	*Delonix elata*	Vadanarayan	Caesalpiniaceae	Tree
48	*Delonix regia*	Pattakathimaram	Caesalpiniaceae	Tree
49	*Erythrina indica*	Mulmurungai	Papilionaceae	Tree
50	*Eucalyptus citriodora*	Thailamaram	Myrtaceae	Tree
51	*Eucalyptus globulus*	Thilamaram	Myrtaceae	Tree
52	*Euphorbia antiquorum*	Sadurakalli	Euphorbiaceae	Tree
53	*Gossypium arboreum*	Semparuthi	Malvaceae	Shrub
54	*Grewia hirsuta*	Kattu Thevara	Tiliaceae	Tree
55	*Grewia oppositifolia*	Thadasu	Tiliaceae	Tree
56	*Hibiscus rosa-sinensis*	Semparuthi	Malvaceae	Herb
57	*Hiptage benghalensis*	Kurukathi	Malphigiaceae	Straggler
58	*Impatiens balsamina*	Kasithumbai	Balsaminaceae	Herb
59	*Ipomoea staphylina*	Kadambukodi	Convolvulaceae	Climber
60	*Ixora coccinea*	Thertchi	Rubiaceae	Shrub
61	*Jacquemontia pentantha*	Neelakodi	Convolvulaceae	Climber
62	*Jasminum angustifolium*	Kattumalli	Oleaceae	Straggler
63	*Justicia adhatoda*	Adathodai	Acanthaceae	Shrub
64	*Lannea coromandelica*	Uthiyan	Meliaceae	Tree
65	*Lantana camara*	Mukuthipoo	Verbenaceae	Shrub
66	*Lawsonia inermis*	Maruthani	Lythraceae	Shrub
67	*Manilkara zapota*	Sappota	Sapotaceae	Tree
68	*Melia dubia*	Malaivembu	Meliaceae	Tree
69	*Muntingia* sp.	Thenpalam	Tiliaceae	Tree
70	*Murraya paniculata*	Kattukaruveppilai	Rutaceae	Shrub
71	*Mussaenda glabrata*	Ilaipoo	Rubiaceae	Shrub
72	*Pandanus fascicularis*	Thazhalai	Pandanaceae	Shrub
73	*Passiflora foetida*	Sirupunaikali	Passifloraceae	Climber
74	*Peltophorum inerme*	Iyalvagai	Caesalpiniaceae	Tree

75	*Phyllanthus acidus*	Aranelli	Euphorbiaceae	Tree
76	*Piper betle*	Vethilai	Piperaceae	Climber
77	*Pithecellobium dulce*	Kodukkapuli	Ceasalpiniaceae	Tree
78	*Plumeria acuminata*	Kappalarali	Apocynaceae	Tree
79	*Plumeria rubra*	Kappalarali	Apocynaceae	Tree
80	*Polyalthia longifolia*	Nettilingam	Annonaceae	Tree
81	*Pothas scandens*	Marakodi	Araceae	Epiphyte
82	*Premna tomentosa*	Minnai	Verbenaceae	Tree
83	*Prosopis chilensis*	Velikaruvai	Mimosaceae	Tree
84	*Prunus persica*	Peach	Rosaceae	Tree
85	*Psidium guajava*	Koyya	Myrtaceae	Tree
86	*Quisqualis indica*	Rangon kodi	Combretaceae	Climber
87	*Rosa* sp.	Rose	Rosaceae	Shrub
88	*Saccharum officinarum*	Karumbu	Poaceae	Grass
89	*Samanea saman*	Mazhaimaram	Caesalpiniaceae	Tree
90	*Sesbania sesban*	Chithagathi	Papilionaceae	Shrub
91	*Simarouba glauca*	Sorgamaram	Simaroubaceae	Tree
92	*Sterculia guttata*	Kavalam	Sterculiaceae	Tree
93	*Tabebuia serratifolia*	Manjalpoomaram	Bignoniaceae	Tree
94	*Tecoma stans*	Manjal arali	Bignoniaceae	Shrub
95	*Tectona grandis*	Thekku	Verbenaceae	Tree
96	*Terminalia arjuna*	Marutham	Combretaceae	Tree
97	*Thespesia populena*	Poovarasu	Malvaceae	Tree
98	*Tinospora cordifolia*	Vanji	Menispermaceae	Climber
99	*Vanda spathulata*	Maravazhai	Orchidaceae	Epiphyte
100	*Ziziphus oenoplia*	Choorimulu	Rhamnaceae	Shrub

3.9 Discussion

Results of this study reveal that the Bengal quince, *Aegle marmelos* that was recorded in 40 % of the temples is the most frequently occurring sthalavriksha species in the state. The devotees believe that *A. marmelos* is the most sacred plant as the three compound leaves resembles the three eyes of Lord Siva. The offerings of Bengal quince leaves are mandatory for Lord Siva worship especially at the time of *Mahasivarathiri* (A ritual-worshipping Lord Siva throughout night with *A. marmelos* leaves). More than that Shaivites use *A. marmelos* leaves in all the rituals and worships at temple and at home ceremonies. Hence the species is most preferable for *poojas*. It is known as Siva's favourite tree and it is not only grown in temple premises but also in gardens at home. It is also an important medicinal plant used in the traditional Indian medical systems

such as *Siddha* and *Ayurveda*. Root and stem decoction are given orally for treating fever. Fruit pulp is used to cure diarrhoea and dysentery. The infused leaves if taken orally to cure peptic ulcer. As *A. marmelos* fruits are easily procurable, saplings are raised by the devotees and planted in newly formed temples. This may be the possible reason why *A. marmelos* is found in maximum numbers of temples. It is a dry deciduous species and it also withstands drought. As it possess thorns and leaves are bitter in taste, it is not browsed by animals.

The Indian Mesquiet tree *Prosopis cineraria* is the second common sthalavriksha. This tree is closely connected with *Agni* (*fire* worship). The bark decoction is used to treat joint and knee pain and antidote to snake poison. This species is found in 8 % of the temples. Instead of using flowers in Siva worship, the leaves of *Aegle marmelos* and *Prosopis cineraria* can be used as per *Agamas*. Growing these plants in temple premises ensures the availability of offering materials for worship even in rainy and non-flowering seasons.

Most of the sthalavrikshas are trees (74 %). Moraceae with 10 species is the most dominant family. Majority of the sthalavrikshas are dicotyledons (n=102) and monocots are represented by lesser number of species (n=10). Most of the sthalavrikshas are economically important species, used as edible, medicine, timber, ornamental and oil yielding plants etc. As the sthalavrikshas are used in the day-to-day life of devotees, it gets protection from people and thus survives in many temples.

Of the 100 other plants recorded in temples 61 species are trees and 39 are other forms. Globally threatened *Cycas circinalis* is also recorded in two temples. Two epiphytes viz., *Pothas scandens* and *Vanda* sp. were also recorded.

Chapter - IV

ECOLOGY AND DISTRIBUTION OF STHALAVRIKSHAS

4.1 Introduction

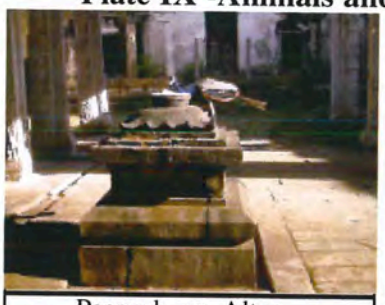
Plant-animal interrelationship is one of the important aspects of ecology. Since the information on temple fauna and plant-animal interrelationship were lacking, present study attempted to explore this aspect.

Sthalavrikshas are expected to play a major role in conserving local ecology, by providing food and shelter to birds and other animals. Generally, temple premises are considered as least disturbed sites when compared to outer environment. Sthalavrikshas and animals associated with various Gods are considered as highly sacred. Almost all deities in Hindu pantheon have one *'Vahana'* (vehicle) eg., Lord Siva - Bull, Vishnu - Kite, Amman - Lion, Brahmma - Swan, Muruga - Peacock, Ganesha - Mouse, Iyappa - Tiger and Ayyanar - Elephant and so on. Hence, devotees have regard towards these animals and treat them as sacred. In Tamil Nadu, several big temples have their own elephants for deity's procession and other sacred rituals. As per *Vaishnava* Myth, Lord Vishnu himself took ten incarnations of several life forms viz., *Macha Avatharam* (Fish), *Kurma Avatharam* (Turtle), *Varaha Avatharam* (Pig) and *Narashima Avatharam* (Lion headed human). Hence all these animals are sacred to the devotees and normally people avoid disturbing these animals. Temples premises are found to be the safest abode for several birds and animals in both urban and rural environment.

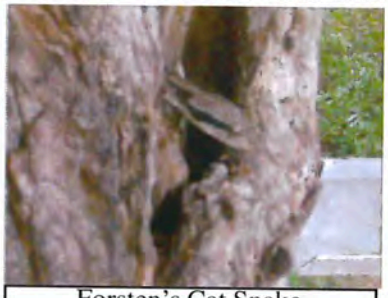
4.2 Results

Availability of roosting, nesting and foraging sites attract birds and other animals to these micro habitats traditionally. For instance, in Thirukazhukundram a pair of White Scavenger vultures *Neophron percnopterus* used to visit the hilltop at noon every day to consume the *prasatham*. The priest feed the *prasatham* regularly, through centuries (Plate IX-J). Hence the town is suitably named as Thirukazhukundram (Sacred Vulture hill). Saint Thirugnanasambanthar referred the name 'Kazhukundram' in *Devaram* a 7th century. The Pallava period Rock cut temple proved that the Siva temple is present here since 7th century literary work. In recent times (past three decades) the vultures are not visiting this temple.

Plate IX -Animals and Birds associated with Sthalavrikshas and temples



Peacock on Alter
A. Gangaikondan



Forsten's Cat Snake
B. Kannivadi

Angled Castor
C. Perur

Blue Rock Pigeon- Eggs
D. Mahenthirapalli

Blue Rock Pigeon- Chicks
E. Mahenthirapalli

Flocks of Blue Rock Pigeon
F. Padi

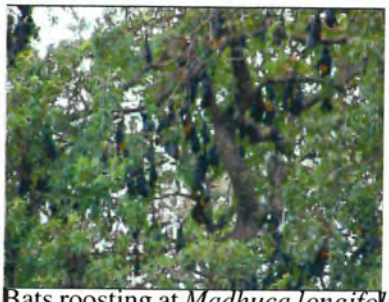
Separate Cage for fallan chicks
G. Thirupudaimaruthur

Spotted Owlets on Temple tower
H. Thirumandurai

House Crow on Alter
I. Palamalai

White Scavenger Vulture
J. Thirukazhukundram

Bats roosting at corridors
K. Konkaniswarar Temple



Bats roosting at *Madhuca longifolia*
L. Thirupudaimaruthur

Bird nests on at *Terminalia arjuna*
M. Thirupudaimaruthur

Devotee feeding Bonnet Macaque
N. Thirthamalai

House Sparrow nests
O. Thirupullanai

4.2.1 Birds Associated with Sthalavrikshas

Sthalavrikshas and other plants in temple premises provide suitable foraging and roosting sites to birds and other animals. A total of 90 species belonging to 37 avian families were recorded in temples (Table 4.1). Blue Rock Pigeon *Columba livia* is the commonest species. *Raja Gopura*, (Temple tower above the main entrance) other *gopuras* (tower above the inner entrances) and *Vimanas* (tower above the sanctum sanctorum) are the prominent dwelling places of this species, hence it is known as '*Mada Pura*' (Pigeon living in the chambers of tower). Sthalavrikshas form temporary roosting sites for this species. The devotees provide food (cereals) to the birds. Flocks of Blue Rock Pigeon are commonly sighted in the temples. In Mahendirapalli, 15 Blue rock Pigeon nests were recorded in corridors, of which 12 were active nests.

House crow *Crovus splendens* and Jungle crow *Crovus macrorhynchos* are the other common birds nesting in sthalavrikshas. Several nests were found in Bengal Quince trees, the most common sthalavriksha of the state. Crows being omnivorous and scavengers adapted to live in temples. Waste from *Madapalli* (Kitchen used to prepare deity's food offerings) form the main food source. House Sparrow *Passer domesticus* is yet another common species well adapted to the temple environment. Most of the temples accommodate the nests of this species. Their preferable nest sites in temple premises are the architectural crevices in ceiling and niche in temple pillar top. Temples not only provide nest sites to house sparrows but also offer food in the form of *Nelsaram* (a hanging structure tied up of several full grown paddy plants (Plate XI-I). Devotees offer this to the deities and after performing *pooja* (worship), the structure used to reversely hanged in the temple corridors. After this ritual, devotees start paddy harvest. This is the major food source to house sparrows. It is to be noted here that the population of house sparrows elsewhere have come down and concern has been expressed by naturalists. In this context, temple premises would to be the safest place for the house sparrows.

Blue winged parakeets and Rose ringed parakeets are also common in the temples. Most of the top layers of the Raja Gopurams are occupied by these birds and wherever *Ficus* species are found in the temples these birds could be seen. In Sornamurtheeswarar temple at Kandadevi, a huge Jamun tree *Syzygium cumini*, (sthalavriksha of the temple) harbour large number (50+) of Blue winged parakeets. In

Ramasamy temple at Kumbakonam, hole nesting birds such as Blue Rock Pigeon, Common Myna and Rose Ringed parakeets share holes in the tower above the sanctum sanctorum.

Common Peafowl *Pavo cristatus* is frequently sighted in Lord Muruga temples. Most of the Murugan temples are situated on the top of hills and hillocks and these sites, mostly dry scrub fprests are native habitat to this species. Peafowls are very common in Viralimalai, Thirumalaikeni, Saravanampatty, Kurunthamalai, Anuvavi, Muthumalai, Pazhani, Sivanmalai, Kadithamalai, Chennimalai, Kabilarmalai, Vaippamalai, Surulimalai, Vallimalai, Mylam and Maruthamalai, which are lord Muruga's abodes. It is to be noted here that the Peafowl population elsewhere is coming down due to habitat destruction and mass killing by food poisoning. In this context temples and adjoining localities form the safest place for this species. *Neolamarckia cadamba* in Senchadainathar temples at Thirumalukandankottai and *Tamarindus indica* of Kailasanatahar temple at Gangikondan (Plate IX-A) are used as roosting sites for Peafowls. In these temples *Prasatham* (deity's food offerings) rice is the main food source to peafowls.

Spotted owlets *Athene brama* dwell in the holes of sthalavriksha, *Bambusa arundinacea* in Pasunathar temple at Thirupasur and in the holes of the temple tower at Jotheeswarar temple at Thirumanthurai. These birds very often perch on sthalavrikshas.

All ancient temples in Tamil Nadu have its own *Theppakulam* (Temple Tank). These tanks are breeding ground for several fishes. The introduced fish *Thilapia mossambica* is common in most of the temple tanks. These tanks feed Kingfishers; White-breasted Kingfisher, Pied Kingfisher and Small Blue kingfishers. The Kingfishers usually perch on the branches of sthalavriksha, before they hunt their food. Paradise Flycatcher *Terpsiphone paradisi* found nesting on Tamarind tree, *Tamarindus indica* sthalavriksha tree of the Chinthamaniswarar temple at Vasudevanallur.

Most of the ancient temples have their own lands in the form of paddy fields. After harvesting, farmers provide part of the paddy and straw to the temple authorities. Normally, these harvested materials are stored in the temple corridors. These items form the food and nesting materials to the birds.

Table 4.1 Birds Associated with Sthalavrikshas and temples

S.No	Common Name	Scientific Name	Use Value				
			Fe	Pe	Ne	#	%
1	Ashy wren Warbler	*Prinia socialis*		+		5	0.02
2	Asian Koel	*Eudynamys scolopacea*	+	+		99	0.43
3	Asian Paradise Flycatcher	*Terpsiphone paradisi*		+	+	2	0.01
4	Barn Owl	*Tyto alba*		+		4	0.02
5	Black bellied Finch-Lark	*Eremopterix grisea*		+		5	0.02
6	Black Drongo	*Dicrurus adsimilis*	+	+		11	0.05
7	Black headed Myna	*Sturnus pagodarum*	+	+		175	0.77
8	Black headed Oriole	*Oriolus chinensis*		+		3	0.01
9	Black Ibis	*Pseudibis papillosa*	+	+		5	0.02
10	Black-headed Munia	*Lonchura malacca*		+		4	0.02
11	Blue Rock Pigeon	*Cloumba livia*	+	+	+	17266	76.32
12	Blue tailed Bee eater	*Merops philippinus*	+	+		6	0.03
13	Blue winged Parakeet	*Psittacula columboides*		+	+	47	0.21
14	Brahminy Kite	*Haliastur Indus*		+		22	0.10
15	Common Babbler	*Turdoides caudatus*		+		40	0.18
16	Common Green Pigeon	*Treron phoenicoptera*		+		8	0.04
17	Common Grey Hornbill	*Tockus birostris*	+	+	+	2	0.01
18	Common Iora	*Aegithina tiphia*		+		9	0.04
19	Common Myna	*Acridotheres tristis*	+	+	+	584	2.58
20	Common Peafowl	*Pavo cristatus*	+	+	+	38	0.17
21	Common Wood Shrike	*Tephrodornis pondicerianus*		+		3	0.01
22	Coot	*Fulica atra*				2	0.01
23	Coppersmith	*Megalaima haemacephala*	+	+		3	0.01
24	Crow Pheasant	*Centropus sinensis*		+		24	0.11
25	Darter	*Anhinga rufa*	+	+		3	0.01
26	Goldenbacked Woodpecker	*Dinopium benghalense*		+		3	0.01
27	Golden Oriole	*Oriolus oriolus*		+		6	0.03
28	Gray Tit	*Parrus major*		+		6	0.03
29	Grey Headed Flycatcher	*Culicicapa ceylonensis*	+	+		11	0.05
30	Grey Heron	*Ardea cinerea*	+	+	+	2	0.01
31	Grey Partridge	*Francolinus pondicerianus*	+			4	0.02
32	Hoopoe	*Upupa epops*		+		19	0.08
33	House Crow	*Corvus splendens*	+	+	+	1471	6.50
34	House Sparrow	*Passer domesticus*	+	+	+	695	3.07

35	House Swift	*Apus affinis*			+	7	0.03
36	Indian Pitta	*Pitta brachyura*		+		4	0.02
37	Indian Robin	*Saxicoloides fulicata*		+		10	0.04
38	Indian Roller	*Coracias benghalensis*		+		8	0.04
39	Jungle Babbler	*Turdoides striatus*		+		60	0.27
40	Jungle Crow	*Corvus macrorhynchos*	+	+	+	13	0.06
41	Jungle Myna	*Acridotheres fuscus*	+	+		12	0.05
42	Large Egret	*Ardea alba*	+	+	+	120	0.53
43	Large Green Barbet	*Megalaima zeylanica*		+		3	0.01
44	Large Grey Babbler	*Turdoides malcolmi*		+		18	0.08
45	Large Pied Wagtail	*Motacilla maderaspatensis*		+		13	0.06
46	Little Brown Dove	*Streptopelia senegalensis*	+	+		2	0.01
47	Little Cormorant	*Phalacrocorax niger*	+	+	+	55	0.24
48	Little Egret	*Egretta gularis*	+	+	+	70	0.31
49	Little Grebe	*Tachyboptus ruficollis*	+	+		5	0.02
50	Little Green Heron	*Ardeola striatus*	+	+	+	25	0.11
51	Lorikeet	*Loriculus vernalis*	+	+		4	0.02
52	Magpie Robin	*Copsychus saularis*		+		9	0.04
53	Median Egret	*Egretta intermedia*	+	+	+	47	0.21
54	Night Heron	*Nycticorax nycticorax*	+	+	+	27	0.12
55	Openbill Stork	*Anastomus oscitan*	+	+		7	0.03
56	Paddyfield Warbler	*Acrocephalus agricola*		+		10	0.04
57	Painted stork	*Mycteria leucocephala*	+	+	+	290	1.28
58	Palm swift	*Cypsiurus parvus*				115	0.51
59	Pariah Kite	*Milvus migrans*		+		60	0.27
60	Pied Bush Chat	*Saxicola caprata*	+	+		8	0.04
61	Pied Kingfisher	*Ceryle rudis*		+		62	0.27
62	Pond Heron	*Ardeola grayii*	+	+	+	21	0.09
63	Purple Moorhen	*Porphyrio porphyrio*				3	0.01
64	Purple rumpled Sunbird	*Nectarinia zeylonica*	+	+		7	0.03
65	Purple Sunbird	*Nectarinia asiatica*	+	+		13	0.06
66	Racket-Tailed Drango	*Dicrurus paradiseus*	+	+		3	0.01
67	Red-vented Bulbul	*Pycnonotus cafer*		+		21	0.09
68	Red-whiskered Bulbul	*Pycnonotus jocosus*		+		18	0.08
69	Rose ringed Parakeet	*Psittacula krameri*		+	+	626	2.77
70	Rosy Pastor	*Sturnus roseus*	+	+		37	0.16
71	Scarlet Minivet	*Pericrocotus flammeus*		+		4	0.02
72	Shama	*Copsychus malabaricus*		+		1	0.01
73	Shikra	*Accipiter badius*		+		3	0.01
74	Small Blue Kingfisher	*Alcedo atthis*		+		13	0.06

75	Small green Bee eater	*Merops orientalis*	+	+		9	0.04
76	Spoonbill	*Platalea leucorodia*	+	+		11	0.05
77	Spotted Dove	*Streptopelia chinensis*		+		12	0.05
78	Spotted Munia	*Lonchura punctulata*		+		6	0.03
79	Spotted Owlet	*Athene brama*		+	+	13	0.06
80	Spottedbilled Pelican	*Pelecanus philippensis*	+	+		7	0.03
81	Tailor Bird	*Orthotomus sutorius*		+		5	0.02
82	Tickell's Flowerpecker	*Dicaeum erythorhynchos*	+	+		11	0.05
83	Rufous Tree pie	*Dendrocitta vagabunda*		+		10	0.04
84	White bellied Drongo	*Dicrurus leucophaeus*	+	+		4	0.02
85	White breasted Kingfisher	*Halcyon smyrnensis*		+		47	0.21
86	White breasted water hen	*Amaurornis phoenicurus*				2	0.01
87	White Eye	*Zosterope palpebrosa*	+	+		5	0.02
88	White headed Babbler	*Turdoides affinis*		+		47	0.21
89	White Ibis	*Threskiornis aethiopica*	+	+		6	0.03
90	Yellow Wagtail	*Motacilla flava*		+		6	0.03
	Total					22,622	

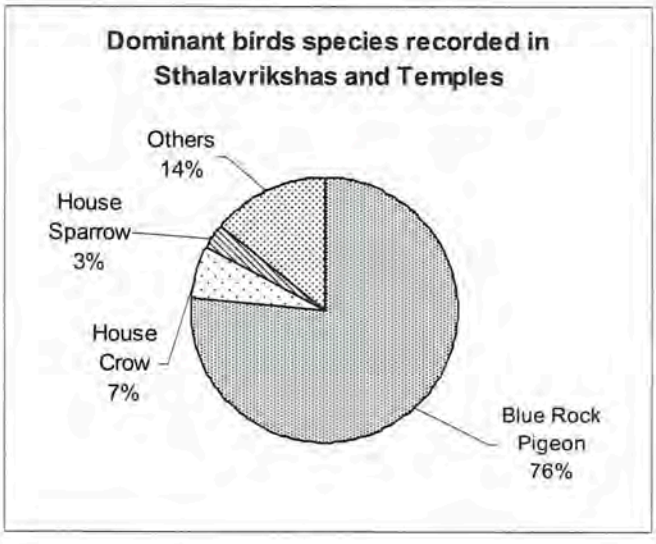
A total of 22,622 birds belonging to 90 species and 36 families were recorded in the temple premises. This forms nearly 20% of the bird species recorded in Tamil Nadu by Balasubramanian & Vijayan 2004.

Of the 36 avian families recorded Muscicapidae (13 species) was the largest family followed by Ardeidae (8 species), Columbidae and Sturnidae represented 4 species each. Three species of birds of prey were also recorded. Thirty eight species were observed feeding on the sthalavriksha trees. Nests of 21 species were also recorded. Most of the species are insectivores and few of them are omnivores.

Among the 22,622 birds recorded in temples, Blue Rock Pigeon (76.32 %), followed by House Crow (6.5%) and House sparrow (3.07%) constituted the prominent species (Fig. 4.1). Blue rock pigeon has very well adapted to the temple towers for roosting and nesting. The arches in the temple towers form good asylum for the pigeons and in some places a competition was observed between Blue Rock pigeon and the Barn Owl. While the roosting sites were used by Barn Owls during day hours and the pigeons used them during night hours. The temple towers are very cool and dark and provide a suitable environment for nocturnal animals.

House crow is one of the most common birds recorded in 288 temples. House sparrows were recorded in several of the temples (16 %). Common myna and Rose-ringed Parakeet used sthalavrikshas for nesting. Devotees offer nine different cereals to the statues of *Navaghrahas* (nine planets) as routine worship. These grains form major food for pigeons, sparrows and mynas. Temples and the sthalavrikshas were used by various birds and other animals and thus offer a suitable environment for these animals. The following graph explains the assemblage of dominant bird species in the temple premises of Tamil Nadu.

Figure 4.1



4.2.2 Narumpoonathar Temple, Thirupudaimaruthur - A Bird Sanctuary

Narumpoonathar temple in Tirunelveli district is situated on the eastern banks of river Thamirabarani. *Terminalia arjuna* is the sthalavriksha of this temple and the village Thirupudaimaruthur is suitably named after *T. arjuna*. The Thirupudaimaruthur temple and its adjacent portion form bird sanctuary spreads to 10 hectares. This proposed sanctuary is home for several water birds and they are protected by local people. A total of 76 birds species are recorded here. Several birds were found nesting on *T. arjuna* trees. A total of 291 nests of varies birds were recorded here (Table 4.2).

Table 4.2 **Bird nests recorded on *Terminalia arjuna***

S No	Birds	Scientific Name	No of Nests
1	Painted Stark	*Mycteria leucocephala*	127
2	Large Egret	*Ardea alba*	70
3	Little Cormorant	*Phalacrocorax niger*	34
4	Median Egret	*Egretta intermedia*	21
5	Little Egret	*Egretta garzetta*	7
6	Pond Heron	*Ardeola grayii*	12
7	Green Heron	*Ardeola striatus*	9
8	Night Heron	*Nycticorax nycticorax*	11

White Ibis, Black Ibis, Spoonbill, Openbill Stork are some of the common birds seen around this temple. A separate cage is also maintained in the temple premises to nurture the chicks (Plate XII-C) that fall down from the trees. Temple tank and river Thamirabarani form the foraging sites for the birds. Local people have lot of concern for conserving this site and avoid burning crackers during festivals.

4.3 Butterflies Recorded in Sthalavrikshas

Most of the temples have *Nanthavanam* (Temple Garden) apart from Sthalavriksha species. This attracts large number of nectar feeding butterflies to the temple premises. During the study, a total of 37 species of butterflies belonging to five families were recorded (Table 4.4). Maximum number of species (n=12) belonging to the family Hesperiidae family followed by Pieridae (n=8), Papilionidae and Lycaenidae represented by six species each. Butterflies play a vital role on pollination of plants. These insect pollinators ensure pollination and seed setting in several plants species. Especially Papilionidae members have long antennae, which guarantee as the pollination of even long and tubular flowers. This adaptation made Papilionidae best pollinator among butterflies. Butterflies also flash the pollens at that time of winging near the anthers and flowers. Nearly all of the butterflies found in temples directly depend on the host and nectar plants eg., *Capparis* spp. for Common Gull and White Orange Tip. The milk weed butterflies mostly depending on *Calotropis* sp., *Ficus* sp. and *Nerium* sp. for its life history events and these plants are common in the temples. Temples maintained by Archeological Survey of India have well maintained lawns and flower gardens and thus forms ideal grounds for various butterflies. Madapalli (exclusive kitchen to make deities food offerings) waste attracts certain butterflies too. A

group of Angled Castor (*Ariadne ariadne*) were pudding Madapalli waste (Plate IX-C) was observed in Perur temple (Table 4.3).

Table 4.3 **List of butterflies recorded in temples**

S No	Common Name	Scientific Name	WPA(1972)	Endemic
	I. PAPILIONIDAE			
1	Common Rose	*Pachliopta aristolochiae aristolochiae*	-	-
2	Common Mime	*Chilasa clytia*	Sch. I	-
3	Common Mormon	*Papilio polytes romulus*	-	-
4	Crimson Rose	*Pachliopta hector*	Sch. I	IS
5	Blue Mormon	*Papilio polymnestor*	-	WG
6	Tailed Jay	*Graphium agamemnon menibes*	-	-
	II. PIERIDAE			
7	Common Gull	*Cepora nerissa nerissa*	Sch. II	-
8	Common Jezebel	*Delias eucharis*	-	-
9	Yellow Orange Tip	*Ixias pyrene sesia*	-	-
10	White Orange Tip	*Ixias Marianne*	-	-
11	Common Emigrant	*Catopsilia crocale*	-	-
12	Common Grass Yellow	*Eurema hecabe simulate*	-	-
13	Lemon Emigrant	*Catopsilia Pomona*	-	-
14	Mottled Emigrant	*Catopsilia pyranthe*	-	-
	III. NYMPHALIDAE			
15	The Chocolate Pansy	*Precis iphita iphita*	-	-
16	Common Leopard	*Phalanta phalantha phalantha*	-	-
17	Common Castor	*Ariadne merione merione*	-	-
18	Angled Castor	*Ariadne ariadne*	-	-
	IV. LYCAENIDAE			
19	Common Pierrot	*Castalius rosimon rosimon*	Sch. I	-
20	Pale Grass Blue	*Zizeeria maha ossa*	-	-
21	Common Silver Line	*Spindasis vulcanus vulcanus*	-	IS, SL
22	Bright Babul Blue	*Azanus ubaldus* Cramer	-	-
23	Red Pierrot	*Talicada nyseus nyseus*	-	-
24	Zebra Blue	*Syntarucus plinius*	-	-
25	Tawny Coster	*Acroea violae*	-	-
	V. HESPERIIDAE			
26	Common Evening Brown	*Melanitis leda leda*	-	-
27	Common Tree Brown	*Lethe rohria*	-	-
28	Common Bush Brown	*Mycalesis perseus typhlus*	-	-
29	Tamil Catseye	*Zipoetis saitis*	-	-
30	Dark Blue Tiger	*Titumala septentrionis dravidarum*	-	-

31	Plain Tiger	*Danaus chrysippus chrysippus*	-	-
32	Striped Tiger	*Danaus genutia genutia*	-	-
33	Blue Tiger	*Tirumala limniace exoticus*	-	-
34	Common Crow	*Euploea core core*	Sch. IV	-
35	Glassy Blue Tiger	*Parantica aglea aglea*	-	-
36	Flat sp.	*Celaenorrhinus* sp.	-	-
37	Awl sp.	*Hasora* sp.	-	-

Sch. I - Scheduled I, Sch. II - Scheduled II, Sch. IV - Scheduled IV,

WG - Endemic to Western Ghats, SI - Indian Sub Continent, SL - Sri Lanka

Of the 37 species recorded in temples three species namely Common Mime, Crimson Rose and Common Pierrot are protected under Scheduled I of Wildlife Protection Act 1972 (amended in 2002). Other species in the Scheduled lists are Common Gull in Scheduled II, and Common Crow in Scheduled IV. Blue Mormon is endemic to Western Ghats. Common Silver Line is endemic to south India and Crimson Rose is endemic to south India and Sri Lanka.

4.4 Reptiles Recorded in Sthalavrikshas

Small reptiles such as House Geckos *Hemidactylus frenatus*, Bark Gecko *Hemidactylus leschenautii* and Brook's Gecko *Hemidactylus bookie* are commonly noticed on sthalavrikshas. Lizards such as Garden Lizard, *Calotes versicolor*, Green calotes *Calotes calotes* and Rock lizard *Psammophilus dorsalis* are also recoded on sthalavrikshas. The aerial root of Figs provide suitable micro habitat for Geckos and Lizards. The split cavities in the bark of *Alangium salvifolium, Azadirachta indica, Manilkara hexandra* and grooves in the stem of *Ficus spp.* formed ideal shelters for the reptiles (Table 4.4).

Table 4.4 **List of Reptiles Recorded in Temples**

S No	Common Name	Scientific Name
1	Bark gecko	*Hemidactylus leschenauti*
2	Brooks gecko	*Hemidactylus booki*
3	House gecko	*Hemidactylus frenatus*
4	Common Skink	*Mubuya carinata*
5	Snake Skink	*Riopa punctata*
6	Garden lizard	*Calotes versicolor*
7	Forest Calotes	*Calotes rouxi*
8	Green Calotes	*Calotes calotes*
9	Rock Lizard	*Psammophilus dorsalis*

10	Forsten's Cat snake	*Boiga forsteni*
11	Checkered Keelback	*Xenochrophis piscator*
12	Green whip snake	*Ahaetulla nasustus*
13	Indian Cobra	*Naja naja*

Snakes enjoy protection in temples while it is not so in residential places. For example an interesting incident happend in Pampureswarar temple at Thirupampuam. A Cobra *Naja naja* cast out its skin and entered into the Sanctum Sanctorum and spins around the prime deity. The priest and devotees did not disturb the snake. The photograph of Cobra skin cast was preserved and still worshipped in the temple. The Forsten's Cat snake *Boiga forsteni* was recorded from a sthalavriksha stem hole of Bengal Quince tree at Someswarar temple in Kannivadi. Water snakes were commonly noticed in the temple tanks of Thirukarayil, Thirumakaral and Thiruvarur.

4.5 Bats Recorded in Sthalavrikshas

Although bats are considered as the unwelcome visitor to houses and orchards, most of the temples form roosting and breeding sites for bats. Temple corridors are the most preferred roosting site for several species of bats. During the survey, six species of bats were recorded from the temple premises. This includes *Rousettus leschenaultia, Megaderma lyra, Hipposideros ater, Taphozous melanopogon, Cynopterus sphnix* and *Pteropus giganteus*. In Peruvudaiyar temple at Gangaikondacholapuram good number population (600+) bats roost at corridors.

A huge (1000+) of Flying Fox *Pteropus giganteus* were found roosting on *Mimusops elengi* tree at Narumpoonathar temple in Thirupudaimaruthur (Plate IX-L). Most of the sthalavriksha trees form ideal roosting sites for bats. In Thirumazhapadi Vaidiyanadasamy temple, the sthalavriksha-Palmyra palm *Borassus flabellifer* forms the roosting site for the Short-nosed Fruit Bat. Fruits of Neem and Mahowa form the major food for fruit eating bats. In most of the ancient temples *Madhuca longifolia* plants are planted for its oil value. In temples, the lamps are lit with this oil, which is considered very sacred (Table 4.5).

4.6 Primates Recorded in Sthalavrikshas and Temple

Bonnet Macaques *Macaca radiata* is common denizen of temples premises. Several troops are found in Thirukazhukundram, Thirthamalai, Palani and Maruthamalai. In Nallandavar temple at Manapparai, Bonnet macaques not only roost on sthalavriksha

plants resting but also feed on certain parts of the plant. Devotees feed the monkeys with *Pori* (Roasted rice), water (Plate IX-N) and other eatables. Common Langur *Macaca macaque* troops (50+) were also recorded in some temples. (Table 4.5)

Table 4.5 List of Mammals Recorded in Temples

S No	Common Name	Scientific Name
	I. Bats	
1	Fulvous Fruit bat	*Rousettus leschenaultia*
2	Indian False vampire bat	*Megaderma lyra*
3	Dusky leaf-nosed bat	*Hipposideros ater*
4	Black beard Tomb bat	*Taphozous melanopogon*
5	Short nosed Fruit bat	*Cynopterus sphnix*
6	Flying Fox	*Pteropus giganteus*
	II. Primates	
7	Bonnet Macaque	*Macaca radiata*
8	Common langur	*Semnopithecus entellus*
	III. Other Animals	
9	Grey Mongoose	*Herpestes edwardsii*
10	Three-stripped squirrel	*Funambulus palmarum*
11	Elephant	*Elephas maximus*

4.7 Other Animals Recorded in Temples

A Grey Mongoose *Herpestes edwardsii*, was recorded at Ekambareswarar temple at Sundarapandia Pattanam and milk is regularly offered to the animal by the priest. Three-stripped squirrels *Funumbulus palmarum* are common arboreal animal residing on trees. In several temples, squirrel nests were recorded on sthalavrikshas.

4.8 Invertebrates in Sthalavrikshas

Good number of invertebrate species found barks crevice of sthalavrikshas. This includes Grass hoppers, Cockroaches, Bugs, Wasps, Scorpions, Spiders, Snails, Millipedes and Centipedes. These insects form main food source for reptiles and birds. Honey bees also take asylum in temples, especially on hill shrines.

4.9 Keystone Species

In addition to sthalavrikshas, other flora of the temples provides food, nesting and foraging sites to birds and other animals. Both sthalavrikshas and other flora ultimately create a microhabitat for birds and other animals. The availability of food, nesting and foraging sites, water and protection from poachers make the temples as a

safe sanctuary. Some plants such as figs, *Ficus* spp. (Table 4.6) in the temples act as Keystone species by supporting a large number of wildlife.

Table 4.6 **Figs as Sthalavrikshas**

S. No	Keystone plants	No. of temples in which occurred
1	*Ficus religiosa*	29
2	*Ficus benghalensis*	20
3	*Ficus racemosa*	5
4	*Ficus mollis*	1
5	*Ficus virens*	1
6	*Ficus microcarpa*	1
7	*Ficus nervosa*	1

The sthalavrikshas belonging to *Ficus* spp. attract large number of birds, bats, butterflies, primates, reptiles and other animals. Large number of *Ficus* spp. also recorded as other flora. Large canopy of fig trees accommodates number of birds and other animal species. These observations reveal the role of sthalavrikshas in local ecology.

4.10 Geographical Distribution of Sthalavrikshas

Tamil Nadu is the southern most state in India with wide range of landscapes such as East Coast, Central Plains and Western Ghats (Map 4.1). Temples are found in all these geographical locations. In many temples, local plants are represented as sthalavrikshas. Thus the occurrence of a particular sthalavriksha species in a temple indicates the past occurrence of the species in the locality. In this study an attempt was made to correlate the sthalavriksha distribution with the native flora of the state.

The distributional pattern of sthalavrikshas reveals interesting plant geography of ancient Tamil country. The result represents the climax vegetation of Tamil Nadu before a millennium and it opens new vista to understand the past geographical distribution of plants. Many factors viz., climate, soil and rainfall influenced the distribution of sthalavrikshas. Temples surveyed in Coastal zone includes river deltas, Sand and marshy regions, Central Plain comprised plateaus, wetlands and riparian habitats and undulated plains. Western Ghats region comprised hillocks, hills and high ranges.

Sthalavrikshas recorded in Tamil Nadu are represented by various growth forms. Although certain species have disappeared due to habitat destruction, they are thriving in the locality, as sthalavrikshas. The common distributional pattern documented in the temples as follows; the costal region harboured mangrove trees, grasses, sedges, and palms. In central plains herbs, shrubs, climbers, medium sized trees and large sized trees are abundant. In the Western Ghats, shrubs, medium sized trees and large sized trees were documented. Pictorial depiction of the sthalavriksha distribution is shown in Fig. 4.2.

Map. 4.1 **Temples Surveyed in Different Geographical Region in Tamil Nadu**

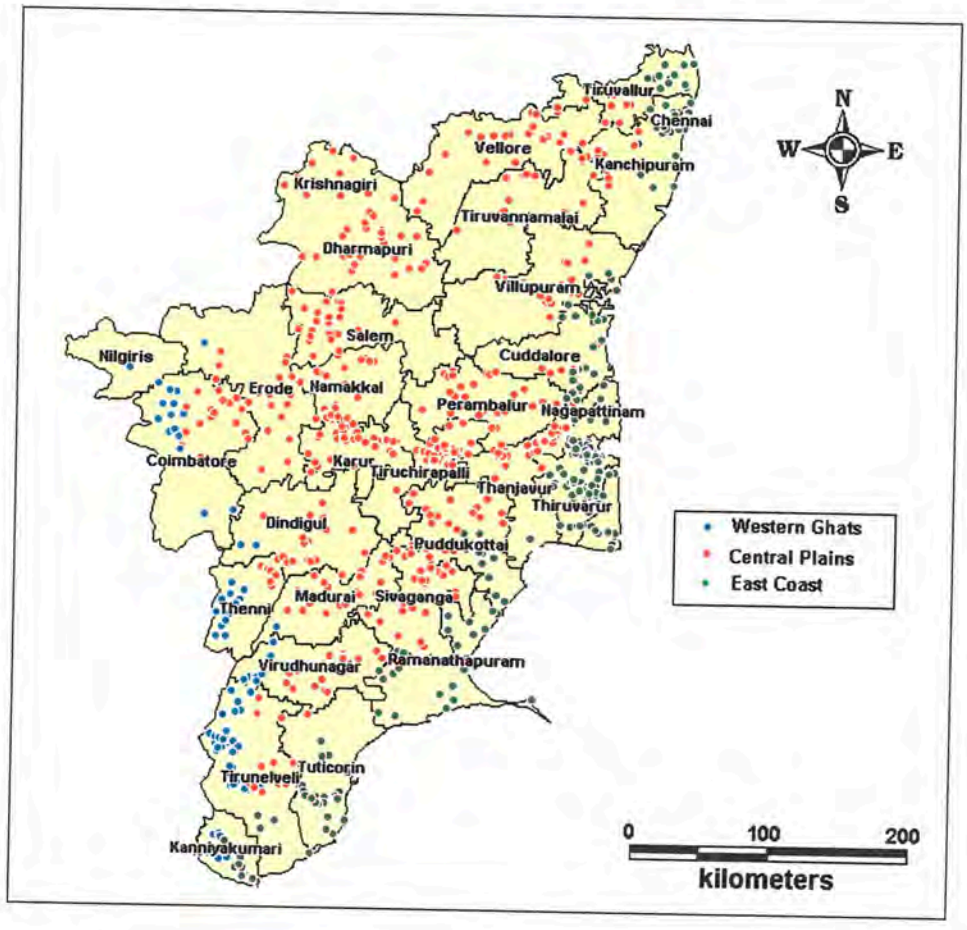
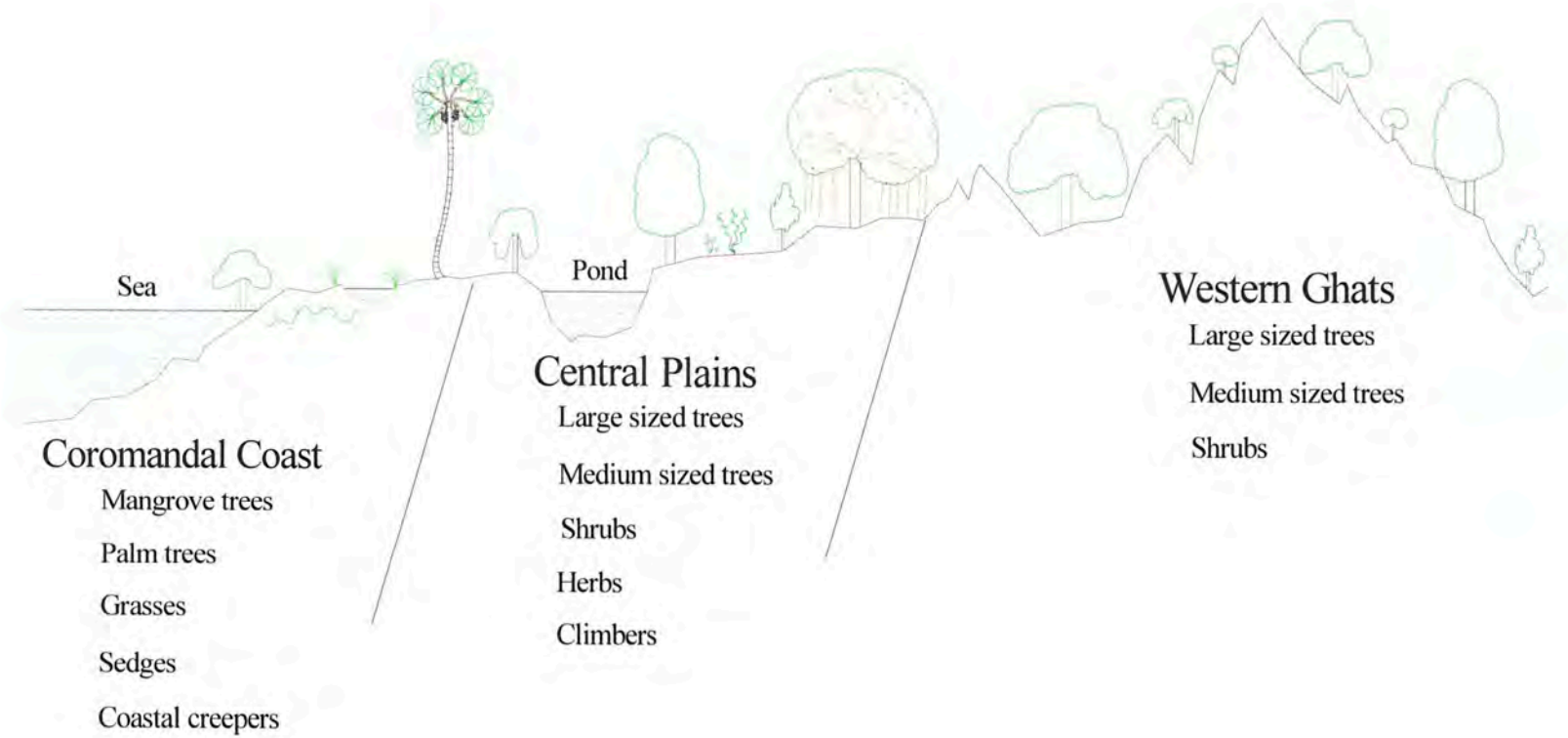


Fig.4.2. Profile Diagram Depicting the Distribution of Various Growth Forms of Sthalavrikshas in Tamil Nadu



Several sthalavriksha species found to be zone specific. Table (4. 7) indicates the distributional pattern of sthalavrikshas.

Table 4.7 **Zone wise Occurrence of Sthalavriksha Species in the State**

S. No.	Zones	No. of Sthalavriksha species	Percentage of occurrence
A	East Coast	75	66.07
B	Central Plains	68	59.82
C	Western Ghats	27	22.32

Among the 112 species of sthalavrikshas recorded in the state, a total of 75 species are found in the East Coast zone, among which are 34 species exclusive to this zone, Sixty eight species are found in Central Plains, among them 26 species are exclusive to this zone. In the Western Ghats, 27 species were found of which eight species are exclusive to this zone. Both in East Coast and Central Plains 25 species were found (A+B), two species are found both in East Coast and Western Ghats (A+C) and three species found in both Central Plains and Western Ghats (B+C) and 14 species found in all the three zones (A+B+C) (Table 4.8).

Table 4.8 **Distributional Patterns of Sthalavrikshas in Different Zones**

No	Species	East Coast	Central Plains	Western Ghats
1	*Acacia chundra*	1		
2	*Acacia leucophloea*	1		
3	*Acacia ferruginea*	1		
4	*Aegle marmelos*	75	232	21
5	*Alangium salvifolium*	2	1	
6	*Albizia amara*		2	2
7	*Albizia lebbeck*	1		
8	*Andropogon* sp.	1		
9	*Neolamarckia cadamba*	4	2	1
10	*Artabotrys hexapetalus*	1		
11	*Artocarpus heterophyllus*	7	6	1
12	*Artocarpus hirsutus*			1
13	*Atalantia monophylla*	1		1
14	*Azadirachta indica*	1	2	3
15	*Bambusa arundinacea*	2	4	
16	*Bauhinia acuminata*		1	

17	*Bauhinia purpurea*	1	2	
18	*Bauhinia racemosa*	5	1	
19	*Borassus flabellifer*	4	9	
20	*Butea monosperma*	3	2	
21	*Cadaba fruticosa*	1		
22	*Calamus rotang*	1		
23	*Calophyllum inophyllum*	15	14	
24	*Calotropis procera*	1	1	
25	*Canthium parviflorum*			2
26	*Capparis divaricata*		3	1
27	*Capparis zeylanica*		1	
28	*Carissa carandas*		2	
29	*Carissa spinarum*			1
30	*Cassia fistula*	10	12	
31	*Citrus aurantifolia*	1	1	
32	*Citrus pennivesiculata*	1		
33	*Cocos nucifera*	1		
34	*Commiphora caudata*	1	1	
35	*Cordia domestica*	1		
36	*Corypha umbraculifera*	1		
37	*Crescentia cujeta*		1	
38	*Crateva magna*	3	7	
39	*Dichrostachys cinerea*		2	
40	*Diospyros montana*	1		
41	*Dodonaea viscosa*		1	
42	*Seaevola plumieri*	1		
43	*Ensete edule*	1	1	
44	*Ehretia ovalifolia*		1	
45	*Euphorbia nivulia*	1		
46	*Excoecaria agallocha*	1		
47	*Ficus benghalensis*	2	12	
48	*Ficus religiosa*	10	17	
49	*Ficus virens*		1	
50	*Ficus racemosa*	1	3	
51	*Ficus mollis*		1	
52	*Ficus nervosa*		1	
53	*Ficus microcarpa*			1
54	*Guettarda speciosa*	1	2	
55	*Holoptelea integrifolia*		1	
56	*Imperata cylindrica*	1		
57	*Jasminum auriculatum*	2		
58	*Jasminum grandiflorum*	1		
59	*Jasminum cuspidatum*	1	1	
60	*Jasminum sambac*	1		
61	*Lepisanthes tetraphylla*		2	
62	*Limonia acidissima*	1	1	

63	*Madhuca longifolia*	13	3	
64	*Magnolia grandiflora*			1
65	*Mangifera indica*	11	7	4
66	*Manilkara hexandra*	1	1	
67	*Millingtonia hortensis*	1		
68	*Michelia champaca*	2	2	3
69	*Mimosa pudica*	1		
70	*Mimusops elengi*	4	28	
71	*Morinda pubescens*		1	
72	*Moringa pterygosperma*		1	
73	*Murraya koenigii*		1	
74	*Musa paradisiaca*	3	5	
75	*Naringi crenulata*	1	2	
76	*Nerium oleander*		1	
77	*Nyctanthes arbor-tristis*	5	10	
78	*Ochna obtusata*	1		
79	*Ocimum tenuiflorum*	1		
80	*Phoenix sylvestris*		1	
81	*Phyllanthus emblica*	3	5	5
82	*Pleiospermium alatum*	1		
83	*Pongamia pinnata*	1		
84	*Premna latifolia*		1	
85	*Prosopis cineraria*	18	45	2
86	*Pterocarpus marsupium*		1	
87	*Punica granatum*		1	
88	*Ricinus communis*	1		
89	*Salvadora persica*	1		
90	*Santalum album*	2		2
91	*Saraca asoca*		1	
92	*Schleichera oleosa*			2
93	*Securinega leucopyrus*			1
94	*Stereospermum chelonoides*		1	
95	*Stereospermum colais*	2	5	1
96	*Stobilanthus kunthiana*			1
97	*Streblus asper*		1	1
98	*Strychnos nux-vomica*	1		
99	*Strychnos potatorum*	1		
100	*Syzygium cumini*	2	4	4
101	*Tabernaemontana divaricata*	1		
102	*Tabernaemontana heyneana*		1	
103	*Tamarindus indica*	2	4	1
104	*Tarenna asiatica*	1		
105	*Telosma minor*	1		
106	*Terminalia arjuna*	1	5	2
107	*Terminalia bellirica*		1	
108	*Terminalia catappa*		1	

109	*Terminalia chebula*	1		
110	*Vitex negundo*		1	
111	*Wrightia tinctoria*	1	1	1
112	*Ziziphus mauritiana*	3	9	1

4.10.1 Sthalavrikshas Distribution in East Coast

Tamil Nadu state has a long coast line with the Bay of Bengal in the east starting from Andhra Pradesh state in the north to the Indian Ocean in the south. Most of the districts are partially covered by the sea coast. Revenue Districts included in this region are Thiruvallur, Chennai, Kanchipuram, Villupuram, Cuddalore, Nagapattinam, Thiruvarur, Thanjavur, Pudukottai, Ramanathapuram, Tuthukudi, Thirunelveli and Kanyakumari. The union territory of Puducherry and its part Karaikal are also situated in the region. Table 4.8 shows the sthalavrikshas distribution in different zones. The distribution of *Aegle marmelos* is dominant in all zones.

Of the 323 temples surveyed in this region, 264 are Siva temples, 50 Vishnu temples and nine are other temples. Sthalavriksha species were absent in 54 temples. A total of 81 species of sthalavrikshas were recorded, among which Bengal Quince tree was recorded in maximum (n=75) number of temples. *Prosopis cineraria* (n =18), *Calophyllum inophyllum* (n=15) and *Madhuca longifolia* (n=13) are the other dominant sthalavrikshas. Major soil types in this region are sandy loam and red laterite. Shoreline that extends to a few kilometers inland is predominant by sandy soil. Further inside, red soil and soil with gravel are found. Soil types and surrounding environments are directly correlated with the sthalavriksha species of the locality. Two sub zones are recognized here. Along the coast line *Kandelia candel, Ipomoea pes-caprae, Calophyllum inophyllum, Excoecaria agallocha* and *Euphorbia nivulia* occurred. All these species are typical representation of sandy and alluvial soil. Away from the shore towards inland, *Andropogon* sp., *Imperata cylindrica, Cocos nucifera, Borassus flabellifer, Corypha umbraculifera, Jasminum* spp. and *Telosma minor* were recorded.

4.10.2 Sthalavrikshas Distribution in Central Plains

Several districts are situated away from the coast and some hillocks are located here. Districts located along the coastal zone are Thiruvallur, Vilupuram, Kanchipuram, Cuddalore, Thiruvarur, Thanjavur, Pudukottai, Thuthukudi, Thirunelveli and

Kanyakumari has also some inlands which form central plains. Districts completely land locked with other districts, are Vellore, Thiruvannamalai, Dharmapuri, Krishnagiri, Selam, Namakkal, Perambalur, Thiruchirapalli, Karur, Madurai, Erode and Sivagangai. Some districts occupies the major portion of central plains situated both Western Ghats region and Central plains zone, eg., Coimbatore, Dindigul, Theni, Virudunagar, Thirunelveli and Kanyakumari.

Red alluvial to black cotton soil in mid land and rocky shallow soil in central mountain highlands are common. Most of the temples surveyed (n=729), during the present study are located here. This includes 517 Siva, 163 Vishnu, 18 Amman, 26 Murugan temples and other deity temples. Among the 729 temples surveyed sthalavrikshas were found in 569 temples. A total of 87 sthalavriksha species were recorded here. *Aegle marmelos* is the most dominant sthalavriksha occurring in 240 temples, followed by *Prosopis cineraria* (n=49).

Mimusops elengi in 28 temples, followed by *Ficus religiosa* (n=17) and *Calophyllum inophyllum* (n=14) and *Cassia fistula* (n=12), are prominent sthalavrikshas here. Another important observation is the occurrence of six cultigens of *Musa paradisiaca* here. Six species of *Ficus* viz., *F. benghalensis, F. religiosa, F. racemosa, F. virens Ficus nervosa* and *Ficus mollis* sp were recorded in the region. While *Ziziphus mauritiana* was recorded in nine temples, *Crateva magna* and *Tamarindus indica* were recorded in seven temples. *Mangifera indica* is another predominant sthalavriksha here.

4.10.3 Sthalavrikshas Distribution in Western Ghats

Western Ghats with the northern starting point from Rann of Kutch in Gujarat and ends in Agasthiamalai of Kanyakumari District, Tamil Nadu. Certain districts are situated both in central plains and Western Ghats, and they are Kanyakumari, Thirunelveli, Virudunagar, Theni, Dindigul and Coimbatore. Sthalavriksha worship, is not popular in Nilagiri district which is predominated by tribal communities.

Several temples are situated on the hill tops as well as foothills of the Western Ghats. 'Ultisol' or soil with gravel is the major soil type in the region. A total of 114 temples were surveyed in this region, which included 67 Siva temples, 28 Vishnu temples, 16 Murugan and Three Amman temples. Sthalavrikshas were found in 87

temples *Aegle marmelos* is the prominent species (n=21). Sthalavrikshas were not found in 27 temples.

4.11 Rare and Interesting Sthalavriksha

The *Sthalapuranm* (Temple myth) of Kannayiranathar temple at Thirukarayil in Thiruvarur district mentioned Indian Eagle wood, (*Aquilaria agallocha*) as the sthalavriksha. This species is presently not available in the temple. The Wealth of India (1985) mentioned that this species is restricted to Northeastern India, Bhutan and Burma. The wood contains fragrant resins and it is commercially known as Agar which is a valuable product.

4.12 Endemic Species

Four endemic species are worshipped as sthalavriksha. *Artocarpus hirsutus* and *Strobilanthus kunthiana* both are endemic to the Western Ghats and they were recorded in the hill shrines of Thirunanthikarai and Kodaikkanal respectively. Two south Indian endemics namely, *Ochna obtusata* var. *gamblei* and *Tabernaemontana heyneana* is under worship in Thirupayaithangudi and Perambalur respectively.

4.13 Red listed Species

Several threatened species are worshipped as sthalavriksha. Most of the sthalapuranas (Temple myth) and sacred hymns referred the occurrence of these plants around the temple. Now, the plants are not found outside the temple premises. Chanthanam the 'Sandal wood' once commonly found in the dry deciduous forests has become rare. The tree has been indiscriminately exploited for its valuable wood. Very few matured plant are available in the protected areas. This species is found as sthalavriksha in four temples Srivanjiyam, Vallam, Injikkudi and Alagarkoil.

Saraca asoca is another threatened species which is worshipped as sthalavriksha in Karur. *Saraca asoca* has become rare in the wild and is included in the Red listed plants of southern India. Other interesting plants include *Cordia domestica* in Uthwedeswar temple at Uthalam. Other worth mentioning species include *Ochna obtusata* in Thirupayitrunathar temple at Thirupaithankudi *Stereospermum chelonoides* in Vallakottai Murugan temple.

4.14 Cultivar Species

Seven cultigens of *Musa* and a variety in *Ensete* of Musaceae are worshipped as sthalavrikshas. Most of these varieties are cultivated in Thiruchirapalli and Thanjavur

districts. Seed producing variety Gnilivazhai of Thirupaizhili and Amuthavazhai of Thirukalambur are available in the temples only. These two varieties are wild relatives of cultivated plants. Conservation of these germplasam is very essential to produce high yielding and disease resistant varieties (Table 4.9).

Table 4.9 **List of *Musa* and *Ensete* Cultigens Recorded as Sthalavrikshas**

No	Name of the Species	Varieties	Location where Present
I.1	*Musa paradisiaca*	Velvazhai/ Thenkadali	Thirudevur
2	*Musa paradisiaca*	Peyanvazhai	Thirumarugal
3	*Musa paradisiaca*	Sevvazhai	Thiruvellianthankudi Uthamarkoil
4	*Musa paradisiaca*	Karpuravalli	Thirupazhalanam
5	*Musa paradisiaca*	Poovan	Thirukazhukundram Melaisivapuri
6	*Musa paradisiaca*	Kalvazhai (Seed)	Thirupaizhili
7	*Musa paradisiaca*	Amuthuvazhai	Thirukalambur
II.2	*Ensete edule*	Monthanvazhai	Thirudarmapuram Madurai

4.15 Discussion

There is no previous record available on the association of animal life with sthalavrikshas. Neelanarayanan (2007) referred the nesting activities of Barn owls in six temples of Cauvery delta region. Of the 454 species of birds recorded in the state (Balasubramanian and Vijayan, 2004) 90 species could be recorded during the present study. Nesting of water birds in temple campus is an interesting observation. Occurrence of House sparrow and Pea fowl, that are declining in the wild had conservation implication. Temple acts as traditional granary for several centuries. Harvested grains and paddy straw of the temple lands are stored in the temples. These items form food and nesting materials to the birds.

During this study thirty seven species of butterflies were recorded in temple premises. Several sthalavriksha species referred to be the preferred larval food plants.

Pushparani ***et al*** (2004) recorded four species of bats in temples. The present study recorded six species in temples. *Bonnet macaques are* commonly sighted in many temples of Tamil Nadu but troops of Common langur are recorded in a few temples

only. Fruit bearing sthalavrikshas and other plants in the temple premises are utilized by birds and other animals. Reptiles take shelter in burrows and grooves of trees. Three stripped squirrels are the common arboreal animals that feed and nest on sthalavrikshas. The occurrence of Mongoose in the temple premises is a rare phenomenon. Other floras found inside the temple complex are either growing in inner corridors or found in temple garden. Coconut palms and Cape jasmine are most frequently available other floras in the temple. These plants provide nesting and foraging sites to several animals.

The concept of food cycle is maintained as the temple premises provide enough food and shelter to the hierarchy of fauna. The temple facilitates the animals and birds so that they need not go out of the premises in search of food and protection. Hence the temples serve as a micro habitat for these birds and animals, even though the temples are visited by large number of devotees.

Invariably *Aegle marmelos* is under worship in maximum number of temples in all the three regions. *A. marmelos* was found 75 temples in East Coast, 240 temples in Central Plains and 21 temples in the Western Ghats region, totaling 336 temples in the state. This was followed by *Prosopis cineraria*, occurring in 67 temples, 18 in East Coast and 49 in Centarl Plains. Sacred value of these species might have lead to the predominant occurrence in the state. Leaves of these plants are used as offerings to the deities, which are considered highly sacred.

In the temples of coastal zone sthalavrikshas are coastal species eg., *Kandelia candel* in Mahendirapalli, *Ipomoea pes-caprae* in Uvari, *Calophyllum inophyllum* in Mylapore and Mamallapuram. This reveals an exact picture of ancient coastal flora of Tamil Nadu. For instance Mahendirapalli is situated two kilometer away from the confluence point of river Kollidam with Bay of Bengal. Several islands were present in the region and once the entire area was occupied by mangrove vegetation. Now, the prawn growers modified the landscapes and the mangrove vegetation was removed, artificial ponds were created for prawn culture.

Lord Nataraja temple situated on the bank of the river Kollidam, horbour an interesting sthalavriksha species, called Blinding tree *Excoecaria agallocha*. *E. agallocha* a mangrove associate locally called 'Thillai' is a common species of this brackish water area. *E. agallocha* was also recorded as sthalavriksha in Thillaiyambalanathar temple at

Thillaivilkam in Thiruvarur district. The closest locality, where this species occur is Muthupet mangrove forest. Records also indicate that this species was the sthalavriksha in Navakodi Siddhar temple at Kodiakarai (Point Calimere), which is a mangrove locality.

Calophyllum inophyllum is another sthalavriksha species recorded in several coastal temples. These include the temples of Mylapore, Mamallapuram, Puducherry, Thiruvettakudi, Nagapattinam, Vedaranyam and Parakkai. *Tarenna asiatica* is the sthalavriksha in Kameswarar temple at Thiruvidaikazhi and Kodikuzhakar temple at Kodiakarai (Point Calimere). The sthalavriksha is presently found in Thiruvidaikzhali temple and the cyclone had uprooted the sthalavriksha found at Kodiakarai temple. In the Suyambulingam temple, Uvari (Tirunelveli), a creeper *Ipomoea pes-caprae* native to costal habitat is the sthalavriksha. *Actinopteris radiata* 'Kalpanai' a fern was recorded as sthalavriksha in Koilkannapur. Agar wood tree *Aquilaria agallocha,* once present in Thirukarayil temple, near Thiruvarur is not existing now, indicating local extinction.

Indian Laburnum, *Cassia fistula* was recorded in 22 temples. In the Central plains it was recorded in 14 temples, *Mimusops elengi* was recorded in 28 temples. In central plains *Santalum album* was recorded in one temple only.

In the Western Ghats, the *Ficus religiosa, Phyllanthus emblica, Syzygium cumini, Mangifera indica Santalum album, Canthium parviflorum, Albizia amara, Prosopis cineraria, Ficus benghalensis* and *Azadirachta indica* were recorded as sthalavrikshas at the temples located in the foothills. In mid altitude *Artocarpus hirsutus, Pterocarpus marsupium, Michelia champaca* and *Schleichera oleosa* were recorded. Matthew ***et al*** (1983) referred *Artocarpus hirsutus* is a highly exploited endemic tree of Western Ghats. In higher altitude, *Magnolia grandiflora, Strobilanthus kunthiana* and *Dalbergia latifolia* were recorded.

Chapter -V

MYTHS AND BELIEFS ASSOCIATED WITH STHALAVRIKSHA WORSHIP

5.1 Introduction

The practice of worshipping Sthalavrikshas in temples of Tamil Nadu is mostly derived from myths and beliefs of the devotees. Sthalapuranas (Temple myth) quotes the stories of Asuras (demon), Devas (demi-God), Rishis (saints) and Kings who got rid off all the karmas (deeds done during previous birth), sin, diseases and dhoshams (ill effect) by worshipping the Deity and performing rituals to the associated sthalavriksha.

Shaivam, strictly follow sthalavriksha worship practice, even today in Tamil Nadu. In other sects such as *Vaishnavam, Saktham, Kowmaram,* and *Ganapathiam,* the sthalavriksha worship is normally not followed.

5.2 Myths and Beliefs

During the field survey, several rituals and beliefs associated with sthalavriksha worship were recorded. Normally devotees follow the sthalavriksha worship as advised by the astrologers and temple priests. Astrology plays a key role in sthalavriksha worship. After analyzing an individual's horoscope (*Jathaka*), the astrologer prescribes remedies for their problems. For example, devotees with unsolved problem are advised to visit to a particular temple according to the individual's zodiac sign and perform rituals to the Deity and to the sthalavriksha. Some specific examples of worships associated with sthalavrikshas are described below.

5.2.1 Timely Marriage

The youth among devotees observe this practice as per the direction of their parents and family astrologer. Spinsters worship sthalavrikshas to get suitable alliance. Generally they walk around the sthalavriksha thrice and tie a thread dipped in turmeric paste around the trunk of the sthalavriksha. This practice is a precursor that reflects the holy '*Thali*' tied at the time of wedding on the bride's neck by the bridegroom. They also smear turmeric paste on the tree trunk. Turmeric not only acts as an auspicious symbol, but also has antiseptic properties (Plate X-A).

Plate X- Beliefs associated with Sthalavriksha worship

Worship for timely marriage
A. *C. inophyllum*, Mylapore

Ritual for Thirumandhosam
B. *M. paradisiaca*, Thirupaizhili

Offerings for childbirth
C. *P. cineraria*, Mecheri

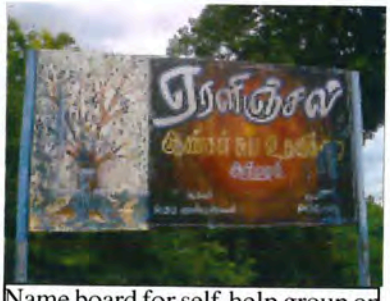
Worship for good boons
D. *N. arbor-tristis*, Thirthamalai

Visiting cards tie for business
E. *A. leucophloea*, Thiruverkadu

Naga stones worship
F. *F. religiosa*, Sathur

Devotees offering for wealth
G. *A. salvifolium*, Arimazham

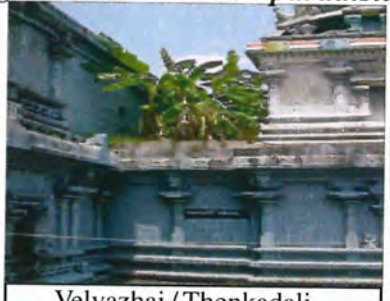
Relief from Pithurdhosam
H. *A. marmelos*, Nagar



Name board for self-help group or
G. *A. salvifolium*, Arimazham

Worshipping varieties of *Musa paradisiaca* in Temples

Amuthuvazhai
G. Thirukalambur



Velvazhai / Thenkadali
H. Thirudevur

Peyanvazhai
J. Thirumarugal

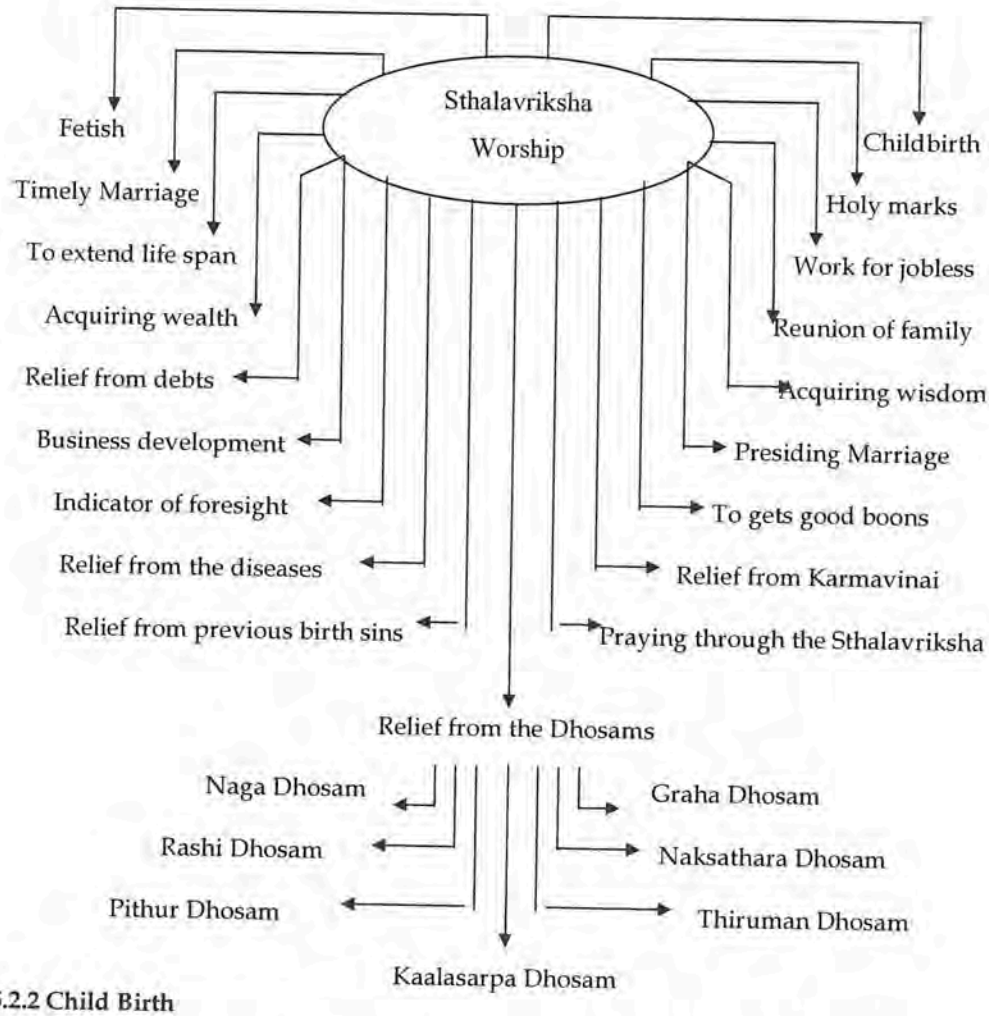
Poovan
K. Thirukazhukundram

Sevvazhai
L. Thiruvelliyathankudi

Kalvazhai
M. Thirupaizhili

Religious Beliefs associated with Sthalavrikshas worship

Figure 5.1



5.2.2 Child Birth

Married women believe that the worship of the deity in the temple and performing rituals to the sthalavriksha would bestow safe delivery of child. A cradle made out of small piece of cloth and tied on a branch of a sthalavriksha. A small stone or a banana equally reflecting a kid or new born baby is kept in the cradle. The women folk follow this practice in almost all the temples (Plate X-C).

5.2.3 Relief from Diseases

People believe that worship of sthalavriksha would offer early relief from their diseases. They believe this worship would offer boon for a sound health. Sthalavriksha plants are also used for the medicinal purpose to cure diseases. Plant parts such as leaves, barks, flowers and seed are used to treat ailments. In some temples *Theertham*, (holy water) is offered to the devotees as *Prasatham* (Holy food offering made to the deity after worship distributed to the devotees) of the Deity, which contains leaves of sacred basil (*Ocimum tenuiflorum*), seeds of Cardamom (*Elettaria cardamomum*), raw camphor and water from temple well or tank. In many temples, *Theertham* also contains the leaves of the sthalavrikshas and it is presumed that, if consumed, the medicinal property of the sthalavriksha cure the ailments of devotees.

5.2.4 Extension of Life Span

Worship of sthalavriksha is believed to extend the life span of people. For example the sthalavriksha tree *Artocarpus heterophyllus* in Thirumangalam temple in Thiruchirapalli is worshipped for this purpose. According to a temple legend sthalavriksha worship would increase longevity of a person.

5.2.5 Holy Mark

The leaves of the sthalavrikshas act as identification marks for the holiness. In the hill shrine, Palani *'Thaipusam'* (a festival celebrated in Muruga temples at post harvest period) is celebrated annually with religious customs. Devotees carry *'Theertha kavadi'* (holy water carried by devotees on their shoulders) to fulfill their vows. At Kodumudi temple a very old Indian Mesquit tree (*Prosopis cineraria*) is the sthalavriksha and the priests put some leaves of the sthalavriksha into the holy water container after performing rituals. Priests of Lord Muruga temple at Palani accept the *'Theertha kavadi'* only when they contain 'Indian Mesquit' leaves to perform *Abishegam* (holy dip to the Deity) to Lord Muruga. The anti-microbial property of the leaves is presumed to protect their feet during *Pathayathra* (bare foot journey to the temple).

5.2.6 Relief from Debts

In Thiruvadanai (Ramanathapuram district) Shiva temple, priests offer a small quantity of soil paste to the devotees, which are collected beneath the sthalavriksha *Aegle marmelos*. Devotees are advised to consume the holy soil paste to get relief from their debts.

5.2.7 Acquiring Wealth

In some temples devotees believe that keeping the dry parts of sthalavriksha plants in their safety lockers would bring good wealth to their family. In the Pazhamalai Nathar temple in Viruthachalam, devotees gather withered leaves and bark of sthalavriksha plant, the Indian Mesquit and store them in their lockers.

5.2.8 Acquiring Wisdom

In Kailasanathar temple at Thidiyan in Madurai district, where Soap nut tree *Lepisanthes tetraphylla* is the sthalavriksha, devotees perform meditation under the tree. They believe that worshiping the tree and undergoing meditation beneath the tree would bring wisdom. A large platform is made under the tree for the benefit of the devotees.

5.2.9 Reunion of Family

At Muktheeswarar temple in Madurai a dried Bengal quince *Aegle marmelos* stump is worshipped. Devotees perform lot of rituals to the sthalavriksha for the reunion of divided family (husband and wife). They believe circling the tree thrice and lighting a lamp for a *Mandalam* (48 days) starting from a new moon day would result in the reunion of family members. Although sthalavriksha is represented by stump only, the worship practice is still followed with devotion and faith.

5.2.10 Work for the Jobless

At Muktheeswarar temple, devotees seeking job, follow the above worshipping practice for better livelihood. Students also follow this worship practice for good performance in their examinations.

5.2.11 Good Boons

Normally young students follow this practice. They water the sthalavrikshas and circle the deity for scoring higher marks in the examinations. Evolution of this practice now followed as worship of Lord Vinayaga under the Peepal tree *Ficus religiosa* with main offerings of Hariyali grass *Cynodon dactylon* and Coconut palm *Cocos nucifera* nuts.

5.2.12 Relief from Karmavinai

In Tamil Nadu, people believe that a person's life during this birth is determined based on the deeds done by him or her during the previous birth. This is termed as *Karmavinai*. People consider temple to be the last asylum to get relief from *Karmavinai*.

For example, in cases where doctors express their inability to save the life of a person, astrologers advise the ailing person to go to a particular temple and worship the sthalavriksha (Plate XI-A).

5.2.13 Praying through the Sthalavrikshas

In some temples the researcher observed that the prayer slips in which sacred chants are written and tied to the sthalavriksha plants. eg., Navakodi Narayana Perumal temple at Othakkalmandapm, Coimbatore district, devotees tie paper slips containing their demands and sacred mantras at the branches of *Dichrostachys cinerea*, sthalavriksha. Devotees believe that their prayers would be accepted and the desired boons would be bestowed by the Almighty, as it is conveyed through the sthalavriksha, the sacred plant.

5.2.14 Business Development

White babool *Acacia leucophloea* is the sthalavriksha in Thiruverkadu Vedapuriswarar temple, Chennai. The devotees tie their business visiting cards on the tree trunk and worship the tree for better business prospects. This is a newly evolved belief among the business community (Plate X-E).

5.2.15 Presiding Marriages

Sthalavriksha plant is venerated and treated as a presiding factor for the marriages in Thiruvallur district. The village folk collect a twig of the sthalavriksha Indian Ape flower *Manilkara hexandra* and tie the twig in the *Manavarai* (Separate doctrine in marriage hall) before marriage and sthalavriksha is treated as a witness to the marriage.

5.2.16 Relief from Previous Birth Sins

Some Astrologers advice the devotees to worship the sthalavriksha Golden Blossomed Pear tree *Ochna obtusata* and offer the flowers to the prime deity in Thirupayithankudi temple near Thiruvarur. Devotees believe that the worship would redeem the sins done during the previous birth. To perform this worship devotees have to wait for the blooming season (April, May) of this species. It is an age-old practice, where only sthalavriksha flowers are accepted as offerings to the deity. In this locality *Ochna obtusata* tree is found only inside the temple.

5.2.17 Fetish

Devotees in Thiyagesar temple at Thiruvarur and Vedagiriswarar temple at Thiruverkadu, collect the withered leaves and sticks of the sthalavriksha and fasten it at the entrance of their houses, which acts as Talisman or Fetish. It is believed that the plant parts possess divine power, which can guard their homes against the attack of evil spirits, evil eye and brings prosperity to their families. The sthalavriksha of the Thiyagesar temple at Thiruvarur is fragrant trumpet flower *Stereospermum chelonoides*. White babool *Acacia leucophloea* is sthalavriksha in Vedagiriswarar temple at Thiruverkadu. The temple priests use plant parts of the species for rituals to lit holy fire, or *Yhaga*.

5.2.18 Relief from the Dhosams

Dhosam is a Sanskrit word, which means 'ill effect' and the affected people worship the sthalavrikshas to get rid off the ill effects. As per Hindu Astrology each Graha (planet), Zodiac and birth star has its own favorite plant. Most of these plants are regularly worshipped and nourished in the form of sthalavrikshas. Normally astrologers guide the ill-fated persons, affected by the transit of major planets from one zodiac to another, to worship a sacred plant at a particular temple and carry out some rituals. It is believed that, if the person performs these rituals, he will get relief from his miseries.

5.2.19 Thirumana Dhosam

Thirumana dhosam is another kind of ill effect, which affects spinsters and bachelors. Due to this dhosam their marriage would get postponed or unduly delayed. As per astrologer's advice, the affected girl or boy has to perform rituals i.e. tie a sacred Thread (Thali) to the Plantain tree *Musa paradisiaca*. The tree and the ritual are very popular in the Thirupaigizhi temple and it is a seed yielding Plantain tree (Plate X-B). This type of ritual performed in Lord Bhramma's temple in Thirukandiyur.

5.2.20 Naga Dhosam

Sathurappan temple at Sathur, Viruthunagar district under the Peepal (*Ficus religiosa*), several snake curved stones is installed. The belief is that if any person had killed a snake or spoiled the snake dwelling places, with or without his knowledge has to face serpentine dhosam (curse of Serpentine). To remove this, the ill-fated person has to circle the tree for nine or one hundred and eight times, worship the tree and Monkey

headed God (*Hanuman*) (Plate X-F). Usually this ritual would be carried out during the dusk of last Tuesday of every Tamil month.

5.2.21 Kalasarpha Dhosam

It is believed in Hindu Astrology that *Ragu* (Moon's Ascending Node) and *Kethu* (Dragon's Descending Node) are the snakes. In the Zodiac chart of one's horoscope, if all the planets are locked between *Rahu* and *Kethu* it is called Kalasarpha dhosam (ill effects of time and snakes). The affected person has to perform pooja (rituals) and worship the sthalavriksha of *Rahu* temple at Thirunageswaram or *Kethu* temple at Keelaperumpallam or at Kalahasthi (Thirupathi). Devotees believe that these worships would remove all the ill effects of Kalasarpha dhosam.

5.2.22 Pithru Dhosam

If a person has not performed *Thithi* (last ritual offered to the deceased ancestors) the living family member in the genealogy would be affected by *Pithru dosham* (ill effects caused by dead souls). The future generation would be affected by the *Pithru dosham*. In Apparadeeswarar temple at Nagar (Thiruchirapalli district) a huge Bengal quince *Aegle marmelos* tree is worshipped by the affected persons; a *Dhothi* (traditional men's wear) offered to the tree to ward off *Pithru dhosam* (Plate X-H).

5.3 Birth Stars and Sthalavrikshas

In Astrology, *Birth Star* plays an important role in the personal life and developments of the believers. *Birth Stars* are assigned to a person based on his/her date and time of birth. Horoscope (*Jathaga*) of a person is calculated based on birth time and birth star. Each *Birth Star* has its related plant and the person with a particular birth star has to worship that particular plant for prosperity. The list of 27 Birth Stars and the names of associated plant species are given in Table 5.1.

Table 5.1 **Birth stars and their associated plants**

S.No.	Star	Tamil name	Botanical name
1	Asvni	Etti	*Strychnos nux-vomica*
2	Barani	Nelli	*Phyllanthus emblica*
3	Karthikai	Aathi	*Ficus racemosa*
4	Rohini	Naval	*Syzygium cumini*
5	Mirugaseerisam	Karungali	*Diospyros ebenum*
6	Thiruvathirai	Sengkarungali	*Pterocarpus santalinus*
7	Punarpusam	Moongil	*Bambusa arundinacea*
8	Pusam	Arasu	*Ficus religiosa*

9	Ayilyam	Punnai	*Calopyllum inophyllum*
10	Maham	Aal	*Ficus benghalensis*
11	Puram	Palasu	*Butea monosperma*
12	Utthiram	Arali	*Nerium oleander*
13	Astham	Aathi	*Bauhinia racemosa*
14	Chithirai	Vilvam	*Aegle marmelos*
15	Swathi	Marutham	*Terminalia arjuna*
16	Visagam	Vila	*Limonia acidissima*
17	Anusham	Mahizham	*Minusops elengi*
18	Kettai	Paraai	*Streblus asper*
19	Moolam	Mra	*Barringtonia recemosa*
20	Pooradam	Vanji	*Salix tetrasperma*
21	Uthiradam	Pala	*Artocarpus heterophyllus*
22	Thiruvonam	Erukku	*Calotropis gigantea*
23	Avittam	Vanni	*Propsopis cineraria*
24	Sadhayam	Kadambu	*Neolamarckia cadamba*
25	Poorattathi	Ma	*Mangifera indica*
26	Uthirattathi	Vembu	*Azadirachta indica*
27	Revathi	Iluppai	*Madhuca longifolia*

5.4 Planets and Sthalavrikshas

In Hindu astrology Nine Planets (*Navagrahas*) popularly known as *Grahas* (House or Abode) play a vital role in ones horoscope, by way of determining one's fate. In Tamil Nadu, in almost all temples, *Navagrahas* have been allotted a *Sannithi* (separate sanctorum under a tower) at the northeastern corner of the temple. The Astrology linked each *Navagraha* with a plant, flower, colour, lingam, shape, language, caste, character, disease, gem, cereal, *vahana* (vehicle), sense, metal, deity, cloth, direction and temple. Any person having *Navagraha Dhosham* in his horoscope has to visit his particular *Navagraha* temple and worship the deity with the *Graha's* favorite flower. If such person fails to perform any of the remedial rituals, he might have to suffer from poverty, disease and at times have to face death.

5.4.1 Planets and their Associated Plants

The associated plants of Navagraha (Nine planets) are worshipped in the temple, in the name of sthalavriksha, are given below (Table 5.2).

Table 5.2 **Planets and their Associated Plants**

Planets (Tamil)	Planet name	Associated plant	
		Botanical name	**Vernacular name**
Surian	Sun	*Calotropis procera*	Yerukku
Chandiran	Moon	*Erythrina indica*	Murukku
Sevvai	Mars	*Diospyros ebenum*	Karungali
Buthan	Mercury	*Achyranthes aspera*	Nayuruvi
Viyazhan	Jupiter	*Ficus religiosa*	Arasu
Velli	Venus	*Bauhinia racemosa*	Aathi
Sani	Saturn	*Prosopis cineraria*	Vanni
Raghu	Moon's Ascending Node	*Cynodon dactylon*	Arugu
Kethu	Dragon's Descending Node	*Imperata cylindrica*	Dharppai

5.4.2 Planets and their Associated Flowers

The flowers associated with planets are considered to be sacred and they are used for *Navagraha* worship, especially at the time of *Grahapeyarchi* (Planets transiting to Zodiac). Normally these plants are sold at the temple entrance during the time of Zodiac transit. Several lakhs of devotees visit the temples during the transit of Guru (Jupiter) and Sani (Saturn) (Table 5.3).

Table 5.3 **Planets and their Associated Flowers**

Planets (Tamil)	Planets	Favorite flower	
		Botanical Name	**Vernacular Name**
Soorian	Sun	*Nelumbo nucifera*	Senthamarai
Chandiran	Moon	*Nymphaea pubescens*	Vellaialli
Sevvai	Mars	*Michelia champaca*	Cenbagam
Buthan	Mercury	*Gloriosa superba*	Kanthal
Viyazhan	Jupiter	*Jasminum auriculatum*	Mullai
Velli	Venus	*Nelumbo nucifera*	Venthamarai
Sani	Saturn	*Clitoria ternatea*	Karunkuvalai
Raghu	Moon's Ascending Node	*Bauhinia purpurea*	Mantharai
Kethu	Dragon's Descending Node	*Nymphaea pubescens*	Sevalli

5.5 Sthalavrikshas and Zodiac

Zodiac or *Rasimandalam* are equally important as *Navagraha* in Hindu Astrology. Twelve *Rasis* and its yield are calculated according to ones birth time and birth star. One Graha rules each *Rasi* and each *Rasi* has its related sacred plant. Worshiping these sacred plants at temples nurtured as sthalavriksha is believed to redeem a persons *Dhosam* or ill effect specifically at the time of *Grahapeyarchi* (Planets changing its Zodiac). People

believe that worshiping the sthalavrikshas would bestow timely marriage, good health and boons. As per Astrology *Birth star, Rasi, Grahas* and *Lagnam* (a day or 24 hours divided into 27 divisions based on this time *lagnam* calculated) are interconnected and *Jathaha* (Horoscope) is calculated based on these factors (Table 5.4).

Table 5.4 **Zodiacs and their Associated Plant Species as per the Astrologer's Chart**

MEENAM (PISCES) AAL *Ficus benghalensis*	**MESHAM** (ARIES) SENCHANTHANAM *Pterocarpus santalinus*	**RISHABHAM** (TAURUS) YELILAIPALAI *Alstonia scholaris*	**MITHUNAM** (GEMINI) PALA *Artocarpus heterophyllus*
KUMBAM (AQUARIUS) VANNI *Prosopis cineraria*	**RASI MANDALA (ZODIAC) PLANTS**		**KATAKAM** (CANCER) PALASU *Butea monosperma*
MAKARAM (CAPRICORN) EETTI *Dalbergia latifolia*			**SIMMAM** (LEO) PATHIRAI *Stereospermum chelonoides*
DHANUSU (SAGITTARIUS) ARASU *Ficus religiosa*	**VRUCHIGAM** (SCORPIO) KARUNGALI *Diospyros ebenum*	**THULAM** (LIBRA) MAHIZHAM *Mimusops elengi*	**KANNI** (VIRGO) MAA *Mangifera indica*

5.6 The Influence of Sthalavrikshas in Tamil Culture

In Tamil Nadu, sthalavriksha worship percolated into the social, political, ecological and religious life of people. The evolution of this practice continues till date in various manners. Here the researcher attempts to explore this immense heritage practice in different social setups, being followed through ages. For example, the practice of naming places, deities and people, is derived from the name of sthalavrikshas.

Many Tamil scholars have undergone research on the origin of place names in connection with *Sangam* Tamil literature, inscriptions, plates, plants, and animals. Whereas specific study on the relationship between places names of temple towns, deities and sthalavrikshas is not available. But most of the researchers quote that place names have association with plants. To bridge the gap, the present study attempts to find out the role of sthalavriksha in place names, Deity names and name of people.

The naming practice dates back to time immemorial. When human beings start migrating from place to place, the need of identifying the places arises. This requirement triggered them to confer some appropriate nomenclature to the places, where they spread. Cosmopolitan distributions of plants satisfied their above requirement. Ancient people were fascinated by the plants and created an easy identification marks, based on plants (especially on trees). Plants are immovable landmarks and their numbers have been countless. Huge trees might have been a prime attraction of primitive people. These factors might have led to the coining of plant-based names.

5.7 Role of Sthalavrikshas in Coining the Place Names

In olden days, nature played a vital role in selecting names of new villages or towns. While selecting a name for a settlement, the mountain, rock, plant, animal, river, pond, king or warrior, prominent of that locality was taken into consideration. In Tamil Nadu, most of the villages and towns were named after plants and other forms of nature. Generally prominent plant species or flora present around a settlement was taken for naming the locality. Present day temple towns are the exact example for this hypothesis. Since temples are situated at the center of the town and temple car streets encircle the four directions (East, West, South and North) where the temple cars run with *Urchavar* (Idol meant for holy procession). This practice is still followed in most of the towns. Many temple towns were named after the sthalavriksha plants. This association, between the plant and the place names seems to have originated either by the abundance of a particular plant species in the town or village or presence of the prime deity beneath that particular plant species. A total of 40 town names are found to be originated from plant names (Table 5.5).

Table 5. 5 **Sthalavrikshas and place names - A comparison**

S. No.	Plant Name Tamil	Botanical Name	Place
1	Aal	*Ficus benghalensis*	Thiruvalankadu Anbilalanthurai Kilpaluvur
2	Arasu	*Ficus religiosa*	Thiruarasili
3	Amanaku	*Ricinus communis*	Kottaiyur
4	Elangi	*Mimusops elengi*	Elangi
5	Iluppai	*Madhuca longifolia*	Irumbaimahalam Iluppaipattu
6	Kadampu	*Neolamarckiacadamba*	Thirukadabanthurai (Kulithalai) Melakadambur
7	Karai	*Canthium parviflorum*	Kachinerikaraikadu Karamadai
8	Kalli	*Euphorbia nivulia*	Thirukallil
9	Arali	*Nerium oleander*	Karaveeram
10	Kurunthai	*Atalantia racemosa*	Kurunthamalai
11	Maa	*Mangifera indica*	Thirumanthurai
12	Maruthu	*Terminalia arjuna*	Thiruvidaimaruthur Thirupudaimaruthur Maruthamalai Pariyamaruthupatti
13	Mullai	*Jasminum auriculatum*	Thenthirumullaivayil
14	Mullai	*Jasminum cuspidatum*	Vadathirumullaivayil
15	Mungil	*Bambusa arundinacea*	Thirupasur Thiruvetkalam
16	Naval	*Syzygium cumini*	Thirunavalur
17	Nelli	*Phyllanthus emblica*	Thirunellica
18	Painjai	*Rhynchospora corymbosa*	Thirusaikadu
19	Palai	*Manilkara hexandra*	Thirupalaivanam Thirupalaithurai
20	Panai	*Borassus flabellifer*	Thirupanankadu Thirupanathal Thirupanaiyur Thirupanaiyur
21	Parai	*Streblus asper*	Thiruparaithurai
22	Pathiri	*Stereospermum coalis*	Thirupathiripuliyur
23	Poolaipoo	*Aerva lanata*	Thiruirmpoolai
24	Pungan	*Pongamia pinnata*	Thirupungur
25	Purasu	*Butea monosperma*	Purasaivakkam

26	Puli	*Tamarindus indica*	Puliyarai Thindivanam
27	Thandri	*Terminalia bellirica*	Thandriswararm
28	Thakkolam	*Piper longum*	Thakkolam
29	Thennai	*Cocos nucifera*	Thiruthengur
30	Thillai	*Excoecaria agallocha*	Thillai(Chidambaram) Thillaivilakam
31	Uthalam	*Cordia domestica*	Kuthalam
32	Vazhai	*Musa paradisiaca*	Thirupalanam Thirumarugal Thirupainzhili
33	Vanni	*Prosopis cineraria*	Vanniyur
34	Velamaram	*Acacia leucophloea*	Thiruverkadu
35	Vellerukku	*Calotropis procera*	Erukathampuliyur
36	Venni	*Tabernaemontana divaricata*	Koilvenni
37	Vihzi	*Cadaba fruticosa*	Thiruvilimilizhlai
38	Vilal	*Andropogon* sp.	Thiruvilanagar
39	Vilvam	*Aegle marmelos*	Melvilvarayanallur
40	Virali	*Dodonaea viscosa*	Viralikadu

Four places are named after *Borrasus flabellifer* and *Terminalia arjuna* and three places after *Ficus benghalensis* and *Musa paradisica*. Borrasus palm is slow growing and drought prone monocotyledon tree and it is distributed from eastern seashore to western foothills in the state and it has been declared as the state tree of Tamil Nadu. This plant is found in almost all the districts in the state except the hill stations 1000 meters above msl. *Terminalia arjuna* is usually found along the streams and river beds in the Western Ghats. *Ficus benghalensis* commonly found throughout the state. Banana plant (*Musa paradisiaca*) worshipped in three places, are represented by three different varieties.

5.8 Role of Sthalavrikshas in Naming the Deity

Sthalavrikshas not only play a prominent role in naming the temple towns, but also contributes to determine the name of the Deities. In the temples of Tamil Nadu names of deities are closely related to the sthalavriksha of the temple. This may be due to the myth associated with the flora, quoted in the *sthalapurana* of the local region. Name of the deity plays an important role in the cultural heritage of Tamils. Both in the past and present, children are named after these deities. Thus, sthalavriksha practice has

created a significant impact on the Tamil culture and social life. The deity names associated with sthalavriksha are referred below (Table 5.6).

Table 5.6 **List of Deity Names Represented the Sthalavriksha**

S No	Plant Name Tamil	Botanical Name	Deity Name	Place
1	Aal	*Ficus benghalensis*	Alanduraiyar Vadavaranyawesvarar Alanduraiyar Vadamulewarar Vadavaranyaveswarar Vadathithanathar	Anbilalanthurai Thiruvalankadu Kilpaluvur Thirupaluvur Thiruvalankadu Anthanallur
2	Arasu	*Ficus religiosa*	Thiruarsilinathar	Thiruarasili
3	Amanaku	*Ricinus communis*	Kottiswarar	Kottaiyur
4	Dharuppai	*Imperata cylindrica*	Dharparanyeswarar	Thirunallar
5	Kadampu	*Neolamarkia cadamba*	Kadambavaneswarar	Thirukadabanthurai (Kulithalai)
6	Karai	*Canthium parviflorum*	Karaithirunathar	Kachinerikaraikadu
7	Kalli	*Euphorbia nivulia*	Kalliswarar	Thirukallil
8	Karaveeram	*Nerium oleander*	Karaveeranathar	Karaveeram
9	Maa	*Mangifera indica*	Aamravaneswarar Ekambaranathar Aampirainathar	Thirumanthurai Kanchipuram Alandurai
10	Madavi	*Hiptage benghalensis*	Madavivanwesvarar	Thirumuruganpoondi
11	Mahizham	*Mimusops elengi*	Mahizhavawesvarar Ilangikumaran	Thirukokarnam Ilangi
12	Maruthu	*Terminalia arjuna*	Maruthasalamurthy Pariyamarutheeswarar Marutheswarar Marutheeswarar	Maruthamalai Pariyamaruthupatti Edaiyaru Pillayarpatti
13	Mullai	*Jasminum auriculatum*	Mullaivananathar	Thenthirumullaivayil
14	Mullai	*Jasminum cuspidatum*	Mullaivananathar	Vadathirumullaivayil
15	Mungil	*Bambusa arundinacea*	Thirupasunathar Pasupadeswarar Venupuriswarar Venuvananathar	Thirupasur Thiruvetkalam Thiruvennainallur Tirunelveli
16	Naval	*Syzygium cumini*	Navaleswarar Jambukeswarar	Thirunavalur Thiruvanaikaval
17	Nelli	*Phyllanthus emblica*	Nellivaneswarar Karunellinathar	Thirunellica Thiruthangal
18	Painjai	*Rhynchospora corymbosa*	Sayavanaeswarar	Thirusaikadu
19	Palai	*Manilkara hexandra*	Palaieswarar Palaivananathar	Thirupalaivanam Thirupalaithurai
20	Panai	*Borassus flabellifer*	Thalapuriswarar Panakattiswarar	Thirupanankadu Thirupanaiyur

21	Parai	*Streblus asper*	Paraithurainathar	Thiruparaithurai
22	Pathiri	*Stereospermum chelonoides*	Padaleswarar Padaleeswarar	Thirupathiripuliyur Bhrammadesam
23	Pavalamalli	*Nyctanthus arbor-tristis*	Parijathavaneswarar	Thirukalar
24	Poola	*Securinega leucopyrus*	Poolanandeeswarar	Chinnamanur
25	Pala	*Artocarpus heterophyllus*	Kurumpalaesar	Courtalam
26	Puli	*Tamarindus indica*	Thindiriniswarar	Thindivanam
27	Sambangi	*Telosma minor*	Sambangipitchadanar	Aarani
28	Thillai	*Excoecaria agallocha*	Thillaiambalanathar	Thillaivilagam
29	Uthalam	*Cordia domestica*	Uthvedeeswarar	Kuthalam
30	Vazhai	*Musa paradisiaca*	Kadalivaneswarar Gzhivaneswarar	Thirudevur Thirupainzhili
31	Vihzi	*Cadaba fruiticosa*	Veezhinathar	Thiruvilimilizhlai
32	Vilal	*Andropogon* sp.	Usiravaneswarar	Thiruvilanagar
33	Vilvam	*Aegle marmelos*	Vilvavanathar Vilvavanathar Vilvavanathar	Kadayam Pathamadai Thiruvalam

Majority of these Deity names indicate sthalavriksha's Tamil name and some are in Sanskrit term.

Table 5.7 **Dominant Sthalavriksha Species Determined by Deity Names**

Name of the plant species			Name of the Deity	No. of Places
No.	Tamil name	Botanical name		
1	Aal	*Ficus benghalensis*	Alanduraiyar Vadavaranyawesvarar Alanduraiyar Vadamulewarar Vadavaranyaveswarar Vadathithanathar	6
2	Maruthu	*Terminalia arjuna*	Maruthasalamurthy Pariyamarutheeswarar Marutheswarar Marutheeswarar	4
3	Moongil	*Bambusa arundinacea*	Thirupasunathar Pasupadeswarar Venupuriswarar Venuvananathar	4
4	Maa	*Mangifera indica*	Aamravaneswarar Ekambaranathar Aampirainathar	3
5	Vilvam	*Aegle marmelos*	Vilvavanathar Vilvavanathar Vilvavanathar	3

Ficus benghalensis has been recorded in six temples and it is the dominant sthalavriksha followed by *Terminalia arjuna* and *Bambusa arundinacea* in four temples. *Mangifera indica* and *Aegle marmelos* are represented in three deity names.

5.9 Influence of Sthalavriksha in Naming Practice of People

Maruthamalai is a famous hill shrine in Coimbatore district and Lord Muruga is the prime deity of the temple. In this temple Lord Muruga is called after the name of the sthalavriksha plant Marutham (*Terminalia arjuna*) i.e. 'Maruthasalamurthy'. Numerous villages situated around Coimbatore city and Lord Muruga is the favorite deity of these villagers. These devotees, till early 20th century, followed a traditional naming practice and ceremony to their wards. If a child is born after praying to Lord Muruga (Maruthasalamurthy) of the Maruthamalai, the child would be named after the deity (normally the first child). The naming ceremony was performed as a ritual at Maruthamalai under the tree *T. arjuna*. If it is male child, Maruthasalamurthy, Maruthai, Maruthachalam, Maruthamuthu, Maruthukutty or Maruthan and similar to any one of these name were first declared by maternal uncle of the baby. If the baby is female Maruthaai, Maruthi, Maruthatha or Maruthayammal or similar names would be proposed. This is a classical case history of sthalavriksha's role in the civil society of the region.

5.10 Sthalavriksha Worship in Day-to-day Life

Government of Tamil Nadu has recently recognized a new welfare scheme known as 'Self Help Groups' to uplift the rural poor. Under this scheme, unemployed men and women form their own small groups. A separate name is selected to each self help group, and the names include popular flowers, celestial bodies and national leaders.

In Vilangiamman temple, Pudukottai, '*Alangium salvifolium*' is the sthalavriksha. Local people call this tree as "Yerualingil" based on the temple myth. The popular belief is that its fruits after falling down would fly and fix at the same tree stems. Hence, it is considered as a remarkable tree of the region. In this village a male self-help group is named after this tree (Plate X-G).

5.11 Discussion

Astrologers recommend the devotees to worship the associated plants of Ghraha, Rasi and birth star. As the public would find it difficult to identify these plants in the wild, the plant species have been grown in the temples, as sthalavrikshas. Ancient saints might have thought that the temple campus would be the most ideal place to nurse all these plants for worship. Therapeutic value of the plants is another possible reason for the evolution of the sthalavriksha worship practice. In temples, after completing the rituals, a small portion of offering would be given to the devotees as *Prasatham*. Normally these offerings include leaves, flowers or other parts of sthalavriksha plants. People believe that consuming the holy *Prasatham* would cure the ailments.

Nowadays media popularise astrology in a significant way. 'Astrology column' in local dailies, weeklies and monthlies recommend their readers to perform rituals at various temples. The morning programmes in satellite televisions commence with astrological predictions. Astrology plays a vital role in continuing the sthalavriksha worship practice. Though people of Tamil Nadu adapt the modern technologies and inventions, their mind set on astrology and orthodox beliefs still exists. Thus the beliefs associated with sthalavrikshas ultimately lead to the conservation of plant biodiversity in the state.

Chandrasekaran (1983) mentions some connection of sthalavrikshas with place names. Job Thomas of Davidson University gave the analogy as that plant species are 'indicator species' of the places in Tamil Nadu. Hay-Edie and Hadley (1998) referred that Ramakrishna's words on these indicator species are called 'Marker species' and the sites as social 'Key-stone' symbols of locality. Bhagavathi (1984) quoted that *Sangam* Tamil literature tell us the ancient place names in Tamil country. He mentioned especially Vanji, Kachi, Korukkai and Yehzil are plant based names. Sethupillai (1946), mention that the sthalavrikshas play a major role in place names. Aravanan (1984) discuss the connections between place names and sthalavrikshas. Sundarasobitharaj (1994) mentioned 32 places are named after sthalavrikshas. Alavanthar (1983, 1984) mentioned that Thirumarugal, was named after the sthalavriksha species *Musa paradisiaca* (*Marugal* means Banana plant). The fruit of this species is offered to the deity of the temple. Chandrasekaran (1983) classified plant based name of the places in

Thanjavur district into two types. In the first type, a place was called based on the abundance of the major plant (mostly trees) species present in the locality. Secondly the occurrence of a particular sthalavriksha species in the temple was the basic reason for naming the place or towns i.e. Yettikudi, Karaveeram, Thiruppungur, Kottayur, Thiruvidaimaruthur. Bhagavathi (1991) analyzed place names in both Tamil Nadu and Sri Lanka and observed that plant based place names are also found in Sri Lanka, to a lesser extent. Of the 112 sthalavriksha species recorded during the present study, 40 species have association with temple town names. This figure was arrived after analyzing the data of 1165 temples and town names in the state. Almost one third of sthalavriksha species are finding their places in the temple towns in Tamil Nadu.

Nagarajan (1985) had mentioned 143 place names based on plants in Chengalpattu district alone. He also indicates that the plant based name of the places were the earlier practice applied, than the deity's names in the places names of Tamil Nadu. Of the 112 sthalavrikshas recorded, 33 species influence the deity names, belonging to 55 temples. One fourth of the observed sthalavriksha species (29.46%) influenced naming of deities. Though *Aegle marmelos* is a common sthalavriksha in Tamil Nadu, it did not have much influence in naming of deities. Sthalavrikshas are not only the deciding factor in naming places and deities but also among human beings.

Chapter - VI

STHALAVRIKSHA WORSHIP AND CONSERVATION OF PLANT BIODIVERSITY

6.1 Introduction

Plants are one of the most useful resources available to mankind since time immemorial. Due to excessive exploitation of botanical resources, human beings, instead of patronizing, became a threat to the nature. Population growth and industrialization intensified the destruction of natural resources and ultimately disturbed the ecological balance. Environmental pollution, overexploitation of the natural resources and destruction of habitats are the causal agents for the degradation of biodiversity. All these factors lead to extinction of several species of flora and fauna in the earth.

Lucas and Synge (1978) quoted in the IUCN plant Red Data Book that one tenth of the vascular plants in the green world are under threat, viz., 20,000-25,000 plant species out of 2,50,000 in the world. Fitzgerald (1989) estimated that one tenth of world's recorded plant species are now considered either rare or endangered. Miller *et al.* (1992) referred 60,000 plants from 2,40,000 species will become extinct with in the next 30 years. Given (1994) quoted that about 25,000 flowering plants are under threat with extinction due to human-induced depletion and over exploitation. Researchers' data may vary according to their time of study, but they arrive concert in their result that there exists loss of plant biodiversity and extinction of species. In the present scenario, several agencies including the International specialist organizations, Government bodies and Non-governmental organizations are involved in nature conservation. They adopt various conservation methods, which includes the establishment of sanctuaries, National parks, Biosphere reserves and the implementation of conservation projects and setting up of research institutions. Other conservation efforts include social forestry, wasteland afforestation, captive breeding, and latest technologies such as Gene Bank, Germplasm conservation, Cryopreservation, DNA fingerprinting and tissue culture techniques.

Although all the above said programmes and techniques are sincerely and scientifically pressed into action several species could not be saved from extinction. On the contrary, it is a surprising fact to note that the ancestors of Tamil country practiced a unique traditional method of plant conservation, which is found to be an effective and

constructive one and being practiced even today, namely "sthalavriksha worship" in the temple premises.

A 13th century epigraph in Thalapuriswarar temple, Vellore District ensures the above statements. Pillai (1991) referred that sentence in the epigraph

"If any one cut the live Palmyra palm (*Borassus flabellifer*) in the village he would be punished as per kings order and he would get the dhosam (ill effects) too."

Since Palmyra palm is the sthalavriksha of the temple, it was well protected by king's order. This explains the role of ancient Tamils in plant conservation.

6.2 Results

Sthalapuranas (Temple Myth) or *Sthalavaralaru* (Temple History) of most of the temples were referred. It is assumed that the prime deity was first found only under the sthalavriksha, later the king or a wealthy local citizen constructed the temple. As the tree offered protection to the Deity, it was also conserved. In reality, it is because of the sacred status, many plant species still thrive in various localities of Tamil Nadu. Veneration of plants as sthalavrikshas helps to protect the relevant plant species from extinction. This practice also helps to protect the genetic diversity. In many temples it is found that sthalavriksha plants live for decades.

Myths, beliefs and folklore play a major role in the existence of sthalavriksha worship in Tamil Nadu. In return, sthalavriksha practice plays a vital role in the conservation of plant biodiversity. Most of the ancient temples in Tamil Nadu have its own '*Sthalapurana*' (Temple myth). All the sthalapuranas invariably quote at least a few lines to several chapters on the sthalavriksha of the temple and the associated myths.

In reality one or many factors might influence the selection of sthalavriksha for a particular temple. Possible factors could be religious beliefs, medicinal values or commonness of the species in the locality. To find out that which factor influence more on the selection of sthalavriksha in the temples, a statistical test was carried out. All the 212 plant species recorded in temples were taken for this analysis, both the sthalavriksha species (n=112) and non sthalavriksha species (n=100) were coded with the numerical values. Sthalavriksha species were given (1) and the non sthalavriksha species were given (0) markings. The factors such as religious beliefs, medicinal values and abundance were given values ranging from 1 to 5 scores, based on data recorded during the field survey. After assigning coded to the data as above, the statistical analysis was carried out. The predictions and the goodness-of-fitness was tested through 'Binary Logistic Regression' with the help of SPSS software (10 .0.1-1999) and the results of the test were given in the tables 6.1-6.6.

Table 6.1 **Variables in the Equation**

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	RV	2.546	.343	55.055	1	.000	12.750
	Constant	-2.315	.346	44.700	1	.000	.099
Step 2	RV	1.905	.345	30.490	1	.000	6.721
	AB	1.749	.449	15.144	1	.000	5.749
	Constant	-2.874	.421	46.604	1	.000	.056
Step 3	MV	.955	.309	9.539	1	.002	2.598
	RV	1.919	.351	29.969	1	.000	6.815
	AB	1.996	.500	15.944	1	.000	7.359
	Constant	-3.940	.648	36.973	1	.000	.019

a. Variable(s) entered on step 1: RV.
b. Variable(s) entered on step 2: AB.
c. Variable(s) entered on step 3: MV.

Table 6.2 **Omnibus Tests of Model Coefficients**

		Chi-square	df	Sig.
Step 1	Step	158.240	1	.000
	Block	158.240	1	.000
	Model	158.240	1	.000
Step 2	Step	26.790	1	.000
	Block	185.030	2	.000
	Model	185.030	2	.000
Step 3	Step	10.682	1	.001
	Block	195.712	3	.000
	Model	195.712	3	.000

Table 6.3 **Model Summary**

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	134.975	.526	.702
2	108.185	.582	.777
3	97.503	.603	.805

Table 6.4 **Classification Table**

			Predicted		
	Observed		SPECIES		Percentage Correct
			.00	1.00	
Step 1	SPECIES	.00	81	19	81.0
		1.00	3	109	97.3
	Overall Percentage				89.6
Step 2	SPECIES	.00	90	10	90.0
		1.00	11	101	90.2
	Overall Percentage				90.1
Step 3	SPECIES	.00	92	8	92.0
		1.00	12	100	89.3
	Overall Percentage				90.6

a. The cut value is .500

Table 6.5 **Variables not in the Equation**

			Score	df	Sig.
Step 1	Variables	MV	12.893	1	.000
		AB	16.212	1	.000
	Overall Statistics		23.165	2	.000
Step 2	Variables	MV	11.080	1	.001
	Overall Statistics		11.080	1	.001

Table 6.6 **Step Summary**

	Improvement			Model			Correct Class %	Variable
Step	Chi-square	df	Sig.	Chi-square	df	Sig.		
1	158.240	1	.000	158.240	1	.000	89.6%	IN: RV
2	26.790	1	.000	185.030	2	.000	90.1%	IN: AB
3	10.682	1	.001	195.712	3	.000	90.6%	IN: MV

a. No more variables can be deleted from or added to the current model.
b. End block: 1

RV- Religious Value, AB- Abundance, MV- Medicinal Value

From the Table 6.6, it has been inferred that Religious Value is the predominant factor governing the selection of sthalavrikshas in temples of Tamil Nadu. Further, the test reveals that 89.6% (χ 158.240 Chi sq; df: 1; p <0.000) of the cases are selected based on religious values.

6.3 Sthalavrikshas-A Rare Genetical Stock

In several temples sthalavrikshas with rare genetical features were recorded. Temple priests and devotees believe that these changes might be due to the divinity. Because of the special futures, the plants are well protected. During the temple survey some such sthalavrikshas were recorded in the temples. Wherever a genetical change or unusual morphological feature appear in trees that plant get special attention and attract large number of devotees. For example, in Thiruvavaduthurai, Neem tree (Plate XI-G) with white leaves are considered highly sacred. His temple is also very popular in the region. Recently, a Coconut tree *Cocos nucifera* (Plate XI-F) produced *Phoenix* type of inflorescence with numerous fruits in Vellore district. Local villagers believed that the tree has divine power and started worshiping the tree (Table 6.7).

Table 6.7 **Sthalavrikshas with Rare Features**

S No	Location	Sthalavriksha	Special Feature	Normal Feature
1	Magudeswarar Kodumudi	*Prosopis cinerarea*	Thorns in one branch and no thorns in other branch	Thorns found all over plant
2	Adijeganathaperuml Thirupullani	*Ficus religiosa*	Prostrate growth of branches	Erect trunk
3	Gomuktheeswarar Thiruvaduthurai	*Ficus religiosa*	Prostrate growth of branches	Erect trunk
4	Agastheeswarar Iyvarpadi	*Ficus benghalensis*	Five different shape of leaves in the same tree	Leaves in globulus shape
5	Alanthuraiyar Anbil	*Ficus benghalensis*	Aerial roots totally absent	Numerous aerial roots produced
6	Kumarakadavul Melakodumalur	*Acacia fernesiana*	Prostrate growth of branches as Liana	Branches growing against ground
7	Chinthamanieeswarar Vasudevanallur	*Tamarindus indica*	Fruits taste sweet	Fruits taste sour
8	Adinathaperumal Alwarthirunagari	*Tamarindus indica*	Leaves do not droop during night hours	Leaves droop during night hours

9	Mangaipagar Thirukodungundram	*Tamarindus indica*	Leaved are not folded during night hours	Leaves droop during night hours
10	Sadurangavallapanathar Poovanur	*Artocarpus heterophyllus*	Fruits are bitter in taste	Fruits have sweet taste
11	Viswanathar Aranthangi	*Aegle marmelos*	Four or Five compound Leaves with crenate margin	Trifoliate leaves with entire margin
12	Vedapuriswarar Vedaranyam	*Prosopis cinerarea*	Thorny branches with long pods and non thorny branches with globular pods.	Thorns found in all over the plant body and pods are flat shaped.
13	Choleeswarar Kanchipuram	*Aegle marmelos*	Leaves taste sweetish	Leaves slightly sour taste
14	Pushpavananathar Thirupoovanam	*Artocarpus heterophyllus*	First fruit has lingam (monolithic)shape	All fruits are globular
15	Thirumulanathasamy Ambasamuthiram	*Phyllanthus emblica*	Sthalavriksha in Bonsai growth (1 m)	Grows to 10 m ±
16	Jambukeswarar Thiruvanaikaval	*Syzygium cumini*	Tree produce white fruits	Tree produce violet fruits

These types of peculiar features of the sthalavrikshas get special attention among the devotees and are well protected by the concerned authorities. *Syzygium cumini,* the sthalavrikshaof Thiruvanaikaval temple does not produce fruits. A reference from Devaram (7th century A.D.) quote that the tree is *Vennaval* (White Jamun) which is unique. Some of the other flora of the temples also has odd characters. For example, *Thevetia peruviana in* Mayuranathasamy temple at Mayiladuthurai, produce Golden yellow flower instead of usual bright yellow.

6.4 Regeneration of Sthalavrikshas.

In several cases sthalavrikshas were found to be original gene stock of the tree. This is evident from the fact that young trees seen in certain temples were found to be regenerating from the dried stump. Those regenerated stamp thrive well even today (Table 6.8).

Table 6.8 **Regenerated Sthalavrikshas**

S No	Temple and Location	Sthalavirksha Species	Part Regenerated
1	Bhakthavashalaperumal Thirunindravur	*Nyctanthes arbor-tristis*	Stem
2	Kachaleeswarar Chennai	*Ficus racemosa*	Stem

3	Thirisulanathr Thirisulam	*Millingtonia hortensis*	Root sucker
4	Mallingeswarar Silayampatti	*Aegle marmelos*	Stem
5	Thenupuriswarar Pattiswaram	*Prosopis spicigera*	Stem
6	Piravimarundeeswarar Thiruthuraipoondi	*Aegle marmelos*	Stem
7	Kailasanathar Rasipuram	*Aegle marmelos*	Stem
8	Rathinapuriswarar Thirunatiathankudi	*Crateva magna*	Stem
9	Vaidiyanadasamy Veerasinghanpettai	*Aegle marmelos*	Stem
10	Thilageswarar Koilpalayampudur	*Aegle marmelos*	Stem
11	Sathurusamharamurthy Thiruthandeeswaram	*Terminalia bellirica*	Stem Regeneration through the penance of a Saint
12	Sthiyamoorthyperumal Thirumayam	*Ficus benghalensis*	Stem Regeneration
13	Mulanathasamy Cholavanthan	*Aegle marmelos*	Root Regeneration
14	Padaleeswarar Thirupaidiripuliyur	*Stereospermum colais*	Root Regeneration
15	Mariamman Irukkankudi	*Capparis divaricata*	Stump replant & Regeneration

The priests and temple authorities said that the sthalavrikshas were actually "dead" and surprisingly regenerated after a lapse of several years. In Thiruthandeeswaram temple, the sthalavriksha *Terminalia bellirica* became lifeless due to lightening and thunderbolt. It is said that a Saint, Sathurusamharamurthy meditated under the affected tree and the tree regenerated. Now it is found that the tree is full grown measuring 628 cm Girth at Breast Height (GBH) and 20 m high. Somehow, the original germ stock is maintained in these temples even today.

In several temples sthalavrikshas are dried the stumps are worshipped. In some temples tree stumps are well protected by covering with copper or silver plates and is still worshipped viz., *Anthocephalus cadamba* in Madurai, *Azadirachta indica* in Samayapuram and *Aegle marmelos* in Nerur.

6.5 Replicas of Sthalavrikshas

In the temples, where sthalavrikshas are dead, a stone replica was erected to mark the memory of original sthalavriksha, for example *Corypha umbraculifera* in Vaideeswararan temple, Poonthamalli. In some temples, to mark the special occasions, the stone replicas were erected, e.g., in Cheyyaru Vedapuriswarar temple, saint Gnanasambanthar converted the male Palmyra tree to female with his divine power and to mark that incident a stone Palmyra tree was erected here. In Saptharishiswarar temple at Lalkudi, the sthalavriksha, *Ficus religiosa* was removed for corridor extension. To mark the site, a stone pillar was erected. During the study several such stone replicas were recorded in temples (Table 6.9).

Table 6.9 **Sthalavrikshas Represented by Stone Replicas**

	Temple	Sthalavriksha
1	Saptharishiswarar Lalkudi	*Ficus religiosa*
2	Valarlozhinathar Vairavanpatti	*Alangium salvifolium*
3	Sundareswarar Kilsevalpatti	*Artocarpus heterophyllus*
4	Kachabeswarar Kanchipuram	*Butea monosperma* Latest (Cement)
5	Vedapuriswarar Cheyyaru	*Borassus flabellifer*
6	Aathmanathar Avudaiyarkoil	*Pleiospermium alatum*
7	Vaideeswarar Poonthamalli	*Corypha umbraculifera*
8	Thalapuriswarar Thirupanakadu	*Borassus flabellifer*

6.6 Present Status of Sthalavrikshas in Tamil Nadu

Most of the ancient Temples still have sthalavriksha in its premises. In temples where sthalavrikshas dried up they were replaced by a sapling. In several temples, the sthalavrikshas are well protected with a protective wall. In majority of the temples, devotees are prohibited from touching the plant except on special occasions.

In 1936, a European lady converted herself to Hindu religion and changed her name as Leelavathy. She constructed a temple for Lord Muruga at Kodaikkanal, at an altitude of 2000 m msl and it is called as 'Kurunjiandavar temple'. 'Kurunji' *Strobilanthes*

kunthiana a common native plant of this region is worshipped as the sacred plant. The plant is locally extinct in the wild due to human disturbances. It appears that the sthalavriksha in the temple is the lone survivor of the species in this locality.

In the newly constructed temples also sthalavrikshas are planted. *Scaevola plumieri* has been planted in Vanamaliswaer temple at Nagerkoil. Plants used in rituals and having religious importance alone are planted as sthalavriksha in recently constructed temples. Most of the sthalavriksha plants in Tamil Nadu temples are native species. In recent times, a few exotic species have been planted as sthalavriksha, Eg., *Magnolia grandiflora* in Viswanathar Temple at Kandal.

6.7 Sthalavriksha Worship and Conservation of Plant Biodiversity

Several myths, beliefs and folklore play a major role in the existence of sthalavriksha worship in Tamil Nadu. Inturn, Sthalavriksha practices play a vital role in conservation of plant biodiversity of Tamil Nadu. Certain plants become rare in the wild due to over exploitation and loss of habitat. *Santalum album* and *Saraca asoca* are safe in temple, which are very rare in forests.

6.7.1 Sthalavrikshas-The Huge Trees

Sthalavrikshas are predominantly trees and are measured in huge size. For example *Prosopis cineraria* in Vedaranyam mesures ± 800 cm (GBH) and in Kodumudi 665 cm, *Mimusops elengi* in Thiruvadavur measures 385 cm girth and 380 cm in Needur. *Cassia fistula* in Pandanainallur temple measures 220 cm. *Aegle marmelos* in Kailasanathar temple at Sevilimedu 549 cm, Thally 258 cm, Denkanikottai 238 cm and Nagar 280 cm. A comparison of GBH values of temple trees with their co specifics in the wild indicates their age and long existence.

The 't' test was applied to find out whether the temple trees are significantly different from the same species found in the wild. The hypothesis is that the girth size of trees in the temples would be larger than the wild trees. Of 112 sthalavrikshas recorded, 83 species were trees. GBH reading of a species recorded in three or more frequency in both the habitats were included in the test. Certain sthalavriksha tree species available only in one or two temples were excluded in the test. Some species were not available in the selected wild localities. Hence the GBH of 21 species only could be tested through the SPSS (10 .0.1-1999) software. The independent-samples were compared mean and standard deviation of both the habitats (temple and wild) are tabled. The 't' and 'p' values are also tabled to compare. Of the 21 species tested, the 'p' values of 13 species are < 0.05. The GBH of the sthalavrikshas i.e., *Alangium salvifolium, Azadirachta indica, Bauhinia racemosa, Cassia fistula, Ficus religiosa, Ficus benghalensis, Madhuca longifolia,*

Mimusops elengi, Phyllanthus emblica, Syzygium cumini, Tamarindus indica, Wrightia tinctoria and *Ziziphus mauritiana* are significantly different from the same species found in wild. The result reveals that the GBH of 13 sthalavriksha species are significantly different, i.e., 61.90 % of tested sthalavrikshas in temples have larger girth (Table 6.10). The result of the test also bring to light that the sthalavriksha species in temple premises, remain undisturbed and well protected through the centuries.

Table 6.10 **Comparison of 'T' values of GBH of Sthalavrikshas in Temples and Wild**

	t Test	Gbh of temple trees		Gbh of wild trees			
S.No	Trees species	Mean $\bar{x}$	Sd σ	Mean $\bar{x}$	Sd σ	t	p
1	*Aegle marmelos*	109.37	50.91	74.71	15.66	1.79	0.074
2	*Alangium salvifolium*	624	498.51	111	31.86	3.633	0.004
3	*Albizia amara*	238.67	106.23	149.5	98.63	1.312	0.222
4	*Azadirachta indica*	392.75	248.47	169	55.99	2.836	0.015
5	*Bauhinia purpurea*	111.33	80.69	80	11.17	793	0.464
6	*Bauhinia racemosa*	329.8	153.95	100	35.96	4.635	0.001
7	*Butea monosperma*	178.8	206.02	105.3	36.18	1.59	0.124
8	*Cassia fistula*	218.82	129.17	49.5	7.97	3.165	0.004
9	*Ficus religiosa*	576.32	465.14	205.44	33.4	2.366	0.025
10	*Ficus benghalensis*	1162.67	1476.68	303.4	110.3	2.257	0.033
11	*Ficus racemosa*	249.25	182.98	330.07	70.89	1.433	0.17
12	*Madhuca longifolia*	350	181.18	79.75	9.94	2.938	0.022
13	*Mimusops elengi*	238.37	87.74	93	11.13	2.823	0.009
14	*Neolamarckia cadamba*	275.66	119.25	207.87	56.44	1.87	0.081
15	*Phyllanthus emblica*	136.2	59.45	93.28	31.01	2.529	0.018
16	*Prosopis cineraria*	209.36	164.19	180.06	43.64	0.724	0.472
17	*Syzygium cumini*	466	224.24	186.3	67.8	3.761	0.002
18	*Tamarindus indica*	497.38	163.71	185.1	38.24	8.201	0.001
19	*Terminalia arjuna*	326.67	175.35	267.9	73.55	0.946	0.36
20	*Wrightia tinctoria*	198.33	123.265	102.09	19.45	2.769	0.017
21	*Ziziphus mauritiana*	279.7	228.62	90.4	16.97	2.611	0.018

6.8 Reintroduction of Sthalavrikshas

During the survey it was observed that in some temples, sthalavrikshas were not found. In these temples, original sthalavrikshas had died but could not be replaced with a sapling of the same species as the temple authorities did not know the proper identity of the species. The temple authorities know the sthalavriksha only by local name e.g. *Kurunthamaram* in Kurunthamalai (Balasubramanian and Gunasekaran 2005), Thalappanai at Poonthamalli, and Jalanthara in Thiruneermalai. Present study examined

Plate XI- Beliefs conserving rare plants

காலம் உங்கள் கையில்

ஏ.எம். ராஜகோபாலன், ஜோதிட ஆராய்ச்சி மையம், சென்னை.

மருந்துகளால் தீர்க்க முடியாத கர்ம நோய்கள்!

காஞ்சி மகாபெரியவர் திருக்கோயில் தலவிருட்சம் - மாமரம்

பெரும்பனூர் திருமழப்பாடி திருக்கோயில் தலவிருட்சம் - பனைமரம்

நிலவுக்கு வேம்பை பயன்படுத்தலாமா?

வீடு கட்டும்போது சாதாரண மக்கள்வேம்புமரத்தைபயன்ப டு த்துகின்றனர். ஆனால் வேம் ப மரத்தை கிராமப்புறத்தில் தெய்வமாக நினைத்து வழிபடு கின்றனர். இதனால் கதவு, ஜன் னல் ஆகியவற்றிற்கு வேம்பை பயன்படுத்தினாலும் நிலவுக்கு வேம்பை யாரும் பயன்படுத்து வதில்லை.

ஏனென்றால் நிலவை தாண் டி செல்லவேண்டும் என்பதால் பெரும்பாலான மக்கள் நிலவுக் கு வேப்ப மரத்தை பயன்படுத் துவதை தவிர்த்துவிடுகின்றனர்.

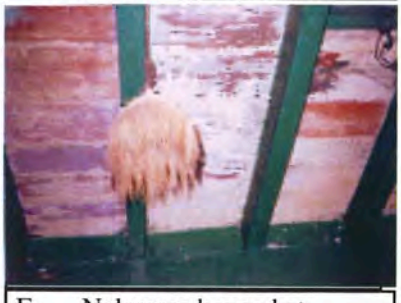
தினமலர் சேயம்புத்தூர் 31-7-2002

A. Astrology column of a Tamil daily referres the sthalavriksha worship

B. A Tamil daily referres the taboo to cut Neem tree

C. *Tamarindus indica* at night Alwarthirunagari

D. *Cycas circinalis* at Cheranmadevi temple



E. Nelsaram hanged at Mathipanur temple

F. Rarity under worship *Cocos nucifera*

G. Rarity under worship *Azadirachta indica*

H. *Aegle marmelos* allowed to grow above corridors

I. Reintroduction *Phoenix sylvestris*

I. Reintroduction *Atalantia monophylla*

K Introduction of Sthalavriksha in new temple

the Tamil, Sanskrit and vernacular names of such sthalavrikshas and identified the appropriate species. This helped the temple authorities to procure the relevant plant for planting. During this study some of the sthalavrikshas were reintroduced by the researcher. 'Kurunthai' *Atalantia monophylla* in Kurunthamalai, (Plate XI-J) 'Thalapanai' *Corypha umbraculifera* at Poonthamalli and 'Eecham' *Phoenix sylvestris* in Eangur (Plate XI-I) were reintroduced by the researcher. Due to lack of knowledge, devotees and temple authorities introduced inappropriate species. In Thirikalli the original sthalavriksha was *Euphorbia nivulia.* But, exotic tree *Plumeria rubra* was planted as sthalavriksha due to ignorance. At the time of temple survey, the villagers, devotees, priest and local headman were educated about the proper identity of sthalavriksha species of this temple (Table 6.11).

Table 6.11 **List of Sthalavrikshas planted**

S No	Temple	Sthalavriksha	Status
1	Kuzhalanthivelappar Kurunthamalai	*Atalantia monophylla*	Planted
2	Vaideeswaran Poonthamalli	*Corypha umbraculifera*	Planted
3	Allaleswarar Eengur	*Phoenix sylvestris*	Planted
4	Sivananthanathar Thirukallil	*Euphorbia nivulia*	Suggested for reintroduction
5	Ranganathaperumal Thiruneermalai	*Mimosa pudica*	Seeds supplied to the authorities

In Ranganathaperumal temple at Thiruneermalai near Chennai *Mimosa pudica* is the sthalavriksha. The temple authorities knew the plant only by local name, *Jalanthara.* We identified it as *Mimosa pudica* and seeds of the plant were sent to the temple authorities for reintroduction.

6.9 Measures Suggested for Conservation of Sthalavrikshas

In popular temples sthalavrikshas are well protected. In many other temples, it is absent or poorly maintained. Due to socio-cultural change, enough attention is not given for the worship of sthalavrikshas. Hence, mitigatory measures are suggested for better management of this valuable germplasam reserve.

6.9.1 Guidelines for proper Management of Sthalavrikshas

1. In majority of the temples the base of the sthalavriksha is covered by a parapet wall and a sacred lingam or anthropomorphic deity is placed beneath it. The top of the wall is covered with cement plastering and it completely stops the aeration and water penetration into the soil. The cement plastering should not be done and this portion should be exposed to sunlight. The topsoil has to be scratched by a hand tool and exposed for proper aeration.
2. At the time of Consecration (*Kudamuzhukku*), sthalavrikshas are cut down partially or fully for corridor extensions. It should be stopped and the sthalavrikshas must not be cut. If construction is found essential, structures may be constructed without disturbing the sthalavrikshas. The plant may be allowed to grow above the corridor by leaving suitable hole/space.
3. Watering is not done in certain temples and the temple authorities have to ensure regular watering to the sthalavrikshas.
4. Sufficient manuring is not done to sthalavrikshas. Organic manures such as cow or elephant dung which is available in temples, through Cow refugia, (*Pasumadam*) may be applied. Dried cow dung powder can be applied to the sthalavrikshas periodically.
5. Thousands of devotees who visit the temple offer garland and flowers to the deity. The temple authorities dispose these flowers as solid waste. Instead, these garlands and flowers can very well be converted to organic manure by installing a vermi-compost yard near temple premises. This vermi- compost can be used as manure for sthalavrikshas and other plants in temple gardens.
6. In certain temples, sthalavrikshas are well protected with fencing. Temple authorities can adopt this method in all the temples to avoid the damages by fire, induced by devotees while liting camphor beneath the tree. Since several companies and business people are interested in such sacred work, temple authorities would get sponsorship from them, and protect the plants.
7. In some temples, very old sthalavrikshas are present and the bottom stump has become hollow, hence rainwater would damage the trees. To avoid these holes can be sealed with suitable tree paste and seal can be painted with the copper

sulphate solution to avoid fungal attack. Small cut wounds and other damages can also be cured by the application of this solution.

8. Maintenance and other cultural activities associated with sthalavrikshas can be handed over to volunteers. In several towns, Shivait volunteers are involved in temple maintenance (Uzhavara Group).
9. The temple authorities may reintroduce the sthalavriksha species, wherever it is absent. State Forest Department already has several nurseries, and saplings could be obtained from them.
10. Temple authorities may regulate the worship procedures so as to reduce the damage done to the sthalavrikshas. Activities such as nailing, breaking the branches etc by devotees may be controlled.
11. Print and visual media may be utilized to propagate the importance of sthalavrikshas.

6.10 Planting threatened species

Many new temples have been constructed in the state, during the recent past and some are under construction. Threatened plant species may be planted in the newly constructed temples. The devotees and priests may be advised to accordingly.

6.11 Scope for future study

During the present study, all the ancient temples in the state could not be surveyed due to non availability of funds. Hence, further surveys are suggested to cover the hitherto unsurveyed temples. The future study could focus the taxonomy aspects.

1. State Agricultural University can help in this regard. Short-term training may be conducted to the temple staff on Arboriculture.
2. Several sthalavrikshas are very old and ceased their reproductive activities. Universities and research institutions may undertake research studies on conventional and non-conventional techniques to reproduce the original stain. They can try vegetative propagation to produce its offspring, cutting, layering and micro propagation through 'Tissue culture' techniques.
3. Creation of computerised data bank with all the available information on Sthalavrikshas is suggested.

4. Molecular level research may be undertaken to study the sthalavrikshas, having special morphological features.

6.12 Discussion

Temples of Tamil Nadu are distributed in all the eco-regions. Hence, several plants specific to these eco-regions are under worship. Arora (2000) referred three *Musa* species (intra specific) as wild relatives of cultivated plants in India. Rama Rao (2006) reported the utilization of two *Musa* and an *Ensete* species being utilized by the tribal people of Eastern Ghats, Andhra Pradesh. Present study patterned two varieties in the *Musa* species (inter specific) as wild relatives in temples of Tamil Nadu. Traditionally several plants are under veneration and conserved in the name of sthalavriksha. For instance a 2000 years old 'Indian Mesquit' *Prosopis cineraria* tree is found in the Magudeswar temple at Kodumudi. The Girth at Breast Height (GBH) of the plant is 665 cm. The tree is 15 m high and possess thorns in one branch and does not have thorns in another branch. This type of unique genetic stock and variability are conserved only because of the sthalavriksha status of this plant. The results of the 't' test indicate the GBH values of temple trees are significantly larger than the wild plants. This clearly shows that the sthalavriksha species are very old and conserved through ages, in temples. Gunasekaran and Balasubramanian (2005) reported that the sthalavrikshas are germplasam reserves. Chenniappan (2002) referred that initially deities were worshipped under the tree. After temple construction, sthalavrikshas were planted in the temple. Sabarathinam (2004) quotes a reference from 'Parameswara Shiva Agamam' (a temple regulation for Shiva worship), that divine power would descend to the sthalavriksha from the deity, if the consecration is not performed for a longer period. These types of myth and religious beliefs help to conserve sthalavriksha species. The results of statistical test also reveals that majority of the sthalavrikshas are selected based on religious values.

In one of the temples, sthalavriksha tree is allowed to grow above the roof level (Plate XI-H) by leaving a suitable hole in the roof.

Goddess Mariamman temple is found in almost all the villages of Tamil Nadu. Invariably, all the Mariamman temples have Neem tree (*Azadirachta indica*) as the sacred tree. In addition to the medicinal properties, this tree has timber value and used for house construction in rural Tamil Nadu. The irony is, that the rural people of Tamil

Nadu do not use this plant for making door frames, because they are sacred, and holy. They don't want to walk across the Neem tree when it is in the form of door frame. (Plate XI. B) These practices in the form of taboos protect this species from over exploitation.

Sthalavriksha worship ensures the survival of certain endemic and threatened plants in Tamil Nadu. Plant species are conserved as germplasm reserves in the name of sthalavrikshas. Certain plants recorded rare in the wild are found in the temples, eg., *Santalum album* and *Saraca asoca*. Thus, in the present scenario, temples seem to act as traditional refugia for various plants and gene pool reserve of the local flora. By and large, the sthalavriksha worship practice seems to play an important role in conserving the plant biodiversity of this region.

Conclusion

1. Sthalavriksha is mandatory in Shiva temples. This is evident from the fact that of the 846 Shiva temples surveyed, 741 had Sthalavrikshas.
2. Sthalavriksha worship practice has deeply penetrated into the life style of Tamils and Tamil culture as naming of temple towns, deities and human beings are followed after sthalavriksha names.
3. Religious beliefs and astrology associated with sthalavriksha worship strengthen this practice in the temples of Tamil Nadu.
4. Of the 112 sthalavriksha species recorded, two are endemic to the Western Ghats and two are endemic to southern India and five are threatened.
5. Majority (74 %) of the sthalavriksha species are trees. Moraceae is the dominant sthalavriksha family, represented by ten species.
6. "Bengal Quince" *Aegle marmelos* is the most dominant sthalavriksha. It is considered as the most sacred plant in Shivisam; the trifoliate leaves of the plant signify the three eyes of Lord Shiva.
7. Sthalavrikshas play a vital role in conserving local ecology by providing foraging and nesting sites to various animal taxa. *Ficus* spp. act as Keystone species, as they provide food for various animal taxa during critical periods.
8. A total of 100 other plant species, mostly ornamental plants were recorded in temple premises.
9. Among the 112 sthalavriksha species, 68 were zone specific. Thirty four species are specific to East Coast, 26 to Central Plains and eight species to the Western Ghats.

10. Though several myths are referred about the origin of Sthalavrikshas in the temple, the selection of species as Sthalavrikshas is based on religious beliefs.
11. Sixteen species of sthalavrikshas with rare morphological features were recorded.
12. Most of the sthalavrikshas are very huge in giant size, indicating their long existence.
13. Seven varieties of *Musa paradisiaca* including two varieties of wild relatives of cultivated plants occur in the temples.
14. Though sthalavrikshas are well protected in many temples, in certain temples it needs proper care and protection.
15. Conservation measures are suggested for the protection of sthalavrikshas.

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Appendix – I

Questionnaire

Temple Biography

1. Name of the Temple : A/M

2. Locality :

a. Latitude & Longitude
b. Altitude
c. Landscape

3. Presiding Deity :

a. Facing which Direction :

4. Other Deities :

5. Who constructed the Temple,
Period :

6. Specific Hymns sung :

7. Sthalapurana Details :

Source of information :
Executive officer
Temple Priest
Local Devotee
Sthalapuranam

Interview Date, Time :

Taxonomic Survey

1. Name of the Sthalvriksha :

a. Vernacular Name (Tamil) :
b. Habit :
c. Family :
d. Girth, if it is tree :
e. Age :
f. Associated Plants :

2. Religious Values

a. Plants used for worship :
b. Plants Preserved :

3. Medicinal value

a. Ethnomedicine :
b. Siddha :
c. Allopathy :

4. Other plants found inside temple premises:

a. Shrubs-Parts used -Nos :
b. Trees-Parts used - Nos :
c. Wall flora :

5. Plants with special features related to Temple rituals :

6. Any Depiction, Art, Sculpture of Sacred plant present in Temple premises :

Ecological information

1. Phenology
a. Vegetative Phase
 i. Young Leaves :
 ii. Mature Leaves :
b. Reproductive Phase
 i. Flowers
  Buds :
  Flowers :
 ii. Fruit
  Unripe :
  Ripe :
 iii. Flowering period :
 iv. Fruiting period :
2. Any plant parts edible to
 a. Birds :
 b. Bats :
 c. Other Animals :
 d. Human beings :
 e. Livestock :
3. Whether nest is placed
 a. Birds :
 b. Bats :
 c. Other Animals :
4. Is same plant species present
  100 m Radius around Temple
 a. Abounded :
 b. Scattered :
 c. No single individual :
5. From where it was brought
 a. Found as native of the Temple :
 b. Regenerated from the old plant :
 c. Brought from outside, any where :
 d. Same plant spp brought from other Temple:
6. Occurrence of Sthalavriksha
  in wild near the Temple
 a. Reserve Forest :
 b. Sanctuary :
 c. National Park :
 d. Sacred Groves :
 e. Others :
7. Girth at Breast Height :
8. Height :

Glossary of Indian Terms

Adeenam - Shaivait Monasteries

Agamas - Traditional principles governing worship, construction, festivals in temples

Agananuru - A *Sangam* period Tamil literary work

Akka-Bakka -Entrance arch of *Badaga* village

Alwars - Vaishnavite saints whose hymns in praise of Vishnu constituted in Tamil and considered to be at par with the Vedas

Ambalakavu - Name of the sacred grove in Kerala state

Ambal - Goddess

Amman - Goddess

Appar - Thirunavukkarasar one among the '63' *Shaivait Nayanmars*, who sung Devaram (4-6 TH Thirumurai), lived in 575-646 A.D.

Aravan - A person sacrificed himself on battle field before the commencement of *Mahabaratha* war

Aravan festival - A festival celebrated every year to mark his sacrifice

Aryans - The migratory people from Central Asia

Asura - Demon

Avataram - An Incarnation of Vishnu

Ayurveda - Sanskrit based traditional Indian medicinal system

Badagas -An indigenous community living in The Nilgiris, Tamil Nadu

Balaraman - Brother of Lord *Kannan*

Bhakthi - Devotion

Bhakthi movement - Revival of Hinduism (6th century A. D.)

Bishnoi - A community living in Rajasthan and north India

Bodo - A tribal community living in Assam

Brahmins - A priest community

Chera kingdom -A Tamil dynasty existed in *Sangam* period

Chola kingdom - A Tamil dynasty existed from *Sangam* period and from 9th to 12th century

Cholamandalam - Eastern region of Tamil Nadu, once ruled by Chola Kings

Davarabana - Name of the sacred grove in Karnataka state

Davarakadu - Name of the sacred grove in Karnataka state

Deovan - Name of sacred grove in Himachal Pradesh state

Deovan - Name of sacred grove in Himachal Pradesh

Devarahati -Name of the sacred grove in Maharastra state

Devarai - Name of the sacred grove in Maharastra state

Devaram - Shaivait hymns sung by three great Tamil saints namely Thirugnanasambathar, Thirunavukkarasar, Sundarar

Devas - Demi-God

Dhanusu - Sagittarius (in Astrology)

Dhasavatharam - The ten incarnations of Vishnu to punish the wicked

Dhimsa - Name of sacred grove owned by Madaco tribe in Assam

Dhoshams - Ill effect

Dhothi - Traditional men's wear

Dravidia - A indigenous race of India

Dravidian cult - Worship practice of Dravidian people

Dujasthambam - flag post

Ettuthogai - Collection of eight books- A literary work of *Sangam* period

Ganapathiam - *Ganpathy* or *Vinayaga* is the presiding deity of the cult

Gangas - Dynasty ruled parts of Tamil country in 14th – 15th century

Ghraha dhosam - Ill effect caused by planets

Gopuram - Temple tower above the inner entrances

Graha -Planet

Grahapeyarchi - Planets transiting to Zodiac

Guru -Jupiter (in Astrology)

Guru - Preceptor, Teacher

Hanuman - Monkey headed God

Hariyali - *Cynodon dactylon* grass

Hatti - A *Badaga* village

Homam - Sacrificial ritual conducted in the altar of fire, as a part of daily worship

Hoysalas - Dynasty ruled parts of Tamil country in 14th – 15th century

Hyder – Muslim ruler, ruled parts of Tamil country in 17th century

Ilangoadikal - Author of *Silapathigaram*

Indiran - Head of demi-God and Lord of *Marutham* land

Indiravizha - Festival for *Indiran*

Iynkurununu - A *Sangam* period Tamil literary work

Jaherthan -Name of Sacred groves in Madhya Pradesh and Central India

Jathaga - Horoscope

Kadimaram - Guarding tree

Kalabbras - Dynasty ruled Tamil country from 3rd - 6th century A.D

Kalasharpa Dhosam - Ill effects of time and snakes (all the planets locked between *Rahu* and *Kethu* in one's horoscope)

Kandhu - Phallic post

Kanni - Virgo (in Astrology)

Karmas - Deeds done during previous birth

Karpaghatharu - Celestial boon tree

Katakam - Cancer (in Astrology)

Kaval maram - Guarding tree

Kethu - Dragon's Descending Node

Kohra-marnu-parba - Thanks giving ceremony of Kuvi-*Kandha* tribe

Kotravai - Goddess of the *Palai* land and destroyer of the evil spirits

Kottam - Temple

Kowmaram – A Hindu cult in which Lord *Muruga* is the prime deity

Koyilkadu - Name of the sacred grove in Tamil Nadu

Koyil - Temple

Kudamuzhukku - Consecration after construction of a temple and followed every 12 years

Kuli-marna-parba - Thanks giving ceremony of *Kuvi-Kandha*

Kumbam - Aquarius (in Astrology)

Kurinji andavar -Lord of *Kurunji* land

Kurinji -Mountainous Region referred by *Tholkapiam* based on (*Strobilanthes kunthiana*) plant

Kurma Avatharam - One of the ten incarnations of Vishnu in the form of Turtle

Kurunjippattu - Song on Kurunji land, a literary work of *Sangam* period

Kurunthogai - A *Sangam* period Tamil literary work

Kuvi-Kandha - A tribe living in Orissa state

Lagnam - A day or 24 hours divided into 27 divisions

Law Kyantang - Sacred grove of Meghalaya state

Law Lyngdoh - Sacred grove of Meghalaya state

Law Niam - Sacred grove of Meghalaya state

Lingam - Phallic post

Macha Avatharam - One of the ten incarnations of Vishnu in the form of Fish

Mada Pura - Pigeon living in the chambers of tower

Madaco - Sacred groves of owned by Dhimsa tribes

Madapalli - Kitchen used to prepare deity's food offerings

Makaram - Capricorn (in Astrology)

Malaipadukadaam - A *Sangam* period Tamil literary work

Manavarai - Separate doctrine in marriage hall

Mandalam - A period consists of 48 days

Manikavasagar - One of the Shivait saint sung Thiruvasagam (8th Thirumurai), lived in 795-825 A.D.

Manimeghalai - A Tamil epic of *Sangam* period

Mantras - Sacred Sanskrit verses chanted at the time of Yaha

Marathas - Dynasty ruled Thanjavur in 17th century

Marutham - Wetlands Region referred by Tholkapiam

Meenam - Pisces (in Astrology)

Mesham - Aries (in Astrology)

Mithunam - Gemini (in Astrology)

Mndia-rani-paraba - Festival conducting by Kuvi-Kandha tribes for bumper yield

Moorthy - Prime deity of the temple (In sanctum sanctorum)

Mullai - Forest Region referred by *Tholkapiam*

Mullaippaatu - Song on *Mullai* land, a literary work of *Sangam* period

Nachathira dhosam - Ill effects caused by Birth star

Naga dhosam - Ill effects caused by Serpent

Nagabana -Name of the sacred groves dedicated for snakes in Karnataka

Nanthavanam -Temple Garden

Narashima Avatharam - One of the ten incarnations of Vishnu in the form of Lion headed human

Natrinai - A *Sangam* period Tamil literary work

Nattu Vaidiyars - Traditional medical practitioners in South India

Navagrahas - Nine Planets

Nawabs - Dynasty ruled Madurai in 18th century

Nayakas - Dynasty ruled Tamil country from 14th – 15th century

Neithal - Coastal Region referred by *Tholkapiam*

Nelsaram - A pendent structure made up of several full grown paddy plants

Orans - Name of sacred grove owned by Bishnoi Community in Rajasthan

Palai – Desert (dry land) referred by *Silapathikaram*

Pallavas - Dynasty ruled Tamil country from 6th – 9th century A.D

Pandiyas - A dynasty ruled part of Tamil country in *Sangam* period and from 12th – 14th century

Pasumadam - Cow refugia

Pathayathra - Pilgrimage to the temple with bare foot

Pathigam - Ten set of Devaram hymns

Pathuppaattu - Collection of ten small literary works of *Sangam* period

Pattinappalai - A *Sangam* literary work

Pithru dhosam - Ill effects caused by dead souls

Pooja - worship

Pori - Roasted rice

Prakaram - Temple corridor

Prasatham - Holy food offering made to the deity after worship distributed to the devotees

Uzhavara Mandram - Group of Shaivait volunteers, who involved in temple maintenance

Urchavar - Idol meant for holy procession

Vahana of Amman - Lion

Vahana of Ayappan - Tiger

Vahana of Brahamma - Swan

Vahana of Iynnar - Elephant

Vahana of Muruga - Peacock

Vahana of Siva - Bull

Vahana of Vinayaka - Mouse

Vahana of Vishnu - White Throated Kite

Vahana - Vehicle

Vaidiyas - Traditional medical practitioners in South India

Vaishnavam – A Hindu cult in which Lord Vishnu is the presiding deity

Varaha Avatharam - One of the ten incarnations of Vishnu in the form of Pig

Varunan - God of rain and water, Lord of *Neyithal* land

Vedas - Four books in Sanskrit deals with holy knowledge on rituals

Vennaval -White Jamun tree

Vimanas - Temple tower constructed above the sanctum sanctorum

Vinayaka - Elephant headed God

Vriksha - Tree (plant)

Vruchigam - Scorpio (in Astrology)

Yerualingil – A tree, as per myth, its fruits fall down and fly and fix at the same tree stem

Yhaga -Holy fire