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RESEARCH ARTICLE

SACRED GROVES – AN ANCIENT TRADITION OF NATURE CONSERVATION OF STHALAVRIKSHAS IN COIMBATORE, TAMIL NADU, INDIA

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ABSTRACT

In India sthalavrikshas worship in temples was a religrous practice. In Tamil Nadu almost every temple is associated with a plant or tree connected to the history and mythology of the temple and or deity. The worshipper who comes to the temple attains a healty spiritua; enlighten. Sthalavrikshas is a natural tree found in the temple site brfore construction of the temple. The present investigation was carried out in coimbatore district to enumerate the sthalavrikshas associate with temple by field observation method. During the field visit temples were frequently visited and surveyed for the sthalavrikshas from the month of December 2019 - February 2020. The survey was conduced at 46 ancient temples of the coimbatore district and revelated the occurrence of 19 sthalavrikshas species were observed in different area of coimbatore district. These sacred plants are worshiped by the local people for getting the blessing of health and wealth by positive powers of nature. Sthalavrikshas are germplasm reservers and an indicator of socio-cultural conservation strategy. It is concluded that the Sthalavriksha worship is an age old practice, myths, beliefs and floklore play a major role in the exsistance of Sthalavrikshas worship and this customms help in plant conservation.

Keywords: Myths, Temple, Worship, Sthalavrikshas

1. INTRODUCTION

In ancient periods, The India people of India considered some of the trees as sacred and worship in Indian mythology and by folklore is called Sthalavrikshas. Sthalavriksha or sthalavruksham are monumental trees that are indigenous to every historical Hindu temples [1]. Sthalavriksha refers to the plant of which 'Sthala' means Place and 'Vriksha' means tree. Sthalavriksha are valued for their botanical, medicinal, environmental, religious and mythical importance [2]. Sthalavriksha are an integral part of worship and their practice is still in vogue in Tamil Nadu and its bordering states of Kerala, Karnataka, Andhrapradesh and the neighbouring island nation Sri Lanka [3].

Sthalavrikshas are single plant and mostly in the form of a tree or in some places occurring as an herb, shrub, grass or climber. Many trees have been very important in Indian Mythology, such as *Emblica officinalis, Ficus religiosa, Anthocephalus chinensis, Mangifera indica Azadirachta indica* , *Prosopis cineraria*, *Stychnos-nux-vomica, Ficus glomerata, Eugenia jambolana, Acacia catchu, Vepris bilocularis, Bambusa arundinaceae, Mesua ferrca, Butea monosperma, Elaeodendron glaucum, Jasminum auriculatum, Aegle marmelos, Terminalia arjuna, Musa ferrea, Calamus sp., Atrocarpus heterophyllus, Calotropis gigantean and Madhuca longifolia* [4].

The Sthalavrikshas of Tamil Nadu constitute a part of genetic resources for the conservation of species diversity and forms an important biological heritage of our nation [5]. The social, economical, medicinal and environmental importance of these trees was recognised and the *Sthalavriksha* evolved as a means of conserving the land's rich genetic plant diversity. They are symbolic of a single genetic resource and play an important role in the conservation of biodiversity. Hence, the present was designed to enumeration

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and catalogue the stharavrilshas species and their associated details in the temples of Coimbatore.

2. MATERIALS AND METHODS

2.1. *Study area and Study period*

In Tamil Nadu state, Coimbatore has many temples and customary practice follows with religious faith and culture. So that Coimbatore district is selected as a study area. It is lies in the western part of Tamil Nadu state. It is bounded by the Nilgiris district in the northwest, Erode district in the East and Northeast, Dindigul district in the Southeast and Palakad district in Kerala in the west. It is located between 10°58' and 11°03' North latitude and between76°54' and 77°03' East longitude. Temples were frequently visited and surveyed for the Sthalavrikshas from the month of December 2019-February 2020.

2.2. *Taxonomic identification of Sthalavrikshas and its associated plants*

Sthalavrikshas were collected, photographed and characters were noted for the identification purpose. Plants were identified by Flora of the Presidency Madras [6] and Flora of the Carnatic Tamil Nadu [7]. Documentation of the associated plants of the Sthalavrikshas was recorded during observation. The Medicinal value information of the sthalavrikshas has collected from the available literature.

2.3. *Phenology and Conservation status of Sthalavrikshas*

The phenology of sthalavrikshas was documented by interviewing the priest and direct observation of plants. Threatened status of sthalavrikshas was determined based on the red data book of Indian plants (IUCN redlist.org. 2014).

3. RESULTS

3.1. *Enumeration of Sthalavrikshas*

The present investigation was carried out in coimbatore district to enumerate the sthalavrikshas associate with temple by field observation method. During the field visit temples were frequently visited and surveyed for the sthalavrikshas from the month of December 2019 - February 2020. The field visited areas are Vadamadurai, Thudiyalur, Saibabakovil, Kavundampampalayam, Marudhamalai, Perur, Thoppampatti, N.S.N palayam, Townhall, VSK Nagar, G.N, Mills, Mettupalayam and karamadai.

Table 1. list of Sthalavrikshas recorded in selected temples of Coimbatore

S. No.	Sthalavrikshas	No. of temples
1.	*Aegle marmelos* Corr.	1
2.	*Azardirachta indica* A.Juss	12
3.	*Canthium coromandium* L.	1
4.	*Careya arborea* Roxb.	1
5.	*Couroupita guianensis* Aubl.	1
6.	*Ficus benghalensis* L.	1
7.	*Ficus racemosa* L.	2
8.	*Ficus religiosa* L	15
9.	*Guettarda speciosa* L.	1
10.	*Hydnocarpus wightiana* Bl.	1
11.	*Moringa oleifera* Lam.	1
12.	*Nerium oleander* L.	2
13.	*Nycthanthes arbor-tristis* L.	1
14.	*Ocimum sanctum* L.	1
15.	*Prosopis cineraria* (L) Druce	2
16.	*Syzygium cumini* (L.) Skeels.	1
17.	*Tamarindus indica* L.	1
18.	*Terminalia arjuna* W. & A.	1
19.	*Thespepsia populnea* Cav.	1

A total number of 46 temples which include 10 Vinayagar and 18 Amman temple, 4 Siva temple,4 Perumal temple and 2 Ragukedhu temple, 1 Karuparayar temple, 3 Puthukannu kovil and 2 Murugar and 1 Saibaba temple. In usually most of the recorded Sivan temple sthalavriksha species was *Agle marmelous* but in perur Sivan temple 3 different Sthalavrikshas Species (*Guettarda speciosa, Borassus flabellifer and Tamarindus indica*) are observed. In our data collection totally 19 sthalavrikshas species belonging to 16 genera, encompassing 13 families were observed in different area of coimbatore

district. Karuparayar temple at V.S. K. Nagar *Careya arborea* sthalavriksha species, vanabhathakaliamman temple at mettupalayam *Hydnocarpus weightiana* sthalavrikshas species, Virundheeshwarar temple at vadamadurai *Moringa oleifera* sthalavrikshas temple, Lalithambigai temple and bala vinayagar temple sthalavrikshas is *Nerium oleander*, Narasima perumal at thoppampatti temple sthalavriksha is *Ocimum sanctum,* Aranganathar temple karamadi temple sthalavriksha is *Canthium coromandium,* Maruthamalai murugar temple sthalavriksha is *Terminalia arjuna.* In only one temple sthalavriksha was associate with other plant. In puthukannu at V.S.K. nagar the sthalavriksha *Azardirachta indica* is found associate with *Ficus religeosa* (Tables 1 and 2).

Table 2. List of Sthalavrikshas recorded during a survey of temple trees in Coimbatore

S. No.	Botanical name	Local name	Temple	Family	Phenology
1.	*Aegle marmelos* Corr.	Vilvam	Vilayatumariamman kovil, vadamadurai	Rutaceae	April-May
2.	*Azardirachta indica* A.Juss	Veppa maram	Muthalamman kovil, N.S.N palayam	Meliaceae	Feb-Aug
			Vanjiamman kovil, periyanayakan palayam		
			Magaliyamman kovil, periyanayakan palayam		
			Puthukannu kovil,ukkadam		
			Mriyamman kovil, periyanayakan palayam		
			Uchimagali amman kovil, N.S.N palayam		
			Batharakali amman, thopampatti		
			Magaliamman kovil, thudiyalur		
			Puthu kannu kovil, metupalayam		
			Vragheamman kovil, periyanayakan palayam		
			Magaliamman podanur		
3.	*Canthium coromandium* L.	Kaarai maram	Aranganathar kovil, karamadai	Rubiaceae	Jan-Mar
4.	*Careya arborea* Roxb.	Keluva maram	Karuparayan thiru kovil, V.S.K nagar	Lecythidaceae	July-Sep
5.	*Couroupita guianensis* Aubl.	Nagalingam maram	Sri Konni Amman kovil, town hall	Lecythidaceae	Nov-Jan
6.	*Ficus benghalensis* L.	Aalamaram	Adhimulan vinayagar, mettupalayam	Moraceae	Mar-june
7.	*Ficus racemosa* L.	Athi maram	Anuvavi Subramaniyan kovil	Moraceae	April-July
			Kanimar kovil, maruthamalai		
8.	*Ficus religiosa* L.	Arasamaram	Valampuri Vinayagar kovil, V.S.K nagar	Moraceae	Nov-Dec
			Mundhi viyagar, puliyakulam		

			Sakthi vinayagar, Vadamadurai		
			Puthukannu kovil, vadamadurai		
			Sri Konni amman kovil, town hall		
			Kannimar kovil, thudiyalur		
			Attru vinayagar kovil, perur		
			Ragu kethu kovil, thoppampatti		
			Patti vinayagar kovil, perur		
			Sakthi vinayagar kovil, metupalayam		
			Bathirakali amman kovil, thudiyalur		
			Vinayagar kovil, saibaba kovil		
			Aranganathar kovil, palamalai		
			Sri Magali amman kovil, thudiyalur		
9.	*Guettarda speciosa* L.	Panneermaram	Perur patteshwaras	Rubiaceae	April-May
10.	*Hydnocarpus wightiana* Bl.	Thothimaram	Vanabadrakali amman kovil, metupalayam	Achariaceae	Jan-April
11.	*Moringa oleifera* Lam.	Vana murungai	virundeeshwarar temple, vadamadurai	Moringaceae	April-June
12.	*Nerium oleander* L.	Aralichedi	Lingammal kovil, vadamadurai	Apocynaceae	April-June
			Bala vinayagar kovil, N.S.N. palayam		
13.	*Nycthanthes arbor-tristis* L.	Pavazhamalli	Sivan kovil, kanuvai	Oleaceae	Aug-Nov
14.	*Ocimum sanctum* L.	Thulasi	Narasima perumal, thoppampatti	Lamiaceae	Throughout the year
15.	*Prosopis cineraria* (L.) Druce	Vannimaram	Ragukethu temple, vadamadurai	Fabaceae	April-May
			Konniyamman kovil, town hall		
16.	*Syzygium cumini* (L.) Skeels.	Naval	Lalithambigai kovil, anuvavi	Myrtaceae	March-May
17.	*Tamarindus indica* L.	Pirava puli	Pateeshwarar temple perur	Fabaceae	July-Dec
18.	*Terminalia arjuna* W. & A.	Marudhamaram	Murugar temple, Marudhamalai	Combretaceae	April-June
19.	*Thespepsia populnea* Cav.	Puvvarasha	Balaganapathi, N.J puram	Malvaceae	Throughout the year

Table 3. Sthalavrikshas observed in coimbatore and their medicinal utility and IUCN category

S. No	Botanical name	Family	Plant part	Medicinal use	IUCN status
1.	*Aegle marmelos* Corr.	Rutaceae	Ripe fruits and seeds	Laxative	Threatened
			Flowers	Antidiarrhoeal.	
2.	*Azardirachta indica* A. Juss	Meliaceae	seed oil	Antiseptic	Not evaluated
			Kernel oil	Antifungal, antimicrobial, skin diseases.	
			Leaves	Antidiabetic	
			Leaf	Stop vomitting	
3.	*Canthium coromandium* L.	Rubiaceae	Root	Antitode for snakebite	Vulnerable
			Bark	Head ache	
4.	*Careya arborea* Roxb.	Lecythidaceae	Flower	Cold	Least concern
			Bark	Skin infection	
5.	*Couroupita guianensis* Aubl.	Lecythidaceae	Bark	Skin infection	Least concern
6.	*Ficus benghalensis* L.	Moraceae	Latex	Rheumatism, ulcers	Least concern
			Root	Long hair	
			Bark	Anti diabetic and dysentery	
7.	*Ficus racemosa* L.	Moraceae	Leaf	Bronchitis	Least concern
			Fruit	Astringent, stomach ache	
			Root	Antidiabetes	
8.	*Ficus religiosa*s L.	Moraceae	Bark	Astringent, wounds.	Least concern
			Leaf	Laxative	
			Fruit and seed	Laxative	
9.	*Guettarda speciosa* L.	Rubiaceae	Bark	Wounds, chronic dysentry	Least concern
10.	*Hydnocarpus wightiana* Bl.	Achariaceae	Seed oil	Leprosy	Not evaluated
11.	*Moringa oleifera* Lam.	Moringaceae	Seed	Anti tubercular	Vulnerable
12.	*Nerium oleander* L.	Apocynaceae	Leaf	anti inflammatory	Least concern
			Root	Ulcers	
13.	*Nycthanthes arbor-tristis* L.	Oleaceae	Leaf	Fever, rheumantism	Not evaluated
			Seed	Anti dandruff	
14.	*Ocimum sanctum* L.	Lamiaceae	Root	Malarial fever	Least concern
			Leaf	Cold, cough	
15.	*Prosopis cinararia* (L.) Druce	Fabaceae	Flower	Safeguard miscarriage.	Threatened
			Bark	Rheumantism	
			Pod	Astringent	
16.	*Syzygium cumini* (L.) Skeels.	Myrtaceae	Seed	Anti diabetes	Not evaluated

17.	*Tamarindus indica* L.	Fabaceae	Fruit	Laxative	Least concern
			Leaf	Anti inflamatory	
18.	*Terminalia arjuna* W. & A.	Combretaceae	Fruit oil	Rhemantism	Not evaluated
19.	*Thespepsia populnea* Cav.	Malvaceae	Latex	Antifungal	Least concern

Prabakaran and Sabarilakshmi [2] reported Balasubramaniya samy and Sakradevi temple at Othumalai temple sthalavriksha is *Syzgium cumini* and we are recorded Lalithambigai temple at annuvav temple sthalavriksha *Syzgium cumini*. In sri Iyamar swamy at sempulichipalayam temple sthalavriksha is *Nycthanthes arbortristis* [8] but in our findings kanuvai shivan temple sthalavriksha is *Nycthanthes arbortristis.* Periyaswamy and Saranya [9] reported Karuppanar temple at Bhavani temple Sthalavriksha is *Thespesia populnea* but in our findings Balaganapathi at N.J puram temple *sthalavriksha* is *Thespesia populnea.* In Athimulur Vinayagar temple *sthalavrikshas* species *Ficus bengalensis* was observed. Gunasekaran and Balasubramanium [3], Sharma Tarun *et.al.* [9] and Prabakaran and Sabarilakshmi [2] documented the muthumariamman temple sthalavriksha is *Azardirachta indica* and we also get the similar result in our data collection.

Sharma Tarun *et al.* [8] observed *Tamarindus indica* as sthalavrikhas species in Subramaniya swamy temple but in our observation Perur Shivan temple sthalavrikhas species *Tamarindus indica.* Shivalingam *et al*., [10] enlisted *Prosopis cineraria* temple sthalavrikshas associated with Vridhagireeswami temple, Kailasanathat temple and Karpooranathaeswarar temple. In our findings *Prosopis cineraria* was associated with Konniamman kovil and Vinayagar kovil. Shivalingam *et al*., [10] reported Shivan temple sthalavriksha is *Ficus religiosa* were alike to our findings. Gunasekaran and Balasubramanium [3] and Sharma Tarun *et.al.* [8] were found Natadreeswarar at Karunkalpalayam temple *Sthalavrikshas* is *Ficus racemosa* but in our observation *Ficus racemosa* is temple Sthalavriksha species in Annuvavi Subramaniyar kovil and Kannimar kovil. All the recorded 19 plant species are having medicinal properties. The flowering and fruiting stage of the sthalavriksha were recorded and present in the Table 2.

3.2. *Biocultural aspects of sthalavrikshas*

In Subramaniya swamy temple at maruthamalai and Konniamman temple at townhall the sthalavriksha *Ficus religiosa* and Uchi magaliamman temple at N.S.N. palayam the sthalavriksha *Azardirachta indica* were considered as the God. In those trees are placing turmeric and kumkum, lighting of camphor and also keep flowers, tie yellow rope and cradle on the tree, people trust these kinds of worship helps for quick marriage for virgin women and pregnant women pray for getting children.

3.3. *Conservation status of Sthalavrikshas*

According to IUCN Redlist category and criteria version 3.1 (IUCN ,2013). Four different types of species are found Vulnerable (Vu), Threaten (T), Least concen (Lc) and Not evalvates (NE) at local level. Out of this 2 species (*Aegle marmelos*, *Prosopis cinararia*) are threatened, 10 species are least concern and two are vulnerable (table 3). In India , many individual plants are considered sacred and worshipped as well as protected. Prominent among them are *Aegle marmelos, Ficus religiosa* and *Ocimum sanctum* in India, Mapple leaf tree in Canada, Red wood tree in America and *Ficus religiosa* as wellas *Ginko biloba* in China and Bhutan [11].

4. DISCUSSION

Sthalavrikshas are very common in India. They are found in villages, in the countryside and the heart of some temples. Gunasekaran and Balasubramanian (2012) enumerated the ethnomedicninal uses of sthalavrikshas occurring in the temples of Tamilnadu and observed 101 sthalavrikshas species. Sivalingam *et al*. (2016) access the conservation status of 383 temple sthalas in Tamil Nadu and recorded 16 plant species with their religious and medicinal uses. Prabakaran and sabarilakshmi (2017) surveyed the Sthalavriksha of 106 temples in Salem, Namakkal, and Kaurur district of Tamil Nadu.and recorded the 18 plant species with the medicinal uses. The survey of sthalavrikshas of temples was conducted (Periyasamy and Saranya 2018) in Erodes district of Tamil Nadu and total number of 25 sthalavriksha species belongs to 14 families and 25 genera were recorded. These sacred plants are worshiped by the local people for getting the

blessing of health and wealth by positive powers of nature.

5. CONCLUSION

These sacred plants are worshiped by the local people for getting the blessing of health and wealth by positive powers of nature. Sthalavrikshas are germplasm reservers and an indicator of socio-cultural conservation strategy. Proliferation of sthalavrikshas in temples devotes to the conservation of our floral diversity. So, it is the work of contemporary generation to preserve and promote these aesthetic treasures to conserve biodiversity and nature, which will surely play a part in progeression of human beings.

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