

Religious Important Sacred Plants from selected Sacred Groves of Kottayam District, Kerala, India**Haritha R. Nair¹, Binu Thomas^{1*}, V.B.Anish Babu² V.T.Antony² and M.C.Varghese¹**

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Report

Abstract: The present paper highlights the religious importance of sacred plants were occur in the four different sacred groves such as Kurinjikavu, Panachikadu Saraswathi Temple, Illapozhuthukavu and Thoovakkalmala Sasthakavu, Kottayam District, Kerala. During the present study, first time reported in these region of 56 plant species is belonging to 50 genera and 29 families.

Key words: Sacred groves, Religious important, Sacred plants, Kottayam, Kerala

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1. Introduction

Sacred groves have existed from time immemorial all over the world as patches of densely wooded areas having unique flora and fauna with perennial water sources in the vicinity. Many sacred groves have been preserved as sustainable resources, ensuring the basic capital intact and hence considered valuable gene pool and the first major effort to recognize and conserve biodiversity (Gadgil and Vartak, 1976). In India, they are known from the Himalayas, Northeast India and highlands of Bihar, Orissa, Madhya Pradesh, Andhra Pradesh, Karnataka, Tamil Nadu and Kerala. Sacred groves are important, not only because they are sacred, but the scientific, economical, social and spiritual values implicit in them will have to be made explicit (Bhandari and Chandrashekhar, 2003).

Sacred groves also perform several ecological functions, which can directly or indirectly help in the maintenance of ecosystem health of all interacting landscape units. A sacred grove with their complex array of interaction influences the flora and fauna of the region as well as the microclimate of that locality (Induchoodan, 1996). The soils of sacred groves show high porosity and low bulk density compared to the soils of the vicinity. The thick litter cover and channels created by soil macro fauna together enhances water retention, root system development, gaseous exchange and heat conductance. It also possesses some micro watersheds in which many flora and fauna are nourished (Rajendraprasad *et al.*, 1998).

Sacred groves are a very ancient and widespread phenomenon in the old world cultures. Such groves are one of the finest examples of traditional *in situ* conservation practices, which dates much prior to the modern concept of wildlife reserves. These are patches of natural near-climax pristine vegetation of trees and

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Associate groups of organisms, managed as a part of local cultural tradition. Sacred groves are found in range of ecological situations, from coast to the Ghats (Pushpangadan *et al.*, 1998). Many plant species like herbs, shrubs, climbers and lianas, trees and epiphytes can supports a wide range of local biodiversity. In addition to this, with the destruction of forests around them, such valuable groves become the last refuge of many plant species which are of considerable economic value. Hence it also called as islands of biodiversity (Nair *et al.*, 1997).

2. Materials and Methods

2.1 Study area

The present study is confined to four unexplored sacred groves in Kottayam district, Kerala are Kurinjikavu, Panachikadu Saraswathi Temple, Illapozhuthukavu and Thoovakkalmala Sasthakavu (Plate-1)

2.1.1 Kurinjikavu

This kavu is situated in the pala - thodupuzha road at Kurinji of Kottayam district, Kerala. This grove is a part of Kurinji Sree Krishna Temple. From this temple the grove is located in the valley called "Kurinjikoomban". The main deity in the grove is Vanadurga and other co-deities are also here. The grove contains high level of species richness. It is of about 3 hectares. It is the only grove in Kerala with presence of thousands of old "Muniyaras", which are created by god Parsurama. Now the grove is managed by Kondoor Nair family trust.

2.1.2 Panachikadu Saraswathi Temple

Panachikadu Temple is a Hindu temple for the goddess Sarawathi, situated in an idyllic and beautiful place Panachikadu. It is in the Panachikadu Panchayat, Kottayam district of Kerala, India. It is a Saraswathi temple, dedicated to goddess Sarawathi, the goddess of art and learning. It is also known as the Dakshina Mookambika Temple. In addition to Sarawathi. The god Vishnu also one of the deity. In this temple there are separate groves for Saraswathi, Nagaraja, Nagayakshi and Sastha. It is of about 2 hectares. The temple belongs to nearby Namboothiri families.

2.1.3 Illapozhuthukavu

The grove is located at Nechipuzhuoor, 3km away from Pala- Ramapuram road of Kottayam district, Kerala. The main deity in the grove is god Bhagavathy.

It also called as Bhagavathykavu. The floristic diversity of this grove is highly significant. The grove is maintained by local trust of a Harijan tribal community. It is about 2 hectares with diverse tree forms and some medicinally important plants.

2.1.4 Thoovakkalmala Sasthakavu

This grove is situated on Koovakkal hills at Valavoor, 3 km away from Pala-Koothattukulam road of Kottayam district of Kerala. It is a rocky grove with vegetation is flourished around it. The main deity in the grove is God Sastha along with their some other co-deities. Hence it is also called as Sasthakavu. The grove is about 1 hectares. The grove is managed by Thamarasseril Namboothiri families.

2.2 Documentation

The data for this study were collected by personal interviews during December 2013- May 2014, the area were frequently surveyed for gathering information associated with sacred groves with an emphasis on ecological aspects based on a pre-structured questionnaire consisting of questions related to the plants and their religious importance, purposes and relation to god, the superstitious effects or myths related to certain plants and their medicinal uses etc. were documented and identified with the help of Flora of presidency of Madras by Gamble and Fischer (1936).

3. Results and Discussion

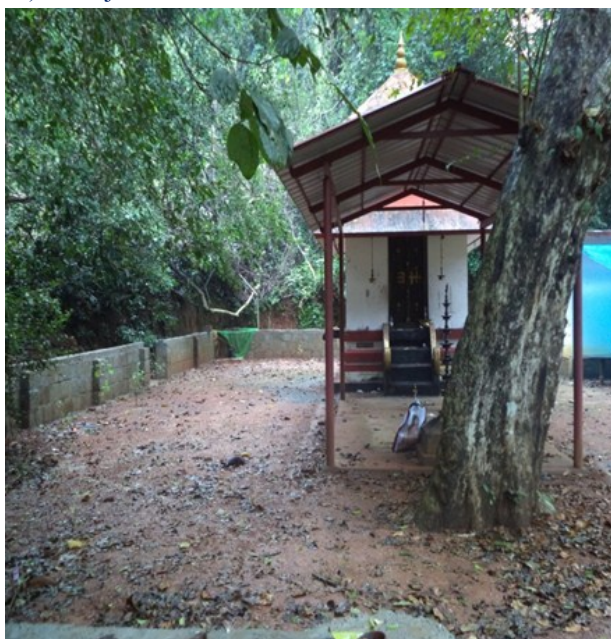
The present paper highlights the religious importance of sacred plants were occur in the four different sacred groves such as Kurinjikavu, Panachikadu Saraswathi Temple, Illapozhuthukavu and Thoovakkalmala Sasthakavu of Kottayam district, Kerala. During the study, there are about 56 species of plants are belonging to 50 genera and 29 families (Table-1). Among these 29 families represented Apocynaceae and Moraceae are the dominant families with 5 species each followed by Caesalpiniaceae with 4 species. The families like Fabaceae, Rubiaceae, Oleaceae, Arecaceae and Poaceae with 3 species each (Fig.1). All other families represented with single species each. In order to infer the dominant genera reveals that, among the total 50 genera represented, *Ficus* is the first dominant genus with 4 species followed by *Jasminum* with 3 species and *Terminalia* with 2 species. The different life forms present in the sacred groves are consist of Trees (26 Nos.), Shrubs (12 Nos.), Climbers (6 Nos.) and Herbs (12 Nos.) (Fig.2).



A) Kurinjikavu



B) Panachikadu Saraswathi Temple



C) Illapozhuthukavu



D) Thoovakkalmala Sasthakavu

Plate-1: Sacred groves of Kottayam District, Kerala, India

The role of sacred groves for the phytodiversity conservation in Rajouri district of Jammu and Kashmir, India was studied by Gupta and Sharma, (2013). According to them sacred groves are a group of trees or a patch of

vegetation protected by the local people through religious and cultural practices evolved to minimize destruction. Nature worship is an ancient Indian tradition and all forms of life have been considered as sacred.

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In this study, there are about 75 plant species were enumerated. Among these trees are more prominent (48 species) than other life forms. The tree species like *Ficus religiosa*, *Olea ferruginea*, *Ficus palmata*, *Grevillea robusta* etc. are the dominant species in such groves. The socio-cultural perspectives to the sacred groves and serpentine worship in Palakkad district of Kerala was studied by Murugan *et al.*, (2008).

According to their studies deities worshipped in the groves are also highly varied. The sacred grove is dedicated to serpent god is called as *sarpakavu*. Such serpent worship is considered to be one of the oldest and most prevalent forms of nature worship in Kerala.

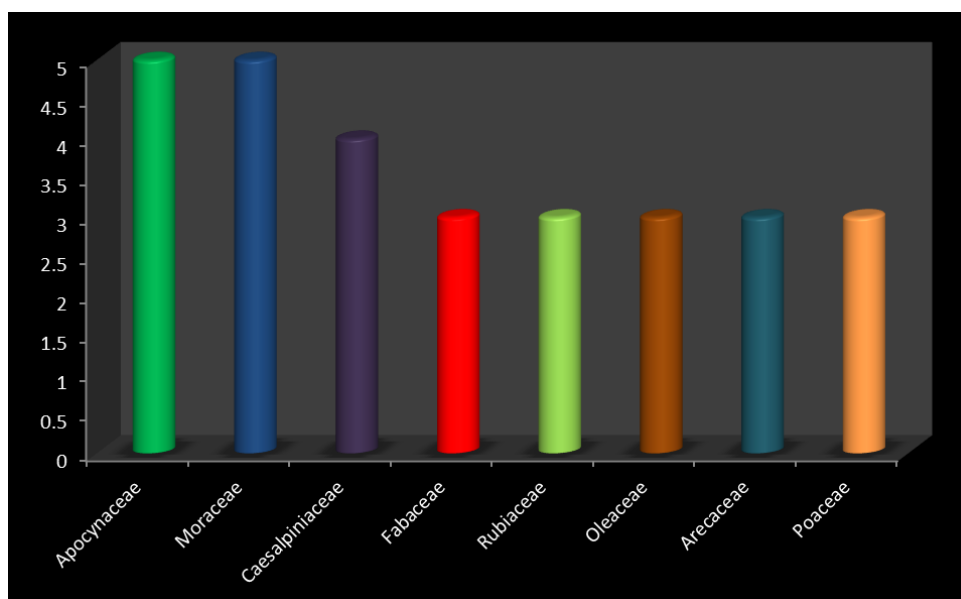


Fig. 1: Analysis of Dominant families of sacred plants

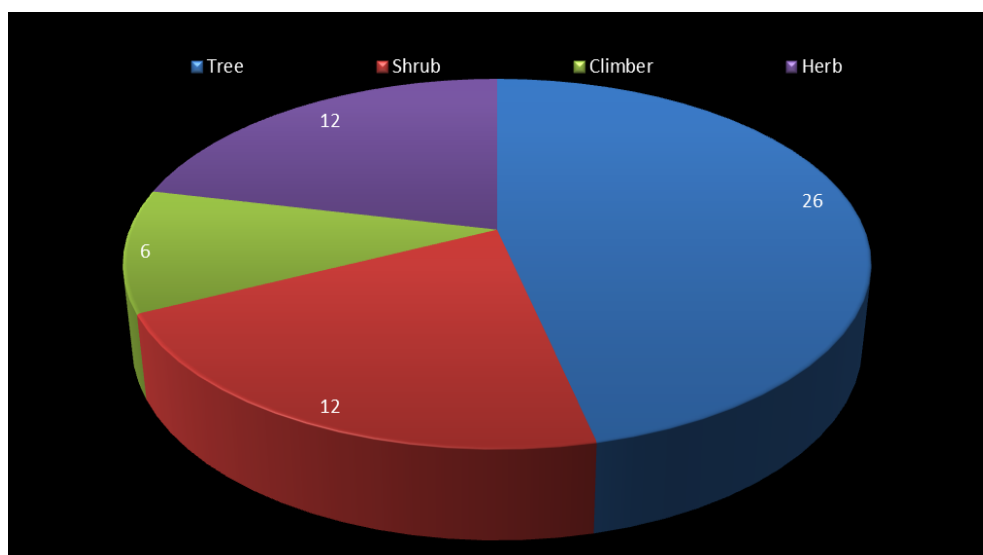


Fig. 2: Life form analysis of sacred plants which occur in the study area

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A) *Anamirta cocculus* (L.) Wight & Arn.B) *Antiaris toxicaria* Lesch.C) *Cauroupita guianensis* Aublet, Hist.D) *Elaeocarpus munronii* (Wight) Mast.

Plate-1: Plants of Sacred Groves

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A) *Ficus racemosa* L.B) *Ficus tinctoria* G. Forst.C) *Haldina cordifolia* (Roxb.) Ridsd.D) *Sterospermum colais* Mabb.

Plate-2: Plants of Sacred Groves

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Table-1 List of religious important plants from the selected groves of Kottayam district, Kerala, India

S No.	Botanical Name	Family	Religious Importants
1.	<i>Abrus precatorius</i> L.	Fabaceae	Seeds are used as offerings to Lord Krishna.
2.	<i>Acacia caesia</i> (L.) Willd.	Mimosaceae	It is associated with the Lord Agni deva.
3.	<i>Achyranthes aspera</i> L.	Amaranthaceae	The entire plant is used for some poojas
4.	<i>Aegle marmelos</i> (L.) Correa	Rutaceae	The leaves of this plant are dedicated to Lord Shiva on the occasion of Mahashivaratri and other religious occasion.
5.	<i>Aerva lanata</i> (L.) Juss. ex Schult.	Amaranthaceae	It is used by Hindus for ceremonial rituals.
6.	<i>Alstonia scholaris</i> (L.) R. Br.	Apocynaceae	This tree is believed to have some evil spirit. This spirit may disturb those who choose the branches of this tree as one of the habitat.
7.	<i>Anamirta cocculus</i> (L.) Wight & Arn.	Menispermaceae	This liana is considered to be sacred.
8.	<i>Antiaris toxicaria</i> Lesch.	Moraceae	The tree bark is used in the ancient period as clothing of yogis.
9.	<i>Azadiracta indica</i> A. Juss.	Meliaceae	One of the most sacred trees and is considered to be of divine origin; amrita (the elixir of immortality) was being carried to heaven and a few drops of it fell on the Neem tree; people believe the tree to be a manifestation of Goddess Durga. Leaves of this plant are hanged on the door of concerning family after returning the cremation to avoid the bad effect of soul.
10.	<i>Bambusa bambos</i> (L.) Voss	Poaceae	The stem of this plant is buried under the ground of Mandapam where marriage ceremony is organized.
11.	<i>Bauhinia acuminata</i> L.	Caesalpiniaceae	Flowers are used for pooja purposes.
12.	<i>Biophytum sensitivum</i> (L.) DC.	Oxalidaceae	It is a member of "Dashapushpam" and it is used during the Thiruvathira at Dhanu month in Malayalam calendar.
13.	<i>Borassus flabellifer</i> L.	Arecaceae	The tree is considered to be the homage of Yakshi and other souls.
14.	<i>Butea monosperma</i> (Lam.) Taub.	Fabaceae	Branches and leaves of this plant are used in the occasion of marriage ceremonies to cover the marriage Mandapam. The fibers of root are tied at the time of Bakrabandhu Purnima. It is also worshiped by ladies on the occasion of Akshay Tritiya. The young petiole used in many poojas.
15.	<i>Calotropis gigantea</i> (L.) R. Br.	Apocynaceae	The flowers are offered to Lord Siva.
16.	<i>Cardiospermum halicacabum</i> L.	Sapindaceae	It is used during the Thiruvathira at Dhanu month in Malayalam calendar.
17.	<i>Caryota urens</i> L.	Arecaceae	Toddy obtained from the plant is used in some rituals in groves.
18.	<i>Cassia fistula</i> L.	Caesalpiniaceae	This tree is considered to be sacred; its attracting yellow flowers are known as "Karnikara" and is one of the symbol of prosperity in the Malayalam festival "Vishu"
19.	<i>Caurouputa guianensis</i> Aublet, Hist.	Apocynaceae	The fragrant flowers are used for pooja purposes. In India the tree is sacred to Hindus, who believe its hooded flowers look like the naga, and it is grown at Shiva temples.
20.	<i>Clitoria ternatea</i> L.	Fabaceae	It is considered as sacred plant and planted by people in their houses for pooja purposes and also for some medicinal uses.
21.	<i>Corypha umbraculifera</i> L.	Arecaceae	Leaves are used for making parasolas near temples. It is also used for making olakkudas during rituals.

Table Continue.....

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22.	<i>Cynodon dactylon</i> (L.) Pers.	Poaceae	It is used on the occasion of holy functions, festivals and marriages etc. Plant is also used at the time of child birth to convey the message to the parent of married woman. It also associated with Lord Ganesh.
23.	<i>Delonix regia</i> (Boj. ex Hook.) Rafin .	Caesalpiniaceae	The dried leaf powder is used for "Kalamezhuthupattu" in temples.
24.	<i>Elaeocarpus munronii</i> (Wight) Mast.	Elaeocarpaceae	There is a general belief in India that Rudraksha beads dispel the evil spirits. It also keeps away from misfortune. Because of the association with Siva, rudraksha beads are considered sacred by the followers of Siva.
25.	<i>Emilia sonchifolia</i> (L.) DC.	Asteraceae	It is used during the Thiruvathira at Dhanu month in Malayalam calendar.
26.	<i>Evolvulus alsinoides</i> (L.) L.	Convolvulaceae	It is sacred to Lord Vishnu.
27.	<i>Ficus bengaliensis</i> L.	Moraceae	It is considered as sacred and divine tree. Hindu ladies worship it for the long life of their husband. The ability of the tree to support its ever growing branches and the adventitious roots from its branches, which hang down and act as props over an ever widening circle, represents eternal life and the tree is therefore, considered a symbol of long life.
28.	<i>Ficus racemosa</i> L.	Moraceae	The tree is held sacred by the Hindus and its wood is included in the Homa ceremony. It is a highly medicinal plant and its fruit is kept on head of a person to expel evil spirit. Some of the concepts like, the roots of the plant are considered to be Brahma, its bark as Vishnu and its branches as Siva.
29.	<i>Ficus religiosa</i> L.	Moraceae	People believed that god and goddess live in the root, stem and leaves of this tree. Hence it is worshipped by Hindu families. It belongs to "Nalpanamara"
30.	<i>Ficus tinctoria</i> G. Forst.	Moraceae	Leaves are used to keep for eliminate various ailments.
31.	<i>Glycosmis pentaphylla</i> (Retz.) DC.	Rutaceae	The tree is associated with Lord Krishna
32.	<i>Haldina cordifolia</i> (Roxb.) Ridsd.	Rubiaceae	This plant is used in Hindu rituals such as homas.
33.	<i>Hedyotis corymbosa</i> (L.) Lam.	Rubiaceae	
34.	<i>Hydnocarpus pentandra</i> (Buch.-Harn.) Oken, Allg.	Flacourtiaceae	The seed coat is used as a small carrier of oil instead of lamps.
35.	<i>Ixora coccinea</i> L.	Rubiaceae	The flower is considered to be sacred and used in pooja purposes.
36.	<i>Jasminum angustifolium</i> (L.) Willd.	Oleaceae	It is considered as a symbol of happiness and prosperity. So, People planted it in their houses.
37.	<i>Jasminum grandiflorum</i> L.	Oleaceae	It associated with Lord Shiva and Lord Vishnu.
38.	<i>Jasminum multiflorum</i> (Burm.f.) Andr.	Oleaceae	Used in holy purposes.
39.	<i>Leucas indica</i> (L.) R. Br. ex Vatke	Lamiaceae	Flower is considered to be sacred and associated with Lord Siva.
40.	<i>Mangifera indica</i> L.	Anacardiaceae	The leaves of mango tied in a string are hanged on the door at the time of child birth, marriage ceremony and other holy functions. Branches and leaves are also used to cover the marriage Mandapam.
41.	<i>Michelia champaca</i> L.	Magnoliaceae	Flowers are offered to Lord Shiva as well as to Lord Krishna. It also for the source of cooling and moisturizing agent.
42.	<i>Monochoria vaginalis</i> (Burm. f.) Presl	Pontederiaceae	Flowers are offered to Lord Siva.
43.	<i>Nerium oleander</i> L.	Apocynaceae	Flowers are used in pooja purposes.
44.	<i>Nymphaea nouchali</i> Burm.f.	Nymphaeaceae	Flowers are sacred to goddess Durda.

Table Continue.....

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45.	<i>Ocimum tenuiflorum</i> L.	Lamiaceae	One of the most sacred plants in India; It is worshiped and cultivated in the Hindus homes. People believed that if Tulsi is kept on the head of dying man he gets heaven. Brahmins consider the plant as a wife of Vishnu. But in Kerala, the Nairs associate the plant with Siva, According to them, Tulasi is sacred to Siva and by worshipping Tulasi daily; they don't have to go elsewhere for worshipping Siva. They believe that by drinking the water in which a few leaves of Tulasi have been soaked, they can cure themselves of all kinds of disease. It is regarded as a goddess and a consort of Lord Vishnu.
46.	<i>Plumeria alba</i> L.	Apocynaceae	According to the Hindus and Buddhists the tree is an emblem of immortality, because of its extraordinary capacity of continuing to produce flowers and leaves even after it has been uprooted. For this reason the tree is frequently planted near temples by the Hindus and the Buddhists. They offered the flowers in their temples.
47.	<i>Saraca asoca</i> (Roxb.) Wild.	Caesalpiniaceae	Trees in India have always been treated like human beings, endowed with a soul; a heart that weeps with grief and laughs with joy. They have feelings and aspirations like ordinary mortals. Asoka trees with its rich red blossoms: "shines like a young warrior bathed in the sanguine shower of the furious fight". Asoka means 'without grief and therefore, the Asoka tree is believed to be a remover of sorrow. It used for making holy "punyaha"
48.	<i>Solanum viarum</i> Dunal	Solanaceae	
49.	<i>Sterospermum colais</i> (Buch.-Ham. ex Dillw.)Mabb.	Bignoniaceae	This is a tall, deciduous tree and possesses large purple coloured bilabiate flowers. This tree is associated with Siva worship.
50.	<i>Tabernaemontana divaricata</i> (L.) R. Br. in Roem. & Schult.	Apocynaceae	Flowers are used in Pooja purposes.
51.	<i>Terminalia bellirica</i> (Gaertn.) Roxb.	Combretaceae	It is a member of Triphala. More over the seeds are used in some religious rituals.
52.	<i>Terminalia cuneata</i> Roth, Nov.	Combretaceae	The plant is associated with the Mahabharata.
53.	<i>Thespesia populnea</i> (L.) Soland. ex Correa	Malvaceae	Flowers are used in Pooja purposes.
54.	<i>Tinospora cordifolia</i> (Willd.) Hook.f.	Menispermaceae	The stem is used in several religious rituals in Hindu belives.
55.	<i>Vernonia cinerea</i> (L.) Less.	Asteraceae	Plant is used for some Pooja purposes.
56.	<i>Vetiveria zizanioides</i> (L.) Nash	Poaceae	It is associated with Lord Shiva; it also believed that Buddha attained enlightenment while meditating on a mat of this plant.

The present study also emphasize the religious importance of *Ficus* species like *Ficus benghalensis* L., *Ficus racemosa* L., *Ficus religiosa* L. and *Ficus tinctoria* G. for using various rituals. The studies of Anish Babu et al. (2014) on Sacred grove at Moonamkadavu, Kasaragod District, Kerala was reveals that, the sacred groves in the particular region has contributed more to the biodiversity of that area. According to them sacred groves are potential microhabitats for conserving rare, endemic and threatened plants. The sacred groves possess phytodiversity in different life forms like herbs,

shrubs, climbers and lianas. Among these trees are the dominant vegetation. It may provide suitable habitats like various epiphytes and fauna. They also highlight the importance sacred trees like *Ficus* for maintaining ecological balance of this ecosystem.

Conclusion of the present study, rich species diversity in these groves makes it becomes biological hotspots. Anthropogenic activities like collection of firewood, dumping of waste and many antisocial elements are the major threats for the gene pool of these fragile ecosystems.

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More over such groves possess various floristic elements with valuable economic, ecological and religious importance. Thus the conservation of biodiversity of these sacred groves is an urgent need for future generation.

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