



Floristic Diversity of Sacred Grove of Pathirakunnath Mana, Chalavara, Palakkad District, Kerala State

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<p><i>Received: 10th Oct 2022</i> <i>Revised: 20th Oct 2022</i> <i>Accepted: 1st Nov 2022</i></p> <p>CC License CC-BY-NC-SA 4.0</p>	<p style="text-align: center;"><i>Abstract</i></p> <p>An exploratory survey conducted in Pathirakunnath Mana Pambum Kavu is present in Chalavara Gramapanchayath, Ottapalam taluk of Palakkad district, Kerala state lead to the collection of 86 species coming under 74 genera and 23 families. Among them, 8 endemic, rare and redlisted plants are represented here and also including 31 medicinal plants.</p> <p>Key words – Diversity, Pathirakunnath Mana, Endemic, Palakkad.</p>
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I. INTRODUCTION

The preserved forest patches, or protected areas, are known as sacred groves. Kerala's sacred groves are closely associated with particular religious traditions. The primary tenets of conservation are cultural, artistic, and religious; in certain regions, these sacred groves are consecrated to various deities, such as serpentine gods, Nagadevatha, Nagayakshi, etc. Sacred groves, which are found in India and other regions of Asia and Africa, are one of the unofficial methods for preserving a region's biological variety and are crucial for preserving elements of the environment that are running low, including medicinal plants. (Bhandary and Chandrashekar, 2003). According to Nair (1992) in sacred groves there are reportedly more plants and shrubs in the disturbed zone. Owing to rationalization, urbanization, and industrialization combined with a lack of land, these areas are shrinking and losing cover. As a result, a large portion of the area is diverted for other uses, leaving only a small portion, particularly near the temple. (Devaraj., *et al* 2005). According to Rajasri Ray *et al.*, (2014) Sacred groves are still important in rural India where traditional communities live, even though they may not be as important as they once were. Kerala is home to over 1500 diverse and biologically unique sacred groves. Kerala's sacred groves are primarily found in the districts of Kasargod, Kannur, Kozhikode, Thrissur, Palakkad, Ernakulam, and Alappuzha. Balasubramanyan and Induchoodan (1999) recorded a total number of 761 sacred groves in Kerala State.

Hindus in Kerala have a custom of designating a portion of their property, known as "Kavu" or "Sarpakavu," next to the Tharavadu, or house, as the home of goddess Durga, the serpent god Naga, or Shasta. It is forbidden for people to fell trees, and it is even frowned upon to remove a twig. Sacred trees in the center of human settlements manage soil and water conservation in addition to biological variety preservation.

II. STUDY AREA

Pathirakunnath Mana Pambumkavu is one among this and located near Shornur, Chalavara Grama Panchayath of Palakkad district. The Pathirakunnath Mana family is in charge of this kavu's administration. The area is about 400 cent. The deity is Nagam. A mud road splits this kavu in to two parts. The present study conducted in the Pathirakunnath Mana Pambumkavu has resulted in the collection of 86 taxa of angiosperms coming under 74 genera and 23 families. Out of these, 08 rare, endemic, red listed and taxonomically important species are enumerated here. (Table 1). The voucher specimens are deposited at the Sree Krishna College, Guruvayur.

III. MATERIALS AND METHODS

Two specimens of each species were gathered during visits to the sacred forest, and they were methodically tagged and numbered. Notable field observations included behavior, plant phenology, leaf color, texture, and scent, quantity, local names, and available uses. Each species in fresh condition was critically studied with the help of floras like, Flora of Presidency of Madras (Gamble, 1915-1936). The plants were identified with the help of floras and finally by comparing with the reference collections available in the Herbarium of Kerala Forest Research Institute, Peechi. The species were often poisoned, processed and labeled, by standard herbarium methods given by Santapau (1955) and Jain & Rao (1977). The species name and family are given by Angiosperm Phylogenetic Group Classification, APG IV (2016).

IV. RESULTS AND DISCUSSION

The present study conducted in the Pathirakunnath Mana Pambumkavu has resulted in the collection of 86 taxa of angiosperms coming under 74 genera and 23 families including 17 herbs, 19 shrubs, 39 trees and 11 climbers. Out of 86 species 8 plants are Endemic, 33 Exotic and 31 medicinally important were collected. (Table 1).

Table 1. Species recorded from Pathirakunnath Mana Pambum kavu

Sl. No.	Coll. No.	Botanical Name	Family	Local Name	Habit	System of Medicine	Status
1	133	<i>Achyranthes aspera</i> L.	Amaranthaceae		Herb		
2	158	<i>Aerva lanata</i> (L.) Juss. ex Schult.	Amaranthaceae	Chreoola	Herb	A,F	
3	326	<i>Alangium salviifolium</i> (L.f.) Wang.	Alangiaceae		Tree		
4	146	<i>Allamanda cathartica</i> L.	Apocynaceae		Shrub		Exotic
5	107	<i>Alstonia scholaris</i> (L.) R. Br.	Apocynaceae	Ezhilampala	Tree	A,F	
6	112	<i>Alternanthera betzickiana</i> (Regel) Voss	Amaranthaceae		Herb		Exotic
7	196	<i>Alternanthera brasiliana</i> (L.) Kuntze	Amaranthaceae		Herb		Exotic
8	122	<i>Amaranthus spinosus</i> L.	Amaranthaceae		Herb	A,F	Exotic
9	189	<i>Amorphophallus paeoniifolius</i> (Dennst.) Nicolson	Araceae		Herb	A,F,S	
10	211	<i>Anacardium occidentale</i> L.	Anacardiaceae	Parankimavu	Tree	A,F	Exotic
11	236	<i>Andrographis paniculata</i> (Burm. f.) Wall. ex Nees	Acanthaceae		Herb	A,F,H,S,U	
12	195	<i>Annona muricata</i> L.	Annonaceae		Tree		Exotic
13	254	<i>Annona reticulata</i> L.	Annonaceae	Seethapazham	Tree	A	Exotic
14	176	<i>Annona squamosa</i> L.	Annonaceae	Ramapazham	Tree	A	Exotic
15	182	<i>Areca catechu</i> L.	Arecaceae	Kavungu	Tree	A,F,S	
16	131	<i>Aristolochia ringens</i> Vahl	Aristolochiaceae		Shrub		Exotic
17	119	<i>Barleria cristata</i> L.	Acanthaceae		Shrub		Exotic
18	117	<i>Barleria prionitis</i> L.	Acanthaceae		Shrub		
19	109	<i>Bauhinia purpurea</i> L.	Caesalpiniaceae		Tree	A,S,F	Exotic
20	101	<i>Bauhinia variegata</i> L.	Caesalpiniaceae		Tree	A,S,F	Exotic
21	100	<i>Biancheea sappan</i> (L.) Thod.	Caesalpiniaceae		Tree		Exotic
22	306	<i>Bixa orellana</i> L.	Bixaceae		Tree		Exotic

23	168	<i>Blepharis maderaspatensis</i> (L.) Heyne ex Roth	Acanthaceae		Herb		
24	164	<i>Bombax ceiba</i> L.	Bombacaceae		Tree		
25	361	<i>Borassus flabellifer</i> L.	Arecaceae	Karimpana	Tree	A,F,S	Exotic
26	159	<i>Carica papaya</i> L.	Caricaceae	Papaya	Tree	A	Exotic
27	186	<i>Caryota urens</i> L.	Arecaceae	Eerampanan	Tree	A,F,S	
28	388	<i>Cascabela thevetia</i> (L.) Lippold	Apocynaceae		Shrub		Exotic
29	181	<i>Cassia fistula</i> L.	Caesalpiniaceae	Kanikkonna	Tree	A,F,S	
30	173	<i>Casuarina equisetifolia</i> L.	Casuarinaceae		Tree		Exotic
31	171	<i>Ceiba pentandra</i> (L.) Gaertn.	Bombacaceae		Tree		Exotic
32	215	<i>Centella asiatica</i> (L.) Urb.	Apiaceae		Herb	A,F	
33	222	<i>Clinacanthus nutans</i> (Burm. f.) Lindau	Acanthaceae		Shrub		Exotic
34	214	<i>Cocos nucifera</i> L.	Arecaceae	Thengu	Tree	A	
35	206	<i>Combretum albidum</i> G. Don	Combretaceae		Climber		
36	209	<i>Combretum indicum</i> (L.) De. Philipps.	Combretaceae		Climber		Exotic
37	210	<i>Combretum latifolium</i> Blume, Bijdr.	Combretaceae		Climber		
38	110	<i>Cordia wallichi</i> G. Don, Gen.	Boraginaceae		Tree		Endemic
39	105	<i>Corypha umbraculifera</i> L.	Arecaceae	Kudappana	Tree	A,F	
40	118	<i>Crateva religiosa</i> G. Forst.	Capparaceae		Tree		
41	312	<i>Crossandra infundibuliformis</i> (L.) Nees	Acanthaceae		Shrub		
42	123	<i>Cyathula prostrata</i> (L.) Blume	Amaranthaceae		Herb		
43	125	<i>Cynanchum callialatum</i> Ham. ex Wight	Asclepiaceae		Climber		
44	147	<i>Delonix regia</i> (Boj. ex Hook) Rafin.	Caesalpiniaceae	Poomaravaka	Tree		Exotic
45	149	<i>Dicliptera foetida</i> (Forssk.) Blatt.	Acanthaceae		Shrub		
46	151	<i>Ecbolium viride</i> (Forssk.) Alston in Trimen	Acanthaceae		Shrub		
47	161	<i>Eranthemum capense</i> L.	Acanthaceae		Herb		
48	157	<i>Garuga pinnata</i> Roxb.	Burseraceae		Tree		
49	346	<i>Getonia floribunda</i> Roxb.	Combretaceae		Climber	A,F	
50	139	<i>Holarrhena pubescens</i> (Buch.-Ham.) Wall. ex G. Don	Apocynaceae		Tree		
51	140	<i>Holigarna arnottiana</i> Hook.f.	Anacardiaceae	Cheru	Tree	A,F,S,T,U	Endemic
52	166	<i>Ichnocarpus frutescens</i> (L.) R.Br.	Apocynaceae		Climber		
53	164	<i>Justicia adhatoda</i> L.	Acanthaceae	Adalotakam	Shrub	A,F,S	
54	197	<i>Justicia gendarussa</i> Burm. f.	Acanthaceae		Shrub	A	Exotic
55	376	<i>Justicia trinervia</i> Vahl, Enum.	Acanthaceae		Herb	A	Endemic
56	148	<i>Justicia wynaadensis</i> (Nees) Heyne ex T. Anderson	Acanthaceae		Shrub		Endemic
57	188	<i>Lansea coromandelica</i> (Houtt.) Merr.	Anacardiaceae		Tree		
58	169	<i>Lepidagathis incurva</i> Buch.-Ham. ex D. Don	Acanthaceae		Herb		
59	245	<i>Mangifera indica</i> L.	Anacardiaceae	Mavu	Tree	A,F	
60	296	<i>Memecylon randerianum</i> S.M. Almeida & M.R. Almeida	Melastomataceae		Shrub	A,F	Endemic
61	288	<i>Mezoneuron cucullatum</i> (Roxb.) Wight & Arn.	Caesalpiniaceae		Climber		

62	272	<i>Mikania micrantha</i> Kunth	Asteraceae	Dhritharashtrappacha	Climber		Exotic
63	263	<i>Miliusa tomentosa</i> (Roxb.) Finet & Gagnep.	Annonaceae		Tree		
64	262	<i>Millingtonia hortensis</i> L. f.	Bignoniaceae	Maramalli	Tree		Exotic
65	258	<i>Monoon longifolium</i> (Sonn.) B. Xue & R.M.K. Saunders	Annonaceae		Tree		Exotic
66	254	<i>Nerium oleander</i> L.	Apocynaceae		Shrub		Exotic
67	249	<i>Oroxylum indicum</i> (L.) Benth. ex Kurz	Bignoniaceae	Palakappayyani	Tree	A	
68	236	<i>Osbeckia muralis</i> Naud.	Melastomataceae		Herb		Endemic
69	278	<i>Phaulopsis dorsiflora</i> (Retz.) Sant.	Acanthaceae		Herb		
70	289	<i>Plumeria obtusa</i> L.	Apocynaceae		Tree		Exotic
71	298	<i>Plumeria rubra</i> L.	Apocynaceae	Arali	Tree	A	Exotic
72	244	<i>Pothos scandens</i> L.	Araceae		Climber	A,F	
73	201	<i>Pupalia lappacea</i> (L.) Juss.	Amaranthaceae		Herb		
74	216	<i>Rhinacanthus nasutus</i> (L.) Kurz	Acanthaceae		Shrub		
75	219	<i>Rourea minor</i> (Gaertn.) Merr.	Connaraceae		Climber		
76	232	<i>Ruellia prostrata</i> Poir.	Acanthaceae		Herb		
77	255	<i>Saraca asoca</i> (Roxb.) de Wilde	Caesalpiniaceae	Ashokam	Tree	A,F,S,U	Endemic
78	258	<i>Spathodea campanulata</i> P.Beauv.	Bignoniaceae		Tree		Exotic
79	256	<i>Spondias pinnata</i> (L. f.) Kurz, Prelim.	Anacardiaceae		Tree		
80	241	<i>Tabernaemontana alternifolia</i> L.	Apocynaceae		Shrub	A,F	Endemic
81	227	<i>Tabernaemontana divaricata</i> (L.) R. Br.	Apocynaceae		Shrub	A,F,S	Exotic
82	229	<i>Tamarindus indica</i> L.	Caesalpiniaceae		Tree	A,F,S	Exotic
83	233	<i>Thunbergia erecta</i> (Benth.) T. Anderson	Acanthaceae		Shrub		Exotic
84	265	<i>Uvaria narum</i> (Dunal) Wall. ex Hook.f. & Thoms.	Annonaceae		Shrub		
85	268	<i>Vincentoxicum indicum</i> (Burm.f.) Mabb.	Asclepiaceae		Climber		
86	267	<i>Wrightia tinctoria</i> (Roxb.) R. Br.	Apocynaceae		Tree		

A: Ayurveda, F: Folk, S: Siddha, U: Unani, H: Homoeopathy, T: Tibetan, M: Modern

V. CONCLUSION

Because of their floristic richness and capacity to preserve biodiversity, sacred groves are regarded as repositories of uncommon, endemic, and endangered plant species. There are still some sacred groves that are unaltered, and they support ecological balance and biodiversity conservation. Sacred groves also contain economically significant and medicinal plants. Many construction projects have disrupted a variety of plants in sacred groves, which is slowly reducing their once-vast number in the wild. Because of this, the entire kavu is unprotected, and exotic weeds are spreading throughout it. Here endemic plants *Cordia wallichi* G. Don, Gen., *Holigarna arnottiana* Hook.f., *Justicia trinervia* Vahl, Enum., *Justicia wynaadensis* (Nees) Heyne ex T. Anderson, *Memecylon randerianum* S.M. Almeida & M.R. Almeida., *Osbeckia muralis* Naud., *Saraca asoca* (Roxb.) de Wilde. and *Tabernaemontana alternifolia* L. are present. Out of 86 plants 31 are medicinal. Large number of trees and shrubs are present, but numbers of climbers are very less. This shows the disturbance inside the grove. Under these conditions, appropriate management strategies and education campaigns regarding the significance of sacred groves are required for the sustainable use of the priceless bioresources. Appropriate strategies were proposed by Chalavara Grama Panchayath to safeguard these sacred groves.

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