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PLANT DIVERSITY IN THE SACRED GROVES OF MADEOUR, KARAIKAL REGION, PONDICHERRY

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ABSTRACT

Sacred groves are spiritually charged and holy places having patches of vegetation in its climatic state and which have been protected by local people on socio-religious grounds. In real sense sacred groves are the oldest existing form which is known as ancient Botanical garden and modern biodiversity hot spots. The present paper deals with the plant diversity in the sacred groves of Madeour Maduravalliamman grove, Karaikal District, Pondicherry. The enumeration of plant species in study area occupying 84 species belonging to 44 families.

Key words: Plant diversity, Sacred groves, Karaikal, Pondicherry.

INTRODUCTION

Sacred groves are tracts of virgin forest with rich diversity, which have been protected by the local people for centuries for their cultural and religious believers and taboos that the deities reside in them and protect the villagers from different calamities. Every sacred grove carries its own legends, lore, and myths which form the integral part of the sacred grove. An inextricable link between present society and past in terms of biodiversity, culture, religious and ethnic heritage exists in sacred groves. Sacred groves are distributed across the globe, and diverse cultures recognize them in different ways encoding various rules for their protection. Sacred groves occur in many parts of India viz., Western Ghats, Central India, Northeast India, etc., particularly where the indigenous communities live. These are known by different names given to them by the ethnic people. Sacred groves act as an ideal centre for biodiversity conservation. The practice of assigning a patch of forest as the abode of God or Goddesses is not new. The societies of Greece, Roman, Asia and Africa had long preserved sections of the natural environment as sacred groves to God and Goddesses [1-3]. In spite of a very high land to man ratio, sacred groves which are the relicts climatic vegetation have survived under a variety of ecological situations in India and they represent hot spots of biodiversity [4]. Hughes and Chandran [5] have presented an overview on the distribution of sacred groves around the Asia, Africa, Australia, Europe and America. Many scholars have been working on conservation of sacred groves through socio-cultural practices in different parts of India [6-11]. In Tamil Nadu, 448 groves have been reported from 28 districts of the State [12]. Out of the districts studied, the eastern districts without any forest covers have more number of sacred groves than forested districts on the western side. Vijai Malik *et al.* [13] presented glitter of plant diversity in the sacred groves of Kharar, district Muzaffarnagar (U.P); for, to the best of the investigaters,the road leading to this arena is untrodden.The study records 116 angiosperms belonging to 43 families. Sambandan and Dhatchanamoorthy [14] presented Florisitics composition of angiosperms grown in a sacred grove located in Karaikal district and to document its traditional medicinal uses. The present work also elucidates the species composition of 59 species of flowering plants which

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spreads in 55 genera and 30 families. Many rural people in the district were using the plants from the sacred grove to cure many common diseases.

MATERIALS AND METHODS

A floristic survey was carried out in a Sacred Grove size of 7.42 ha near Madeour village of Thirunallar commune of Karaikal district, Union territory of Puducherry. Karaikal district is one of four erstwhile French establishments of the Union Territory of Puducherry with long coastal border of Bay of Bengal. As a part of fertile delta, the district is completely covered with distributaries of river Kaveri. The field visit was conducted several times during year 2010 - 2012 to the study area. Many medicinally important and other plants were collected, processed, preserved and mounted on herbarium sheets following the standard herbarium techniques. Plants collected during the surveys were identified with the help of published regional floras [15-16]. The herbarium sheets are preserved in the department of Botany; Kanchi Mamunivar Center for Post-Graduate Studies, Lawspet, Puducherry-605008, and India. The identified plant specimens were confirmed with the herbarium of French institute of Pondicherry.

ENMURATION OF PLANTS

List of Angiospermic plant diversity of a Madeour sacred grove in the Karaikal District are given in Table 1.

Table 1. Plant diversity of a Madeour sacred grove in the Karaikal District

Sl No	Botanical Names	Family	Common name	Habit
1	*Abrus precatorius* L.	Fabaceae	Kundumani	Climber
2	*Abutilon indicum (*L.) sweet	Malvaceae	Thuthi	Herb
3	*Acacia nilotica* (L.) Willd.Del.	Mimosaceae	Karuvelam	Tree
4	*Acalypha indica* L.	Euphorbiaceae	Kuppaimani	Herb
5	*Achyranthes aspera* L.	Amaranthaceae	Nayurivi	Herb
6	*Adhatoda zeylanica* Medikus	Acanthaceae	Aadathoda	Shrub
7	*Aerva lanata*(L.)Juss.	Amaranthaceae	Sirupeelai	Herb
8	*Amaranthus spinosus* L.	Amaranthaceae	Kuppai Keerai	Herb
9	*Annona reticulata* L.	Annonaceae	Ramaseetha	Shrub
10	*Aristolochia bracteolata* Lam.	Aristolochiaceae	Aaduthinnapalai	Herb
11	*Azadirachta indica* A. Juss.	Meliaceae	Vembu	Tree
12	*Blumea oblique*(L.)Druce	Asteraceae	Kakronda	Herb
13	*Boerhavia diffusa* L.	Nyctanginaceae	Mookaratai	Herb
14	*Bombusa arundinaceae* (Retz.)	Poaceae	Moongil	Tree
15	*Borassus flabellifer* L.	Arecaceae	Panai	Tree
16	*Canthium coromandelicum*(Burm.f.)	Rubiaceae	Kaarai	Shrub
17	*Cardiospermum halicacabum* L.	Sapindaceae	Mudakkathan	Climber
18	*Cassia fistula* L.	Caesalpiiaceae	Sarakondrai	Tree
19	*Cayratia trifolia* (L.) Domin.	Vitaceae	Onankodi	Climber
20	*Cissus quadrangularis* L.	Vitaceae	Pirandai	Climber
21	*Clausena dentata* (Willd.)Roemer	Rutaceae	Kattukaruuveppilai	Shrub
22	*Cleome gynandra* L.	Capparaceae	Nallavellai	Herb
23	*Coccinia grandis* (L.)	Cucurbitaceae	Kovai	Climber
24	*Cocos nucifera* L.	Arecaceae	Thennai	Tree
25	*Commelina benghalensis L.*	Commeliniaceae	Kanavalai	Herb
26	*Cordia gharaf* (Forssk.)	Boraginaceae	Narivizi	Herb
27	*Croton bonplandianus Baillon.*	Euphorbiaceae	Poonduchedi	Herb
28	*Cynodon dactylon* (L.) Pers	Poaceae	Arugampillu	Herb
29	*Datura metal* Linn.	Solanaceae	Umathai	Herb
30	*Diplocyclos palmatus* L.	Cucurbitaceae	-	Herb
31	*Ecbolium viride*(Forssk.)	Acanthaceae	-	Herb
32	*Eclipta prostrata* L.	Euphorbiaceae	Karisalanganni	Herb

33	*Enterolobium saman*(jacq.)prain	Mimosaceae	Toongumoonji	Tree
34	*Ervatamia divaricata*(L.)	Apocynaceae	Nandiyarvatai	Shrub
35	*Euphorpia hirta* L.	Euphorbiaceae	Amman Pachai arichi	Herb
36	*Ficus benghalensis* L.	Moraceae	Aalamaram	Tree
37	*Ficus racemosa Linn.*	Moraceae	Athi	Tree
38	*Ficus religiosa L.*	Moraceae	Arasu	Tree
39	*Glinus oppositifolius* (L.) A.DC.	Molluginaceae (Aizoaceae)	Sirakothu	Herb
40	*Gliricidia sepium* (Jacq.) kunth ex Walp.	Fabaceae	Vivasaya Thagarai	Herb
41	*Gomphrena decumbens* Jacq.	Amaranthaceae	Nattu Vadamalli	Herb
42	*Gymnema sylvestre*(Retz.)R.Br.	Asclepiadaceae	Sirukurunja	Herb
43	*Heliotropium indicum* L.	Boraginaceae	Thelkodukku	Herb
44	*Hybanthus enneaspermus* (L.)	Violaceae	Orithazh Thamarai	Herb
45	*Hygrophila auriculata* (Schum.) Heine	Acanthaceae	Neermulli	Herb
46	*Hyptis suaveolens* (L.)Poit.	Lamiaceae	-	Herb
47	*Ipomoea carnea Jacq*.	Convolvulaceae	Kattamani	Shrub
48	*Jasminum auriculatum*	Oleaceae	Kattumullai	Climber
49	*Jatropha glandulifera Roxb*.	Euphorbiaceae	Kattaamanakkku	Shrub
50	*Lannea coromandelica* (Houtt.) Merr.	Anacardiaceae	Odiyan	Tree
51	*Lantana camara* L.	Verbenaceae	Unni Poo	Shrub
52	*Leucas aspera* (Willd.)	Lamiaceae	Tumbai	Herb
53	*Martynia annua* L.	Maratyniaceae	_____	Herb
54	*Mimosa pudica* L.	Mimosaceae	Thottal Suringi	Herb
55	*Momordica charantia* L.	Cucurbitaceae	Pagal	Climber
56	*Morinda coreia* Buch.-Ham.	Rubiaceae	Nuna	Tree
57	*Moringa oleifera* Lam.	Moringaceae	Murungai	Tree
58	*Mukia maderaspatana* (L.)	Cucurbitaceae	Musumusukai	Herb
59	*Murraya koenigii* (L.) Spreng.	Rutaceae	Karuvapilai	Tree
60	*Ocimum gratissimum* L.	Lamiaceae	Kattu Tulasi	Herb
61	*Ocimum tenuiflorum* L.	Lamiaceae	Tulasi	Herb
62	*Opuntia dillenii* (Ker-Gawl.) Haw.	Cactaceae	Sapathikalli	Shrub
63	*Pergularia daemia* (Forssk.) Chiov.	Asclepiadaceae	Veliparuthi	Climber
64	*Phoenix sylvestris* (L.)Roxb.	Arecaceae	Echai	Tree
65	*Phyllanthus amarus* Schum & Thonn.	Euphorbiaceae	Keelanelli	Herb
66	*Pongamia pinnata* (L.) Pierre	Fabaceae	Pongai	Tree
67	*Prosopis glandulosa* Torry.	Mimosaceae	Kattukarauvai	Tree
68	*Ruellia tuberosa* L.	Acanthaceae	Vedikkai	Herb
69	*Scoparia dulcis* L.	Scrophulariaceae	Saokothini	Herb
70	*Sida cordata* Burm. f.	Malvaceae	Palampasi	Herb
71	*Solanum surattense* Burm.f.	Solanaceae	Kandankathari	Herb
72	*Solanum trilobatum* L.	Solanaceae	Thoothuvelai	Climber
73	*Spermacoce hispida* L.	Rubiaceae	Nathai Surandi	Herb
74	*Sphaeranthus indicus L.*	Asteraceae	Kottakaranthai	Herb
75	*Tamarindus indica* L.	Caesalpiniaceae	Puliyan	Tree
76	*Tephrosia purpurea* (L.) pers.	Fabaceae	Avuri	Herb
77	*Thespesia populnea* (L.)	Malvaceae	Poovarasu	Tree
78	*Tinospora cordifolia* (Willd.) Hook. f. *& Thoms.*	Menispermaceae	chintil	Climber

79	*Tribulus terrestris* L.	Zygophyllaceae	Nerunjil	Herb
80	*Vernonia cinerea*(L.)	Asteraceae	Mukuttipundu	Herb
81	*Vico indica(L.)DC.*	Asteraceae	-	Herb
82	*Wattakaka volubilis*(L.f.)	Asclepiadaceae	Kudasapalai	Climber
83	*Ziziphus mauritiana* Lam.	Rhamnaceae	Ilanthai	Tree
84	*Zizyphus oenoplia(L.)Miller*	Rhamnaceae	Suraikodi	Tree

RESULTS AND DISCUSSION

The study records 84 species belonging to 80 genera and 44 families. Out of the 21 are trees, 9 are shrubs, 11 are climbers and 43 are herbs. Mostly present in medicinal value plants. The most dominant species *Adhatoda zeylanica.* Euphorbiaceae is the most dominant families. 84 species belonging to 80 genera, 44 families, including 21trees, 9 shrubs, 11 climbers, 43herbs. Besides, results of the present study indicate that plantation of exotic *Prosopis glandulosa* in this grove may replace the several native species due to its high invasiveness. Perhaps, these threats are due to over digging of soil around the patches of plant communities by anthropogenic activities. Since the dendroid flora show fine adaptability in the grove, so reduction of biotic pressure in the form of anthropogenic activities may conserve and preserve the botanical profile this grove.

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