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RESEARCH ARTICLE

ETHNOBOTANICAL STUDIES OF DRAUPATHI AMMAN SACRED GROVE IN MELAPALUR VILLAGE, ARIYALUR DISTRICT

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ABSTRACT

A study on plant diversity and ethnomedicinal plants of sacred grove in Melapalur village was carried out in the present work. Through personal interviews and conversations, a total number of 46 plant species used by the human beings to treat different ailments was enumerated during field trips. The locals use 46 medicinal plants for the treatment of several diseases either in single or in combination with some other ingredients. The information on correct botanical identities with family and traditional practice of 46 species fall under 43 genera and 26 families of angiosperms. The dicotyledons were represented by 44 species falls under 41 genera and 24 families while monocotyledons were represented by 2 species belong to 2 genera and 2 families were discussed here for the treatment of various illnesses viz., asthma, snake bite, anthelmintic, promote coolness antipyretic, jaundice, diarrhea, dysentery, leprosy, diuretic, diabetes, stomachache problems, paralysis and skin diseases. These uses are noteworthy information for further investigation and to report in a scientific manner. The present study concluded that the abundance of natural ethnomedicinal information of medicinal plants lead in the discovery of new medicines to fight ailments.

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INTRODUCTION

Sacred groves are a group of trees or patches of vegetation protected by the local people through religious and cultural practices evolved to minimize destruction (Israel *et al.*, 1997). These are one of the most valuable, but primitive practices of nature conservation. Such forests are rich in biological diversity and harbor many endangered plant species including rare herbs and medicinal plants (Manikandan *et al.*, 2011). Such groves have been described by variously as natural museums of giant trees, treasure houses of threatened species, dispensaries of medicinal plants, regulators of water sheds, recreation centres for urban life, gene banks of economic species, paradise for nature - lovers and laboratory for environmentalists (Sugumaran and Jeeva, 2008). In view of this, the present study was conducted in Draupathi Amman sacred grove to document floristic diversity and to highlight ethnobotanical significance.

MATERIALS AND METHODS

The present study was conducted in Draupathi Amman sacred grove of Melapalur village, Thirumanur (Taluk) of Ariyalur

district, Tamil Nadu state, India. It is located 13km towards south from district headquarters Ariyalur, 18km from Thirumanur. Keelapalur (3km) is the nearby village to Melapalur. It lies between 11.1370° N and 79.0758° E. The elevation of the area is 76m above the mean sea level (msl). The annual rainfall found here is 967 mm and the temperature varies from 22°C to 40°C. The type of soil present in the area is alluvial soil. The vegetation of Draupathi Amman sacred grove is tropical dry evergreen forest type. Intensive field surveys were made during the year 2014-2016 to explore the floristic composition of the Sacred Grove. All the plant specimens available in the study areas were collected for authenticity and the herbarium specimens are prepared by following the methodology of Jain and Rao (1976). Photographs were also taken. The herbarium specimens were identified with the help of the Flora of the Presidency of Madras (Gamble and Fischer, 1915 - 1936). The herbarium specimens were prepared for all the plants and deposited at A.V.V.M. Sri Pushpam College, Thanjavur for reference.

RESULTS

Taxonomically, a total of 46 plant species belonging to 44 genera and 27 families of angiosperms were recorded in Draupathi Amman sacred grove in Ariyalur district.

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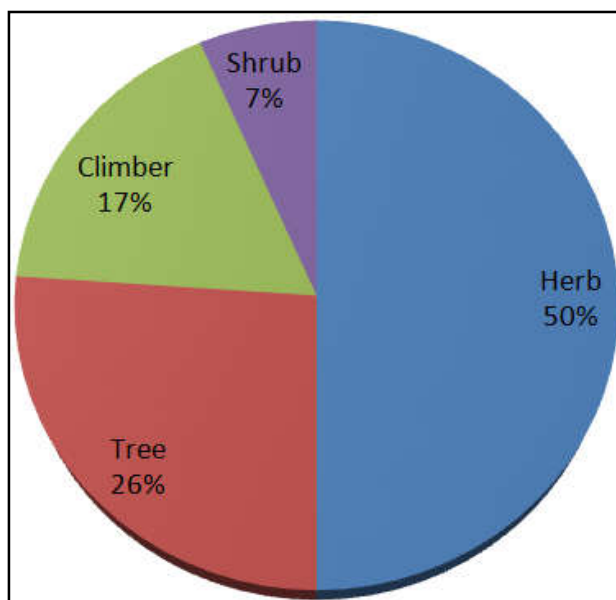


Fig. 1. Habit wise distribution of plants in the sacred grove

Table 1. List of plants showing family and habit

S.No.	Binomial Name	Family	Habit
1.	<i>Abrus precatorius</i> L	Fabaceae	Climber
2.	<i>Abutilon indicum</i> (L) Sw.	Malvaceae	Herb
3.	<i>Acalypha indica</i> L	Euphorbiaceae	Herb
4.	<i>Achyranthes aspera</i> L.	Amaranthaceae	Herb
5.	<i>Aervalanata</i> (L.) Juss. Ex Sch.	Amaranthaceae	Herb
6.	<i>Amaranthus viridis</i> L	Amaranthaceae	Herb
7.	<i>Azadirachta indica</i> A. Juss	Meliaceae	Tree
8.	<i>Bombax ceiba</i> L	Malvaceae	Tree
9.	<i>Cardiospermum halicacabum</i> L	Sapindaceae	Climber
10.	<i>Cissus quadrangularis</i> L	Vitaceae	Climber
11.	<i>Cleome viscosa</i> L	Cleomaceae	Herb
12.	<i>Cocciniagrandsis</i> (L). Voigt	Cucurbitaceae	Climber
13.	<i>Cocos nucifera</i> L	Arecaceae	Tree
14.	<i>Commiphora caudata</i> (Wight & Arn) Engl.	Burseraceae	Tree
15.	<i>Croton bonplandianum</i> Baillon	Euphorbiaceae	Herb
16.	<i>Cucumis maderaspatanus</i> L	Cucurbitaceae	Climber
17.	<i>Cynodon dactylon</i> L	Poaceae	Herb
18.	<i>Daturametel</i> L	Solanaceae	Herb
19.	<i>Digeramuricata</i> (L.) Mart	Amaranthaceae	Herb
20.	<i>Eclipta prostrata</i> L	Asteraceae	Herb
21.	<i>Euphorbia antiquorum</i> L	Euphorbiaceae	Shrub
22.	<i>Euphorbia hirta</i> L	Euphorbiaceae	Herb
23.	<i>Evolvulus alsinoides</i> (L.) L.	Convolvulaceae	Herb
24.	<i>Ficus religiosa</i> L	Moraceae	Tree
25.	<i>Gomphrenacelosoides</i> Mart.	Amaranthaceae	Herb
26.	<i>Hemidesmus indicus</i> L.R.Br.	Apocynaceae	Climber
27.	<i>Hibiscus tiliaceus</i> L	Malvaceae	Tree
28.	<i>Leucas aspera</i> (Willd.) Link.	Lamiaceae	Herb
29.	<i>Morinda pubescens</i> J.E. Smith	Rubiaceae	Tree
30.	<i>Madhucal longifolia</i> (Koen.) Mac.	Sapotaceae	Tree
31.	<i>Mimosa pudica</i> L	Fabaceae	Herb
32.	<i>Ocimum tenuiflorum</i> L	Lamiaceae	Herb
33.	<i>Opuntia stricta</i> (Haw.) Haw	Cactaceae	Shrub
34.	<i>Passiflora foetida</i> L	Passifloraceae	Climber
35.	<i>Pergularia daemia</i> (Forssk.)	Apocynaceae	Climber
36.	<i>Phyllanthus amarus</i> Schum. & Thonn.	Phyllanthaceae	Herb
37.	<i>Prosopis cineraria</i> (L) Druce	Fabaceae	Tree
38.	<i>Prosopis juliflora</i> (Sw.) Dc.	Fabaceae	Tree
39.	<i>Sida acuta</i> Burm.F.	Malvaceae	Herb
40.	<i>Solanum nigrum</i> L	Solanaceae	Herb
41.	<i>Tabernaemontana divaricata</i> (L) R. Br. ex Roem. & Schutt	Apocynaceae	Shrub
42.	<i>Tamarindus indica</i> L	Fabaceae	Tree
43.	<i>Tribulus terrestris</i> L	Zygophyllaceae	Herb
44.	<i>Tridax procumbens</i> L	Asteraceae	Herb
45.	<i>Vernonia cinerea</i> (L.) Less	Asteraceae	Herb
46.	<i>Ziziphus mauritiana</i> Lam.	Rhamnaceae	Tree

Table 2. List of plants showing medicinal uses

S.No.	Binomial Name	Medicinal Uses
1.	<i>Abrusprecatorius</i> L	Snake bite, scorpion sting and scabies.
2.	<i>Abutilon indicum</i> (L) Sw.	Dental problems, asthma
3.	<i>Acalyphaindica</i> L	Skin diseases
4.	<i>Achyranthesaspera</i> L.	Cuts, ulcer, snake bite, tooth problem.
5.	<i>Aervalanata</i> (L.)Juss. Ex Sch.	Asthma, cough, wounds.
6.	<i>Amaranthusviridis</i> L	Diabetes, leprosy, bronchitis, piles, leucorrhoea.
7.	<i>Azadirachtaindica</i> A. Juss	Skin infection, diarrhea, malaria, ulcers.
8.	<i>Bombaxceiba</i> L	Male sterility.
9.	<i>Cardiospermumhalicacabum</i> L	Cough, wound, rheumatism, nervous diseases.
10.	<i>Cissusquadrangularis</i> L	Digestion
11.	<i>Cleome viscosa</i> L	Wounds
12.	<i>Cocciniagrandis</i> (L). Voigt	Skin diseases, diabetes.
13.	<i>Cocosnucifera</i> L	Diarrhea, malaria, fever.
14.	<i>Commiphoracaudata</i> (Wight & Arn) Engl.	Nutrient food to goat.
15.	<i>Croton bonplandianum</i> Baillon	Cough
16.	<i>Cucumis maderaspatanus</i> L	Cough, cold.
17.	<i>Cynodon dactylon</i> L	Blood pressure.
18.	<i>Daturametel</i> L	Asthma and Wounds.
19.	<i>Digeramuricata</i> (L.) Mart	Urinary discharges.
20.	<i>Ecliptaprostrata</i> L	Dandruff, blackening the grey hair
21.	<i>Euphorbia antiquorum</i> L	Body pain, latex given to help free motion.
22.	<i>Euphorbia hirta</i> L	Wound, lip cracks.
23.	<i>Evolvulusalsinoides</i> (L.)L.	Fevers.
24.	<i>Ficus religiosa</i> L	Body pain
25.	<i>Gomphrenacelosioides</i> Mart.	Skin problem, asthma and fever.
26.	<i>Hemidesmusindicus</i> L.R.Br.	Blood purification, to cool the body, ulcer.
27.	<i>Hibiscus tiliaceus</i> L	Dysentery, ear infections, fever.
28.	<i>Leucasaspera</i> (Willd.) Link.	Head ache, fever, tooth pain.
29.	<i>Morindapubescens</i> J.E. Smith	Diabetes, high blood pressure, inflammation and cancer.
30.	<i>Madhucalongifolia</i> (Koen.) Mac.	Itching due to improve blood, bed sore.
31.	<i>Mimosa pudica</i> L	Cuts, psoriasis, ringworm and wounds.
32.	<i>Ocimum tenuiflorum</i> L	Stomach upset
33.	<i>Opuntia stricta</i> (Haw.) Haw	Wounds.
34.	<i>Passiflora foetida</i> L	Skin diseases.
35.	<i>Pergulariadaemia</i> (Forssk.)	Asthma, snakebite, rheumatic swellings.
36.	<i>Phyllanthus amarus</i> Schum. & Thonn.	Jaundice.
37.	<i>Prosopis cineraria</i> (L) Druce	Scorpion sting, rheumatism, cough
38.	<i>Prosopis juliflora</i> (Sw.) Dc.	Boils, inflammation, wounds.
39.	<i>Sida acuta</i> Burm. F.	Cuts, wounds and head ache.
40.	<i>Solanum nigrum</i> L	Diarrhea and Eczema.
41.	<i>Tabernaemontana divaricate</i> (L) R. Br. ex Roem. Schult	Boils, burning sensation of sore eyes.
42.	<i>Tamarindus indica</i> L	Hypertension, wound healing, abdominal pains, diarrhea, fever and malaria.
43.	<i>Tribulus terrestris</i> L	Urinary troubles.
44.	<i>Tridax procumbens</i> L	Control bleeding of wounds, sores.
45.	<i>Vernonia cinerea</i> (L.) Less	Diarrhea, piles, indigestion, ringworms, skin troubles and diarrhea.
46.	<i>Ziziphus mauritiana</i> Lam.	Menstrual disorders, piles, scabies & boils.

Of the 27 families, 25 belonged to dicotyledons and 2 belonged to monocotyledons. Amaranthaceae and Fabaceae were the dominant family (5 species each), followed by Euphorbiaceae and Malvaceae (4 species each), Asteraceae and Solanaceae (3 species each) and then Cucurbitaceae and Apocynaceae (2 species each) [Table 1]. The genus *Morinda* and *Tamarindus* are pre dominantly present and *Azadirachtaindica* is the revered tree of the sacred grove. In contrast to above findings, Gadgil *et al.* (1996) reported that *Ficus* is predominantly present in all the sacred groves of Kanyakumari district and it is the most revered tree of the orient and no species is traditionally felled. Habit wise analysis of flora shows comparatively higher percentage of herbs were predominant followed by trees, climbers and shrubs (Fig. 1)

Several species are used for piles, skin diseases, ulcer, stomach ache problems, cough, headache, anemia, edema, rheumatism, purgative, dysentery, leprosy, laxative, astringent, urinary disorder, paralysis, scabies and diuretic. Some of them are used as anthelmintic, antipyretic, anti-inflammatory, jaundice,

scorpion sting, promote coolness, fever and antiseptic also (Table 2). Plants like *Abrusprecatorius* and *Solanum nigrum* are used to cure skin diseases (Bhakat *et al.*, 2008). But in the present study these are not used for skin diseases and for many other diseases like snake bite, scabies, scorpion sting, fever and dewarming.

Conclusion

This study revealed that a number of valuable plant species are found in the sacred groves. Some important medicinal plants needs immediate conservation and their cultivation should be encouraged through which their extinction can be prevented and tribal people may also get low-cost medicine to cure their diseases. If conservation measures are not introduced in the near future there may be a great loss of plant diversity.

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