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VITACEAE MEMBERS IN SELECTED SACRED GROVES OF KERALA

***Rani Joseph**

Research Scholar Botany, SB College Changanacherry, Kottayam, Kerala

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ABSTRACT

Sacred groves are virgin forests and acts as site for *in situ* conservation of bio-resources and shows near climax vegetation of lot of trees and associate groups of organisms, managed as a part of local cultural tradition. This study was conducted in the selected sacred groves of Kerala. The present study revealed a total of 8 species belonging to *Vitaceae*. These groves includes trees, shrubs, herbs and climbers representing Vulnerable and Endemic species. 98.88% plants in the groves are medicinal and used in different systems of medicines. Some native medicinal plants are available in undisturbed areas like groves. Medicinal plant species are present in the groves are used in the treatment of diseases in Ayurveda, Folk, Unani, Siddha, Homeopathy and traditional systems for common ailments like cough, ulcers, bronchitis, skin diseases, etc.

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INTRODUCTION

Sacred groves are reservoirs of our nation's biological capital. Groves are present everywhere in the world. In India, several sacred groves are known to host large numbers of medicinally important plants. There are around 17000 sacred groves in India (Ambasta, 1986). As a result of urbanisation, industrialization , land scarcity leading to the degradation of the cover and shrinkage of these regions, the large chunks of the areas are diverted for other activities and only a limited amount is diverted for other activities. In Kerala it is the common practice among Hindus to assign a portion of their land near the Tharavadu as the abode of goddess Durga or serpent god Naga or Shasta and the place is called Kavu or Sarpa kavu.

It is recognized as the islands of biodiversity and relics of past vegetation. It includes large numbers of Rare, Endemic, Endangered and Threatened floras and faunas. Groves includes economically and medicinally important plants. Kerala is rich in medicinal plant diversity and some of them are rare, endemic and endangered species (Chandrashekara, 2011).

Corresponding author:** ***Rani Joseph,
Research Scholar Botany, SB College Changanacherry, Kottayam, Kerala.

There is an urgent need to protect and conserve such RET medicinal plants before their extinction. Further, the study recommends the potential medicinal plants for its phytochemical and pharmacological evaluation, that will be useful to pharmaceutical industries, in identifying novel bioactive components and also in popularization of traditional knowledge for better health care system (Gamble, 1936). Total number of sacred groves in Kerala to be around 2000 and have found 720 species of flowering plants (Ramakrishnan, 1998).

In Kerala about 78% of Sacred Groves are small that is below 0.02 ha in extent. Almost five hundred and seventy six kavu present in the Northern districts of Kannur and Kasargod . Iringole kavu (Ernakulam District) of Kerala having an area of 20 hectares is one such, which has been protected due to strong religious faith (Haritha, 2014). These are ecological units with a wide range of ecological function and serves as repository of genetic diversity (Hughes, 1998) Their presence in the agricultural fields, fragmentation of the grove-owning families and loosening belief of the younger generation on the deities and interrelated traditions are the major reasons. These are comparable to the regional natural forests for various ecological attributes (Induchoodan, 1998). In this paper we have made an attempt to enumerate the medicinally important *Vitaceae* members in selected sacred groves of Kerala.

MATERIALS AND METHODS

Study area: Kerala

Sacred groves were selected from Kerala for the study. Each grove was visited during different seasons between June 2014 to February 2019, analysed the floristic composition and flowering twigs were collected.

RESULTS AND DISCUSSION

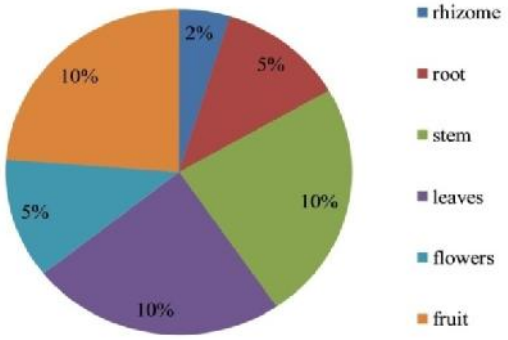
Sacred groves are natural forests and represent the ancient Indian way of *in situ* conservation of genetic diversity. It contains RET, medicinal and economically important species. They have an important role in preserving depleting resource elements such as medicinal plants. Some plant species in groves is considered as sacred. (8)Sacred groves are believed to be a treasure house of medicinal, rare and endemic plants, as refugia for relic flora of a region and as centers of seed dispersal. Natural vegetation is present inside the groves. Sacred groves act as indicators for natural vegetation and vital for well-being the society. Groves are mainly associated with water bodies and this contains large number of floras and faunas (Kirtikar, 1975). This helps to maintain the water table in particular area and a water source for plants and animals. The long lasting system of every village having a temple, a tank and associated sacred grove explains the ancient method of water harvesting and resource sharing system (Murugan *et al.,* 2008). Various parts of the plants such as leaves, roots, bark, latex, inflorescence, fruits, seeds and sometimes the whole plants are used for different medicinal uses. Collection of large number of plants for various purposes from groves causes destruction of natural gene pool and natural habitats inside the groves.

Sl.no	Botanical Name	habit	Kavu	Useful part	Medicinal uses	IUCN status
1	*Ampelocissus indica* (L.) Planch.	climber	Kalapparambath Kavu (KPB). Kodungallur	Roots	Eye diseases and ulcers.	Not evaluated
2.	Cayratiapedata (Lam.) A. Juss. ex Gagnep.	climber	CHM	leaves	Uterine reflexes and cracked heels.	Critically Endangered
3.	*Ampelocissus latifolia* (Roxb.) Planch.	climber	Vallikkaattu Kaavu, Kozhikode	rhizome	Kidney,heart diseases	Not evaluated
4.	*Cissus repens* Lam.	climber	Vallikkaattu Kaavu, Kozhikode	Root,stem	Snake bite ,rheumatism	Not evaluated
5	*Cayratia trifolia* (L.) Domin.	climber	CHM	Roots	Tumours, fever, cardiac disorders, ulcers, wounds, dropsy and haemorrhoids	Not evaluated
6	*Cissus discolor* Blume.	climber	Thevarmala Sacred Grove in Western Ghats	Leaves	Toothache,cough	Not valuated
7	*Cayratia pedata var pedata* (Lam.) A.	climber	Eeshanathukavu ,Changanacherry	Whole plant	Diarrhoea,ulcer	Vulnerable
8	*Cissus latifolia* Lam.	climber	Eeshanathukavu Changanacherry	Whole plant	skin diseases	Not evaluated

Field observation like habit, phenology of the plant, colour, texture and smell of leaves, local names and local uses available were noted in the field book. Plants were identified with the help of floras like, *Flora of Presidency of Madras* and *Flowering plants of kerala* ().

Angiosperms including trees, shrubs, herbs and climbers were considered for the study and herbarium sheets were prepared and verified with the help of Kerala Forest Research Institute (KFRI), Peechi and Calicut University Herbarium (CALI), TBGRI (Tropical Botanic Garden and Research Institute, Thiruvannthapuram). IUCN categories are used to evaluate the plants and arranged in to RET species (IUCN, 2012) and medicinal importance of plants were noted. Major threats of groves are identified and noted. The voucher specimens were deposited in the Regional Herbarium of Kerala (RHK) Department of Botany, SB college Changanacherry, Kerala.

Over-exploitation and unscientific collection of some medicinal plants causes threatening the resource and warrants sustainable harvesting by the local communities (Nambiar, 1985). Many sacred groves of the State are treasures of rare and endemic species.



These groves contain 1Vulnerable and 1 critically endangered species (Nayar, 2014). Detailed list of plants in selected groves, with their updated botanical name, habit, conservation status, medicinal status is presented in Table 1.

Conclusion

Sacred groves are last fragments of natural ecosystem in the region and serving as natural nursery of wild, medicinal and economically important plants. It acts as reservoirs of biodiversity and preserving areas (Parrota, 2001) Survey and documentation of floristic wealth is a prerequisite for conserving the depleting genetic resources and one of the bio-monitoring activities for restoration (Rama Rao, 1914). The present study on these sacred groves indicates the presence of rich diversity of medicinal plants. The unscientific collection of medicinal plants and large scale human interference affect the medicinal flora of the sacred groves. Local level control has been vital to the protection of groves. Groves are the last refuge of many plants.

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