International Journal of Advanced Science and Research
ISSN: 2455-4227, Impact Factor: RJIF 5.12
www.newresearchjournal.com/science
Volume 1; Issue 4; April 2016; Page No. 15-17

Ethnomedicinal and Phytosociological Study of the Selected Sacred Grove in Alappuzha District, Kerala.

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Abstract
Sacred groves are extremely rich in floral and faunal elements. So that it is important in conserving biological diversity and natural resources. The current study focuses on the ethnomedicinal importance, floristic composition and red listed species and their conservation requirements. The essential part of this venture is to prove ecological importance of sacred groves in maintaining the biological wealth and conserving the rare and medicinal plants.

Keywords: Ethnomedicinal, Phytosociological, Sacred Grove

Introduction

The protection of nature for religious purposes is an ancient practice that has recently gained attention in conservation literature. The types of natural sites such as rivers, lakes, forests, gardens groves, etc. that have been institutionalized by attachment of sacred values with intensions to make collective management easy and sustainable. Sacred groves are a community based monuments of biological diversity. They are landscapes that are protected on the basis of their religious and holy significance. Sacred groves are extremely rich in floral and faunal elements. 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 beliefs.

Sacred groves reported from different parts of India are locally known by different names "Sarna" or "Dev" in Madhya Pradesh, Devrai or Devrahati in Maharashtra, "Sarnas" in Bihar," Orans" in Rajasthan, "Devarabana" or "Devarakadu" or "Rulidevarakadu" or "Nagabana" in Karnataka, "Kovilakadu" in Tamil Nadu, "Kavu" in Kerala, "Devvan" in Himachal Pradesh, "KI Law Lyngdoh" or "Ki Law Kyntang" etc. in Meghalaya, "Sarana" or "Jaherthan" in Jharkhand and and"Lai Umang" in Manipur (Bhakat,1990) [2].

Sacred Groves often protect watersheds and water sources. Sacred groves also help in soil and water conservation. These groves play a significant role in the conservation of biodiversity. Sacred groves have long been considered as the home of medicinal plants. Now a day's people look forward to a long term cure without side effects rather than a short term relief accompanied by lots of ill effects. Medicinal plants are protected and conserved in sacred groves.

Materials and Methods

Study Area

The present study was conducted in Sharngakkavu Devi Temple, Venmoney, Alappuzha. It lies at 9.2454'N latitude and 76.6244'E longitude at 21mm above from the sea level. The climate is hot and humid with maximum and minimum temperature ranging from 23 ℃ to 35 ℃. The annual rainfall is 2763mm.

Figure Showing Location Map and Study Area

Location map of study area


Study site – Sharngakkavu

Floristic Survey

This study envisages the estimation of floral wealth of the sacred groves and its role in conservation. Firsthand information about the existence of sacred groves was gathered from personal contacts with village peoples, temple authorities, environmental action group and various social organizations. Plants were identified with the help of Flora of presidency of Madras (Gamble, 1915-1936).

Ethnobotanical Studies

During the field visits, various uses of medicinal plants were gathered from local people in that area. With the help of various books and journals, medicinal plants have been identified.

Phyosociological Analysis

The species composition of sacred groves were analysed by count quadrat method. 10 quadrats were laid by the randomized method in the site. Frequencies, abundance, density, IVI, RIVI were calculated.

Results and Discussion

During the study in the selected sacred grove, a total of 50 species under 32 families and 48 genera were recorded on enumeration, of which 12 trees, 13 shrubs, 13 herbs and 12 climbers were noted. Sambandan and Dhatchanamoorthy (2012) [6]. conducted the study in sacred grooves located in Karaikal distirct and found 59 plant species which spread in 55 genera and 30 families. Family Fabaceae was dominated in the

sacred grove. *Caryota urens* and *Strychnos nux-vomica* are more dominant species in the selected sacred groves. *Mikania micrantha,* a dominant weed noted in the selected sacred grove.

Ethnomedicinal Uses of Plants Recorded In Sharngakkavu

Of the total of 50 species in the selected sacred grove, 48 species have various medicinal properties. Majority of plant species are used for anti-inflammatory, microbial activity, wound healing, astringent, used against diabetes, piles, stress, neural diseases, skin diseases, hair growth etc. Pankaj *et al* (2013) [5]. studied the sacred plants and their ethno botanical importance in Central India. They enumerated a total of thirteen sacred groves and medicinal importance of thirteen genera and thirteen families.

Phytosociological Parameters of Recorded Plants In Sharngakkavu

The quantitative ecological characters such as frequency, abundance, density, basal cover and synthetic characters such as relative frequency, relative density, relative dominance, important value index and relative importance value index of all the studied species are recorded. The maximum frequency is 60% in *Adiantum lunulatum and Nephrolepis cordifolia.* The minimum frequency is 10 % in 34 species. Maximum abundance is 9.6/m^2 in *Adiantum lunulatum* and minimum abundance is 1/m^2 in 34 species. The maximum density 5.8/m^2 was found in *Adiantum lunulatum* and minimum is 0.1/m^2 in 27 species. The maximum basal cover is 101.1mm^2/m^2 in *Mangifera indica* and minimum is 0.7mm^2/m^2 in *Ampelocissus latifolia, Mikania micrantha, Mukia maderaspatana.*

The maximum relative frequency is 6.81818%2 in *Adiantum lunulatum, Nephrolepis cordifolia* and minimum is 1.13% in 34 species. The maximum relative density is 24.47257% in *Adiantum lunulatum* and minimum is 0.4 % in 27 species. The maximum relative dominance is 35.69735298% in *Mangifera indica* and minimum is 0.0001% in *Dioscoria alata* and *Jasminum malabaricum.* The highest IVI is 40.37 in *Mangifera indica* and minimum is 1.55 in *Dioscoria alata* and *Jasminum malabaricum* reported from the selected sacred grove. The highest RIVI is 13.45 in *Mangifera indica* and minimum is 0.51 in *Dioscoria alata* and *Jasminum malabaricum.*

Red Listed Plants in the Selected Sacred Grove

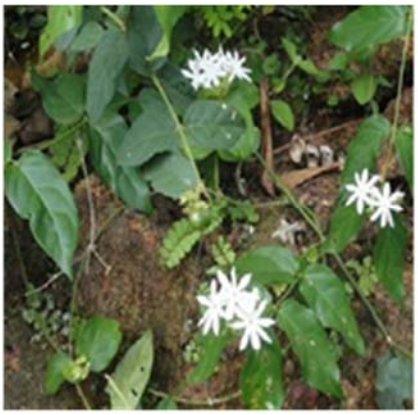
From the study of the selected sacred grove there are about 6 red listed species are noted. *Ervatamia heyneana, Jasminum malabaricum, Naregamia alata, Plumbago zeylanica* are endangered species noted in the selected sacred grove. *Saraca indica* is vulnerable species. *Ixora coccinea* is endemic species noted. 6 red listed species were confirmed from IUCN, 2015 [3]. Joshi and Gadgil (1991) [4]. reported that sacred grove might serve important refugia for threatened and rare species.

Red Listed Plants in the Selected Sacred Grove

Ervatamia heyneana

Naregamia alata

Plumbago zeylanica



Jasminum malabaricum

Saraca indica

Ixora coccinea

Summary

For the current study Sharngakkavu, Venmoney was selected. The main objective was ecological status and functions, Phytosociological analysis, various medicinal uses of the recorded plants, listing out the red listed plants in the selected sacred grove. The floristic analysis showed that there are 32 families, 48 genera and 50 species recorded in the selected sacred grove. Of the total of 50 species, 48 species have

various medicinal properties. So, it is need to protect them. The following steps may help in the conservation of sacred groves and their biological contents;

- The endemic and threatened plant species confined to sacred groves should be identified and steps should be taken to conserve the species.
- Ecological studies of threatened species need to be undertaken to understand their environmental requirements. This will help in working out suitable strategy for the propagation and continued existence.
- Preventing deforestation, dumping of wastes etc. And for planting new species and to conserve the sacred grove.

References

1. Abu-Rabia. urinary disease and ethno botany aming pastrol remedies in the middle East Journal of ethnobotanical and ethnomedicine. 2005.
2. Bhakat R K. Tribal ethics of Forests conservation. Yojana 1990, 23-27.
3. International Union of Conservation of Nature (IUCN), Red listed category, 2015.
4. Joshi NV, Gadgil M. On the role of refugia in promoting prudent use of biological resources. Theor. Popul. Biol. 1991; 40:211-229.
5. Pankaj K, Sahu Kumari A, Shweta Sao Singh M, Pandey P. Sacred plants and their Ethno-botanical importance in Central India, 2013; 4(8). ISSN: 0976-7126.
6. Sambandan K, Dhatchanamoorthy N. Studies on the Phytodiversity of a sacred grove and its Traditional uses in Karaikal District, U. T. Puducherry, Journal of Phytology. 2012; 4(2):16-21.