
ORIGINAL ARTICLE

Ethnobotanical survey of Adawal sacred grove in Alwar,
Rajasthan

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ABSTRACT

India is rich in sacred groves which have many religious belief towards plants and due to these, plants are protected for various purpose. In the present study, a survey was conducted for ethnomedicinal plants in Adawal sacred groves in Alwar district of Rajasthan, India. During survey, total 50 plant species belonging to 24 families have been identified which belong to different families. Fabaceae was found to be the dominant family among all. The surveyed plants were found to be useful for treating various mild to severe diseases.

Keywords: Sacred groves, ethnomedicinal plants, Rajasthan, Fabaceae etc.

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INTRODUCTION

Sacred groves are vast expanses of diverse virgin forest that have long been guarded by the local population because of taboos, cultural practises, and religious beliefs that deities live there and guard the residents from various disasters. Legends, mythology, and myths are an essential component of every sacred grove and are carried by the grove itself. In terms of biodiversity, culture, religion, and ethnic legacy, sacred groves represent an unbreakable link between the present and the past. Worldwide, there are many sacred groves, and different cultures recognise them in distinct ways, establishing various laws for their preservation. There are sacred groves in several regions of India, including the Western Ghats, Central India, northeast India, etc., especially in areas where indigenous tribes are concentrated. The ethnic people have given these various names that are used to refer to them. Sacred forests make excellent conservation hubs for biodiversity. In some of the sacred woods, a number of threatened plants and animals are still well preserved. Numerous therapeutic plants that are absent from the forest have been found to be common in sacred groves. Additionally, sacred woods frequently include a high concentration of uncommon, endangered, threatened, and endemic species. The region's flora and animals are encouraged to be used sustainably and to be conserved in part because of the sacredness, religious beliefs, and taboos present there. The size of the sacred groves, their vegetation pattern, how people view them, and the religious beliefs and taboos, however, have all undergone significant changes over time. Therefore, determining the ecological importance of sacred groves and developing conservation plans require a comprehensive understanding of their current status, structure, and function. This essay summarised research on sacred groves conducted around the world, highlighting how community involvement in the preservation of sacred groves could be a potent instrument for biodiversity conservation [2]. Oran, Bani, Devbani Jogmaya, Deora, Thanak, and other names are used to describe the sacred groves of Rajasthan. Tribal peoples, nomadic peoples, and indigenous Rajasthani citizens have long preserved these precious woodlands. In Rajasthan, the Aravalli Mountain range is home to the majority of the sacred groves. In addition to this, every hamlet in Rajasthan has a sacred grove of some kind. One of the first Rajput states to ally itself with the British Empire was the district of Alwar, which is thought to be one of the oldest districts in the Rajasthan Kingdoms. With an elevation of 170 metres above sea level, the Alwar district is located in Rajasthan's northeast and stretches from north latitude 27°3' to 28°14' and from east longitude 76°7' to 77°13'. It is 8380 square kilometres in size. It is approximately 137 kilometres long from south to north and 110 km wide from east to west. Only a few kilometres away from Alwar, in the Aravali highlands, is the

Sariska Tiger Reserve, a National Park and Tiger Reserve. The *Acacia catechu* and *Anogeissus pendula* vegetation types are the dominant large-scale formation types in the region from the perspective of succession and the idea of a continuity of vegetation. In the present study, a survey was conducted to study Adawal sacred groved or devbani in Alwar district which has least anthropogenic impacts on vegetation. The study area Adawal ki devbani or sacred groves is situated near village Sirawas. It covers approximately 50 hectares area of hilly topography [8].

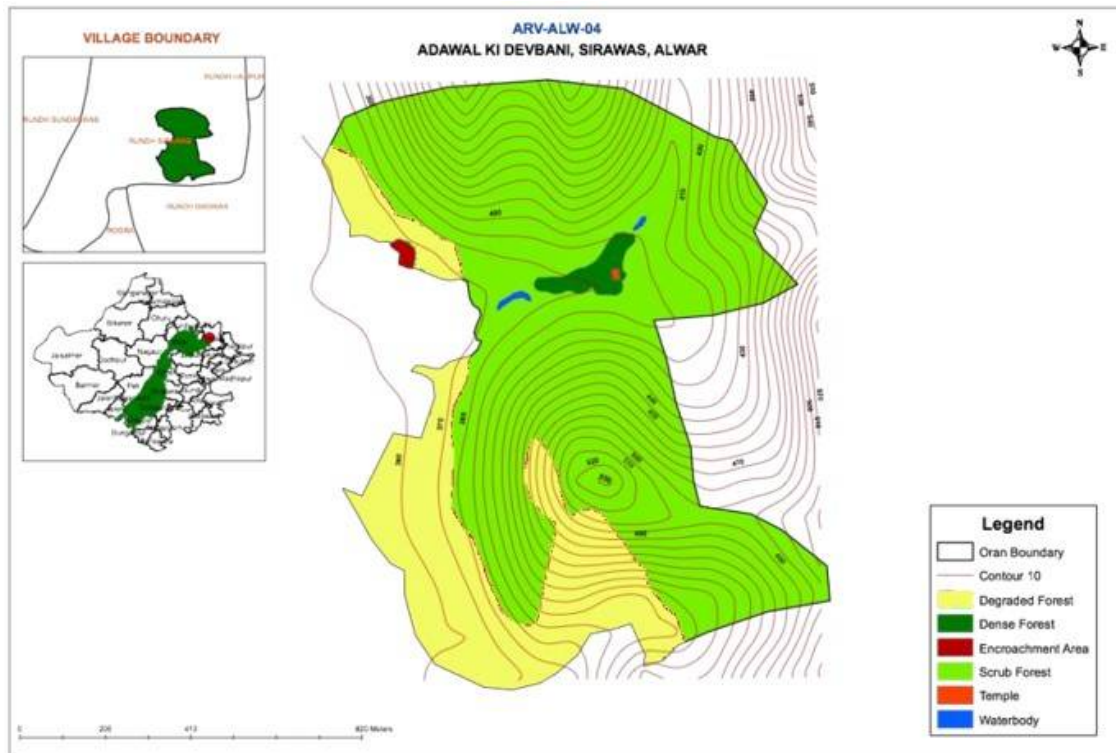


FIGURE 1: MAP OF THE STUDY AREA

MATERIAL AND METHODS

An extensive field survey was used to conduct the inquiry. Floras and literature were used to gather information and data. Between 2020 and 2021, the site's sacred groves' vegetation underwent preliminary inspection. For the purpose of gathering information about the floristic diversity of the site, early morning trips were made frequently. Important images of plants, their habits, leaves, stems, and floral components were taken while conducting fieldwork. Using questionnaires and free listing interviews with randomly chosen informants, data were gathered from 10 villagers in the sacred grove. Using Flora of Rajasthan, the collected plant specimens were identified [5,1].

RESULT AND DISCUSSION

In order to endure the extremes of the hard climate throughout the protracted period of famines, visionary residents of Rajasthan have used sacred groves (orans) as a natural resource conservation practise for centuries [4]. The custom in Rajasthan is a prime illustration of how to sustain the custom for ecosystem services. The groves' resources are only utilised sparingly or exclusively in times of emergency. The majority of these groves also border streams [3]. Whereas orans in the western dry tract are an important supply of water as well as green feed for the animals. A total of 50 plant species from 24 families have been discovered in the current study (Table-1). Some of the reported plant species are monocots, but the majority of them are dicots. Fabaceae, Moraceae, and Malvaceae were the top 3 families (Table 1 & Figure 2). With 745 genera and 19560 species, 707 genera and 11337 species, and 1620 genera and 23600 species, respectively, the Fabaceae, Poaceae, and Asteraceae are the largest families in the world flora, making them the largest families in the study area [6]. The greatest monocot family, Moraceae, has four genera, while the main dicot family, Fabaceae, had eight. The preservation of sacred elements, such as place names and their ecological value, sacred groves, sacred systems. The revival of Rajasthan's folk traditions has also been shown to be greatly aided by the information held by the indigenous communities and tribes [7] "Table 1 have the information regarding the medicinal plants of the area.

Table 1: Ethnomedicinal plants in Adawal sacred groved of Alwar district, Rajasthan

Sr. no.	Plant Name	Family	Indigenous /invasive	Habit	Uses/ used in
1.	<i>Aegle marmelos</i> (L.) Corr.	Rutaceae	Indigenous	Tree	cooling agent, and diarrhea, headache, abdominal pain
2.	<i>Abrus precatorius</i> L.	Fabaceae	Indigenous	Twining shrub	Root is used in migraine headache & seed cures baldness. seed is used for sore throat inflammation of mucus membrane
3.	<i>Acacia catechu</i> (L.f.) Willd.	Mimosaceae	Indigenous	Tree	Root in used in leprosy, skin diseases& bark in used in leucoderma
4.	<i>Abutilon indicum</i> L.	Malvaceae	Indigenous	Herb	The plant use in cold & diarrhoea, earaches, treat diseases of the lungs.
5.	<i>Acalypha ciliata</i> Forsk	Euphorbiaceae	Indigenous	Herb	Fodder
6.	<i>Achyranthes aspera</i> L.	Achyranthaceae	Indigenous	Herb	The plant is used as diuretic in dropsy& also in skin eruption, piles, leprosy& in painful delivery.
7.	<i>Adiantum caudatum</i> L.	pteridaceae	Indigenous	Herb	mouth ulcer, headache, cuts, boils, wounds, fuel
8.	<i>Adathoda vasica</i> L.	Acanthaceae	Indigenous	Shrub	Decoction of leaves used in cough and cough
9.	<i>Anlangium salvifolium</i>	Cornaceae	Indigenous	Tree	Leaves used in treats wound healing, diabetes, dog bite
10.	<i>Azadirachta indica</i> A. Juss.	Meliaceae	Indigenous	Tree	Whole plant is used in treats wound, nourishes skin, increase immunity
12.	<i>Argemone mexicana</i> L.	Papaveraceae	Indigenous	Herb	Oil, leaf juice and root-used externally for indolent ulcers and skin diseases.
13.	<i>Bidens biternata</i> L.	Asteraceae	Indigenous	Herb	Leaves are used in kidney problem
14.	<i>Boerhavia erecta</i> L.	Nyctaginaceae	Indigenous	Herb	Used as a traditional medicine and food
15.	<i>Boerhavia diffusa</i> L.	Nyctaginaceae	Indigenous	Herb	Leaves are used in reducing swelling, diuretic and root is used in night blindness
16.	<i>Butea monosperma</i> (Lam.) Taub.	Fabaceae	Indigenous	Tree	Seeds are used to cure leucoderma. Fruit is used in correcting menstruation. Root is used in snake poisoning
17.	<i>Cassia fistula</i> L.	Fabaceae	Indigenous	Tree	Leaves used in skin diseases like psoriasis, scabies & Ringworm. Pod is purgative
18.	<i>Cenchrus biflorus</i> Roxb	Poaceae	Indigenous	Herb	Fodder
19.	<i>Commiphora wightii</i> (Arn.) Bhandari	Burseraceae	Indigenous	Tree	Guggal gum resin is use for arthritis, lowering high cholesterol, skin diseases

20.	<i>Calotropis procera</i> (Ait.) R. Br.s	Asclepiadaceae	Indigenous	Shrub	Toothache, burning of skin, asthma, whooping cough, cold, pneumonia, joint pain, boils, cuts, wounds
21.	<i>Capparis decidua</i> (Forssk.) Edgew.	Capparaceae	Indigenous	Shrub	Bark of tree is used to treat cough and asthma. Powder of fruit is anti-diabetic
22.	<i>Cynodon dactylon</i> (L.) Pers.	Poaceae	Indigenous	Herb	Ophthalmic diseases, nose bleed, mouth ulcer, vomiting, diarrhoea, kidney stone, constipation, stomach ache
23.	<i>Elytrasia acaulis</i> (L.f.) Lindau	Acanthaceae	Indigenous	Herb	Used in medicine for treating skin diseases, ringworm
24.	<i>Euphorbia hirta</i> L.	Euphorbiaceae	Indigenous	Herb	Used in indigestion, cuts, wounds, swelling, , asthma,
25.	<i>Evolvulus alsinoides</i> (L.) L.	Convolvulaceae	Indigenous	Herb	The whole plant is used in form of decoction in nervous debility and loss of memory
26.	<i>Ficus racemosa</i> L.	Moraceae	Indigenous	Herb	Mouth ulcer, dysentery, leucorrhoea, wounds
27.	<i>Ficus benghalensis</i> L.	Moraceae	Indigenous	Herb	Nose bleeding, cold, brain tonic, joint pain, heart problems, ear boil, cracking of heal, debility, toothache
28.	<i>Ficus religiosa</i> L.	Moraceae	Indigenous	Herb	Ophthalmodinia, pneumonia, jaundice, asthma, cough, abdominal pain, wounds
29.	<i>Gloriosa superba</i> L.	Colchicaceae	Indigenous	Climber	Applications against parasitic skin diseases and as a cataplasm in urological pains
30.	<i>Grewia asiatica</i> L.	Malvaceae	Indigenous	Shrub	The fruits are claimed to be beneficial for heart, blood and liver disorders, indigestion, fevers and diarrhea and are used for treating throat,
31.	<i>Holoptelea integrifolia</i> (Roxb.) Planch.	Ulmaceae	Indigenous	Tree	Inflammation, worm infestations, vomiting, skin diseases, leprosy, diabetes, bleeding, obesity
32.	<i>Hibiscus micranthus</i> L. f.	Malvaceae	Indigenous	Shrub	Both the peeled and unpeeled twigs are used as chewing sticks in order to clean the teeth and maintain Oral hygiene, anti-inflammatory
33.	<i>Indigofera cordifolia</i> Heyne ex Roth	Fabaceae	Indigenous	Herb	Juice of the plant is used as antiscorbutic and diuretic, for burns and epilepsy

34.	<i>Indigofera linnaei</i> Ali	Fabaceae	Indigenous	Herb	Used to treat inflammation, rheumatism, arthritis, liver and tumour diseases
35.	<i>Ipomoea pes-tigridis</i> L.	Convolvulaceae	Indigenous	Herb	The root is purgative
36.	<i>Lentana camara</i> L.	Verbenaceae	Invasive	Shrub	Leaves are used in piles, sprain and respiratory diseases
37.	<i>Leucas aspera</i> R. Br.	Lamiaceae	Indigenous	Herb	Used as a antipyretic and antifungal
38.	<i>Lindernia ciliata</i> (Coolsm.) Pennell	Linderniaceae	Indigenous	Herb	To cure the skin disease. treat high fever, diabetes, abdominal ailments.
39.	<i>Morus alba</i> Linn.	Moraceae	Indigenous	Tree	Fruit-cooling, mild laxative. Used for sore throat and gargle in inflammations of the throat.
40.	<i>Ocimum canum</i> Sims	Lamiaceae	Indigenous	Herb	As an infusion or syrup for the treatment of a number of diseases such as asthma, fevers, coughs, flu
41.	<i>Ocimum sanctum</i>	Lamiaceae	Indigenous	Herb	The leaves juice used in bronchitis, skin diseases, earache, colds, seeds are useful of urinary system, root is given in malarial fever.
42.	<i>Phoenix sylvestris</i> (L.) Roxb.	Areceaceae	Indigenous	Tree	The fruit is cooling, oleaginous, cardio tonic
43.	<i>Prosopis juliflora</i> (Swartz) DC.	Fabaceae	Invasive	Tree	Fodder, sand-dune stabilization in India. Shade or shelter
44.	<i>Syzygium cumini</i> (L.) Skeels	Myrtaceae	Indigenous	Herb	The bark is astringent & used in sore throats, bronchitis, asthma, ulcers & dysentery, purifying blood the fresh juice of bark with goat milk is given in diarrhoea.
45.	<i>Tephrosia villosa</i> (L.) Pers.	Fabaceae	Indigenous	Herb	Taken in empty stomach for stomach ache and stomach disorders
46.	<i>Tridax procumbens</i> L.	Asteraceae	Indigenous	Herb	Juice extract from leaves work as a wound healing, antifungal, insect repellent.
47.	<i>Tribulus terrestris</i> L.	Zygophyllaceae	Invasive	Herb	Leucorrhoea, fever impotence, kidney stone, diarrhoea, rheumatism, ring worm, boils, dysuria, headache
48.	<i>Triumfetta pilosa</i> Roth.	Malvaceae	Indigenous	Shrub	Fiber
49.	<i>Ziziphus mauritiana</i> Lam.	Rhamnaceae	Indigenous	Shrub	Mouth ulcer, headache, cuts, boils, wounds food, fuel
50.	<i>Zornia gibbosa</i> Span.	fabaceae	Indigenous	Herb	Used in diabetes.

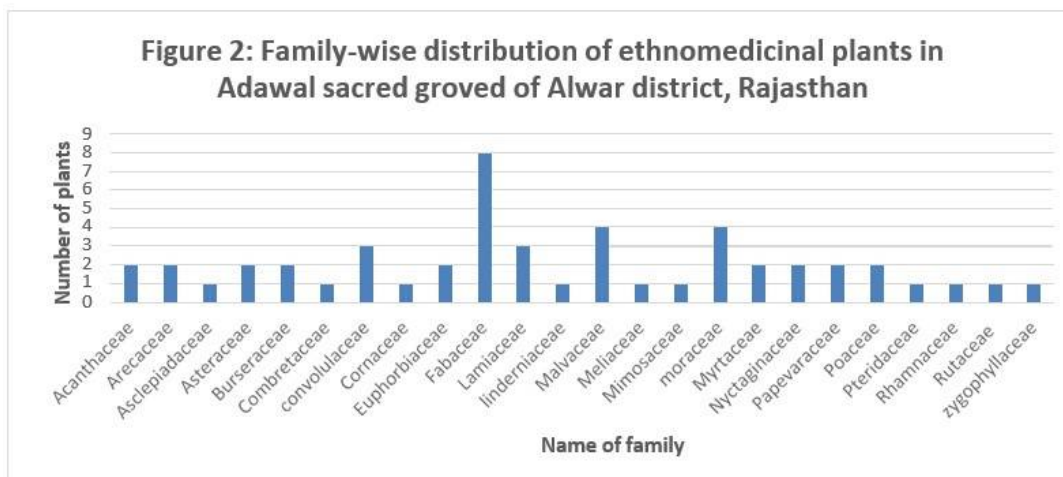


Table 2: The Key informants of studied sacred groves in Alwar

S.No.	Name of the tribal physician	Gender	Age	Community
1.	Manohar Lal	Male	45	Gurjar
2.	Ram Ratti	Female	40	Meena
3.	Santosh	Female	50	Meena
4.	Magan Devi	Female	50	Meena
5.	Moti	Male	30	Meena
6.	Tikaram	Male	25	Gurjar
7.	Radha Devi	Female	40	Gurjar
8.	Vishram Meena	Male	35	Meena
9.	Lekhram	Male	45	Gurjar
10.	Roopi	Male	40	Gurjar

CONCLUSION

This study has focused on the religious significance of the sacred groves in the tehsil of Hindoli. Tribes and the local community have guarded these woodlands because they view them as sacred. These ancient forests are crucial for creating oxygen and cleaning up the environment's pollutants. Sacred groves are drastically decreasing as a result of contemporary development operations. As a result of increased encroachment and forest exploitation, many woods are currently in danger of disappearing. At the moment, regulations are required to safeguard these sacred groves. The local government needs to recognise these places. We will be able to save these sacred trees with all of these efforts. According to the study's findings, there are several ethnomedicinal plants in the Adawal sacred grove in the Alwar district. Due to their religious practises, tribal people are protecting these plants. Conservation of these medicinally significant plants is becoming more important due to forest loss.

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