

Floristic study of sacred groves of Poshina forest range of Sabarkantha district, North Gujarat

P.K. MEHTA AND B.K. JAIN

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SUMMARY

India is well known for worship of nature. From time immemorial in India, religion and cultural practices are closely linked with forests, and this helps in conservation of biodiversity. Some patches of forest are left untouched because of religious fencing by local people. These types of forest patches are regarded as sacred groves. The plant species grow near or in sacred grove are considered to be sacred. In this paper, total 28 sacred groves which cover approximately 1.8 hectares area were observed in Poshina forest range. A total 39 plant species belonging to 32 genera of 25 families were recorded.

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India is a land of rich biodiversity in which 2 out of the 25 biodiversity hotspots of the world exist. India is on 6th position among 12 mega-diversity centers of the world. It is also a country with the strongest traditions of nature conservation anywhere in the world. In India, conservation of plants by local people through their religious beliefs and spiritual value is very common. Sacred groves provide the best example of conservation of biodiversity. Sacred groves are the groups of trees or patches of vegetation protected by the local people through religious and cultural practices evolved to minimize destruction (Israel *et al.*, 1997; Jeeva and Anasuya, 2005, Jeeva *et al.*, 2005). Their plant wealth and conservation potential were impressive enough to acknowledge them as “mini biosphere reserve” (Gadgil and Vartak, 1975). The plant species grow near the grove are considered to be sacred. The vegetation near the sacred grove is considered as a “God’s garden”. Any form of cutting or removal of trees or their parts in the grove is prohibited.

The paper records floristic composition of the unreported sacred groves of Poshina forest range of Sabarkantha district of North Gujarat.

MATERIALS AND METHODS

Poshina is situated in Khedbrahma taluka (Tehsil) of

Correspondence to:

B.K. JAIN, Department of Botany, M.G. Science Institute, Navrangpura, AHMEDABAD (GUJARAT) INDIA

Authors’ affiliations:

P.K. MEHTA, P.S. Science and H.D. Patel Arts College, Kadi, MEHSANA (GUJARAT) INDIA

Sabarkantha district of North Gujarat. It is located 12 kms away from Ambaji-Khedbrahma highway. It is divided in to two ranges *i.e.* (1) Poshina forest range and (2).R.D.F. (Rehabilitation of Degraded Forests) of Poshina range. The Poshina forest range measures an area of 12978 hectares. It’s northern and eastern parts lead to Rajasthan state, western part joints the border of Ambaji forest range of Banaskantha district and in southern part there is a R.D.F. of Poshina range.

The minimum and maximum temperatures recorded in the area are 10°C in winter and 42°C to 45°C in summer. 15th June to 15th August is a monsoon period. Biogeographically the area belongs to hilly tract of Aravalli Mountain range. It is an “Adivasi Belt”, popularly known as “Poshina-Patti”. According to Gujarat State Forest Department (GSFD), it is an unclassified forest area (under section-4). Ecologically it comes under semi arid zone, Tropical dry deciduous forest-5A type Champion and Seth (1968).

An extensive floristic survey was carried out at sacred groves of Poshina forest range. Total 28 sacred groves have been reported in the forest area. Number of tree species and shrub species grown in sacred groves were enumerated while herb species were excluded. All specimens of plant species were identified with the help of local flora (Shah, 1978).

RESULTS AND DISCUSSION

Taxonomically, a total of 39 plant species belonging to 32 genera and 25 families were recorded in 28 sacred groves, which cover approximately 1.8 hectares of land

area in Poshina forest range (Table 1). Among these, 31 were tree species and 8 were shrub species. Mimosaceae was the dominant family with 3 genera and 6 species, followed by Moraceae with 1 genus and 4 species and Ceasalpinaceae with 2 genera and 3 species. Among the dicots, 25 species belong to polypetalae, 4 species to gemopetalae and 8 species to monoclamidae. Only 2 species of monocots were reported.

Maximum number of species (10) were recorded in the Piplawali mata, the Shankar Mahadev- Gor Mata and the Ghatawala Mahadev groves which are followed by the Shankar Mahadev and the Shankheshwar Mahadev sacred groves with 9 species and the Kalbhairav, the Shitala Mata, the Matai deni dokari and the Bhujeshwar Mahadev with 7 species of each.

Total 427 individuals were recorded from 28 sacred

groves (Table 2). Maximum number (51 individuals) were recorded in the Mata no patto sacred grove, followed by the Shankheshwar Mahadev (32 individuals), the Kalbhairav (27 individuals), the Shankar Mahadev- Gor Mata (26 individuals) and the Shankar Mahadev (25 individuals).

Among trees species, *Butea monosperma* (Lam.) Taub. was found in the 17 out of 28 sacred groves followed by *Ficus benghalensis* L. found in 13 sacred groves, *Holoptelea integrifolia* (Roxb.) Planch. Found in 10 sacred groves and *Wrightia tinctoria* R. Br. found in 7 sacred groves.

Based on the utilization, 8 plant species are considered sacred. They were *Butea monosperma* (Lam.) Taub. (used in Hindu ceremonies), *Ficus benghalensis* L. (Adobe of the Brahma, the Visnu and

Table 1 : Name and area of sacred groves with number of dicot and monocot species

Sr. No.	Name of sacred grove	Area (Approximately) in hectares	No. of species recorded	
			Dicot	Monocot
1.	Hanuman Choke	0.02	6	
2.	Pipalawali mata	0.02	9	1
3.	Shankar mahadev	0.0035	9	
4.	Kalbhairav (Mamapipla)	0.005	6	
5.	Kalbhairav (Chhatrang)	0.005	7	
6.	Shankar mahadev-Gor mata	1	10	
7.	Shitala mata	0.003	7	
8.	Limdawali mata	0.0015	1	
9.	Sundha mata	0.005	4	1
10.	Mata no patto	0.01	5	1
11.	Chamunda mata	0.0015	2	
12.	Jadariya gadhwali mata and khedbrahmawali chamunda mata	0.005	3	
13.	Mahadevji and Hanuman bavaji	0.0075		
14.	Ghatavala mahadev	0.01	9	1
15.	Khakhariyo rakhewal		1	
16.	Chamunda mataji (Dantiya)		1	
17.	Khetala bavaji, Devara bavaji and Chamunda mataji	0.0075	1	
18.	Shankheshwar mahadev	0.01	8	1
19.	Motaideni dokari	0.002	6	1
20.	Kalbhairav (Kalcchawad)	0.007	4	
21.	Shiva mahadevji	0.0065	2	1
22.	Gowaro bavaji	0.005	5	1
23.	Bhakhar bavaji	0.005	4	1
24.	Pipeshwar mahadev	0.008	4	
25.	Anghahi mata	0.007	2	
26.	Bhujeshwar mahadev	0.01	6	1
27.	Devata bavaji	0.006	6	
28.	Bhakhar bavaji (Bara)	0.002	5	
		1.173	64	10

Table 2 : Sacred groves of Poshina forest range

Sr. No.	Name of the sacred grove	Name of village	Area in hectares (Approximately)	No. of species		No. of individuals		Total no. of individuals
				Dicot	Monocot	Dicot	Monocot	
1.	Hanuman Choke sacred grove	Bara	0.02	6	–	12	–	12
2.	Piplawali Mata sacred grove	Mamapipala	0.02	8	2	11	8	19
3.	Shankar Mahadev sacred grove	Chhatrang	0.0035	8	1	20	5	25
4.	Kal Bhairav sacred grove	Mamapipala	0.005	6	–	20	–	20
5.	Kal Bhairav sacred grove	Chhatrang	0.005	7	–	27	–	27
6.	Shankar mahadev- Gormata sacred grove	Chhatrang	1	10	–	26	–	26
7.	Shitala mata sacred grove	Bedi	0.003	6	1	18	2	20
8.	Limdawali Mata sacred grove	Kalikaker	0.005	1	–	1	–	1
9.	Sundha Mata sacred grove	Anjani	0.005	4	1	15	5	20
10.	Mata no Patto sacred grove	Padapat	0.01	4	1	48	3	51
11.	Chamunda mata sacred grove	Ajawas	0.0015	2	–	8	–	8
12.	Jadariya Gadhwal mata and Khedbrahmawali Chamunda mata sacred grove	Kajawas	0.005	3	–	9	–	9
13.	Mahadevaji and Hanumanji sacred grove	Kajawas	0.0075	–	–	–	–	–
14.	Ghatawala Mahadev sacred grove	Dantia	0.01	9	1	14	1	15
15.	Khakhariyo (<i>Butea monosperma</i> (Lam.) Taub.) rakhewal sacred grove	Dantia	–	1	–	1	–	1
16.	Chamunda Mataji sacred grove	Dantia	–	1	–	1	–	1
17.	Khetla bavaji, Devara bavaji, Chmunda mataji sacred grove	Dantia	–	–	–	–	–	–
18.	Shankar mahadev sacred grove	Ghanchhali	0.01	8	1	20	12	32
19.	Motaideni dokari sacred grove	Poshina	0.002	6	1	16	3	19
20.	Kalbhairav sacred grove	Kalchhawad	0.007	4	–	10	–	10
21.	Lord Shiva Mahadevaji sacred grove	Kalchhawad	0.0065	2	1	12	3	15
22.	Gowaro bavaji sacred grove	Kalchhawad	0.005	5	1	15	3	18
23.	Bhakhar Bavaji sacred grove	Salera	0.005	4	1	12	5	17
24.	Pipeshwar Mahadev sacred grove	Valsadi	0.008	4	–	10	–	10
25.	Anghahi Mata sacred grove	Koland	0.007	2	–	3	–	3
26.	Bhujeshwar Mahadev sared grove	Koland Talav	0.01	6	1	19	1	20
27.	Devata Bavaji sacred grove	Chandrana	0.006	6	–	16	–	16
28.	Bhagar Bavaji sacred grove	Bara	0.002	5	–	14	–	14
			1.169			378	51	429

the Shiva), *Azadirachta indica* A. Juss. (Adobe of the goddess Durga), *Madhuca indica* J.F.Gmel. (Adobe of the lord Shiva), *Ficus religiosa* L. (Adobe of the lord Visnu), *Wrightia tinctoria* R. Br. and *Nyctanthes arbortristis* L. (Adobe of the lord Krishna) and *Anogeissus latifolia* (Roxb) Wall. (mention in the great epic Ramayana) while remaining species were having either medicinal value or timber value.

Interestingly, an endangered plant species *Sterculia*

urens Roxb. was found in 3 sacred groves. Local people set idol of deity under the tree of *Sterculia*, they believe that the tree is a home of the deity. They also believe to put flag (made up of *Dendrocalamus strictus* Nees.) on the tree after the completion of their wish.

Due to continuous increase in industrialization and civilization, there is a rapid degradation of forests at an alarming rate leading to shrinkage of biodiversity. However, there are some patches of forest which are

left untouched even today because of social and religious fencing by local people. Sacred groves are the forest patches which are harbouring rich biodiversity and protected by local people. The plant species grow near or in sacred groves are known as sacred plants. These plant species have been preserved because of their association with religious and spiritual beliefs which play

an important role in biodiversity conservation. Now the time has come to check the legal status and management of sacred groves in the country. There is an urgent need to preserve and acknowledge the efforts of the people of these areas in preserving the other small sacred patches of forest as local biodiversity.

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