IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

FLORISTIC DIVERSITY OF DURGAWA DI SACRED GROVE IN TAHASIL JUNNAR DISTRICT PUNE, MAHARASHTRA, INDIA.

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ABSTRACT

Sacred grove is conserved forest patch. Sacred grove consist high richness of fauna and flora. In Present work is the intensive exploration of durgawadi sacred grove. Durgawadi is small village come under Hatvij Grampanchayat. Durgawadi plateau is one of largest diversity area in pune District.Sacred grove consist of 190 Plants.

In this plants list some plants was highly medicinal value , Endemic ,Insectivores eg *Smithia purpurea*. *Drosera indica* *Cythocline purpurea* which is utilized by local tribal people. The area of Sacred grove is humid and cool. Present work is carried out for finding out florally richness of flora. This sacred grove belong to Desh Pashim of Maharastra region. durgawadi plateau is consider as a mini kas pathar because of richness of flowering plant.

INTRODUCTION

Since ancient time human being depend on plants for shelter and food. But due to advanced technology dependacy of human being slightly reduced. But tribal people who live in forest totally depend on forest resources. Sacred grove is also called as “Devrai” in Marathi. This patch conserved for god so it is protected by local communities. Tree Sacred grove are few acre to few hectors.This plateau speards over an area of 2.8763km2 out of total geographic area of 16.282 km2 of village Ambe Hatvilj and its wadis This area area prohibited for human activity.

In the words of botanist M. Gadgil and V. D. Vartak

“Sacred grove are tracts of the most valuable of legicies from the primitive practices of nature conservation.”

The degree of floristic diversity changes from one to another forest. Sacred grove is classified in two categories.

1. Traditional Sacred grove.
2. Temple groves.

Due to urbanization and development many sacred grove are on the way of disappearance. There is some threats to sacred grove which varies from one to another sacred groves.

Distribution of Sacred Grove in India

In india most of sacred grove are found in Kerala Karnataka And Tamilnadu Also in Arunachal Pradesh and Meghalay. About 13720 Sacred groves are found in India.

Distribution of Scared grove in Maharashtra

Aproximately 2820 Sacred grove are found in Maharashtra. In Marathi Sacred grove called "DEVRAI"

Study Area

Durgawadi is small village come under Hatvij grampanchayat. It is located 88 km from Pune and 130 km From state capital Mumbai. Durgawadi is surrounded by 3 Tehasil Ambegaon Junnar and Murbad. It is located 30 km from Junnar taluka between 190 11' 37.99'' N & 730 41'42.57 E To 190 13'3.59'' N &730 38' 33.92'' E This plateau Spread over an Area of 2.8793 km. The climate is cool and Humid.The average annual rainfall is 1500 – 2000 mm or even higher.

Direction of durgawadi

BY Road

Junnar → Somatwadi → Bejwat→ khajgaon → Surale → Ghogarewadi→ Aptale→ Shinde→ Sonawale → Inglun → Ambe→ Hatvij→ Durgawadi.

Objective of present study

To survey of durgawadi sacred grove and collect the information of plants and documented it.

METHODOLOGY

List of plant is made by personal ineterviews and observation. During This work area visited by 12 -13 times annually. During work different localities analysed. In the time of work photograph are taken for making digital herbarium aslo voucher specimen collected and made herbarium which is summited to Department of Botany of Annasaheb Awate College Manchar Tal- Ambegaon Dist- Pune. Voucher Speciemen collected in Flowering and fruting satge for identification with the help of different floras. In that investigation 190 Plants was collected from Durgawadi Which belong to different families.

List of Plants found in Durgawadi

Table no- 1

Sr. No	Botanical name	Vernacular Name	Family	Habit
1	*Aagle marmelos* L.	Bel	Rutaceae	T
2	*Abrus precatorius* L.	Gunj	Fabaceae	C
3	*Abutilon indicum* (Link) Sweet.	Madanghanti	Malvaceae	S
4	*Acalypha indica* L.	Kupi	Euphorbiaceae	
5	*Acanthospermum hispidium* DC	German kata	Asteraceae	
6	*Acmela olaracea* (L.) R. K. Jansen	Pipulka	Asteraceae	
7	*Acmela uliginosa* (Sw.) Cass.		Asteraceae	
8	*Aerva japonica*		Amaranthaceae	
9	*Agave Americana* L.	Ghaypath	Asparagaceae	
10	*Ageratum conyzoides* L.	Ghanera ossadi	Asteraceae	
11	*Alstonia scholaris* (L.) R. Br.	Saptparni	Apocynaceae	
12	*Alternanthera sessilis* (L.) R. Br. ex DC	Chibukata	Amaranthaceae	
13	*Alysicarpus vaginalis* (L.) DC	Sauri	Fabaceae	
14	*Ammania bacifera* L.	Bharjamabal	Lytheraceae	
15	*Amorphophallus bulbifer* (Roxb.) Blume.	Ran suran	Araceae	
16	*Anagalis arvensis* L.	Ran Draksh	Primulaceae	
17	*Andrographis paniculata* (Burm.f.) Nees		Acanthaceae	H
18	*Anisomeles heyneana* Benth.	Gopali	Lamiaceae	
19	*Arisaema murrayi* Mart.	Sapkanda	Araceae	
20	*Asclepias curassavica* L.	Haladi Kunku	Asclepiadaceae	
21	*Asparagus racemosus* Willd.	Shatavari	Asparagaceae	
22	*Atlantia racemosa* Wigh & Arn.	Makad limbu	Rutaceae	
23	*Azadirachata indica* A. Juss.	Kadulimb	Meliaceae	

24	*Bacopa monnieri* (L.) Pennell	Brahmi	Plantaginaceae	H
25	*Bigonea crenata* L.	Berki	Bigoniaceae	H
26	*Blumea lacera* L.	Bhamurda	Asteracae	H
27	*Blumea malcolmii* (L.) DC		Asteraceae	
28	*Boerhavia erecta* L.	Punarnava	Nyctaginaceae	H
29	*Bombax Ceiba* L.	Shalmali	Malvaceae	
30	*Bridelia retusa* (L.) A Juss.	Asana	Phyllanthaceae	
31	*Buchnera hispida* Buch Ham.	Karanji	Scrophulariaceae	
32	*Caesalpinia bonduc* (L.) Roxb.	Sagargota	Caesalpiniaceae	S
33	*Caesalpinia decapetala* (Roth) Alston.	Chilar	Caesalpiniaceae	S
34	*Caesulia axillaris* Roxb.	Maka	Asteraceae	H
35	*Calotropis gigintea* (L.) Dryand.	Rui	Asclepiadaceae	S
36	*Calotropis procera* (Aiton) W. T Aiton	Rui	Asclepiadaceae	S
37	*Canscora diffusa* (Vahl) R. Br. ex Roem & Schult.	Kilvar	Gentianaceae	
38	*Carissa carandus* Wight.	Karvand	Apocynaceae	S
39	*Cassia fistula* L.	Bahava	Caesalpinaceae	
40	*Catunaregum spinosa* Thunb.	Ghela	Rubiaceae	
41	*Centaurium cetrioides*		Gentinaceae	H
42	*Ceropegia bulbosa* L.	kharputi	Apocynaceae	
43	*Chlorophytum tuberosum* (Roxb.) Baker	Musali	Asparagaceae	
44	*Chorcorus trilocularis* L.	kaaduchunch	Malvaceae	H
45	*Chrozophora rottleri*		Euphorbiaceae	
46	*Clematis heynei* M.A. Rau & al.	Morvel	Ranunculaceae	
47	*Cleome gynandra* L.		Cleomaceae	
48	*Clerodendrum phlomidis* L.		Verbenaceae	S
49	*Clitoria ternacea* L.	Gokarn	Fabaceae	
50	*Cocculus hirsutus* (Linn.) Diels	Vasanvel	Menispermeaceae	C
51	*Coldenia procumbens* L.		Boraginaceae	
52	*Colebrookea oppositifolia* Sm.	Bhaman	Lamiaceae	S
53	*Commelina benghalensis* L.	Kena	Commelinaceae	H
54	*Convolvulus arvensis* L.	Chandvel	Convolvulaceae	
55	*Cordia dichotoma* G. Forst.	Bhokar	Boraginaceae	
56	*Cryptolepis buchananii* Rormer & Schultes	Dhudhvel	Apocynaceae	C
57	*Cryptostegia grandiflora R.Br.*	Vakundi	Apocynaceae	
58	*Curculigo orchioides* Gaertn.	Kali musali	Hypoxidaceae	
59	*Curcuma pseudomontana*	Ranhalad	Zingiberaceae	

60	*Cyclea peltata* (Lam) Hooks & Thoms	Pakar	Menispermiaceae	
61	*Cynarospermum asperrimum* Nees.	Dikana	Acanthaceae	H
62	*Cynoglossum zelyanicum* (Vahl) Thunb. ex Lehm.	Lichardi	Boraginaceae	
63	*Cythocline purpurea* (Buch Ham. Ex D. Don) Kuntze	Gangotra	Asteraceae	
64	*Dalbergia sissoo* Roxb.	Shisav	Fabaceae	
65	*Dendrophthoe falcate* (L.f.) Ettingsh	Bandgul	Loranthaceae	
66	*Dioscorea pentaphylla* L.	Chai	Dioscoreaceae	
67	*Diplocyclos palmatus* (L.) c. Jeffrey	Shivlingi	Cucurbitaceae	C
68	*Dregea volubilis* (L.f) Benth. Ex Hook. f.	Harandodi	Asclepiadaceae	
69	*Drosera indica* L.	Gavati davbindu	Droseraceae	
70	*Ensete superbum* Roxb.	Kavadhar	Musaceae	
71	*Eranthemum roseum* (Vahl) R. Br.		Acanthaceae	H
72	*Eriocaulon heterolepis*		Eriocaulaceae	
73	*Erythrina variegate* L.	Pangara	Fabaceae	T
74	*Eucalyptus globulus* Labil.	Nilgiri	Myrtaceae	
75	*Eupatorium perfoliatum* L.	Boneset	Asteraceae	
76	*Evolvulus alsinoides* (L.) L.	Vishnukant	Solanaceae	
77	*Exacum Lawii* C. B. Clarke.	Lahan chirayat	Gentianaceae	
78	*Ficus racemosa* L.	Umber	Moraceae	
79	*Galinsoga parviflora* Cav.		Asteraceae	
80	*Girardinia diversifolia* (Link) Friis		Urticaceae	
81	*Gliricidia sepium* (Jacq.)Walp.	Undirmari	Fabaceae	T
82	*Gloriosa superba*	Kal lawi	Colchicaceae	
83	*Glossocardia bosavella* (L. f.) DC	Khadakshepu	Asteraceae	
84	*Gmelina arborea* Roxb.	Shivan	Lamiaceae	
85	*Gnidia glauca* (Fres.) Gilg	Rametha	Thymelaeaceae	S
86	*Grangea maderaspatana* (L.) L.Pior	Mashipatri	Asteraceae	
87	*Grewia asiatica* L.	Falasa	Malvaceae	T
88	*Gymnema sylvestre* (Retz) Schult	Gurmar	Asclepiadaceae	
89	*Habenaria grandifloriformis* Blat & McCann	Chichurkanda	Orchidaceae	
90	*Habenaria marginata* Coleb ex Hook.	Pivali habeamari	Orchiaceae	
91	*Haplanthodes verticillatus* (Roxb.) R.B. Majumdar	Jhankara	Acanthaceae	H
92	*Helichrysum luteoalbum* (L.) Rchb.		Asteraceae	
93	*Heliotropium indicum* L.		Boraginaceae	H

94	*Heliotropium ovalifoium* L.		Boraginaceae	H
95	*Hemidesmus indicus* (L.) R. Br.	Anantmul	Apocynaceae	
96	*Hemigraphis laterbrosa* (Roth) Nees.	Mor pankhi	Acanthaceae	H
97	*Holarrhena pubescens* Wall, ex G Don.	Indrajav	Apocynaceae	
98	*Hygrophila auriculata* Schumach.	Ekhara	Acanthaceae	
99	*Hygrophyla serphyllum* (Nees) T. Andr.	Ran tevan	Acanthaceae	
100	*Hyptis suaveolens* (L.) Poit.	Vilayati tulasi	Lamiaceae	H
101	*Impatien dalzelli* Hook . f. & Thom	Terada	Balsaminaceae	
102	*Impatiens acaulis* Arn Var. acaulis	Panterada	Balsaminaceae	
103	*Indigofera tinctoria* L.	Nil	Fabaceae	
104	Ipomoea *cairica* (L.) Sweet.	Bhura	Convolvulaceae	
105	*Ipomoea carnea* Jacq.	Besharam	Convolvulaceae	S
106	*Jasminum malabaricum* Wight.	Ran Mogara	Oleaceae	C
107	*Jatropha gossypiifolia*	Ratanjoti	Euphorbiaceae	
108	*Justicia procumbens* L.	karambal	Acanthaceae	H
109	*Lantena camera* L.	Ghaneri	Verbenaceae	S
110	*Launea procumbens* (Roxb.) Amin.	Pathari	Asteraceae	H
111	*Lavendula bipinnata* (Roth) Kuntze	Ghodegui	Lamiaceae	
112	*Leonotis neptifolia* (L.) R. Br.	Dipmal	Lamiaceae	
113	*Lepidagathis cristata* Willd.	Bhuigendh	Acanthaceae	H
114	*Leptadenia reticulate* (Retz.) wight & Arn	Bhuidodi	Apocynaceae	
115	*Leucaena leucocephala* (Lam.) de wit.	Subabhul	Fabaceae	T
116	*Leucas aspera* (Willd.) Link.	Dronpushpi	Lamiaceae	H
117	*Leucas longifolia* Benth.	Dronpushpi	Lamiaceae	H
118	*Leucas stelligera* Wall. ex Benth.	Dronpushpi	Lamiaceae	H
119	*Macroptilium atropurpureum* (DC.) Urb.		Fabaceae	
120	*Madhuca longifolia* (J. Konig.) J. F. Macbr.	Moha	Sapotaceae	
121	*Mallotus philippensis* (Cam) Mull. Arg.	kumkum	Euphorbiaceae	
122	*Malvastrum coromandelianum* (L.) Garcke.	Chandiri	Malvaceae	H
123	*Mangifera indica* L.	Amba	Anacardiaceae	
124	*Martynia annua* L.	Vinchu	Martyniaceae	
125	*Mecaranga peltata* Roxb. Mueller.	Chanda	Euphorbiaceae	
126	*Memecylon umbellatum* Burm. F.	Anjan	Melastomataceae	T
127	*Millettia pinnata* (L.) Panigrahi	Karanj	Fabaceae	
128\\	*Morinda tinctoria* Roxb.	Aseti	Rubiaceae	
129	*Mucuna pruriens* (L.) DC	Khajkuhiri	Fabaceae	

130	*Murraya koenigii* (L.) Sprengel.	Shevaga	Rutaceae	
131	*Neanotis foetida* (Dalzell) W.H. Lewis		Rubiaceae	
132	*Nicandra physalodes* (L.) Gaertn	Popati	Solanaceae	
133	*Opuntia dillenii* (Ker. Gawl.) L. D.Benson. O. S. var. dillenii	Nagphana	Cactaceae	
134	*Oxalis corniculata* L.	Amrul	Oxalidaceae	H
135	*Paracaryopsis coelestina* (Lind.) R. R. Mill	Nisurdi	Boraginaceae	
136	*Pavetta indica* L.	Papat	Rubiaceae	S
137	*Pavetta indica* L.	Papat	Rubiaceae	
138	*Peristrophe bicalyculata* (Retz) Nees.		Acanthaceae	H
139	*Persicaria glabra* (Willd) M. Gomez	Sheral	Polygonaceae	
140	*Pimpinella heyneana* (DC) Kuez	Dongar jira	Apiaceae	
141	*Pinda concansensis* (Dalzell) P. K. Mukh.	Panda	Apiaceae	
142	*Plumbago zelynica* L.	Chitrak	Plumbaginaceae	
143	*Pogostemon benghalensis* (Burm.f.) O. Ktze	Pangali	Lamiaceae	H
144	*Pogostemon deccanensis*	Jambhali manjeri	Lamiaceae	H
145	*Psydrax dicoccos* Gaertn.	Arsul	Rubiaceae	
146	*Ricinus Communis* L.	Airanad	Euphorbiaceae	
147	*Rotheca serratum* (L) Stean & Mabb.	Bharaangi	Verbenaceae	S
148	*Rubia cordifolia* L.	Itta	Rubiaceae	H
149	*Santalum album* L.	Chandan	Santalaceae	
150	*Senecio bombensis* Balakr.	Sonaki	Asteraceae	
151	*Senna auriculata* (L.) Roxb.	Tarwad	Fabaceae	
152	*Senna tora* (L.) Roxb.	Takala	Caesalpinaceae	
153	*Sida ovate* L.		Malvaceae	
154	*Smithia hirsute* Aiton	Barka	Fabaceae	
155	*Smithia purpurea* Aiton.	Barka	Fabaceae	
156	*Solanum anguivi* Lam.	Jangli vangi	Solanaceae	
157	*Solanum nigrum* L.	Kanguni	Solanaceae	H
158	*Sopubia delphinifolia* (L.)	Dudhali	Scrophulariaceae	
159	*Spathodea campamulata* P.Beauv	Ragtura	Bignoniaceae	T
160	*Spermadictyon suaveolens* Roxb.	Gidesa	Rubiaceae	S
161	*Sphaeranthus indicus* L.	Gorakhmundi	Asteraceae	H
162	*Stemodia viscosa* L.	Satmodi	Scrophulariaceae	H
163	*Striga angustifolia*	Bambaku	Orobranchaceae	
164	*Striga gesneriodes*	Bambaku	Orobranchaceae	
165	*Strobilanthes callosa* Nees.	Karavi	Acanthaceae	

166	*Sutera dissecta* (Del.) Walp.		Scrophulariaceae	H
167	*Synedrella nodiflora* (L.) Gaertn.		Asteraceae	H
168	*Syzygium cumini* (L.) Skeels.	Jambhul	Myrtaceae	
169	*Tamarindus indica* L.	chinch	Fabaceae	
170	*Termibalia chebula*	Hirada	Combretaceae	T
171	*Terminalia arjuna* (Roxb.) Wight & Arn.	Arjun	Combretaceae	T
172	*Terminalia bellerica* (Gaertn.) Roxb.	Behada	Combretaceae	T
173	*Terminalia eliptica* Willd.	Ain	Combretaceae	
174	*Thespesia populnea* (L.) Sol. ex Correa	Bhendi	Malvaceae	
175	*Thunbergia fragrance* Roxb.	Chimin	Acanthaceae	
176	*Tinospora cordifolia* (Thunb.) Miers	Gulvel	Ranunculaceae	C
177	*Trema orientalis* (L.) Blume	Ghol	Cannabaceae	T
178	*Tribulus terrestris* L.	Gokharu	Zygophyllaceae	
179	*Tricodesma indicum* (Burm.f.) R. Br.	Chota kalapa	Boraginaceae	
180	*Tricolepis radicans* (Roxb.) DC		Asteraceae	
181	*Tridax procumbens* (L.)	Tantani	Asteraceae	H
182	*Trimfeta malabarica* Koen. Ex Rothb.	tupkati	Tiliaceae	
183	*Tylophora indica* (Burm, f.) Merrill	Antmul	Apocynaceae	
184	*Urena lobata var. lobata* Almeida	Rantupkuda	Malvaceae	
185	*Utrucularia purpurascens*	Khurpapni	Lentibularaceae	
186	*Vitex negundo* L.	Nirgudi	Verbenaceae	S
187	*Withania somnifera* (L.) Dunal.	Ashwagandha	Solanaceae	
188	*Woodfordia fruticosa* (L.) Kurz.	Dhayati	Lythraceae	
189	*Xanthium strumarium* L.	Landaga	Asteraceae	
190	*Zingiber neesanum* (J. Graham)	Ranale	Zingiberaceae	

Abbreviations used in the text.

H = Herb

T = Tree

S = Shrub

CH = Climbing Herb

V = Vine

C = Climber

TW = Twiner

P = Parasite

Result And Disscussion

Table no – 2 List of families

Sr. No	Family	Number of species (For each Family)
1	Asteraceae	**20**
2	Fabaceae	16
3	Lamiaceae	10
4	Acanthaceae	11
5	Rubiaceae	9
6	Malvaceae	8
7	Apocynaceae	8
8	Euphorbiaceae	6
9	Caesalpiniaceae Asclepiadaceae Scrophulariaceae Verbenaceae Combretaceae	4
10	Rutaceae	3
11	Boraginaceae	7
12	Solanaceae	5
13	Meliaceae , Comelinaceae , Hypoxidaceae Moraceae Urticaceae , Colchicaeae , Anacardiaceae, Martyniaceae Melastomataceae Sapotaceae , Zygophylaceae , Oleaceae, Thymalaceae, Lytharaceae	1
14	Convolvulaceae	3
15	Ranunculaceae , Myrtaceae , Orobranchaceae , Orchidaceae Apiaceae , Amaranthaceae , Menispermaceae Zingiberaceae Bignoniaceae	2
16	Loranthaceae , Discoriaceae , Cucurbitaceae , Droseraceae , Musaceae , Eriocaulaceae , Canabanceae , Santalaceae , Tiliaceae . Plumbaginaceae . Lentibularace , Polygonaceae	1

In this study of biodiversity 190 Plants belonging to different families. Out of which Dominant family was Asteraceae and lThere is intensive exploration of Durgawadi Sacred grove was carried out. Durgawadi platuae consist highest no of species. Many endemic plant like *Cythocline purpurea , Pinda concanensis , Smithia Purpurea etc,* are found. Also 2 insectivorus plant fond like *Drosera indica and Utricularia purpuransis.*

Conclusion

Such studies provide information to the researchers. By using above information We can study the biodiversity of Durgawadi sacred groves.

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