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# ASSESSMENT OF PRELIMINARY FLORAL DIVERSITY IN CAMPUS OF D. P. BHOSALE COLLEGE CAMPUS, KOREGAON, SATARA (MS) INDIA.

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## ABSTRACT

D. P. Bhosale College, Koregaon was established in June 1968 and have collection of 187 plants in college campus, botanical garden and medicinal plant information centre. Floristic diversity of college campus is maintained by Department of Botany. The campus flora of an institution is a unique opportunity as an outdoor botanical and ecological learning for the campus community. The study found that the plants recorded from the campus area are economically very important. Some of them are medicinal ornamental and few are of edible value. The college campus has live collection of 180 plants from different groups like herbs, shrubs, trees, medicinal, ornamental, spices, aromatics etc.

**Key Words:** Floristic diversity, Satara, Floristic composition, Medicinal plants etc.

## INTRODUCTION

Floristic diversity refers to the variety and variability of plants in a given region. It refers to the number of types or taxa in a given region or group. Floristic diversity can be measured at any level from overall global diversity to ecosystem, community, species, populations, individuals and even to genes within a single individual. Floristic studies also help us to understand the basic aspects of biology such as speciation, isolation, endemism and evolution. A lot of ecological factors, mostly biotic, change the floristic components. The total number of species may be changed; dominant species may be replaced with other species; the floristic composition, i.e.; family: genus: species ratio may be changed.

Satara lies in Northern Western Ghats of Maharashtra (Sahyadri ranges) which is rich in biodiversity. Satara district is with an area of 10,480sq.km (3.4% total area of Maharashtra). Koregaon is situated in the heart of Satara district. Koregaon is famous for its fertile land as river Krishna flows through south, but north Koregaon is a drought prone area. Koregaon is situated on the banks of river Krishna. Due these unique climatic conditions floral components of the Koregaon are also showing variation as dry deciduous, semievergreen, scrubs etc.

Plant taxonomists are tasked with gathering data on the diversity and distribution of plants worldwide as part of floristic investigations (Qureshi et al. 2011). Floristic studies keep track of a plant species' occurrence, distribution, ecological state, and associations across several geographic areas. The study of the socioeconomic impact of plant diversity is far more significant than the

research of diversity alone. It is crucial for ecosystem stability, human economic prosperity, and human existence. This is an established fact that we get enormous benefits from plants and they fulfill almost all our basic requirements in the form of food, fodder, fuel, medicine, timber and resins etc. (Gaur, 1999)

The main aim of present floristic inventory was to analyze the diversified composition of cultivated medicinal and ornamental plant species of D. P. Bhosale College, Koregaon District Satara (Maharashtra State), India. The campus was established during 1968. The campus comprises about 900 acres area which is well designed and landscaped by mostly cultivated mainly medicinal, herbs, shrubs, trees, spices, aromatics and few ornamental plant species. The floristic composition comprises mostly medicinal plants, flowering as well as foliage ornamental plant species which are well suited to this climate. Many avenue trees and shrubs add aesthetic beauty to the campus. There is no comprehensive data available for floristic diversity of this area. Keeping these points in mind, the present investigation was conducted to prepare an inventory of floristic diversity of plants of RayatShikshan Sanstha's, D. P. Bhosale College, Koregaon, District-Satara (M. S.).

## **MATERIAL AND METHODS**

Floristic studies were carried out in the RayatShikshan Sanstha's, D. P. Bhosale College, Koregaon campus during 2021-2022. Collecting the plant species and data in different seasons. All habitats of the study area surveyed carefully. Plant collection carried out by standard method (Jain and Rao, 1977). Plant specimens were preserved by dipping the whole specimens in saturated solution of Mercuric chloride and alcohol. Dry and preserved plants mounted on herbarium sheets by adhesive glue and fevicol. Identification of plants done with the help of flora (Cook, 1903; Hooker, 1872-1897) and other taxonomic literature

1. Extensive collection of plant specimens (British Columbia Ministry of Forests. 1996)
2. Identification with available literature and field notes.
3. Pictorial documentation of floristic elements.
4. Preparation of checklist with updated nomenclature from different database
5. Preparation of herbarium of selected specimens (Jain S. K. and Rao R. R., 1976)

### **About Study Area:**

D.P. Bhosale College, Koregaon is imparting education in rural and hilly area in jurisdiction of Shivaji University, Kolhapur. This college is run by RayatShikshan Sanstha, Satara which renders quality education to poor and downtrodden masses. Established in 1968, the college imparts quality education in Arts, Commerce, Science, B.C.A. and B. Voc. in Sustainable Agriculture streams. College has area of around 9 acres.

### **About Medicinal Plants Information Centre:**



Medicinal Plants Information Centre encourages conservation of medicinal plants. The plants are well maintained in polyhouse with managed drip and foggers for irrigation. It harbors plants of medicinal potential of which few are rare and endemic. The center is open for visit to farmers, citizens, students and institutions in surrounding areas. The plants are with display boards with information in local language i. e. Marathi which is more useful for the stakeholders.

### **Tree species**







**Medicinally Important Plant Species:**



**List of Plant Species occurring in the college campus:**

Sr. No.	Botanical Name	Family	Vernacular Name
1.	<i>Aurocariacoloumnaris</i>	Aurocariaceae	Monkey Puzzle Tree
2.	<i>Cyperus rotundus</i>	Cyperaceae	Lavala
3.	<i>Cyxas revoluta</i>	Cycadaceae	Sago Palm
4.	<i>Thuja orientalis</i>	Cupressaceae	Mayurpankhi
5.	<i>Andrographis paniculata</i>	Acanthaceae	Kalmegh
6.	<i>Justicia adhatoda</i> L.	Acanthaceae	Adulasa
7.	<i>Alangiumsalvifolium</i>	Alangiaceae	Ankol
8.	<i>Aervalanata</i>	Amaranthaceae	Kapoor Tulasi
9.	<i>Buchananiacochinchinenis</i>	Anacardiaceae	Charoli
10.	<i>Mangifera indica</i> ,L	Anacardiaceae	Amba
11.	<i>Semecarpus anacardium</i>	Anacardiaceae	Bibba
12.	<i>Anacardium occidentale</i> , L	Anacardiaceae	Kaju
13.	<i>Annona squamosa</i>	Annonaceae	Sitaphal
14.	<i>Artabotrysodoratissims</i>	Annonaceae	HiravaChapha
15.	<i>Polyalthia longifolia</i> B& H	Annonaceae	Drooping Ashok
16.	<i>Anonareticulata</i>	Anonaceae	Ramphal
17.	<i>Centella asiatica</i>	Apiaceae	Mandookparni
18.	<i>Allamandaschottii</i> Pohl.	Apocyanaceae	Bush Allamanda
19.	<i>Alstoniascholaris</i> , (L.) R.Br.	Apocyanaceae	Satvin
20.	<i>Carissa congesta</i>	Apocyanaceae	Karvand
21.	<i>Catharanthus roseus</i> (L.) G. Don	Apocyanaceae	Sadaphuli
22.	<i>Hemidesmus indicus</i>	Apocyanaceae	Anatmool
23.	<i>Nerium oleander</i>	Apocyanaceae	Kaneri
24.	<i>Plumeria rubra</i> L.	Apocyanaceae	Lal Chapha
25.	<i>Rauwolfia serpentina</i>	Apocyanaceae	Sarpagandha
26.	<i>Tabernaemontanadivaricata</i> R.Br. ex Roem. &Schult.	Apocynaceae	Pinwheel Flower
27.	<i>Dieffenbachia picta</i>	Araceae	Dumb Cane
28.	<i>Schefflera arboricola</i> (Hayata) Kanehira	Araliaceae	Pachira
29.	<i>Dypsislutescens</i>	Arecaceae	Bamboo Palm

30.	<i>Areca catechu</i>	Arecaceae	Supari
31.	<i>Caryotaurens</i>	Arecaceae	Bherli Mad
32.	<i>Cocos nucifera</i> L.	Arecaceae	Naral
33.	<i>Calatropis gigantea</i>	Asclepiadaceae	Rui
34.	<i>Gymnemasyvestre</i>	Asclepiadaceae	Madhunashini
35.	<i>Tylophora indica</i>	Asclepiadaceae	Pitmari
36.	<i>Protasparagusracemosus</i> Oberm.	Asparagaceae	Shatawari
37.	<i>Ayapana triplinervis</i>	Asteraceae	Dhanwantari
38.	<i>Eclipta alba</i>	Asteraceae	Maka
39.	<i>Spilanthesacmella</i>	Asteraceae	Akkalkara
40.	<i>Averrhoa bilimbi</i>	Averrhoaceae	Bilimbi
41.	<i>Jacaranda mimomosaefolia</i> D. Don.	Bignoniaceae	Neel Gulmohar
42.	<i>Oroxylum indicum</i>	Bignoniaceae	Tetu
43.	<i>Stereospermumtetragonum</i>	Bignoniaceae	Padal
44.	<i>Cordia dichotoma</i>	Boraginaceae	Bhokar
45.	<i>Bromelia ananas</i>	Bromeliaceae	Ananas
46.	<i>Bauhinia variegata</i>	Caesalpiniaceae	Kanchan
47.	<i>Caesalpinia bonduc</i>	Caesalpiniaceae	Sagargota
48.	<i>Caesalpinia pulcherima</i> (L.) Sw.	Caesalpiniaceae	Sankeshwar
49.	<i>Cassia fistula</i> , L.	Caesalpiniaceae	Bahava
50.	<i>Cassiasiamea</i> , Lam.	Caesalpiniaceae	Kasood
51.	<i>Poinciana regia</i> , Bojer	Caesalpiniaceae	Gulmohor
52.	<i>Saracaasoca</i>	Caesalpiniaceae	Sita Ashok
53.	<i>Sesbania grandiflora</i>	Caesalpiniaceae	Hadaga
54.	<i>Capparis zeylanica</i>	Capparidaceae	Waghati
55.	<i>Cratevanurvala</i>	Capparidaceae	Varun
56.	<i>Dianthuscaryophyllatus</i>	Caryophyllaceae	Pink William
57.	<i>Casuarina equisetifolia</i> , Forst	Casuarinaceae	Suru
58.	<i>Celastruspaniculatus</i>	Celastraceae	Malkangooni
59.	<i>Salacia chinensis</i>	Celastraceae	Saptarangi
60.	<i>Mameasuriga</i>	Clusiaceae	Surangi
61.	<i>Mesua ferrea</i>	Clusiaceae	Nagchampa

62.	<i>Brucidaangustifolia</i> L.	Combretaceae	Bullet Tree
63.	<i>Quisqualis indica</i> L	Combretaceae	Rangoon Creeper
64.	<i>Terminalia arjuna</i>	Combretaceae	Arjun
65.	<i>Terminalia Cattapa</i>	Combretaceae	Badam
66.	<i>Terminalia chebula</i>	Combretaceae	Hirada
67.	<i>Rhoeodiscolor</i>	Commelinaceae	Rheo
68.	<i>Argyreia speciosa</i>	Convolvulaceae	Samudrashok
69.	<i>Bryophyllumpinnatum</i>	Crassulaceae	Panphuti
70.	<i>Cupressus torulosa</i> D. Don	Cupressaceae	Cupressus
71.	<i>Dillenia indica</i> L	Dilleniaceae	Elephant Apple
72.	<i>Shorearobusta</i>	Dipterocarpaceae	Rale
73.	<i>Vateria indica</i>	Dipterocarpaceae	RaalDhoop
74.	<i>Strychnosnux vomica</i>	Ebenaceae	Kuchala
75.	<i>Elaeocarpus glandulosus</i>	Elaeocarpaceae	Rudraksh
76.	<i>Eleocarpusganitrus</i>	<i>Eleocarpaceae</i>	Rudraksh
77.	<i>Acalypha wilkesiana</i> ,Müll.Arg.	Euphorbiaceae	Fire Dragon
78.	<i>Baliospermummontanum</i>	Euphorbiaceae	Danti
79.	<i>Breyniadicistica</i> Nana, J. R. Forst. & G. Forst.	Euphorbiaceae	Snow Bush
80.	<i>Croton variegatum</i>	Euphorbiaceae	Variegated Laurel
81.	<i>Phyllanthusemblica</i>	Euphorbiaceae	Amala
82.	<i>Butea monosperma</i>	Fabaceae	Palash
83.	<i>Clitoriaternatea</i>	Fabaceae	Gokarna
84.	<i>Crotalaria calycina</i>	Fabaceae	Silky Haired Rottlepod
85.	<i>Dalbergia sissoo</i> , Roxb	Fabaceae	Shisav
86.	<i>Indigofera tinctoria</i>	Fabaceae	Neel
87.	<i>Pongamia pinnata</i>	Fabaceae	Karanj
88.	<i>Pterocarpus marsupium</i>	Fabaceae	Bivala
89.	<i>Pterocarpus santalinus</i>	Fabaceae	Raktchandan
90.	<i>Coleus</i> sp.	Lamiaceae	Painted Nettle
91.	<i>Mentha viridis</i>	Lamiaceae	Pudina
92.	<i>Ocimumgratissimum</i>	Lamiaceae	Ram Tulas



93.	<i>Ocimum sanctum</i>	Lamiaceae	Tulas
94.	<i>Origanum majorana</i>	Lamiaceae	Marwa
95.	<i>Pogostemoncablin</i>	Lamiaceae	Pachouli
96.	<i>Premna integrifolia</i>	Lamiaceae	Agnimanth
97.	<i>Cinnamomum zeylanicum</i>	Lauraceae	Tamalpatri
98.	<i>Aloe vera</i>	Liliaceae	Korphad
99.	<i>Dracaena marginata Lam.</i>	Liliaceae	Madagascar Dragon Tree
100.	<i>Dracaena reflexa, Lam.</i>	Liliaceae	Rainbow Tree
101.	<i>Psidium gaujava</i>	Lythraceae	Peru
102.	<i>Callistemon hybridus</i>	Lythraceae	Bottlebrush
103.	<i>Callistemon lanceolatus, R. Br.</i>	Lythraceae	Bottlebrush
104.	<i>Cuphea hyssopifolia , Kunth</i>	Lythraceae	Mexican Heather
105.	<i>Lagerstroemia macrocarpa</i>	Lythraceae	Bondara
106.	<i>Lagerstroemia parviflora</i>	Lythraceae	Taman
107.	<i>Micheliachampaca(L.) Baill. ex Pierre</i>	Magnoliaceae	Sonchapha
108.	<i>Gossypium hirsutum</i>	Malvaceae	Kapashi
109.	<i>Hibiscus rosa-sinensis L.</i>	Malvaceae	Jaswandi
110.	<i>Maranta arundinacea</i>	Marantaceae	Maranta
111.	<i>Memeceylon umbellatum</i>	Melastomaceae	Anjan
112.	<i>Azadirachta indica Juss</i>	Meliaceae	Kadu nimb
113.	<i>Tinospora cordifolia</i>	Menispermaceae	Gulvel
114.	<i>Calliandrasurinamensis, Benth.</i>	Mimoceae	Pink Tassel Flower
115.	<i>Acacia auriculiformis, L</i>	Mimosaceae	Australian Acacia
116.	<i>Acacia catechu</i>	Mimosaceae	Kahir
117.	<i>Albizia amara</i>	Mimosaceae	Kala Shirish
118.	<i>Albizzia lebbek</i>	Mimosaceae	Pandhara Shirish
119.	<i>Prosopis spicigera</i>	Mimosaceae	Shami
120.	<i>Ficus carica</i>	Moraceae	Anjeer
121.	<i>Artocarpus altilis</i>	Moraceae	Phanas
122.	<i>Artocarpusheterophyllus Lam.</i>	Moraceae	Phanas
123.	<i>Ficus benghalensis, L</i>	Moraceae	Wad

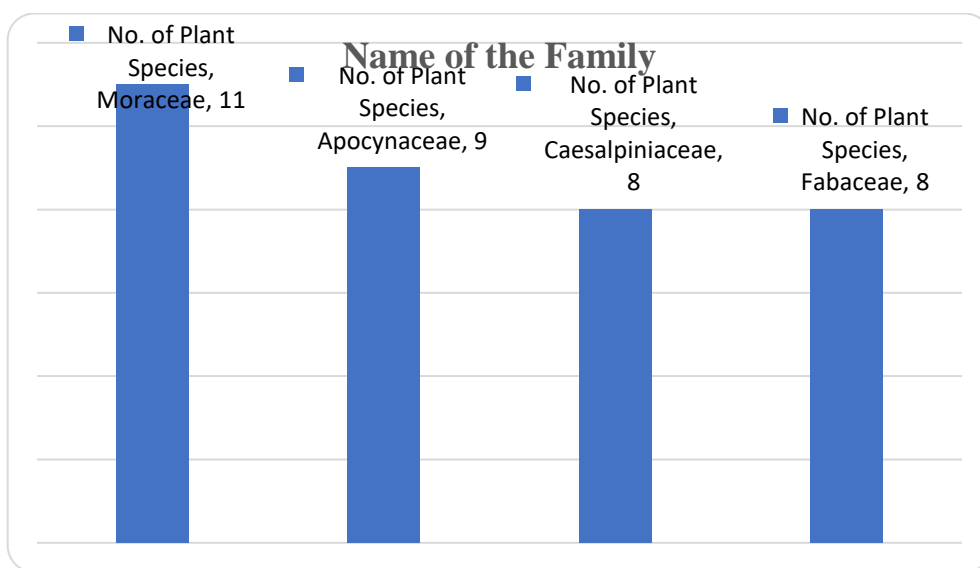
124.	<i>Ficus benjamina 'Variegata L</i>	Moraceae	Benjamin ficus
125.	<i>Ficus elastica L.</i>	Moraceae	Rubber tree
126.	<i>Ficus racemosaRoxb</i>	Moraceae	Umber
127.	<i>Ficus religiosa</i>	Moraceae	Pimpal
128.	<i>Ficus rubiginosavariegataL</i>	Moraceae	Rusty fig
129.	<i>Ficus tsjela, Roxb</i>	Moraceae	Kapitanah
130.	<i>Ficus vareigata, L</i>	Moraceae	Variegated fig
131.	<i>Myristica fragrans Houtt</i>	Myristicaceae	Jayphal
132.	<i>Lagerstroemia speciosa</i>	Myrtaceae	Jarul
133.	<i>Eucalyptus longifolia</i>	Myrtaceae	Nilgiri
134.	<i>Pimenta dioica (L.) Merr.</i>	Myrtaceae	All spice
135.	<i>Syzygiumaromaticum</i>	Myrtaceae	Lavang
136.	<i>Syzygiumcumini</i>	Myrtaceae	Jambhool
137.	<i>Bouganvilleaspectabilis. Willd.</i>	Nyctaginaceae	Kagadphool
138.	<i>Nyctanthesarbor-tristis Linn</i>	Oleaceae	Parijatak
139.	<i>Piper betel</i>	Piperaceae	Panvel
140.	<i>Piper longum</i>	Piperaceae	LendiPimpali
141.	<i>Piper nigrum</i>	Piperaceae	Kali miri
142.	<i>Plumbago zeylanica</i>	Plumbaginaceae	Chitrak
143.	<i>Cymbopogon citratus</i>	Poaceae	GavatiChaha
144.	<i>Vetiveriazanioides</i>	Poaceae	Vala
145.	<i>Embeliaribes</i>	Primulaceae	Vavding
146.	<i>Greivellarobusta</i>	Proteaceae	Silver Oak
147.	<i>Punica granatum</i>	Punicaceae	Dalimb
148.	<i>Drypetesroxburghii</i>	Putranjivaceae	Putranjiva
149.	<i>Ziziphus mauritiana</i>	Rhamnaceae	Bor
150.	<i>Zizyphus rugosa</i>	Rhamnaceae	Toran
151.	<i>Anthocephalus cadamba</i>	Rubiaceae	Kadamb
152.	<i>Coffea arabica L.</i>	Rubiaceae	Coffee
153.	<i>Gardenia gummifera</i>	Rubiaceae	Dikemali
154.	<i>Hamelia patensJacq.,</i>	Rubiaceae	Humming bird bush
155.	<i>Hamiltoniasuaveolens</i>	Rubiaceae	Jitsaya

156.	<i>Ixora coccinea, Linn</i>	Rubiaceae	Rugmini
157.	<i>Musaendaerythrophylla</i>	Rubiaceae	Bangkok Tree
158.	<i>Aegle marmelos</i>	Rutaceae	Bel
159.	<i>Citrus acida</i>	Rutaceae	Idlimbu
160.	<i>Citrus medica</i>	Rutaceae	Mahaloong
161.	<i>Citrus limon</i>	Rutaceae	Limbu
162.	<i>Ruta graveolens</i>	Rutaceae	Sathaap
163.	<i>Santalum album, L.</i>	Santalaceae	Chandan
164.	<i>Sapindus laurifolius</i>	Sapindaceae	Ritha
165.	<i>Acharas sapota</i>	Sapotaceae	Chikoo
166.	<i>Manilkara hexandra</i>	Sapotaceae	Khirani
167.	<i>Solanum indicum</i>	Solanaceae	Dorli
168.	<i>Withaniasomnifera</i>	Solanaceae	Ashwagandha
169.	<i>Firmianacolorata</i>	Sterculiaceae	Kaushi
170.	<i>Symplocos racemosa</i>	Symplocaceae	Lodhra
171.	<i>Thunbergia erecta, (Benth.) T. Anderson</i>	Thunbergiaceae	
172.	<i>Aquillaria agalocha</i>	Thymelaeaceae	Agaroo
173.	<i>Holoptelea integrifolia</i>	Ulmaceae	Papadi
174.	<i>Duranta erecta</i>	Verbenaceae	Duranta
175.	<i>Gmelina arborea</i>	Verbenaceae	Shivan
176.	<i>Vitex negundo</i>	Verbenaceae	Nirgudi
177.	<i>Cissus quadrangularis</i>	Vitaceae	Kandvel
178.	<i>Costus speciosus</i>	Zingiberaceae	Pushkarmool
179.	<i>Elettaria cardamomum</i>	Zingiberaceae	Veldoda
180.	<i>Heliconia rostrata</i>	Zingiberaceae	<i>Heliconia</i>

## RESULT AND DISCUSSION

During the assessment of floral diversity of D. P. Bhosale college campus Koregaon, total 180 Plant species belong to 75 families have been reported. There are 3 Gymnosperm species belongs to families Aurocariaceae, Cycadaceae and Cupressaceae. Among angiosperms, Moraceae family was the most dominant family followed by Apocyanaceae, Caesalpimiaceae and Fabaceae with 11, 09, 08 and 08 plant species respectively. Total 180 plant species from 75 families were documented with

their Botanical name, Family, Common name, Morphology, Flowering season, Medicinal uses. In the present study for enumerating flora, a total 180 species were – trees, herbs, shrubs and climbers were documented. These plants may have been introduced both intentionally and unintentionally from different localities. Majority of the exotic plants have been introduced for medicinal and ornamental purposes in the campus. Mindfulness programs are desperately expected to sharpen individuals about the significance of preservation of biodiversity for food, wellbeing and different requirements of developing populace for present and future ages. Limit working in the field of scientific categorization and biodiversity has likewise been featured as some other measures supportive for floristic variety preservation around here. There is need to foster a correspondence interface between taxonomists, biologists and land directors alongside neighbourhood individuals to screen and control the obtrusive outsider species.



**Fig.:** Representation of dominant families in the study area

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