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## Floristic study of Kusumi forest of Sidhi district (M.P.) India

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**Abstract**

The investigation was carried out in order to explore the existing floristic composition in Kusumi forest, Sidhi (M.P.). The present area of Kusumi forest is selected for the floristic studies because it has been given little attention of its vegetation. The vegetation was dry deciduous, thorny scrub type. Over 135 plants belonging to more than 49 families were studied. Among 46 families, Caesalpiniaceae and Mimosaceae are the most dominant family. The floristic information of the tree flora of Kusumi forest is now available for the first time with this publication.

**Keywords:** Floristic, studies, Kusumi, vegetation, Sidhi, India

**Introduction**

Natural resources survey like floristic study plays an important role in the economic development of developing country like India. Vegetation is the most precious gift, nature has provided to us as meeting all kinds of essential requirements of the humans in the form of food, fodder, fuel, medicine, timber, resins, and oil, etc. (Gaur, 1999) <sup>[1]</sup>. Plant communities play a pivotal role in sustainable management by maintaining biodiversity and conserving the environment (Farooquee and Saxena, 1996) <sup>[2]</sup>. Floristic study and diversity assessments are necessary to understand the present diversity status and conservation of biodiversity. Floristic study is a necessary prerequisite for much fundamental research in tropical community ecology, such as modelling patterns of species diversity or understanding species distributions (Phillips *et al.* 2003) <sup>[3]</sup>.

Floristic studies acquire increasing importance in recent years in response to the need of developing and under developing countries to assess their plant wealth (Vediya and Kharadi, 2011) <sup>[4]</sup>. Many floristic diversity studies have been conducted in different parts of world (Whittaker and Niering, 1965; Nair and Daniel, 1986; Gentry, 1988; Sukumar *et al.* 1992; Prasad and Pandey; Kennard *et al.* 2002; Devi and Yadava, 2006; Thakur and Khare, 2009; Krishnamurthy *et al.* 2010; Ghosh *et al.* 2012; Chauhan *et al.* 2014; Mishra and Agnihotri, 2022a&b) <sup>[5-17]</sup>. Thus, it is clear that floristic studies are undertaken by many researchers worldwide in different levels. The present study area of Kusumi forest from Sidhi district is selected for the floristic studies because it has not been given attention its vegetation. The knowledge of the plant community is a prerequisite to understand the overall structure and function of ecosystem. The floristic information of the flora of Kusumi forest is now available for the first time with this publication.

**Material and Methods**

**Study Area:** Kusumi forest is situated in Sidhi District, Madhya Pradesh. The Kusumi forest lies in between 81°-59' to 81°-99' longitudes and 23°-58' to 23°-97' latitudes north in the north-east corner of Rewa division of M.P. The division is bounded in the North by Rewa district, in the South by Sarguja district, in the East by Gopad river and East Sidhi Forest Division and in the West by Shadhol and Rewa district.

**Floristic Analysis:** During the present works we have regularly and also season wise observed plants from Kusumi forest area during 2020-2022. Floristic Survey of the different areas was done and studied floristic diversity and vegetation pattern of the area. Field data has been noted in the field diary.

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The plants were collected, identified by using standard flora (Hooker, 1872-1897; Hooker and Thomson, 1855; Cooke, 1901-1908 and Yadav and Sardesai, 2002) <sup>[18-21]</sup> and preserved in the form of Herbarium and Photographs.

## Results and Discussion

The investigation was carried out in order to explore the existing floristic composition in Kusumi forest, Sidhi (M.P.) during 2020-2022. The vegetation was dry deciduous, thorny scrub type. The Study revealed that the presence of

some important shrubs and trees in the area. Over 135 plants belonging to more than 49 families were studied table-1. Among 49 families, Caesalpiniaceae and Mimosaceae are the most dominant family.

Out of 135 plants, genera like *Cassia*, *Acacia*, *Ficus*, *Zizipus* etc. are dominant. From the above observation, it can be concluded that Caesalpiniaceae is the dominant and leading family, species wise as well as genera wise, followed by Mimosaceae, Fabaceae, Euphorbiaceae.

**Table 1:** Flora of Kusumi forest district Sidhi (M.P.)

S. N.	Botanical name	Family	Common name
1	<i>Adhathoda vasica</i> Nees	Acanthaceae	Adusa
2	<i>Barleria prionitis</i> L.	Acanthaceae	Brajdanti
3	<i>Crossandra infundibuliformis</i> (L.) Nees	Acanthaceae	Aboli
4	<i>Agave Americana</i> L. var. <i>americana</i>	Agavaceae	Kektad
5	<i>Agave angustifolia</i> Haw.	Agavaceae	Ghayapat
6	<i>Achyranthes aspera</i> L.	Amaranthaceae	Aaghada
7	<i>Amaranthus roxburghianus</i> Nees	Amaranthaceae	Tandulja
8	<i>Amaranthus spinosus</i> L.	Amaranthaceae	Kante Math
9	<i>Amaranthus tricolor</i> L.	Amaranthaceae	Math
10	<i>Celosia argentea</i> L.	Amaranthaceae	Kardu
11	<i>Mangifera indica</i> L.	Anacardiaceae	Aamba
12	<i>Annona squamosa</i> L.	Annonaceae	Sitaphal
13	<i>Annona reticulata</i> L.	Annonaceae	Ramphal
14	<i>Polyalthia longifolia</i> L.	Annonaceae	Ashok
15	<i>Catharanthus roseus</i> L.	Apocynaceae	Sadaphuli
16	<i>Nerium indicum</i> Mill.	Apocynaceae	Kaner
17	<i>Tabernaemontana divaricata</i> (L.) Br.	Apocynaceae	Chandni, Tagar
18	<i>Plumeria acuminata</i> Alt.	Apocynaceae	Dev-chapha
19	<i>Plumeria alba</i> L. Pandhara	Apocynaceae	Chapha
20	<i>Plumeria rubra</i> L.	Apocynaceae	Lal Chapha
21	<i>Alstonia scholaris</i> (L.) R. Br.	Apocynaceae	Saptarni
22	<i>Wrightia tinctoria</i> R. Br.ssp. <i>Tinctoria</i>	Apocynaceae	Kala Kuda
23	<i>Phoenix sylvestris</i> L. Roxb.	Arecaceae	Shindi
24	<i>Colocasia esculenta</i> (L.) Schott.	Arecaceae	Alu
25	<i>Calotropis procera</i> (Ait.) R.Br.	Asclepiadaceae	Rui
26	<i>Holostemma annulare</i> (Roxb.) K. Schum.	Asclepiadaceae	Shidodi
27	<i>Calotropis gigantea</i> (L.) R.Br.	Asclepiadaceae	Mandar
28	<i>Araucaria excelsa</i> Br.	Araucariaceae	Christ Mas Tree
29	<i>Helianthus annuus</i> L.	Asteraceae	Sunflower
30	<i>Parthenium hysterophorus</i> L.	Asteraceae	Gajar ghas
31	<i>Tridax procumbens</i> L.	Asteraceae	Kanphuli
32	<i>Tagetes erecta</i> L.	Asteraceae	Zendu
33	<i>Millingtonia hortensis</i> L.f.	Bignoniaceae	Buchzad,akashnimb
34	<i>Jacaranda acutifolia</i> Humd & Bonpl.	Bignoniaceae	Neel mohor
35	<i>Spathodea campanulata</i>	Bignoniaceae	Pichakari
36	<i>Adansonia digitata</i> L.	Bombacaceae	Gorakhchinch
37	<i>Bambusa arundinacea</i> (Retz.) Willd.	Bombacaceae	Bambu
38	<i>Bombax ceiba</i> L.	Bombacaceae	Katesavar
39	<i>Cassia fistula</i> Linn.	Caesalpiniaceae	Bahava
40	<i>Cassia tora</i> L.	Caesalpiniaceae	
41	<i>Caesalpinia bonduc</i> L.	Caesalpiniaceae	Sagargota
42	<i>Caesalpinia pulcherrima</i> (L.) Sw.	Caesalpiniaceae	Sankarshawar
43	<i>Caesalpinia decapetala</i> (Roth) Alston	Caesalpiniaceae	Chillar
44	<i>Delonix regia</i> Raf.	Caesalpiniaceae	gul mohor
45	<i>Saraca ashoka</i> de Willd	Caesalpiniaceae	Ashok (Sitecha)
46	<i>Bauhinia purpurea</i> L.	Caesalpiniaceae	Kanchan
47	<i>Bauhinia racemosa</i> Lamk.	Caesalpiniaceae	Apta
48	<i>Peltophorum pterocarpum</i> (DC.) Baker	Caesalpiniaceae	Sonmohar
49	<i>Cassia auriculata</i> L.	Caesalpiniaceae	Tarwad
50	<i>Tamarindus indica</i> Linn.	Caesalpiniaceae	Chincha
51	<i>Opuntia elatior</i> Mill.	Cactaceae	Nivdung
52	<i>Carica papaya</i> L.	Caricaceae	Popai
53	<i>Cyperus rotundus</i> L.	Cyperaceae	Nagar motha
54	<i>Ipomoea cairica</i> (L.) Sweet	Convolvulaceae	Garvel

55	<i>Ipomoea carnea</i> Jacq. Subsp. <i>Fistulosa</i>	Convolvulaceae	Besharum
56	<i>Casuarina aquasetifolia</i> Lour.	Casurinaceae	Suru
57	<i>Cana flaccid</i> Rosc.	Cannaceae	Kardal
58	<i>Cana indica</i> L.	Cannaceae	Karadal
59	<i>Terminalia bellerica</i> (Roxb.) Gaertn	Combretaceae	Beheda
60	<i>Terminalia catappa</i> L.	Combretaceae	Desi badam
61	<i>Terminalia chebula</i> (Gaertn.) Retz.	Combretaceae	Hirda
62	<i>Emblica officinalis</i>	Euphorbiaceae	Amla
63	<i>Euphorbia hirta</i> L	Euphorbiaceae	Dudhi
64	<i>Euphorbia tirucalli</i> L	Euphorbiaceae	Sher
65	<i>Phyllanthus fraternus</i> Webstr.	Euphorbiaceae	Bhui-amla
66	<i>Phyllanthus emblica</i> L.	Euphorbiaceae	Awla
67	<i>Ricinus communis</i> L.	Euphorbiaceae	Erand
68	<i>Dalbergia sissoo</i> Roxb.	Fabaceae	Sisham
69	<i>Delonix regia</i> Rafin	Fabaceae	Gulmohar
70	<i>Pongamia pinnata</i> L	Fabaceae	Karanj
71	<i>Sesbania grandiflora</i> (L.) Poir	Fabaceae	Hadaga
72	<i>Sesbania sesban</i> L.	Fabaceae	Shewri
73	<i>Indigofera cordifolia</i> Heyne ex Roth.	Fabaceae	Godhadi
74	<i>Tephrosia purpurea</i> (L.) Pers.	Fabaceae	Unhali
75	<i>Abrus precatorius</i> L. Fabaceae	Fabaceae	Gunj
76	<i>Clitoria ternatea</i> L. Fabaceae	Fabaceae	Gokarna
77	<i>Gillricidia sepium</i> (Jacq.) Kunth exWalp	Fabaceae	Giripushpa
78	<i>Ocimum sanctum</i> L.	Lamiaceae	Tulsi
79	<i>Ocimum americanum</i> L.	Lamiaceae	Ran Tulas
80	<i>Ocimum basilicum</i> L. Var. <i>thyriflora</i> Benth.	Lamiaceae	Sabja
81	<i>Aloe vera</i> (L.) Burm.f	Liliaceae	Korphad
82	<i>Tribulus Terrestris</i>	Lygophyllaceae	Sarata, Gokhur
83	<i>Michelia champaca</i> L.	Magnoliaceae	Champa
84	<i>Hibiscus rosa-sinensis</i> L.	Malvaceae	Jaswandi
85	<i>Hibiscus syriacus</i> L.	Malvaceae	Nili jaswand
86	<i>Azadirachta indica</i> Juss.	Meliaceae	Neem, Nimba
87	<i>Melia azedarach</i> L.	Meliaceae	Limbara, Bakana
88	<i>Tinospora cordifolia</i> (Willd.) Miers ex Hook.f. & Thoms.	Menispermaceae	Gulvel
89	<i>Acacia nilotica</i> L.	Mimosaceae	Babhool, Kikar
90	<i>Acacia arabica</i> (Lam.) Willd.	Mimosaceae	Babul
91	<i>Acacia chundra</i> (Roxb. Ex. Rottl.) Willd.	Mimosaceae	Khair
92	<i>Acacia arabica</i> (Lam.) Willd.	Mimosaceae	Babul
93	<i>Acacia auriculiformis</i> A.Cunn.	Mimosaceae	Australian baval
94	<i>Mimosa pudica</i> L.	Mimosaceae	Chu-mui
95	<i>Leucaena latisiliqua</i> (L.) Gills	Mimosaceae	Subabhul
96	<i>Samanea saman</i> (Jacq.) Merr.	Mimosaceae	Rain tree
97	<i>Prosopis julifera</i> (Sw.) DC.	Mimosaceae	Vedibabhul
98	<i>Albizia lebbek</i> (L.) Bth.	Mimosaceae	Siris
99	<i>Albizia procera</i> (Roxb.) Bth.	Mimosaceae	Safed siris
100	<i>Prosopis cineraria</i> (L.) Druce.	Mimosaceae	Khijado
101	<i>Ficus religiosa</i> L.	Moraceae	Pipal
102	<i>Ficus bengalensis</i> Linn.	Moraceae	Vad
103	<i>Ficus carica</i>	Moraceae	Anjeer
104	<i>Ficus racemosa</i> L.	Moraceae	Umbar
105	<i>Ficus tsiela</i> Roxb.	Moraceae	Pipli
106	<i>Morus alba</i> L.	Moraceae	Tuti
107	<i>Moringa oleifera</i> Lamk	Moringaceae	Shevga
108	<i>Musa acuminata</i> X <i>balbisiana</i> Colla.	Musaceae	Kela
109	<i>Tinospora cordifolia</i> (Willd.)	Menispermaceae	Gulvel
110	<i>Psidium guajava</i> L.	Myrtaceae	Peru
111	<i>Callistemon citratus</i> (Curtis) Skeels	Myrtaceae	Bottle brush
112	<i>Eucalyptus citriodora</i> HK.f.	Myrtaceae	Neelgiri
113	<i>Syzygium cumini</i> (L.) Skeels.	Myrtaceae	Jambhul
114	<i>Lawsonia inermis</i> L.	Myrtaceae	Mehandi
115	<i>Boerhavia diffusa</i> L.	Nyctaginaceae	Punarnava
116	<i>Bougainvillea spectabilis</i> Willde.	Nyctaginaceae	Bougainvillea
117	<i>Jasminum multiflorum</i> (Burma.f.) Aners	Oleaceae	Chameli
118	<i>Nyctanthes arbor-tristis</i> Linn.	Oleaceae	Parijatak
119	<i>Biophytum sensitivum</i> (L.) DC.	Oxalidaceae	Lajwanti,
120	<i>Argemone mexicana</i> L.	Papaveraceae	Bilayat
121	<i>Zizipus mauritiana</i> Lam.	Rhamnaceae	Bor
122	<i>Aegle marmelos</i> L.Corr.	Rutaceae	Bael, Bilva

123	<i>Citrus limon</i> (L.) Burm.	Rutaceae	Limbu
124	<i>Santalum album</i> L.	Santalaceae	Chandan
125	<i>Manilkara zapota</i> (L.) Van.	Sapotaceae	Chikoo
126	<i>Datura metel</i> L.	Solanaceae	Kala Dhotra
127	<i>Datura stramonium</i> L.	Solanaceae	Dhotara
128	<i>Dombeya acutangula</i> L.	Sterculiaceae	Bhadraksh
129	<i>Typha angustifolia</i> L.	Typhaceae	Pankanis
130	<i>Ailanthus excelsa</i> Roxb.	Simaroubaceae	Maharukh
131	<i>Sapindus emarginatus</i> Vahl.	Sapindaceae	Ritha
132	<i>Duranta repens</i> L.	Verbenaceae	Duranta
133	<i>Lantana camara</i> L.	Verbenaceae	Ghaneri
134	<i>Tectona grandis</i> Linn.	Verbenaceae.	Sag, Sagwan
135	<i>Vitex negundo</i> L.	Verbenaceae	Nirgundi

### Conclusion

Present study revealed that, Over 135 plants belonging to more than 49 families were studied. Floristic vegetation is very much affected by local activities and their natural regeneration prevented due to heavy cuttings, grazing etc. mining activities. The influence of industrialization, over population, loss of potential habitat, climatic changes etc., have altered the vegetation pattern of the area. This has definitely affected flora adversely. There is urgent need for whole area under conservation and protection by Government as well to aware the peoples about the plant biodiversity. We do not know the effects of the new introductions over native vegetation yet. The data presented in this work are original and first hand. It is hoped that it will contribute in preparation of flora of Kusumi. There is a need to be protect and conserve this species for the future generation.

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### References

- Gaur RD. Flora of the district Garhwal northwest Himalaya (with ethanobotanical notes). Transmedia Publication, Srinagar (Garhwal) India, 1999.
- Farooque NA, Saxena KG. Conservation and utilization of medicinal plants in high hills of the central Himalayas, Environ. Conserv. 1996;23:75-80.
- Phillips OL, Martinez RV, Vargas PN. Efficient plot-based floristic assessment of tropical forests, J. Tropi. Eco. 2003;19:629-645.
- Vediya SD, Kharadi HS. Floristic diversity of Isari zone, Megharj range forest District Sabarkantha, Gujarat, India, Int. J. of Pharm. & Life Sci. (IJPLS). 2011;2(9):1033-1034.
- Whittaker R, Niering WA. Vegetation of the Santa Catalina Mountains, Arizona: A gradient analysis of the south slope, Eco. 1965;46:429-452.
- Nair NC, Daniel P. The floristic diversity of the Western Ghats and its conservation, a review, Proc. Indian Acad. Sci. (Animal Sc./Pl. Sci.) Suppl. 1986, 127-163.
- Gentry AH. Tree species richness of upper Amazonian forests, Proceedings of the National Academy of Science of U.S.A. 1988;85:156-159.
- Sukumar R, Dattaraja HS, Suresh HS. Long-term monitoring of vegetation in a tropical deciduous forest

in Mudumalai, southern India, Current Science. 1992;62:608-613.

- Prasad R, Pandey RK. An observation on plant diversity of Sal and Teak forest in relation to intensity of biotic impact at various distances from habitation in Madhya Pradesh: A case study. Journal of Tropical Forestry. 1992;8(1):62-83.
- Kennard DK, Gould K, Putz FE. Effect of disturbance intensity on regeneration mechanisms in a tropical dry forest, Forest Eco.& Manage. 2002;162:197-208.
- Devi LS, Yadava PS. Floristic diversity assessment and vegetation analysis of tropical semievergreen forest of Manipur, north east India, Int. Soci. Tropi. Eco. 2006;47(1):89- 98.
- Thakur AS, Khare PK. Composition of forest vegetation and floristics of Sagar district, Central India. Journal of the Indian Botanical Society. 2009;88(1&2):11-17.
- Krishnamurthy YL, Prakasha HM, Nanda A, Krishnappa M, Suresh HS. Vegetation structure and floristic composition of a tropical dry deciduous forest in Bhadra Wildlife Sanctuary, Karnataka, India, Tropi. Eco. 2010;51(2):235-246.
- Ghosh A, Mukherjee S, Naskar KR. Floristic study and vegetational relationship of Bagmara Block in Sundarbans Tiger Reserve (STR), Indian J. Applied & Pure Bio. 2012;27(2):207-218.
- Chauhan SS, Tiwari A, Sheikh MA, Sharma S. Study on Biological Spectrum of Madhav National Park, Shivpuri, Madhya Pradesh, India. Journal of Biodiversity and Environmental Sciences. 2014;4(3):258-262.
- Mishra Rajesh Kumar, Agnihotri, Santosh Kumar. Floristic composition of dry deciduous Chanda forest of Dindori district (M.P.), Journal of Medicinal Plants Studies. 2022a;10(5):58-61.
- Mishra, Rajesh Kumar, Agnihotri, Santosh Kumar. Ecological studies of tree vegetation of Chanda forest range of Dindori district (M.P.) India. International Journal of Applied Research. 2022b;8(10):111-114.
- Hooker JD. The Flora of British India. London. 7- Vols. 1904. (Rrpr. ed. 1954-1961. Kent.) (1872-1897)
- Hooker JD, Thomson T. Flora India. London. 1855, 1.
- Cooke T. The Flora of the Presidency of Bombay London. 2 vols: Repr. edition, 1958, B. S. I. Calcutta, 1901-1908, 2.
- Yadav SR, Sardesai MM. Flora of Kolhapur District. Shivaji University, Kolhapur, 2002.