

Floristic Study of Trimbakeshwar Forest Area of Nashik District, Maharashtra, India

J. T. Jadhav.

Department of Botany, M.S.G. College, Malegaon (MS), India.
Email - drjtjadhav@gmail.com

Abstract: The present study for investigation was carried out in order to explore the existing floristic composition in Trimbakeshwar forest area of Nashik district (Maharashtra). The present area of Trimbakeshwar forest is selected for the floristic study. This is located between 19°54' - 19°56' N and 73°13' -73°30' E. The total geographical area is 3840.04 hector. Brahmgiro platu is on top of the hill. This hill like all hills around becomes dry after December due to rising temperature, high winds and low humidity. The vegetation consequently is of dry deciduous type inspite of high rainfall. Based on the present study, the area is represented by 49 families, 92 genera and 111 species of the plant. Caesalpiniaceae and Fabaceae was the dominant families followed by Mimosaceae, Amaranthaceae, Combretaceae and Poaceae. The floristic information of the tree flora of Trimbakeshwar Forest is now available with this publication

Key Words: floristic, Trimbakeshwar Forest, Nashik, Maharashtra.

1. INTRODUCTION:

The present research paper on floristic study plays an important role in the economic and social development of India. The natural vegetation made us all kinds of essential primary requirements of the human needs in the form of food, fodder, fuel, medicine, timber, resins, and oil, etc. Plant communities play a important role in sustainable management by maintaining biodiversity to conserve the environment. Both are necessary to understand the present diversity status and conservation of biodiversity. Floristic study is a necessary for research in population and community ecology to understanding the the distribution pattern of plant species. Floristic studies acquire increasing importance in recent years in response to the need of developing and under developing countries to assess their plant wealth. Many floristic diversity studies have been conducted in different parts of world. Thus, it is clear that floristic studies are undertaken by many researchers worldwide in different levels. The present study area of Trimbakeshwar of Nashik district is selected for the floristic studies because it has not explored largely. Trimbakeshwar Forest is located in Nashik district. It lay on the border of the Deccan.

2. MATERIAL AND METHODS:

Study Area

Tryambakeshwar lies at 73°13'-73°30'E and 19°54'-19°56'N. It is an important area from the view point of plants. It suffers from high rain fall, wind and soil erosion, not withstanding its close proximity to Sahyadri ranges. The plateau on top of the range here is about 4.8 Km from range of Sahyadris. This is near to Nashik, 28.3Km distant. The vegetation is mostly on the lower part of the hill and in the valleys where soil is better.

3. FLORISTIC ANALYSIS

In the whole study area exploration were undertaken during all seasons in 2021 to 2022. The name and information were collected based on morphological characters. Identification and list of plant species were prepared by referring literatures and floras of Hooker (1875), Cook, T (1908, 1958), Potdar (2012), Sharma (1996) and Lakshminarsimhan P and Sharma B.D (1990).

4. RESULTS AND DISCUSSION:

The investigation was carried out in order to explore the existing floristic composition in Trimbakeshwar Forest during 2021-2022. The vegetation was consequently of dry deciduous type. The Study revealed that the presence of

some important shrubs and trees in the area. All together 111 plants belonging to 49 families were studied. Among 49 families, Caesalpiniaceae, Fabaceae, Mimosaceae and Amaranthaceae are the dominant families. From 111 plants, genera like *Cassia*, *Bauhinia*, *Caesalpinia*, *Tamarindus* and *Delonix* etc. are dominant. It can be concluded that Caesalpiniaceae was the dominant and leading family, species wise as well as genera wise, followed by Fabaceae, Mimosaceae, Poaceae, Verbanaceae and Combretaceae. Rare species also reported during investigation are *Asparagus africanus*, *Casuarina equisetifolia*, *Terminalia chebula*, and *Apluda mutica*.

5. CONCLUSION:

The present floristic study provides a preliminary checklist of plant species. It is also revealed that, Over 111 plants belonging to more than 49 families were studied. Floristic vegetation is very much affected by local activities, visitors and heavy cuttings, grazing etc. The vegetation pattern altered due to influence of over population, loss of potential habitat, climatic changes etc. This entire forest area should be protected restricted to huge visitors and overgrazing cattle's. It will be useful in suggesting for the stability and correlation among the species in future.

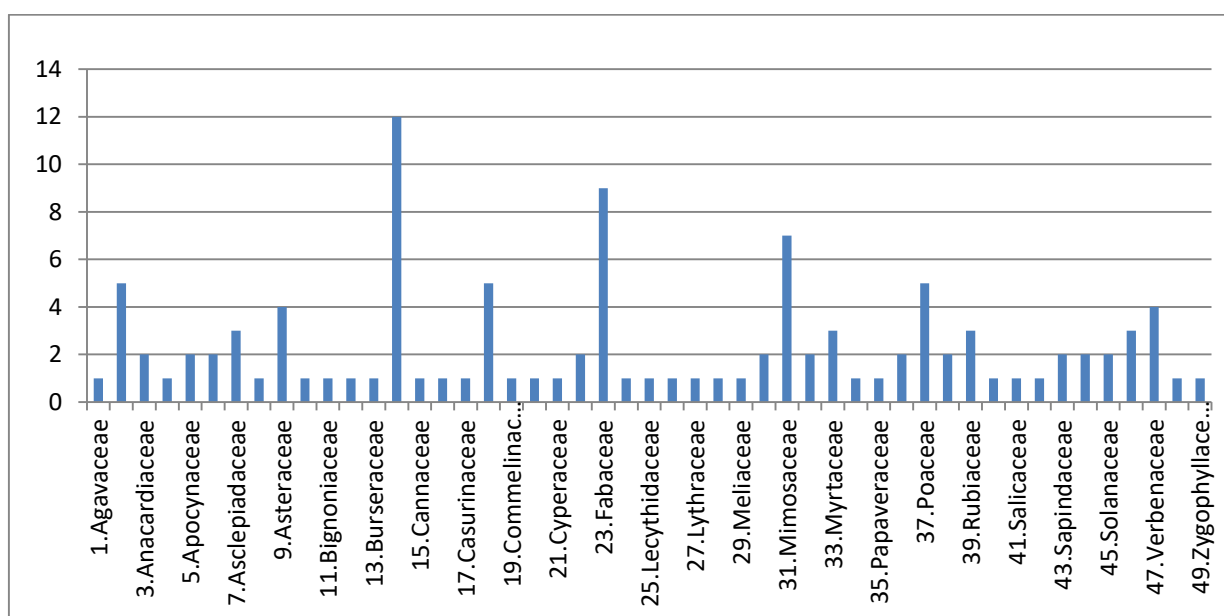


Figure 1: Family wise distribution of species in Trimbakeshwar forest of Nashik district.

Table 1. Plant species reported from Trimbakeshwar Forest area.

Sr No	Botanical name	Family	Common name	Habit
1	<i>Agave angustifolia</i> Haw.	Agavaceae	Ghaypat	Herb
2	<i>Achyranthes aspera</i> L.	Amaranthaceae	Aaghada	Herb
3	<i>Alternanthera sessilis</i> (L.) R.Br.	Amaranthaceae	Jalgambha/Tandaleya	Herb
4	<i>Amaranthus roxburghianus</i> Nevski	Amaranthaceae	Tandulja	Herb
5	<i>Amaranthus spinosus</i> L.	Amaranthaceae	Kante Math	Herb
6	<i>Celosia argentea</i> L.	Amaranthaceae	Kuradu	Herb
7	<i>Anacardium occidentale</i> L.	Anacardiaceae	Cashew	Tree
8	<i>Mangifera indica</i> L.	Anacardiaceae	Aamba	Tree
9	<i>Annona squamosa</i> L.	Annonaceae	Sitaphal	Shrub
10	<i>Carissa congesta</i> L.	Apocynaceae	Karawand	Shrub
11	<i>Catharanthus roseus</i> L.	Apocynaceae	Sadaphuli	Herb
12	<i>Colocasia esculenta</i> (L.) Schott.	Arecaceae	Alu	Herb
13	<i>Phoenix sylvestris</i> (L.) Roxb	Arecaceae	Shind	Tree
14	<i>Calotropis gigantea</i> (L.) R. Br.	Asclepiadaceae	Mandar	Shrub
15	<i>Calotropis procera</i> (Ait.) R. Br.	Asclepiadaceae	Rui	Shrub

16	<i>Cryptolepis buchanani</i> R&Sc.	Asclepiadaceae	Karamta, Karanta	Climber
17	<i>Asparagus africanus</i> Lam.	Asparagaceae	Shatawari	Climber
18	<i>Acanthospermum hispidum</i> DC.	Asteraceae	Shingad kata	Herb
19	<i>Bidens biternata</i> (Lour.)	Asteraceae	Chirchitta	Shrub
20	<i>Tridax procumbens</i> L	Asteraceae	Ekdandi	Herb
21	<i>Zinnia peruviana</i> (L) L.	Asteraceae	Ranzendu	Herb
22	<i>Bambusa arundinacea</i> (Retz.) Willd.	Bambusaceae	Bambu	Shrub
23	<i>Heterophragma quadrilocular</i> Roxb	Bignoniaceae	Waras	Tree
24	<i>Cordia dichotoma</i> G.Forst.	Boraginaceae	Bhokar	Tree
25	<i>Boswellia serrata</i> Roxb.	Burseraceae	Salai / Sarpal	Tree
26	<i>Cassia pumila</i> Lam.	Caesalpiniaceae	Sarmal	Herb
27	<i>Bauhinia racemosa</i> Lamk.	Caesalpiniaceae	Apta	Shrub
28	<i>Bauhinia variegata</i> L.	Caesalpiniaceae	Kanchan	Shrub
29	<i>Caesalpinia bonduc</i> L.	Caesalpiniaceae	Sagargota	Shrub
30	<i>Caesalpinia decapetala</i> (Roth) Alston	Caesalpiniaceae	Chillar	Shrub
31	<i>Caesalpinia pulcherrima</i> (L) Sw.	Caesalpiniaceae	Sankarshawar	Shrub
32	<i>Cassia auriculata</i> L.	Caesalpiniaceae	Aavhali	Tree
33	<i>Cassia fistula</i> L.	Caesalpiniaceae	Bahawa	Tree
34	<i>Cassia obtusifolia</i> L.	Caesalpiniaceae	Wild tarota	Shrub
35	<i>Cassia tora</i> L.	Caesalpiniaceae	Torota	Herb
36	<i>Delonix regia</i> Raf.	Caesalpiniaceae	Gul mohur	Tree
37	<i>Tamarindus indica</i> L.	Caesalpiniaceae	Chinch	Tree
38	<i>Cana indica</i> L.	Cannaceae	Karadal	Herb
39	<i>Cleom gynandra</i> (L.)DC.	Capparidaceae	Pandhari – Tilavan	Herb
40	<i>Casuarina equisetifolia</i> Lour.	Casurinaceae	Suru	Tree
41	<i>Anogeissus latifolia</i> Roxb	Combretaceae	Dhavada	Tree
42	<i>Terminalia bellirica</i> L.	Combretaceae	Behada	Tree
43	<i>Terminalia catappa</i> L.	Combretaceae	Desi badam	Tree
44	<i>Terminalia chebula</i> Retz.	Combretaceae	Hirda	Tree
45	<i>Terminalia crenulata</i> (Gaertn.) Retz.	Combretaceae	Sadada	Tree
46	<i>Commelina benghalensis</i> L.	Commelinaceae	Kenpat	Herb
47	<i>Coccinia grandis</i> (L.)Voigt	Cucurbitaceae	Tindora/Tondli	Climber
48	<i>Cyperus rotundus</i> L	Cyperaceae	Nagarmotha	Herb
49	<i>Bridelia squamosa</i> Lam.	Euphorbiaceae	Asan	Tree
50	<i>Ricinus communis</i> L.	Euphorbiaceae	Erاند	Shrub
51	<i>Abrus precatorii</i> L.	Fabaceae	Gunj	Climber
52	<i>Acacia leucophloea</i> (Roxb.)Wild	Fabaceae	Hiwar/Himvar	Tree
53	<i>Beutea monosperma</i> (Lam.)	Fabaceae	Palas	Shrub
54	<i>Crotolaria medicaginea</i> Lam.	Fabaceae	Ranghas, Rattlepod	Herb
55	<i>Dalbergia sissoo</i> Roxb.	Fabaceae	Sisham	Tree
56	<i>Dichrostachys cinerea</i> (L.)	Fabaceae	Yelatur	Tree
57	<i>Erythrina subarosa</i> Roxb	Fabaceae	Indian Coral tree	Tree
58	<i>Erythrina variegata</i> L.	Fabaceae	Pangara	Tree
59	<i>Pongamia pinnata</i> L	Fabaceae	Karanj	Tree
60	<i>Clerodendrum phlomidis</i> L.f.	Lamiaceae	Arni	Shrub
61	<i>Careya arborea</i> Roxb.	Lecythidaceae	Kumbhi / Kumbha	Tree
62	<i>Aloe vera</i> (L.)Burm.f	Liliaceae	Korphad	Herb
63	<i>Woodfordia fruticosa</i> (L) Kurz	Lythraceae	Dhatki, Dhavti	Shrub
64	<i>Abutilon indicum</i> (Link) Sweet	Malvaceae	Petari/Petara	Shrub
65	<i>Azadirachta indica</i> Juss.	Meliaceae	Neem, Nimba	Tree
66	<i>Cocculus villosus</i> L.	Menispermaceae	Vasan vel	Climber
67	<i>Tinospora cordifolia</i> (Willd.)	Menispermaceae	Gulvel / Guduchi	Climber
68	<i>Acacia arabica</i> (Lam.) Willd.	Mimosaceae	Babul	Tree

69	<i>Acacia auriculiformis</i> A.Cunn.	Mimosaceae	Australian babhull	Tree
70	<i>Acacia chundra</i> (Roxb. Ex. Rottl.) Willd.	Mimosaceae	Khair	Tree
71	<i>Acacia nilotica</i> L.	Mimosaceae	Babhool, Kikar	Tree
72	<i>Albizia lebbek</i> (Roxb.)Bth.	Mimosaceae	Safed siris	Tree
73	<i>Leucaena glauca</i> (L.) Gills	Mimosaceae	Subabhul	Tree
74	<i>Samanea saman</i> (Jacq.)Merr.	Mimosaceae	Rain tree	Tree
75	<i>Ficus bengalensis</i> Linn.	Moraceae	Vad	Tree
76	<i>Ficus racemosa</i> L.	Moraceae	Umbar	Tree
77	<i>Callistemon lanceolatus</i> D.C.	Myrtaceae	Bottle brush	Shrub
78	<i>Eucalyptus citriodora</i> HK.f.	Myrtaceae	Neelgiri	Tree
79	<i>Syzygium cumini</i> (L.) Skeels.	Myrtaceae	Jambhul	Tree
80	<i>Boerhavia diffusa</i> L	Nyctaginaceae	Punarnava	Herb
81	<i>Argemone mexicana</i> L.	Papaveraceae	Bilayat	Herb
82	<i>Glochidion hohenackeri</i> Mull.Arg.	Phyllanthaceae	Bhoma	Tree
83	<i>Phyllanthus emblica</i> L	Phyllanthaceae	Amala	Tree
84	<i>Alloteropsis cimicina</i> (L.)Stapf	Poaceae	Summer grass	Grass
85	<i>Apluda mutica</i> L.	Poaceae	Mauritiangrass/phulia	Herb
86	<i>Cynodon dactylon</i> (L.)Pers.	Poaceae	Hariyali /Durva grass	Herb
87	<i>Digitaria ciliaris</i> (Retz) Koeler	Poaceae	Shika	Herb
88	<i>Setaria pumila</i> (Poir.)Roem.& Schult.	Poaceae	Yellow foxtail/Kilu	Herb
89	<i>Zizipus rugosa</i> Lam.	Rhamnaceae	Bor	Tree
90	<i>Zizipus jujube</i> Mill.	Rhamnaceae	Bor	Tree
91	<i>Ixora braciata</i> Roxb.	Rubiaceae	Lokhandi	Tree
92	<i>Mitragyna parvipholia</i> Roxb.	Rubiaceae	Kadamb	Tree
93	<i>Pavetta indica</i> L.	Rubiaceae	Kankara	Shrub
94	<i>Citrus limon</i> (L.) Burm.	Rutaceae	Limbu /Lemmon	Shrub
95	<i>Casearia graveolens</i> Dalzell	Salicaceae	Bhokoda,Mori,	Tree
96	<i>Santalum album</i> L.	Santalaceae	Chandan	Tree
97	<i>Cardiospermum halicacabum</i> L.	Sapindaceae	Kapalphodi	Tree
98	<i>Sapindus emarginatus</i> Vahl.	Sapindaceae	Ritha	Tree
99	<i>Madhuca indica</i> J.F.Gmel.	Sapotaceae	Mahua,Moh	Tree
100	<i>Mimusops elengi</i> L.	sapotaceae	Bakul	Tree
101	<i>Datura stramonium</i> L.	Solanaceae	Dhotara	Herb
102	<i>Solanum nigrum</i> L.	Solanaceae	Kangani/Red Makoi	Herb
103	<i>Grewia leptopetala</i> DC.	Tiliaceae	Pithory	Shrub
104	<i>Grewia tilifolia</i> DC.	Tiliaceae	Dhaman	Tree
105	<i>Grewia tinax</i> (Forssk.) Fiori	Tiliaceae	Gangudi	Shrub
106	<i>Duranta repens</i> L.	Verbenaceae	Duranta	Shrub
107	<i>Gmelina arborea</i> Roxb.	Verbenaceae	Shivan	Tree
108	<i>Vitex negundo</i> L.	Verbenaceae	Nirgudi	Shrub
109	<i>Tectona grandis</i> Linn.	Verbenaceae.	Sag, Sagwan	Tree
110	<i>Cayratia auriculata</i> (Roxb.) Gamble	Vitaceae	Komala/Jambholi	Herb
111	<i>Tribulus terrestris</i> L.	Zygophyllaceae	Gokharu	Herb

6. ACKNOWLEDGEMENT

Author J.T.Jadhav thanks Dr.Prashant Dada Hiray, General Secretary M.G.Vidyamandir, and Nashik for encouragement.

REFERENCES:

1. Farooque N.A. and Saxena K.G., Conservation and utilization of medicinal plants in high hills of the central Himalayas, *Environ.Conserv.*, 23, 75-80 (1996)
2. Phillips O.L., Martinez R.V. and Vargas P.N., Efficientplot-based floristic assessment of tropical forests, *J. Tropi. Eco.*, 19, 629-645 (2003)

3. VEDIYA S.D. and KHARADI H.S., Floristic diversity of Isari zone, Megharj range forest District Sabarkantha, Gujarat, India, *Int. J. of Pharm. & Life Sci. (IJPLS)*, 2(9), 1033- 1034 (2011)
4. Whittaker R. and Niering W.A., Vegetation of the Santa Catalina Mountains, Arizona: A gradient analysis of the south slope, *Eco.*, 46, 429-452 (1965)
5. Risser P. and Rice E.L., Diversity in tree species in Oklahoma upland forest, *Eco.*, 52, 876-880 (1971)
6. Nair N.C. and Daniel P., The floristic diversity of the Western Ghats and its conservation, a review, *Proc. Indian Acad. Sci. (Animal Sc./Pl. Sci.) Suppl.*, 127-163, (1986)
7. Gentry AH., Tree species richness of upper Amazonian forests, *Proceedings of the National Academy of Science of U.S.A.*, 85, 156-159 (1988)
8. Sukumar R., Dattaraja H.S. and Suresh H.S., Long-term monitoring of vegetation in a tropical deciduous forest in Mudumalai, southern India, *Current Science*, 62, 608-613 (1992)
9. Linder P., Elfving B. and Zackrisson O., Stand structure and successional trends in virgin boreal forest reserves in Sweden, *Forest Eco. & Manage*, 98, 17-33 (1997)
10. Sagar R., Raghubanshi A.S. and Singh J.S., Tree species composition, dispersion and diversity along a disturbance gradient in a dry tropical forest region of India, *Forest Eco. & Manage*, 186, 61-71 (2003)
11. Devi L.S. and Yadav P.S., Floristic diversity assessment and vegetation analysis of tropical semi evergreen forest of Manipur, north east India, *Int. Soci. Tropi. Eco.*, 47(1), 89- 98 (2006)
12. Jadhav J.T., Floristic study of Galana Fort Forest area of Malegaon Taluka, Dist-Nashik, Maharashtra India, *IJARESM*, 9(4), 2050-2055, 2021.
13. Patil D.A. and Tayade S.K., Floristic studies in Khandesh region (Maharashtra: India): an Overview, *Life sci. Leaf*, 10, 30-38 (2012)
14. Pawade P.N. and Rothe S.P., Diversity of ornamental trees from Amravati city of West Vidarbha region, *Recent Res. Sci.Tech.*, 4(10), 25-27 (2012)
15. Dabgar P.J., A contribution to the flora of Wadhvana wetland, Dabhoi taluka (Gujarat) India, *Biosci. Dis.*, 3(2), 218 -221 (2012)
16. Ghosh A, Mukherjee S and Naskar K.R, Floristic study and vegetational relationship of Bagmara Block in Sundarbans Tiger Reserve (STR), *Indian J. Applied & Pure Bio.*, 27(2), 207-218 (2012)
17. Hooker J. D., The Flora of British India. London. 7- Vols. 1904.(Rrpr. ed. 1954- 1961. Kent.) (1872-1897)
18. Cooke T., The Flora of the Presidency of Bombay London. 2 vol: Repr. Edition, 1958, B. S. I. Calcutta, (1901-1908) Yadav S.R. and Sardesai M.M., Flora of Kolhapur District. Shivaji University, Kolh.