

## Study of Phytodiversity of D.B. Girls P.G. College Campus of Raipur (C.G.)

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### Abstract

Study of the different species of plants present in a particular area help in understanding the plant diversity of that area. Raipur is the largest city & Capital of Chhattisgarh. It is situated at 21. 14' 14" North latitude, 81.38' 15" East longitude. The study area is Govt. D. B. Girls P. G. College, located in Kalibadi area of Raipur district.

Remarkable phytodiversity and presence of trees like *Dalbergia sissoo* (Shisoo), *Azadirachta indica* (Neem), *Leucaena leucocephala*(Subabool), *Ailanthus excelsa* (Mahaneem); Various shrubs like *Adhatoda vasica* (Vasak), *Calotropis gigantea* and *C. procera* (Madar) and herbs like *Acalypha indica*, *Tridax procumbens* etc. have been observed. The observation period was 2010-2013. Out of 155 types of plant species, total number of trees, shrubs and herbs are 37, 10 and 74 respectively. In addition to this 23 species of grasses like *Sporobolus diander*, *Dactyloctenium aegyptium*, *Digitaria ciliaris* etc. have been observed. Gymnosperms like *Cycas* sp., *Juniperus* sp., *Thuja* and pteridophyta like *Nephrolepis* sp. are in cultivated condition whereas , pteridophyta like *Adiantum* sp. was found on the inner wall side of the well. Exotic weeds like *Parthenium* sp. and *Lantana camara* also occur in the area college.

Some plants of the study area are of ethnobotanically importance and Non-wood Forest Produces (NWFPs), Trees like *Azadirachta indica* (Neem) is versatile plant, *Eucalyptus lanceolatus*(Neelgiri) yields oil of wintergreen, *Tamarindus indica* yields, wood and fruits, *Sapindus trifoliatus*(Reetha), yields NWFPs. The dominant families are Gramineae (Poaceae), Leguminosae and Euphorbiaceae. Phytodiversity of area includes useful plants, ornamental, wild as well as exotic weeds. Most of the plants are the soil binders.

**Key words:** Phytodiversity, Exotic weeds, NWFPs, Soil binder.

**P**hytodiversity concerns with the diversity of different plant species. The studied area is Govt. D.B. Girls P.G. College which is situated in Kalibadi area of Raipur. Raipur is located at 21.14' 14" north latitude, 81.38' 15" east longitude. Studied area covers three garden areas prominent in cultivated plant species while the other part which is the waste land area contains exotic weeds, herbs and grasses. For the identification of plants, the publications of Nair and Khanna<sup>3</sup>, Oommachan<sup>4</sup>, Tiwari<sup>5</sup>, Verma *et al.*<sup>6</sup>, and Jadhav<sup>2</sup> were consulted.

The present work is based on the observation of plant species of D.B. Girls P.G. College at Raipur. The Plants are identified in the field in different observed seasons. The plant species are differentiated into Trees, herbs, shrubs and climbers. They are then identified as per family. Also the cultivated and wild forms have been separated in the observation. Then after specimens are collected and photographs are taken.

The studied area consists of perennial trees, cultivated shrubs, ornamental plants as well as different types of weeds. As mentioned above area represents floral diversity. It includes ornamental, medicinal and economically important plants. Plants were mostly identified with the help of Hooker's flora<sup>1</sup>.

The diversity in the area is directly influenced by the climatic conditions. The climate represents hot & humid atmosphere during March to mid June and temperature ranges between 35- 48° Celsius. In this period most of the perennial trees show flowering. During Rainy season *i.e.* from July to September herbs

were most dominant of all. Humidity changes throughout the year but reaches maximum in September to October. The observation period was 2010-2013 out of 155 types of plant species, total number of trees, shrubs and herbs are 37, 10 and 74 respectively. In addition to this 23 species of grasses like *Sporobolus diander*, *Dactyloctenium aegyptium*, *Digitaria ciliaris* etc. have been observed.

Soils in the area are basically of two types, fertile black soil present in the garden areas and sandy loamy soil in other parts of the area.

Some important trees of area mainly comprise of Neem (*Azadirachta indica*), Kachnar (*Bauhinia purpurea*), Imly (*Tamarindus indica*), Mahaneem (*Ailanthus excelsa*).

Widely spread herbs and shrubs include *Acalypha indica*, *Ageratum conyzoides*, *Argemone mexicana*, *Cassia tora*, *Aerva lanata*, *Parthenium hysterophorus*. Most dominant families of the area are Leguminosae, Gramineae etc. The plants encountered in the D.B. Girls College campus of Raipur are tabulate as under :

#### **I. Grasses:**

1	<i>Bothriochloa pertusa</i> L
2	<i>Brachiaria distachia</i>
3	<i>Cenchrus ciliaris</i> L.
4	<i>Chloris virgata</i> S.W.
5	<i>Chrysopogon barbata</i> Trin
6	<i>Cynodon dactylon</i> L.
7	<i>Dactyloctenium aegyptium</i> L.
8	<i>Dichanthium annulatum</i> Forssk.

9	<i>Digitaria ciliaris</i> Retz.	17	<i>Ischaemum indicum</i> R.Br
10	<i>Digitaria stricta</i> Roth.	18	<i>Iseilema laxum</i> Hack.
11	<i>Echinochloa colon</i> L.	19	<i>Oplismenus burmanii</i> Gaetrn
12	<i>Eleusine indica</i> L.	20	<i>Panicum trypheron</i> Schult.
13	<i>Eragrostis pilosa</i> L.	21	<i>Setaria glauca</i> auct.
14	<i>Eragrostis tenella</i> Walf.	22	<i>Sporobolus diander</i> Retz.
15	<i>Eragrostis unioides</i> Retz.	23	<i>Themeda laxa</i> Camus.
16	<i>Heteropogon contortus</i> Pers.	24	<i>Themeda quadrivalvis</i> L.

## 2. Herbs & Shrubs:

S. No.	Botanical name	Vernacular name	Family
1	<i>Abutilon indicum</i> L.	Kanghi	Malvaceae
2	<i>Acalypha ciliata</i>		Euphorbiaceae
3	<i>Acalypha indica</i> L.		Euphorbiaceae
4	<i>Achyranthes aspera</i> L.	Chirchitta	Amaranthaceae
5	<i>Adhatoda vasica</i> Nees.	Vasak	Acanthaceae
6	<i>Ageratum conyzoides</i> L.		Asteraceae
7	<i>Andrographis echiodes</i> L.		Acanthaceae
8	<i>Antigonon leptopus</i> Hook.		Polygonaceae
9	<i>Alysicarpus longifolius</i> L.		Leguminosae
10	<i>Alysicarpus monilifer</i> L.		Leguminosae (Fabaceae)
11	<i>Alysicarpus vaginalis</i> L.		Leguminosae (Fabaceae)
12	<i>Alternanthera sessilis</i> L.		Amaranthaceae
13	<i>Aerva lanata</i> Juss.		Amaranthaceae
14	<i>Argemone mexicana</i> L.	Pili Kateri	Papaveraceae
15	<i>Amaranthus</i> sp. L.		Amaranthaceae
16	<i>Asparagus racemosus</i> L.	Dashmul	Liliaceae
17	<i>Barleria prionitis</i> L.	Kesraiya	Acanthaceae
18	<i>Blumea lacera</i> D.C.		Compositae (Asteraceae)
19	<i>Boerhaavia diffusa</i> L.	Punarnava	Nyctaginaceae
20	<i>Borreria articularis</i> L.f.		Rubiaceae
21	<i>Borreria stricta</i> L.f.		Rubiaceae

22	<i>Calotropis gigantea</i> L.	Madar	Asclepiadaceae
23	<i>Calotropis procera</i>	Madar	Asclepiadaceae
24	<i>Canna indica</i> L.	Vajanti	Cannaceae
25	<i>Cassia occidentalis</i> L.		Leguminosae (Fabaceae)
26	<i>Cassia tora</i> L.	Charota	Leguminosae (Fabaceae)
27	<i>Celosia argentea</i> L.		Amaranthaceae
28	<i>Cleome viscosa</i> L.		Capparidaceae
29	<i>Coleus</i> sp.		Labiataeae
30	<i>Commelina benghalensis</i> L.		Commelinaceae
31	<i>Crotalaria prostrata</i> Rottl.		Leguminosae (Fabaceae)
32	<i>Croton sparsiflorus</i> Morong.		Euphorbiaceae
33	<i>Cyanotis cristata</i> L.		Commelinaceae
34	<i>Cyperus rotundus</i> L.	Nagarmotha	Cyperaceae
35	<i>Convolvulus</i> sp. L.		Convovulaceae
36	<i>Desmodium triflorum</i> L.		Leguminosae (Fabaceae)
37	<i>Dracaena</i> sp. L.		Liliaceae
38	<i>Echinops echinatus</i> Roxb.		Compositae
39	<i>Eclipta alba</i> L.		Compositae
40	<i>Euphorbia cythophora</i> L.		Euphorbiaceae
41	<i>Euphorbia geniculata</i> Ortega.		Euphorbiaceae
42	<i>Euphorbia hirta</i> L.		Euphorbiaceae
43	<i>Euphorbia microphylla</i> Heyne.		Euphorbiaceae
44	<i>Euphorbia tirucalli</i> L.		Euphorbiaceae
45	<i>Evolvulus alsinoides</i> L.		Convolvulaceae
46	<i>Hamelia patens</i> sp. L.		Rubiaceae
47	<i>Gomphrena celosioides</i> Mort.		Amarantaceae
48	<i>Heliotropium indicum</i> L.		Boraginaceae
49	<i>Hyptis suaveolens</i> L.		Labiataeae
50	<i>Indigofera linifolia</i> L.F.		Leguminosae
51	<i>Ipomoea pes-tigridis</i> L.		Convovulaceae
52	<i>Justicia simplex</i> D.		Acanthaceae
53	<i>Kyllinga biceps</i> L.		Cyperaceae
54	<i>Kyllinga triceps</i> Rottb.		Cyperaceae
55	<i>Lagascea mollis</i> Cav.		Compositae (Asteraceae)
56	<i>Lantana camara</i> L.		Verbenaceae

57	<i>Launaea nudicaulis</i> Hook.f.		Asteraceae
58	<i>Leucas aspera</i> L.		Lamiaceae
59	<i>Martynia diandra</i> Gloxin.		Pedaliaceae
60	<i>Merremia emarginata</i> Burm.f.		Convolvulaceae
61	<i>Mimosa pudica</i> L.	Chuimui	Mimosaceae
62	<i>Mirabilis jalapa</i> L.		Nyctanginaceae
63	<i>Mollugo stricta</i> L.		Molluginaceae
64	<i>Murraya paniculata</i> L.	Madhukamini	Rutaceae
65	<i>Ocimum americanum</i> L.	Memri	Lamiaceae
66	<i>Ocimum sanctum</i> L.	Tulsi	Lamiaceae
67	<i>Oldenlandia corymbosa</i> L.		Rubiaceae
68	<i>Oxalis corniculata</i> L.	Khatti buti	Oxalidaceae
69	<i>Parthenium hysterophorus</i> L.	Gajar ghas	Compositae
70	<i>Peristrophe bicalyculata</i> Retz.		Acanthaceae
71	<i>Phyllanthus niruri</i> auct.	Bhui amla	Euphorbiaceae
72	<i>Psorelea corylifolia</i>		Papilionaceae
73	<i>Quisqualis indica</i> L.	Madhumalti	Combretaceae
74	<i>Ruellia prostrata</i> Poir.		Acanthaceae
75	<i>Ruellia tuberosa</i> L.		Acanthaceae
76	<i>Rungia repens</i> L.		Acanthaceae
77	<i>Russelia</i> sp. L.		Sarphulariaceae
78	<i>Scoparia dulcis</i> L.	Vishnujadi	Scrophulariaceae
79	<i>Sida acuta</i> Burm.f.		Malvaceae
80	<i>Sida cordifolia</i> L.		Malvaceae
81	<i>Sonchus arvensis</i> auct.		Compositae (Asteraceae)
82	<i>Solanum nigrum</i> L.	Makoi	Solanaceae
83	<i>Solanum xanthocarpum</i> Schrad	Bhaskatia	Solanaceae
84	<i>Tridax procumbens</i> L.		Compositae (Asteraceae)
85	<i>Trichodesma zeylanicum</i> Burm.f.		Boraginaceae
86	<i>Trichosanthes palmata</i> L.		Cucurbitaceae
87	<i>Vandellia bracteata</i> L.		Scrophulariaceae
88	<i>Verbena officinalis</i> L.		Verbenaceae
89	<i>Vernonia cinerea</i> L.		Compositae (Asteraceae)
90	<i>Xanthium strumarium</i> L.		Compositae (Asteraceae)
91	<i>Tinospora cordifolia</i>	Giloi	Menispermaceae
92	<i>Zornia gibbosa</i> Span.		Leguminosae

## 3. Trees :

S. No.	Botanical name	Vernacular Name	Family
1	<i>Acacia biglandulosa</i> Roxb.		Leguminosae
2	<i>Acacia melanoxylon</i> F.	Australian babool	Leguminosae
3	<i>Aegle marmelos</i> L.	Bel	Rutaceae
4	<i>Ailanthus excelsa</i> Roxb.	Maha neem	Simaroubaceae
5	<i>Albizia lebbeck</i> L.	Shiris	Leguminosae
6	<i>Albizia procera</i> Roxb.	Shiris	Leguminosae
7	<i>Alstonia scholaris</i> L.	Chhatim	Apocynaceae
8	<i>Annona squamosa</i> L.	Sitaphal	Annonaceae
9	<i>Anthocephalus cadamba</i> Miq.	Kadamb	Rubiaceae
10	<i>Azadirachta indica</i> A.Juss.	Neem	Meliaceae
11	<i>Bauhinia purpurea</i> L.	Kachnar	Leguminosae
12	<i>Bombax malabaricum</i> L.	Semal	Bombaceae
13	<i>Caesalpinia pulcherrima</i> L.	Krishnachura	Leguminosae
14	<i>Calotropis gigantea</i> L.	Madar	Asclepiadaceae
15	<i>Carica papaya</i> L.	Papita	Caricaceae
16	<i>Cassia fistula</i> L.	Amaltas	Leguminosae
17	<i>Dalbergia sissoo</i> Roxb.	Shisham	Leguminosae
18	<i>Delonix regia</i> Raf.	Gulmohar	Leguminosae
19	<i>Eucalyptus lanceolatus</i> L.	Nilgiri	Myrtaceae
20	<i>Ficus benghalensis</i> L.	Bargad	Moraceae
21	<i>Ficus religiosa</i> L.	Peepal	Moraceae
22	<i>Ficus virens</i> Ait.	Gasti	Moraceae
23	<i>Lagerstroemia speciosa</i> (L.(Pers.))	Jharul	Lythraceae
24	<i>Lawsonia inermis</i> L.	Mehandi	Lythraceae
25	<i>Mangifera indica</i> L.	Aam	Anacardiaceae
26	<i>Millingtonia hortensis</i> L.	Neemchameli	Bignoniaceae
27	<i>Mitragyna parvifolia</i> Roxb	Mundi	Rubiaceae

28	<i>Nyctanthes arbor-tristis</i> L.	Parijat	Oleaceae
29	<i>Oroxylum indicum</i> L.		Bignoniaceae
30	<i>Peltophorum ferrugineum</i> Benth.	Copper pod	Leguminosae
31	<i>Phyllanthus emblica</i> L.	Amla	Euphorbiaceae
32	<i>Pithocelobium dulce</i> L.	Gangaimli	Leguminosae
33	<i>Polyalthea longifolia</i> L.	Druping Ashok	Leguminosae
34	<i>Pongamia pinnata</i> L.	Karanj	Leguminosae
35	<i>Psidium guajava</i> L.	Amrud	Myrtaceae
36	<i>Sapindus trifoliatus</i> Hiern.	Reetha	Sapindaceae
37	<i>Spathoda campanalata</i> L.	Jaimangal	Bignoniaceae
38	<i>Syzygium jambolana</i> L.	Jamun	Myrtaceae
39	<i>Tamarindus indica</i> L.	Imli	Leguminosae
40	<i>Tecoma stans</i> L.	Tecoma	Bignoniaceae
41	<i>Ziziphus jujuba</i> Lamk.	Ber	Rhamnaceae
42	<i>Ziziphus mauritiana</i> Lamk.	Jharberi	Rhamnaceae

**Other sps.:**

S. No	Bryophytes	Pteridophytes	Gymnosperms
1.	<i>Funaria sps</i>	<i>Adiantum sps</i>	<i>Cycas sps</i>
2.	<i>Cythodium sps.</i>	<i>Nephrolepis sps</i>	<i>Araucaria sps.</i>
3.	-----	-----	<i>Juniperus sps</i>

Some plants of the study area are ethnobotanically important and non-wood forest produces (NWFPs). Trees like *Azadirachta indica* (Neem) is versatile plant, *Eucalyptus lanceolatus* (Neelgiri) yields oil of wintergreen, *Tamarindus indica* yields, wood and fruits, *Sapindus trifoliatus*(Reetha), yields NWFPs. The dominant families are Gramineae (Poaceae), Leguminosae and

Euphorbiaceae. Phytodiversity of area include useful plants, ornamental, wild as well as exotic weeds. Most of the plants are the soil binders.

Present study will practically help students of U.G and P.G, Botany. Photographs and herbarium will also helpful for identification. The small data of vegetation of the city is updated

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