Ethnobotanical Documentation of Medicinal and Ornamental and Indigenous Flora at Government M.M.R.P.G. College, Champa, Chhattisgarh

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***Abstract*- Chhattisgarh, often referred to as the "Herbal State of India," is renowned for its rich heritage of traditional medicinal knowledge. College campuses and other educational institutions, with their green open spaces, can act as micro-reserves for conserving indigenous flora. This study presents a comprehensive survey and ethnobotanical documentation of 104 plant species found within the campus of Government M.M.R.P.G. College, Champa, Chhattisgarh. The documentation includes local names, botanical names, families, habits, parts used, and medicinal or practical uses of each plant. This inventory aids in the preservation of indigenous knowledge and can support future research, conservation efforts, and applications in traditional medicine.**

***Index Terms*- Ethnobotany, Medicinal plants, Traditional knowledge, Flora, Chhattisgarh.**

I. INTRODUCTION

Ethnobotany plays a vital role in preserving indigenous knowledge systems, especially in regions rich in biodiversity like Chhattisgarh. Chhattisgarh State has an enriched diversity of plants 44% of the total geographical area of the state is covered with forest and Chhattisgarh known as a "Herbal State of India", is rich in traditional knowledge of medicinal plants. The conservation of plant biodiversity within institutional campuses is increasingly being recognized as a vital tool for education, ecological awareness, and herbal resource conservation. The campus includes managed gardens, roadsides, open spaces, and semi-natural vegetation. The Government M.M.R.P.G. College campus in Champa harbors a wide array of flora, used traditionally for medicinal, ornamental, and ecological purposes. The study aims to document these plant species to promote awareness, research, and conservation. The study was conducted in the premises of Government M.M.R.P.G. College, Champa, located in the Janjgir-Champa district (Latitude: 21°49'N, Longitude: 82°42'E), Chhattisgarh. The region has a sub-tropical climate with average annual rainfall of ~1200 mm and temperature ranging between 10°C and 46°C. The campus includes managed gardens, roadsides, open spaces, and semi-natural vegetation.

Medicinal plants are crucial not only for traditional healthcare practices but also for modern pharmaceutical research. However, increasing urbanization and habitat loss are threatening the survival of many of these species and the associated traditional knowledge. Therefore, documentation and conservation of such knowledge are critical.

II. OBJECTIVES

- To document the plant diversity present in the college campus.
- To identify traditional uses of the plants.
- To associate plant parts with specific uses.
- To provide a scientific baseline for further botanical or pharmacological studies.

III. METHODOLOGY

The present work was carried out in the Govt. M. M. R. PG college campus during –October 2023 to September 2024 collection the plant species and data is different seasons. All habitats of the study area served carefully.

Study Area- The study was conducted in the premises of Government M.M.R.P.G. College, Champa, located in the Janjgir-Champa district (Latitude: 21°49'N, Longitude: 82°42'E), Chhattisgarh. The region has a sub-tropical climate with average annual rainfall of ~1200 mm and temperature ranging between 10°C and 46°C.

IV. DATA COLLECTION

The study was conducted through regular field surveys within the college campus. Plants were identified using standard floras and botanical references. Ethnobotanical information was gathered through direct observation, literature review, interaction with local knowledge holders, , gardeners, and faculty members.

Table 1: Documented Plant Species

S.N	Local Name	Botanical Name	Family	Habit	Part Used	Uses
1	Neem	*Azadirachta indica*	Meliaceae	Tree	Bark, leaves, seed	Antiseptic, insect repellent, skin diseases
2	Tulsi	*Ocimum tenuiflorum*	Lamiaceae	Herb	Leaves	Immunity booster, cold, fever
3	Bargad	*Ficus benghalensis*	Moraceae	Tree	Latex, bark, roots	Diarrhea, diabetes, wound healing
4	Pipal	*Ficus religiosa*	Moraceae	Tree	Bark, leaves	Asthma, heart disorders
5	Amla	*Phyllanthus emblica*	Phyllanthaceae	Tree	Fruit	Rich in vitamin C, digestion
6	Shami	*Prosopis cineraria*	Fabaceae	Tree	Bark, leaves	Diuretic, piles, cough
7	Badam	*Prunus dulcis*	Rosaceae	Tree	Seeds	Brain tonic, energy booster
8	Shisham	*Dalbergia sissoo*	Fabaceae	Tree	Bark, leaves	Skin diseases, anti-inflammatory
9	Karanj	*Pongamia pinnata*	Fabaceae	Tree	Seeds, oil	Skin diseases, insecticidal
10	Gulmohar	*Delonix regia*	Fabaceae	Tree	Ornamental	Avenue tree
11	Amaltas	*Cassia fistula*	Fabaceae	Tree	Pods, bark	Laxative, constipation
12	Madhumalti	*Quisqualis indica*	Combretaceae	Climber	Flowers, roots	Antihelminthic
13	Aparajita	*Clitoria ternatea*	Fabaceae	Climber	Flowers, root	Memory tonic, urinary tract infections
14	Gulab	*Rosa indica*	Rosaceae	Shrub	Flowers, petals	Astringent, perfumery, eye wash
15	Aam	*Mangifera indica*	Anacardiaceae	Tree	Leaves, bark, fruit	Diarrhea, diabetes
16	Amrud	*Psidium*	Myrtaceae	Tree	Leaves, fruit	Diarrhea, sore

		guajava				throat
17	Papita	*Carica papaya*	Caricaceae	Tree	Fruit, leaves, latex	Digestion, menstrual pain
18	Aloe vera	*Aloe barbadensis*	Asphodelaceae	Herb	Gel	Skin care, burns, digestion
19	Snake Plant	*Sansevieria trifasciata*	Asparagaceae	Herb	Whole plant	Air purifier, ornamental
20	Munga (Drumstick)	*Moringa oleifera*	Moringaceae	Tree	Leaves, pods	Nutrition, inflammation
1	Kela (Banana)	*Musa paradisiaca*	Musaceae	Herb	Fruit, leaves	Nutrition, diarrhea, wound healing
22	Tradiscantia	*Tradescantia zebrina*	Commelinaceae	Herb	Whole plant	Ornamental, air purifier
23	Rubber Plant	*Ficus elastica*	Moraceae	Shrub	Latex (ornamental)	Indoor air purifier
24	Croton	*Codiaeum variegatum*	Euphorbiaceae	Shrub	Leaves	Ornamental
25	Charouta	*Cassia tora*	Fabaceae	Herb	Leaves, seeds	Skin diseases, constipation
26	Sida	*Sida cordifolia*	Malvaceae	Herb	Whole plant	Nervous disorders, asthma
27	Ageratum	*Ageratum conyzoides*	Asteraceae	Herb	Leaves, flower	Wound healing, antibacterial
28	Parthenium	*Parthenium hysterophorus*	Asteraceae	Herb	Whole plant	Invasive; medicinal in diluted form (eczema, wounds)
29	Alternanthera	*Alternanthera sessilis*	Amaranthaceae	Herb	Leaves	Eye infections, liver tonic
30	Ashwagandha	*Withania somnifera*	Solanaceae	Shrub	Root	Stress relief, stamina, rejuvenation
31	Sarpgandha	*Rauvolfia serpentina*	Apocynaceae	Shrub	Root	Hypertension, insomnia
32	Tejpatta	*Cinnamomum tamala*	Lauraceae	Tree	Leaves	Spice, digestion aid
33	Harsingar	*Nyctanthes arbor-tristis*	Oleaceae	Shrub	Flowers, leaves	Fever, cough, arthritis
34	Dalchini	*Cinnamomum verum*	Lauraceae	Tree	Bark	Spice, cold, digestion
35	Sada Suhagan	*Catharanthus roseus*	Apocynaceae	Herb	Leaves, roots	Diabetes, cancer treatment (vincristine)
36	Kaner	*Nerium oleander*	Apocynaceae	Shrub	Root, bark (toxic)	Cardiac treatment (caution: poisonous)
37	Gudhal	*Hibiscus rosa-sinensis*	Malvaceae	Shrub	Flowers, leaves	Hair growth, blood pressure
38	Aak	*Calotropis gigantea*	Apocynaceae	Shrub	Latex, root	Skin diseases, pain relief

39	Bhringraj	*Eclipta prostrata*	Asteraceae	Herb	Leaves	Hair growth, liver tonic
40.	Ganga dubi	*Cyanotis cristata*	Commelinaceae	Herb	Whole plant	Wound healing, fever
41.	Ashok	*Saraca asoca*	Fabaceae	Tree	Bark, flowers	Menstrual disorders, uterine tonic
42.	Dubi (Doob Grass)	*Cynodon dactylon*	Poaceae	Herb	Whole plant	Skin diseases, fever, wounds
43	Bhui Neem	*Andrographis paniculata*	Acanthaceae	Herb	Leaves	Liver tonic, antipyretic
44.	Bhui Amla	*Phyllanthus niruri*	Phyllanthaceae	Herb	Whole plant	Jaundice, kidney stones
45.	Harra	*Terminalia chebula*	Combretaceae	Tree	Fruit	Digestive, laxative
46.	Cycas	*Cycas revoluta*	Cycadaceae	Gymnosperm	Ornamental	Garden use (toxic if consumed)
47.	Fern	*Various spp.*	Pteridophyta	Herb	Ornamental	Indoor/landscape ornamental
48.	Arica Palm	*Dypsis lutescens*	Arecaceae	Tree	Ornamental	Indoor air purifier
49.	Amaranthus	*Amaranthus spinosus*	Amaranthaceae	Herb	Leaves	Nutritive vegetable, anemia
50.	Achyranthes	*Achyranthes aspera*	Amaranthaceae	Herb	Whole plant	Cough, piles, toothache
51.	Pudina	*Mentha arvensis*	Lamiaceae	Herb	Leaves	Cold, digestive aid
52.	Asparagus	*Asparagus racemosus*	Asparagaceae	Climber	Roots	Reproductive tonic, immunity
53	Lily	*Lilium spp.*	Liliaceae	Herb	Flowers	Ornamental, religious use
54.	Lily	*Lilium spp.*	Liliaceae	Herb	Flowers	Ornamental, religious use
55.	Mithi Neem	*Melia azedarach*	Meliaceae	Tree	Leaves, bark	Skin disease, helminthic infections
56.	Jasmine	*Jasminum sambac*	Oleaceae	Shrub	Flowers	Fragrance, anxiety relief
57.	Genda	*Tagetes erecta*	Asteraceae	Herb	Flowers	Antiseptic, insect repellent
58.	Spider Plant	*Chlorophytum comosum*	Asparagaceae	Herb	Whole plant	Air purifier, ornamental
59.	Giloy	*Tinospora cordifolia*	Menispermaceae	Climber	Stem	Immunity booster, fever
60.	Kachnar	*Bauhinia variegata*	Fabaceae	Tree	Bark, buds	Thyroid issues, skin problems
61.	Haldi (Turmeric)	*Curcuma longa*	Zingiberaceae	Herb	Rhizome	Antiseptic, anti-inflammatory, digestive

62.	Ixora	*Ixora coccinea*	Rubiaceae	Shrub	Flowers	Ornamental, skin diseases
63.	Jamun	*Syzygium cumini*	Myrtaceae	Tree	Seeds, fruit	Diabetes, digestion
64.	Kanal (Oleander)	*Thevetia peruviana*	Apocynaceae	Shrub	Seeds, latex	Toxic, used in controlled cardiac medicine
65.	Kashi (Canna)	*Canna indica*	Cannaceae	Herb	Rhizome	Ornamental, diuretic
66.	Money Plant	*Epipremnum aureum*	Araceae	Climber	Whole plant	Indoor air purifier
67.	Nimbu	*Citrus limon*	Rutaceae	Shrub	Fruit, leaves	Vitamin C, digestion, antiseptic
68.	Opuntia	*Opuntia elatior*	Cactaceae	Shrub	Pulp, pads	Anti-inflammatory, diabetes
69.	Oxalis	*Oxalis corniculata*	Oxalidaceae	Herb	Whole plant	Stomach pain, diarrhea
70.	Pitunia	*Petunia hybrida*	Solanaceae	Herb	Ornamental	Decorative purpose
71.	Satawar	*Asparagus racemosus*	Asparagaceae	Climber	Root	Female health tonic, immunity
72.	Sitafal	*Annona squamosa*	Annonaceae	Tree	Fruit, leaves	Digestion, lice treatment
73.	Vach	*Acorus calamus*	Acoraceae	Herb	Rhizome	Memory booster, digestive
74.	Adrak	*Zingiber officinale*	Zingiberaceae	Herb	Rhizome	Cold, nausea, anti-inflammatory
75.	Alycicarpus	*Alysicarpus vaginalis*	Fabaceae	Herb	Whole plant	Cattle fodder, traditional remedy for diarrhea
76.	Anar	*Punica granatum*	Lythraceae	Shrub	Fruit, rind, flower	Antioxidant, digestion, anemia
77.	Arjun	*Terminalia arjuna*	Combretaceae	Tree	Bark	Heart diseases, cholesterol control
78.	Arusa (Adusa)	*Justicia adhatoda*	Acanthaceae	Shrub	Leaves	Cough, bronchitis
79.	Babool	*Vachellia nilotica*	Fabaceae	Tree	Bark, gum, pods	Oral hygiene, wound healing
80.	Bathriochloa	*Bothriochloa pertusa*	Poaceae	Grass	Whole plant	Fodder, soil stabilizer
81.	Kagaj Phool	*Bougainvillea spectabilis*	Nyctaginaceae	Climber	Bracts (ornamental)	Ornamental, fencing
82.	Ber	*Ziziphus mauritiana*	Rhamnaceae	Tree	Fruit, leaves	Digestion, skin ailments
83.	Chuimui	*Mimosa pudica*	Fabaceae	Herb	Whole plant	Wounds, piles, diarrhea
84.	Loung	*Syzygium aromaticum*	Myrtaceae	Tree	Flower buds	Dental pain, digestion

85.	Dauna	*Ocimum gratissimum*	Lamiaceae	Herb	Leaves	Cold, immunity
86.	Dichanthium	*Dichanthium annulatum*	Poaceae	Grass	Whole plant	Fodder, soil erosion control
87.	Diffenbachia	*Dieffenbachia seguine*	Araceae	Herb	Whole plant	Ornamental, air purification
88.	Dracaena	*Dracaena fragrans*	Asparagaceae	Shrub	Whole plant	Indoor ornamental, air purifier
89.	Dudhi (Bottle Gourd)	*Lagenaria siceraria*	Cucurbitaceae	Climber	Fruit	Heart health, cooling
90.	Chandani Genda	*Tagetes patula*	Asteraceae	Herb	Flowers	Ornamental, pest control
91.	Chhatim	*Alstonia scholaris*	Apocynaceae	Tree	Bark, latex	Respiratory disorders, skin problems
92.	Desmodium	*Desmodium gangeticum*	Fabaceae	Herb	Root, whole plant	Fever, dysentery
93.	Palash	*Butea monosperma*	Fabaceae	Tree	Flowers, gum	Skin disease, color dye, urinary issues
94.	Nilgiri	*Eucalyptus globulus*	Myrtaceae	Tree	Leaves	Cold, cough, antiseptic
95.	Champa	*Michelia champaca*	Magnoliaceae	Tree	Flowers	Fragrance, ornamental, religious use
96.	Coco grass	*Cyperus rotundus*	Cyperaceae	Herb	Rhizome	Digestion, fever, anti-inflammatory
97.	Agave	*Agave americana*	Asparagaceae	Shrub	Leaves, sap	Fiber, antiseptic, fencing
98.	Begonia	*Begonia rex*	Begoniaceae	Herb	Leaves	Ornamental
99.	Sirsa	*Albizia lebbeck*	Fabaceae	Tree	Bark, pods	Respiratory illness, anti-allergic
100.	Coleus	*Coleus amboinicus*	Lamiaceae	Herb	Leaves	Cough, digestion
101.	Mahaneem	*Azadirachta excelsa*	Meliaceae	Tree	Leaves, bark	Skin disease, similar to neem
102.	Bhatakateri	*Solanum indicum*	Solanaceae	Shrub	Root, fruit	Asthma, cough, fever
103.	Kapas (Cotton)	*Gossypium herbaceum*	Malvaceae	Shrub	Seed, lint, root	Cotton production, dysentery (root)
104.	Four O'Clock	*Mirabilis jalapa*	Nyctaginaceae	Herb	Tuber, flowers	Anti-inflammatory, ornamental

V. RESULTS AND DISCUSSION

A total of 104 plant species were identified and documented. These include herbs, shrubs, trees, climbers, grasses, palms, and ferns. The majority are used traditionally in medicine, while others serve ornamental or ecological functions. These plants belong to 43 different botanical families. The flora comprises both native and exotic species, reflecting the biodiversity richness of the region.

The study revealed that over 70% of the species have known medicinal uses, indicating the deep-rooted traditional knowledge among the local community. These include species used for treating common ailments such as fever, cough, skin disorders, digestive issues, and chronic diseases like diabetes and hypertension. For instance, *Azadirachta indica* (Neem) and *Ocimum tenuiflorum* (Tulsi) are widely used in home remedies, while *Withania somnifera* (Ashwagandha) and *Tinospora cordifolia* (Giloy) are prominent in Ayurvedic formulations.

Ornamental species like *Hibiscus rosa-sinensis*, *Bougainvillea spectabilis*, and *Petunia hybrida* enhance the aesthetic value of the campus and contribute to ecological services such as pollinator attraction and microclimate regulation. Invasive species such as *Parthenium hysterophorus* and *Ageratum conyzoides*, though problematic, have also shown medicinal potential in controlled usage.

The study also highlights the diverse utility of plant parts: leaves (used in 62% of species), roots (28%), bark (22%), flowers (18%), and fruits or seeds (30%). This data underscores the comprehensive use of flora in traditional medicine and daily life.

Ethnobotanical knowledge recorded here provides a foundation for future pharmacological investigations and conservation strategies. Preservation of this local knowledge is essential, especially as rapid urbanization and environmental degradation threaten plant diversity.

VI. KEY OBSERVATIONS

- Medicinal Dominance: Over 70% of the plants have known medicinal properties.
- Diversity: The recorded species span 43 different plant families.
- Utilized Plant Parts: Leaves and roots are the most frequently used parts.
- Notable Species:
    - *Azadirachta indica* (Neem) – Antibacterial, insecticidal
    - *Ocimum tenuiflorum* (Tulsi) – Adaptogen, immune booster
    - *Withania somnifera* (Ashwagandha) – Stress relief and stamina
    - *Tinospora cordifolia* (Giloy) – Fever, immunity enhancer

VII. CONCLUSION

The present study highlights the ethnobotanical richness of Government M.M.R.P.G. College, Champa. Documentation of such knowledge is crucial for conservation, education, and promoting sustainable use of plant resources. It also provides a basis for further research in phytochemistry and pharmacognosy.

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