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## Ethnobotanical studies in Chhatarpur district, Madhya Pradesh, India

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### Abstract

Traditionally, plants have been used as a source of medicine in India by indigenous peoples living in different areas to control various diseases that afflict people. Ethnobotanical research was conducted in Chhatarpur District, M.P., India. Plants and their traditional use are part of the natural and cultural heritage of the region. The study was carried out regarding the medicinal plants used by the local peoples during 2018 to 2019. Finally, the data were assessed to which extent plants are vulnerable due to collection and habitat destruction. An ethnobotanical survey was undertaken in the Chhatarpur District, M.P., India. Data were collected through field assessments from traditional healers and locals by means of personal interviews and semi-structured questionnaires. Voucher specimens were collected following standard methods, identified with the help of pertinent floras and taxonomic experts and deposited in the Herbarium, RRL-B, India for future references. A total of 47 plant species belonging to 29 families are reported during the study. The main forms of life were herbs, trees, shrubs, climbers, small tree and creeper. Several medicinal plants were collected for the treatment of various ailments. Parts of the roots were widely used, followed by the leaves, bark, seeds and stem. This study shows that medicinal plants still play an important role in the primary health care of this local community. Traditional medicine also has the potential to form the basis of medical treatment for the treatment of various ailments. In addition, the details need to be verified in order for other clinics to be used.

**Keywords:** Ethnobotany, medicinal plant, traditional medicine, Chhatarpur district

### 1. Introduction

"Ethnobotany", a name coined by John Hershberger in 1895, is a study of "plants used by ancient and indigenous peoples" (Balick and Cox, 1996) <sup>[1]</sup>. Human society has established a close relationship with plant life (De JN, 1980) <sup>[2]</sup> since ancient times. The relationship between indigenous peoples and their surroundings forms the theme of ethnobotany, science (De JN, 1968) <sup>[3]</sup>, which deals with the study of the plants used by nations for food, medicine and clothing (Jain and De, JN, 1966) <sup>[4]</sup>. Knowledge of plant age is an important component of ethnobotanical research. National tracts are a repository for information on the many uses of plants. By the end of the 19th century, ethnobotany had begun to grow as a science, providing a new medical research tool, which not only focused on the interactions of human plants in various ways, but also included collections and documents of indigenous uses, in addition to ecology, economics, pharmacognosy, public health and their fields. At present, ethnobotany has become increasingly powerful in the development of health systems and conservation in various parts of the world.

India is well known as an "Emporium of medicinal plants". It possesses about 8% of the estimated biodiversity of the world with around 12600 species and is one of the 12 mega biodiversity centers with 2 hot spots of biodiversity in the Western Ghats and North-eastern region. It's also rich in ethnic diversity, there are about 67.37 million tribal people belonging to 537 tribal groups living in different geographical locations with various subsistence patterns (Amuthavalluvan, 2011 and Shanmugam, *et al.* 2012) <sup>[5-6]</sup>.

Ethnobotany is a multidisciplinary science which is defined as the interaction between plants and people (Dhal, *et al.* 2011) <sup>[8]</sup>. Documenting the indigenous knowledge through ethnobotanical studies is important for the conservation and utilization of biological resources (Chellaiah, *et al.* 2006) <sup>[8]</sup>. The Ethnobotanical investigation has led to the documentation of a large number of wild plants used by tribals for meeting their multifarious requirements (Anonymous, 1990) <sup>[9]</sup>.

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However, due to population pressure, accelerated urbanization, recurring drought, and deforestation, most of the medicinal plants are either destroyed or on the verge of extinction (WHO, 2003, Arjariya and Chaurasia 2008, Jain and Goel, 1995) [10-12]. The aim of this study was, therefore, to identify and document the species of the plants associated with medicinal parts, methods of preparation of medicine and major uses in Chhatarpur district, M.P., India.

## 2. Materials and Methods

### Description of Study Area

The ethnobotanical study was conducted in the Chhatarpur district of the M.P. state of India during the year 2018-2019. Chhatarpur district located at 24.06° & 25.20°N 78.59° & 80.26° E respectively. The district has an area of 8,687 km<sup>2</sup>. Chhatarpur District is bounded by Uttar Pradesh state to the north, and the Madhya Pradesh districts of Panna to the east, Damoh to the south, Sagar to the southwest, and Tikamgarh to the west. Chhatarpur District is part of Sagar Division. The district has extensive forests. About 42% of the total area is covered by forests only.



Fig 1: Location map of the Chhatarpur district

### Fieldworks and collection of data

The field trips were organized in such a way so as to cover all the areas of the district at regular intervals in different seasons between 2018 to 2019. As a result, it became possible to record the seasonal variations in the vegetation, including distributional patterns and collect most of the plants in different developmental stages of their life cycle. Plant specimens were collected in sets of four both in flowering and fruiting stages taking due care to collect the healthy specimens. Field observations on phenology, habit, habitat, local uses, frequency of occurrence etc. were recorded in the field note books at the time of collection and the collected specimens were tagged with field book numbers.

### Processing of voucher specimens for herbarium preparation and identification

The voucher specimens were brought to the laboratory and processed for herbarium specimen preparation. Care was

taken to identify the specimens in the field itself while the specimens were fresh. Their identity was ascertained in the Herbarium with the help local flora, monographs, revisions and other taxonomic literature (Roy, *et al.* 1992) [13]. For confirmation, the Herbaria, Botanical Survey of India, Allahabad were consulted. Voucher specimens are deposited in Botany Department of Govt. Girls P.G. College, Rewa (M.P.).

## 3. Result and Discussion

The results of the ethnobotanical survey are presented in table 1. A total of 47 plant species belonging to 29 families are reported. For each species the following ethnobotanical information were provided: taxon name, family, plant parts used, flowering season, fruiting season, their use in treatment of diseases and habit of plant. Out of 47 plants recorded from study area, highest number of plants belongs to herb (17 species) and trees (20 sp.) followed by shrubs (3 sp.), climbers (4 sp.), small tree (2 sp.) and creeper (1 sp.) in descending order (figure 2). In this study, members of the family Fabaceae were the most commonly used plants for the treatment of various diseases. Comparison of the plant parts used as a medicinal source indicates that the root predominates followed by leaf, bark, seed, stem, fruit, whole plant, flower, tuber, twig, and latex. The common diseases treated using medicinal plants are stomach ache, joint pain, scabies, lactation, rheumatism, infections, dysentery, diarrhoea, bleeding of nose, skin disease, migraine, snake bites, boils vomiting, fever, skin problems, cold & cough, toothache, stomach ache, wounds, burns, constipation, roundworms, fids weakness, leprosy, night blindness, blood dysentery, indigestion, diabetes, asthma and jaundice. Different types of preparation made from medicinally important plants included decoction, juice, powder, paste, oil and whole plant extract. Some plants were even used in more than one form of preparations. It is evident that in most cases one plant is given alone but in many diseases and the recipe includes a combination of many herbs and plant parts. At the same time it has been shown that one herbal recipe is effective in treating many diseases, indicating that one plant is used for more than one disease. Crude is used alone or in combination with other substances from plants, animals or minerals. Such medicines are prepared under a special method of heating, grilling, dehydration, oil, milk, oil, or animal urine, fermented under a special controlled condition or controlled digestion.

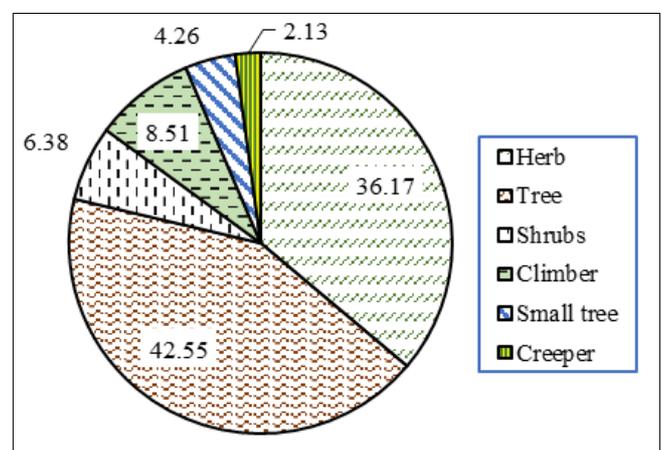


Fig 2: Habit wise analysis of documented plants

**Table 1:** List of plants of Chhatarpur district with their family name, part used and traditional medicinal uses

S. No.	Taxon Name	Family Name	Parts Used	Flowering season	Fruiting season	Ethnobotanical uses	Growth Form
1.	<i>Andrographis paniculata</i> (Burm.f.) Wall. ex Nees in Wall	Acanthaceae	Leaf & Root	Sept.-Mar.	Sept.-Mar.	10 ml leaf juice is prescribed twice a day for 5 days against colic pain.	Herb
2.	<i>Hygrophila auriculata</i> (Schum.) Heine	Acanthaceae	Root	Oct.-Feb.	Oct.-Feb.	About 10 gm of dried root powder mixed with milk is given twice a day to remove kidney stones	Herb
3.	<i>Achyranthes aspera</i> L.	Amaranthaceae	Root	Oct-Dec.	Oct.-Dec.	Root paste with cold water is administered twice a day for 3 days against burning sensation of urination.	Herb
4.	<i>Holarrhena pubescens</i> (Buch.-Ham.) Wall.	Apocynaceae	Stem, bark & root	May-Jul.	Sept.-Nov.	Stem bark decoction with honey is given twice a day for 10 days against glandular tumours 5 ml of root juice is taken twice a day for 7 days against neurological disorders	Tree
5.	<i>Rauwolfia tetraphylla</i> L.	Apocynaceae	Root	Most part of the year	Most part of the year	Decoction of stem bark with black pepper ( <i>Piper nigrum</i> L.) is given twice a day for 7 days against pneumonia	Shrub
6.	<i>Wrightia tinctoria</i> (Roxb.) R. Br.	Apocynaceae	Latex & root	Mar.-May	Jun.-Oct.	Latex with mustard oil (2:1) is locally applied for paralysis	Tree
7.	<i>Hemidesmus indicus</i> (L.) R. Br.	Apocynaceae	Root & leaf	Aug.-Oct.	Dec.-Mar.	Root powder with cow milk is used for nervous weakness	Creepers
8.	<i>Oroxylum indicum</i> (L.) Vent	Bignoniaceae	Stem, bark & seed	Jul.-Aug.-	Oct.-Mar.	Stem bark boiled in Kusum ( <i>Schleichera oleosa</i> (Lour.) Oken. seed oil and used as massage oil in case of leucoderma	Tree
9.	<i>Stereospermum chelonoides</i> (L.f.) DC	Bignoniaceae	root	Mar-May	Aug.-Oct.	Decoction of the root (10 ml) is given twice daily for one month against asthma.	Tree
10.	<i>Bombax ceiba</i> L.	Bombacaceae	Seed s & root	Jan.-Mar.	Mar.-May	A glass full of water (150 ml) in which the root (2// long) is soaked overnight is taken on empty stomach for 5 days against amoebic dysentery.	Tree
11.	<i>Garuga pinnata</i> Roxb.	Burseraceae	Leaf & fruit	Jan.-Mar.	Apr-Aug.	Leaf juice mixed with 2-3 ml leaf juice of Basanga ( <i>Justicia adhatoda</i> ) and honey (2 ml) is given twice a day for 2 weeks against asthma	Tree
12.	<i>Protium serratum</i> (Wall. ex Colebr.) Engl	Burseraceae	Bark	Apr-May	Apr-may	Bark paste is applied on scabies	Tree
13.	<i>Xylia xylocarpa</i> (Roxb.) Taub.	Caesalpiniaceae	Seed	Apr-May	Sept-Dec.	Seed paste is administered thrice a day for 2 days against snake bite if the patient will be treated within 2 hours of the biting	Tree
14.	<i>Celastrus paniculata</i> Willd.	Celastraceae	Seed	Apr-Jul.	May-Dec	The seed oil is massaged against paralysis with hot water sponging	Tree
15.	<i>Calophyllum inophyllum</i> L.	Clusiaceae (Guttiferae)	Seed	Oct.-Nov.	Feb.-Apr.	Seed oil is used externally for scabies, eczema etc	Tree
16.	<i>Mesua ferrea</i> L.	Clusiaceae (Guttiferae)	Leaf	Mar.-May	Oct.-Nov.	Powdered leaf are administered twice daily for one week against constipation	Tree
17.	<i>Argyrea nervosa</i> (Burm.f.) Boj.	Convolvulaceae	Root & whole plant	Aug.-Sept.	Oct.-Dec.	Powdered root with cow milk (2:1) is given twice a day for 15 days against painful discharge of urine	Climber
18.	<i>Evolvulus alsinoides</i> (L.) L.	Convolvulaceae		Jul.-Feb.	Jul.-Feb.	Plant decoction is given twice a day for 3 days	Herb
19.	<i>Cuscuta reflexa</i> Roxb.	Cuscutaceae	Whole plant	Oct.-Jan.	Oct.-Jan.	Plant paste mixed with the paste of Ginger ( <i>Zingiber officinale</i> Rosc.) is massaged locally to relieve from chest pain	Climber
20.	<i>Cycas circinalis</i> L.	Cycadaceae	Bark & Seed	May-Aug.	Sept.-Oct	The bark and seeds are ground to a paste with mustard oil and applied on swellings	Small tree
21.	<i>Diospyros melanoxylon</i> Roxb.	Ebenaceae	Flow er	Apr.-May	Feb.-Mar.	Flower powder (10 gm) mixed with black pepper ( <i>Piper nigrum</i> L.) 3:2 is taken twice a day for 15 days against leucorrhoea.	Tree
22.	<i>Acalypha indica</i> L.	Euphorbiaceae	Leaf	Feb-Sept.	Feb.-Sept.	10 ml of the leaf juice is taken twice a day for 5 days against bronchitis	Herb
23.	<i>Ricinus communis</i> L.	Euphorbiaceae	Seed	Jan-May	Jan-May	The seed oil is massaged on the swellings of rheumatic joints	Shrub
24.	<i>Butea superba</i> Roxb.	Fabaceae	Leaf	Jan.-Mar.	May-Oct.	The bark paste (5 gm) is administered twice a day for 7 days against abortion	Small tree
25.	<i>Clitoria ternatea</i> L.	Fabaceae	Root & flower	Sept-Apr.	Sept-Apr.	Root paste is locally used against snake bite	Climber
26.	<i>Desmodium gangeticum</i> (L.)DC.	Fabaceae	Leaf	May-Jul.	Aug.-Oct	Raw leaf juice is administered one teaspoonful two times daily in case of chronic dysentery	Herb
27.	<i>Pueraria tuberosa</i> (Roxb.)	Fabaceae	tubers	Feb.-Mar.	Apr.-Aug.	Dried tuber powder mixed with dried anthers of	Climber

	exWilld.) DC.					Musa paradisiaca is taken once a day for 15 days to increase lactation after post delivery.	
28.	<i>Tephrosia purpurea</i> (L.) Pers.	Fabaceae	Leaf & root	Aug.-Sept.	Oct.-Nov.	Leaf juice mixed with curd is given to check loose motions Root paste is locally applied on chest to relieve from chest pain	Herb
29.	<i>Terminalia arjuna</i> (Roxb.ex DC.) Wight. & Arn.	Fabaceae	Bark & stem	May-Aug.	Sept.-Dec.	Stem decoction with goat milk is given to women (3:2) against debility	Tree
30.	<i>Terminalia bellirica</i> (Gaertn.) Roxb.	Fabaceae	Fruit, bark & stem	Feb.-Mar.	Apr.-Aug.	The fruit juice mixed with Rasi ( <i>Sesamam orientale</i> ) is applied regularly for 1-2 months to check graying of hair	Tree
31.	<i>Casearia Graveolens</i> Dalz.	Flacourtiaceae	Fruit	Feb-May	Apr-May	The crushed fruit paste is mixed in ponds, lakes to kill fishes.	Tree
32.	<i>Swertia angustifolia</i> Buch.-Ham. ex D.Don	Gentianaceae	Root	Oct.-Dec.	Oct.-Dec.	5 ml root juice is given once a day for 3 days against throat infection	Herb
33.	<i>Leonotis nepetifolia</i> (L.) R. Br	Lamiaceae	Seed paste	Sept.-Jan.	Sept.-Jan.	The seed paste boiled in karanja oil ( <i>Pongamia pinnata</i> ) is externally massaged against breast swellings.	Herb
34.	<i>Ocimum canum</i> Sims	Lamiaceae	Leaf	Jul.-Mar.	Jul.-Mar.	Leaf decoction with common salt (2:1) is administered twice a day for 7 days against viral fever	Herb
35.	<i>Gloriosa superba</i> L.	Liliaceae	Root	Aug.-Sept.	Oct.-Feb.	The root juice (5 ml) is taken after meal twice a day for 10 days against constipation	Herb
36.	<i>Cissampelos pareira</i> L. var. <i>hirsuta</i> (Burch.-Ham.ex DC.) Forman	Menispermaceae	Root & Leaf	Apr-Aug.	May-Oct.	Powdered root and leaves mixed with ginger ( <i>Zingiber officinale</i> ) juice and honey (each 5 ml) is administered twice daily for 5 days against dry cough.	Herb
37.	<i>Cocculus hirsutus</i> (L.) Diels	Menispermaceae	Root & whole plant	Mar.-May	Mar.-May	Plant decoction (2 tea spoonful, 2 times daily) is drunk as a cooling tonic to treat abdominal disorders. Root paste is taken thrice a day for liver disfunction	Herb
38.	<i>Stephania japonica</i> (Thunb.) Miers	Menispermaceae	Root	Oct.-Nov.	Dec.-May	Powdered root is administered along with honey in empty stomach to cure kurmi in case of child below 6 years	Herb
39.	<i>Nyctanthes arbortristis</i> L.	Oleaceae	Stem, bark & seed	Sept.-Feb.	Sept.-Feb.	Dried seed powder with Brassica oil is locally applied for removal of dendruff	Tree
40.	<i>Piper nigrum</i> L.	Piperaceae	Fruit	Oct.-May	Oct.-May	The fruit powder (10 gm) is taken thrice a day for 15 days against arthritis	Herb
41.	<i>Haldinia cordifolia</i> (Roxb.) Ridsd.	Rubiaceae	Bark	Jun.-Jul.	Nov.-Mar.	Bark paste is locally applied for scabies	Tree
42.	<i>Datura metel</i> L.	Solanaceae	Seed	Sept.-May	Sept.-May	Seed paste with Pongamia oil (2:1) is externally used for leucoderma	Shrub
43.	<i>Pterospermum xylocarpum</i> (Gaertn.). Sant & Wagh	Sterculiaceae	Flow er	Oct.-Dec.	Apr.-May	5 gm of the flower paste in given twice a day for abdominal pain	Tree
44.	<i>Strychnos nux-vomica</i> L.	Strychnaceae	Bark & seed	Feb.-Apr.	Jul.-Oct.	Bark paste (3 gm) is given to children once a day after dinner for one week against bedwetting	Tree
45.	<i>Symplocos racemosa</i> Roxb	Symplocaceae	Stem & Bark	Oct.-Jan.	Feb.-May	Stembark decoction with honey (3:2) is given to children below 10 years against liver complaints	Tree
46.	<i>Hybanthus enneaspermus</i> (L.) F.v. Muell	Violaceae	Leaf	June-Oct.	June-Oct.	Leaf decoction is administered once a day for one week to check bleeding piles	Herb
47.	<i>Tribulus terrestris</i> L	Zygophyllaceae	Leaf	Mar.-June	Jul.-Oct.	Leaf juice (5ml) mixed with 10-15 drops of ginger juice ( <i>Zingiber officinale</i> ) is given twice a day for one week against ringworms	Herb

#### 4. Conclusion

From the perusal of the aforementioned discussion, it can, thus, be said that the present study reveals the traditional system of primary healthcare that utilises the plant resources as medicines in the research area (Chhatarpur District), Madhya Pradesh, India. These plant resources, though, still play a pivotal role in meeting basic health care of local tribal communities, there is immediate need to ensure the conservation and sustainable use of medicinal plant species in the study area. However, documentation of this indigenous knowledge of healing system still remains at minimum level. It thus becomes necessary to acquire and preserve this traditional system of medicine by proper

documentation and identification of specimens. Combining concepts derived from the disciplines of agriculture, archaeology, biochemistry, genetics, horticulture, ecology, conservation biology, and botany, the field of ethnobotany holds extraordinary promise for helping us to build a better future. Ethnobotany can strengthen our links to the natural world. It is at once a vital key to preserving the diversity of plants as well as to understanding and interpreting the knowledge by which we are, and will be, enabled to deal with them effectively and sustainably throughout the world. The findings of this study predicted that, most of the medicinal plants (42.00%) used by the community of study

area contain medical substances in the root, leaf and stem part of surveyed plants.

In conclusion, Chhatarpur district is a hub of medicinal plants as revealed in this study. However, there is need to scientifically ascertain the authenticity of the claimed use these plants.

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### 6. References

1. Balick MJ, Cox Paul Alan. Plant, People and Culture: The Science of Ethnobotany. Scientific American Library, USA 1996.
2. De JN. Relationship between ethnic group (Tribal) and their plant life in Purulia district, West Bengal- A study. Vanyajati New Delhi a 1980;28:26-30.
3. De JN. Ethnobotany a newer science in India. Science and Culture 1968;34:326-328.
4. Jain SK, De JN. Observations of Ethnobotany of Purulia West Bengal. Bull Bot Surv India 1966;8:237-251.
5. Amuthavalluvan V. Ethnomedicinal practices and traditional healing system of Kattunayakan in Tamilnadu: An anthropological study, Int. Mult. Res. J 2011;1(7):47-51.
6. Shanmugam S, Rajendran K, Suresh K. Traditional uses of medicinal plants among the rural people in Sivagangai district of Tamil Nadu, Southern India, Asian Pac J Trop Biomed 2012;5:429-434.
7. Dhal Y, Sahu RK, Deo B. Ethnomedicinal survey of Koraput District, Odisha: An Update, Journal of Pharmacy Research 2011;4(11):4142-4145.
8. Chellaiah M, Muniappan A, Nagappan R, Sararimuthu I. Medicinal Plants used by traditional healers in Kancheepuram District of Tamil Nadu, India, Journal of Ethnobiology and Ethnomedicine 2006;2:43.
9. Anonymous. A status Report. Ministry of Environment and Forests, Govt. of India, New Delhi, Ethno biology in India 1990, 1-68.
10. WHO. Traditional medicine, Fact sheet 2003, 134.
11. Arjariya A, Chaurasia K. Ethnobotanical remedies of some gastrointestinal problems from Chhatarpur District (M.P.), Muzaffernagar. J of Nature Conservation 2008;20(1):47-52.
12. Jain SK, Goel AK. A Manual of Ethnobotany. (ed.) Jain, S.K. Scientific Publishers, Jodhpur 1995, 142-153.
13. Roy GP, Shukla BK, Dutt B. Flora of Madhya Pradesh (Chhatarpur and Damoh). New Delhi 1992.