

# Comparative Study of Some Ethnomedicinal Plants among the Tribals of Datia and Sheopurkalan District (M.P.)

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Received: 13 November 2016/Revised: 04 December 2016/Accepted: 28 December 2016

**ABSTRACT.** The term Ethnobotany was first used by Harshberger (1895) and its scope was much elaborated later. Ethnobotany, as an organized discipline of study in India, is rather young, just about five decades old. A number of ethnobotanists of the world have conducted comparative ethno botanical studies on different ethnic groups and different geographical regions. The comparative ethnobotany is helpful in understanding the plant use patterns and factors that affect the use of plants among different populations inhabiting different environments. During the last two decades a number of comparative ethno botanical studies have been conducted in many regions of the world. The present research work was carried out in 19 villages of 4 blocks of Datia district and 41 villages of 5 blocks of Sheopurkalan district. The research work was carried out from January 2012 to October 2015. A total of 35 plant species were reported from both the study regions. As a result of comparative study of medicinal plants it was observed that 23 plant species were used for the treatment of dissimilar diseases in Datia and Sheopurkalan districts, while 12 plant species were used for similar diseases in Datia and Sheopurkalan districts.

**Key-words:** Comparative study, Datia, Ethnobotany, Sheopurkalan

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## INTRODUCTION

The term Ethnobotany was first used <sup>[1]</sup> and its scope was much elaborated later. Ethnobotany, as an organized discipline of study in India, is rather young, just about five decades old. The first bibliography of Ethnobotany in India was published in the early eighties. The term Ethnobotany has often been considered synonymous with traditional medicines or with economic botany. In India alone, three traditional systems of medicines, namely Ayurveda, Siddha and Unani are distinguished <sup>[2,3]</sup>.

A comparative study of ethnomedicinal plants of Datia and Sheopurkalan provide very useful and interesting results. Because the concept of plant uses differs among different people, ethnobotany has become a more important subject.

In comparative ethno-botanical studies ethnobotany of two or more ethnic groups or ethnobotany of two or more geographical regions can be compared. A number of ethnobotanists of the world have conducted comparative ethno botanical studies on different ethnic groups and different geographical regions. The comparative ethnobotany is helpful in understanding the plant use patterns and factors that affect the use of plants among different populations inhabiting different environments. During the last two decades a number of comparative ethno botanical studies have been conducted in many regions of the world.

Leporatti and Ghedira <sup>[4]</sup> presented comparative analysis of medicinal plants in traditional medicine in Italy and Tunisia. Hart Kimberly Hamblin <sup>[5]</sup> reported cladistic approach to comparative ethnobotany: dye plants of the South Western United State. Moerman *et al.* <sup>[6]</sup> studied a comparative analysis of five medicinal floras. Alfred Maroyi and Cheikh <sup>[7]</sup> conducted a comparative study of medicinal plants in rural areas of Namibia and Zimbabwe. Kimberly Hutton <sup>[8]</sup> presented a comparative study of plants used for medicinal purposes by the Creek and Seminole tribes.

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DOI: 10.21276/ijlssr.2017.3.1.15

Mallik *et al.* <sup>[9]</sup> presented a comparative analysis of medicinal plants used by folk medicinal healers in three districts of Bangladesh. Vanderbroek *et al.* <sup>[10]</sup> studied a comparison of traditional healer’s medicinal plant knowledge in the Bolivian Andes and Amazon.

**MATERIALS AND METHODS**

**Study Area and Data Collection**

The present research work was carried out in 19 villages of 4 blocks of Datia district, and 41 villages of 5 blocks of Sheopurkalan district. The research work was started from January 2012 to October 2015. During present study 51 key informants in Datia and 111 key informants in Sheopurkalan district were selected on the recommendation of knowledgeable elders and local authorities.

The Datia district is the smallest district of Madhya Pradesh. It occupies 2902 sq. Km. Out of 308,245 sq. Km. of Madhya Pradesh. It has 786,754 total populations, according to the census of 2011. The main body of the district extends between the parallels of latitude 25°33' and 26°18' N and the meridians of longitude 78°13' and 78°51' E. The district is bounded by Bhind and Gwalior districts in the North, Shivpuri district of M.P. and Jhansi district of U.P. in the South, Gwalior and Shivpuri in the West and Bhind district in the East <sup>[11]</sup>.

The Sheopurkalan district is located in the North western part of Madhya Pradesh is the central province of India. It occupies 6606 sq. Km. out of 308,245 sq. Km. of Madhya Pradesh. It has 687,861 total populations, according to the

census 2011. The Sheopurkalan district is lying between 25°15' and 25°45' N latitude and 76°22' and 77°64' E longitude <sup>[12]</sup>.

Many plant species were collected during the study with informants in different villages. In cases where the informants were interviewed in their homes, the specimens of medicinal plants were collected shortly after the interview. The voucher specimens were collected with the help of informants and local people. The plant specimens were collected, dried, preserved and mounted on herbarium sheets. The voucher specimen numbers were assigned as EBH D and EBH S number. The voucher specimens were identified with the help of the flora of Madhya Pradesh and the flora of Upper Gangetic Plain <sup>[13]</sup>.

**Semi structured Interview**

In semi-structured interview method the informants were asked prepared questions about the use of plants. Some questions, which arose during the conversation were also taken into account <sup>[14]</sup>.

**RESULTS AND DISCUSSION**

During the survey a total of 35 medicinal plant species were reported in Datia and Sheopurkalan districts. These plant species are useful for different diseases or ailments. The result of comparative study of medicinal plants reported from Datia and Sheopurkalan had shown in followed in Table 1 <sup>[15-26]</sup>.

**Table 1:** Comparative study of medicinal plants in Datia and Sheopurkalan districts

S.No.	Name of plant species	Family	Study Area	Local name	Plant part used	Disease treated
1	<i>Acalypha indica</i> Linn.	Euphorbiaceae	Datia	Kuppi	Leaves	Rashes, Pimples, Burnt area
			Sheopurkalan	Kuppi	Leaves	Cough
2	<i>Achyranthes aspera</i> Linn.	Amarantaceae	Datia	Adhijhara	Leaves	Jaundice
			Sheopurkalan	Chirchita	Leaves, Fruit	Asthma, Dysentery
3	<i>Adhatoda vasica</i> Nees	Acanthaceae	Datia	Arusa	Leaves	Diarrhoea
			Sheopurkalan	Rusa	Leaves, Whole Plant	Cold & Cough, Constipation
4	<i>Aegle marmelos</i> (Linn.) Correa	Rutaceae	Datia	Bel	Fruit, Leaves	Diarrhoea, Diabetes
			Sheopurkalan	Bilpatra	Fruit, Leaves	Stomachache, Diabetes
5	<i>Ageratum conyzoides</i> Linn.	Asteraceae	Datia	Kobhi	Leaves	Diarrhoea & Dysentery
			Sheopurkalan	Kobhi	Leaves	Eye Lotion, Wounds
6	<i>Ailanthus excelsa</i> Roxb.	Simaroubaceae	Datia	Arlu	Leaves	Clean Wounds
			Sheopurkalan	Maharukh, Mahanimb	Bark, Leaves	Asthma, Earache
7	<i>Alternanthera sessilis</i> DC.	Amaranthaceae	Datia	Kateeli	Whole plant	Lactation in cattle
			Sheopurkalan	Jaljamini	Whole plant	Gonorrhoea

8	<i>Bauhinia purpurea</i> Linn.	Caesalpiniaceae	Datia	Kachnar	Bark, Leaf	Mouth ulcer & Malaria
			Sheopurkalan	Kachnar	Bark, Leaf	Mouth ulcer & Malaria
9	<i>Calotropis procera</i> (Ait.) R. Br.	Asclepiadaceae	Datia	Akuaa	Leaves	Discharging the pus
			Sheopurkalan	Akada	Bark, root	Dysentery, Eczema
10	<i>Cassia tora</i> Linn.	Caesalpiniaceae	Datia	Chakunda	Leaves	Blemish skin, dark spot
			Sheopurkalan	Chakunda	Seeds	Cough
11	<i>Centella asiatica</i> (Linn.) Urban.	Apiaceae	Datia	Brahmi	Whole plant	Diarrhoea & dysentery
			Sheopurkalan	Brahmi	Whole plant	Memory booster
12	<i>Cleome gynandra</i> Linn.	Capparaceae	Datia	Hulhul	Leaves	Earache
			Sheopurkalan	Hulhul	Leaves	Earache
13	<i>Clitoria ternatea</i> Linn.	Papilionaceae	Datia	Gokharni	Root	Rheumatism
			Sheopurkalan	Gokurna	Leaves	Eyes, Urinary disorders
14	<i>Cocculus hirsutus</i> (Linn.) Diels.	Menispermaceae	Datia	Jamtikibel	Whole plant	Rheumatism
			Sheopurkalan	Jamtikibel	Root	Stomachache
15	<i>Drypetes roxburgii</i> (Wall.) Hurusawa.	Euphorbiaceae	Datia	Putranjiva	Seeds	Headache
			Sheopurkalan	Putranjiva	Leaves	Fever, Rheumatism
16	<i>Echinops echinatus</i> Roxb.	Asteraceae	Datia	Gokru	Fruit	Headache
			Sheopurkalan	Ootkanta	Root	Childbirth
17	<i>Grewia asiatica</i> Linn.	Tiliaceae	Datia	Phalsa	Leaves	Wounds
			Sheopurkalan	Phalsa	Root	Rheumatism
18	<i>Holoptelia integrifolia</i> (Roxb.) Planch.	Ulmaceae	Datia	Chirol	Bark, Leaves	Rashes & black spot
			Sheopurkalan	Chural	Bark, Leaves	Rashes & black spot
19	<i>Indigofera tinctoria</i> Linn.	Papilionaceae	Datia	Neel	Root	Urinary disorder
			Sheopurkalan	Gauchi	Whole plant	Nervous disorder
20	<i>Lantana camara</i> Linn.	Verbenaceae	Datia	Guldhana	Leaves	Wounds
			Sheopurkalan	Ganeri	Leaves	Wounds
21	<i>Mimusops elengi</i> Linn.	Sapotaceae	Datia	Morsali	Flower	Wounds
			Sheopurkalan	Maulsari	Bark	Ulcers
22	<i>Momordica dioica</i> Roxb. ex Wild.	Cucurbitaceae	Datia	Janglikarela	Root	Fever
			Sheopurkalan	Kakora	Root	Piles
23	<i>Morus indica</i> Linn.	Moraceae	Datia	Janglishetut	Leaves	Blood purification
			Sheopurkalan	Tula	Leaves	Blood purification
24	<i>Nyctanthus arbor-tristis</i> Linn.	Nyctanthaceae	Datia	Harsinghar	Seeds	Cough
			Sheopurkalan	Siyari	Seeds	Cough
25	<i>Oxalis corniculata</i> Linn.	Oxalidaceae	Datia	Khatibuti	Whole plant	Dysentery
			Sheopurkalan	Kahtibuti	Whole plant	Dysentery
26	<i>Prosopis spicigera</i> Linn.	Mimosaceae	Datia	Chekur	Bark	Rheumatism
			Sheopurkalan	Chaundra	Bark	Rheumatism
27	<i>Psidium guajava</i> Linn.	Myrtaceae	Datia	Amrood	Fruit	Diarrhoea
			Sheopurkalan	Jamphal	Shoot	Diarrhoea
28	<i>Rauwolfia serpentine</i> (Linn.) Benth. ex Kurz.	Apocynaceae	Datia	Sarpgandha	Root	Uterine contraction for child birth
			Sheopurkalan	Sarpgandha	Root	Uterine contraction for child birth
29	<i>Syzygium heyeanum</i> (Duthie) Wall ex Gamble	Myrtaceae	Datia	Janglijamun	Fruit	Stomachache
			Sheopurkalan	Janglijamun	Bark	Mouth ulcer
30	<i>Tephrosia purpurea</i>	Papilionaceae	Datia	Sarphonka	Leaves	Jaundice

	(Linn.) Pers.		Sheopurkalan	Sarphunka	Root, Leaves	Asthma, Mouth ulcer
31	<i>Terminalia arjuna</i> (Roxb. ex DC.) Wt. & Arn.	Combretaceae	Datia	Arjun	Bark	Diarrhoea & dysentery, Fracture
32	<i>Tinospora cordifolia</i> (Willd.) Miers ex Hook. f. & Thoms.	Menispermaceae	Sheopurkalan	Kahua, Kuhan	Bark, Leaves	Asthma & boils, Earache
			Datia	Giloe	Whole plant	Diabetes
33	<i>Withania somnifera</i> (Linn.) Dunal	Solanaceae	Sheopurkalan	Aswagandha	Leaves	For joint pain & reduce swelling
			Datia	Aswagandha	Leaves	For joint pain & reduce swelling
34	<i>Xanthium strumarium</i> Linn.	Asteraceae	Sheopurkalan	Gokhru	Fruit	Cold & cough
			Datia	Anderpal, Chirchita	Fruit, Leaves	Sore throat, Toothache
35	<i>Ziziphus nummulari</i> (Burm. f.) Wt. & Arn.	Rhamnaceae	Sheopurkalan	Jharberi	Leaves	Boils
			Datia	Jharberi	Leaves	Cold & Cough

**Analysis of inter-district variation in use of medicinal plants**

During the comparative study of ethnomedicinal plant species it has been recorded a total of 35 plant species. As a result of comparative study it was observed that 12 plant

species are used for the treatment of similar diseases or ailments in Datia & Sheopurkalan district whereas 23 plant species are used for the treatment of dissimilar diseases or ailments in both the study areas. The result is shown in Table 2 & Table 3.

**Table 2:** List of Plant species used to treat similar diseases/Ailments in Datia & Sheopurkalan District

S. No.	Name of plant species of Datia & Sheopurkalan	Diseases/ Ailments treated
1.	<i>Bauhinia purpurea</i> Linn.	Mouth ulcer, headache
2.	<i>Cleome gynandra</i> Linn.	Earache
3.	<i>Holoptelea integrifolia</i> (Roxb.) Planch.	Rashes, black spot
4.	<i>Lantana camara</i> Linn.	Wounds
5.	<i>Morus indica</i> Linn.	Blood purification
6.	<i>Nyctanthes arbor-tristis</i> Linn.	Cough
7.	<i>Oxalis corniculata</i> Linn.	Dysentery
8.	<i>Prosopis spicigera</i> Linn.	Rheumatism
9.	<i>Psidium guajava</i> Linn.	Diarrhoea
10.	<i>Rauwolfia serpentine</i> (Linn.) Benth. ex Kurz.	Uterine contraction for child birth
11.	<i>Tinospora cordifolia</i> (Willd.) Miers ex Hook. f. &Thoms.	Diabetes
12.	<i>Withania somnifera</i> (Linn.) Dunal	Joint pain & reduce swelling

**Table 3:** List of Plant species used to treat dissimilar diseases/ ailments in Datia & Sheopurkalan

S.No.	Name of Plant Species	Disease/ Ailments treated in Datia	Disease/ Ailments treated in Sheopurkalan
1.	<i>Acalypha indica</i> Linn.	Rashes, pimples, burn part	Cough
2.	<i>Achyranthes aspera</i> Linn.	Jaundice	Asthma, dysentery
3.	<i>Adhatoda vasica</i> Nees.	Diarrhoea	Cold, cough & constipation
4.	<i>Aegle marmelos</i> (Linn.) Correa	Diarrhoea, Diabetes	Stomachache, diabetes
5.	<i>Ageratum conyzoides</i> Linn.	Diarrhoea & Dysentery	Eye lotion, wounds
6.	<i>Ailanthus excelsa</i> Roxb.	Wounds	Asthma, earache
7.	<i>Alternanthera sessilis</i> (Linn.) R. Br.	Lactation in cattle	Gonorrhoea
8.	<i>Calotropis procera</i> (Ait.) R. Br.	Discharging pus	Dysentery, eczema
9.	<i>Cassia tora</i> Linn.	Blemish skin, dark spot	Cough
10.	<i>Centella asiatica</i> (Linn.) Urban.	Diarrhoea & Dysentery	Memory booster
11.	<i>Cleome viscosa</i> Linn.	Wounds, ulcer	Earache
12.	<i>Clitoria ternatea</i> Linn.	Rheumatism	Eye, urinary disorder
13.	<i>Cocculu shirsutus</i> (Linn.) Diels.	Rheumatism	Stomachache
14.	<i>Drypetes roxburgii</i> (Wall.) Hurusawa.	Headache	Fever, rheumatism
15.	<i>Echinops echinatus</i> Roxb.	Headache	Child birth
16.	<i>Grewia asiatica</i> Linn.	Wounds	Rheumatism
17.	<i>Indigofera tinctoria</i> Linn.	Urinary disorder	Nervous disorder
18.	<i>Mimusops elengi</i> Linn.	Wounds	Ulcer
19.	<i>Momordica dioica</i> Roxb. ex Willd.	Fever	Piles
20.	<i>Syzygium heyneanum</i> (Duthie) Gamble	Stomachache	Mouth ulcer
21.	<i>Tephrosia purpurea</i> Pers.	Jaundice	Asthma, Ulcer
22.	<i>Terminalia arjuna</i> (Roxb. ex DC.) Wt & Arn.	Diarrhoea & Dysentery, fracture	Asthma, boils, earache
23.	<i>Zizyphus nummulari</i> (Burm. f.) Wt & Arn.	Boils	Cold & cough

## CONCLUSIONS

The present study provides information on ethnomedicinal uses of plant species in Datia and Sheopurkalan districts. A total of 35 plant species belonging to 35 genera 26 families have been reported in both the study regions. Ethnomedicinally most important families are Papilionaceae with 3 plant species, Amaranthaceae, Myrtaceae and Euphorbiaceae with 2 plant species each. It shows that more plant species are used to treat dissimilar diseases while less number of plant species is used to treat similar diseases in Datia and Sheopurkalan districts. The reason of inter-district variation in the use of medicinal plants may be geological isolation and dissimilarity of tribal clans. Furthermore, the over-exploitation of plant species for food, fodder, agricultural implements etc. may lead to the decline of these species from the regions. On the basis of present study some recommendation are made for sustainable development and conservation of ethnobotanically useful plant species, such as the people of Sahariya

tribe of both the districts should be encouraged to cultivate the medicinal plants in their locality.

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**How to cite this article:**

Singhal A, Khare RK, Yadav R: Comparative Study of Some Ethnomedicinal Plants among the Tribals of Datia and Sheopurkalan District (M.P.). *Int. J. Life Sci. Scienti. Res.*, 2017; 3(1): 838-843. DOI:10.21276/ijlssr.2017.3.1.15

**Source of Financial Support:** Nil, **Conflict of interest:** Nil