

Diversity of Medicinal Plants and Conservation by the Tribes of Jaisinghnagar Forest Area, District Shahdol, Madhya Pradesh, India

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Abstract: *The present paper deals with 30 plants species which are conserved by the tribes of Jaisinghnagar forest area district Shahdol, Madhya Pradesh, India . Due to destruction of habitat, biotic interference and indiscriminate exploitation of natural plants, many valuable plant species of this area are fast disappearing. Aborigines conserve these species by faiths, myths , taboos and religious aspects.*

Keywords: Diversity, Plant Conservation , Tribes , Jaisinghnagar forest, Shahdol.

1. Introduction

Shahdol district is north eastern part of Madhya Pradesh state. It is lying between 23⁰17'47" N latitude and 81⁰21'21" E longitude. Total geographical area sums up to 5671 sq./Km. and has a population of 908148. Shahdol is riched in vast resources of forest and minerals. It is bounded in the north by Satna and Sidhi district, in the east by Korea district, in the south by Anuppur district, in the west by Umaria district. The area is full of water springs which come out on the top hill slopes. The Shahdol district is average rainfall is 85.11% and above temperature 13.6 °C. The tribes living in some villages situated in and around Shahdol district. They depend solely on their surrounding forest for most of their requirement for food to medicines. (Figure 1-2)

The area of Shahdol district is inhabited by a large section of tribal population . The highest tribal population , exists in this tract, totally or partially , depends upon natural vegetation for the necessities of life , including remedies for several diseases. Some of these have a supernatural basis to the tribal mind , while others are recognised as physical and attempts are made to treat them . They usually collect their materials from nearby forests and use them in their health

care system , which is well developed and proven successfully for generation together.

Several tribals as *Gond , Kondar, Kol, Baiga , Bhabha* , etc. are maintaining their culture and traditions since these cultures are influenced by scientific and economic changes, it is therefore, essential to study and conserve them before they become extinct. Madhya Pradesh still has the aboriginal tribals living in the forest as well as in the remote villages inhabited by so called higher castes. Since they are distributed mostly in the areas previously occupied by thick forest , they have learnt to use these habitats better for their living.

A survey of literature indicates that Dwivedi (2003) , Jain (1963,1997) , Khare (2001) , Prajapati and Khare(2004) , Saxena and Tripathi (1989,1990), Shah and Singh (1990) and Singh *et al* (2004) has made important contribution in this field .The tribals do not have any well defined conservation strategy of the kind we understand in modern terms. But they do conserve plants that are medicinally, economically, socially and culturally significant to them . Their mode of conservation depends on faith and tradition.

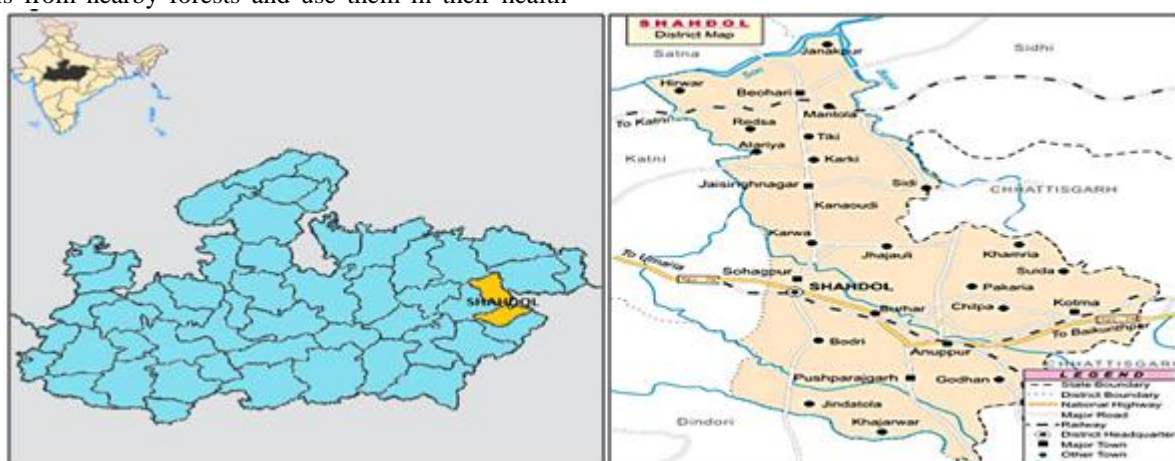


Figure 1: Location Map of Madhya Pradesh and study site of District Shahdol in Jaisinghnagar forest

2. Material and Methods

For the ethnobotanical study plant human interaction has to be observed carefully in the dynamic ecosystem in which they exist. The plants were collected by the investigator from the different study sites of Shahdol district during

2010-2011 by extensive field work . The queries were made as per plan suggested by Jain and Goel (1987) and the preservation methods were followed as prescribed by Agrawal(1983),Khan (2008) and Ahirwar (2011).

Table 1: Diversity of Medicinal Plants Conservation by the Tribes of Jaisinghnagar forest area

S.No.	Plant Name (Local Name)	Family	Plant part uses	Reason for Conservations
1.	<i>Achyranthus aspera</i> L.(Chirchita)	Amaranthaceae	Root and leaves	Roots are leaves are used in medicine.
2.	<i>Adina cordifolia</i> Benth.& Hook (Haldu)	Rubiaceae	Wood	The wood is considered auspicious.
3.	<i>Aegle marmelos</i> (L.) Corr.(Bel)	Rutaceae	Leaf	Sacred plant, the leaves are used to worship ' Lord Shiva'.
4.	<i>Annona squamosa</i> (Sitaphal)	Annonaceae	Fruit, seed	For fruits and medicine.
5.	<i>Anthocephalus chinensis</i> (Lamk.) Rich.(Kadam).	Rubiaceae	Whole plant	Sacred plant , fruits are edible.
6.	<i>Azadirachta indica</i> Juss.(Neem)	Meliaceae	Leaf	Plant is an abode of 'Marhi Mata' (The Goddess of small pox) Leaves are used in medicines and pest control.
7.	<i>Boswellia serrata</i> Colebr.(Salaiya)	Burseraceae	Wood	The poles of wood are considered auspicious for wedding place.
8.	<i>Buchanania lanzan</i> Spr.(Char)	Anacardiaceae	Fruits and seeds	For fruits and seeds.
9.	<i>Butea monosperma</i> (Lamk.) Taub. (Palas)	Papilionaceae	Leaves and flowers	Leaves are used for thatches, and the flowers are used to worship ' Lord Jagannath.
10.	<i>Calotropis procera</i> Br.(Madar)	Asclepiadaceae	Flowers and fruits	The flowers and fruits are used to worship ' Lord Shiva'.
11.	<i>Erythrina suberosa</i> Roxb.(Handua)	Papilionaceae	Wood	The wood is considered auspicious for wedding place.
12.	<i>Ficus bengalensis</i> L.(Bar)	Moraceae	Whole plant	Sacred plant worshiped on 'Bara Barsat' festival.
13.	<i>Ficus religiosa</i> L.(Pipal)	Moraceae	Whole plant	The plant is considered on abode of 'Barsat' festival.
14.	<i>Gymnema sylevestre</i> (Retz.) R.Br.(Gurmar)	Asclepiadaceae	Leaf	The leaves are used in medicine.
15.	<i>Holarrhena antidysenterica</i> Wall.(Dudhi)	Apocynaceae	Bark	The bark is used for medicine.
16.	<i>Holoptelea intergrifolia</i> (Roxb.)Planch.(Chirol)	Ulmaceae	Leaf and Bark	Leaves are used as fish poison and bark is used in medicine.
17.	<i>Lawsonia inermis</i> L. (Menhdi)	Lythraceae	Leaf	The leaves are used for dye.
18.	<i>Madhuca longifolia</i> (Koen.)Mac. Br.(Mahua)	Sapotaceae	Whole plant	Sacred plant, flowers used for liquor, and the wood is considered auspicious.
19.	<i>Mangifera indica</i> L.(Aam)	Anacardiaceae	Whole plant	For wood, leaves and fruits. The inflorescences are offered to 'Lord Shiva' at Mahashivratri festival.
20.	<i>Ocimum sanctum</i> L. (Tulsi)	Lamiaceae	Whole plant	Sacred plant, worshiped by girls for good groom.
21.	<i>Phoenix sylvestris</i> Roxb. (Khajri)	Araceae	Leaf, fruit	The fruits are edible and leaves are used to make headgear and brooms.
22.	<i>Emblica officinalis</i> L.(Amla)	Euphorbiaceae	Whole plant	Sacred plant, worshipped on ' Akshaya Navmi' , fruits are eaten and used in medicine .
23.	<i>Sterculia urens</i> Roxb.(Kullu)	Sterculiaceae	Whole plant	The plant is conserved for gum, wood and medicine use.
24.	<i>Sterculia villosa</i> Roxb.(Udar)	Sterculiaceae	Root	The root is taken as a medicine.
25.	<i>Syzygium cuminii</i> (L) Skeels.(Jamun)	Myrtaceae	Fruits	Fruits are edible.
26.	<i>Terminalia arjuna</i> (Roxb.ex. DC.)Wt. & Arn. (Kahwa)	Combretaceae	Whole plant	Sacred plant, bark is used in medicine.
27.	<i>Terminalia bellerica</i> (Gaertn.) Roxb.(Bahera)	Combretaceae	Fruits	The fruits are eaten with of Amla as a medicine.
28.	<i>Terminalia chebula</i> Retz.(Harra)	Combretaceae	Fruits	Roasted fruits are eaten as a medicine.
29.	<i>Terminalia tomentosa</i> Wt.& Arm(Saja)	Combretaceae	Whole plant	Sacred plant , dwelling place of 'Bara Dev' .
30.	<i>Woodfordia fruticosa</i> (L.) Kurz.(Dhwai)	Lythraceae	Flowers	Flowers used in medicine.

3. Results and Discussion

Present study period is reported with 30 plant species , which are conserved by the tribals of Shahdol district in Jaisinghnagar forest area for obvious reasons . These Tribals organise various occasions and worship plants time to propitiate their gods and goddess. These traditions

encouraged us to know their beliefs and ethnobotanical importance behind it. The botanical name of plants are alphabetically arranged , followed by their local name . All the data obtained as a sequence of present study has been reported(Table 1-2 and Figure 2).

Table 2: IVI of Medicinal plants in Jaisinghnagar Forest Community

S.No.	Botanical Name of species	IVI
1.	<i>Achyranthus aspera</i> L.(Chirchita)	99.785
2.	<i>Adina cordifolia</i> Benth. & Hook (Haldu)	19.725
3.	<i>Aegle marmelos</i> (L.) Corr.(Bel)	19.291
4.	<i>Annona squamosa</i> (Sitaphal)	16.893
5.	<i>Anthocephaluschinensis</i> (Lamk.)Rich.(Kadam).	14.780
6.	<i>Azadirachta indica</i> Juss.(Neem)	9.119
7.	<i>Boswellia serrata</i> Colebr.(Salaiya)	8.247
8.	<i>Buchanania lanzan</i> Spr.(Char)	7.639
9.	<i>Butea monosperma</i> (Lamk.) Taub. (Palas)	7.494
10.	<i>Calotropis procera</i> Br.(Madar)	6.663
11.	<i>Erythrina suberosa</i> Roxb.(Handua)	6.178
12.	<i>Ficus bengalensis</i> L.(Bar)	6.160
13.	<i>Ficus religiosa</i> L. (Pipal)	5.668
14.	<i>Gymnema sylevestre</i> (Retz.) R.Br.(Gurmar)	5.173
15.	<i>Holarhena antidyserterica</i> Wall. (Dudhi)	5.094
16.	<i>Holoptelea intergrifolia</i> (Roxb.)Planch.(Chirol)	5.088
17.	<i>Lawsonia inermis</i> L. (Menhdi)	4.708
18.	<i>Madhuca longifolia</i> (Koen.)Mac. Br.(Mahua)	4.514
19.	<i>Mangifera indica</i> L.(Aam)	4.466
20.	<i>Ocimum sanctum</i> L. (Tulsi)	4.411
21.	<i>Phoenix sylvestris</i> Roxb. (Khajri)	4.229
22.	<i>Emblica officinalis</i> L. (Amla)	3.893
23.	<i>Sterculia urens</i> Roxb.(Kullu)	2.973
24.	<i>Sterculia villosa</i> Roxb.(Udar)	2.188
25.	<i>Syzygium cuminii</i> (L) Skeels.(Jamun)	2.057
26.	<i>Terminalia arjuna</i> (Roxb.ex. DC.) Wt. & Arn. (Kahwa)	2.045
27.	<i>Terminalia bellerica</i> (Gaertn.) Roxb.(Bahera)	2.036
28.	<i>Terminalia chebula</i> Retz.(Harra)	2.000
29.	<i>Terminalia tomentosa</i> Wt.& Arm(Saja)	1.976
30.	<i>Woodfordia fruticosa</i> (L.) Kurz.(Dhwai)	1.777

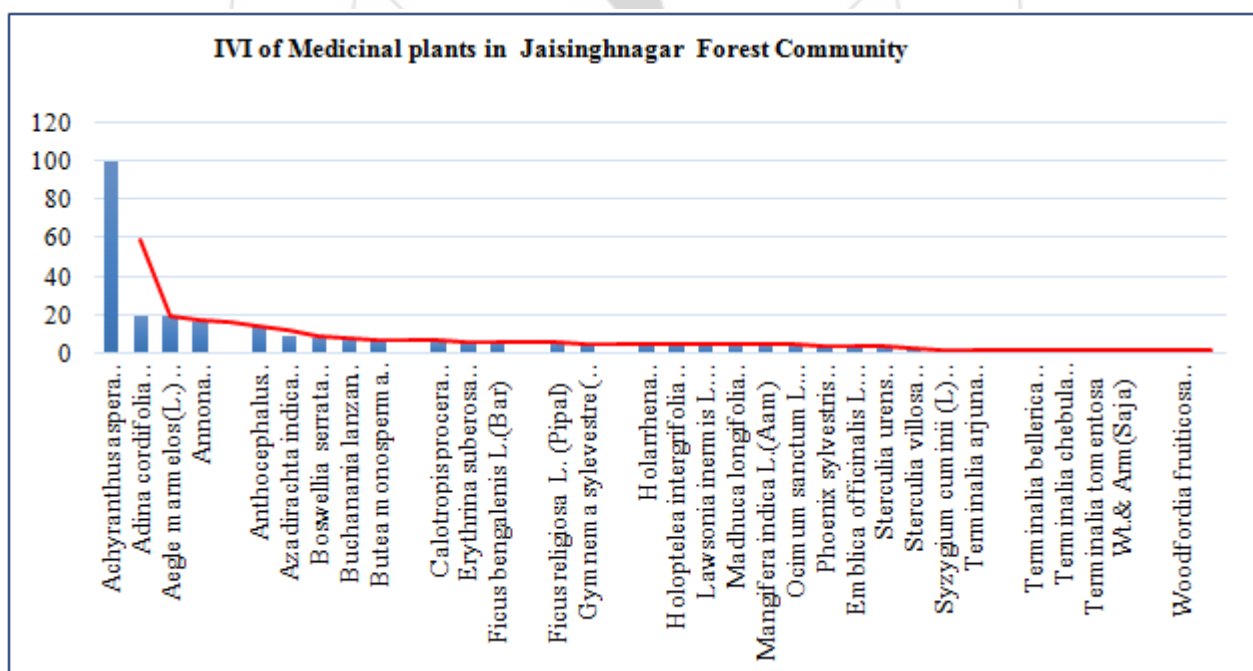


Figure 2: IVI of Medicinal plants in Jaisinghnagar Forest area

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References

- [1] Agrawal, V.S.(1983). Perspective in Botanical Museum with species reference to India . Today and Tomorrow, New Delhi.
- [2] Ahirwar, R.K. "Ethno medicinal plants studies in Jaitpur Forest Range of Shahdol District, Central India." *Ad. plant Sci* 24 (2011): 681-684.

- [3] Ahirwar, Ramesh Kumar and Girja, Kumar Singh (2011) Some anti diabetic plants from Dindori District of Madhya Pradesh (India). *Ind. J. Appl. pure Bio.* **26** (2) 269-271.
- [4] Ahirwar, R.K. (2015) Diversity of Ethnomedicinal Plants in Boridand Forest of District Korea, Chhattisgarh, India. *American Journal of Plant Sciences*, **6**, 413-425. <http://dx.doi.org/10.4236/ajps.2015.62047>
- [5] Dwivedi, S.N. (2003). Etgnobotanical studies and conservational strategies of wild and natural resources of Rewa district of Madhya Pradesh, *J. Econ. Taxon. Bot.* **27**.
- [6] Jain, S.K. (1963), Observations on ethnobotany of the tribals of Madhya Pradesh. *Vanyajati* **11**(4): 177-183.
- [7] Jain, S.K. and A.K. Goel (1987). Problem for field work. P. 171-183. In manual of ethnobotany. Ed. S.K. Jain, Scientific publisher (India) Jodhpur.
- [8] Khare, R.K. (2001) Study of ethnobotany among the tribals of Panna district with species reference to biodiversity. Ph. D. Thesis A.P.S. Univ. Rewa (M.P.)
- [9] Khan, A.A., Agnihotri, S.K., Singh M.K. & Ahirwar, R.K. 2008. Enumaration of certain Angiospermic plants used by Baiga tribe for Conservations of Plants Species. *Plant Archives* **8**. (I) 289-291.
- [10] Prajapati, P.L. and P.K. Khare (2004). Medicinal plants used by tribals of Panna district Madhya Pradesh (India) *Plant Archives*, **4**:113-115.
- [11] Parna, I.C., Ahirwar, R.K. and Singh, G.K. (2014) Traditional Medicinal Knowledge about Some Herbaceous Plants Used by Baiga Tribes of Bajag Forest, District Dindori Madhya Pradesh India. *Int. J. Sci. Res. Vol.3* (12) 2232-2236.
- [12] Raizada, A., 1984. Tribal Development of Madhya Pradesh – A planning perspective, Inter – India Publication, New Delhi, pp. 1-220.
- [13] Saxena, S.K. and J.P. Tripathi (1989). Ethnobotany Bundelkhand I. Medicinal uses of wild trees by tribals inhabitants of Bundelkhand region. *Jou. Eco. Taxono. Bot.* **14**:263-170.
- [14] Saxena, S.K. and J.P. Tripathi (1990). Ethnobotany Bundelkhand. II. Folklore therapy through herbs among inopulent parishioners and aboriginal tribes. *Jou. Eco. Taxono. Bot.*, **14**:263-270.
- [15] Shah, N.C. and S.C. Singh (1990), Hitherto unreported phytotherapeutical uses of tribals pockets of Madhya Pradesh, India, *Ethnobotany*, **2**: 91-95.
- [16] Singh, Mrigendra Pratap, A.A. Khan and Shabina Khan (2004). Medicinal plants of ethnobotanical importance curing. Jaundice from Maikal Hills (Amarkantak) Shahdol district. (M.P) India. *Ad. Plant Sci.*, **17**(1):41-44.
- [17] Tiwari, Usha, S.K. Mishra and D. Chatterjee 1996. Conservational aspects of ethnobotanical medicinal plants used by Kol tribes of Bandhavgarh region of Madhya Pradesh. *Ecodevelopment and Environ* (ed. Singh et al.) Vindra Publication, Jalgaon. 48-51.