



## Ethnobotanical study of medicinal plants used by tribal people Wadegaon and Ghot villages of Gadchiroli district of Maharashtra state

Sawane Archana, Chandrama Meghnad and Shrungarpawar Nishi

Department of Botany, S. Mathuradas Mohota College of Science, Nagpur  
Corresponding Author: Sawane Archana, email: [amsawane@yahoo.co.in](mailto:amsawane@yahoo.co.in)

### Manuscript details:

Received: 27.05.2020  
Accepted: 22.06.2020  
Published: 30.06.2020

### Cite this article as:

Sawane Archana, Chandrama Meghnad and Shrungarpawar Nishi (2020) Ethnobotanical study of medicinal plants used by tribal people Wadegaon and Ghot villages of Gadchiroli district of Maharashtra state, *Int. J. of Life Sciences*, Volume 8(2): 411-416.

Available online on <http://www.ijlsci.in>  
ISSN: 2320-964X (Online)  
ISSN: 2320-7817 (Print)



Open Access This article is licensed under a Creative Commons

Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this license, visit <http://creativecommons.org/licenses/by/4.0/>

### ABSTRACT

Gadchiroli district is located at the north-eastern side of the state of Maharashtra and has moderate tribal concentration i.e. between 25-50% of district's total population, the main tribes being Gond and Kwarar. These people are highly dependent on medicinal plants as remedy for their medical illnesses. Identification of medicinal plants used by indigenous inhabitants for various ailments is a key to understand their properties. Most of the useful information in this regard is available with traditional healers. Hence the current project was undertaken with an aim to preserve and protect the traditional knowledge and also to prepare a database of traditional medicine. Information regarding the medicinal uses of plants was collected through face-to-face interviews with the healers, called locally as "Baida". During the interviews, local names, utilized parts and information on the types of ailments treated using traditional medicinal plant species were recorded and are presented here. Forty-five different plants belonging to 29 families were reported to be used by tribal people of the studied area for different medicinal uses. Plants were used for different common ailments like gastro-intestinal problems, fever, cough, skin diseases, menstrual problems, insect bites, urinary problems, weakness, etc.

**Keywords:** Ethnobotany, Gadchiroli, Medicinal plants, tribal medicine

### INTRODUCTION

Since ancient times, man has used various plants parts of his surrounding habitat in the treatment and prevention of many ailments. All medicinal preparations were derived from plants, in the simple form of plant parts or in the more complex form of crude extracts, mixtures, etc. Even today, plants are the source of substantial number of drugs which are active against number of diseases. With passage of time, active ingredients were found from medicinal plant parts. In developed countries, 25 percent of the medical drugs are based on plants and their derivatives. Even today, in most of the developing countries, traditional knowledge of medicinal use of plants discovered through trial and error is used by the indigenous people in tribal and rural areas where the plant biodiversity is rich and the healthcare system is not easily accessible (Ayyanar, 2009).

Ethno-botany is the study of correlation between plants and people especially in the tribal and traditional scenario. Traditional medicine has been considered as an important factor by World Health organization (WHO) to achieve its health goals. 65% of the rural population in India, primarily use medicinal plants for treating various ailments due to poverty and lack of access to modern medicine. Indian systems of medicine derive many of their curative tools from plants, which are used as drugs and also provide medical care to majority of the people, particularly in rural India (Ekka, 2016).

According to the World Health Organization (WHO) "about 65-80% of the world's population in developing countries depends essentially on plants for their primary healthcare due to poverty and lack of access to modern medicine. About 70% of the total population of India is depending on traditional medicine to treat different types of human ailments. The world's poorest countries are most in need of inexpensive, effective treatments for diseases. WHO estimates that one-third of the global population still lacks regular access to essential drugs, and that in the poorest parts of Africa and Asia, this figure rises to over 50%. In these regions, some form of Traditional Medicine is often a more widely available and more affordable source of health care." (WHO, 2002),

Indigenous knowledge of plants is widely tested and used in indigenous system of medicine like Ayurveda, Sidhha and Unani in India. Traditional systems of medicine have become a topic of global importance. Even when modern medicine healthcare is available in many developed countries, alternative or complementary therapies including medicinal herbs are also used as part of integrated system of medicine. However, few plant species that provide medicinal herbs have been scientifically evaluated for their possible medical applications. The safety and efficacy data are available for even fewer herbs, their extracts and active ingredients and the preparation containing them (Adotey, 2012).

Most of the useful information on these medicinal plants used by indigenous inhabitants is available with traditional healers. However, knowledge of healers is either lost or passed to next generation by the word of mouth. Further, this native knowledge of medicinal plants may be lost by assimilating these tribes in the mainstream and loss of traditional community life. It is

therefore very important to preserve and protect the traditional knowledge and also to prepare database of traditional medicine.

The present study was therefore undertaken in tribal area rich in forest namely Wadegaon and Ghot villages of Gadchiroli district in Maharashtra State, India. The objective of the study was to do proper documentation and preservation of unwritten traditional knowledge of plants used by Kavar and Gond tribes of Kurkheda and Chamorshi tehsils of Gadchiroli district of Maharashtra.

## MATERIAL AND METHOD

The present work was carried out in tribal villages Wadegaon and Ghot in Gadchiroli district in Vidarbha region of Maharashtra State. The study was conducted during the period of January to December 2017.

### Study Area

Wadegaon village is located in Kurkheda Tehsil of Gadchiroli district in Maharashtra, India. It is situated 30 km away from sub-district headquarter Kurkheda and 78 km away from district headquarter Gadchiroli. The total geographical area of village is 819.61 hectares. Wadegaon has a total population of 2,401 people. There are about 474 houses in Wadegaon village.

Ghot is a village in Chamorshi Taluka in Gadchiroli District of Maharashtra State, India. It is located 48 KM towards South from District headquarters Gadchiroli and 10 Km from Tehsil Chamorshi. Local Language is Marathi. Ghot village's total population is 3885 and number of houses are 966.

Gadchiroli district is located at the north-eastern side of the state of Maharashtra situated between 18.43 to 21.50 north latitude and 79.45 to 80.53 east longitude. It occupies an area of 14412.0 sq. km. having state border with Telangana and Chhattisgarh.

The district is categorized as tribal and undeveloped district and most of the land is covered with forests and hills. Forests area in Gadchiroli is 10094 Sq. km. covering 70.04% of the geographical area of the district. The district is famous for bamboo and tendu leaves. According to census 2011, there are 21,56,957 tribal households in the state. Total tribal population in the state is 1,05,10,213. The tribal population of

Maharashtra constitutes 9.4% of state's total population and 10.1% of India's total tribal population. Gadchiroli district has moderate tribal concentration i.e. between 25-50% of district's total population. Total population of Gadchiroli is 1072942 and Total tribal population is 415306, Percentage share of state tribal population is 3.95 (ICMR, 2014).

### Data Collection

The chief tribes of the Wadegaon are Gond and Kavar while chief tribe of Ghot village is Gond. These communities mostly occupy remote areas of villages conserving their own traditional culture. The Kavar and Gond tribes commonly use the locally available plant species for treatment of their various ailments. Information regarding the medicinal uses of plants was collected through face-to-face interviews. The informants or healers were selected as they were known as being knowledgeable by the local communities. They are called as "Baida" or "pujari" by the natives. 'Baida' is a person who has inherited the knowledge of curing various diseases from his forefathers and others by using only plants. Traditionally, local knowledge is transferred from one generation to other generation within family of the 'Baida'.

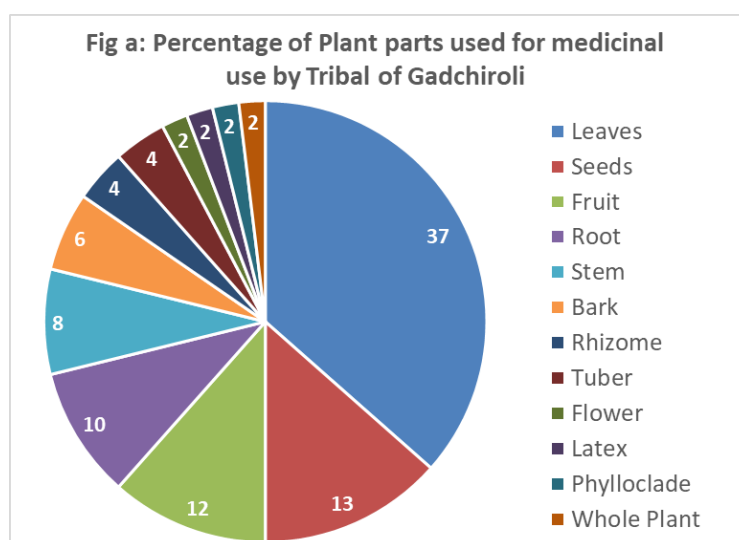
Interviews were conducted at informants' homes, farms, or medicinal plant markets, after making clear that they are participating in a research. Fifteen informants were interviewed. During the interviews, local names, utilized parts and information on the

types of ailments treated using traditional medicinal plant species were recorded. The gathered data was verified by asking repeated questions with different Baidas in different seasons and compared with information of at least 3 – 4 Baidas. The plants or plant parts used as remedies for ailments were shown by the "pujari/ Baida" and were photographed. Their families, genera, and species were determined by using published Flora (Jain, 1991, Theodore, 1967, Ugemuge, 1996). The collected specimens were made into herbariums. After identification of the plants, ethnobotanical database was prepared.

### RESULT AND DISCUSSION:

Different plants used by the tribal of studied area for medicinal uses is depicted in the Table 1. Forty five different plants belonging to 29 families were reported to be used by tribal people of the studied area for different medicinal uses. Dominant families reported for ethnomedicinal use were Fabaceae (8 species), Euphorbiaceae (4 species), Acanthaceae (2 species), Amaranthaceae (2 species), Apocyanaceae (2 species), Araceae (2 species), Asclepiadaceae (2 species), Poaceae (2 species).

Leaves are the most widely used plant parts followed by seeds, fruits, root, stem, bark and other parts. Percentage of different parts of medicinal plants used by tribal people in Gadchiroli in the present study are shown in Fig a.



**Table 1: List of Plants used by Tribal people for medicinal use in Gadchiroli district of Maharashtra State.**

Sr no	Botanical name	Local name	Family	Plant part used	Use
1	<i>Abroma augusta</i> L.	Ulat Kambal / Golabhedi	Sterculiaceae	Root	Uterine tonic given in Menstrual disorders
2	<i>Abrus precatorius</i> L.	Gunj/ Tavmarha	Fabaceae	Seeds	Skin diseases
3	<i>Acacia farnesiana</i> (L.) Willd.	Khairimarrha	Fabaceae	Bark	Used to treat gum swelling and toothache
4	<i>Acacia nilotica</i> Lam	Babul	Fabaceae	Bark	Used for dental care and toothache
5	<i>Acalypha indica</i> L.	Kuppi	Euphorbiaceae	Leaves	Deworming, fungal skin diseases
6	<i>Achyranthus aspera</i> L.	Aghada	Amaranthaceae	Seeds	Seed powder given orally to treat cough
7	<i>Adhatoda zeylanica</i> Medik	Adulsa	Acanthaceae	leaves	cough
8	<i>Andrographis paniculata</i> (Burm F.) Wall	Bhuinimb/ kalmegh	Acanthaceae	leaves	All fever
9	<i>Aegle marmelos</i> (L.) Corr.	Bel / Mahakamarha	Rutaceae	Fruit	Diarrhoea, Gastric Ulcers
10	<i>Amaranthus spinosus</i> L.	Kathemattha/ Dogelkusari	Amaranthaceae	Leaves	Constipation
11	<i>Amorphophallus campanulatus</i> Roxb.	Zamikanda, suran	Araceae	Tuber	Used in Piles
12	<i>Annona squamosa</i> L.	Sitafal	Annonaceae	Leaves	The leaves are applied to abscesses, insect bites and other skin complaints.
13	<i>Aspargous racemosus</i> Willd.	Marbad narbhot	Liliaceae	Roots	Root treats infertility, impotence, menopause syndromes
14	<i>Azadirachta indica</i> A. Juss.	Kadulimb	Meliaceae	leaves	Leaves decoction used in skin diseases and fever
15	<i>Butea monosperma</i> (Lam).	Parsa/palas	Fabaceae	leaves	Fresh leaves in joint pain
16	<i>Caesalpinia cristata</i> L.	Kate karanj / Eakomarha	Fabaceae	Seeds	Abdominal pain, White discharge in women
17	<i>Cajanus cajan</i> L.	Tur / Rehermerrha	Fabaceae	leaves	Wounds, mouth ulcers
18	<i>Calotropis procera</i> (Ait.) R. Br.	Rui	Asclepiadaceae	Leaves, flowers, Latex	Latex to remove thorn/spine studded deep in skin/sole. Leaves: in joint pain, Flowers: as abortifacient
19	<i>Cardiospermum halicacabum</i> L.	Kapalphodi	Sapindaceae	Leaves	Leaves used in arthritis, dysentery and earache
20	<i>Cassia tora</i> L.	Charota	Fabaceae	Leaves, seeds	Leaves decoction used as laxative, Leaves and seed powder used for skin problems.
21	<i>Catharanthus roseus</i> (L.)	Sadafuli / Pungarmarrha	Apocyanaceae	Leaves	The juice of leaves is used as application for insect bites.

Sr no	Botanical name	Local name	Family	Plant part used	Use
22	<i>Costus speciosus</i> (Koenig)	Keukanda	Costaceae/ Zingiberaceae (monocot)	Tuber/rhizome	For easy and normal delivery.
23	<i>Curculigo orchiodes</i> Gaertn	Kali-muslimarrha	Hypoxidaceae (monocot)	Root	Used in Impotency and to improve sexual activity
24	<i>Curcuma longa</i> L.	Hardimarrha	Araceae	Rhizome	Powered rhizome used for external injuries and wounds. Paste in water used for external swelling and pain. Dried rhizome powder with water or milk for cough and cold
25	<i>Cymbopogon citratus</i> (DC.) Stapf	Gavaticaha	Poaceae (monocot)	Leaves	Decoction of leaves used in fever, cough, headache
26	<i>Cynodon dactylon</i> Pers.	Durvamarrha	Poaceae	leaves	crushed leaves applied to minor wounds to stop bleeding
27	<i>Diospyros melanoxyton</i> Roxb	Tendu	Ebenaceae	fruits	Used in summer to tolerate high temperatures and as tonic
28	<i>Euphorbia hirta</i> L.	Tuma/dudhi	Euphorbiaceae	Whole plant	Powder of whole plant used to treat abdominal pain.
29	<i>Glinus oppositifolius</i> (L)	Kadusag	Molluginaceae	Leaves	Crushed leaves sap is used to treat skin diseases
30	<i>Grewia hirsuta</i> (Korth.)	Ghoturli	Tiliaceae	fruit	Used for urinary problem.
31	<i>Lawsonia inermis</i> L.	Mehandimarrha	Lythraceae	Leaves	Leaf extracts applied to the hands and feet to protect against fungal pathogens and to hair for removing lice and dandruff.
32	<i>Opuntia elatior</i> Mill	Nagphanimarrha	Cactaceae	Phylloclade	Pulp applied externally on swellings with pus
33	<i>Oscimum sanctum</i> L.	Tulsi	Lamiaceae	Leaves	Malaria, periodic fever, Cough
34	<i>Pergularia daemia</i> Forsk.	Utaran	Asclepiadaceae	Stem	Juice of stem used for jaundice
35	<i>Phoenix sylvetris</i> L.	shindhi marrha	Arecaceae	fruits, stem	The fruits - restorative and tonic, fresh unfermented sap (nira) and the fermented sap (tadi) are refreshing sweet drink.
36	<i>Phyllanthus emblica</i> L.	Awla	Euphorbiaceae	Leaves, fruits, roots	diarrhoea, jaundice, tonic to build up lost vitality and vigour
37	<i>Pongamia pinnata</i> L.	Karanji	Fabaceae	seeds	For skin allergy
38	<i>Rauwolfia serpentina</i> L, Benth.	Harki, Harkaya	Apocyanaceae	roots	Bites of snakes and scorpions
39	<i>Riccinus communis</i> L.	Yerandi/ andi	Euphorbiaceae	Seed oil	Applied to Foot cracks, Taken orally for the relief of severe constipation.
40	<i>Sesamum indicum</i> L	Tillimarrha	Pedaliaceae	seeds	Seed oil given orally in urinary problems.

Sr no	Botanical name	Local name	Family	Plant part used	Use
41	<i>Smilax zeylanica</i> L.	Ramdatun	Smilacaceae/ Liliaceae(monocot)	Roots/ rhizome	Gynaecological problems like vaginal discharge
42	<i>Syzygium cumini</i> L.	Chirai jam/ jambhul	Myrtaceae	Bark	Bark juice given in diarrhoea
43	<i>Terminalia bellerica</i> Roxb	Behada	Combretaceae	fruits	Used as laxative
44	<i>Tinospora cordifolia</i> Willd	Gudvel	Menispermaceae.	Stem	Stem decoction used in fever
45	<i>Vitex negundo</i> Linn.	Nirgundi	Verbenaceae	Stem, Leaves	Young shoots boiled in water and this water is used to take bath for reducing swelling on body.

Some of the plants namely *Abroma augusta* L., *Abrus precatorius* L., *Acalypha indica* L., *Andrographis paniculata* (Burm F.) Wall, *Amorphophallus campanulatus* Roxb., *Caesalpinia crista* L., *Costus speciosus* (Koenig), *Pergularia daemia* Forsk. and *Smilax zeylanica* L. were found to be not reported in previous ethnobotanical studies in different talukas of Gadchiroli district (Chavhan, 2014; Chavhan and Margonwar, 2015; Khonde, et al., 2017; 2016 Shambharkar and Gogle, 2017). Some of the medicinal uses of few plants reported in current investigation are also different from those earlier reported.

## CONCLUSION

Tribals Wadegaon and Ghot villages of Gadchiroli district use different plants for different common ailments like gastro-intestinal problems, fever, cough, skin diseases, menstrual problems, insect bites, urinary problems, weakness, etc. Further studies should be undertaken to verify and validate the medicinal use of these plants by tribal people.

## Conflict of Interest

The author declares that there is no conflict of interest.

## REFERENCES

- Adotey JPK, Adupko GE, Boahen YO and Armah FA (2012) A Review of the Ethnobotany and Pharmacological Importance of *Alstonia boonei* De Wild (Apocynaceae). International Scholarly Research Network, ISRN Pharmacology, Volume 2012, Article ID 587160, 9 pages, <https://doi.org/10.5402/2012/587160>
- Ayyanar M and Ignacimuthu S (2009) Herbal medicines for wound healing among tribal people in Southern India: Ethnobotanical and Scientific evidences. *International Journal of Applied Research in Natural Products*. 2(3), pp. 29-42.
- Chavhan PR (2014) Diversity of medicinal plants in and around Etapalli forest range in Gadchiroli District. *The Journal of Agriculture and natural resources sciences*, 1(2): 114-117.
- Chavhan PR and Margonwar AS (2015) Ethnobotanical survey of Markanda forest range of Gadchiroli District, Maharashtra, India. *British Journal of Research*. 2(1): 55-62.
- Ekka MK, Tiwari P and Prasad H (2016) Traditional use of Medicinal plants Practiced by the Oraon Tribe of Jashpur District, CG, India. *Research Journal of Recent Sciences*. 5(ISC-2015), pp. 36-38.
- Jain SK (1991) Dictionary of Folk Medicine and Ethnobotany, Deep Publications New Delhi.
- Khonde VS, Kale MC and Badere RS (2016) Ethnobotanical Survey of Armori, Wadsa, Kurkheda, Korchi forest range of Gadchiroli district, Maharashtra State, India. *Int. J. of Res. in Biosci., Agri. and Tech.* 4(2): 36-43.
- Khonde VS, Kale MC and Badere RS (2017) Ethnobotanical plants of Sironcha, Etapalli, Dhanora tehsil of Gadchiroli district, Maharashtra State, India. *Int. J. of Res. in Biosci., Agri. and Tech.* 5 (Special issue 2): 611-616.
- Regional Medical Research Centre for Tribals (Indian Council of Medical Research) (2014) Tribal health bulletin. 20 (Special Issue), pp. 126.
- Shambharkar RB and Gogle DP (2017) Ethnomedicinal plants used by tribal people of Gadchiroli Maharashtra for the treatment of Cancer. *International Journal of Botany Studies*. 2(3): 76-78.
- Theodore, Cooke. CIE (1967) *The flora of the Presidency of Bombay*, Vol. 1 and 2, Botanical Survey of India, Calcutta.
- Ugemuge NR (1986) Flora of Nagpur District, Maharashtra, India. Shree Prakashan, Nagpur. pp. 497.
- World Health Organization. (2002) Traditional Medicine-Growing Needs and Potential. WHO Policy Perspectives on Medicines. 2002. (2): 1-6.