



## ETHNODHARMACOLOGICAL SURVEY OF WILD EDIBLE PLANTS USED BY THE TRIBES OF BHIWAPUR TAHSIL OF NAGPUR DISTRICT (M.S.) INDIA.

**CHEITNA S LADDHA<sup>1</sup>, SUSHIL G KUNJALWAR<sup>2\*</sup>, PRAKASH R ITANKAR<sup>3</sup>**

1 Department of Botany, Jawaharlal Nehru Arts, Commerce and Science College Wadi, Nagpur, Maharashtra, India. 2 Department of Botany NutanAdarsh Arts, Commerce and Smt. ManibenHarilalWegad Science College, Umred, Nagpur, Maharashtra, India. 3 Department of Pharmacognosy and Phytochemistry, Institute of Pharmaceutical Sciences, RashtrasantTukadojiMaharaj Nagpur University, Nagpur, Maharashtra, India. Email: profchetnaladdha@gmail.com

### ABSTRACT

The study aimed to identify and understand the utilization of wild edible plants for curing various diseases used by the tribes of Bhiwapur tahsil of Nagpur District. A field study was conducted in ten tribal rich villages during different seasons. The tribal communities residing are gond, banjara, dhivar, mana and pardhi of which gond and banjara were found to be dominant. The tribes of the study area were found to use 11 plant species belonging to 11 different families to cure different diseases. Different plant parts were used among which the use of leaves is highest. The most common diseases treated using these plants are diarrhoeas, heart ailments, fever, hypertension, neurosis, digestive problems, cough, cancer, ulcers, wounds, constipation, dyspepsia, kidney and liver problems, snake bite, skin disorders, blood diseases, acute rheumatism, acidity, bowel movement. Wild edible plants used by the tribes of Bhiwapur Tahsil of Nagpur District were collected and reported to be of great nutritional and medicinal importance.

**Key words:** Ethnobotany, tribes, wild edible plants, medicinal uses, traditional knowledge.

### INTRODUCTION

Plants are the basis of life on earth, and are the “Power Houses” of many and complex ‘live enhancing compounds’ we almost instinctively need them. Use of plant to alleviate human sufferings is as old as humans themselves. The relation between healing plants and human beings date back to pre-historic era. Medicinal plants are the nature’s gift to human being to make disease free healthy life and are considered as the chemical laboratories with global importance. India has one of the oldest, richest, and most diverse cultural traditions known as folk tradition associated with the use of medicinal herbs. God has bestowed some specific power to certain plants; India is a country rich in indigenous herbal resources which grow on varied topography and under changing agro climatic conditions permitting the growth of almost 20,000 different plant species.

The tribal community from various ecosystems use the largest proportion of biodiversity for their economic empowerment and health care. For sustenance of any specific biodiversity, the traditional knowledge of utilizing medicinal plants must be in resilience of environment, [4, 6]. Thus proper documentation of such knowledge is required in order to protect over exploitation leading to severe environmental degradation [3, 5]. In view of this an attempt was made to explore the indigenous system of medicine to cure various diseases in tribes

inhibiting in the villages of Bhiwapur Tahsil of Nagpur District of Maharashtra state (India). However there are only a few reports on the utility of medicinal plants in the treatment of specific diseases.

### MATERIAL AND METHOD

Nagpur district of Maharashtra State situated between the latitude 20 degree 35’ and 21 degree 44’ N latitudes and between 78 degree 53’ and 80 degree east longitude spread over the area of 61323.62 hectors of land. Nagpur being the most prominent district of eastern Maharashtra was the capital of the former central Provinces and Berar. It lies between the latitude of 20 degrees 35’ and 21 degree 44’ N and has a area of 9930 sq. kms., administratively it has 14 tahsils including Umred, Ramtek, Katol, Saoner, Bhiwapur, Narkhed, Hingna, Kalmeshwar, Kamptee, Kuhi, Mouda, Parshivani, Nagpur rural and Nagpur city. The climate is of moist deciduous type [1].

The data were collected according to the methodology suggested by [2]. Referring the standard morphological characteristic features provides in the floras for the identification of the species. The healthy and disease free plant materials were collected, identified and authentically certified. Voucher specimen of each wild edible plant species were collected during the field visits and were brought to the laboratory. The plants were identified using the state floras as well as the district floras.

The collected species were then dried and preserved following the technique of [2]. The specimens were identified using fresh as well as herbarium materials taxonomic keys in the Floras, [7, 8].

11 plants are selected and described with botanical name, local name, family, and their medicinal uses. The herbarium specimens of the selected plants were prepared and deposited in PGTD of Botany RTM, Nagpur University, Nagpur.

**Biological name :** *Hibiscus sabdariffa*. (L)

**Common name :** Ambadibhaji

**Family :** Malvaceae,

**Description:** It is a shrub, 120cm tall. Leaves are deeply palmate lobed serrate. Flowers pale yellow with a crimson centre. Capsules globose, pointed bristly. Seeds are glabrous. It is cultivated for its fibre, as a vegetable during the rainy season along with other crops. Flowering and fruiting starts from Sept-Nov.



**Ethnomedicinal uses:** The plant is antiseptic, fibrous, astringent, used in heart ailments, fever, hypertension, neurosis, digestive purgative, cough, cancer. The stem contains 20% oil used for making medicines.

**Botanical name :** *Buchananiaconchinchinensis*. L.

**Common name :** Charoli/Char/Chironji

**Family :** Anacardiaceae

**Description:** It is a small tree with cracked bark. Leaves thick, coriaceous, broadly oblong, obtuse, Flowers greenish white, in terminal and axillary branched panicles. Drupes are small, globose, fleshy, and black when ripe, stone hard, 2-vaoved. Common in forests as also along the gum mixed with cow's milk is used for rheumatic pain. Used for treating cold, fever, bowl disorder. boundaries. Flowering and fruiting starts from Jan.-Apr.



**Ethnomedicinal uses:** Ayurvedic medicines are prepared from all the parts of plant. The gum extract of the of the bark and powder of roots and dried leaves mixed with butter milk is a remedy for treating diarrhoeasChirongi

**Botanical name :** *Gardenia resinifera*

**Roth.**

**Common name :** 'Dikemali' (endangered medicinal plant).

**Family :** Rubiaceae

**Description:** *Gardenia resinifera* Roth.

Belonging to the commonly called as "gummy gardenia." It is a small tree covered with yellow resin, leaves large, obovate, and pubescent beneath, cuneate,



rounded, obtuse or acuminate. Flowera are axillary, white turning yellow. Berries are globose, smooth. Commonly found in forests. Flowering begins from Mar.-July, Fruiting from April-August.

**Ethnomedicinal use:** Complete plant is medicinal. It is effectively used in traditional medicine. It is antispasmodic, antioxidant, cleaning foul ulcers and wounds, keeps flies away from wound in veterinary practice. The gum is applied to the gums in children while teething.

**Botanical name :** *Colocasiaesculenta* L

**Common name :** 'Dhapa/Dhopapaan /Alu/Chamkura

**Family :** Araceae,

**Description:** Rhizome swollen, subterranean. Found growing near stagnant water, also cultivated in garden. Leaf ovate, peltate;

venation reticulate with primary veins producing secondary veins which merge into a collective vein, midway between parallel to the primary vein. Spathe in two parts, the lower green and accrescent, the upper elongate, yellow and deciduous spadix 15 cm long. Apparently it is not setting fruits. The corms, leaf-stalks and leaves are used as vegetable.



**Ethnomedicinal uses:** It is rich in fiber content, rich in antioxidants useful against many diseases.

**Botanical name :** *Aegle marmelos* (L.) Corr.

**Common name :** Bael

**Family :** Rutaceae

**Description:** It isa tall tree, armed with thorns, bark grey white, longitudinally wrinkled, leaves pinnately trifoliate, leaflets ovate lanceolate, acuminate, terminal largest. Flowers are greenish white, scented, in axillary

panicles. Fruits large, globose, rind woody, grey pulp, thick, sweet, orange coloured. The tree is cultivated and also found wild in forests. Flowering and Fruiting begins from June-September.



**Ethnomedicinal use:** Fruit (ripe and unripe) is used as a popular remedy in chronic dysentery, habitual constipation and dyspepsia. Root and stem bark is used in intermittent fevers. The juice of leaves is used for fever and diabetes. Hindus offer the leaves to Lord “Shiva”.

**Botanical name :** *Boerhaavia erecta* L.

**Common name :** Khaperkhutty

**Family :** Nyctaginaceae

**Description:** It is diffuse, woody, much branched herb. Leaves are unequal, ovate, obtuse or acute, rounded or subcordate at the base. Flowers are pink or purple in color, panicle. Capsules are 5-ribbed, glandular. It is common on open waste lands, grass land and fields. Flowering and Fruiting throughout the year.



**Ethnomedicinal use:** Roots and leaves are rich in medicinal properties; it is effective against, kidney and liver problems.

**Botanical name :** *Cordiadihotoma*. (L)

**Forst.**

**Common name :** Bhokar

**Family :** Boraginaceae

**Description:** It is a medium sized deciduous tree. Leaves are entire, slightly sinuate dentate, broadly ovate, obtuse. Flowers purple polygamous, in lax terminal and axillary pedunculate cymes panicles. Drupes are ovoid or rounded glabrous pale orange, globose opiculate with remains of style. Flowering and fruiting starts from Mar-August



**Ethnomedicinal use:** The juice of barks is given in drips. Decoction of bark is used in dyspepsia and fevers. Kernels are used as a remedy for ringworm, leaves are applied to ulcers and also in headache. The whole plant is used in snake bite.

**Botanical name :** *Diospyros melanoxylon* L. Roxb.

**Common name :** Tendu/Temburni

**Family :** Ebenaceae

**Description** It is a large deciduous tree commonly found growing on hill forest. The trunk are cracked, bark greyish black, branches, leaves and inflorescence covered with greyish hairs.



Leaves are broadly ovate, obtuse or rounded at apex, thick. Male are flowers in peduncled tomentose, short cymes. Female flowers are solitary. Fruits are globose, pulpy, about 3.5cms in diameter, smooth, yellowish brown when ripe. Seeds are usually 3-4. Flowering and fruiting from April-May.

**Ethnomedicinal use:** The leaves are used for making Bidi's. Dried flowers are set to be useful in urinary, skin and blood diseases. The wood is used as timber. The ripe fruits are edible

**Botanical name :** *Amorphophallus Paeoniifolius* (Dennst.).

**Common name :** Suran/Yam/Elephant Leg

**Family :** Amaryllidaceae

**Description:** It is a very stout, cormous herb commonly grows under the shades of the trees in hill forest with large and broad 3- partite and pinnatisect Leaves, (60-90 cms), appearing after flowering. Spathe encloses fruit 12-15 cms. Flowering begins from April-June and Fruiting in November.



**Ethnomedicinal use:** Tuber is used as stomachic, tonic, restorative, carminative, useful in dysentery. The fresh tubers act as an acrid stimulant, expectorant and used in acute rheumatism. The corms are used as vegetable.

**Botanical name :** *Cassia tora* L.

**Common name :** Tarota

**Family :** Caesalpineaceae

**Description:** It is an erect herb. Leaflets are in 3 pairs, obovate, oblong, glands between the leaflets. Flowers yellow, 1-2 in axillary pairs. Pods are



elongate, curved, and subtetragonal. It is a common weed throughout the district. Flowering is between July-October. Fruiting is between August-November.

**Ethnomedicinal use** : Mucilagenous and foetid smelling leaves have been found to be internally gentle aperient and externally used as germicide and antiparasitic in ringworm.

**Botanical name** : *Amaranthustricolor*.

**Linn.**

**Common name** : LalBhaji/ChauliBhaji

**Family** : Amaranthaceae

**Description:** It is an erect, diffuse, branched herb. It is cultivated for vegetable and also occasional escape on wasteland. Leaves are rhomboid to deltoid ovate. Flowers in dense axillary clusters forming long distantly interrupted spikes. Capsules are ovoid, rugulose, membranous. Seeds are black, discoid, and biconvex. Flowering and fruiting in winter season.



**Ethnomedicinal use:** Useful in stomach problems, gives cool effect reduces acidity. It is high fibre containing, helps in bowl movement.

**CONCLUSION:**

All the selected plans are found to be ethnomedicinally important used by the tribe and help in curing various diseases.

**ACKNOWLEDGEMENTS:**

The author is thankful to the tribes and rural people of Bhiwapurtahsil for providing the valuable information and sharing their knowledge regarding the above mentioned wild

edible plants and their importance in day to day practices.

**REFERENCES:**

1. Available from: <http://www.nagpur.nic.in/zpnagpur/English/BhivapurTahsil.htm>. 2014.
2. Jain S K & Rao R R, (1976) Field and Herbarium Methods, (Today and Tomorrows Publication, New Delhi).
3. Jeeva S and Anusuya R,(2005) Ancient ecological heritage of Meghalaya, Mangolia,3, 20-22.
4. Kala,C R (2005). Indigenous uses population density and conservation of threatened medicinal plants in protected areas of the Indian Himalayas. Conserve. Biol., 19(2): 368-375.
5. Kanwar p, Sharma N and Rekha A. (2006). Medicinal plants use inn traditional health care system prevalent in Western Himalaya. India J. Tradit. Knowl. 5(3): 300-309.
6. Kingston C, Jeeva S, Jeeva G M, Kiruba S, Mishra B P and Kannan D. (2009).Indigenous knowledge of using medicinal plants in treating skin diseases in Kanyakumari district, South India J. Tradit. Knowl, 8(2): 196-200.
7. Singh N. P., S. Karthikeyan, P. Lakshminarsimhan and Prasanna P. V. (2001), Flora of Maharashtra State Dicotyledones, Vol. II. Botanical Survey of India, Calcutta.
8. Ugemuge N. R. (1986) Flora of Nagpur District, Maharashtra, India.
9. Singh &Karthikeyan (2000), Flora of Maharashtra State Dicotyledones, Vol. I. Botanical Survey of India, Calcutta.

