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Krishna Datta Singh
Research Scholar - Botany
Dept. Govt. Science College,
Rewa (M.P.), APS University,
Rewa, Madhya Pradesh, India

Dr. RP Mishra
Retd. Prof. of Botany,
Govt. Science College, Rewa,
Madhya Pradesh, India

Ethnobotanical studies of Mahakaushal region of (M.P.), India

Krishna Datta Singh and Dr. RP Mishra

Abstract

Ethno botany is a new discipline studying the knowledge and traditional practice of the indigenous and ethnic societies in conservation and use of biodiversity for human health and nutrition. Keeping this view in mind an ethno-medico-botanical survey of some important Angiosperms of Mahakaushal region has been carried out from October 2018 to October 2019. Mahakaushal region is a tribal region and different tribes like Baiga, Gond, Bharia, Bhils, and Oraon live in this region. These tribal people use different plants as home remedies, for building and thatching huts, making musical instruments etc. During the study, altogether fifty-seven plant species belonging to 20 families were collected. Amongst the plants located in the study area *Wrightia tinctoria*, *Hygrophila spinosa*, *Gloriosa superba*, *Curculigo orchioides* and *Costus speciosus* have medicinal properties and used by local tribes.

Keywords: Ethnobotanical, indigenous, home-remedies, febrifuge

Introduction

Medicinal plants have played an important role in providing health care to humans since the beginning of civilization. It is clear that the people of India have a great interest in medicinal plants and use them in a variety of health-related applications. Demand for medicinal plants is growing in both developing and developed countries and much of their trade is still emerging from wild harvest crops (Zahoor *et al.* 2013) ^[1]. Indigenous knowledge creates as much as human civilization. Over the millenniums man has used plants to treat various ailments. In India, about 15,000 species of flowering plants about 17% are considered medicinal (Jain, 1968) ^[2]. The Mahakaushal region is a rich source of medicinal plants and ethnobotanical-related practices. Tribes like Baiga, Gond, Bharia, Bhils, and Oraon have been using these plants for centuries. Information about these plants has been passed down from generation to generation. Modern folk medicine or vaidhya are rare and rare. Because of a lack of interest in younger generations and their tendency to move to cities to earn a living, they are more likely to lose their wealth of knowledge in the near future. The right time to find and maintain this traditional medicine system and to write the right documents and identify examples. This will help save them from farming and will reduce the pressure of over-exploitation from natural habitats Jain (1989, 1991), Chopra *et al.* (1956, 1969), Harshbarger (1895), Oommachan and Saini (1993), Sahu (2010), Rothe (2005), Afsana and Biswas (2021), Upasani *et al.* (2017) ^[3-12].

Material and methods

Mahakoshal is a region of central India. Mahakoshal lies in the upper or eastern reaches of the Narmada River valley in the Indian state of Madhya Pradesh. Jabalpur is the largest city in the region. Nimar region lies to the west, in the lower reaches of the Narmada valley. The information about uses of plants was collected from tribals. Questionnaires were prepared for collecting information. The medicinal plants were collected from different localities of Mahakaushal region. The information about uses of plants was collected from the tribals. Questionnaires were prepared for collecting information. The interviews of 10 medicine man or vaidhya and 20 villagers were taken and questionnaire was filled. The information about indigenous medicinal plants growing in natural habitats of Mahakaushal region was collected. At the same time plant species were collected and herbarium sheets were prepared by traditional method. Plant species were identified with the help of floras and

Corresponding Author:
Krishna Datta Singh
Research Scholar - Botany
Dept. Govt. Science College,
Rewa (M.P.), APS University,
Rewa, Madhya Pradesh, India

Keys. Information regarding Botanical name, family name, vernacular name and medicinal uses for each plant was

collected. The plant families under study were arranged alphabetically.

Table 1: The list of indigenous medicinal plants of Mahakaushal region

	Family		Botanical name	Local name	Medicinal uses
I	Acanthaceae	1	<i>Barleria prionitis</i> L.	Katsariaya	Leaf juice with honey is used as anthelmintic. Leaf ash with butter is used on Leucoderma. Crushed fresh leaves are used for toothache and gum ailments
		2	<i>Carvia callosa</i> Nees.	Karvi	Sticks are used for making walls of the hut. The Karvi leaves are crushed and the juice is used to cure stomach ailments.
		3	<i>Hygrophila spinosa</i> (Tand).	Talmakhana	Leaves and seeds are used in Jaundice. Seeds taken internally along with milk, which acts as aphrodisiac
II	Amaranthaceae	4	<i>Achyranthes aspera</i> L.	Chirchita	The root powder is used three times daily in dysentery. The root decoction is also used in scorpion stings. The root ash is given to children in cough. Leaf juice drops are put in nostrils to cure headache. Dried plant material boiled in water is given to reduce fever
		5	<i>Amaranthus spinosus</i> L.	Chaulai (kateeli)	Root juice is used for diarrhea, dysentery. Root juice 3 teaspoons full take twice a day
		6	<i>Celosia argentea</i> L.		Seeds are used to dissolve urinary stones. Used as a fodder for cattle
III	Anacardiaceae	7	<i>Semecarpus anacardium</i> L.	Bhelma	The fruits are eaten to relieve indigestion. They are also used in the treatment of cough, piles and boils. Seed oil is used in treatment of scabies and is anthelmintic
IV	Apocynaceae	8	<i>Carissa congesta</i> Wt. Icon.	Karaunda	Decoction of roots is given to women to relieve from delivery pain after childbirth. Latex is applied on lips to protect them in winter
		9	<i>Rauwolfia serpentina</i> Benth.	Sarpagandha	Root with petiole of betel leaf made into paste is given to cure facial paralysis. It is also used in epilepsy, intestinal disorders
		10	<i>Wrightia tinctoria</i> R.Br.	Kalidudhi	Bark and curd mixed together and given to dissolve stones in gall bladder. Bark and seeds are used in jaundice
V	Asclepidaceae	11	<i>Calotropis procera</i> R.Br	Aak	Latex is diluted with cold water and the mixture is applied on forehead in headache. Decoction of root bark is given with black pepper in malaria
		12	<i>Calotropis gigantea</i> L.	Safed aak	Dried flower powder thoroughly mixed with honey used for bronchial asthma
		13	<i>Cryptolepis buchanani</i> R. & S.	Bel	Latex is applied on goitre. Root paste is applied over bone fracture
		14	<i>Hemidesmus indicus</i> (L.) Schultes.	Anantmul	Roots are crushed and powder is taken internally for urinary troubles. Root paste is taken internally on snakebite
VI	Bombacaceae	15	<i>Bombax ceiba</i> L	Semal	Flower and sugar cubes with water is very good tonic. The fruit floss of this tree is used for the stuffing of pillows, cushions and mattresses, etc. The wood is used for the making light furniture
VII	Caesalpinaceae	16	<i>Bauhinia racemosa</i> Lam. Encycl	Jhinjheri	Bark extract is given in indigestion. Konkana and Varli tribes apply warm paste of bark over stomach
		17	<i>Cassia fistula</i> L	Amaltas	Seed powders are given on fever of infants. The fresh leaves and flowers of this tree are used in the treatment of ringworm and some skin diseases. An aqueous root extract is given to cure common fever
		18	<i>Cassia tora</i> L	Chakuda	The leaves and stems are used as vegetables. A whole plant extract is used to cure psoriasis
		19	<i>Tamarindus indica</i> L	Imali	Leaves boiled in water. After cooling that water is used for bathing. It relieves body ache
VIII	Combretaceae	20	<i>Anogeissus latifolia</i> (Roxb.) Wall	Dhawa	Used in economic gum production. Used in construction of beams of houses
		21	<i>Terminalia arjuna</i> (DC) Weight and Arn	Arjun	The astringent bark of this species is used as a febrifuge and as a coolant and cardiac stimulant. Bark decoction given with cows' milk in chest pain and heart palpitation. The wood of this tree is used in the manufacture of furniture.
		22	<i>Terminalia bellarica</i> Roxb	Bahera	The dried fruit of this tree is used in the treatment of cough, fever, indigestion, dropsy, leprosy, piles, etc. The fruit used in the Ayurvedic preparation called "Triphala Churna," which also contains the fruit of <i>T. chebula</i> and <i>E. officinalis</i> .

		23	<i>Terminalia tomentose</i> L		The wood is used to make furniture and agricultural instrument. Leaf juice is used on the fresh cuts to stop bleeding and to cure wound.
IX	Euphorbiaceae	24	<i>Euphorbia hirta</i> L	Dudhi	Sap applied on cuts and wounds
		25	<i>Euphorbia neriifolia</i> L	Dudhi	Latex is tapped from the stem and homogenized in mother's milk it is given orally to a baby at night for stomachache.
		26	<i>Embilca officinalis</i> Gaertn	Amla	The bark and fruit decoction mixed with the fruits of <i>Terminalia chebula</i> (Hirda) are used on vomiting. The fruit powder and bark juice is used in stomach trouble. Konkana, Mahadev Koli and other tribes consume ripe fruits as a blood purifier.
		27	<i>Jatropha curcas</i> L	Jamal gota	The young twigs are used as toothbrush in gum disease. The seed oil is used in muscular pain and body swellings. Fresh root powder mixed with black pepper and small amount of asafetida powder is taken internally for flatulence and dysentery.
X	Fabaceae	28	<i>Abrus precatorius</i> L. Syrt	Ghungchi	Concentrated seed extract taken as blood purifier. Whole plant is dried, roasted and ash is applied on wounds.
		29	<i>Butea monosperma</i> (Lam.) Taub	Chhiwala	The gum is applied for cracks on the foot while sleeping at night. Decoction of stem bark is taken for asthma cough and cold.
		30	<i>Dalbergia sissoo</i> Roxb	Shisham	The powdered bark is used in the treatment of gonorrhea. The hard wood is used for the making furniture.
		31	<i>Indigofera glandulosa</i> Wendl		Fruit powder taken to relieve stomachache.
		32	<i>Macrotyloma uniflorum</i> (Lam.) Verde	Kulthi	Decoction of kulthi is used to release placenta in case of women after childbirth. Seeds are used as anthelmintic.
		33	<i>Pongamia pinnata</i> (L) Pierre	Karanj	Bark powder is pasted on the wounds of animals for healing. Oil extracted from seeds is used for skin disease.
		34	<i>Psoralea corylifolia</i> L	Bavachi	The seeds are used as diuretic, anthelmintic and laxative in the form of powder. Seed powder or paste is used in leprosy, psoriasis and inflammatory diseases of skin.
XI	Hypoxidaceae	35	<i>Curculigo orchiioides</i> Gaertn	Kali musali	Dried tubers are used for the treatment of sexual impotency. It is used in urinary and venereal diseases. And as a general health tonic.
XII	Liliaceae	36	<i>Allium sativum</i> Linn	Lahsun	Cloves are fried in sesame oil and that oil is used in earache. Cloves are useful in asthma. It is also used in arthritis and rheumatism.
		37	<i>Aloe vera</i> (L.) Burm	Gheekunwar	The juice of the roasted leaf is given for cold, cough and fever. The leaf itself is used for skin diseases. Aloe jell is used in cosmetics to remove wrinkles. And is remedy for burns. Leaf juice mixed with ginger juice is used to cure acute indigestion and jaundice.
		38	<i>Gloriosa superba</i> L.	Kaliharu	Root paste with mustard oil is used for curing periodic fever. Leaf paste applied on the forehead and neck for curing asthma of children. Leaf extract is given internally to cattle to kill rings worms. Leaf extract is used to kill lice. Bulb juice is applied on legs and hands that help in release of placenta. Garland of fresh tubers is put around the neck of jaundice patients.
XIII	Lythraceae	39	<i>Lagerstroemia parviflora</i> Roxb	Sejhi	Stem bark is used on scabies and skin disease.
		40	<i>Lawsonia inermis</i> L	Mehendi	Fresh leaves with black peppers taken with cow milk in anemia. Fresh leaves to cure oedema and jaundice.
		41	<i>Woodfordia fruticosa</i> (L), Kurz	Phulchuhiya	Tribals extract colors from flowers and use it for dying cloths.
XIV	Malvaceae	42	<i>Hibiscus aculeatus</i> Roxb	Amari	Fruits used in scurvy and inflammation during urination. Fruits well for leveraging acidity.
		43	<i>Sida carpinifolia</i> Linn	Kareta	Leaf extract and sesame oil warmed and applied on boils to release pus. Root powder taken internally on constipation.
XV	Menispermaceae	44	<i>Tinospora cordifolia</i> (willd) Miers	Gurich	Concentrated root extract is used to cure fever. To treat diabetes.
XVI	Mimosaceae	45	<i>Acacia chundra</i> (Roxb. ex Rottl.) Wild	Khair	The wood is used for the making agricultural tools. It is a household fuel. The leaves of this tree are used as fodder for goats.
		46	<i>Acacia nilotica</i> (L.) Wild	Babul	Powder of stem bark mixed with some common salt is applied on teeth and Gum to stop offensive smell of mouth as well as a tooth powder. Young twigs are used

					for cleaning teeth's.
		47	<i>Acacia torta</i> (Roxb.) Craib	Alia	Bark powder is used as fish poison by Konkana tribes while fishing.
XVII	Moraceae	48	<i>Ficus exasperate</i> Vahl.	Karvat	Bark is boiled in water; the filtrate is given to promote fertility in woman. The filtrate given daily till conception.
		49	<i>Ficus recemosa</i> L	Umar	The astringent leaves of this species are used as a mouth wash for spongy gums. The stem latex is useful in the treatment of piles and diarrhea. Fruits are edible, astringent and carminative. They are useful in relieving stomachache
		50	<i>Ficus religiosa</i> L	Pipal	Leaf juice applied on bleeding from nose.
XVII I	Sterculiaceae	51	<i>Helicteres isora</i> L	Marodfali	Bark powder is given in snakebites. Smooth paste is prepared by rubbing fruits and given internally for flatulence and colic in children. Decoction of roots is taken internally for diabetes.
XIX	Verbenaceae	52	<i>Tectona grandis</i> L	Sagwan	According to Ayurveda, wood is acrid, cooling, laxative, sedative to gravid uterus and useful in treatment of piles, leucoderma and dysentery. Flowers are acrid, bitter and dry and useful in bronchitis, biliousness, urinary discharges etc. Roots are useful in treatment of urinary system related troubles. According to Unani system of medicine, the oil from flower is hair promoter and useful in scabies. Wood is good for headache, biliousness, burning sensation and pain and liver related troubles. It allays thirst and possess anthelmintic and expectorant properties.
		53	<i>Vitex negundo</i> L	Nirgundi	The fresh leaf juice is mixed with water and added with small amount of sugar. A spoon of a mixture is given orally twice a day to get relief from fever. Mixture of leaf juice and urine of cow is taken internally by women in irregular menstruation.
		54	<i>Lantana camara</i> L	Phulani	Sticks are used for thatching roofs of huts.
XX	Zingiberaceae	55	<i>Costus speciosus</i> (Koenig) J.E. Sm	Keokand	If this plant is planted around fields of the crop plants will not suffer from any disease.
		56	<i>Curcuma aromatica</i> (Salish)	Haldi	Roots and stem are use as torrid and help in digestion. Used for blood purification.
		57	<i>Zingiber officinale</i> Ale	Adharakh	Fresh or dried rhizome is boiled in water and used in common cough and cold.

Results and discussion

During the study it was noted that although the nations of this region are economically advanced and rely on the wild resources around them to meet their needs, they have excellent knowledge about the use of plants in medicine. A total of 57 traditional medicinal plants of 20 families are listed by list of their medicinal properties shown in Table 1. Data analysis shows that indigenous peoples use these plants to treat 27 diseases. Of all the herbs used to treat skin diseases, there are 11(18.33%) species used for diarrhea, dysentery, indigestion, constipation and other gastrointestinal diseases 7(11.67%) species of fever and malaria, 6 (10.00%) species of coughs, colds and asthma, 5 (8.33%) species of jaundice flu 5(8.33%) species of anthelmintic 2(3.33%) species of headache 3(5.00%) species of safe delivery 1(1.67%) species of epilepsy 3(5.00%) species of snake bites, 2(3.33%) species of lack of sex, these types-2 (3.33%) diabetes 4(6.67%) species of blood clots 4(6.67%) species of tonics 2(3.33%) species of fractures, 2(3.33%) species of cuts and wounds 1(1.67%) facial paralysis. It was noted that most arrangements include one plant species and in rare cases two or more species. It has also been noted that different components of the same type are used to treat different diseases. Current research has shown that most of these species are used frequently, of the 57 species of plants 45 species of plants are used as medicinal plants, 12 species of plants are used for various purposes such as grass roofing, hut construction, farming, petrol, fodder etc. Among the plants found in the study area

are *Hygrophila spinosa* are jaundice, *Wrightia tinctoria* dissolve stone in *Curculigo orchoides* for weakness, *Gloriosa superba* is frequently used, *Tinospora cordifolia* for diabetes and a few others that may be able to continue the investigation. Such courses can provide new resources for staff in the field of pharmacology and phytochemistry. Current research will therefore be of great help in conserving traditional knowledge of traditional medicine and the development of indigenous peoples.

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