
MEDICO – BOTANICAL INVESTIGATIONS OF MEDICINALLY IMPORTANT PLANTS AMONG THE TRIBES OF PATALKOT VALLEY, DISTRICT CHHINDWARA (M.P.)

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Abstract: Chhindwara district lies between latitude 21 to 22° North and longitude 78 and 79° East. It is located in south-west of Madhya Pradesh and is a well known tribal district. Patalkot valley is spread over an area of 79 Sq.Km. at an average height of 2750-3250 feet above Mean Sea Level lies between 22.24 to 22.29° North, 78.43 to 78.50° East. The place is located at a distance of 62 Km from the district headquarter in the North-West direction, and 23 Km from Tamia in North-East direction. People living in interior and inaccessible remote rural areas of Patalkot have excellent knowledge about medicinal utility of local flora for curing their various health disorders, due to low cost and sometimes it is a part of their social life and culture. The main tribe found in the area belongs to Mavashi, Bhariya and Gond. Information was obtained through structured questionnaire administered to traditional healers and herbalists in the region. The study revealed 25 species of plants belonging to 18 families namely *Alangium salvifolium* (L.F.) Wong., *Semecarpus anacardium* Linn., *Wrightia tinctoria* ssp. *Tinctoria* R.Br., *Glossocardia bosvallia* (L.F.) DC., *Tridax procumbens* Linn., *Vernonia cinerea*(L.) Less., *Stereospermum colais* (Dillw.) Mabb., *Bauhinia variegata* Linn., *Olea dioica* Roxb., *Celastrus paniculata* Willd., *Terminalia cuneata* Roth., *Diplocyclos palmatus* (Linn.) Jaffrey, *Citrullus colocynthis* (L.) Schrad, *Sida cordata* Linn., *Martynia annua* Linn., *Soymida febrifuga* (Roxb.) A. Juss., *Cissampelos pareira* Linn., *Tinospora cordifolia* (willd.) Miers. ex. Hk. F. &Th., *Butea monosperma* (Lamk.) Taub., *Pueraria tuberosa* (Roxb.ex.willd.) DC., *Clematis gouriana* Roxb.ex.DC. *Cardiospermum helicacabum* Linn., *Firmiana colorata* (Roxb.) R. Br., *Ougenia oojeinensis* (Roxb.) and *Radermachera xylocarpa* (Roxb.) K. Schum. were documented with their scientific name, family name, local names, active ingredients and medicinal uses. A few decades back these herbs was very common in this region but due to commercial exploitation, the natural population is decreasing at an upsetting rate, some herbs has become almost wiped out in these parts.

Keywords: Ethno-Medicine, Patalkot, Traditional Knowledge.

Introduction: The tribal pockets or tracts are the store house of information and knowledge on the multiple uses of plants. Presently, ethno-botany has become increasingly valuable in the development of healthcare, source of new food products and conservation programs in different part of the world. Madhya Pradesh with its wide variety of plants and tribal population affords ample scope for studies concerning various aspects of socio-religious and cultural and folklore medicine. Extreme commercial collection of local medicinal plants from their natural habitat, due to the growing demand for herbal, cosmetic and pharmaceutical industries may be a result of failure of plant populations. Earlier the tribal's of the region were harvesting the medicinal plants at a particular time and date and time only and have belief that at this particular time it has more therapeutic value. It is evident from the modern science that at particular time the herb contains optimum active ingredients. These types of traditional harvesting practices will be helpful in providing quality raw material on sustainable basis and tool for conservation. Some ethno botanical studies were made by Acharya (2004)^[1], Rai *et al* (2000)^[2], Upadhyay *et al* (2011)^[3], Kanungo *et al* (2013)^[4] and Pawar *et al* (2013)^[5].

Methodology: Authors have explored the area of Pataalkot valley that includes - Gaidubbha, Rathed, Kareyam, Bharia Dhana, Bijauri, Pandu Piparia, Sajkui, Lahagadua, Karrapani, Sidhouli, Chhindi, Jaitpur and Chintipur. The data including local name, mode of preparation, medicinal uses, parts used were collected using interview, questionnaire, collecting samples and discussions with the practitioners. Frequent visit to the tribal villages in Pataalkot region of the district were made during the years 2014-17. A close association was maintained with the people to understand their indigenous knowledge system. Herbarium specimens were prepared following standard method (Jain and Rao, 1977)^[6] and deposited at the Govt. P. G. College, Chhindwara. M. P.

Result and Discussion:

Alangium salvifolium (L.F.) Wong. Family: Alangiaceae Local name: Ankol Active ingredients: Alangidiol, Stigmasterol, ankorine, marckidine, marckine, alangicine, cephaeline, psychotrine. Medicinal uses: Dried powdered leaves were taken for liver cirrhosis, fatty liver and chronic hepatitis. Bark and seeds were used in skin disease. Ripe fruits (1-2) was used daily for seven days for psoriasis.

Semecarpus anacardium Linn. Family: Anacardiaceae Local name: Bhilma Active ingredients: Bhilwanols, phenolic compounds, biflavonoids, sterols and glycosides. Medicinal uses: Leaves in poultice form used for rheumatism. Bark paste with coconut oil externally applied on affected body parts in skin eruption. Seed oil with the help of a needle tips are applied on nose tip for allergic body itching. Seed oil is applied on the cracks heel once daily till cure.

Wrightia tinctoria ssp. *tinctoria* R.Br. Family: Apocynaceae Local name: Indrajau Active ingredients: Beta-amyirin and glucoside. Medicinal uses: Leaves has anti-inflammatory and anti-dandruff properties. The milky latex is applied on cavities to cure toothache. Stem bark is crushed and taken orally in stomach ache. Powdered leaves mixed with coconut oil are applied for psoriasis.

Glossocardia bosvallia (L.F.) DC. Family: Asteraceae Local name: Pathar chur Active ingredients: 5,6,7,4', tetrahydroxy 3-methoxy flavone -7-O- β -D xylopyranosyl (1 \rightarrow 4)-O- β -D-glucopyranoside which showed antiviral activity, along with two known compounds 6, 4'-dimethoxy-5, 7-dihydroxy-flavone and Isoorientin. Medicinal uses: Plant extract was used in gastric trouble. Plant extract was given in fever. Paste of fresh plants applied on sore and wounds. Leaf decoction given in hypertension and as heart tonic. A paste of the fresh plant is applied to promote healing of sores and wounds.

Tridax procumbens Linn. Family: Asteraceae Local name: Ekandi Active ingredients: It contains sterols, stigmasterol, β -sitosterol and saturated and unsaturated fatty acids. Medicinal uses: A whole plant is squeezed between the palms of hands to obtain juice. Fresh plant juice was applied twice a day for 3-4 days to cure cuts and wounds. The crushed leaves are applied to arrest bleeding in bruises and cuts. Leaves extract has strong wound healing properties.

Vernonia cinerea (L.) Less Family: Asteraceae Local name: Sahdevi Active ingredients: Quercetin, stigmasterols, sitosterol and vernolide. Medicinal uses: Whole plants were shade dried and used to make pillow for sleeplessness. Plant juice is used for indigestion, piles, cough, asthma, ringworms and malaria.

Stereospermum colais (Buch.) Mabb. Family: Bignoniaceae Local name: Padar Active ingredients: 1(17)-methyl anthraquinones, stereoquinone-A and -D, their biogenetic precursors sterequinone-B, -C, and a new naphthoquinone sterequinone-E. Medicinal uses: The decoction of root or stem barks is used in the treatment of asthma and cough. Fruits effective in migraine pain, headache, which inhibit pain response mediated via both central and peripherally mechanisms.

Bauhinia variegata Linn. Family: Caesalpiniaceae Local name: Lalkachnar

Active ingredients: The stem bark has hentriacontane, octacosanol and stigmasterol, while stem contains beta-sitosterol, lupeol and a flavanone glycoside.

Medicinal uses: It can be used in cough conditions, asthma, abdominal distention also acts as a gargle for sore throats, prevent from skin diseases, or internally as a remedy for diarrhea, cough, bleeding piles, menorrhagia, scrofulous enlargement of neck glands, ulcers, skin diseases. A decoction of the bark is taken for dysentery.

Olea dioica Roxb. Family: Oleaceae Local name: Jangal jamun

Active ingredients : Fatty acids in seeds (palmitic, oleic, linoleic and behenic),

Medicinal uses: Bark and fruit paste is applied in rheumatism. Root extract (10 ml) is used externally in chest pain.

Celastrus paniculatus Willd. Family: Celastraceae Local name: Malkangni

Active ingredients: Celastrine and paniculatin, fatty acids, viz., oleic, linoleic, linolenic, palmitic, stearic, crude lignoceric acid, benzoic and acetic acid as volatile acids.

Medicinal uses: Seeds are used in gastric troubles and sharpening of memory, also used to cure sores and ulcer. Oil being a powerful stimulant for neuromuscular system is also used for the treatment of rheumatism, gout and paralysis.

Terminalia cuneata Roth. (Syn. *T. arjuana*) Family: Combretaceae Local name: Anjan

Active ingredients: β -sitosterol, chebulin, anthraquinone glycoside, tetrachebulin, vitamin C, chebulinic & tannic acid, arachidic, palmitic, stearic, oleic, linoleic & behenic acids and 2-a-hydroxymyricimeric acid.

Medicinal uses: Considered useful in heart diseases, bilious affections, blood dysentery, inflammatory conditions and in the fracture of bone. The bark is useful as an anti-ischaemic and cardio protective agent in hypertension and heart diseases, especially in disturbed cardiac rhythm, angina or myocardial infarction.

Diplocyclos palmatus (Linn.) Jaffrey Family: Cucurbitaceae Local name: Mahadevi

Active ingredients: Alkaloids, flavonoids, triterpinoids, saponins, steroids and proteins, resins with sugars & starch.

Medicinal uses: Seeds are used in sterility due to blocked tubes in women. Seeds in combination with other plant drugs is used for helping conception and prevent miscarriage.

Citrullus colocynthis (L.) Schrad Family: Cucurbitaceae Local name: Kadu kachari

Active ingredients: Seeds contain the phytosterolin, 2 phytosterols, 2 hydrocarbons, a saponin, an alkaloid, a polysaccharide and tannin.

Medicinal uses: 3 to 5 seeds were fried in ghee and used in jaundice for 5-7 days. The pulp of leaves is a remedy for cancerous tumors. Whole plant powder is used in diabetes. Pulp is also used in constipation.

Sida cordata Linn. Family: Malvaceae Local name: Kahrenti

Active ingredients: Ephedrine, vasicine and pseudoephedrine constitute the major alkaloids from the aerial parts of the plant. Sterculic, malvalic and coronaric acids have been isolated from the seed oil.

Medicinal uses: The rejuvenating action of this herb extends to the nervous, circulatory, and urinary systems. It has a diuretic effect and is useful in urinary problems, including cystitis. Being cooling and astringent, it is used in inflammations and bleeding disorders. It is used in asthma and liver problems, due to its ephedrine content. It possesses psycho-stimulant properties, affecting the central nervous system.

Martynia annua Linn. Family: Martyniaceae Local name: Ulatakanta

Active ingredients: Glycosides, tannins, carbohydrates, phenols, flavonoids and anthocyanin.

Medicinal uses: Seeds used for arresting of graying of hairs. The fruits used as local sedative and used as antidote to scorpion stings to venomous bites and stings.

Soymida febrifuga (Roxb.) A. Juss. Family: Meliaceae Local name: Raktarohan

Active ingredients: Plant contains lupeol, sitosterol, and methyl angolenate. Bark contains tetranortriterpenoids, yields gum. Heart-wood contains febrifugin, naringenin, myricetin, dihydromyricetin.

Medicinal uses: Bark used in the treatment of diarrhoea, dysentery and fever. It also used as a gargle in stomatitis and applied to rheumatic swellings.

Cissampelos pareira Linn. Family: Menispermaceae Local name: Kadupan

Active ingredients: Cissampareine, arachidic acid, berberine, linoleic acid, stearic acid and tetrandrine.

Medicinal uses: Root extract prepared in local liquor is used to reduce fever. It relieves heavy menstrual bleeding and help to prevent abortion. A rhizome decoction or pounded leaves are also use in jaundice, rheumatism and heart trouble.

Tinospora cordifolia (Willd.) Family: Menispermaceae Local name – Guduchi

Active ingredients: The glycoside-giloin, and a non-glucoside-gilenin and gilosterol have been found. The alkaloid tinosporin, protoberberine, tinosporic acid, and tinosporol have been identified in leaves.

Medicinal uses: The stem is one of the constituents of several Ayurvedic preparations used in general debility, dyspepsia, fever and urinary diseases. The stem is bitter, stomachic, diuretic, stimulates bile secretion, causes constipation, allays thirst, burning sensation, vomiting, enriches the blood and cures jaundice. It benefits the immune system in a variety of ways.

Butea monosperma (Lamk.)Taub. Family: Papilionaceae Local name: Palash

Active ingredients: The root contains glycine, glycosides and aromatic compounds. Flowers contain butrin & butein.

Medicinal uses: The petiole is chewed and the juice is sucked to cure cough, cold and specially in the case of painful urination. A small piece of root from young plant, usually less than 2 years is use for 15 days as a remedy against impotency. Seeds are chewed and taken with milk to treat anemia and urinary complaint.

Pueraria tuberosa (Roxb. ex.willd.) DC. Family: Papilionaceae Local name: Vidari kand

Active ingredients: Quercetin, Puerarostan, Puerarone and Tuberosin.

Medicinal uses: Tuber (10 g) paste is mixed with milk twice daily for rejuvenate and to have good strength and stamina. It is given to the lactating women to increase breast milk. Also used in general debility, nervous breakdown, spermatorrhoea.

Clematis gouriana Roxb. ex. DC. Family: Ranunculaceae Local name: Badarshinthi

Active ingredients: Quaternary aporphine alkaloid and magnoflorine.

Medicinal uses: Leaves juice applied on hair to killing of lice. Stem & leaves extract were externally applied on affected body parts to cure itching. Paste of leaves is applied on wound. Root paste is mixed with boiled rice water and decoction obtained is given thrice a day in dysentery. Root are applied externally in leucoderma. Whole plant powder is given with curd two times in a day for piles.

Cardiospermum halicacabum Linn. Family: Sapindaceae Local name: Gumchi

Active ingredients: Glycosidic triterpenes, tannins, quebrachitol, beta-sitosterols, campesterol and stigmasterol.

Medicinal uses: Leaf extract is used in acute and chronic inflammatory rheumatism. Plant extract is used in dermatitis and keratosis. The leaf juice has been used as a treatment for earache. 2 to 3 drops of juice of the leaves can be used as ear drops for earache and purulent discharge from ears.

Firmiana colorata (Roxb.) R. Br. Family: Sterculiaceae Local name: Udal

Active ingredients: Apigenin, luteolin, luteolin and glucoronide.

Medicinal uses: Seeds are mixed with jaggery and used as tonic for general weakness. Bark is mixed with milk and used in jaundice. Juice of young leaves is used for hair wash. Juice of bark and root mixed with goat milk is given in jaundice.

Ougenia oojeinensis (Roxb.) Hochr. Family: Fabaceae Local name : Tinsa

Active ingredients: Lupeol and hydroxylupeol.

Medicinal uses: Barks paste is applied over the fresh cuts and wounds to stop bleeding and fast healing without any infections. Twig is used for tooth cleaning. The bark and leaves are used in the treatment of jaundice.

Radermachera xylocarpa (Roxb.) K. Schum. Family: Bignoniaceae Local name: Garud-fali

Active ingredients: Alkaloids, Saponins, terpanoids and steroids.

Uses: The fruit is kept in the house to repel the snake. Resin obtained from wood is used in skin disease.

Conclusion: The study concludes the role of herbal medicine for the treatment of various diseases and disorders among tribes is crucial. They use different plant parts of local weeds and trees. Majority of the preparations are taken orally and applied on the skin. Local healers play an important role in the life of these communities. A society can be made in the villages that will look after the conservation of important medicinal and economical plants. Universities, Colleges, NGOs and other agencies should come ahead and take up a village of their own region. These organizations can play essential role in conservation of significant medicinal plant.

A medicinal plant garden/ herbal garden and green house can be prepared in the village itself. At one side there is need of *Ex-situ* and *in-situ* conservation, on the other hand, preservation by documentation of traditional Ethno-medicinal-botanical knowledge is highly desirable. Local healers of targeted region should be given support time to time.

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