

Ethnobotanical Studies on Plant Resources of Tahsil Multai, District Betul, Madhya Pradesh, India

Dinesh K. Dahare* and Aruna Jain**

**Asst. Prof. Botany S.N.G.G. P.G. Autonomous College

*Research scholar S.N.G.G.P.G. Autonomous College Shivaji Nagar, Bhopal - 462016.

* Corresponding Author, e-mail: dinesh_dahare@rediffmail.com

Issued: 01 June, 2010

Abstract

The present investigation was carried out in Tahsil Multai, a region dominated by the Korku and Gond tribes. A large number of traditional herbal healers exist belonging to the tribal community and are utilizing local plants in ethno-medicinal practices prevalent in the area and resulted in the documentation of 47 medicinal plant species belonging to 29 families and 45 genera. The study thus underlines the potentials of the ethnobotanical research and the need for the documentation of traditional ecological knowledge pertaining to the medicinal plant utilization for the greater benefit of mankind in different regions.

Key words: Ethnobotanical studies, Gond tribe, Korku tribe, Traditional ecological knowledge.

Introduction

Ethnobotany records the history and current state of human kind, even while foretelling the future. As a discipline ethnobotany gives us a profound understanding and appreciation of the richness and intimacy of relationships between humans and nature. Indigenous people throughout the world possess knowledge of their surrounding flora and fauna. Tribal people are the ecosystem people who live in harmony with the nature and maintain a close link between man and environment. Plants are the basis of life on earth and are central to people's livelihoods. The life, tradition, culture of tribals have remained almost static since last several hundreds of years. The knowledge accumulated by them through a long series of observations from one generation to another is transmitted oral communication for power possessed by medicinal plants in cure of various diseases and ailments. The need for the

integration of local indigenous knowledge for a sustainable management and conservation of natural resources receives more and more recognition (Posey, 1992). Moreover, an increased emphasis is being placed on possible economic benefits especially of the medicinal use of tropical forest products instead of pure timber harvesting (Pimbert and Pretty, 1995).

District Betul is one of the backward districts in Madhya Pradesh, India which is lying on the southern part of the state, almost wholly on the Satpura Plateau. The district extends between 21° 22' and 22° 24' North latitude and 77 ° 04' and 78° 33' East Longitude and occupy about area of 10,078.1 sq.km and divide into 5 tahsils namely Multai, Shahpur, Amla, Bhainsdehi, and Betul. 39.3 % area covers the medium and open forests. Betul hosts tropical dry deciduous forests of South division forests of Madhya Pradesh (Champion and Seth, 1968). Betul is apparently a tribal district, where 39.43% of the total population is Gond and Korku tribals. They choose faith healing first, traditional herbal medicine next and modern medicine only when the first two have failed. The population of tribe's was low in tahsil Multai (9.8%). They have not made any changes in their life style or tried to adapt to modernity. Their meal is simple and usually consists of luchka made from rice. They collect the firewood for marketing purpose. The earlier study on the ethnobotany in Madhya Pradesh on traditional health care by numerous ethno- botanists such as Bhalla et. al. (1992), Jain (1963, 1975, 1981), Maheshwari (1989 & 1996); Maheshwari and Dwivedi (1988), Ram Prasad et. al. (1990), Rai *et. al.* (1996, 2002, 2003, 2004), Rai et.al. (2004 a, 2004 b, 2004 c), Rai and Nath (2005), Saxena and Shukla (1971), Saxena (1988) and Tewari (1984). However, Multai tahsil of Betul is relatively unexplored and little work has been done in context of ethnobotany because of low population of tribe's. So, the present study was undertaken. Information on ethnomedicinal plants used by Korku and Gond of Multai tahsil, for the various ailments and disorders recorded during field trips has been documented in this study.

Materials & Methods

A survey was carried out during 2006 to 2008 to collect information on the medicinal uses of plants found in the Korku and Gond inhabited villages of Jamunjhiri, Divitya, Amabagholi, Sarra, Nirgud, Hardoli, Khapa Umaria and Joulkheda located in the plains. Name of villages mainly based on local name of plants like Jamun (*Syzygium cumini*), Amba (*Mangifera indica*), Nirgud (*Vitex negundo*), Hard (*Terminalia chebula*), Jou (*Hordeum vulgare*). The above villages lie at (21°74'N latitude and 78° 23'E longitudes) and belong to the Betul plateau of Satpura, Central India. While

collecting information on ethno medicinal plants special attention was paid to record information from local Vaidyas, Ojhas and Guniyas and traditional herbal healers. The information was documented involving field study by contacting and interviewing vaidys, ojhas for plants used to cure various types of fever. There were 26 informants (22 males and 4 females) between the ages of 35 to 82 in the study area. Among them 6 were workers, 4 were housewives and 16 regular tribal practitioners

Ethnobotanical data were collected according to the methodology suggested by Jain. The ethnobotanical data (local name, mode of preparation, medicinal uses) were collected through questionnaire, interviews and discussions among the tribal practitioners in their local language. The information recorded in field was further screened in laboratory as per work pertaining to Indian ethnobotany and plants recorded by Chopra et.al. (1982), Nadkarni (1982), Jain (1981, 1991) , Jain (1996), Sathpathy and Panda (1992) to distinguish the information already known, reported and published by taxonomists and ethno-botanist and little known and unpublished work. Specimens were identified with the help of Flora of Madhya Pradesh: Vol. I, II, III (B.S.I.). The identification of plant materials was confirmed at the herbarium of Tropical Forest Research Institute, Jabalpur, Madhya Pradesh (India).

Results & Discussion

The present investigation comprises 47 species of ethno-medicinal plants belonging to 45 genera and 29 families. For each species botanical name, family, local name, parts used, methods of preparation, administration and ailments treated are provided. Traditional healers are using these plants to cure many diseases like stomachache, headache, diarrhea, fertility problems, skin problems, cold, fever, cough, toothache, jaundice, wounds, diabetes, asthma, tuberculosis, bone fractures, urinary problems, piles and poison (snake and scorpion) bites. Trees (27 species) were found to be the most used plants followed by herbs (11 species), shrubs (6 species) and climbers (3 species) in descending order. The most dominant families in the study were, Anacardiaceae and Fabaceae (4 species each), Euphorbiaceae, Liliaceae and Combretaceae (3 species each), while Acanthaceae, Asclepiadaceae, Rubiaceae, Amaranthaceae, Myrtaceae and Sapotaceae (2 species each), and Meliaceae, Rhamnaceae, Sterculiaceae, Vitaceae, Apocynaceae, Asteraceae, Lamiaceae, Moraceae, Lythraceae, Santalaceae, Loganiaceae, Ranunculaceae, Cochlospermaceae, Plumbaginaceae, Bombacaceae, Balanitaceae, Papavaraceae and Rutaceae (1 species each). The first hand information on the medicinal plants used by the villagers was arranged alphabetically by genus and species name following as.

Acacia catechu Linn. (Fabaceae)

Local name :- Khair

Uses:- 20 ml decoction of bark is used twice a day to cure stomachache.

Achyranthus aspara Linn. (Amranthaceae)

Local name :- Aghara

Uses:- 15 gm powder of seed uses a week, twice a day to cure bleeding piles .

Adhatoda vasica Nees in wall. (Acanthaceae)

Local name :- Adusa

Uses:-Juice prepared by fresh leaves is used to cure cough and asthma.

Aegle marmelos Linn. (Rutaceae)

Local name:- Bel

Uses:-Dried powder of pulp of unripe fruit is used to cure diarrhea.

Allium cepa Linn. (Liliaceae)

Local name: - Kanda

Uses: - Crushed bulb paste is used with salt to relief from poison of scorpion.

Amaranthus spinus Linn. (Amranthaceae)

Local name: - Katera

Uses: - Poultice of whole plant body is used to cure poisonous swelling of hands and feet's.

Anogeissus acuminata (Roxb. ex DC.) Wall. (Combretaceae)

Local name: - Dhavra

Uses: - Poultice is applied on snake bite wounds.

Argemone mexicana Linn. (Papavaraceae)

Local name: - Peeli kateri

Uses: - yellow colored latex extracted from fresh stem is used to cure wounds.

Asparagus recemosus Linn. (Liliaceae)

Local name: - Bhutni

Uses: - Fumes of roots is used to cure fever with the help of blanket.

Astercantha ulongifolia Linn. (Acanthaceae)

Local name: - Tal makhana

Uses: - Extract of seeds use for less painful delivery.

Azadiracta indica A.Juss. (Meliaceae)

Local name: - Neem

Uses: - Crushed leaves are used to cure many skin diseases, very frequently used by people.

Balanites aegyptica Linn. (Balanitaceae)

Local name: - Hingota

Uses: - Pulp of fruit is used with mother's milk in children pneumonia.

Bauhinia variegata Linn. (Fabaceae)

Local name: - Kachnar

Uses: - 25 ml decoction is used 15 days to cure knots of tuberculosis.

Blumia lacera DC. (Asteraceae)

Local name: - dhur

Uses: - Juice of roots is used to cure many urinary diseases.

Bombax ceiba Linn. (Bombacaceae)

Local name: - Semar

Uses: - 10 gm Powder of bark is used 7 days, twice a day to cure diarrhea.

Buchnanania lanzan Spreng. (Anacardiaceae)

Local name: - Char

Uses: - Powder of leaves is used during loose-motion.

Butea monosperma Roxb.ex Willd. (Fabaceae)

Local name: - parsā

Uses: - Juice of flower and seed is used to cure stomachache and decoction of bark for piles.

Calotropis gigantea (Linn.) R. Br. (Asclepiadaceae)

Local name: - Akua

Uses: - Crushed roots paste is applied on snake bite wound, very commonly applied by poison healers.

Chlorophytum arundinaceum Linn. (Liliaceae)

Local name: -Safed musli

Uses: - 20 gm powder of tubers is used with milk in case of impotency.

Cissus quadrangularis Linn. (Vitaceae)

Local name: -Harjod

Uses: - Paste prepared from internodes is used in bone fracture of cattle.

Clematis triloba Linn. (Ranunculaceae)

Local name: -Badarsiti

Uses: - Juice of leaves is used in asthma also crushed leaves applied on snake bite wounds.

Cochlospermum religiosum (Linn.) Alston. (Cochlospermaceae)

Local name: -Gabdi

Uses: - Powder of bark is used with water during jaundice.

Emblica officinalis Gaertn. (Euphorbiaceae)

Local name: -Amla

Uses: - Powder of fruits is used as purgative also used as cooling agent of stomach.

Erythrina variegata Linn. (Fabaceae)

Local name: -Pangra

Uses: - 10 ml juice of leaves is used twice a day in children whopping cough.

Ficus glomerata Linn. (Moraceae)

Local name: -Oombar

Uses: - Latex extracted from bark is tied on stomach with bidi wrapper to cure stomachache.

Gardenia gummifera Linn. (Rubiaceae)

Local name: -Papra

Uses: - Gum extracted from stem is used as antiseptic.

Helicteres isora Linn. (Sterculiaceae)

Local name: -Marorphali

Uses: - Powder of seeds is used 7 days, twice a day to cure stomachache.

Hemidesmus indicus Roem & Shultes. (Asclepiadaceae)

Local name: -Antmul

Uses: - Decoction of roots is used thrice a day for a month to cure many skin diseases and purify blood.

Holorrhena antidysentrica Wall. Ex G. Don. (Apocynaceae)

Local name: -Kurchi

Uses: - Decoction of bark is used in dysentery and piles.

Lannea coromandlica A. Rich. (Anacardiaceae)

Local name: -Kakad

Uses: - powder of fruits is used for a week ,twice a day to cure wounds.

Madhuca latifolia Gmel. (Sapotaceae)

Local name: -Mahua

Uses: - Fresh heated leaves are tied to cure swelling and wounds.

Mallotus philipensis (Lam.) Muell. (Euphorbiaceae)

Local name: -lal jahar

Uses: - Powder of fruit covers is used in early morning with jaggery to cure stomachache.

Mangifera indica Linn. (Anacardiaceae)

Local name: -Amba

Uses: - juice of seeds is use to cure nostril bleeding.

Manilkara hexendra Roxb. (Sapotaceae)

Local name: - Khirni

Uses: - 30 gm powder of bark is used a month, thrice a day working as astringent tonic.

Mitragyna parvifolia (Roxb.) Karth. (Rubiaceae)

Local name: - Kaim

Uses: - 20 ml extract of bark and root is used one week, twice a day to cure fever.

Ocimum sanctum Linn. (Lamiaceae)

Local name: - Tulsi

Uses: - Fresh leaves chewed during cough and cold.

Plumbago zyleneica Linn. (Plumbginaceae)

Local name: - Chtawar

Uses: - Paste of roots tied on stomach for a week thrice a day to cure abscess disease.

Ricinus communis Linn. (Euphorbiaceae)

Local name: - Arandi

Uses: - 10 gm paste of roots of three year old plant is used to stop abortion.

Oil of seeds use as purgative.

Santalum album Linn. (Santalaceae)

Local name: - Chandan

Uses: - Oil extracted from roots used in gonorrhoea disease.

Semecarpus anacardium Linn. (Anacardiaceae)

Local name: - Bhilwa

Uses: - Oil extracted from burned stony fruit is used to fill cracks of heels.

Strychnous nuxvomica Linn. (Loganiaceae)

Local name: - Kuchla

Uses: - Seeds are used to preventing hydrophobia after biting dog.

Syzygium aromaticum Gaertn. (Myrtaceae)

Local name: - Long

Uses: - Oil and raw used to cure teeth's pain.

Syzygium cumini Linn. (Myrtaceae)

Local name: - Jamun

Uses: - 15 gm powder of seeds is used 3-4 days to cure diabetes.

Terminalia arjuna (Roxb.ex DC.) Wt. & Arn.Prodr. (Combretaceae)

Local name: - Kahua

Uses: - 25 ml decoction of bark is used as tonic to avoid heart problems.

Terminalia chebula Linn. (Combretaceae)

Local name: - Harad

Uses: - Fruits are used as purgative, roasted fruits are used a week, twice a day to cure cough.

Very popular treatment for curing cough.

Woodfordia fruticosa Linn. (Lythraceae)

Local name: - Dhawai

Uses: - Paste of fresh leaves is used to cure many skins diseases.

Zizyphus numularia (Burm.f.) Wt. & Arn. Prodr. (Rhamnaceae)

Local name: - Ber

Uses: - 15 ml extract of bark is used 7 day, thrice a day to cure diarrhea.

Korku and Gond tribal practitioners use specific plant parts and specific dosages for the treatment of ailments. The plant products are consumed raw or in the form of a decoction, as infusion for oral treatment and as burnt product, ointments or raw paste when applied externally. The parts of the plant most used for medicinal purposes are leaves, root, stem, fruits, the complete aerial parts, the whole plant, barks (root and stem) and flowers (including the flowering heads) in decreasing order. Juice and paste are the main methods of preparation, either for oral or for external administration. One important thing is that tree species mostly used in place of herbs in that region because low vegetation herbaceous layer not well developed. They mix several plants as ingredients to cure diseases immediately. Generally, fresh part of the plant is used for the preparation of medicine. When fresh plant parts are not available, dried parts are also used. Majority of medicinal plants are used as simple drugs and some plants are used with some other plant parts. It is interesting to note that such a way of life, particularly with respect to healthcare practices has hardly undergone any change even in the present day.

Conclusion

The information generated from the present study regarding the medicinal plant use by the Gond and Korku tribes need a thorough phytochemical investigation including alkaloid extraction and isolation along with few clinical trials. This could help in creating mass awareness regarding the need for conservation of such plants and also in the promotion of ethno-medico-botany knowledge within the region besides contributing to the preservation and enrichment of the gene bank of such economically important species before they are lost forever. Unsustainable use of land resources has

serious negative effect on the flora of this region. Sometime, over exploitation of a particular species can also lead to the incidental disappearance of other non-targeted species. People of that region realize on ethnomedicine and in most problems they gone to ojhas, gunias and bhumkas because of the poor health care condition. There are a lot to be done in this promising field with the active support of village people so that importance of these economically important plants could be rejuvenated for the benefit of our future generations and also need to improve health care condition.

Acknowledgments

The authors are grateful to the local traditional healers of Multai tehsil for sharing their knowledge on herbal medicine. We also thank Tropical Forest Research Institute, Jabalpur, Madhya Pradesh (India), for permitting to confirm the identified plant specimens with herbaria.

References

- Bhalla S, Patel JR, Bhalla NP. 1992 . Ethnomedicinal studies of Genus *Indigofera* from Bundelkhand region of M.P. *J.Econ. Tax. Bot . Addl.Series* 10: 221-332 .
- Champion, H.G. and S.K. Seth, 1968. *A Revised Survey of the Forest Types of India*. Govt. of India Press, New Delhi, India.
- Chopra RN.Chopra IC, Handa KL, Kapur LD.1982. *Indigenous Drugs of India*. Second edition (Reprinted) Academic Publishers, New Delhi.
- Jain SK. 1963. Observation on Ethnobotany of tribals of M.P. *Vanyajati* 11(4): 177-187.
- Jain SK. 1975. Ethnobotany of Central India Tribals. *J. Indian. Bot. Soc. Abstract.* 1 (6): 63.
- Jain SK (edited). 1981. *Glimpse of Indian Ethnobotany*. New Delhi:Oxford and I.B.H Pub.
- Jain SK. 1991. *Dictionary of Indian Folk Medicines and Ethnobotany*. New Delhi: Deep Pub.
- Jain SP. 1996. Ethno- Medico –Botany cal survey of Chaibasa singbhum district, Bihar *J. Econ . Tax. Bot. Addl Series:* 12: 403-407.
- Maheshwari JK. 1989. Case study of three primitive tribes of M.P. (Abujhmarias, Baigas, and Bharias) of Central India. In *Methods and Approaches in Central India*. Society of Ethnobotanists Lucknow: 187-188.
- Maheshwari JK. 1996. Ethnobotanical documentation of primitive tribes of Madhya Pradesh. *J. Eco.Taxon.Bot. Additional series* 12: 206-213.
- Nandkarni AK. 1982. *Indian Materia Medica Popular Prakashan Bombay Vol I&II* (reprinted).
- Pimbert, M. and J. Pretty, 1995. *Parks, people and professionals: Putting participation into protected area management*. UNRISD Discussion Paper 57, Geneva.
- Posey, D., 1992. *Traditional Knowledge, Conservation and the Rain Forest Harvest*. In:

- Sustainable Harvest and Marketing of Rain Forest Products, Plotkin, M. and L. Famolare (Eds.). Island Press, Washington DC., pp: 46-50.
- Prasad R, Pandey RK, Bhattacharya P. 1990. Socio-Economic and Ethno-media–botanical studies of Patakot region. A case study of Bhariya Tribes. Proc. National Seminar on Medicinal & Aromatic plants. SFRI, Jabalpur: 46 – 59.
- Rai BK, Ayachi SS, Rai A. 1996. A note on Ethno-medicines from Central India. J. Econ. Taxon. Bot. Additional Series 12: 186 – 191.
- Rai R, Nath V, Shukla PK. 2002. Ethno-medicinal studies on Bhariya Tribes in Satpura plateau of Madhya Pradesh. Agriculturist 13 (1 & 2): 109 -114 .
- Rai R, Nath V, Shukla PK. 2003. Ethnobiology of Hill Korwa Tribes Chhattisgarh Journal of Tropical Forestry, SFRI, Jabalpur 19 (1&2): 35-46.
- Rai R. 2004. Madhya Pradesh ke adivasiva Van aushadhi ka prayog, Arnavotsav: 19-20
- Rai R, Nath V, Shukla PK. 2004(a). Ethnobotanical studies in Patakot Valley in Chhindawara district of Madhya Pradesh Journal of Tropical Forestry, SFRI, Jabalpur 20 (2): 38-50.
- Rai R, Nath V, Shukla, PK. 2004 (b). Characteristics and Ethnobotanical studies on Primitive tribes of Madhya Pradesh” In Govils (edited) Recent progress in Medicinal Plants. Chapter Ethno- medicine and Pharmacognosy. New Delhi: Research Book Centre, p : 8 (37): 543– 552.
- Rai R, Nath V, Shukla PK. 2004 (c). Ethnobiological studies on Bhariya tribes of Madhya Pradesh J. of Tropical Forestry 20 (1): 150-160.
- Rai R, Nath V. 2005. Use of Medicinal Plants by traditional herbal healers in Central India. Indian Forester. 13 (3): 463-468.
- Satpathy KB, Panda PC. 1992. Medicinal use of some plants among tribals of Sundergarh district Orissa. J.Econ. Tax. Bot. Addl Series. 10 : 241- 249.
- Saxena HO, Shukla CS. 1971. Medicinal Plants of Patakot, Chhindwara. Tech Bull No 13, Pub SFRI, Jabalpur.
- Saxena HO. 1988. Observation on ethnobotany of Madhya Pradesh. Bull. Bot. Survey of India.28: 149 - 156.
- Tewari DN. 1984. Primitive Tribes of Madhya Pradesh. Strategy for Development. New Delhi: GOI.

