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

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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 Joulkhed 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 vaids, 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, Papaveraeae 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.

_Buchanania lanzan_ Spreng. (Anacardiaceae)
Local name: - Char
Uses: - Powder of leaves is used during loose-motion.

_Butea monosperma_ Roxb.ex Willd. (Fabaceae)
Local name: - parsa
   Uses: - Juice of flower and seed is used to cure stomachache and decoction of bark for piles.

_Calotropis gigentia_ (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.

_Cochlopermum 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 whooping 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.

Holorrhoeana 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 zylenica* 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 gonorrhea 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.

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