

# Ethnotherapies of Various Human Ailments by Wild Plants Used by the Tharus of Indo-Nepal Sub-Himalayan Terai International Border Region of Rohilkhand Division of Uttar Pradesh, India

Gopal Dixit\* and Shilpa Vakshasya

Department of Botany, Upadhi PG College (MJP Rohilkhand University), Pilibhit-262001, Uttar Pradesh, India

## Abstract

The traditional usage of wild medicinal plants among tribals of Indo-Nepal sub Himalayan terai region of Pilibhit district of Uttar Pradesh state was studied. Ethnotherapeutic information on 22 plant species was recorded during the extensive field survey carried out in the study area. The information covers botanical names, vernacular names, their family, plant part used and mode of usages in common human diseases like cold/ cough, jaundice, spermatorrhoea, arthritis, snake and scorpion bite, urinary infection, general debility and ulcers etc. The present study was undertaken with chief objective of conservation and documentation of conventional uses of these medicinal plants of the study area.

**Keywords:** Human ailments; Tharus; Wild plants; Indo-Nepal sub Himalayan terai region; International border

## Introduction

India is one of the richest plant diversity centre of the world comprising of more than 45,000 plant species and has about 550 ethnic communities which are interlocked with each other as mentioned in the "Dictionary of Indian folk Medicine and Ethnobotany"[1]. Traditional medicine is an important aspect of human healthcare world over. It comprises of knowledge, practice and experiences that have been passed on from generation to generation. Herbal treatments are becoming more popular even among civilized world for the treatment of several minor diseases due to their easier availability, low cost and no or very less side effects. Less known uses of the natural plant resources found near by the ethnic communities have been carried out earlier under the All India Coordinated Research Project on Ethnobiology (AICRPE).

Indo- Nepal sub Himalayan terai region of Rohilkhand division of Uttar Pradesh state comprises of mainly forest dwellers in the vicinity of Pilibhit Tiger Reserve (PTR) which has been established in the year 2015. Tharu is the main tribal community of this region. They provide ethnotherapies to the diseased persons traditionally in their community. Ethnobotanical studies on various issues related to Indo- Nepal sub Himalayan terai region of Uttar Pradesh have been carried out earlier [2-4] but little or no work has so far been done on this discipline.

## Study Area

Pilibhit district (Figure 1) occupies a large area of 3504 square km which is comprises of second largest forest cover (78478 Hectare) of Uttar Pradesh state of India. District is extending between 28°38'59"N Latitude and 79°52'21" E Longitude in the western part of the state. The average precipitation is 780 mm and minimum and maximum temperature is 14.5°C and 40°C respectively. Indo- Nepal sub Himalayan terai region is a part of upper gangetic plain with highly fertile alluvial soil. Study area has good population of tribal people like Tharus, Van Gujjars, Kanjars etc. Tharus have their own culture, language and traditional livelihood. Collection of minor forest products (MFP) from the forest and selling them in nearby markets is the main source of income to buy their daily need commodities. They are very often using herbal recipes for the sure cure of various human and veterinary ailments [5-8].

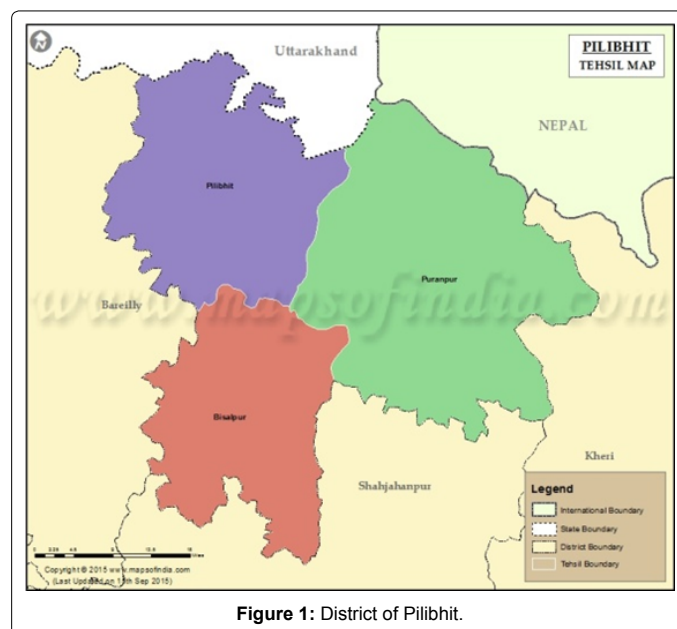


Figure 1: District of Pilibhit.

## Materials and Methods

For the present discipline, ethnomedicobotanical exploration surveys were undertaken during 2015-2018 for the systematic documentation of traditional knowledge regarding ethnotherapies for the treatment of various complaints of tribal population and first-hand information was collected from them [9].

\*Corresponding author: Dixit G, Department of Botany, Upadhi PG College (MJP Rohilkhand University), Pilibhit-262001, Uttar Pradesh, India, Tel: +91-9412196698; E-mail: [gopaldixit2k@yahoo.com](mailto:gopaldixit2k@yahoo.com)

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The information was gathered using a questionnaire based survey along with informal discussions with the experienced tribal people. The gathered information was cross checked with herbal practitioners and available literature. Voucher specimens were collected and identified with the help of flora [10,11] and identified species were deposited in the herbarium of Botany department of Upadhi PG College, Pilibhit.

## Enumeration

The medicinal plants are enumerated alphabetically followed by their Botanical names, family, local names, voucher specimen number, plant part used and methods of drug preparation along with mode of administration etc.

### ***Asparagus racemosus* Willd (Liliaceae), Shatavari, UMV-18**

- Juice of fresh roots is taken orally with milk twice a day for the cure of white discharge of Leucorrhoea and associated pelvic pain in women.

### ***Acacia nilotica* (L) Deli sp. *indica* (Benth) Bren (Mimosaceae), Babool, UMV-24**

- Green twig of the plant is chewed and brushed in case of swollen and bleeding gums and in pyorrhoea.
- Dried gum obtained from the stem is fried and given orally to the patients suffering from back pain of vertebral column.

### ***Achyranthes aspera* L (Amaranthaceae), Chirchita, UMV- 70**

- Fresh leaves decoction is applied externally over bites of spider and honeybees.
- Root paste is applied externally on piles infected parts of the anus, and roots are grounded with sugar and *Piper nigrum* seeds in 3:2:1 ratio and given orally in morning with milk for the sure cure of anal piles.

### ***Argemone maxicana* L (Papaveraceae), Pili Kataiya, UMV- 27**

- Ripen seeds are boiled in *Brassica* and this preparation is applied externally over the eczema affected parts of the body.
- Fresh latex is applied on the jaundice affected parts of the body, once a day, till cure.

### ***Boerhaavia diffusa* L (Nyctaginaceae), Punarnava, UMV- 21**

- Decoction of fresh roots is taken orally for the cure of diarrhea and dysentery.
- Table spoonful green leaves juice is recommended orally twice a day for a week to cure jaundice.

### ***Butea monosperma* (Lamk) Taub (Fabaceae), Dhaak, UMV- 37**

- One tea spoonful seed powder is taken orally to cure diarrhea and dysentery.
- Resin obtained from stem bark is mixed with honey to make paste which is used to cure diarrhea, dysentery and also found very effective in patients suffering with spermatorrhoea.

### ***Bombax ceiba* L (Bombacaceae), Semargulla, UMV-34**

- Dropped fresh flowers are cooked as vegetable and given to cure female sterility.

- Sepals are cooked with red potatoes and consumed as vegetable for the sure cure of spermatorrhoea cases.

- Sepals are sun dried and grounded as powder. This powder is administered in the cases of constipation and gastric disorders.

### ***Ficus benghalensis* L (Moraceae), Bargad, UMV-83**

- Juice of its Fruit is given to improve general debility in human beings and also recommended for long healthy life.
- Latex of the plant is shade dried and pills made from it are advised one pill a day with milk at night to improve sperms quality and also in spermatorrhoea cases.

### ***Cassia fistulosa* L (Caesalpiaceae), Amaltas, UMV- 81**

- Pulp of fruits is mixed with mustard oil and very commonly recommended to those suffering from acute constipation, both in the cases with humans and their pet animals.

### ***Datura stramonium* L (Solanaceae), Dhatura, UMV- 62**

- Green mature leaves are warmed over the flame and applied externally on the enlarged testicles to reduce swellings and inflammation.

### ***Cynodon dactylon* (L) Pers. (Poaceae), Doobghass, UMV- 60**

- For the treatment of anemia in women, juice of green plants is advised very frequently.
- For the sure cure of bloody dysentery juice of it is recommended with sugar, one tea spoonful twice a day for a month.

### ***Chenopodium album* L (Chenopodiaceae), Bathua, UMV-64**

- Twigs of green plants are cooked as vegetable for the cure of anemia in women and children due to high presence of Iron in it.

### ***Cuscuta reflexa* Roxb (Cuscutaceae), Amarbel, UMV- 52**

- Fresh paste of green plants is applied externally over white spots and patches on the human body at night daily.
- Plant juice from fresh plants is recommended orally twice a day in the patients suffering from jaundice.

### ***Euphorbia hirta* L (Euphorbiaceae), Duddhi, UMV- 49**

- Fresh plants are crushed to make a paste and this paste is given orally in case of stomach disorders.

### ***Ipomoea aquatica* Forsk (Convolvulaceae), Naari Ka Saag, UMV- 77**

- Green plants are consumed as vegetable for the eye sight improvement.

### ***Ranunculus scleratus* L (Ranunculaceae), Jal Dhaniya, UMV- 63**

- Fresh leaves juice is used externally over the fungal affected areas on the skin preferably at night.

### ***Xanthium strumarium* L (Asteraceae), Kuthiya, UMV- 44**

- Green fruits are crushed to make a paste and this paste is applied externally over the swollen and painful joints affected by arthritis.

### ***Ocimum sanctum* L (Lamiaceae), Tulsi,UMV- 42**

- Juice of green leaves is given to children and old age patients to improve immunity against various infectious agents.
- Decoction of leaves is mixed with pure honey and taken orally to get relief from cough, cold, fever and bronchitis, respiratory problems, etc.

### ***Saccharum spontaneum* L (Poaceae), Kaans, UMV- 37**

- In summers, tribal people digged out roots and make a paste of them. This paste is often used to get relief from burning in urinary bladder, both in male and females.

### ***Ricinus communis* L (Euphorbiaceae), Arandi, UMV-07**

- Oil obtained from seeds is highly purgative and very commonly used to treat acute constipation and dryness in digestive disorders.
- Green leaves are warmed over the flame and placed over the internal wounded areas of the body to get relief from pain and swellings.

### ***Mimosa pudica* L (Mimosaceae) Chuimui, UMV- 55**

- Paste from green leaves is applied externally to cure Bruises.
- Paste of roots is prepared in Ricinus oil and this is applied externally over the affected testicles in the patients suffering from hydrocele.

### ***Nelumbo nucifera* Gaertn (Nelumbonaceae), Kamal kakri, UMV-51**

- Dried underground Rhizome is powdered and recommended to take one tea spoonful powder twice a day to treat piles.
- Paste of petals is advised twice a day to the female patients suffering from dysmenorrhoea

## **Results and Discussion**

The present manuscript deals with 22 species of medicinal plants used very frequently to cure various human diseases by the tribal and other rural people of the study area.

These angiosperm plants belong to 19 families and 22 genera. In terms of the number of species with medicinal properties, the family Poaceae, Euphorbiaceae and Mimosaceae dominated by 2 species. Most popular plant species in the form of demand and number of disease cured is "Bombax". Among commonly used plant parts, green leaves are the most frequently used part followed by roots, green plants, stem, seeds, flowers and fruits etc. As far as frequency of mode of administration of medicines is concerned, paste of different parts of plants (7 cases), followed by juice (4 cases), whole plant (3 cases), decoction (3 cases), powder (2 cases), and seeds oil (1 case). Methods

of drug preparation and their application vary according to type of disease. In this ethnomedicobotanical survey of the study area, more than 20 types of ailments were recorded. Out of these, cold and cough, diarrhea, dysentery, liver disorders, jaundice, spermatorrhoea and leucorrhoea were the most often cured ethnotherapies. Most of the herbal drugs reported in this investigation are based on single plant species however in few cases mixtures of different plants have also been noticed. Use of various non-herbal ingredients like curd, honey, sugar, salts, cow ghee, alum etc. were used frequently to make these herbal preparations most effective.

Documentation of this traditional knowledge has provided novel information from the study area and points to further need for phytochemical and pharmacological testing for better use of these plants based natural resources in future.

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