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Ethnomedicinal Plants Used For The Treatment Of Different Types Of Fever In Sonbhadra District, Uttar Pradesh.

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Abstract

Eighty-five percent of individuals rely directly or indirectly on plants for their basic needs. Ethnobotany is a unique field within natural resources that explores the connection between plants and humans, considering various factors such as botany, economics, medicine, religion, culture, and other traditional necessities**.** Present study 46 angiospermic plants species associated with 43 genera and 23 families are recorded, that are used for the treatment of various types of fever's as well as other disease by the tribe, rural and local community of the Sonbhadra district.

Keyword. Ethnobotany, fever, tribal community, Sonbhadra district, Uttar Pradesh.

Introduction

Sonbhadra district is the 2nd largest district of Uttar Pradesh after Lakhimpur Kheri. It is situated at 24°41'23" in North latitude and 23°03'55" in East longitude with an area of 6,788 sq. km. at an elevation of 285 feet above sea level. It is a unique district of India that shares its boundaries with four different neighbouring states, such as Madhya Pradesh, Chhattisgarh, Jharkhand, and Bihar. It is also surrounded by the Mirzapur and Chandauli districts of Uttar Pradesh. Administratively, the district is divided into four tehsils, Ghorawal, Dudhi, Obra, and Robertsganj, and eight blocks: Ghorawal, Chatra, Chopen, Robertsganj, Babhani, Myorpur, and Duddhi. Sonbhadra district has the highest diversity of tribal communities in the entire state of Uttar Pradesh, such as Gond, Kharwar, Baiga, Ghasia, Panika, Chero, and Kol. They are depending on medicinal plants for treatment of different types of fever, for example, malaria, bilious, intermittent, chronic, cooling, typhoid, dengue, and viral fever. This information was given by local communities with the help of a questionnaire and face-to-face interviews. Traditional knowledge related to plant use is transmitted orally from the old generation to the younger generation with the help of stories, rituals, and daily uses.

In India, ethnobotanical research has been carried out by several scientist and researchers such as Datta and Dutta,2005., Shah and Joshi,1971., Balakrishnan *et al.,*2009., Sharma and Kumar, 2011., Sivasankari *et al*.,2014., Ignacimuthu *et al.,*2008. Kumar and Xu, 2017. Ethnobotanical studies have been done by several scientist and researchers in Uttar Pradesh also such as Narain *et al*., 2005., Kant and Pandey, 2021., Singh *et al.,*2014., Singh *et al*.,2010., Singh *et al*.,2012.,Singh and Dubey,2012., Singh *et al*.,2010., Dubey et al.,2004., Singh and Singh,2009., Shukla *et al.,*2010., Dixit and Pandey,1994., Kumar

et al.,2008 Prajapati *et a*l.,2025., Singh, *et al.*,2022., Dubey *et al*.,2004., Singh and Singh,2009., Srivastav and Shukla,2008, etc. in different study area. For the benefit of future generation, the present research aims to systematically record the traditional medical procedures of the ethnic communities in the study area. This will contribute to the preservation of their valuable indigenous knowledge, which has developed over thousands of years.

Map1: Geographical location of the study area in Sonbhadra District, Uttar Pradesh.

Materials and Methods

With the assistance of locals, a field visit was planned to cover the whole Sonbhadra district. Plant samples were gathered from various locations throughout various seasons and identified based on their uses in tribal life. The collection number, acceptable name, family, type of vegetation, and photos of each specimen should all be noted in a notebook during the collection process. The mounting sheet should have labels that record the plant's botanical name, habitat, location, colour, collector name, specimen collection number, and any other information required for plant identification (Jain and Rao, 1977). Several significant literature and floras were used to identify the specimens (Hooker, 1872–1897). Following appropriate processing and poisoning, these specimens were mounted on herbarium sheets and placed at the Department of Botany, Prof. B.K. Verma Herbarium, Maharaja Bijli Pasi Govt. P.G. College, Lucknow, Uttar Pradesh.

Data collection

In the Sonbhadra district, ethnomedicinal plants used to treat various fevers were gathered and recorded through an extensive field study that took place between December 2024 and August 2025. The study adhered to a planned course of action. Traditional healers, especially older and tribal people with in-depth knowledge of medicinal herbs and their uses, provided information. Direct field observations, in-depth conversations, and a pre-tested questionnaire (included in the supplemental information) were used to gather data. Through interviews with local Vaidya's of the tribal community, knowledgeable individuals, and traditional healers, information about preparation techniques, mode of consumption, shelf life, and dose was recorded.

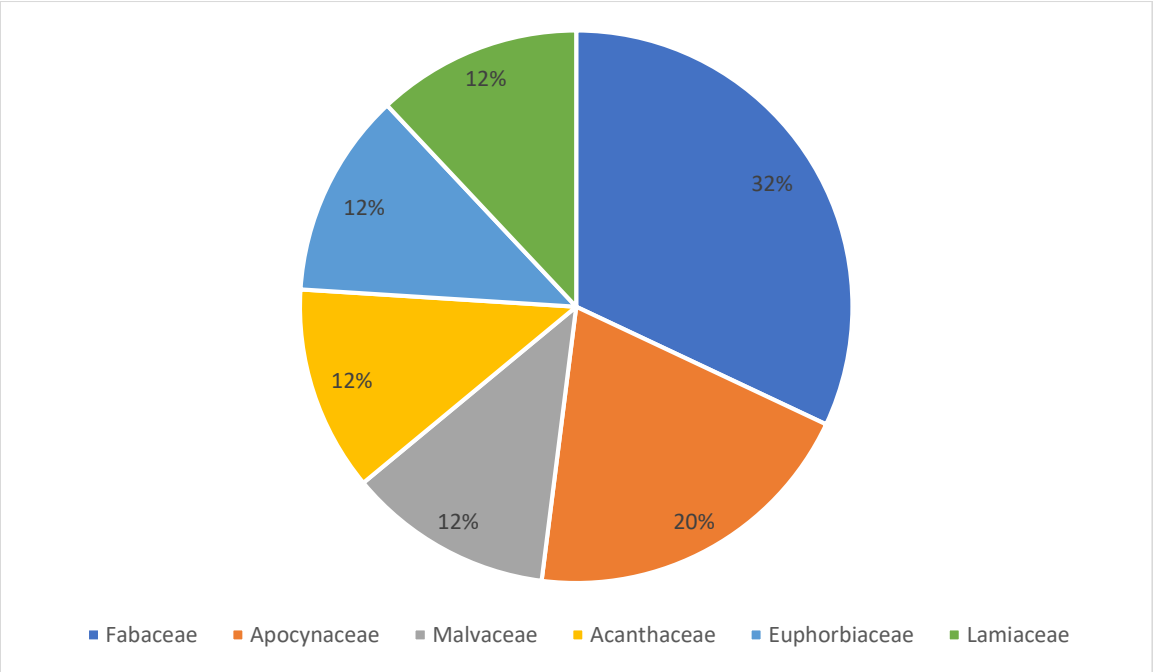

Fig1: Showed Majer Plant families used in ethnobotany

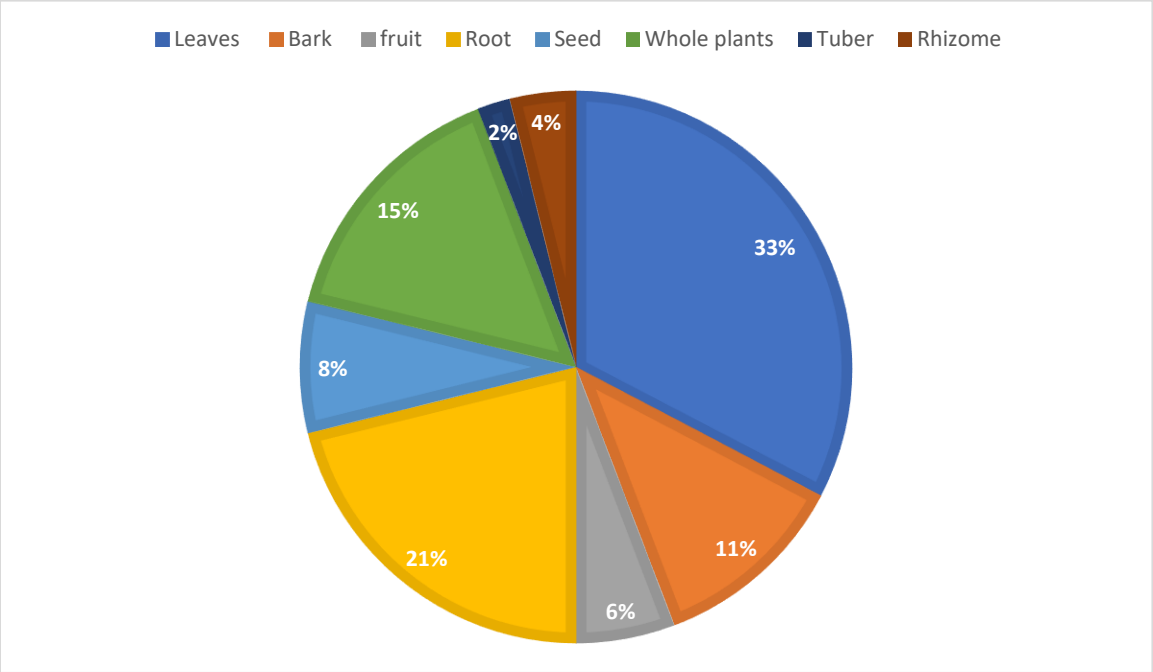

Fig.2 Plant part used in different types of fevers

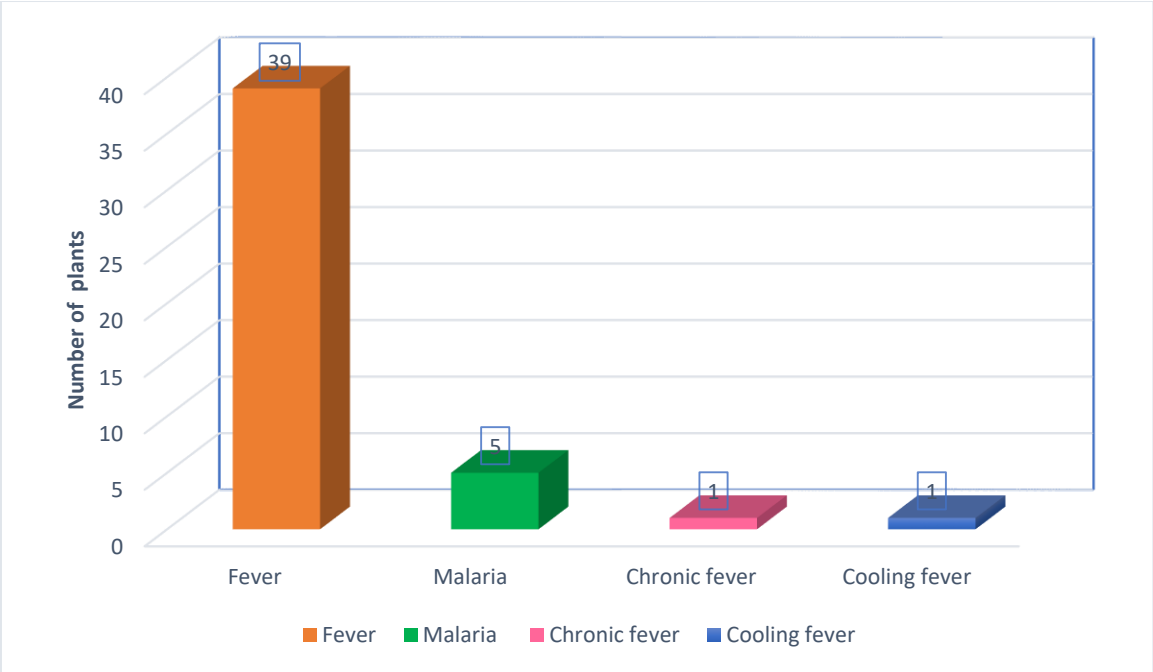

Fig. 3 Various types of fever prevalent in Sonbhadra district are traditionally treated with medicinal plants.

Table 1: Collected data of various medicinal plants used by tribe and local community in Sonbhadra district.

S.no.	Botanical name	Local name	Family	Plant part	Ethnomedicinal uses
1.	*Abrus precatorius* L.	Gumachi	Fabaceae	Leaves	Fever
2.	*Aegle marmelos* (L.) Correa.	Bel	Rutaceae	Bark	Fever
3.	*Aloe vera*(L.) Burm.f.	Ghrit kumari	Asphodelaceae	Leaves	Fever
4.	*Annona squamosa L.*	Sharifa	Annonaceae	Leaves & Fruits	Fever
5.	*Argyreia nervosa* (Burm.f.) Bojer	Bidhara	Convolvulaceae	Leaves	Fever
6.	*Azadirachta indica A.Juss.*	Neem	Meliaceae	Bark	Fever
7.	*Alstonia scholaris* (L.)R.Br.	Saptparni	Apocynaceae	Bark	Malaria fever
8.	*Bombax ceiba* L.	Semal	Malvaceae	Bark	Fever

9.	*Senna occidentalis (L.) Link*	Barkachakwar	Apocynaceae	Leaves	Fever
10.	*Calotropis procera* (Aiton) W.T.Aiton	Madar	Apocynaceae	Root	Fever
11.	*Chlorophytum tuberosum* (Roxb.) Baker	Safed musli	Acanthaceae	Tuber	Fever
12.	*Cleome gynandra* L.	Hul hul	Oxalidaceae	Leaves, Seed	Fever
13.	*Cleome viscosa* L.	Jangali hur hur	Asteraceae	Leaves, Seed	Fever
14.	*Clitoria ternatea* L.	Aparajita	Fabaceae	Root	Fever
15.	*Cordia myxa* L.	Lisora	Boraginaceae	Leaves	Chronic Fever
16.	*Curculigo orchioides* Gaertn.	Kali musli	Hypoxidaceae	Root, Rhizome	Fever
17.	*Cassia fistula* L.	Dhanba	Fabaceae	Leaves	Fever
18.	*Datura innoxia* Mill.	Dhatura	Solanaceae	Seed	Fever
19.	*Echinops echinatus* Roxb.	Gokrul	Asteraceae	Whole plant	Fever, Malaria
20.	*Euphorbia hirta* L.	Dudhi	Euphorbiaceae	Leaves	Fever
21.	*Euphorbia neriifolia* L.	Sehund	Euphorbiaceae	Stem	Fever
22.	*Fumaria indica* (Haussk.) Pugsley	Pitapapra	Papaveraceae	Whole Plant	Fever
23.	*Grewia asiatica* L.	Phalsa	Malvaceae	Fruit, Root	Cooling in fever
24.	*Guilandina bonduc* L.	Karanj	Fabaceae	Seed	Fever
25.	*Gloriosa superba L.*	Kariyari	Colchicaceae	Rhizome	Fever
26.	*Justicia adhatoda* L.	Adusa	Acanthaceae	Whole plant	Fever
27.	*Mesosphaerum suaveolens* (L.) Kuntze	Ban tulsi	Lamiaceae	Whole plant	Fever
28.	*Moringa oleifera* Lam.	Sahijan	Moringaceae	Fruit	Fever

29.	*Nerium oleander* L.	Kaner	Apocynaceae	Root	Fever
30.	*Neolamarckia cadamba* (Roxb.) Bosser	Kadam	Rubiaceae	Root	Fever
31.	*Justicia adhatoda* Linn.	Vasak	Acanthaceae	Leaves, Root	Malaria
32.	*Leucas cephalotes* (Roth) Spreng.	Gumbi	Lamiaceae	Whole plant	Fever
33.	*Manihot esculenta* Crantz	Kasava	Euphorbiaceae	Leaves	Malaria
34.	*Nyctanthes arbor – tristis* L.	Harsingar	Oleaceae	Bark, Leaves	Fever
35.	*Ocimum tenuiflorum* L.	Tulsi	Lamiaceae	Leaves	Fever
36.	*Ocimum basilicum L.*	Babui – tulsi	Lamiaceae	Leaves	Fever
37.	*Oxalis debilis* Kunth	Khatti booti	Oxalidaceae	Leaves	Fever
38.	*Pterocarpus marsupium* Roxb.	Bijasal	Fabaceae	Wood, Bark	Fever
39.	*Phyllanthus fraternus* G.L.Webster	Awla	Phyllanthaceae	Whole plant	Malaria
40.	*Pueraria tuberosa* (Roxb. Ex Willd.) DC.	Ghoar – bel	Fabaceae	Root	Fever
41.	*Pleurolobus gangeticus* (L.) J.St. – Hil.ex H. Ohashi & K. Ohashi	Salarni	Fabaceae	Root	Fever
42.	*Rauvolfia serpentina* (L.) Benth. ex Kurz	Sarpgandha	Apocynaceae	Root	Fever
43.	*Sida rhombifolia* L.	Bariara	Malvaceae	Root, Leaves	Fever
44.	*Solanum nigrum* L.	Makoi	Solanaceae	Whole plant	Fever
45.	*Tephrosia purpurea* (L.) Pers.	Sarpokha	Fabaceae	Root	Fever

46.	*Tinospora cordifolia* (Willd.) Hook.f.& Thomson	Giloe	Menispermaceae	Whole plant	Fever

Results and Discussion

During the ethnomedicinal survey of Sonbhadra district total collected 46 angiospermic plants species associated with 43 genera and 23 families are recorded. These plants are used by rural people, tribal people and local community in different types of fever for the treatment in the study area. Largest family Fabaceae which are belong to 8 species. Followed by various other family such as Apocynaceae(5species), Malvaceae(3species), Acanthaceae(3species), Euphorbiaceae(3species), Lamiaceae(3species), Asteraceae(2species), Solanaceae(2species), Cleomaceae(2species). Remaining family Boraginaceae, Moringaceae, Hypoxidaceae, Colchicaceae, Papaveraceae, Rubiaceae, Phyllanthaceae, Menispernaceae, Rutaceae, Asphodelaceae, Annonaceae, and Convolulaceae, each have only one species. Ethnobotanical studies we are found that leaves were used more frequently compared to other plant parts such as roots, bark, fruits, and whole plants. The local Vaidya's use the same plant in various different ways for the treatment of different types of fever as well as other diseases. The people of this area mostly depend on Ayurvedic treatment, mainly because modern medical facilities are still not sufficiently available here. The medicinal knowledge related to these plants is being passed on to the next generation through stories and traditional narratives. This helps preserve their ancient heritage and ensures that future generations understand the importance of medicinal plants and work toward their conservation.

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