



E-ISSN: 2278-4136
P-ISSN: 2349-8234
JPP 2019; 8(3): 1181-1184
Received: 01-03-2019
Accepted: 03-04-2019

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Ethnobotany of medi-flora of Bilaspur tahsil in Rampur district, Uttar Pradesh

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Abstract

The ethnomedicinal survey was conducted during the period of March 2017 to May 2018 in numerous areas of the Bilaspur tahsil. The present study revealed that; 47 plant species belong to 28 families were regularly used by local people to treat various diseases. The rural community are residing in Bilaspur tahsil and ever depend on medicinal plants for their healthcare and treating of various diseases. The present study is to identify medicinal plants utilized by rural community in the Bilaspur tahsil. The mode of preparation and therapeutic uses of the medicinal plants have been collected from the traditional healers, vaidhyas and senior persons in the study area during field visits. The present ethno-medicinal knowledge collected from rural people would be beneficial for the botanists, pharmacologists and traditional medicine for healthcare system.

Keywords: Medicinal plants, rural community, ethnomedicinal, Bilaspur tahsil, Rampur

Introduction

Traditional knowledge of medicinal plants always played a key role in the health systems of any country. More than 8000 plant species are documented as medicinal plants and are being used by various rich heritage of knowledge on plant-based drugs both for use in preventive and curative medicines (Singh, 2009) [11] and (Nigam and Maurya, 2013) [8]. Rural people have traditional knowledge to prevent incurable disease through indigenous methods, which are acquire from their forefathers, they have been understand worth, which is more helpful in discovery of new herbal medicines without harmful effects.

Bilaspur Tehsil of Rampur District is located between Longitude 79.266° E and Latitude 28.889° N. It has an average elevation of 144 meters (472 feet). It is situated on the Nainital road 30 Km from Rampur, on NH-87. During summers, the temperature is usually from 42.2 °C to 30 °C and during winters it is from 21 °C to 4 °C. Vegetation is highly dependent on rainfall, which is, in most cases, seasonal and erratic. The average rainfall varies between 800 to 900 mm. The relative humidity is up to 85% in monsoon season and in drier part of the year it decreases to less than 20%. The current deforestation and exploitation, threatens the existence of medicinal plants encourages for conservation of plants in Bilaspur tahsil (Fig.1). Therefore, an attempt has been made to document the medicinal plants prior to their extinction.

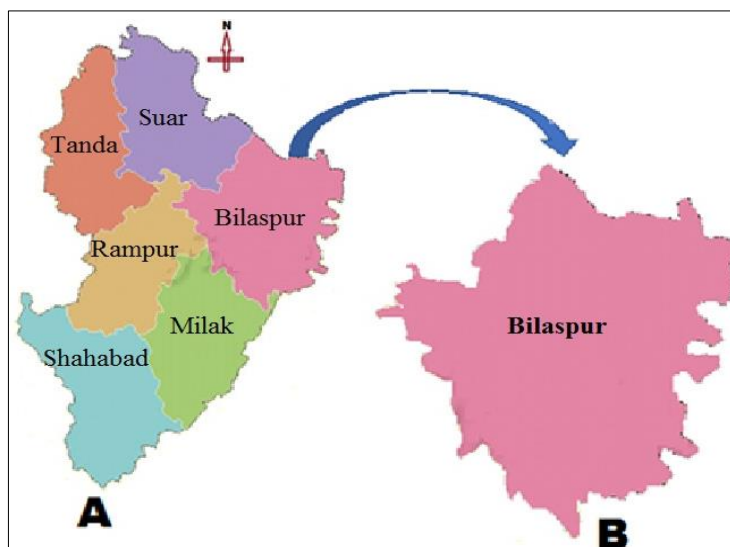


Fig 1: (A) Map of Rampur; (B) Map of Bilaspur Tehsil

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Materials and Methods

The survey was carried out during the period of March 2017 to May 2018 in twenty-seven villages of Bilaspur tehsil which were randomly selected. During field visits structured questionnaires and interviews were done to collect information from rural people and traditional healers, regarding locally available plants used in the treatment of various diseases. The collected plants were identified by local name through consultations with the local people, photographs, sample specimens also with the help of available literatures and Floras (Duthie, 1903-1929)^[4]; (Babu, 1977)^[2] and websites were also consulted; later on, herbarium was prepared as per standard method given by (Jain and Rao, 1977)^[5]. All specimens were dried, preserved and deposited in the Herbarium, Department of Botany, Hindu College, Moradabad, Uttar Pradesh, India. Some ethno-medicinal literature viz. (Jain, 1991; Dhiman, 2005; Singh, 2008; Tomar, 2009; Sharma *et al.*, 2010; Singh *et al.*, 2010; Mishra *et al.*, 2012; Singh, 2013; Vardhana, 2013)^[8,3,14,15,9,13,7,12,16] and (Sharma *et al.*, 2014)^[10] have been consulted. Present

paper describes about local plants which are used medicinally by rural community.

Results and Discussion

Ethnomedicinal study in Bilaspur tahsil were resulted with 47 species of medicinal plants belonging to 28 families with their medicinal uses (Table-1). The gained information from rural people and application of medicinal plants to cure diseases like arthritis, asthma, body coolant, cold, cough, diabetes, diarrhoea, digestion, dysentery, fever, hair fall, headache, hypertension, jaundice, piles, respiratory ailments, rheumatism, skin diseases, small pox, snake bite, stomach ache, sugar diseases, ulcers, urinary diseases and wounds. (Fig.-2). The plant list has been tabulated with their mode of preparation. The major dominant plant families find in the study area are Apocynaceae, Asteraceae, Caesalpinaceae and Rutaceae (4 species each); followed by Lamiaceae, Malvaceae (3 species each); Amaranthaceae, Euphorbiaceae and Poaceae (2 species each). (Fig.-2).

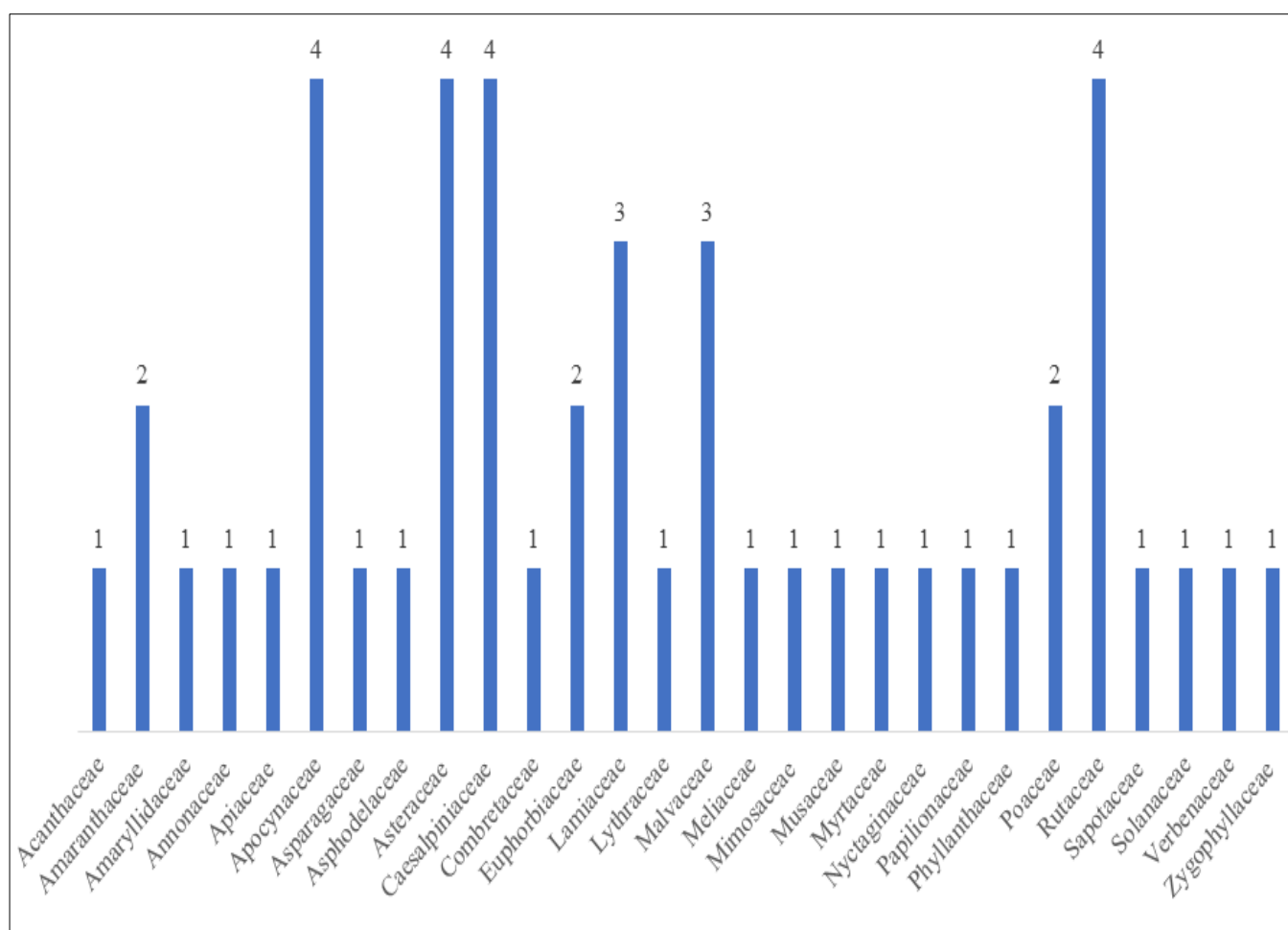


Fig 2: Numbers of species in each family used by rural communities in the study area

Rural communities of the study area used different parts of plants as medicine. Among the 47 plants species, the leaves (53%) were used most frequently followed by fruits (16%),

roots (9%), whole plant (7%), stem (7%), seeds (4%), tuber (2%) and bulb (2%) used to cure about 24 diseases. (Fig.-3)

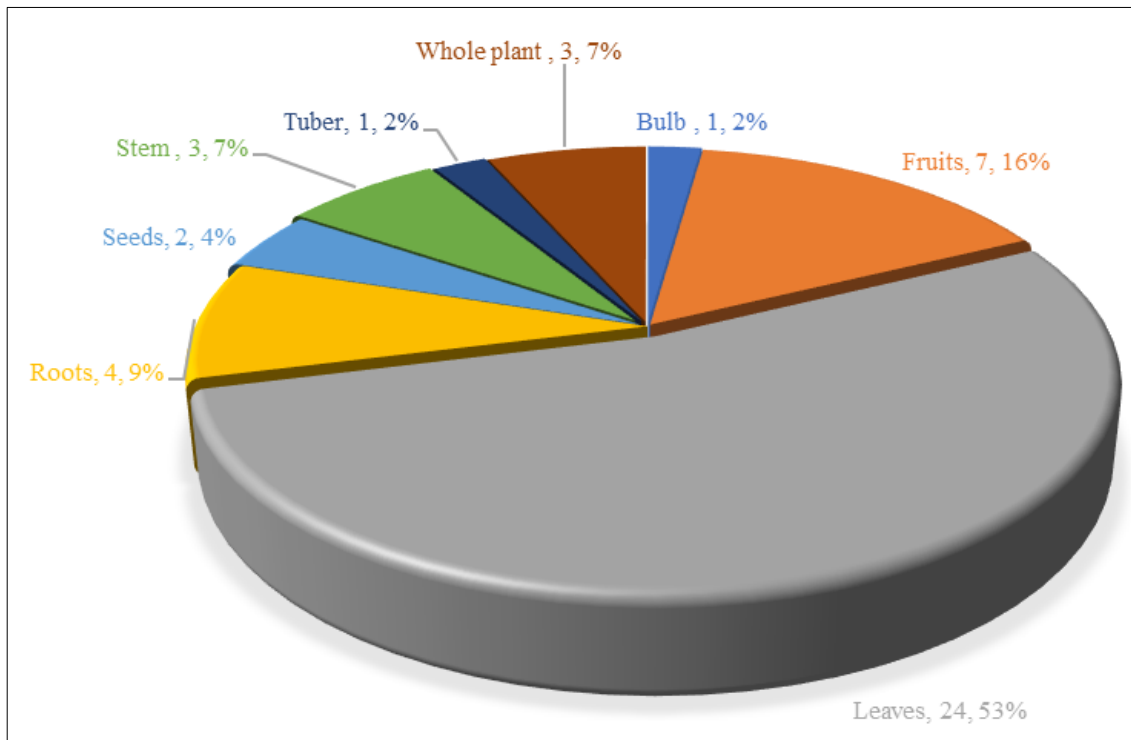


Fig 3: Plant parts used in treatment of different diseases

The information of the traditional uses of plants is lacking in Bilaspur tehsil of Rampur district. Findings will help in conservation of traditional knowledge and cultivation of these plants. The present paper documents the traditional

ethnomedicinal knowledge of plant and point towards a great hope in field of herbal remedy exploration and discovery for new drugs to treat various human ailments.

Table 1: List of ethnobotanical Medi-flora of Bilaspur tahsil in Rampur District (U.P.)

S. No.	Name of Species	Family	Local Name	Mode of Preparation	Medicinal Use (Diseases)
1.	<i>Abrus precatorius</i> L.	Papilionaceae	Ratti	Root bark with water, boiled and taken orally to cure Jaundice.	Jaundice
2.	<i>Abutilon indicum</i> (L.) Sweet	Malvaceae	Kanghi	Leaves and fruit juice are taken orally twice a day for two weeks to treat piles	Piles
3.	<i>Acalypha indica</i> L.	Euphorbiaceae	Kuppi	Leaves powder is taken to cure respiratory diseases.	Respiratory diseases
4.	<i>Achyranthes aspera</i> L.	Amaranthaceae	Lajjira	Leaves and stem paste are applied to treat cuts and Wounds	Wound
5.	<i>Aegle marmelos</i> (L.) Corrêa	Rutaceae	Bel	Fruits powder is taken with milk regularly to reduce blood sugar level.	Diabetes
6.	<i>Allium cepa</i> L.	Amaryllidaceae	Pyaz	Paste of bulb is applied topically to reduce Head ache	Head ache
7.	<i>Aloe vera</i> (L.) Burm.f.	Asphodelaceae	Gheekumari	The flashy leaves are crushed and mixed with turmeric and the paste is applied to cure skin diseases.	Skin diseases
8.	<i>Alstonia scholaris</i> (L.) R. Br.	Apocynaceae	Saptaparni	The bark paste is applied topically treat chronic skin diseases.	Skin diseases
9.	<i>Alternanthera sessilis</i> (L.) R.Br. ex DC.	Amaranthaceae	Garundi	Leaves and stem juice are given to cure snake bite.	Snake bite
10.	<i>Asparagus racemosus</i> Willd.	Asparagaceae	Shatavari	The tuber juice is taken orally to get relief from digestive complains	Digestion
11.	<i>Azadirachta indica</i> A. Juss.	Meliaceae	Neem	Leaves paste is applied topically to cure small pox.	Small pox
12.	<i>Bambusa bambos</i> (L.) Voss	Poaceae	Bans	Leaves extracted is taken orally to keep the body cool.	Body coolant
13.	<i>Bauhinia variegata</i> L.	Caesalpiniaceae	Kachnar	Dried bark powder is taken orally twice a day to cure diarrhoea.	Diarrhoea
14.	<i>Boerhavia diffusa</i> L.	Nyctaginaceae	Punarnava	Root decoction twice a day used to treat Asthma and arthritis.	Asthma and arthritis
15.	<i>Calendula officinalis</i> L.	Asteraceae	Genda	Fruit and flowers juice are given to treat stomach pain	Stomach ache
16.	<i>Senna tora</i> (L.) Roxb.	Caesalpiniaceae	Panwar	Seeds paste is applied externally to treat skin diseases.	Skin disease
17.	<i>Cassia fistula</i> L.	Caesalpiniaceae	Amaltas	Bark powder is used in the treatment for ulcers and wounds.	Ulcers and wounds
18.	<i>Catharanthus roseus</i> (L.) G. Don.	Apocynaceae	Sadabahar	Leaves and flowers juice are used to cure diabetes.	Diabetes
19.	<i>Calotropis gigantea</i> (L.) Dryand.	Apocynaceae	Safed aak	The root powder is used to cure rheumatism.	Rheumatism
20.	<i>Centella asiatica</i> (L.) Urb.	Apiaceae	Brahmi	Leaves paste is applied externally to treat cold and fever.	Cold and fever
21.	<i>Citrus aurantiifolia</i> (Christm.) Swingle	Rutaceae	Kagazi-nibu	Paste of fruit's peel is applied topically for body cooling	Body coolant
22.	<i>Citrus limon</i> (L.) Osbeck	Rutaceae	Nibu	Paste of fruit's peel applied topically to treats skin diseases	Skin diseases
23.	<i>Cynodon dactylon</i> (L.) Pers.	Poaceae	Doob ghass	The paste of whole plant with turmeric powder is used to cure skin problems.	Skin diseases
24.	<i>Delonix regia</i> (Hook.) Raf.	Caesalpiniaceae	Gulmohar	Juice of fresh leaves is taken orally along with water once a day to cure cold	Cold
25.	<i>Datura metel</i> L.	Solanaceae	Dhatura	The vapour of leaves is used to get relieve arthritis.	Arthritis
26.	<i>Euphorbia hirta</i> L.	Euphorbiaceae	Bada dudhi	Paste of whole plant is applied externally to heal wounds.	Wound
27.	<i>Eclipta prostrata</i> (L.) L.	Asteraceae	Bhrangraj	Leaves juice externally applied to prevent hair fall.	Hair fall
28.	<i>Hibiscus rosa-sinensis</i> L.	Malvaceae	Gurhal	Paste of flowers are used to treat skin diseases	Skin disease
29.	<i>Justicia adhatoda</i> L.	Acanthaceae	Arusa	Fresh or dried leaves used in the treatment of respiratory ailments.	Respiratory ailments
30.	<i>Lantana camara</i> L.	Verbenaceae	Kali makoi	Paste of leaves are applied externally to heal wounds.	Wound

31.	<i>Lawsonia inermis</i> L.	Lythraceae	Mehadi	Fresh leaves are used to cure various skin disorders.	Skin disorders
32.	<i>Leucas aspera</i> (Willd.) Link	Lamiaceae	Gophaa	Paste of fresh leaves is given orally to get relief in headache	Head ache
33.	<i>Madhuca longifolia</i> (J.Koenig ex L.) J.F.Machbr.	Sapotaceae	Mahua	Paste of leaves are applied to cure skin disease.	Skin disease
34.	<i>Mimosa pudica</i> L.	Mimosaceae	Chui-mui	Paste of leaves is used topically on chest to cure cold and cough	Cold and cough
35.	<i>Musa paradisiaca</i> L.	Musaceae	Kela	Stem juice is given orally twice a day to cure urinary tracks Stones.	Urinary stones
36.	<i>Murraya koenigii</i> (L.) Spreng.	Rutaceae	Kari patta	Raw fresh leaves or juice is taken to cure sugar disease.	Diabetes
37.	<i>Ocimum basilicum</i> L.	Lamiaceae	Rama tulsi	Decoction of fresh leaves are given twice a day to get relief from cold and cough.	Cold and cough
38.	<i>Ocimum tenuiflorum</i> L.	Lamiaceae	Tulsi	Juice of fresh leaves is given orally to cure fever and cold	Fever and cold
39.	<i>Phyllanthus emblica</i> L.	Phyllanthaceae	Amla	Fruit juice used to treat diarrhoea and diabetes.	Diarrhoea and diabetes.
40.	<i>Polyalthia longifolia</i> (Sonn.) Thwaites	Annonaceae	Ashok	Bark powder taken orally to get relief in hypertension.	Hypertension
41.	<i>Rauvolfia serpentina</i> (L.) Benth. ex Kurz	Apocynaceae	Sarpagandha	Root paste is applied externally for snake bite.	Snake bite
42.	<i>Sida cordifolia</i> L.	Malvaceae	Kharinta	Leaves juice given for body cooling.	Body coolant
43.	<i>Sonchus oleraceus</i> (L.) L.	Asteraceae	Dudhi	Leaves paste is applied topically to heal wounds	Skin disease
44.	<i>Syzygium cumini</i> (L.) Skeels	Myrtaceae	Jamun	Fruit juice is beneficial diabetes	Diabetes
45.	<i>Terminalia bellirica</i> (Gaertn.) Roxb.	Combretaceae	Bahera	Dried seed powder is taken orally to get relief from dysentery.	Dysentery
46.	<i>Tribulus terrestris</i> L.	Zygophyllaceae	Gokharu	Paste of whole plant is applied topically to treat fever	Fever
47.	<i>Tridax procumbens</i> (L.) L.	Asteraceae	Khal-muriya	Leaves paste is applied externally to heal wounds.	Wound

Conclusion

The present study is focused on medicinal plants used for treatment of many human ailments. Total 47 medicinal plants were recorded which are easily accessible and have a vital source for rural community to cure various diseases such as arthritis, asthma, body coolant, cold, cough, diabetes, diarrhoea, digestion, dysentery, fever, hair fall, headache, hypertension, jaundice, piles, respiratory ailments, rheumatism, skin diseases, small pox, snake bite, stomach ache, sugar diseases, ulcers, urinary diseases and wounds. There is a great need to create an awareness among the local people for sustainable use and conservation of medicinal plants.

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