Journal of Advances and Scholarly Researches in Allied Education
Vol. 17, Issue No. 2, October-2020, ISSN 2230-7540

Ethnobotanical Study of Kaithal District Haryana, India

Parul[1]* B. D. Vashistha[2]

[1,2] Botany Department, Kurukshetra University, Kurukshetra

Abstract – All around the globe, ethnobotanical surveys based on the use of plants by the indigenous peoples have become more relevant. Many ethnobotanical studies have been conducted in India, both at the national and regional levels, as well as using a variety of approaches, including archaeological study in literature and field investigations. As part of the study, researchers are looking for plants that are utilised and altered by locals to treat different diseases. All, there are 71 ethnobotanical species, belonging to 67 genera and 38 families. Leguminosae has the most species, followed by Asteraceae, which has the fewest. Leaves, fruits, seeds, and roots are the most often utilised plant components in the pharmaceutical industry. The botanical name, family name, local name, plant part utilised, diversity status, and use value of each ethnomedicinal species are included in the medicinal plant database. ethnobotanical, ethnopharmaceutical studies, ethnomedicine and anthropology, ethnoagriculture and home, ethnoveterinary medicine, ethnomusicology, ethnobotanical and ethnobotanical studies were explored in this research. Generic and species counts for each family, Ethnobotanically significant plant genera and species,

Keyword – Ethnobotanical, Medicinal Plants

----------X----------

INTRODUCTION

In order to ensure the survival of the masses, plants are the best option since they provide everything from food to clothing to shelter to life-sustaining ecological functions. Many disorders may be treated with the help of wild plants, which are also a source of medications. There are two terms in ethnobotany, ethno and botany. Human society's interactions with plants are examined in this branch. "The study of the connection between people of primitive societies and their plant environment" is how one researcher defined ethnobotany. There are many medicinal plants in India, which is one of the world's richest mega-diversity countries. Various plant products and chemicals are beneficial to all life forms, and ethnobotany reveals their use to satisfy human needs. Synthetic drugs have been used to treat a variety of health issues for the past two centuries as an additional option, but today people prefer herbal medicines because they believe they are safer. Additionally, locals have a long history of using wild plants as medicine. The World Health Organization estimates that roughly 80% of the world's population is benefiting from the medicinal properties of plants.

Ethnobotany is a term developed by Farnsworth, a researcher in the field of ethnobotany. There is a strong connection between wild plants (Herbs and Shrubs) and tribal people in ethnobotany, which is the study of people through the lens of plants. It is a section of Ethnobiology that deals with ethnobotany, which is the study of plants and their therapeutic properties. It is crucial to chronicle ethnobotanical knowledge for species conservation and sustainable use of resources since plants are a vast reservoir of natural resources that may create a range of goods and chemicals for the benefit of all other living forms. In addition, these kinds of investigations frequently uncover valuable plant species, which may lead to the discovery of primitive medicines. According to the WHO, 80 percent of the world's population depends primarily on indigenous medicine, and the majority of traditional medicines rely on plant extracts or active ingredients. Only a small number of the world's 20,000+ wild edible plant species supply us with 90% of the food we eat today. Because plants are necessary for human life, they have been used for medical reasons in India from the beginnings of time. Between 4500–1600 BC and 2500–600 BC, the Rig Veda and Ayurveda documented the first therapeutic herbs. National Therapeutic Plants Board, Government of India estimates that 17,000 to 18,000 species of flowering plants exist, and that 6,000 to 7,000 species have been discovered to be used in traditional and recorded systems of medicine like Ayurveda, Unani, Siddha and Homoeopathy for their medicinal properties.. Documenting indigenous knowledge is critical because of the rapid growth in demand for herbal treatments and the current controversy over

access, benefit sharing, and biopiracy. A wide variety of ethnobotanical investigations have been undertaken throughout India by a wide range of scholars.

Documenting ethnobotanical knowledge is essential for species conservation and sustainable use of resources because it indicates how plants were used in the past and present to meet specific human requirements. In addition, these research frequently uncover valuable plant species, which may lead to the discovery of crude pharmaceuticals. Plant-based medicines have the potential to be safer and more consistent than synthetic ones. In India, there is a rich cultural past for a wide range of ethnic groups, and the use of wild flora is a fashionable custom. Plants' therapeutic uses have long been documented in Indian literature dating back thousands of years. Between 4500 and 1600 BC, the Rig Veda and 2500 to 600 BC, the Ayurveda, we find the first mention of medicinal herbs. According to the All-India coordination project on ethno biology, Indian tribal people use more than 10,000 wild plant species to meet their primary health and food needs. About 8,000 of the approximately 10,000 wild plant species are used medicinally. Native and tribal people use plants to treat a variety of ailments. The usage of herbal remedies may help alleviate many of the health issues that plague contemporary civilization. In addition, a number of hard-to-treat disorders, such as diabetes and memory loss, may be efficiently treated with herbal medication, which is usually ineffective with conventional therapy.

Many medicinal plants are at risk of extinction and genetic diversity owing to the ongoing exploitation of plant resources by cattle grazing, fuel-wood gathering, and fires. As a result, it is critical to record and study the world's medicinal plant variety and ethnobotany. The study of angiosperm variety and ethnobotany of Kaithal district, Haryana, India, was carried out in light of the aforementioned considerations in order to evaluate and describe the natural riches of Kaithal district. Utilizing medicinal herbs effectively requires accurate identification and a working understanding of their traditional medicinal applications. The Flora of Haryana was examined by a number of researchers. The ethnobotanical usage of plants in Kaithal area is only reported in a few cases. It is critical to document ethnobotanical information and traditional knowledge, especially when the literature and fieldwork are thoroughly examined. Consequently, a study of Kaithal district was carried out with the purpose of accurately documenting the species and their use by local people and traditional healers, and to have therapeutic use in folk and recorded systems of pharmaceuticals such as Ayurveda, Unani and Siddha.

Ethnobotanical Study

In ethnobotany, the interaction between humans and plants is examined. Ethnobotanical knowledge has influenced the usage of several common plants today. First defined by scholars in India, where Ayurveda and Homeopathy are widely practiced, ethnobotany refers to the study of plants and their use in ancient systems of medicine. Plant-based cures are becoming more popular, but traditional knowledge of employing local people is being lost at an alarming rate. First-hand accounts of certain frequent diseases by residents of the research region and their local remedies are presented in this study.

We rely heavily on diverse flora in the realm of medicine. There is one important medicine in every 125 plant species evaluated. Only a tiny fraction of the world's species are being exploited by humans. Among the world's 3,65,000 known plant species, only 1,100 have been studied in terms of their therapeutic characteristics so far. Only around 200 of the 3,000 plants that have been documented in literature are employed in large numbers in India's traditional system.

Due to a lack of communication, poverty, illiteracy, and the lack of modern healthcare facilities in rural places such as India, most people are still obliged to use traditional medicine for their most prevalent condition. These guys come from the lowest rungs of the medicinal plant trade.

In locations where the usage of plants is still widely practiced, a wealth of information about how to utilize plants to treat various illnesses is believed to have developed.

Preliminary ethnobotanical study may be used to learn about the usage of plants in a culture. Ethnobotanical studies are critical to the preservation and usage of biological resources because they chronicle the indigenous knowledge of medicinal plants and their traditional use in diverse regions of the globe. Indigenous medicine development and the use of plant medicines to treat different ailments have significant economic advantages.

The following are the several sub-specialties of ethnobotany;

Ethnomedicine A native's perspective is taken into account while studying medical systems. Native classifications and models of illness, including etiologies, symptoms, disease progression, and therapy, are examined.

Ethno agriculture and household studies the plants that are utilized to manufacture agricultural equipment and home appliances.

Ethnoveterinary medicine conventional veterinary medical procedures are genuine and are being validated, according to this group.

Ethnomusicology Is an academic area that encompasses diverse approaches to the study of music (broadly defined) that focus on its cultural and other aspects rather than or in addition to its isolated sound component or any specific repertoire.

Ethnoecology Is a scientific study of how people in various parts of the world perceive their surroundings and their interactions with the natural world around them.

LITERATURE REVIEW

Parul, B.D.Vashistha (2015) Ethnobotanical research in the Yamuna Nagar area of Haryana is underdeveloped. This is why there have been several ethnobotanical and floristic surveys in the Yamuna Nagar area in the year 2011-2012. To gather etnobotanical data, field surveys were conducted across the region (traditional use of plants, local name, plant parts used, medicinal value). While conducting this study, a total of 73 flowering plants were gathered. Of those, a total of 46 ethnobotanical species belonging to 42 genera and 26 families were identified. Leguminosae and Solanaceae are the two most prominent families in terms of overall numbers. More than three-fourths of all plant components are utilised: leaves (30.43 percent), complete plants (26.08%), fruits (13.34%), twigs (17.39%), seeds (21.73%), roots (10.86 percent), flowers (8.50%), and others (10.86%). Diarrhoea, dysentery, male and female genital problems, cardiovascular diseases, headaches and asthma, teeth pain, acne, diabetes, gonorrhoea and kidney stones are some of the illnesses that rural people cure using these herbs.

Naveena Dinodia and Dr Nisha Verma (2015) All around the globe, ethnobotanical surveys based on the use of plants by the indigenous peoples have become more relevant. Much progress has been made both nationally and regionally in India. One of the most important tools for ethnobotanical study is archaeological research in literature and fieldwork. Plant species utilised and altered by local people to treat different diseases are being identified as part of the study, which is underway. The Gurgaon district has been the subject of several ethnobotanical surveys and floristic investigations. During 2014-15, ethanobotanical plants were found in 56 different species from 34 different groups. Leaves, fruits, seeds, barks, and roots are the most common plant parts utilised in food production.. Botanical name, family, local name, plant component utilised and usage value are provided for medicinal plants.

Jyoti Ran (2019) It was the goal of this study to find and compile data on traditional Haryanan medicinal plants used to cure a variety of common ailments among the local population of Jind. A semi-structured questionnaire was used to gather this information from a group of elderly people and a traditional healer. There are 58 species belonging to 56 genera and 29 families that are utilised to cure most common ailments, according to a review of the data. Families Fabaceae (18.96%), Amaranthaceae (8.6 percent), and Asteraceae (8.6 percent) have the most therapeutic plants gathered (6.8 percent). Most widely utilized plant parts are leaves (37.9%), followed by the entire plant (20.98%), roots (12%), fruits (12.34%), stems (7.14%) and bark (6%). Seed (6%), flower (1.23%) and the pod (1.23%) make up the remaining 1% of plant parts (1.23 percent). According to the findings, plants and plant components that have just been harvested are the most often utilized. Acne, pneumonia, kidney illness, dysentery, leprosy, dyspepsia, eye problems, fever, cold, cough, rheumatism, pain, asthma, piles, indigestion, skin diseases, snake and scorpion bites, etc., were all treated well with the herbs that were available.

Jatan Renu, Kumar Manoj (2019) Ethnobotany is the study of the interaction between plants and the people that live in the area. Traditional medicines rely on medicinal plants, and many contemporary medications are derived from plants in one way or another. There is an urgent need to emphasise the use of plant-based medicines for the treatment of a broad range of human ailments because of the tremendous population expansion, insufficient supply of pharmaceuticals, and the negative effects of many allopathic treatments. A conservation area in Haryana's Jind District called Bir Bara Ban has a number of ethno botanically significant plant species, which the current project attempts to identify and describe. Located in the northwest of India, the state of Haryana has a total land area of 4.42 million acres. There are two national parks, eight animal sanctuaries, and two conservation reserves in the state of Haryana. One of them is Bir Bara Ban Jind. One may find Bir Bara Ban (Latitude 29019', Longitude 76223') on National Highway 71A near Jind, in the Jind district of Haryana, India. It has a total land area of 1036 acres. In order to gather ethnobotanical data, a field survey was conducted among the residents of six nearby villages and herbaria, as well as a museum research. Different components of plants are utilised to cure different illnesses in different plants. The leaves and bark of the vast majority of plants are used. For centuries, elderly people and farmers in rural areas have relied on wild plants from their own backyards to heal a wide range of human and livestock maladies. Traditional medical methods, on the other hand, aren't exactly well documented. There is a pressing need for this information to be documented. Bir Bara Ban's medicinal trees were studied in detail for the first time in this study. Medical resources in the research region must be protected against grazing and tree cutting, as well as garbage disposal. In

order to improve health and alleviate poverty, the study area's flora must be conserved.

RESEARCH METHODOLOGY

Kaithal is a district of Haryana, India, located in the north-eastern region of the state. Several informal interviews and conversations with herbal practitioners in and around the research region were used to gather ethnobotanical data. The majority of the information was acquired from elderly folks who have a lengthy history of using herbs. The native name, as well as valuable components and therapeutic applications, were noted. During the field investigation, specimens of all species were gathered, photographed, and identified with the aid of accessible floras using Jain and Rao's methods for collecting data and voucher specimens. The available literature was used to cross-check the therapeutic usage of plant species. Herbarium voucher specimens were made and placed at the Botany Department of Kurukshetra University in Kurukshetra, Haryana.

DATA ANALYSIS

Seventy-one species were found to have medicinal properties after an ethnobotanical investigation. There are 67 genera and 38 family groups in which these species fall. More herbs (61.97 percent) than shrubs (15.49 percent), trees (16.90 percent), and climbers (16.90 percent) were utilised in traditional medicine formulations, according to habit-wise grouping (5.63 percent). It was discovered that 8 different species of the Leguminosae genus were found, followed by 7 from Asteraceales (including 4 from this genus), 4 from Malvaceales (including 4 from this genus) and 4 from Poaceales (including 4 from this genus), 4 from Euphorbiaceae, 4 from Brassicaceae and 4 from Moraceales (3 species each). Apiece of the 25 families was represented by a single species, with the exception of five, which had two species each. Leaves account for 29.12 percent of the documented medicinal plant applications, followed by the entire plant (19.41 percent), root (14.56 percent), seeds (10.67 percent), fruits (8.73 percent), stem (9.75 percent) and flower (9.25 percent) (4.85 percent). 2.91 percent of the overall uses of the plant parts are made up of other sections such as tuber, rhizome, flower, bud, and latex. A broad variety of common maladies, such as skin disorders, ulcers, rheumatism, respiratory illnesses, and indigestion, may be cured with the aid of these plants. To a large extent, preparations made by juicing fresh plant components are consumed orally. The following narrative includes a list of the species in question, along with their scientific name, family, common name, identifying characteristics, and any relevant uses or plant parts.

Table-1 Family wise number of genera and species present in the study area

S. No.	Family	No. of Genera	No. of Species
1	Ranunculaceae	1	1
2	Menispermaceae	1	1
3	Fumariaceae	1	1
4	Fumariaceae	1	1
5	Brassicaceae	3	3
6	Brassicaceae	1	1
7	Caryophyllaceae	1	1
8	Portulacaceae	1	1
9	Malvaceae	4	4
10	Zygophyllaceae	1	1
11	Oxalidaceae	1	1
12	Rutaceae	1	2
13	Meliaceae	2	2
14	Rhamnaceae	1	2
15	Leguminosae	7	8
16	Myrtaceae	1	1
17	Cucurbitaceae	1	1
18	Cactaceae	1	1
19	Aizoaceae	1	1
20	Asteraceae	7	7

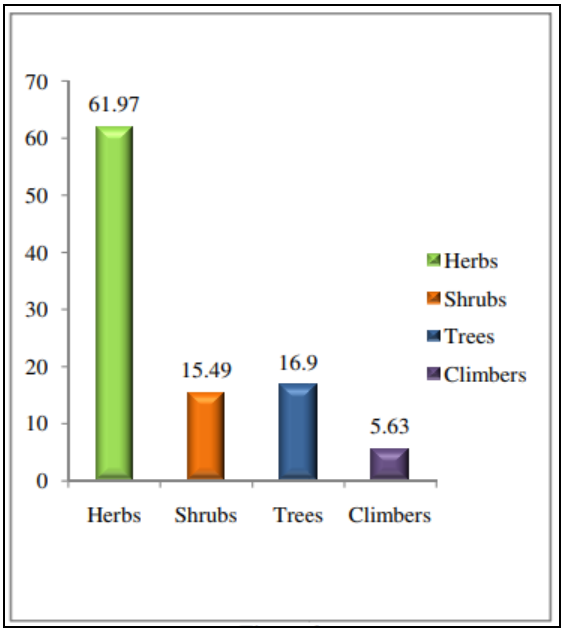

Figure-1 Showing proportion of percentage of Herbs, Shrubs, Trees and Climbers

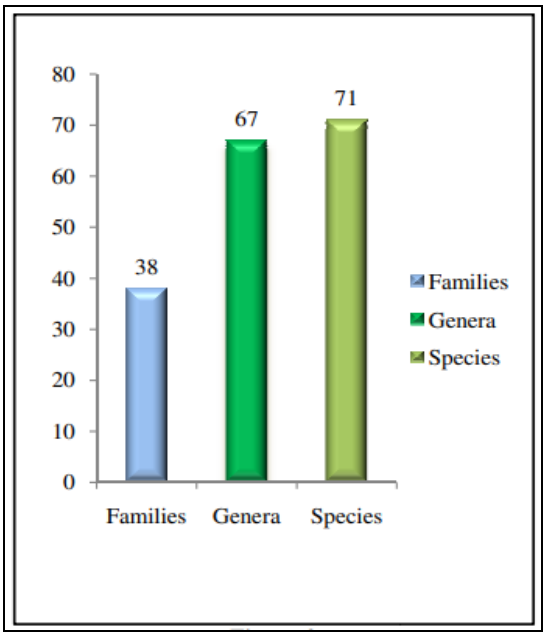

Figure-2 Proportion of Families, Genera and Species of Ethnobotanical important plants

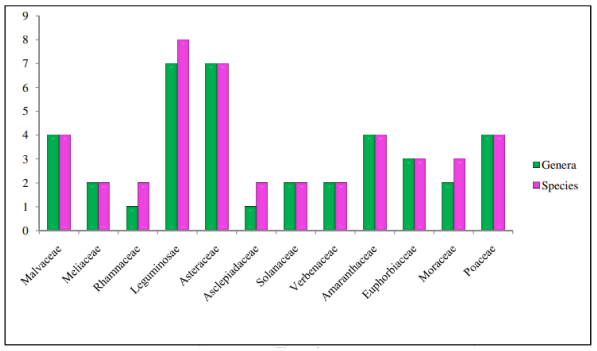

Figure-4 Number of Genera and Species in leading families of collected plants

Table-2 Enumeration of ethnobotanically important species collected from study area

Botanical name	Family	Local name	Habit	Part used	Ethnobotanical uses
Ranunculus sceleratus Linn.	Ranunculaceae	Shim, Aglaon, Jaldhaniya	Herb	Whole plant	Juice used in asthma, pneumonia and rheumatism. Seeds used as a tonic and stomachic, also prescribed in kidney troubles and in the treatment of colds.
Cocculus hirsutus (Linn.) Diels	Menispermaceae	Jamtikibel, Hier	Climber	Leaves Roots	Juice of leaves is used for curing skin diseases. Root extract used in analgesic, anti-inflammatory, hypoglycemic and cardio tonic effects, used as refrigerant, laxative, chronic rheumatism and in fevers.
Argemone mexicana Linn.	Papaveraceae	Satyanashi, Bharband	Herb	Flowers	Flowers used in the treatment of coughs. Seed oil used in the treatment of skin problems.
Fumaria indica (Haussk.) Pugsley	Fumariaceae	Pitpapra Papara	Herb	Stem	Shoot are used in fever and mixed with honey to prevent vomiting.
Coronopus didymus (Linn.) J.E. Smith	Brassicaceae	Jangli hala	Herb	Whole plant	Plant extract is used for bone disorders. Used in rheumatism.
Sisymbrium irio Linn.	Brassicaceae	Parjan, Maktrusa	Herb	Seeds, Leaves	Infusion of leaves used in throat and chest infection. Seeds are expectorant, restorative, febrifuge, and tonic.
Eruca sativa Mill	Brassicaceae	Taramira, Seoha	Herb	Seeds	Seeds yield a pungent fixed oil with characteristic odour, used in pickles. Young plants used in salads and as a vegetables, also used as green fodder
Capparis decidua (Forsk.) Edgew.	Capparidaceae	Dela, Karil, Karir	Herb	Flower, Buds, Fruits	Flower, buds and fruits used in pickles preparation, used as tonic strengthen and used to cure gastric trouble.
Stellaria media (Linn.) Vill	Caryophyllaceae	Buchbucha, Pani	Herb	Whole plant	Poultice used to cure cuts, burns and bruises. Used to treat rheumatic pains, asthma, constipation, arthritis, obesity and blood disorders.
Portulaca oleracea Linn.	Portulacaceae	Kulfa, Lunak, Khursa	Herb	Seeds	Seeds powder used to cure night emission. Used in the treatment of scurvy, liver, spleen, kidney, bladder, cardio-vascular diseases and ulceration of the mouth.
Urena lobata Linn.	Malvaceae	Bachita, Unga	Herb	Leaves,	Plant leaf paste is used to reduce blood pressure, rheumatic pain and body ache.
Abutilon indicum (Linn.) Sweet	Malvaceae	Kanghi	Herb	Leaves, Roots	Leaf juice used to cure kidney stones and roots are useful in dental problems
Malva parviflora Linn.	Malvaceae	Panirak, Sonchal	Shrub	Leaves, Seeds	Leaves infusion used as nerve tonic, decoction used as a taenicide. Seeds demulcent, yield fatty oil, used to cure cough and ulcers in the bladder.
Sida rhombifolia Linn.	Malvaceae	Swetbala, Sahadevi	Shrub	Stem	Stem abounds in mucilage and used as a demulcent, diuretic and febrifuge. Used in skin troubles, rheumatism and tuberculosis.
Tribulus terrestris Linn.	Zygophyllaceae	Gokharu	Herb	Fruits, Roots	Mixture of fruits, roots and boiled rice is used to treat white discharge and urinary troubles especially in womens.
Oxalis corniculata Linn	Oxalidaceae	Amrul sak, Khattamitha	Herb	Whole plant	Fresh plant juice used in anaemia, dyspepsia, piles, and tympanitis. Leaf juice used to counteract Datura poisoning
Aegle marmelos (Linn.) Correa.	Rutaceae	Bel, Bael pattar	Tree	Leaves, Roots, Fruits	Leaves extract used for chronic dysentery, intermittent fever and gastric troubles. Ripe fruit juice used in diarrhoea. Dried leaf powder used to cure bed sores.
Azadirachta indica A. Juss.	Meliaceae	Neem	Tree	Leaves, Stem	Leaf paste is applied superficially on the body to treat small pox, skin diseases and rheumatism. Young twigs are used as toothbrush to clean teeth mainly in pyorrhea. Young leaf juice used as a blood purifier

CONCLUSION

The Floristic and Ethnobotanical investigation of several regions of Kaithal district in Haryana state, India, indicated that this area is rich in plant diversity, with seventy-one of these species being used to cure a variety of human ailments. The majority of these medications (61.97 percent) are made from herbs, with the entire plant or leaves being the most prevalent method of preparation. However, rising human activity as a result of urbanization and industrialization poses a danger not just to the region's flora but also to the species employed as remedies by the locals. As a result, it is critical to raise awareness among locals by encouraging measures such as regulated grazing, reforestation, and effective land management in order to support the long-term usage of medicinal plants.

REFERENCES

1. Uprety Yadav, Hugo Asselin, Emmanuel K. Boon, Saroj Yadav and Krishna K Shrestha (2010). “Indigenous use and bio-efficacy of medicinal plants in theRasuwa District, Central Nepal”, J. of Ethnobio. And Ethnomedi., vol. 6, no.3, pp.1-10.

2. JF Duthie: “Flora of Upper Gangtic Plain and of the Siwalik and Sub-Himalayan Tracts”, Botanical Survey of India, Calcutta, India,vol.1-3 (Compiled by Parker R.N. and Turill W.B.), pp. 1903-1929.

3. Farnsworth N. R., Akerele O., Soejarto D. D., Bingel A. S. and Guo Z. (1985). Medicinal plants in therapy, Bull. WHO, 63(6), pp. 965-981.

4. Parul, B. D. Vashistha (2015). “An Ethnobotanical Study of Plains of Yamuna Nagar District, Haryana, India” International Journal of Innovative Research in Science, Engineering and Technology (An ISO 3297: 2007 Certified Organization) Vol. 4, Issue 1, January 2015, ISSN(Online): 2319 - 8753 ISSN (Print): 2347 – 6710

5. Naveena Dinodia and Dr Nisha Verma (2015) on “AN ETHNOBOTANICAL STUDY OF MEDICINAL PLANT IN GURGAON DISTRICT” Bulletin of Pure and Applied Sciences Vol.34-B –Botany (No.1-2) 2015:P.13-24 www.bpas.in DOI 10.5958/2320-3196.2015.00003.8 Print version ISSN 0970 4612 online version ISSN 2320 3196

6. Jyoti ran (2019) on “ethanobotanical survey and traditional uses of medicinal plants in jind district of haryana, india” plant archives vol. 19 no. 1, 2019 pp. 1241-1247 e-issn:2581-6063 (online),issn:0972-5210.

7. Jatan Renu, Kumar Manoj (2019) on “An Ethno botanical study of some medicinal Trees of Bir Bara Ban (A conservation Reserve) In Jind District of Haryana” © 2019 JETIR April 2019, Volume 6, Issue 4 www.jetir.org (ISSN-2349-5162)

Corresponding Author

Parul*

Botany Department, Kurukshetra University, Kurukshetra

drparulkasana@gmail.com