



ETHANOBOTANICAL SURVEY AND TRADITIONAL USES OF MEDICINAL PLANTS IN JIND DISTRICT OF HARYANA, INDIA

Jyoti Rani*

Department of Botany, Government College for Women, Tosham-, Bhiwani-127040 (Haryana) India.

Abstract

The current investigation aimed to identify and collect the information about traditional medicinal plants used to treat some common diseases by the natives of Jind district of Haryana. This data was collected through a series of interview of old men and women and traditional healer with the help of a semi-structured questionnaire. The analysis of the data revealed that the 58 species belonging to 56 genera and 29 families are used for treating the routine maladies. The maximum number of medicinal plant collected belongs to family Fabaceae (18.96%), followed by Amaranthaceae (8.6%) and Asteraceae (6.8%). The most commonly used plant parts are leaves (37.9%) followed by whole plant (20.98%), roots (12.34%), fruits (12.34%), stems (7.4%), bark (6.17%), seed (6.17%), flowers (1.23%), pod (1.23%) and bulb (1.23%). The finding also indicates that freshly collected plants and plant parts are mostly used. The plants were significantly useful in the treatment of acne, pneumonia, kidney disorder, dysentery, leprosy, dyspepsia, eye disorders, fever, cold, cough, rheumatism, pain, asthma, piles, indigestion, skin diseases, snake and scorpion bite etc.

Key words: Ethanobotanical, medicinal plants, survey, traditional uses.

Introduction

Natural plants and plant products are a great source of pharmaceutical agents used for curing various ailments of livestock and human. According to World Health Organization (WHO) traditional herbal system of medicine is an important contributor to its health goal. Traditional and folk remedies still the important source for approximate 80% of world population in developing countries for curing different type of ailments (Yadav *et al.*, 2010). Today in India near about 65% of rural in habitants uses natural plant products to fulfill their primary health care needs. In the Indian traditional medicinal systems more than 7500 plant species used to cure various human diseases (Gautam *et al.*, 2007). From immemorial time medicinal plants occupy superior place in the spiritual and socio-cultural arena of rural people. People from rural area mostly depend on natural sources for medicines and food (Sandhya *et al.*, 2006).

In India around 54 million people belongs to diverse tribes and ethnic groups inhabiting different terrains. These ethnic groups possess distinct food habit, religious practice, culture and traditional medicinal knowledge on

medicinal uses of plant resource (Lal and Yadav, 1983). This traditional knowledge restricted only to rural area, due to development of modern health facilities and changing the life style of people (Jain *et al.*, 2011; Singh and Singh, 2011). Traditional ethanobotanical knowledge is can prove very useful for the discovery and development of new pharmaceutical products and drugs. Ethanobotanical information on medicinal plants and their uses is important not only in the conservation of biodiversity and traditional herbal system, but also for new drug development (Farnsworth *et al.*, 1985).

Now a days, ethanobotany is becoming a very popular and well known science due to the ever increasing side effects of synthetic drugs. Local flora is used by the people in rural areas to treat many diseases. It is an interesting fact that the knowledge about ethomedicinal uses of natural plant is one of the significant criteria, used by pharmaceutical industry to discover new the reuptic compounds (Vashistha and Kaur, 2013). The outstanding drugs from traditional ethanomedicinal plants has been used by the pharmaceutical industry like Aspirin form *Salix purpurea*-used for curing pains and inflammation, reserpine hypertensive obtained from roots of *Rauwolfia*,

***Author for correspondence** : E-mail : jyoti.sangwan@yahoo.com

quinine obtained from bark of *Cinchona* used against Malaria and vincristine and vinblastine are most important anti-lymphomic drug obtained from *C.roseus*.

A very little knowledge of information has been collected on the traditional use of plant and plant parts of the Jind district. Most of previous studies have been on plant used for food. The main aim of current study was to survey Jind district to record the information on medicinal plants and plant parts traditionally used among the natives.

Materials and Methods

Study area

Jind district is among the 21 districts of Haryana state, stretching in the northwest to southeast direction occupies the north-central part of the Haryana. It is largely flat and featureless and is formed of alluvial deposits of the Indo-Gangetic system. The district ($75^{\circ}53'$ and $76^{\circ}47'$ East longitudes and $29^{\circ}03'$ and $29^{\circ}51'$ North latitudes). The district has Patiala on its north side and Sangrur district in Punjab on its North-east. On its East side it is surrounded by Kaithal district and on the western side Karnal of Haryana (fig. 1). The average elevation from the sea level is 227 metres (744 feet). It has a total area of 3606 sq. kms. The typical climatic condition of the Jind district is very dry and it is termed as semi arid and tropical steppe. Maximum temperature during the month of May and June is over 41°C , while in winter it can be as low as 6°C . Average annual rainfall is 515 mm and more than 70% rainfall is received during the monsoon month of July to September and the remaining 10% during December to February. Maximum rainfall is received during the month of August.



Fig. 1: Map of study site

Methodology

Ethanomedicinal survey was conducted in the Jind district Haryana (India) during 2015-2016. The information collected about the use of medicinal plants in traditional system to treat the common human maladies. Information about the indigenous uses of plant collected on the basis of oral interview of old person of village, vadiyas, hakims, herbalists and tribes with the help of questionnaire. The sample of every plant species were collected and identified with aid of some standard local floras viz. (Maheshwari, 1963 and Nair, 1978). A total of 75 people were interview for collecting information. The data were considered significant mentioning only when more than 5 people provide same information for the same plant. The information about medicinal plant part used, local name and its ailment importance was also collected.

Results and Discussion

The information on ethanobotanical uses of different medicinal and herbal plants collected during the period of current survey is presented (table 1). The data has been presented with their local and botanical names, family and part used for treatments. Study confirmed about 58 medicinal plants belonging to 56 genera and 29 families, were being used for curing various health related ailments e.g. sex disorders in female and men, eye diseases, mental disorders, skin diseases, tooth ache, wound healing, bronchial disorders, piles, gastrointestinal disorder, kidney stone, fever, ulcer, eczema, chicken pox, jaundice, malaria pain, snake, insect and scorpion bite etc. The most represented families were Fabaceae (11 species), Amaranthaceae (5 species), Asteraceae (4 species) etc. (table 2). Mainly freshly collected plant parts are used for treatment. The various plant parts widely used to treat various routine human health maladies included root, stem,

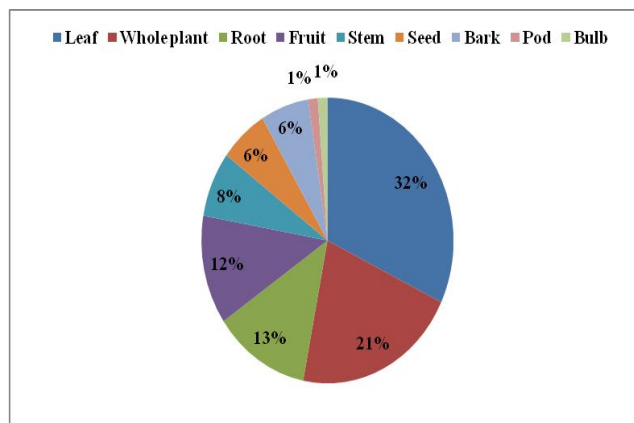


Fig. 2: Plant part used for treatment of different maladies in the study areas

Table 1 :

Sr. No.	Botanical Name	Family	Common Name	Part used	Aliments
1	<i>Abrus precatorius</i> L.	Fabaceae	Ratti	Lf, Rt	Paste of seed mixed with mustard oil is applied on skin to cure psoriasis, eczema and other skin diseases and also massaged. Root paste is used to cure skin diseases.
2	<i>Acacia nilotica</i> (L.)	Delile	Fabaceae	Kikar	Bk, Lf, St Bark Decoction applied to cure different skin problems and to stop bleeding. Fresh green leaves are chewed to get relief from cough.
3	<i>Achyranthes aspera</i> L.	Amaranthaceae	Ola kanta	Wp	Whole Plant decoction is used to cure asthma and cough. Whole plant crushed in water and boiled to concentrate and useful in pneumonia. Paste of Seed or flowering spikes is applied
4	<i>Aegle marmelos</i> (L.) Correa	Rutaceae	Bhel	Wp	externally over wasp and snake bites. Fresh Fruit pulp extract is beneficial in any gastrointestinal disorder. Inner fleshy pulp of fruit is cut into small pieces and preserved in the form of "Morabba" since it is used as a coolant in summer. The fresh leaves paste of this plant is applied on fore- head to relieve headache.
5	<i>Albizialebeck</i> (L.) Benth.	Fabaceae	Siris	Bk	Bark paste of this plant applied externally on scorpion and insect bites. Cursed bark powder poultice on to ulcer and also very effective in respiratory diseases.
6	<i>Boerhaviadiffusa</i> L.	Nyctaginaceae	Punarnava	Wp	The decoction of aerial parts taken on empty stomach helps in making new body cells. The root extract is taken orally to cure vomiting and diarrhea.
7	<i>Cordia dichotoma</i> G. Frost.	Boraginaceae	Lasura	St, Fr	Fruit are edible and used to cure mouth ulcer. Stem bark paste of this plant and green leaves is applied in skin diseases.
8	<i>Aloe barbadensis</i> (L.) Burm.f.	Liliaceae	Jawarbhata	Lf	Leaf pulp and turmeric paste is applied on breasts to cure swelling during early lactation and regulate menses
9	<i>Argemuonemexicana</i> L.	Papaveraceae	Kateli	Wp	2-3 spoons of plant juice take orally daily for one week is useful to cure jaundice. Latex of the plant is useful in the treatment of skin infection. The fresh leaves and their juice are used for wound healing and scorpion sting.
10	<i>Asparagus racemosus</i> Willd	Liliaceae	Satawari	Rt	Roots of this plant cursed with honey taken for 2 months to cure epilepsy. Root extract also used to cure stomach related diseases.
11	<i>Capparis deciduas</i> (Forssk.)Edgew.	Capparaceae	Teend	Fr	Fruit of this plant used as pickle and used to cure diabetes.
12	<i>Azadirachtaindica</i> A. Juss	Meliaceae	Neem	Lf, Bk, Fr	Bark decoction is useful in arthritis, fever and stomach disorder. Leaves boiled with water are used by small pox patients for bath. Crushed fresh leaves are applied on affected parts to cure skin problems.
13	<i>Crinum asiaticum</i>	Amaryllidaceae	Sukh darshan	Bulb	The bulb of this plant is used for urinary troubles and laxative. The roasted bulbs extract used for ear-ache.

Table 1 contd.....

Table 1 contd.....

14	<i>Bryophyllumcalycinum</i> Salisb.	Crassulaceae	Pattarchat	Lf	Warmed leaves covered with a thin layer of edible oil are applied to wound, boils and bruises. Leaf extract is given to diabetes and kidney stone patient.
15	<i>Amaranthus viridis</i> Linn.	Amaranthaceae	Chaulayi	Lf	Leaf paste is helpful for scorpion and snake sting.
16	<i>Chenopodium album</i> L.	Amaranthaceae	Bathua	Lf	The fresh leaves are boiled and cooked as vegetable to make "Saag" in rural households. Leaves juice mixed with sugar is used to cure kidney stones. Dried leaves powder taken with "Gudd" to relief from common cold and cough.
17	<i>Cassia fistula</i>	Fabaceae	Amaltas	Pod	Decoction of ripe fruit is taken orally to treat respiratory diseases, fever, jaundice and stomach related diseases.
18	<i>Cannabis sativa</i> L.	Cannabinaceae	Bhang	Lf, Sd	Seed of this plant used to treat leucorrhoea. "Thandai" a cold drink prepared by fresh leaf juice which produces a pleasant excitement and astringent.
19	<i>Calotropis procera</i> (Ait) R. Br.	Asclepiadaceae	Aak	Lf, Rt	The root paste is applied on pimple and boil. Milky Latex of the plant is locally applied on snake, insect and scorpion bites.
20	<i>Cuscuta reflexa</i> Roxb.	Convolvulaceae	Amerbel	Wp	The decoction of this plant is used to cure dysentery, diarrhea, jaundice, cholera, and asthma. The plant is useful to cure pimples and fever.
21	<i>Cynodon dactylon</i> L.	Poaceae	Doob	Wp	Leaves paste is prepared with curd is useful to cure piles. Fresh leaves extract is important for treatment of nasal bleeding. It is a common fodder for livestock.
22	<i>Datura stramonium</i>	Solanaceae	Datura	Fr, Sd, Lf	Warmed leaf applied on any swelling, boils and pustules. The seed powder mixed with cloves powder and taken daily with honey for 4-5 days to cure malaria.
23	<i>Dalbergia sissoo</i> DC.	Fabaceae	Sheesham	St, Lf	Leaves are used in Gonorrhoea. The wood is used for making furniture and wooden households. Young tender leaves paste is taken with cow milk and misri to cure leucchoera.
24	<i>Butea monosperma</i> (Lam.)Taub.	Fabaceae	Dhaak, Palash		Bk Bark juice used to treat leucoderma and fungal infections of skin.
25	<i>Alternanthera sessilis</i> (L.)R.Br.exDC	Amaranthaceae	Garundi	Lf	Leaves of this are used as vegetable by local people.
26	<i>Digeramuricata</i> (L.) Mart.	Amarant haceae	Lesua	Lf	Fresh leaf juice is used to stop bleeding and also used to treat burning sensation, skin itching & healing wound.
27	<i>Eclipta prostrata</i> (Linn.) Linn.	Asteraceae	Bhringaraj	Wp	Plant juice used for urinary tract infection and skin diseases. Leaf powder used as a remedy for healthy and black hair.
28	<i>Emblca officinalis</i> Gaertn.	Phyllanthaceae	Amla	Fr	Fruit juice mixed with sugar and taken orally daily for a 30- 45days, improves the eye sight. Fruit powder also used to cure constipation.
29	<i>Eucalyptus lanceolatus</i> Dum.	Myrtaceae	Safeda	Lf	Dilute infusion of leaf of this plant is used as an astringent. The oil of the leaf is an antiseptic and is used for disinfecting and dressing of wounds.

Table 1 contd.....

Table 1 contd.....

30	<i>Eugenia jambolana</i> Linn.	Myrtaceae	Jamun	Fr	Fruit are edible. Local people claimed that this plant used to controls blood sugar.
31	<i>Euphorbia hirta</i> Linn.	Euphorbiaceae	Dudhi	Wp	Whole plant decoction is useful to cure respiratory diseases, dysentery and colic pain. The infusion of the leaves is used to cure typhoid and pneumonia.
32	<i>Ficus benghalensis</i> L.	Moraceae	Badd	Bk	Dried Bark powder is taken with Deshi Ghee and sugars (patasa) regain sexual potency.
33	<i>Ficus religiosa</i> L.	Moraceae	Peepal	Wp	The bark is cured in water on the stone and the sap is applied on skin diseases and honey bee-sting. Bark powder decoction is taken to relieve typhoid, toothache, vomiting and fever. Fresh leaves decoction is taken to cure pneumonia.
34	<i>Lantana camara</i> L.	Verbenaceae	Nilgiri	Lf	Decoction of leaves taken orally for 30- 40 days to cure Rheumatic pain.
35	<i>Melia azadirachta</i> L.	Meliaceae	Bakain	Lf, St, Rt	Stem bark decoction is used to cure malaria and skin problems while that of the root bark decoction for constipation and intestinal worms. Leaves are cured to make paste is applied on head to kill lice and louse especially by female.
36	<i>Melilotus indica</i> All.	Fabaceae	Barseem	Lf	This plant mainly used as a fodder for animal.
37	<i>Melilotus indica</i> (Linn.) All.	Fabaceae	Metha	Wp	Mainly used as a fodder for animals. Seeds used to cure in infantile diarrhea and bowel complaints
38	<i>Morus alba</i>	Moraceae	Shahatut	Sd, Fr	Fruits are edible and also used as emollient, laxative to cure throat infection. Young tender leaves are eaten for curing dysentery.
39	<i>Ocimum basilicum</i> L.	Lamiaceae	Kali Tulsi	Lf, Sd	Leaf decoction is used to treat cold, cough and fever. Fresh leaf Juice is poured in ear to cure ear ache. Dry seed powder used to treat pile and constipation.
40	<i>Parthenium hysterophorus</i> Linn.	Asteraceae	Gajarghas	Wp	Fresh root decoction is used in dysentery and helpful in skin disorders.
41	<i>Pennisetum glaucum</i>	Poaceae	Bajra	Sd	Seed are edible. Root decoction is used in the treatment of jaundice and the vapour from inflorescence extracts is inhaled for chest disorder.
42	<i>Phyla nodiflora</i> (Linn.) Greene.	Verbenaceae	Jal buti,	Wp	Fresh plant extract applied to ulcer, boils and swollen cervical gland. Fresh juice helping to cure gums bleeding.
43	<i>Phyllanthus niruri</i> Hook. f.	Euphorbiaceae	Bhuiamla	Rt	Root paste is taken with filtrate of boiled rice to regulate menstruation.
44	<i>Prosopis juliflora</i> (Sw.) DC.	Fabaceae	Kabuli Kikar	Fl	Flower powder mixed with sugar is given daily to pregnant women to prevent miscarriage.
45	<i>Ricinus communis</i> L.	Euphorbiaceae	Arandi	Wp	Warm leaf tied over swelling, sprain, fractures, headache and injury. Root Juice of this plant is taken with methi and honey and leaf paste Massage also done on breast to increase milk after delivery.
46	<i>Rumex dentatus</i> L.	Polygonaceae	Jangali Palak	Lf, Rt	Leaves juice is used to cure skin diseases. Roots powder is taken in constipation.
47	<i>Saccharum bengalense</i> Retz.	Poaceae	Jhundh	St, Lf	Used as a fodder for animal. This plant also used for making ropes and baskets.

Table 1 contd.....

Table 1 contd.....

48	<i>Senna occidentalis</i> (L.)Link	Fabaceae	Kasond	Lf	Paste of fresh leaf used to cure skin problems and respiratory diseases.
49	<i>Sidaa cuta</i> Burm. f.	Malvaceae	Mahabal	Wp	Whole plant extract is used to cure boils, diarrhea, dysentery and leucorrhoea.
50	<i>Solanum nigrum</i> L.	Solanaceae	Makoi, Rasbhari	Fr, Lf, Rt	Fruit decoction is used against gastric problems and palliative for toothaches Leaf decoction is used to cure any swelling.
51	<i>Sonchus arvensis</i> Linn.	Asteraceae	Sahadevi bari	Rt, Lf	Cursed leaves applied externally on wounds, swelling and white spot on skin. Roots used in respiratory diseases.
52	<i>Sorghum bicolor</i> (L.) Moench.	Poaceae	Jwar	Wp	Mainly used as a fodder for animals.
53	<i>Tephrosiapurpurea</i> (L.)Pers.	Fabaceae	Sarpankha	Wp	Whole plant decoction used in respiratory diseases. Leaves of this plant are used as an appetizer.
54	<i>Tinospora cordifolia</i> (Willd.) Miers. ex. Hook. F. &Thoms	Menispermaceae	Giloy	Lf, St	Extract of stem is given in fever, diabetes and jaundice. Leaves and stem extract is also given in viral infections.
55	<i>Tribulus terrestris</i> L.	Zygophyllaceae	Bhakhdi	Fr	Powder of fruits is given orally to cure kidney problems, urinary tract and urogenital related disorders. Powder of leaves is taken orally with cow milk for curing impotency.
56	<i>Withania somnifera</i> (L.) Dunal.	Solanaceae	Bambhol	Lf, Rt, Fr	Root powder of this plant mix with sugar is given with cow milk to decrease vagina related pain. The warm leaf is tied over painful swelling, boils and rheumatic pains.
57	<i>Xanthium strumarium</i> Linn.	Asteraceae	Gokhuru	Wp	Decoction of aerial parts used to cure leucorrhoea, malaria and urinary diseases. Root infusion used to cure ulcers.
58	<i>Ziziphus mauritiana</i> (Burm.f.) Wight&Arn.	Rhamnaceae	Ber	Fr, Rt, Lf	Fruit are edible used to cure nausea, vomiting and diarrhea. Roots decoction is considered useful in headache and fever. The leaf paste is applied externally to cure acne, boils and bruises.

Table 2 : Family Wise Distributions of Species.

Sr. No.	Family	No. of species	%age	Sr. No	Family	No.of species	%age
1	Fabaceae	11	15.5	17	Rhamniaceae	1	1.7
2	Amaranthaceae	5	8.6	18	Cannabinaceae	1	1.7
3	Asteraceae	4	6.8	19	Asclepiadaceae	1	1.7
4	poaceae	4	5.2	20	Convolvulaceae	1	1.7
5	Moraceae	3	5.2	21	Papaveraceae	1	1.7
6	Euphorbiaceae	3	5.2	22	Nyctaginaceae	1	1.7
7	Solanaceae	3	5.2	23	Boraginaceae	1	1.7
8	Liliaceae	2	3.4	24	Menispermaceae	1	1.7
9	Meliaceae	2	3.4	25	Pshyllanthaceae	1	1.7
10	Myrtaceae	2	3.4	26	Lamiaceae	1	1.7
11	Malvaceae	2	3.4	27	Polygonaceae	1	1.7
12	Zygophyllaceae	2	3.4	28	Amarylidaceae	1	1.7
13	Verbenaceae	2	3.4	29	Zygophyllaceae	1	1.7
14	Crassulaceae	1	1.7				
15	Rutaceae	1	1.7				
16	Caesalpiaceae	1	1.7				

leaves, seed, fruit, flower and whole plant. The most commonly used plant parts being leaves (37.9%) followed by whole plant (20.98 %), roots (12.34 %), fruits (12.34 %), etc (fig. 2). Few plants also used as a food, fodder, wood, fuel and religious purpose by the rural inhabitants. The folk remedies include paste, juice, powder, and decoction of plant and plant parts to treat disease.

Of the total species, some of them were used in the form of paste such as, *Abrus precatorius*, *Albizia lebbek*, *Cynodon dactylon*, *Phyllanthus niruri* and *Senna occidentalis* etc. Plants used as powder to cure disease are *Prosopis juliflora*, *Tribulus terrestris* and *Withania somnifera* etc. Some of them are used in the form of decoction viz. *Acacia nilotica*, *Azadirachta indica*, *Boerhavia diffusa*, *Cuscuta reflexa* and *Ocimum basilicum* etc.

Approximate 80% interviewed people were gained their knowledge of traditional drugs from their parents and grandparents, and some other gained from neighbors. It has been noticed that elder persons have more knowledge about use of plant as a traditional medicines than younger. Due to rapid industrialization and intensive agriculture, along with over exploitation of forest cover, may cause loss of this valuable biodiversity and natural resources. Therefore, there is a need to develop awareness among the native people towards the conservation and sustainable use of these medicinal herbs.

The outcomes presented in this research work are very preliminary and also require further authentication. Ethnobotanical investigation of medicinal plants will shed light on the relationship between traditional pharmacological knowledge and discovery of modern drugs. Such studies will not only boost the development of useful concepts in medicine but also promote the maintenance of bio-cultural diversity. Hence, efforts must be taken to protect these immensely useful species in the study area and other parts of the country.

Conclusion

The outcome of study that some plants are very useful for local people and also part of their routine activity. The significant use of herbal remedies by the local people in studied area villages reflects the interest of rural people in traditional medicines. Documentation of such an important knowledge about traditional uses of medicinal plants is necessary because old rural people are the only custodian of such information. This knowledge is diminishing day-by-day as the most of new generation

were not concerned about the local names of the plants and their uses which are being used by their elders since ages to cure many diseases. This problem further aggravated due to fast disappearance of natural resources.

Due to the above said facts, this crucial valuable traditional unrecorded knowledge may be lost forever. So the proper documentation of this information is useful and essential for pass the knowledge from generation to generation. The scientific validation of the plant based remedies will build a roadmap or may be helpful in discovering of new drugs. It is also revealed from current study that most of local people of the studied area still depend upon the natural traditional plant product for their health care. Present survey reported species can form important criteria for identification of new and effective drug through further scientific studies.

References

- A. K. Jain, V. V. Wagh and C. Kadel (2011). Some Ethnomedicinal plant species of Jhabua district, Madhya Pradesh. *IJTK*, **10**: 538-540.
- B. Sandhya, S. Thomas, W. Isabel and R. Shenbagarathai (2006). Ethnomedicinal plants used by the Valaiyan community of Piranmalai hills (Reserved forest), Tamilnadu, India. - A pilot study. *Afr J Tradit Complement Altern Med.*, **3**: 101-114.
- Farnsworth, N.R., O. Akerele, D.D. Soejarto, A.S. Bingel, and Z. Guo (1985). *Medicinal Plants in Therapy*, Bull. WHO., **63(6)**: 965-981.
- Gautam, R., A. Saklani and S.M. Jachak (2007). Indian medicinal plants as a source of antimycobacterial agents. *J Ethnopharmacol.*, **110**: 200-234.
- Lal, S.D and B.K. Yadav (1983). Folk Medicine of Kurukshetra District (Haryana), India. *Econo. Bot.*, **37**: 299-305.
- Maheshwari, J.K. (1963). *The Flora of Delhi*. Council of Scientific and Industrial Research, New Delhi.
- Nair, N.C. (1978). *Flora of Punjab Plains Botanical Survey of India*, **21**: 326.
- Singh, D. and R.K. Singh (2011). Kair (*Capparis deciuada*): A potential Ethnobotanical weather predictor and livelihood security shrub of the arid zone of Rajasthan and Gujarat. *IJTK.*, **10**: 146-165.
- Yadav, S., J.P. Yadav, V. Arya and M. Panghal (2010). Sacred groove in conservation of plant biodiversity in Mahendergarh District of Haryana. *IJTK.*, **9**: 693-700.
- Vashistha, B.D. and M. Kaur (2013). Floristic and ethno botanical survey of Ambala district Haryana. *Int J Pharma Bio Sci.*, **4**: 353-360.