EUROPEAN JOURNAL OF BIOMEDICAL AND PHARMACEUTICAL SCIENCES
http://www.ejbps.com

ISSN 2349-8870
Volume: 3
Issue: 2
408-414
Year: 2016

POTENT ETHNO-MEDICINAL PLANTS OF BAHRAICH (U.P.), INDIA

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Article Received on 15/12/2015 **Article Revised on 05/01/2016** **Article Accepted on 26/01/2016**

ABSTRACT

Nature has provided two great gifts- life and then the diversity. In this investigation the tribal life and the diversity of the area has been studied in the form of ethno medicinal uses of plants in the treatment of various ailments. The investigation is based on the ethno medicinal survey in Bahraich district of Uttar Pradesh. Bahraich is well blessed with phyto-diversity which is a rich source of medicinal plants as well as ethnic communities. The remote locality, poverty, illiteracy and lack of touch with modern civilization make them confined to hold on traditional faith hence they are wholly dependent on indigenous plants for the treatment of various ailments. For the purpose traditional herbal healers as well as experienced elder persons were interviewed. The principal result of our investigation is that there are ninety two plant species belonging to eighty six genera representing forty three families used in various twenty five ailments viz. arthritis, antidote for scorpion sting, burn, cough, cold, constipation, conjunctivitis, diabetes, ear pain, fever, gastrointestinal troubles, headache, hiccup, insomnia, inflammation, leucorrhoea, mouth ulcer respiratory troubles, scrofula and skin problems etc. The plants used in various ailment or the number of plants used in preparation of medicine for ailments is enumerated in Table with correct botanical name followed by vernacular names and families as well as plant parts used as ethno medicine in different ailments.

KEYWORD: The investigation is based on the ethno medicinal survey in Bahraich district of Uttar Pradesh.

INTRODUCTION

India present a great tribal communities which have acquired considerable knowledge on uses of plants for livelihood, health care and other purposes through their long association with the forests, inheritance, practices and experiences. Plants with medicinal properties enjoyed the highest reputation in the indigenous system of medicines all over the world. India has one of the oldest, richest and most diverse cultural tradition called "Folk Tradition" associated with the use of medicinal plants. Traditional folk medicine is the application of indigenous beliefs, knowledge, skills and cultural practices concerned with human health. The Ethnic people have provided several miracle plants of medicinal value to modern civilization. All indigenous remedies have originated directly or indirectly from folk lore, rituals, magic and superstitions. In the Indian sub-continent, medical care is being derived from oriental system of medicine like Ayurved and Siddha etc. In India the science of medicinal plants has developed long before its advocacy in Europe by herbalist. Such famous names as Danvantri, Ashwini Kumar, Kashyap, Nagarjun, Sushrut etc. are well known in the field no require any introduction. For quite a long time the use of medicinal plants for curing disease was a family profession and the known but unwritten knowledge about medicinal herbs used to be passed from generation to generation in the family (Binu *et al.*, 2011). However when no son was born to a learned Vaid (Doctor), his entire knowledge about medicinal plants was lost to the world with his death. Even the written science of Ayurveda suffers from a serious lack of characterization of the medicinal herbs.

The importance of herb in curing human disease was very much realized during the post independent era in India and this led to the organization of the Central Council for Research in Indian Medicine and Homeopathy to promote and co-ordinate research in Indian medicine According to Ayurvedic system of medicines a large number of plants are employed in the traditional medicines for the treatment of several diseases Ethno-medicine is here taken to mean knowledge and practice that have survived only folklore in certain human societies , particularly among the rural and tribal societies. This is a World Wide interest in folklores about medicinal herbs for lead to new sources of drugs.
Keeping the aforesaid views an ethno-medicinal survey was undertaken in the district Bahraich for the documentation of ethno-medicinal information of plants and herbs used for the treatment of various ailments in the area by traditional healers as well as rural inhabitants. A large number of plant species which have high medicinal value are used by local people of villages

of Bahraich as tribal medicines and are found in great diversity in the area. Bahraich has well blessed phyto-diversity in its green natural forests and rich ethnic and rural communities. The rural inhabitants of the area are still far from modern civilization so they are totally dependent on forests for their various needs especially for healthcare. Due to the presence of rich traditional knowledge of medicine and great faith and belief on Ayurvedic and Siddha system of medicine the rural inhabitants are dependent on herbal medication.

STUDY AREA

The present work is undertaken for the documentation and analysis of various traditional herbes for the treatment of various ailments in the rural areas of Bahraich district. Bahraich is beautiful city, known as the "City of forest" is located at the bank of river 'Saryu' It is situated between the 28.24 and 27.4 latitude and 81.65 N 5to 81.3E longitude, having area about 4696.8 Sq. km. in which 95040 hectare of land is covered by dense forests. Most of the population lives in rural areas. North eastern part of the district is Tarai which is covered by the dense natural forests. Chakia, Sujauli, Nanpara, Nishangara, Mihinpurwa, Bichhiya and Baghauli are the main forests area of the district. Saryu and Ghaghra are the main rivers "Katarniaghat Wildlife Sanctuary is the point of attraction of district Bahraich. It is situated in the Tarai region of Bahraich in Mihinpurwa block, which is the part of "Dudhwa Tiger reserve" and "Kishanpur wildlife sanctuary". It has area of 400 km^2 (55,000 hectare). Katarniaghat Wildlife Sanctuary is made of 6 divisions. The four i.e division Katarnia, Nishangara, Murtiha and Dharmpur are located in the Core area. Buffer area is located in Motipur and Kakaraha. Core area is about 15,000 hectare and sanctuary area is of 40,000 hectare. Buffer area is inhabited by Tharu tribes. Tharu tribes well know the medicinal value of plants because they use different plants as medicine for the treatment of their ailments. Five Forest villages Tedhia, Dhakia, Jamunia, Bichhia and Mehboob Nagar area are inhabited by Tharus in the sanctuary and reserve area. Besides it villages viz. Bardia, Vishnapuri, Sujauli, Chapharia, Fakirpuri, Kailashpuri and Aamba are revenue villages also inhabited by Tharus. Total population of Tharus in the area is approximately up to 10,000. The forest and tribal areas of Katarniyaghat Wildlife Sanctuary of Bahraich are very rich in bio-diversity. Its fragile ecosystem comprises a mosaic of lush grassland, steaming swamps and wetlands, so it is unique for the no. of endangered and critically endangered species.

MATERIALS AND METHODS

Ethno-botanical surveys were conducted in Bahraich district for the documentation of ethno-medicinal importance of the local flora. Elderly persons and resourceful medicine men were contacted for the purpose. Questionnaire method was adopted for documentation of folk indigenous knowledge. The interviews were carried out in local community to investigate local people and local healers who are the main user of medicinal plants. Ethno-medicinal remedies were asked to them for some common but important ailments. Various medicinal plant parts viz. leaves, flowers, bark, latex, seeds, rhizome, root, sometimes whole plant were used as ethno-medicine. Methods of medicine preparation and its mode of administration were asked to local healers and recorded in field note book. The specimens of medicinal plants were collected, pressed, dried, preserved, mounted as described by Jain and Rao, 1976, and identified through the available taxonomic literature, manuals and floras (Duthie, 1994, Hooker, 1872-1897). The specimens were deposited in the Herbarium maintained by the Department. The data taken in the field was transferred to the slip pasted on the herbarium sheets.

In this manuscript different plants and their parts which are used in various ailments are described.

The plants used in various ailment or the number of plants used in preparation of medicine for ailments is enumerated below in Table with correct botanical name followed by vernacular names and family as well as plant parts used as ethno medicine in different ailments.

RESULTS

The perusal of the table shows that there are ninety two plant species belonging to eighty six genera representing forty three families used in various twenty five ailments viz. arthritis, antidote for scorpion sting, burn, cough, cold, constipation, conjunctivitis, diabetes, ear pain, fever, gastrointestinal troubles, headache, hiccup, insomnia, inflammation, leucorrhoea, mouth ulcer respiratory troubles, scrofula and skin problems etc. Result shows that one plant is used for many ailments. Leaves, flowers, roots sometimes whole plant is being used as ethno medicine. One thing is very important to note here that these plants are very common in the area and are found in cosmopolition.

TABLE :- ETHNO MEDICINAL PLANTS AND THEIR PARTS USED IN VARIOUS AILMENTS

S. No.	Botanical name of plant with Author name	Vernacular Name	Family Name	Ailments in which plant is used as ethno medicine	Plants Parts Used for Ethno Medicine	Total no of Ailment
01	*Acacia arabica syn.*(*A. nilotica*) Linn.	Babool, Kikar	Mimosceae	diarrhoea, headache	Leaves	2
02	*Acalypha indica* Linn	Haritmanjri	Euphorbiaceae	Headache, rheumatism, scabis, skin diseases, insect bite & inflammation.	Leaves, whole plant.	6
03	*Acmella oleracea* Linn.	Spilanthes	Asteraceae	headache, stomatitis and	Leaves, flower	3

				toothache		
04	*Achyranthes aspera* Linn.	Latjeera	Amaranthaceae	antidote for scorpion bite, headache, pyaria and polyphagia	Leaves, infloresence	4
05	*Adhatoda vasica* Nees.	Arusa	Acanthaceae	cough, cold, coryza, chronic bronchitis, fever and joint & muscle pain	Leaves, flower	6
06	*Aegle marmelose* (Linn.) Corr. Serr.	Bel	Rutaceae	blood purifier, diarrhea, conjunctivitis, diabetes, headache and leucorrhoea	Leaves, fruite	6
07	*Ageratum conyzoides* Linn.	Jangali pudina	Asteraceae	bleeding of injuries, burn joint muscle pain and leprosy	Leaves	4
08	*Allium cepa* Linn.	Onion, Pyaz	Liliaceae	cough, cold, cholera, diabetes, insomnia, jaundice, rheumatism, sun-stroke, scorpion bite, wounds, and cardiovascular ailments	Bulb, leaves	11
09	*Allium sativum* Linn.	Garlic, Lahsun	Liliaceae	epilepsy, diabetes, gastric troubles, heart disorders, immunomodulator, and antidote for scorpion bite	Bulb, leaves	6
10	*Aloe vera* Linn.	Ghritkumari	Liliaceae	burn, constipation, diabetes, stomachache and rheumatism.	Leaves	5
11	*Amaranthus spinosus* Linn	Chaulai	Amaranthaceae	Anemia, skin disease.	Whole plant	2
12	*Andrographis paniculata* (Burm.f) wall ex Nees.	Kalpnath	Acanthaceae	Diabetes, immune system , leucorrhoea and chronic fever	Leaves	4
13	*Annona squamosa* Linn.	Sharifa	Annonaceae	abortifacient, diabetes, haemoglobin inhancer and reduces hair lice	Leaves, fruit	4
14.	*Argemone maxicana* Linn.	Bharbhar	Papaveraceae	conjunctivitis and wounds	Stem sap	2
15	*Asparagus racemosus* Linn.	Shatavar	Liliaceae	dysentry, joint & muscle pain and migraine	Root, whole plant	3
16	*Azadirachta indica* A. Juss.	Neem	Meliaceae	diabetes, small pox, malerial fever, and skin diseases.	Leaves, bark	4
17	*Bauhinia varigata* Linn.	Kachnar	Caesalpinaceae	inflammation, scrofula and skin diseases	Flower, bark	3
18	*Barleria prionitis* Linn.	Katsariya	Acanthaceae	Cough and diabetes	Leaves, flower	2
19	*Bombax cieba* Linn.	Semal, Shamli, Red Cotton tree	Malvaceae	Burn skin, dysentery, headache, painful menstruation, pox diseases, skin eruptions, wound	Flower, bark	7
20.	*Cannavis sativa* Linn.	Bhang	Cannabinaceae	ear pain	Leaves	1
21.	*Cardamine scutata* Linn.	Chamsur	Brasicaceae	diabetes and rheumatism	Leaves, flower, seed, whole plant	2
22.	*Carica papaya* Linn.	Papita	Caricaceae	constipation, rheumatism, stomach disorder and obesity	Leaves, fruit, seed	4
23.	*Carissa congesta* Wight.	Jangali Karaunda	Apocynaceae	diabetes, and migraine.	Leaves, flower	2
24	*Catharanthus roseus* G. Don.	Sadabahar	Apocynaceae	Diabetes	Leaves, flower	1

25.	*Chenopodium album* Linn.	Bathua	Chenopodiaceae	constipation and rheumatism.	Leaves, whole plant	2
26	*Cassia tora* Linn	Chakwad	Caesalpiniaceae	intestinal worms & wounds	Leaves, flower, seed	2
27	*Cassia fistula* Linn	Amaltas	Caesalpiniaceae	burn and diabetes	Leaves, bark, seed	2
28	*Caesalpinia bonduc* (Linn.) Roxb	Kat karanj, Fever nut	Caesalpiniaceae	Fever, headache, joint pain	Leaves, flower, seeds	3
29	*Cassia occidentalis* Linn	Kasaundi	Caesalpiniaceae	ear pain, skin infection, scrofula and wounds & injuries.	Leaves, flower, seed	5
30	*Convolvulus microphyllus* Sieb ex. Spreng	Sankhpushpi	Convolvulaceae	brain tonic, diabetes, high blood pressure and hysteria	Whole plant	4
31	*Coriandrum sativum* Linn	Coriander, Dhania	Apiaceae	diabetes, dysentry and mouth ulcer.	Whole plant	3
32	*Citrus medica* Linn	Lemon, Neembu	Rutaceae	arthritis, low blood pressure, cholera , constipation, diabetes and headache.	Fruit	6
33	*Curcuma longa* Linn.	Turmeric, Haldi	Zingiberaceae	headache, piles, intestinal ailments, immunomodulator, skin diseases and mouth ulcer.	Leaves, rhizome	6
34	*Cuscuta reflexa* Roxb.	Amarbel	Cuscutaceae	diabetes, itiching & dermatitis and hairfall.	Whole plant	4
35	*Cynodon dactylon* Linn.	Doobghas	Poaceae	diabetes, dysentry, headache, and wound & injuries.	Whole plant	5
36	*Datura stramonium* Linn.	Dhatura	Solanaceae	headache and rheumatism	Leaves, seed	2
37	*Daucus carota* Linn.	Carrot, Gajar	Apiaceae	headache, migraine, burn and hiccup.	Leaves, root	3
38	*Delbergia sisso* Roxb.	Sheesham	Fabaceae	rheumatism and wounds	Leaves	2
39	*Eclypta prostrata* Linn.	Bhangraiya	Asteraceae	burn and wounds, hair graying, headache	Whole plant	4
40	*Euphorbia hirta* Linn.	Dudhia ghas	Euphorbiaceae	mouth ulcer, snake bite and wounds	Whole plant	3
41	*Eucalyptus globulus* Linn.	Eucalyptus	Myrtaceae	Cough, cold and headache.	Leaves, flower	3
42	*Eichornia crassipes* (Mart.) Salms	Jalkumbhi, Water hyacinth	Pontederiaceae	Tonsillitis, scrofula	Whole plant	2
43	*Emblica officinalis* Gaertn.	Awala	Euphorbiaceae	constipation, diabetes and headache.	Fruit	3
44	*Ficus benghalensis* Linn.	Bargad	Moraceae	fissure, scrofula and rheumatism.	Leaves, bark, prop root	3
45	*F. racemosa* Linn.	Gular	Moraceae	Diabetes, gastrointestinal problems	Fruit	2
46	*F. religiosa* Linn.	Peepal	Moraceae	asthma, cough, cold, and ear pain.	Leaves, fruit	4
47	*Foeniculum vulgare* Mill.	Fennel, Sauf	Apiaceae	carminative, constopation and eye ailments.	Seeds	3
48	*Glycosmis pentaphylla* (Retz.) A. DC	Orange berry	Rutaceae	ascariasis, eczema and skin affections	Leaves, stem, fruit	3
49	*Hibiscus rosa-sinensis* Linn.	Gurhal	Gurhal	graying hair and headache.	Flower	2
50	*Ipomoea aquatica* (Linn.) poir	Karmua, Nari ka saag	Convolvulaceae	constipation, and liver disorder.	Leaves	2
51	*I. fistulosa* Mart ex. Choisy	Morning glory	Convolvulaceae	rheumatism.	Leaves	1

52	*Lantana camera* Linn.	Kuri	Verbinaceae	wounds and snake bite	Leaves	2
53	*Lawsonia inermis* Linn.	Mehandi	Lytheraceae	burn, hair graying & headache.	Leaves, flower	3
54	*Lagnaria sicerraria* (Molina) Standl	Bottle gard, Lauki	Cucurbitaceae	Boils, constipation and diabetes, gastric ailments	Leaves, fruit	4
55	*Leucas aspera* Spreng.	Guma	Lamiaceae	cough, cold, fever, headache, rheumatism, intestinal worms and wounds.	Whole plant	7
56	*Mangifera indica* Linn.	Mango, Aam	Anacardiaceae	diabetes, diarrhea, cholera, ear pain and antidote for scorpion bite and sun stroke.	Leaves, fruit	6
57	*Madhuca indica* Linn.	Mahua	Sapotaceae	headache and rheumatism	Bark	2
58	*Mallotus philippensis* Muell.	Rohini, Sinduri,	Euphorbiaceae	antiseptic for skin diseases	Leaves, fruit	1
59	*Mentha arvensis* Linn.	Mint, pudina	Lamiaceae	acidity, antidote for scorpion sting, cholera, diabetes, headache, sunstroke and obesity	Whole plant	6
60	*Mentha piperata* Linn.	Pipper mint	Lamiaceae	headacache, Rheumatism	Whole plant	2
61	*Momordica charantia* Linn.	Karela	Cucurbitaceae	abortifacient, burn, diabetes, piles and as vermicide.	Leaves, fruit, seeds	5
62	*Moringa oleifera* Linn.	Sahjan	Moringaceae	Diabetes, developing appetite, ear pain, joint pain and rheumatic pain.	Fruit	5
63	*Murraya koenigii* (Linn) Sprengel	Curry plant, Meethi Neem	Rutaceae	diabetes and antidote for poisonous animals.	Leaves	2
64	*Musa paradisiaca* Linn.	Banana, Kela	Musaceae	burn, gastrointestinal ailments, headache and leucorrhoea.	Fruit	4
65	*Nerium indicum* Mill.	Kaner	Apiaceae	headache and as antidote for scorpion sting.	Leaves, flower	2
66	*Ocimum sanctum* Linn.	Tulsi, Holi basil	Lamiaceae	burn, cough, cold, diabetes, ear pain, headache, inflammation, fever immunomodulator, , mouth ulcer, skin diseases and vomiting	Whole plant	12
67	*Oxalis corniculata* Linn.	Khattibuti	Oxalidaceae	diabetes and headache	Whole plant	2
68	*Phyllanthus fraternus* Webster.	Bhuiaanwala	Phyllanthaceae	eczema, itching, brest swelling, dropsy and stomach pain.	Whole plant	5
69	*Physalis minima* Linn.	Rasbhari	Solanaceae	ear ache and urinary ailments.	Whole plant	2
70	*Piper betle* Linn.	Paan	Piperaceae	headache and joint pain	leaves	2
71	*Plumbago zeylanica* Linn.	Cheet, Chitrak	Plumbaginaceae	abortifacient, leucoderma	Leaves, flower	2
72	*Psidium guajava* Linn.	Guava, Amrud	Myrtaceae	diabetes, diarrhea, dysentry, joint & muscle pain, mouth ulcer and skin problems.	Leaves, fruit	7
73	*Punica granatum* Linn.	Pomegranate, Anar	Lytheraceae	anemia, burn, cholera, headache, inflamation of feet sole and insomnia.	Leaves, fruit	6
74	*Raphnus sativus* Linn.	Muli, Radish	Brassiceae	constipation, hiccup, jaundice, piles.	Whole plant	4

75	*Rauvolfia serpentina* Linn.	Sarpgandha	Apocynaceae	hypertension, hysteria, insomnia and itching of urticaria allergy.	Root	4
76	*Ricinus communis* Linn.	Castor , Arand	Euphorbiaceae	burn, joint pain, rheumatic pain and wounds.	Leaves, seed	5
77	*Rosa indica* Linn.	Rose, Gulab	Rosaceae	constipation, headache and wounds.	Leaves, flower	3
78	*Seasmum indicum* Linn.	Seasme, Til	Pedaliaceae	Constipation, Diabetes, Blood Pressure, headache & rheumatism.	Seeds	5
79	*Sida cardifolia* Linn.	Bariyar	Malvaceae	abortifacient, rheumatism and injuries	Leaves, flower	3
80	*Solanum nigrum* Linn.	Makoi	Solanaceae	Abortifacient, gastric ailments and headache	Whole plant	3
81	*Sphaeranthus indicus* Linn.	Mundi, Shrawani	Asteraceae	dog bite, intestinal worms, gas acidity and migraine.	Whole plant	4
82	*Syzygium cumini (*Linn.) Skeels	Jamun	Myrtaceae	diabetes and blood pressure	Leaves, fruit	2
83	*Tamarindus indica* Linn.	Tamarind, Imli	Caesalpiniaceae	burn, conjunctivitis, headache and antidote for scorpion sting.	Leaves, fruit	4
84	*Tagets erecta* Linn.	Marigold, Genda	Asteraceae	crack heels, diabetes, ear pain, sprain swelling and wounds, injuries.	Leaves, flower	5
85	*Terminalia chebula* Retz.	Hareda	Comberetaceae	chest pain and constipation	Fruit	2
86	*Tectona grandis* Linn.	Teak, Sagaun	Verbinaceae	conjunctivitis and headache	Bark	2
87	*Thevetia peruviana* (Pers.) Schum	Pili Kaner	Apocynaceae	Headache, joint & muscle pain, itching and leprosy.	Leaves	4
88	*Trichodesma indicum* RBr.*(Borago indica)*	Andhahuli, Andhpuspi, Indian Borage	Euphorbiaceae	Rheumatism, skin diseases, wound healing, antidote.	Leaves, root, whole plant	5
89	*Trigonella foenum-graecum* Linn	Methi	Fabaceae	diabetes and rheumatism	Whole plant	2
90	*Withania somnifera* Dunal	Ashwagandha	Solanaceae	Headache, joint and muscles pain, abortifacient	Root	3
91	*Zingiber officinale* Roscoe.	Ginger, Adarak	Zingiberaceae	Cough, cold, diabetes, headache, appetite, tonsillitis, leucorrhoea.	Rhizome	8
92	*Ziziphus mauritiana* Lam.	Ber, Indian Plum	Rhamnaceae	asthma and sores	Leaves, fruit	2

DISCUSSION

The ancient Indian cultures flourished in the midst of dense forests. Since plants are the oldest association of man and no one can imagine its life without plants. The investigation indicated that the study area is well blessed with natural forests and tribal communities. The tribal dwellers are still wholly dependent on forests for their livelihood especially for healthcare. Tribal peoples are the great source of indigenous medicinal knowledge. Through modern medical system is well designed to treat the diseases but the tribes are dependent on traditional medicines because of their deep rooted tradition and belief in their traditional culture. The knowledge of traditional healthcare is limited to traditional healers, who are living in rural areas. Hence there is a need to preserve the traditional knowledge and its proper documentation before it is lost. The study also highlights the need for further investigation on biochemical and pharmaceutical aspects of this traditional system of medicine because one of the major problems with the herbal formulation is that the active ingredients are not well defined. Therefore, it is important to know the active component and their molecular interaction which will help to analyze therapeutic efficacy of the medicine. It is also important to note here that the rich diversity of study area and its natural beauty is God's most precious gift that's why needed to be conserved for human welfare and for ecological balance on earth.

CONCLUSION

In all the things of nature there is something of the marvelous. Every plant existing in this planet has its own value economic either edible, commercial or medicinal. Plants are being used as medicine since Vedic period because plants constitute specific chemicals which are used for the production of medicines. The focus of ethno medical studies is often the indigenous perception and use of traditional medicines and another stimulus for this type of research is drug discovery and development. The present investigation shows that there is wide scope for further scientific study on ethno medicinal plants. Ethno-medicinal data may provide a base to search the new compounds related to phyto-chemistry and pharmacology. It is also important to note here that the floristic diversity and natural beauty of the study area is God's miracle. Therefore attention should also be made on sustainable exploitation, cultivation and conservation of these medicinal plants for human welfare because we know that "Nature Protect if She is Protected".

ACKNOWLEDGEMENTS

The authors are grateful to forest authority for permission, local healers, poor but generous villagers, as well as other informants who very kindly provided the relevant information regarding the plants their parts used and the method of preparation of the medicine as well as its mode of administration.

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