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Ethnobotanical investigations of underground plant parts from North Central Tarai Forests of U.P.

T.P. MALL

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North central tarai region of U.P. offers a great scope for ethnobotanical studies because of its diverse flora and ethnic culture. The tribal population of the region primarly depends on ethnobotanical plants of their surroundings for food, shelter and curing their ailments. The present communication deals with the plant species of which underground parts are beeing used as food, as ethnomedicine in thirty ailments ; spices and condiments and sourc of dyes and tanins.

India presents a colourful mosaic of about 563 tribal communities which possess considerable knowledge regarding use of plants for livelihood, health care and other purposes through their long association with the forests, inheritancs and experiences. Plants with medicinal properties enjoyed the highest reputation in the Indigenous system of Medicine all over the world. India has the, richest and diverse cultural tradition called "Folk traditions" associated with the use of medicinal plants.

Traditional folk medicines are the application of indigenous belief, knowledge, skills and cultural practices concerned with human health. The ethnic people have provided several miraculous plants of medicinal value to modern civilization. In developing countries,more then 25 % of the medicines are based on plants and their derivatives. The necessity for documentation of indigenous knowledge of medicines has long been felt with increasing needs of medicines by human beings. It is desired that indigenous plant materials should be collected, identified, processed and utilised as sources of medicines. In India, it is reported that traditional healers use 2,500 plant species. During the last few decades, there has been an increasing interest in the study of medicinal plants and their traditional uses in different parts of the world. Presently, traditional healers are quite old. Due to lack of interest among the younger generations and their migration to cities for lucrative jobs, wealth of knowledge in this area is declining gradually, hence it is important that before the oral folk lore about the plant and plant resources is lost for ever it must be properly documented and preserved. India is one of the twelve mega biodiversity centers of the world having vegetation with a variety of plants with medicinal value.The North Centrail Tarai Forest is next only to eastern and western ghats in plant biodiversity of India. The ethnomedicinal knowledge is also inportant from humanitarian point of view so that in long run this knowledge may help to identify important medicinal uses that can help in curing health around the world.As per report of Agricultural Statistical Directorate, U.P. total forest cover of North Central Tarai Region is 1,02,105 hectares. Since the North Central Tarai Region comprises the district of Shrawasti and Bahraich (U.P.) which is full of lush green forest vegetation of mega biodiversity, 12 forest villages, about 1900 families with approximately 1 : 1 female- male ratio of several tribal community dominated by Tharus residing there, the survey and documentation of ethnobotanical plants with special emphesis to underground plants was under taken.

For the purpose of collection and documentation of ethnobotanical plants of North Central Tarai Forests of U.P., several field trips were condunted during July, 2006-June, 2008. The method of collection of voucher specimens, their preservation in Herbaria and techinque for the collection of ethnobotanical information was followed as recommended by Jain (1989); Jain and Rao (1967); Rao (1989) and Singh and Mall (2007).

During field trips imformation's were collected on the basis of personal interviews with traditionl healers, village head, knowledgeable person and old women of the society. The collected plant specimens were identified with the help of taxonomic literature and floras (Duthie, 1994; Hooker, 1872-1897). All the plant specimens were deposited in the Herbarium maintained in the department.

The Ethnobotanical informations collected from tribals and villagers of the study area are enumerated alphabatecally as below:

Plants used as food:

Bulb and bulblets :

The Bulb and Bulblets of *Allium cepa* L. and *A.*

Correspondence to:
T.P. MALL, Postgraduate Department of Botany, Kissan P.G. College, BAHRAICH (U.P.) INDIA

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Rhizomes :

The Rhizome part of *Costus speciosus* (Koenig) Smith, *Curcuma amada* (Roxb), *C. Longa* L., *C. zedoaria* (Christm. Roscoe), *Cyperus brevifolius* (Rotth) Hasak, *C. exaltatus* Retz., *C. platystylis* R. Br., *C. rotundus* L., *Nelumbo nucifera* Gaertn., *Nymphaea nouchali* Burm. f., *N. stellata* Willd., and *Zingiber officinale* Roscoe are used as food.

Tuber :

The Tubers of *Amorphophallus companulatus* (Roxb.) Blume ex Decne., *Asparagus racemosus* Willd., *Dioscorea bulbifera* L. D. sativa Thunb., *Plesmonium margaritiferum* (Roxb.) Schott., *Scirpus grossus* L. f. and *Typhonium triobtum* L. are used as food by the Tharus .

Spices and condiments:

Allium cepa L., *A. sativum, Curcuma amada* (Roxb), *C. Longa* L.and *Zingiber officinale* Roscoe

Dye and tanins:

Curcuma longa L., and *Ventilago maderaspatana* Garetn.

Plants used in various ailments:

Abortion :

Gloriosa superba L. and *Plumbago zeylanica.* L.

Anthelmintic :

Acorus calamus L., *Ficus benghalensis* L., *Sphaeranthus indicus* L., and *Trichosanthes cylindrica* L.

Antidote :

Achyranthes aspera L., *Allium cepa* L., *A. sativum* L., *Aristolochia indica* L., *Clitoria ternatea* L., *Cocculus hirsutus* (L.) Diels, *Gloriosa superba* L., *Leucas cepalotus* (Roxb.) Spreng., *Momordica dioca* Roxb., *Rauwolfia serpentina* (L.) Benth. ex Kurz. and *Spilanthes calva* DC.

Anti septic agents :

Calotropis gigantea (L.) Br., *Eclitpa alba* L. and *Ficus benghalensis* L.

Biols, Blisters, Sores and Ulcers :

Acorus calanus L., *Capparis sepiaria* L., *Grewia hirsuta* vahl. *Musa paradisiaca* L. and *Rauwolfia serpentina* (L.) Benth. ex Kurz.

Bone fracture and Sprains :

Curculigo orchioides Gaertn. *Curcuma amada* (Roxb.) L., *C. longa* L., *C. zedoaria* (Christm.) Roscoe and *Cyperus cyperoides* (L.) O. Kuntze.

Cholera :

The decoction of *Calotropis gigantea* (L.) Br., *Cyperus rotundus* L., *Mucuna pruriens* (L.) DC., *Vetiveria zizanioides* (L.) Nash and *Zingiber officinale* Roscoe.

Constipation and Stomach Disorders :

The decoction of *Annona squamosa* (L.), *Baliospermum montanum* (Willd) Muell., *Clerodendrum indicum* (L.) and *Ventilago maderaspatana* Gaertn.

Cough, Cold, Asthma and Bronchitis :

Achyranthus aspera L., *Costus speciosus* (Koenig) Smith, *Curcuma longa* L., *C. zedoaria* (Christm Roscoe), *Ficus benghalensis* L., *Murraya koenigii* L., *Sida acuta* Burm., *Solanum surrattense* Burm. f. and *Zingiber officinale* Roscoe.

Cuts and Wounds :

Eclipta alba (L.), *Elephantopus scaber* L., *Sida rhombifolia* L. and *Zizyphus oenoplia* (L.) Mill

Diabeties :

Ficus benghalensis L.

Diarrhoea and Dysentry :

The decoction of *Asparagus racemosus* Wild., *Bridelia squamosa* Gehrm., *Elephantopus scaber* L., *Nymphaea nouchali* Burm. f., *Scirpus grossus* L., *Shorea robusta* Roxb., and *Spilanthes calva* DC.

Ear troubles :

Allium cepa L.

Epilepsy :

Calotropis gigantea (L.) Br.

Eye troubles :

Hemidesmus indicus (L.) Schult

Fever :

Achyranthus aspera L., *Acorus calamus* L., *Argemone mexicana* L., *Clerodendrum indicum* L., *Sida cordifolia* L. and *Tinospora cordifolia* Miers.

Filaria and Hydrocele :

Biophytum sensitivum L.

Hedadache :

Lucas aspera (Willd.) Spreng

Impotancy and other sexual weakness :

Acorus calamus L., *Bombax ceiba* L., *Curculigo orchioides* Gaertn., *Grewia hirsuta* Vahl, *Musa paradisca* L. and *Withania somnifera* (L.) Dunal

Jaundice :

Boerhaavia diffusa L., and *Sphaeranthus indicus* L.

Lactation :

Aspargus racemosus Willd.

Lice problem :

Acorus calamus L.,

Menstruation troubles :

Arundo donax L.

Mouth blisters, Throat sore and Stomatitis :

Boerhaavia diffusa L.,

Night wetting :

Cyprus corymbosus Rottb

Pain, Bodyache and Swelling :

Aegle marmelos (L.) Corr., *Aspargas racemosus* Willd., *Baliospermum montanum* (Willd.) Miell., *Capparis sepiaria* L., *C. zeylanica* L., *Plumbago zeylanica* L. and *Withaania somnifera* (L.) Dunal

Skin diseases :

Pastes of *Achyranthus aspera* L., *Acorus calamus* L., *Allium cepa* L., *A. sativum* L., *Argimone maxicana* L., *A. ochroleuca* Sweet, *Cassia occidentalis* L., *Costus speciosus* (Koenig) Smith, *Curcuma amada* Roxb., *C. zedoaria* (Christm.) Roscoe, *Cyperus corymbosus* Rottb., *Eclipta alba* L., *Gloriosa superba* L., *Momordica dioica* Roxb ex Willd., *Nymphaea nouchali* Burm. f. and *Zingiber officinale* Roscoe.

Small pox :

Curcuma zedoaria (Christm.) Roscoe,

Toothache :

Calotropis gigantea (L.) Br.

Urinary trouble :

Grewia asiatica L.

Vomiting :

Allium cepa L., *A. sativum* L., *Scirpus grossus* L. and *Vetiveria zizanioides* (L.) Nash.

Plants of socio- religous ceremonies:

Achyranthes aspera L., *Curcuma longa* L., *Ficus benghalensis* L., *F. religosa* L., *Musa paradisiaca* L., *Nelumbo nucifera* Gaertn., *Nymphaea stellata* Willd.

It has been observed that a large number of plants are used in local traditional medicines which covers a large territory of ailments from minor cuts to diabetes. Instances are quite common when a particular disease is treated by many plants and many diseases are treated by the same plants. Hence, a critical scientific verfication and evaluation of the same is most urgent for the welfare of the masses. The positive results of their system may also be used to blend other traditional systems of medical treatment and even the modern pharmacognosy.

Although the large number of wild food plants available and in use in the study area must be considered a good blessing of nature for the rural pepole, but it still needs critical verifications on nutritional, hygienic as well as economic grounds.

The large number of palnts species with ethnobotanical uses in the study area provide ample evideneces concerning the richness of useful flora in the region. At the same time, ethnobotanical values of the considered species under different categories shows the multiple ethnobotanical uses of species as well as dependence of the masses upon the same. As the useful wild species greatly out number the cultivated ones, it indicates the importance of wild plant species and this is the time to set priorites for the preservation of wild flora of this area.

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REFERENCES

Duthie, J. F. (1994). *Flora of upper gangetic plain and of the adjacent Shivalic and Sub Himalayan Tract* (Botanical Survey of India, Calcutta) Reprinted 1944.

Hooker, J.D. (1872-1897). *Flora of Brithsh India.* 7 vols Reeve and Co. Ltd. England.

Jain, S.K. (1989). *Methods and approaches in Ethnobotany* (*Society of Ethnobotanist, Lucknow)*

Jain, S.K. and Rao, R.R. (1967). *A hand book of Field and Herbarium Methods* (Today & Tomorrow) printers and Publishers New Delhi pp 33- 58.

Rao, R.R. (1989). Methods and techniques in ethnobotanical study and research, some basic considerations in : *Methods and Approaches in Ethnobotany by* S.K. Jain (*Society Ethnobotanists*, Lucknow) 13-23.

Singh, Babli and Mall, T.P. (2007). Ethnomedicinal plants used for dysentery and diarrhoea by Tribals of North Western Tarai Region of U.P. India. *J. Indian Bot. Soc.*, **86** (3-4) : 147-150

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