Ethnopharmacological survey of Rampur district forests in Rohilkhand region of Uttar Pradesh

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Abstract

This report deals with the results of an ethnopharmacological survey recently conducted in Rampur district of Rohailkhand, one of the important regions of Uttar Pradesh. It lists 30 plant species belonging to 21 families of angiosperms that are commonly used by the indigenous communities of the area as folk drugs for treatment of various diseases and conditions of humans and cattle. For each plant species the scientific and local names, part used, claimed medicinal use(s), mode of administration are given. The study enriches our existing knowledge on ethnopharmacopoea of this region of northern India.

Keywords: Ethnopharmacological survey, folk medicines, Rampur, Rohilkhand, Uttar Pradesh.

Introduction

Rohilkhand region, lying in the north-western part of Uttar Pradesh, a northern province of India, includes districts of Bareilly, Moradabad, Rampur, Bijnor, Pilibhit, Shahjahanpur, etc. It is inhabited by various indigenous castes and cultural groups who claim to be the descendant of pastoral races. They still have knowledge of plants and their healing properties which they have inherited orally from many generations. Folk medicines of different parts of this region have been described by many ethnobotanists and other investigators (Ali, 1999; Ali and Ahmad, 2007; Ali et al., 2011a, 2011b; Ali et al., 2003; Khan, 2002; Khan and Siddiqui, 1987; Maheshwari and Singh, 1984; Sharma, 1985, 1991, 1996; Sharma and Gautam, 1992; Sharma et al., 1989). No list, however, exists of the plants which are in therapeutic use among the inhabitants of Rampur district. Hence, an ethnopharmacological survey was conducted in this part of Rohilkhand. In this contribution, the results of this field study are reported.

Rampur district of Rohilkhand from which data were gathered is situated between 28° 25′ - 29° 10′ N latitude and 78° 52′ - 79° 26′ E longitude. In configuration, it is almost heart-shaped bounded on the north by Udham Singh Nagar district, on the east by Bareilly and Udham Singh Nagar districts, on the south by Badaun and Bareilly districts and on the west by Moradabad district (Fig. 1). There are four forest ranges (namely: Bilaspur, Suwar, Milak and Rampur) with reserve forests covering an area of 6610.80 hectare. The forests of this area are generally of northern tropical dry deciduous type. These are found only in the Tarai of Bilaspur and Suwar forest ranges. Sal (Shorea

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robusta Gaertn.f.) is entirely absent in the district. However, some of its usual associates are commonly found here. There are some scattered settlements of 'Vangujjars' (a nomadic forest dwelling tribe). Some other ethnic and cultural groups like 'Kamboj', 'Boxas', 'Jatsikh' and 'Raisikh' are also found around these forests. The agriculture and horticulture are their main occupations. The forest areas surveyed include Pipli Ban, Ambarpur, Aryanagar, Dandiya, Rawana and Ehrula.

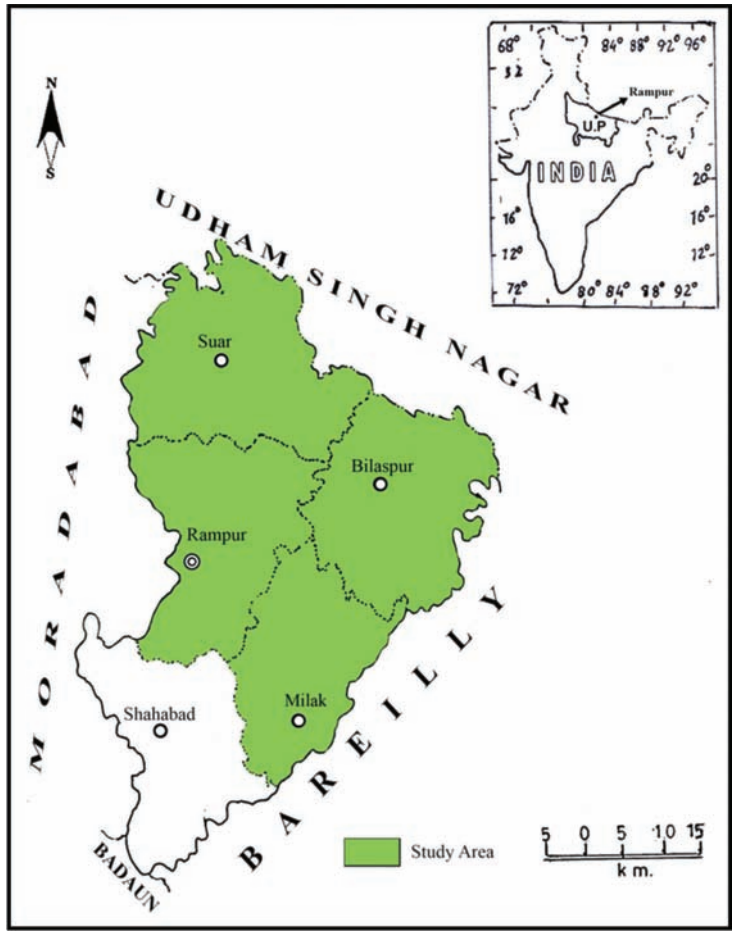

Fig. 1: Map showing the areas surveyed in Rampur district (U.P.), India

Methodology

The present investigation was carried out in March 2012. During the fieldwork a number of tribal settlements and villages were visited. Information on folk medicinal uses of local plants was obtained through direct field interviews with reliable informants who were local medicine men and other knowledgeable village elders. Data on common name of the plant or the crude drug, medicinal use(s), part used, other ingredients added (if any), method of drug preparation

and mode of administration were recorded for each claim. Plant specimens were collected with the help of informants and later identified by the senior author with the help of related floras (Duthie, 1903-1922; Hooker, 1872-1897; Kanjilal, 1982; Raizada, 1976). Voucher herbarium specimens of all the species were prepared and deposited in the Herbarium of the Survey of Medicinal Plants Unit, Regional Research Institute of Unani Medicine, Aligarh (U.P.), India.

Observations

In the following listing medicinal plants are arranged in alphabetical order by their scientific names. Each entry provides information on correct botanical name, family between parentheses, prevalent local name in inverted commas, locality from which a particular use was recorded, voucher specimen number and folk use(s). As far as possible, the probable dosage and duration of these crude drugs are also given.

Acacia nilotica (L.) Willd. ex Del. ssp. *indica* (Benth.) Brenan (Mimosaceae), 'Babool', Milak (*ZAA9425)*. Lukewarm decoction of the stem bark is poured on dhobie itch. The stem bark of the plant is also used to treat dysentery. It is mixed with vegetative buds of 'jaman' (*Syzygium cumini* (L.) Skeels) and 'amrud' (*Psidium guajava* L.) and boiled; the liquid is strained and given orally two to three times a day for 5-7 days.

Achyranthes aspera L. (Amaranthaceae), 'Chirchita', Pipli (*ZAA9281*). Plant paste is applied locally for bruise.

Ageratum conyzoides L. (Asteraceae), 'Podinajari', Dandiya (*ZAA9352*). A freshly made paste of the leaves, obtained by crushing, is applied on cuts and wounds to stop the bleeding.

Alstonia scholaris (L.) R. Br. (Apocynaceae), 'Ajan', Dandiya (*ZAA9359*). Stem bark decoction is used as cough sedative in cases of children.

Blumea lacera (Burm. f.) DC. (Asteraceae), 'Karonda', Pipli (*ZAA9286)*. Fresh leaf juice mixed with powder of few black peppers and common salt is given orally for dog-bite.

Bombax ceiba L. (Bombacaceae), 'Semal', Rawana (*ZAA9399*). The tap root of the young plant, locally known as 'semal musli', is cut into small pieces, dried and ground to make a fine powder. One spoon of this powder is given with milk once daily as aphrodisiac.

Butea monosperma (Lam.) Taub. (Fabaceae), 'Dhak', Ambarpur (*ZAA9317*). A fine paste of the stem bark is applied in the mouth of children to treat stomatitis. Leaf decoction is given to cattle for mild fever.

Calotropis procera (Ait.) R. Br. (Asclepiadaceae), 'Akawa', Dandiya (*ZAA9424*). Latex is mixed with the latex of 'bargad' (*Ficus benghalensis* L.) and put on aching tooth.

Cassia fistula L. (Caesalpiniaceae), 'Karangal' and 'Amaltas', Dandiya (*ZAA9379*). Young root is rubbed on the stone with water and applied externally for fungal infection.

Centella asiatica (L.) Urban (Apiaceae), Dhandai (*ZAA9332*). Fresh leaves are crushed and taken with water as refrigerant.

Cissampelos pariera L. (Menispermaceae), 'Jaljamni', Pipli (*ZAA9278*). Leaf juice coagulates on being allowed to stand in a cup for 4-5 hours. It is given three times a day for 5-7 days to treat amaebiasis.

Clerodendrum cordatum D. Don (Verbenaceae), 'Bhat', Pipli (*ZAA9784*). Young vegetative buds are chewed and taken daily to control diabetes.

Cuscuta reflexa Roxb. (Cuscutaceae), 'Agasbel', Pipli (*ZAA9304*). Paste of the plant is applied on boil as poultice for suppuration and healing.

Dicliptera roxburghiana Nees (Acanthaceae), 'Hadjor', Pipli (*ZAA9276)*. About 25g of the paste, obtained by grinding the whole plant in water, are given two times a day to hasten the healing process of bone fracture.

Euphorbia helioscopia L. (Euphorbiaceae), 'Dudhi', Pipli (*ZAA9285*). Fresh latex obtained from the plant is applied externally in leucoderma.

Euphorbia thymifolia L. (Euphorbiaceae), 'Chunia ghans' Pipli (*ZAA9279*). One tea spoonful of the leaf powder mixed with 'khand' (crude sugar) is given two times a day for 5 days to treat dysentery.

Ficus benghalensis L. (Moraceae), 'Bargad', Dandiya (*ZAA9365*). Paste of the tender aerial root is applied locally for prolapsed rectum.

Glycosmis arborea (Roxb.) DC. (Rutaceae), 'Elu', Pipli (*ZAA9307*). Tender twig is used as toothbrush for dental care.

Gomphrena serrata L. (Amaranthaceae), 'Kana', Ehrula (*ZAA9388)*. Fresh plants are fed to buffaloes and cows for increasing lactation.

Holarrhena pubescens (Buch.-Ham.) Wall. ex G. Don (Apocynaceae), 'Kokar', Aryanagar (*ZAA9309)*. Decoction of the seeds is given for malaria fever. Stem bark is mixed with leaves of 'ajan' (*Alstonia scholaris*) and boiled in milk. It is administered through pipe in the nose of buffaloes and cows for treating mastitis.

Ixeris polycephala Cass. (Asteraceae), 'Dudhi ghans', Pipli (*ZAA9280*). Crushed leaves are boiled in seed-oil of 'alsi' (*Linum usitatissimum* L.) and cooled. It is lightly massaged on affected side of the body in hemiplegia.

Justicia adhatoda L. (Acanthaceae), 'Basooti', Aryanagar (*ZAA9299)*. Leaves are mixed with leaves of 'barna' (*Cratevea adansonii* DC.) and boiled in water. It is given to cattle for treating bronchitis with fever.

Kalanchoe pinnata (Lam.) Pers. (Crassulaceae), '*Patthar Chata*', Pipli (*ZAA9282*). Leaf paste (20g) is given orally two to three times a day for one month to dissolve and expel small kidney stones.

Launaea procumbens (Roxb.) Ramayya & Rajagopal (Asteraceae), 'Jangli Gobhi', Pipli (*ZAA9283*). Crushed leaves are fried in ghee, cooled and given orally in the dose of 20g twice daily for 1-2 month to treat haemorrhoids.

Malvastrum coromandelianum (L.) Garcke (Malvaceae), 'Khurenti', Pipli (*ZAA9277*). Leaf paste is given with water for palpitation.

Pogostemon benghalenses (Burm.f.) Kuntze (Lamiaceae), 'Maspindi', Aryanagar (*ZAA9300*). Leaf juice is applied on sharp cuts to stop the bleeding.

Pongamia pinnata (L.) Pierre (Fabaceae),'Kanju', Ambarpur (*ZAA9369*). Tender twig is used daily as toothbrush for dental care.

Quirivelia frutescens (L.) M.R. & S.M. Almeida (Apocynaceae), 'Keef Bel', Dandiya (*ZAA9353*). Whole plants are cut into pieces and fed to buffaloes and cows as galactagogue.

Terminalia arjuna (Roxb. ex DC.) Wight (Combretaceae), 'Arjun', Ambarpur (*ZAA9323*). Powdered stem bark is boiled in water, cooled and liquid is strained. It is used daily as cardiac tonic.

Zizyphus mauritiana Lam. (Rhamnaceae), 'Beri', Aryanagar (*ZAA9373*). Fresh leaf paste is applied on forehead to treat headache.

Discussion

This pioneer ethnopharmacological study on Rampur forests of Rohilkhand region, Uttar Pradesh has brought into light information on folk medicinal utility

of some 30 plant species belonging to 21 different families of angiosperms. The data were obtained from reliable informants who were usually elder people. They have long been using these plants in their day-to-day health related problems despite the fact that government primary healthcare centres and dispensaries are now accessible to rural populace. These medicinal uses were analyzed and compared with the available literature on medicinal and economic plants of the country (Anonymous, 1948-1976, 2001; Chopra et al., 1956; Jain, 1991; Kirtikar and Basu, 1935; Nadkarni, 1954; Watt, 1889-1892) and it was found that majority of the claims reported herein seem to be new or less-known and enrich our existing traditional knowledge.

In the course of fieldwork it was observed that extent of natural forests which are the main habitats of the medicinal plants has been reducing especially in Tarai of this region due to the heavy pressure of an agricultural population with a constantly increasing demand for land for cultivation. This ancestral knowledge of medicinal plants in the region is in danger of being lost because of expansion of agriculture, increasing access of allopathic system of medicine as well as acculturation and above all the apathy of younger generation who does not show much interest in traditional medicine. It is, therefore, desirable to conduct extensive field surveys of other ethnobotanically unexplored or under explored areas of this part in particular and in other areas of Uttar Pradesh in general. Such investigations could bring some more new ethnomedicinal information which can be a source of significant drug leads. As many potent drugs of today have their origin in Indian traditional medicine and ethnopharmacology (Mukherjee et al., 2007; Patwardhan, 2005).

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