

Ethnobotanical Studies on Certain Medicinal Plants of Baramulla District of Kashmir Himalaya.



Botany

KEYWORDS : Ethnobotany, Ethnomedicine, Herbalists, Asthma, Skin Infection, Joint pain, Baramulla region, Kashmir valley

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ABSTRACT

In the present study, an effort was made to collect the information from the Gujjar and Bakerwal tribal community of Baramulla district of Kashmir Himalaya. A total of 80 plant species belonging to 45 families were found to be valuable for medicinal, fodder, food, fuel, shelter and agricultural purposes based on folklore information. Out of these, 25 plant species are used by the tribal for joint and rheumatic disorders, 22 plant species for wound healing and skin infections, 18 plant species for stomach and gastrointestinal troubles and 15 plants species for cough, cold and asthma.

Introduction

The plants have been used as medicines since the beginning of human civilization and have been a source of treatment for a number of common ailments⁴. In recent years a lot of work has been done on the ethnomedicinally important plants and have attracted the attention of researchers from all over the world.^{1, 10} The Indian Himalayan Region (IHR) supports major part of this diversity of medicinal plants, as is clearly evident in the records revealing 1,748 species in the region⁹. This is the reason that major part of the exported raw material originates from the Himalayan region⁸. To discover the secret uses of the plants, ethnobotany, has become an important part of the world. Estimated number of medicinal drug-manufacturing units in India is over 7800 which consume about 2000 tones of herbs annually.⁷ Various ethnic groups have been using folklore knowledge for various day to day ailments in different parts of the country. The Kashmir Himalaya are rich in cultural diversity of people as well as diversity of flora and fauna. The flora comprising of 3054 species are found scattered in different areas of Kashmir Himalaya especially the alpine and subalpine zones. It happen to be one of the thirty four biodiversity hot spots of India. The main ethnic communities of the study area, Gujjars and Bakarwals, living mostly around sub-alpines, lack basic medical facilities as such are mostly dependent on medicinal herbs growing in their areas for treatment of various ailments.

Materials and Methods

Study area (Baramulla District)

The District Baramulla of Kashmir valley (J&K, India) lies between 34°5' N latitude and 74°35' E longitude. The climate of the study area is typical Mediterranean type with four distinct seasons, viz., spring, summer, autumn and winter. The mean temperature ranges from - 3°C in January to 34.4°C in August. Out of other districts of Kashmir Baramulla ranks first with the forest area of 2504 sq. km. Gulmarg, Danwass, Rohama, Rafiabad and Kajinaag regions of Baramulla district are ethno-medicinally important and were studied for the present work. The map of study area is shown in Fig 1.

Survey, sampling and documentation of traditional knowledge

The selected areas/sites of the study area were visited during March 2010 to December 2011. During the visit in tribal communities, their daily activities were closely observed and interpersonal contacts were established by participating in several of their social and religious ceremonies. During the survey, local professional herbalists (Hakeems), occasional practitioners and experienced established prescribers were approached, brought into confidence and interviewed. To avoid erroneous identification, knowledgeable persons and herbalists were taken to the forests to verify the plant samples. The ethnobotanical data (local name, mode of preparation, medicinal uses) were collected through questionnaire, interviews and discussions among the tribal practitioners in their local language. Each specimen was identified with the help of local floras³, and deposited under proper collection numbers in Herbarium Record of Pest Con-

trol and Ayurvedic Drug Research Laboratory, S.S.L. Jain College, Vidisha (M.P). Field observations were recorded for all the specimens in the notebook. The observations included information on habit and habitat, systematic details of plant specimens, collection number of each plant specimen, date of collection and ethnobotanical and ethnomedicinal use of each plant. Collected specimens were pressed, dried and fixed on herbarium sheets.

Results and Discussion

Plant-derived medicines are used in all cultures and as such plants have always played a key role in maintenance of health all over the world². In the field of ethnobotany a lot has been done for the last few years. Among them the ethnobotanical survey of Tiruchirapalli district of Tamilnadu, India is one¹² and these works suggest that the ethno-botanical studies should be followed by phytochemical and pharmacological studies. In the present study, an effort was made to collect the information as far as possible from the ethnic community of Baramulla district of Kashmir valley. Eighty plant species based on folklore information are listed in Table 1. These plant species belong to different families (Graph 2). The results tabulated in Table 1 give scientific information about the medicinal as well as non-medicinal uses of plants. Out of these plant species, 25 plant species are used by the tribals traditionally for joint pain and rheumatic disorder; 22 plant species have been identified to be useful in wound healing and skin infections (Graph 3). The data also suggest that 18 plant species are used by the tribals of the study area in stomach and gastrointestinal troubles and 15 plants species are used for cough, cold and asthma (Graph 3). The above data reveal that maximum plants are used in joint pains and rheumatism which are common occurring ailments in the cold hilly regions of the area. Followed by joint pain, cold, cough and asthma are also quite prevalent among the tribals of the area. Most common mode of administration of herbal medicines for various diseases used by the tribals include poultice made in ghee or oil for joint pain or rheumatism, wound healing and skin diseases. Decoction and fermented substances (locally called as Khamber) are mostly used mode of administration for cough, cold and asthma. Sometimes, fresh tender leaves are rubbed on the skin for relief from the skin infection. The results also revealed that Asteraceae is the most dominating family whose plant species are used for treatment in various diseases (Graph 2). Family Pinaceae represented by three genera viz. Cedrus, deodora, Abies, Pinus, Pinus wallichiana are mostly utilized for timber and fuel purposes. During the present study, it was found that this family is mostly affected due to deforestation by the locals for increasing their livelihood. The identified eighty plant species are categorized into three important groups viz. herbs, shrubs and trees. From the Table and Graph 1, it is noticed that total number of herbs is sixty five comprising of 10 cultivated, 51 wild and 4 wild and cultivated and total number of shrubs are 2 comprising of 1 cultivated and wild 1. Nine plant species are observed from the study area (7 cultivated, 2 wild). The 2 important species of wild fungi were also reported in the study area namely *Morchella esculenta* and *Agaricus campestris*. These two species of fungi are useful in healing of burn wounds and provide relief from the pain of the wound. Besides the

above categories of plants, some important modified roots were also reported. Several such studies have already been carried from other parts of the world⁶. The study region remains cold for six months and the Joint pain and cough cold problems are more common among the tribal people. *Taraxacum officinale*, *Saussurea costus*, *Artemisia absinthium*, *Bergenia ligulata*, *Brassica campestris*, are mostly used for joint pain and rheumatism. Whereas *Althaea rosea*, *Arnebiabenthamei*, *Cuscuta reflexa*, *Rosa webbiana* were found mostly useful for cough cold, and asthma disorders. Some of these plants are similar to that reported by previous workers from different parts of Jammu and Kashmir Himalaya^{5, 11}

Market sector of medicinal plants in Baramulla region.

According to local collectors and traders of medicinal plants, the demand of certain medicinal plant species like *Aconitum heterophyllum*, *Angelica glauca*, *Podophyllum hexandrum*, *Saussurea costus* is very high due to their more use in different diseases, but their supply is low which is due to their rear populations and absence of cultivation of these important medicinal plant species. Generally three main stock holders viz., collectors, traders and pharmaceutical industries, are involved in medicinal plants trade. Amongst them, the major beneficiaries are traders and pharmaceutical. The study came across certain facts that the traditional system mainly rely up on the potentiality of wild herbs for the treatment but their cultivation is very negligible. However, few species of multipurpose uses were found to be grown in house gardens but due to their over exploitation and smuggling in the neighboring countries. Valuable resources of the valley are in the verge of extinction or getting endangered day by day.

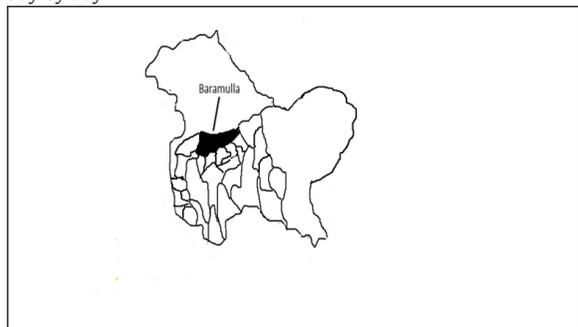
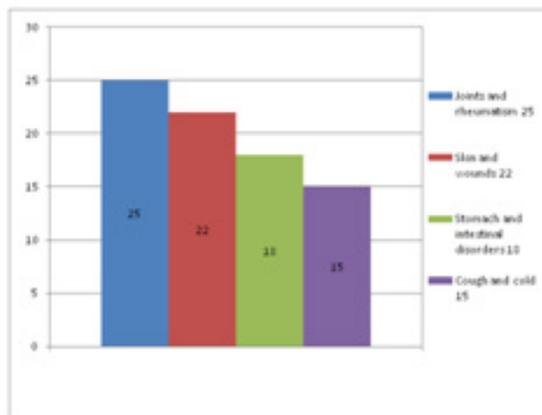
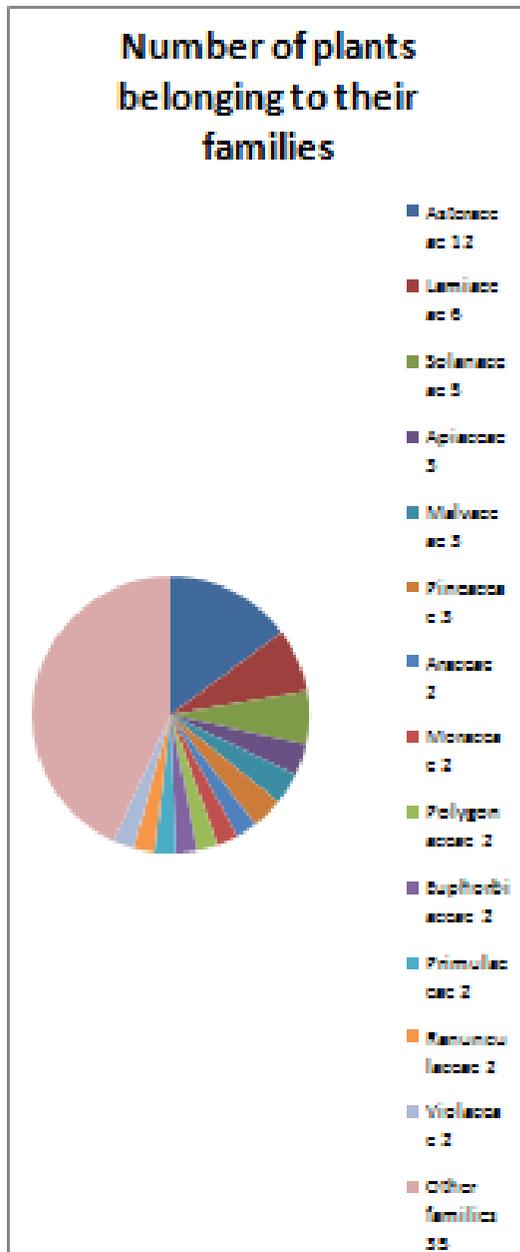
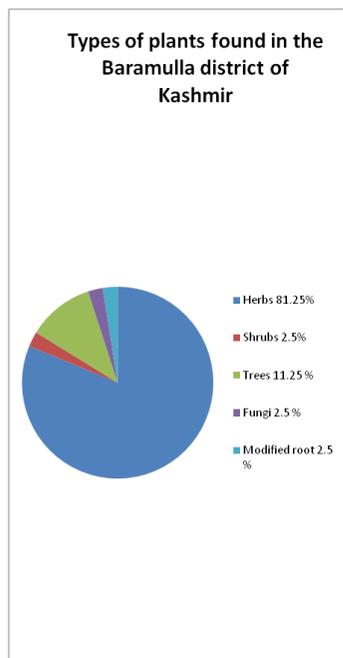


Figure 1. Map showing the location of study area (Baramulla) in the Jammu and Kashmir.



Graph 3 Medicinal plant species and their parts used to cure various ailments

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