

## **Indigenous Uses of Some Important Ethnomedicinal Herbs of Ayubia National Park, Abbottabad, Pakistan**

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**Issued 2 December 2006**

### **Abstract**

This paper is based on the results of an ethno botanical research project conducted in Ayubia National Park. The people of the park have always used the medicinal herbs for various ailments and are dependent on the plants in their surroundings for food, shelter, health, medicines, fodder and various cultural purposes. A total of 21 important herbs belonging to 19 Families were recorded which were used medicinally by the local inhabitants. About 100 informants were interviewed in this regard. The precious ethno botanical knowledge is disappearing very fast, so this study could be helpful in conserving the precious knowledge. *Podophyllum emodi* Wall. ex Royle and *Viola canescens* Wall. ex Roxb. are found vulnerable to harvesting.

**Key Words:** Ethnomedicinal herbs; Ayubia National Park; ethnomedicinal use; indigenous use; collection; preservation; storage; processing; medicines; local recipes.

### **Introduction**

The investigated area Ayubia National Park lies between 34-38 North latitude and 73-22.8 to 73-27.1 East longitude, over an area of 1684 hectares. The area has been expanded through northern extension in 1998 to make a total of 3312 hectares. The people and plants have a strong interrelationship as they depend upon plants for their various needs.

The area has been included in the moist temperate forest and been under severe threat for fuel wood and fodder collection by the local people. Firewood is mostly collected from the park and although deadwood is preferred, many live branches are cut and some young trees felled (Ayaz 1998:42-56). There are several important medicinal

plants e.g. *Paeonia emodi*, *Podophyllum emodi* Wall. ex Royle and *Valeriana jatamansii* Jones (*V. wallichii* DC.) which are restricted to the park. (Aumeeruddy Y. 1998:9-15).

Ayubia National Park has never been explored before ethno botanically in detail, so it was felt worthwhile to explore the area ethno botanically and record the indigenous uses of the important medicinal herbs in the park. This study was important because the precious ethno botanical knowledge is disappearing very fast. Ethno botanical surveys can be very helpful in rescuing and preserving the precious indigenous knowledge. In Ayubia National Park the vegetation is extensively being impoverished due to heavy population pressure from the surrounding villages, which are dependant on the forest for their fodder, fuel wood and other social and cultural requirements. The valuable ethno botanical knowledge, which was transmitted orally from generation to generation, was a source of strong linkage between people and plants. Such relationship intern helped in sustainable use of plant resources by the communities. As we know that the true essence of Ethnobotany is that it is the study of relationship between people and plants, especially the utilization of plants by the people. (Martin G. J. 1995:23-29).

The field of Ethnobotany in Pakistan is now not that virgin as it was in early 90's. A lot of papers have been published and more work has to be done in the future. (Shinwari & Khan, 2000:45-56) described 50 species of herbs belonging to 27 families from Margala Hills National Park, Islamabad Pakistan, as used medicinally by the local inhabitants of the park, among which ten species are being sold in the local market. *Asparagus adscendens* Roxb, and *Viola canescens* Wall. ex Roxb. Are found vulnerable to harvesting. (Bukhari 1994:61-65) worked on Ethnobotany and vegetation analysis of Machyara National Park Muzafarabad AJK, he reported 10 plant communities in different regions of the National Park; he discussed the status of the plant species in the park and also reported the detail of the medicinal plants in the park. (Zandial 1994:97-102) worked on the Ethnobotany of the National Park Machyara, AJK, Pakistan, he reported 104 important species of plants including tree, shrub and herb species used ethno botanically by the local people.

Medicinal plants used by the local people ethno botanically are of great importance that is the reason a lot of people are engaged in the trade of important medicinal herbs, shrubs and tree species in and out side the country. (Elisabetsky 1990:313-320) reported that annual world market value for medicines derived from medicinal plants by indigenous people is US \$ 43 billion.

### **Material and Methods**

Before starting the research work on indigenous use of enthnomedicinal herbs of Ayubia National Park the general information about the area was collected. Maps were obtained from forest department Abbottabad and Dungagali. About 10 villages around

the park were studied and Interviews of more than 200 local informants were made including Hakims (Herbal healer) and Pansaris (Grosser). Questionnaires were made for the interviews of the people which included the information about the informants, the plant used by them, for what illness the plant is used, in what quantity and how (recipe) the plant is used.

## **Results**

### ***Achillea millefolium* L.**

Family: Asteraceae

Voucher specimen No: 97

Part used: W.P

Indigenous use:

The plant is used as diaphoretic, stimulant and tonic. The plant is also used in fever and cold.

### ***Atropa accuminata* Royle**

Family: Solanaceae

Voucher specimen No: 27

Part used: R.L

Indigenous use:

The plant is used as sedative, stimulant, antispasmodic. It is also used in cough.

### ***Althea rosea* L.**

Family: Malvaceae

Voucher specimen No: 07

Part used: R

Indigenous use:

The root of the plant is used in jaundice, stomach, urinary ulcers and in liver disorders.

### ***Arisaema flavum* Forssk.**

Family: Araceae

Voucher specimen No: 86

Part used: Rh

Indigenous use:

The plant is poisonous and used against snake's bites.

### ***Bergenia ciliata* (Haw.) Sternb.**

Family: Saxifragaceae

Voucher specimen No: 14

Part used: Rh and L

Indigenous use:

The rhizome is crushed and used in all kinds of ulcers mainly stomach and duodenal and also in internal infections. It is also anticancerous in action.

### ***Berberis lycium* Royle**

Family: Berberidaceae

Voucher specimen No: 49

Part used: R.L

Indigenous use:

Root is used in jaundice and diarrhea. The bark of the root is used in diabetes, also used as tonic.

***Cannabis sativa* L.**

Family: Cannabinaceae

Voucher specimen No: 17

Part used: L

Indigenous use:

The leaves are narcotic and is used as stimulant

***Chrysanthemum leucanthemum* L.**

Family: Asteraceae

Voucher specimen No: 95

Part used: W.P

Indigenous use:

It is used as fodder. The plant is also used as insecticide and pesticide.

***Fragaria nubicola* Lindl.**

Family: Rosaceae

Voucher specimen No: 78

Part used: Fr and L

Indigenous use:

The leaves and fruit are mixed with the leaves of *Berberis lycium* and used in cure of stomach ulcers, also used as antiseptic.

***Geranium wallichianum* D. Don**

Family: Geraniaceae

Voucher specimen No: 82

Part used: R

Indigenous use:

The root is dried and is crushed then it is mixed with milk and sugar and is used in backache, gout and also used in strengthening of the body muscles and bones.

***Gentiana kurroo* Royle**

Family: Gentianaceae

Voucher specimen No: 75

Part used: R

Indigenous use:

The root is used in stomachache and is used in urinary infections.

***Gallium aparine* L.**

Family: Rubiaceae

Voucher specimen No: 63

Part used: WP

Indigenous use:

Leaves are used in jaundice, externally used on wounds as antiseptic. It is also anticancerous.

***Hedera nepalensis* K. Koch**

Family: Araliaceae

Voucher specimen No: 02

Part used: L

Indigenous use:

Leaves are used in diabetes.

***Impatiens bicolor* Royle**

Family: Balsaminaceae

Voucher specimen No: 13

Part used: Fr. S

Indigenous use:

It is diuretic, tonic and has cooling effect.

***Indigofera heterantha* Wall.**

Family: Leguminosae

Voucher specimen No: 55

Part used: L.W

Indigenous use:

Leaves are crushed and the extract is used in the internal body disorders.

***Polygonum amplexicaule* D. Don**

Family: Polygonaceae

Voucher specimen No: 70

Part used: R.L

Indigenous use:

Root is used in fever and diarrhea.

***Podophyllum emodi* Wall. Ex Royle**

Family: Berberidaceae

Voucher specimen No: 07

Part used: Fr

Indigenous use:

Fruit is used in liver disorders and also used as tonic.

***Paeonia emodi* Wall.**

Family: Paeoniaceae

Voucher specimen No: 68

Part used: R

Indigenous use:

The root is crushed and mixed with milk, sugar and roots of *Geranium wallichianum*, and is used in backache and internal body pains.

***Urtica dioca* L.**

Family: Urticaceae

Voucher specimen No: 57

Part used: R.L

Indigenous use:

The roots and leaves are used to make medicine for the cure of chambal (A disease in which white spots are formed on the body).

***Valeriana jatamansii* Jones (*V. wallichii* DC.)**

Family: Valerianaceae

Voucher specimen No: 73

Part used: R.L

Indigenous use:

Root is carminative, stimulant and antispasmodic. It is also used as insecticide by placing the leaves in the clothes.

***Viola canescens* Wall ex Roxb.**

Family: Violaceae

Voucher specimen No: 05

Part used: W.P

Indigenous use:

Flowers and leaves are used in cough, cold, fever and jaundice.

**Collection and Preservation of ethnomedicinal herbs**

The collection is done mostly by traditional approach not scientifically that is why some very important species of ethnomedicinal herbs are becoming extinct. After collection the herbs are dried by the local people, mostly women are involved in this activity. They usually store the herbs in the shade for 2-7 days for complete drying. Storage is mostly done by the whole sellers in the cities and not by the local people because they try to sell the herbs as early as possible to get some money. The processing is done by the traditional methods, which mostly causes contamination in the material.

**Discussion**

The present study provides information on the indigenous uses of 21 important medicinal herbs belonging to 19 families. Most of the plant species are reported to be quite effective remedies for different diseases such as diarrhea, diabetes, jaundice, backache, stomachache, ulcers, cold and even cancer. These plants are also used by the local herbal healers and hakims as traditional medicines.

The important objective of this study is to record the precious indigenous knowledge about plants especially the ethnomedicinal herbs of the area. Actually Ethnobotany tells us the methods for working with the local communities, to learn about their

knowledge and uses of plants world. It helps us in identifying conservation issues such as cases where a rate of harvest exceeds the rates of re-growth. It is a collaborative venture between people in local communities and various scientists and specialists. A tragedy of the modern times is that the precious ethno botanical knowledge is disappearing very fast. Westernization, breakdown of traditional cultures and even the extinction of whole tribal groups are responsible. A chief goal of such a study is to ensure that local natural history becomes a living tradition in communities, where it has been transmitted orally for many years. The results of this work can later be applied to biodiversity, conservation and community development. (Martin G.J. 1995:23-29)

All over the world the medicinal plants are used with great interests and are active participants in the trade and economy of the country. In China as many as 2294 traditional Tibetan medicines are used all from plants (1106), animals (448) and natural minerals (840). (Yang 1988). Many of the important medicinal plants are sold at higher prices in the market. As Elisabetsky reported that annual world market value of the medicines derived from the medicinal plants by the indigenous people is US \$ 43 billions. (Elisabetsky 1990:309-312). Most of the plants used by the local people are not conserved but are over exploited. It is therefore necessary to find the ways of promoting the local people towards conservation as Shingji suggested that Ethnobotany is the science of documenting the traditional knowledge on the use of plants by the indigenous people and for further assessing human interactions with the natural environment. (Shingji1994:114-120).

**Table 1.** List of Plants used as Medicines, Food Source and Fodder.

S.No	Plant Name	Medicinal	Food/Fruit/Vegetable	Fodder
1.	<i>Achillea millefolium</i> L.	v		v
2.	<i>Atropa accuminata</i> Royle	v		
3.	<i>Althea rosea</i> L.	v		
4.	<i>Arisaema flavum</i> Forssk.	v		
5.	<i>Bergenia ciliata</i> (Haw.) Sternb.	v		
6.	<i>Berberis lycium</i> Royle	v	v	
7.	<i>Cannabis sativa</i> L.	v		
8.	<i>Leucanthemum vulgare</i> Lam.	v		v
9.	<i>Fragaria nubicola</i> Lindl. Ex Lacaita	v	v	
10.	<i>Geranium wallichianum</i> D. Don	v	v	
11.	<i>Gentiana kurroo</i> Royle	v		
12.	<i>Gallium aparine</i> L.	v		v
13.	<i>Hedera nepalensis</i> K. Koch	v		
14.	<i>Impatiens bicolor</i> Royle	v		
15.	<i>Indigofera heterantha</i> Wall.	v		v
16.	<i>Polygonum amplexicaule</i> D. Don	v	v	v

17.	<i>Podophyllum emodi</i> Wall. Ex Royle	v	v	
18.	<i>Paeonia emodi</i> Wall.	v	v	
19.	<i>Urtica dioica</i> L.	v		
20.	<i>Valeriana jatamansii</i> Jones (V. wallichii DC.)	v		
21.	<i>Viola canescens</i> Wall ex Roxb.	v	v	

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