

INDIGENOUS MEDICINAL PLANTS USED BY LOCAL PEOPLE OF SHAHI, LOWER DIR, (KHYBER PAKHTOON KHWA) SOUTHERN HIMALAYAN REGIONS OF PAKISTAN

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ABSTRACT

The present work is based on the results of research conducted on traditional uses of some important plants by the local people of Shahi, Lower Dir in southern Himalayan Mountains, Pakistan. The locals of the area have been using the medicinal plants for many day to day uses for various ailments and are dependent on the plants in their surroundings for food, health, medication and various cultural purposes. A total of 50 important plant species belonging to 35 families of wild herbs, shrubs and trees, were found to be used as medicinal plants.

Key Words: Indigenous medicinal plants, local uses, Southern Himalayan regions of Pakistan

INTRODUCTION

Prior to the merger with Pakistan in 1969, whole of the district Dir was a princely state ruled by Nawab Shah Jehan Khan and his ancestors. Lower Dir was declared as full fledged district of Malakand division on 13.08.1996. It is composed of two sub divisions i.e., Timergara and Jandool. Sub-division have been further divided into six tehsils; Samarbagh, Munda, Lal Qillah, Balambat, Timergara and Adezai. Miskaini and Shahi are the two villages of tehsils Samarbagh.

It is located from latitude 34⁰- 37' to 35⁰-07' north longitudes and from 71⁰-31' to 72⁰-14' east longitudes. It is bounded on the north by Upper Dir district, on the east by Upper Dir and Swat districts, on the south by Malakand protected area and on the west by Bajur agency and Afghanistan. The population of lower Dir district is 717.65 thousand in 1998. The total area of the district is 1583 square kilometers.

The topography of the district is dominated by the mountains and hills which are part of the branches of the southern Hindukush. The mountains ranges, in general run from north to south, with highest peaks in the upper northern part of the district where they reach more than 3000 meters in height. In the central part the height varies between 1800 to 2000 meters. In the south the height shows a rapid decrease where it is around 600 meters. The villagers devoted to agriculture, cattle-breeding and wood related activities have halved in number during past 50 years. The absence of industrial and tourist facilities, due to the geographical position and road conditions, prevented in fact the development of the area.

Pakistan has rich history on the folk use of plants. Afridi (1986) listed 67 medicinal plants from Khyber agency. Haq & Hussain (1993) reported local medicinal and other traditional uses of plants of Mansehra. Medicinal plants of Rawalpindi (Arshad and Akram, 1999), Kalat (Durrani and Hussain, 2003), Kurram (Gillani *et al.*, 2003) and Margalla (Shinwari and Khan, 1998) have also been investigated. Ethnobotanical studies have also been made in the various parts of Dir Kohistan valleys (Jan *et al.*, 2010).

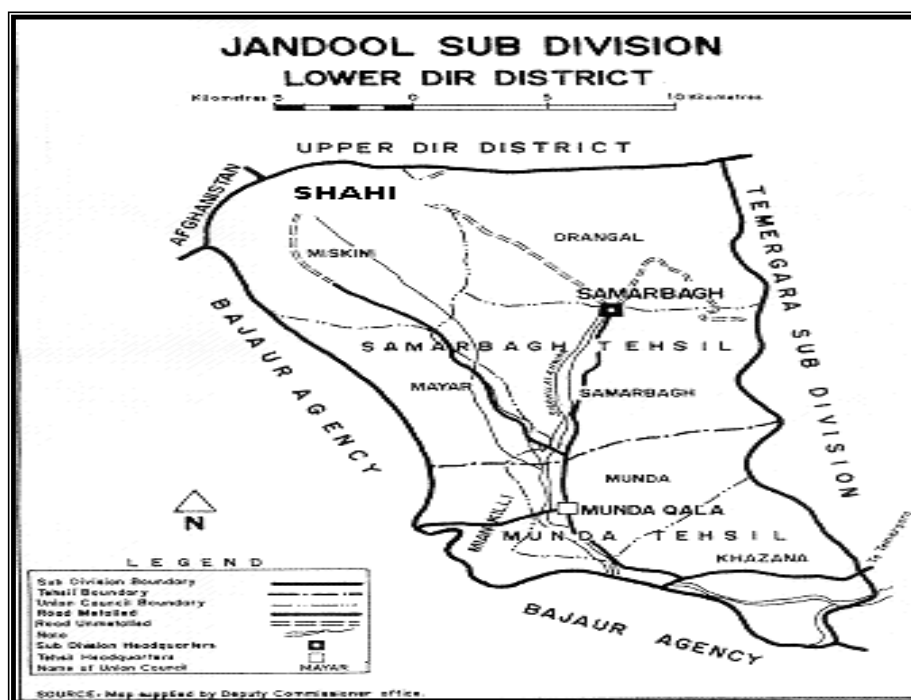
The present study was planned keeping in view the following objectives.

- To establish a database of the plants of Southern Himalayan regions with special reference to their ethnobotanical uses.
- To collect valuable information which has been transmitted orally from ancestors and knowledgeable persons to record these information for wider circulation.
- To investigate the local medicinal uses of plants for further investigation by plant scientists, pharmacologists and phytochemists.
- To aware the local communities about the conservation strategies of these valuable natural resources.

MATERIALS AND METHODS

This research was conducted during 2008-2009 in Shahi valley. The plants were collected, dried and preserved for identification. They were identified with the help of available literature (Stewart 1972, Nasir and Ali, 1971-95).

The information about the medicinal uses of the plants was obtained from the local people through questionnaire. The outcome of the results were rechecked and compared with literature like that of Rubina (1998), Ali and Fefevre (1996) and Khalid (1995). The data was analyzed and indigenous knowledge was documented.



Map showing Shahi from where plants were collected.

RESULTS AND DISCUSSION

The present study provides information on the indigenous uses of 42 important ethno-botanically important plants belonging to 30 families. These ethno-botanically valued plants with their respective families, botanical name, local name, habit, part used and local uses were documented (Table 1).

Local people of Shahi are using the plants for various purposes i.e., medication, food, cosmetics, and fodder for the cattle. They have faith in these plants. The ratio of the women using allopathic medicines is negligible because they are directly dependent on plants for medication and other basic needs. The ethno-botanically important and other beneficial plants are quite useful for the basic health and hygiene of the local people. Local people are directly dependent on these plants for cure of different diseases, food, skin care, cosmetics and fodder for the cattle. About 80% population of the world depends on the traditional system of health care. These medicines have less side effects and man can get the herbs easily from nature (Ahmad, 2005). 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. The investigated area has a rich diversity of medicinal plants and provides a conducive habitat and ideal climatic conditions for their growth. It is suggested that local community should receive education on the identification of their indigenous medicinal plants.

Table 1. Common medicinal plants of Shahi valley, lower Dir, South Himalaya, Pakistan.

| S.No. | Botanical Name | Family | Part use | Habit | Medicinal uses |
|-------|---|---------------|----------|-------|---|
| 1 | <i>Acorus calamus</i> L. | Aceraceae | Rhizome | H | Dysnetery and chronic diarrhea |
| 2 | <i>Artemisia maritime</i> L. | Asteraceae | Leaves | S | Intestinal worm killer |
| 3 | <i>Achyranthus aspera</i> L. | Amaranthaceae | Roots | H | Stomachache, urine formation and cough |
| 4 | <i>Astragalus macropterus</i> DC | Fabaceae | Leaves | H | Stomachic |
| 5 | <i>Aquilegia pubiflora</i> Wall. ex Royle | Ranunculaceae | Seed | H | Astringents and helpful to women in child birth |

| S.No. | Botanical Name | Family | Part use | Habit | Medicinal uses |
|-------|--|----------------|-------------------|-------|--|
| 6 | <i>Atriplex crossifolia</i> C.A. Mey | Chenopodiaceae | Leaves | S | Throat infection and yellow jaundice |
| 7 | <i>Berberis lycium</i> Royle | Berberidaceae | Roots | S | Jaundice powder for rheumatism & backache |
| 8 | <i>Bergenia himalaica</i> Boiss | Saxifragaceae | Root | H | Headache and wound healing |
| 9 | <i>Betula utilis</i> D. Don | Betulaceae | Bark | T | Tonic, leprosy and earache |
| 10 | <i>Buxus wallichiana</i> Bill | Buxaceae | Leaves | S | Antirheumatic, Diaphoretic, purgative, poisonous and febrifuge |
| 11 | <i>Bunium persicum</i> B. Fedtsch | Apiaceae | Fruit | H | Carminative, stomachic and stimulant |
| 12 | <i>Capparus spinosa</i> L. | Capparidaceae | Floral buds | S | Improve taste powder |
| 13 | <i>Calotropis procera</i> (Wild). | Asclepiadaceae | Leaves | H | Asthma |
| 14 | <i>Chenopodium ambrosioides</i> L. | Chenopodiaceae | Whole plant | H | Intestinal worm killer |
| 15 | <i>Corydalis adiantifolia</i> H. & T. | Fumiraceae | Root | H | Eye diseases and improve eye sight |
| 16 | <i>Datura stramonium</i> L. | Solanaceae | Seeds | H | Anticholinergic and sedative |
| 17 | <i>Ephedra gerardiana</i> Wall ex Stapf | Ephedraceae | Dried twigs | S | Asthma and cough |
| 18 | <i>Ficus carica</i> Forssk. | Moraceae | Fruit | T | Laxative, demulcent used in constipation, piles and urinary bladder problems |
| 19 | <i>Fragaria vesca</i> Lindle. ex HK | Rosaceae | Leaves | H | Mildly astringent and diuretic |
| 20 | <i>Galium boreale</i> L. | Rubiaceae | Flower | H | Blood purifier and diuretic |
| 21 | <i>Hedera nepalensis</i> K. Koch. | Araliaceae | Leaves | H | Antidiabetic |
| 22 | <i>Hyoscyamus niger</i> L. | Solanaceae | Seeds | H | Seeds are chewed for relieving toothache |
| 23 | <i>Hypericum perforatum</i> L. | Hypericaceae | Leaves | H | Diuretic |
| 24 | <i>Inula racemosa</i> HK | Asteraceae | Root | H | Tonic, stomachic and carminative |
| 25 | <i>Lonicera perichymentum</i> L. | Caprifoliaceae | Leaves and flower | S | Wound healing, laxative and cough |
| 26 | <i>Lactuca decipiens</i> (H.& T) Clarke | Asteraceae | Seeds | H | Headache and tonic |
| 27 | <i>Malva neglecta</i> Wall. | Malvaceae | Leaves | H | Leaf decoction is antispasmodic |
| 28 | <i>Mentha sylvestris</i> L. | Lamiaceae | Leaves | H | Carminative, stimulant and rheumatism |
| 29 | <i>Morus alba</i> L. | Moraceae | Fruit | T | Fruit is laxative and edible |
| 30 | <i>Onosma bracteatum</i> L. | Boraginaceae | Root | H | Fever, heart trouble and tonic |
| 31 | <i>Origanum vulgare</i> L. | Lamiaceae | Leaves | H | Toothache and earache |
| 32 | <i>Prunus persica</i> (L.) Stokes | Rosaceae | Fruit | T | Jaundice, sedative, expectorant and tonic |
| 33 | <i>Plantago major</i> L. | Plantaginaceae | Seed | H | Demulcent, diuretic, constipation and piles |
| 34 | <i>Pistacio integerrima</i> J.L. Stewart ex Brand. | Anacardiaceae | Fruit | T | Jaundice |
| 35 | <i>Ranunculus aquatilis</i> L. | Ranunculaceae | Whole plant | H | Asthma and periodic fever |
| 36 | <i>Sonchus asper</i> (L.) Hill | Asteraceae | Whole plant | H | Tonic |

| S.No. | Botanical Name | Family | Part use | Habit | Medicinal uses |
|-------|--|------------------|-------------------|-------|---|
| 37 | <i>Saussurea lappa</i> (Dene.) Sch. | Asteraceae | Root | H | Bronchial asthma, stimulant, cough and dyspepsia |
| 38 | <i>Salix acmophylla</i> Boiss. | Salicaceae | Bark | T | Tonic and febrifuge |
| 39 | <i>Solanum surratense</i> Burm.f. | Solanaceae | Whole plant | H | Expectorant, antiasthmatic, antigonorrhoea stomachache, cough and fever |
| 40 | <i>Taraxicum ooficinale</i> L. | Asteraceae | Root | H | Laxative |
| 41 | <i>Thymus linearis</i> L. | Lamiaceae | Dried leaves | H | Whooping cough, asthma, expel round worm and antiseptic |
| 42 | <i>Teucrium stocksianum</i> Boiss | Lamiaceae | Whole plant | | Cooling agent, tonic and against hepatitis |
| 43 | <i>Trachyspermum ammi</i> (L.) Sprague | Apiaceae | Seeds | H | Laxative, aphrodisiac, stimulant and carminative |
| 44 | <i>Urtica diotica</i> L. | Urticaceae | Leaves and stem | H | Anthelmintic, diuretic and jaundice |
| 45 | <i>Verbascum Thapsus</i> L. | Scrophulariaceae | Leaves and Flower | H | Fever, astringent, bleeding of lungs and narcotic |
| 46 | <i>Verbena officinale</i> L. | Valerianaceae | Roots | H | Jaundice and kills and expels worms in intestine |
| 47 | <i>Veronica ciboria</i> L. | Scrophulariaceae | Roots | H | Expectorant |
| 48 | <i>Woodfordia fruticosa</i> (L.) Kurz. | Lythraceae | Flower | S | Dried flowers are used as astringent, stimulant and used in liver complains |
| 49 | <i>Xanthium strumarium</i> L. | Asteraceae | Leaves | S | Skin diseases |
| 50 | <i>Ziziphus jujube</i> Mill. | Rhamnaceae | Fruits | T | Expectorant, emollient and blood purifier |

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