

MEDICINAL VALUE OF RANUNCULACEAE OF DIR VALLEY

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Abstract

Dir valley has diverse habitats for the growth of various medicinal plants. Fifty-one local uses for various ailments were found out for 39 species belonging to 14 genera of the family Ranunculaceae. The local medicinal uses include anticancer, painkiller, diuretic, febrifuges, carminative, anthelmintic, anti-inflammatory, aphrodisiac, cardio tonic, tonic, stomachache, dyspepsia, jaundice, leprosy, cough, asthma, ulcers, vomiting etc.

Introduction

Dir lies in the North West Frontier Province of Pakistan. It is in the south of Chitral between 35° 50' and 34° 22' N and 71° 2' and 72° 3' E, taking its name from the village of Dir, the headquarter of the former rulers.

In the north west of the District is the District of Chitral, in the south is the Malakand Agency and in the east is the District of Swat, while in the west it adjoins Afghanistan. The area is about 5284 km² while the population, according to the census of 1998, is 1,293,507, most of which comprises the sub-branch of the Yusuf Zai's, called the Malizais. In 1996 district Dir was bifurcated into two separate entities i.e., district Dir Upper and district Dir Lower. According to 1998 census report Dir Lower with an area of 1585 km² has the population of 717649 with a density of 543.3 people per kilometer.

Basically the area is mountainous, surrounded on all sides by high mountains. To the western border, from north to south, stretches the mountain range of Koh-i-Hindu Raj, which separates district Dir from district Chitral and Afghanistan. To the east from north to south, there is the mountain range of Swat and Dir, which serves as a boundary between the two districts and in the north, it separates Kalam (Swat) from Dir Kohistan. The areas of lower Swat, Nekpi Khel and Shamozai are also separated from Dir by these hills. The area is floristically rich for medicinal plants.

All the plant natural resources are gifted with tremendous natural chemical compounds that are potentially rich for further exploitation by the human being for diverse purposes. But classically only those plants which have been in practice for the treatment of various ailments in a particular region or the plants serve as a starting material for chemical or pharmaceutical synthesis.

It is a sacred and obligatory duty from the time immemorial. There are several systems of medicine practiced in the World, every system with its own basic philosophy and therapeutics, but the common object is always the alleviation of diseases.

In Pakistan, the traditional system of medicine dates back to Indus civilization, which has been verified by the excavation, conducted in the buried cities of Mohenjaradaro and Harappa, as well as Taxila, which flourished during the Gandahara period. These findings clearly reveal the importance of medicinal plants in the lives and religious teaching of the said civilizations (Sher, 1998). Modern medicine traces its origin to the Greeks. The Greek medicine was taken over by the Arabs, from whom (after its enrichment with Chinese and Indian medicine) it was taken over by modern Europe. The Muslim rulers introduced (Arshad & Akram 1999) it into India and incorporated with it

the native Ayurvedic medicine, this mixture is now known as Unani medicine or broadly speaking Eastern medicine. The traditional Indian system of medicine known as Ayurveda, which evolved during the period commencing from around 2500 B.C has been codified and documented by 600 B.C. Ayurveda was adopted by the Hindu people, while the Muslim people of the sub-continent followed a different traditional systems known as Unani. Later on these both systems Ayurveda and Unani” benefited and complemented from each other. The dominant traditional system in Pakistan is the Unani system. In Pakistan there are 50,000 Hakims (Shinwari *et al.*, 2002) spread all over the country who run their clinics in rural and urban areas and use medicinal plants. According to Unani system, Pakistan has rich flora in which 2,000 plant species are used for medicinal purposes but out of these only 400 to 600 plant species are documented and studied for medicinal purposes. Beside Hakims the rural area dwellers use the plants on their own experiences. Owing to the deficiency of allopathic doctors and medicine in the remote areas and to some extent fears of side effects of modern medicine are inviting local people to the traditional systems. This remote area was selected to revive the old tradition because in past there was deficiency of doctor and the Hakims resorted to different medicinal plants as a treatment to different disease (Battacharjee, 2004; Prajapati *et al.*, 2004; Shinwari & Gilani, 2003).

The eastern medicine practiced in Pakistan comprises three systems Chinese, Ayurvedic and Greco Arabic. The recipes of medicines used in these systems are derived from both organic and inorganic sources. The knowledge of drugs goes back to prehistoric times. Records of ancient civilizations show that a considerable number of drugs, used by modern doctors, were already in use of Egyptians, Babylonians, Greeks, Romans, Chinese and peoples of the subcontinent of India and Pakistan (Khan, 1991).

Materials and Methods

Regular study trips were made to concerned areas and collections were completed in the flowering season from March 2006- August 2006. During these trips different plant species of the family Ranunculaceae were collected, dried, documented and were identified both by comparing them with herbarium specimen and with the help of flora of Pakistan. (Riedl, 1991; Choudhary *et al.*, 2000). The specimens were deposited in the Herbaria University of Malakand Campus-I and Campus-II for future reference. Medicinal usage data were collected from local people and practioner medical experts (hakims) that practice medicine regularly. The data were collected through a questionnaire.

Results and Discussion

A total of 39 species were collected and documented from research area out of these 15 plants were used in various ailments such as febrifuge 14; astringent 2; expectorant 4; tonic 10; stimulant 5; emollient 6; laxative 8; tonic 7; poisonous 7; diuretic 7; carminative 6; leprosy 6; painkiller 6; dyspepsia 5; anthelmintic 5; cough 5; jaundice 5; asthma 4; stomachache 4; purgative 3; vomiting 3; toothache 3; bitter 3; emmenagogue 3; cardiotoxic 2; each was used as astringent, cold, sedative, cardiac, colic, bronchitis, irritant, cancer, ulcer, anodyne, digestive, inflammatory, rheumatism, constipating, aromatic, constipating, rheumatism. One each was used as cardio poison, appetizer, diarrhoea, gastric pain, piles, insecticides, hysteria, measles, small pox, aphrodisiac, burning, antibacterial, deodorant, appetizing, sudorific, thermogenic (Hussain, 1987; Nasir, 1970-2002; Ahmad, 2000).

Table 1. Botanical names, local names, part used, distribution, remarks, height and medicinal uses of different plant species of family Ranunculaceae of the Research Area (based on information given by the local people).

S.No.	Botanical name	Local name	Part used	Distribution		Remarks	Altitude/m	Medicinal uses
				Research area	Pakistan			
1.	<i>Aconitum chasmanthum</i>	Ghra Zahar	Root	Lowaritop, Aspawan Shandur, Kalkot, Ganshal	Chitral, Baltistan, Swat, Dir, Hazara, Kashmir	Reported from Dir	2000-4000	Tonic, antiperiodic, vomiting, appetizer, astringent, cancerarminative, anthelminthic, diarroea, gastric pain, stomach ache and cure cold
2.	<i>Aconitum heterophyllum</i> Wall. ex Royle	Sarbawalay	Root			New report from Dir	3000-3800	Poisonous, generating enough cardiac poison
3.	<i>Aconitum laeve</i> Royle	Zahar	Root	Jazband	Lowaritop, Kumrat	New report from Dir	2500-4000	Given to infants in the cold, cough and stomach ache by mixing root powder in mother milk, piles
4.	<i>Aconitum violaceum</i> Jacq. ex Stapf	Zahar mora	Root	Lowari Top, Ganshal	Himalaya and Kashmir eastward to Nepal	-Do-	3200-3800	Dried powdered used as insecticide, emetic, purgative and nerve sedative, pain killer, dropsy, hysteria
5.	<i>Actaea spicata</i> L.	Dana bouty	Root	Kalkot, Jandray, Kutlandi	Britain, Garhwal, Temperat, Swat Himalaya	-Do-	2500-3500	Cardiac stimulent
6.	<i>Adonis aestivalis</i> L.	Banra Kot,	Whole plant	Dir, Barawal Banda	Western Himalaya	-Do-	2000-2500	Seed is good for colic, leaves used in plasters
7.	<i>Adonis dentatus</i> Delile	Summer pheasant's-eye	Whole plant	Dir Barawal Banda	Swat, Rawalpindi-Islamabad, Attock	-Do-	2000-2800	Bitter, stimulant, strong doze is poisonous, toothache, colic and measles
8.	<i>Anemone falconeri</i> (Thoms.) Juz.	Spinsar bouti	Root	Gawalday, Thal	Swat, Hazara, Kashmir	-Do-	2500-3500	Small pox, toothache and vomiting
9.	<i>Anemone obtusiloba</i> D. Don	Spinsarbouti, Spin Gwalae	Root	Kumrat, Kalkot	Hazara, Kashmir	-Do-	2500-3000	Sedative, pain killer and bronchitis
10.	<i>Anemone rupicola</i> Camb.	Spinsar Bouti, Spin Gwalae	Root	Gawalday, Kalkot, Lamuti	Chitral, Gilgit, Baltist, Hazara, Kashmir	-Do-	2500-3000	

Table 1. (Cont'd.)

S.No.	Botanical name	Local name	Part used	Distribution		Remarks	Altitude/m	Medicinal uses
				Research area	Pakistan			
11.	<i>Aquilegia fragrans</i> Benth.	Zaire Gwalaie	Whole plant	Kater Khwar Kumrat	Gilgit, Hazara, Kashmir	-Do-	3000-3200	Used as food by insects, carminative and febrifuges
12.	<i>Aquilegia nivalis</i> Falc. ex Jackson	Woudi Gwalaie	Whole plant	Lowari top	Gilgit, Hazara, Kashmir	-Do-	2500-3000	Carminative, stimulant, febrifuge, tonic, dyspepsia, jaundice, leprosy, cough and asthma
13.	<i>Aquilegia pubiflora</i> Wall. ex Royle	Woudi Gwalaie	Whole plant	Barawal Banda, Ayagai	Swat, Hazara, Kashmir Dir, Chitral, Islamabad, Rawalpindi	Reported from Dir	2700-3000	Stimulant, cardiotoxic, febrifuge, tonic, dyspepsia and jaundice
14.	<i>Batrachium trichophyllum</i>	Obozerguli	Whole plant	Sherringal, Ousherai	Swat, Kashmir	New report from Dir	2000-3000	Diuretic, stimulant, cardiotoxic, febrifuge and tonic
15.	<i>Caltha alba</i> Camb.	Makhanr Path	Leaves	Loweri top, patrak	Swat, Gilgit, Hazara, Kashmir, Dir, Chitral	Reported from Dir	1800-2500	Irritant, poisonous Skin rashes
16.	<i>Caltha palustris</i> L.	King cup	Whole plant	Dir Barawal Banda	Native to Britain	New report from Dir	2000-3000	Bitter and used as febrifuges, diarrhea, diabetes, bronchitis and uterine cancer
17.	<i>Ceratocephala falcata</i> (L.) Pers.	Small Zarigwalaie	Whole plant	Timergara, Miskini	Kurram, Swat, Hazara, Rawalpindi, Islamabad, Baluchista	-Do-	1500-2000	Irritant, innocuous glycoside,
18.	<i>Clematis buchananiana</i> DC.	Zelai	Root leaves	Gulibagh	Hazara, Kashmir	-Do-	1500-2400	Root used in stomachache, leaf used in the treatment of asthma, leprosy and snake bite
19.	<i>Clematis comata</i> DC.	Zelai, Hal	Whole plant	Siasan, Banshalhi, Sherringal	Dir, Swat, Rawlapindi Islamabad, Hazara, Kashmir	Reported from Dir	2500-3000	Stomachache and leprosy
20.	<i>Clematis grata</i> Wall.	Z.Chenjanwal	Whole plant	Dir Barawal banda	Rawalpindi, Islamabad, Hazara, Swat, Dir, Chitral, Kashmir	-Do-	2000-3200	Febrifuge, insecticides, tonic, dyspepsia, jaundice, leprosy, cough, asthma and ulcers
21.	<i>Clematis orientalis</i> L.	Zelai	Whole plant	Dir, Ganshal	Chitral, Gilgit, Baltistan, Kurram	New report from Dir	2000-3000	Used in the death decay of teeth

Table I. (Cont'd.)

S.No.	Botanical name	Local name	Part used	Distribution		Remarks	Altitude/m	Medicinal uses
				Research area	Pakistan			
22.	<i>Consolida ambigua</i> (L.)	Larkspur	Whole plant	Chakdara, Timergara	Chitral, Kalam	-Do-	700-2500	Seeds used for scorpions bits, seed used as a parasite for lice etc
23.	<i>Delphinium aquilegifolium</i> (Boiss.) Bornm.	Warigulai	Whole plant	Thal	Chitral	-Do-	2500-3500	used as food by insects and asthma, dropsy
24.	<i>Delphinium denudatum</i> Wall. ex Hook. f. & Thoms.	Da kono zaila	Root	Thal, Lamuti	Chitral, Swat, Hazara, Kashmir,	-Do-	2500m	Anodyne, digestive, carminative, antihelmintic, diuretic, emmenagogue, anti-inflammatory, aphrodisiac, stimulant, cardiotoxic, febrifuge, tonic, dyspepsia, jaundice, leprosy, cough, asthma and ulcers
25.	<i>Delphinium himalayai</i> Munz	Oudi gulae	Whole plant	Lowari Top	Loweri Top	-Do-	3200-4000	Astringent, vulnerary and emmenagogue
26.	<i>Delphinium pyramidale</i> Royle	Oudi gulae	Whole plant	Thal, Kumrat	Swat, Hazara, Kashmir,	-Do-	2500-3400	Leprosy and febrifuge
27.	<i>Delphinium royeri</i> Munz	Oudi gulae	Whole plant	Ganshal, Gawaldai	Chitral, Kashmir	-Do-	2500-3500	Febrifuge, tonic, dyspepsia
28.	<i>Delphinium nordhagenii</i> Wendelbo	Jadwar	Whole plant	Thal, Kumrat	Chitral	-Do-	2400-3700	Cough, asthma
29.	<i>Delphinium uncinatum</i> Hk. f. & T.	Jadwar	Whole plant	Talash, Sarai Bala	Swat, Hazara, Kashmir, Attock, Rawalpindi, Islamabad, Baluchistan	-Do-	1200-2000	Carminative, anthelmintic, diuretic
30.	<i>Nigella Sativa</i> L.	Kalwangi	Seeds	Sheringal, Sarai Bala, Dir	Swat, Kashmir	-Do-	1200-3000m	Seeds are bitter; thermogenic, aromatic, carminative, diuretic, emmenagogue, anodyne, antibacterial, anti-inflammatory, deodorant, appetizing, digestive, antihelmintic, constipating, sudorific, febrifuge and for all kinds of diseases.

Table I. (Cont'd.)

S.No.	Botanical name	Local name	Part used	Distribution		Remarks	Altitude/m	Medicinal uses
				Research area	Pakistan			
31.	<i>Ranunculus arvensis</i> L.	Ziarr gulay, corn buttercup	Whole plant	Sarai Bala, Timergara, Dir	Swat, Hazara, Kashmir, Rawalpindi Islamabad, Baluchistan, Lahore	-Do-	1200-3000	Poisonous for cattle, horses, livestock when it is dried it become safe, used is a food by Larva
32.	<i>Ranunculus chaerophytillos</i> L.	Ziarr gulay	Whole plant	Dir	Chitral, Peshawar	-Do-	1300-2000	Poisonous, Purgative
33.	<i>Ranunculus diffusus</i> DC.	Ziarr gulay	Whole plant	Sheringal, Dir	Swat, Hazara, Kashmir, Dir	Reported from Dir	1500-3000	Constipating, febrifuge
34.	<i>Ranunculus hirtellus</i> Royle	Ziarr gulay	Whole plant	Sheringal, Dir	Rawalpindi, Islamabad, Hazara, Kashmir, Gilgit, Baltistan	New report from Dir	1500-3000	Poisonous, anthelmintic
35.	<i>Ranunculus laetus</i> Wall. ex Hook. f. & Thoms.	Ziarr gulay	Whole plant	Talash, Dir	Rawalpindi, Islamabad, Kashmir, Gilgit, Baltistan, Dir, Swat, Chitral	Reported from Dir	700-3000	Pain killer, febrifuge
36.	<i>Ranunculus muricatus</i> L.	Ziarr gulay Quazi Ban	Whole plant	Talash, Timergara, Sheringal	Rawalpindi, Islamabad, Kashmir, Gilgit, Swat, Chitral, Bannu, Peshawar, Lahore, Attock, Baluchistan	New reported from Dir	1500-3000	Aromatic, carminative, diuretic
37.	<i>Ranunculus pulchellus</i> C.A. Mey.	Ziarr gulay	Whole plant	Timergara, Talash, Sheringal	Baltistan	-Do-	1500-3000	Purgative, febrifuge, diuretic
38.	<i>Ranunculus sceleratus</i> L.	Butter cup	Whole plant	Timergara, Sheringal	Rawalpindi, Islamabad, Peshawar, Attock, DI Khan, Hazara	-Do-	1200-3200	Pain killer and for sudden burring
39.	<i>Thalictrum foliolosum</i> DC.	Kamasla mamira	Rhizomes	Kumrat, Januskandiu	Gilgit, Hazara, Kashmir, Rawalpindi Islamabad	-Do-	2500-3000	Powder is used in jaundice, purgative, febrifuge, diuretic and atonic dyspepsia, tonic and boils

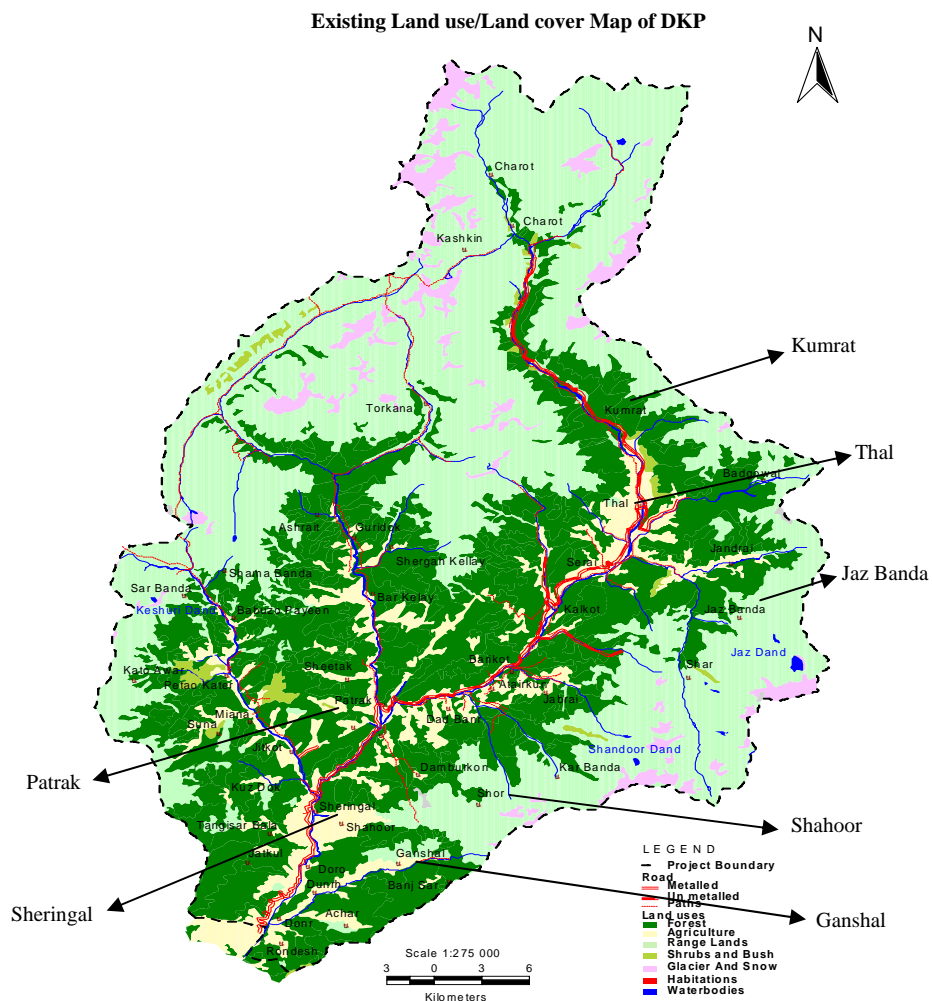


Fig. 1. Dir valley Map showing the areas from where plants species were collected.

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