

ETHNOBOTANICAL STUDY OF SOME ELITE PLANTS BELONGING TO DIR, KOHISTAN VALLEY, KHYBER PUKHTUNKHWA, PAKISTAN

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Abstract

This article is based on the results of an ethno-botanical research of wild plants of Dir Kohistan Valley, Khyber Pukhtunkhwa, Pakistan. The main objective was to enlist the wealth of ethnobotanically important plants of the area. A total 40 species, belonging to 25 families of wild herbs, shrubs and trees were found to be used by the inhabitants in the valley for various diseases.

Introduction

Kohistan Valley is situated in the north of east side of Dir Valley. Valley Kohistan starts with its gate way is called "Khawgo Ooba" and it extends up to vast Kohistan Valley. "Kumrat Valley" is 120 km away from Dir khass. Sheringal is 37 km away from Dir and this place is the commercial place of dir Kohistan due to Shaheed Benazir Bhutto University, which covers Dog Dara, Patrak, Gwaldai Dara, Kalkot, Lamoti and Thall etc. The boundary of Dir kohistan starts from Shaheed Near to patark and ends on the last place of kumrat known Shah Zor Dand, which joins the Chitral with kumrat valley. In east North boundary chitral is situated to North East districts Swat is situated in South side Dir lower is situated.

According to FDC Sheringal that the total area of Dir Kohistan is 412,570 acres in which estimated agriculture land is 33,915 acres. Forest is about 378,655 acres (Anon., 1998). This remote area was selected for Ethnobotanical research to revive the old tradition because in past there was deficiency of doctor and Hakims resorted to different medicinal plants as a treatment to different disease.

Ethnobotany means all aspects of direct relationship of plants with man, or the science of human interactions with plants and its ecosystem. It includes the study of foods, fibers, dyes, tan, taboos, and avoidance and even magi co religious beliefs other useful and harmful aspects about plant. The term ethno botany was used for the first time by an American botanist John. W. Harsh Berger to study plants used by primitive and indigenous people. To discover the secret uses of the plants, ethno botany, has become an important part of our world. Recent ethno botanical surveys among tribal have brought new information to the screen which can be utilized to improve the economy of the tribes by organizing systematic collection of forest product and locating cottage industries especially of herbal drugs. The herbal medicines occupy distinct position right from the primitive period to present day. The ethno botanical pharmacology is as old as man himself. In Indo-Pak first record of plant medicine were compiled in Ayurveda between 2500-600 BC. The system traces its origin to Greek medicine, which was adopted by

Arabs and then spread to India and Europe. About 80% population of the world depends on the traditional system of health care (Ahmad, 2000). These medicines have less side effects and man can get it easily from nature. Unani system is dominant in Pakistan but the ethno-medicinal plants uses are also seen in the remote areas (William, 1999). In the present article a study was designed to visit various unexplored up-hill area of Dir Kohistan to investigate the ethno-botanical study on the wild plants growing in the glory of the area.

Material and Methods

This research was conducted during summer 2008-2009 in Kohistan Valley. The plants were collected, dried and preserved for identification. They were identified with the help of available literature (Nasir & Ali 1971-95). The information about the Ethnobotanical uses of the plants was obtained from the stakeholder of the area through questionnaire. The outcome of the results were rechecked and compared with literature like that of Ali (1998), Ali & Fefevre (1996) and Khalid (1995). The data was analyzed and indigenous knowledge was documented.

Checklist of the plants of Kohistan valley

Solanaceae

1. *Atropa accuminata* Royle.ex Miers

Local name: Bargak

Ethnobotanical Uses: Leaves are sedative, diuretic, narcotic, poisonous and anodyne.

2. *Datura innoxia* Mill.

Local name: Datura

Part used: Leaves, seeds

Habit: Herb

Ethnobotanical Uses: Extract of leaves is used for toothache, headache and epilepsy. Externally leaves are applied to swollen limbs. Seeds are antipyretic and norchotic.

3. *Hyoscyamus niger* L.

Local name: Dewana bhang

Part used: Leaves and seed

Habit: Herb

Ethnobotanical uses: The leaves are used as sedative, narcotic, anodyne and antispasmodic. They are also used in nervous disorder, asthma, and whooping cough. The seeds are tonic and astringent to bowels.

Ranunculaceae

4. *Aconitum heterophyllum* Wall. ex Royle

Local name: Sarba wali

Part used: Tuber or rhizome

Habit: Herb

Ethnobotanical uses: Tubers used to treat fever, gout, rheumatism and pain in body tonic, antiperiodic, vomiting, appetizer, astringent, anthelmintic, diarrhea, gastric pain, stomach ache and cure cold.

5. *Aconitum violaceum* Jacq. ex Stapf**Local name:** Zaharmora**Habit:** Herb**Part used:** Rhizome**Ethnobotanical uses:** Given to infants in the cold, cough, stomach ache by mixing root powder in mother milk and piles.**6. *Aquilegia pubiflora* Wall. ex Royle****Local name:** Woudi Gwalae**Ethnobotanical uses:** Stimulant, cardio-tonic, febrifuge, tonic, dyspepsia and jaundice.**7. *Caltha alba* Jacb.****Local name:** Makanpath**Part used:** Whole plant**Habit:** Herb**Ethnobotanical uses:** The plant is used as an antispasmodic and sedative.**8. *Caltha palustris* L.****Habit:** Herb**Ethnobotanical uses:** Leaves bitter, used as febrifuge.**9. *Delphinium denudatum* Wall. ex Hook & Thoms****Local name:** Da kono zeal**Part used:** Flowers**Habit:** Herb**Ethnobotanical uses:** Flowers are used ornamentally and medicinally.**Lamiaceae****10. *Ajuga bracteosa* Wall. ex Benth****Local name:** Spina bootei**Part used:** Whole plant**Habit:** Herb**Ethnobotanical uses:** Decoction is useful for jaundice, hypertension and sore throat. Leaves used in stomachache and as blood purifier.**11. *Mentha longifolia* L.****Local name:** Wanly**Part used:** Whole plant**Habit:** Herb**Ethnobotanical uses:** Leaf extract used against vomiting and dysentery. Leaf in dry powdered form used in asthma and as condiment.**12. *Mentha spicata* L.****Local name:** Podina**Part used:** Leaves**Habit:** Herb**Ethnobotanical uses:** Laves are used in chutney and for dyspepsia. It is also used as salad, carminative. Decoction of the leaves is used as mouth wash.

Pinaceae**13. *Cedrus deodara* (Roxb. ex D. Don) G. Don****Local name:** Diyar**Part used:** Wood**Habit:** Tree**Ethnobotanical uses:** Wood is used for construction and resistant to water and worm.**14. *Abies pindrow* Royle****Local name:** Partal**Part used:** Wood and leaves**Habit:** Tree**Ethnobotanical uses:** Wood used in furniture, house making and fuel. Leaves are used as carminative, stomachic, tonic, astringent, antispasmodic and expectorant.**Mimosaceae****15. *Acacia nilotica* (L.) Delile****Local name:** Kikar**Part used:** Wood, leave and gum.**Habit:** Tree**Ethnobotanical uses:** Wood is hard and durable used for house construction, agricultural tools and fuel. Leaves are used as fodder. Gums are used as tonic, for curing diarrhoea, dysentery and diabetes.**Araceae****16. *Acorus calamus* L.****Local name:** Skhawaja**Part used:** Rhizomes**Habit:** Herb**Ethnobotanical uses:** Rhizomes are used in cough, colic, diarrhoea and in snake bites.**17. *Arisaema flavum* (Forsk.) Schott****Local name:** Marjara**Part used:** Rhizome, fruit**Habit:** Herb**Ethnobotanical uses:** The rhizome and red fruits are poisonous. Rhizome used in small amount for stomach problems, applied to kill worm and seeds are given to cattle in chronic colic.**Hippocastanaceae****18. *Aesculus indica* (Wall.ex Comb.) Hook.f.****Local name:** Jawaz**Part used:** Fruits, leaves and wood.**Habit:** Tree**Ethnobotanical uses:** Leaves are used as fodder. Nuts are colic to cure chest diseases in cattle. Wood is used for making furniture; agricultural tools and fuel. Fruit are used in intestinal colic especially in horses.

Betulaceae

19. *Alnus nitida* (Spach) Endl.

Local name: Geiray

Part used: Wood, catkins

Habit: Tree

Ethnobotanical uses: Wood is used as fuel, for making agricultural tools. It is also used to control erosion. Catkins are used in cosmetics, also used as diuretic, expectorant and sedative effects.

Asteraceae

20. *Artemisia scoparia* L.

Local name: Jaukay

Habit: Herb

Part used: Leaves, shoots, seeds

Ethnobotanical uses: Powdered root used to treat epilepsy, tea made to treat sore throat.

21. *Artemisia vulgaris* L.

Local name: Tarkha

Part used: Leaves and shoot

Habit: Herb

Ethnobotanical uses: Leaves are anthelmintic, cure skin diseases. Shoots are used as fodder. Brooms are made for sweeping lawns.

22. *Achillea millefolia* Linn.

Part used: Whole plant

Habit: Herb

Ethnobotanical uses: Contains volatile oil which is stimulant, tonic, astringent and stops intestinal bleeding. The whole plant is used as diuretic, stimulant for piles and cold. Tea made from roots to treat fever.

Berberidaceae

23. *Berberis lycium* Royle.

Local name: Toor Kwaray

Habit: Shrub

Ethnobotanical uses: Fruit is edible, roots and bark in dry condition are used in throat pain, stomachic, intestinal colic, expectorant, used in diarrhoea, diuretic and also used for jaundice other liver disorders, toothache and rheumatism.

Saxifragaceae

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

Local name: Kamar Panra

Part used: Leaves

Habit: Herb

Ethnobotanical uses: Used for discharging pus in animals. The leaves are used as tonic and to reduce muscular pain. Also used as diuretic, demulcent, astringent; used to dissolve gravels in the kidney and bladder.

Polygonaceae

25. *Bistorta amplexicaulis* (D.Don) Green

Local name: Tarva panra, Anjabar

Part used: Shoot and leaves.

Habit: Herb

Ethnobotanical uses: Used for curing ulcers, relieve sore throats inflammation of the mouth or tongue and laryngitis.

Nyctaginaceae

26. *Boerhavia diffusa* L.

Local name: Ensut

Part used: Roots

Habit: Herb

Ethnobotanical uses: The roots are crushed and boiled in milk to make bandage which is used for external ulcers.

Buxaceae

27. *Buxus sempervirens* Hk.f

Local name: Shmshad

Part used: Whole plant

Habit: Tree

Ethnobotanical uses: It is anti-rheumatic, diaphoretic, purgative, poisonous and febrifuge.

Liliaceae

28. *Colchicum luteum* Baker

Local name: Ziar gulay and suranjan talkh

Part used: Dried corms

Habit: Herb

Ethnobotanical uses: Corm used as blood purifier, laxative, carminative, anti-rheumatic, aphrodisiac, anticancer and disease of spleen, liver.

Rosaceae

29. *Crataegus oxycantha* Jacq.

Local name: Bansangli

Part used: Seeds

Habit: Shrub

Ethnobotanical uses: Seeds are used for heart diseases, hypertrophy and also as tonic.

30. *Fragaria indica* Andrew

Local name: Da zamaki toot

Part used: Fruit

Habit: Herb

Ethnobotanical uses: Fruit as edible and laxative.

Dioscoraceae

31. *Dioscorea deltoidea* Wall

Local name: Kanees

Part used: Tubers

Habit: Herbs

Ethnobotanical uses: The tubers are used as expectorant, diuretic, urine sedative and haemostatic. Also useful for removal of tap worms from body.

Equisetaceae

32. *Equisetum arvensis* L.

Local name: Bandakay

Part used: Shoots

Habit: Herb

Ethnobotanical uses: The shoots extract are used with mustard oil and used as hair tonic and antilice. Also used for cleaning and washing utensils.

Euphorbiaceae

33. *Euphorbia wallichii* Linn.

Local name: Arghmaala

Part used: Whole plant

Habit: Herb

Ethnobotanical uses: The plant is poisonous and laxative causing severe diarrhea and dysentery.

Gentianaceae

34. *Geranium wallichianum* D. Don ex sweet

Local name: Sra zeal

Part used: Roots

Habit: Herb

Ethnobotanical uses: The roots are used in mouth ulceration. An efficient astringent which is given for chronic dysentery, diarrhea, passive hemorrhage and leucorrhoea.

Hyperaceae

35. *Hypericum perforatum* L.

Local name: Sheen chai

Part used: Fruit, shoot

Habit: Herb

Ethnobotanical uses: Its decoction is diuretic, gastric disorders, irregular menstruation; leaves are used to treat piles; prolapsed uterus and anus and diarrhea. In the past it was used as green tea by the local people.

Papilionaceae

36. *Indigofera heterantha* Wall. ex Brandis

Local name: Ghoreja

Part used: Shoots, branches

Habit: Herb

Ethnobotanical uses: Shoots are used as fodder for goats. Young branches are twisted into ropes and tied to make brooms. Similarly, also used as a fuel wood and wood ash is used in snuff. Branches used in making baskets. Also used in hepatitis, whooping cough and in blackening of hair.

Juglandaceae**37. *Juglans regia* L.****Local name:** Ghuz**Part used:** Wood, bark, leaves and nuts.**Habit:** Tree**Ethnobotanical uses:** Wood is used in quality furniture and carving. Bark is used for cleaning teeth and lipsticks. Nuts are edible but are warm and irritate throats and can cause jaundice. Decoction of leaves is given for eczema and intestinal worms.**Acanthaceae****38. *Justicia adhatoda* L.****Local name:** Baikar**Part used:** Leaves**Habit:** Shrub**Ethnobotanical uses:** The roots are used in rheumatism, pneumonia and cough. The leaves are applied to reduce swellings. A decoction of leaves is antispasmodic, expectorant and also used for curing dysentery in cattle. It is also used in scabies and skin disorders, ear ailments, antiseptic and insect repellent.**Chenopodiaceae****39. *Chenopodium album* Linn.****Local name:** Sarmay**Part used:** Vegetative parts and roots**Habit:** Herb**Ethnobotanical uses:** Young leaves and branches used as vegetable. Dried leaves used in pain.**40. *Chenopodium botrys* L.****Local name:** Da zamakay kharawa**Part used:** Shoots**Habit:** Herb**Ethnobotanical uses:** Young leaves and branches are used for healing of wounds.**Results and Discussion**

The research revealed that local folk utilizes 40 species of plants belonging to 25 families for various purposes (above in checklist). The people of the valley are generally ignorant about the medicinal and economic importance of these plants. Out of the 40 medicinal plants, only 20 species were known to the local people and the rest of the species of high medicinal and economic values were completely unknown to the local community of the area.

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