

ETHNOBOTANICAL STUDIES ON SOME MEDICINAL PLANTS OF BOONI VALLEY, DISTRICT CHITRAL PAKISTAN

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ABSTRACT

Ethnobotanical studies revealed that 75 species from 43 families are being used by the local people of Booni Valley, Chitral, Pakistan. These medicinal plants are used as crude drugs for treating various diseases. Local names of the plants and the diseases treated were recorded. Out of 75 recorded species, 70 are dicots belonging to 40 families, 2 from monocots, 2 species from gymnosperms and 1 from fungi. Local names of the collected medicinal plants used for the treatment of various illnesses were recorded

Key words: Ethnobotany, medicinal plants, Booni valley, Northern-Pakistan

INTRODUCTION

Man is using plants since the dawn of civilization to treat various diseases and disorders. This interaction of man and plants led to the establishment of the traditional knowledge of plants. This traditional knowledge of ethnic groups around the globe forms the basis of modern plant based industry especially allopathic medicine. Literature search reveals that more than 6,000 plants species of medicinal value are being used world wide. Some 75-90% of the people in developing countries depend only on these medicinal plants as a source of traditional medicine. Even in U.S the value of plant based drugs is estimated to be \$43000 million. Afridi (1986) reported that 67 medicinal plants are used locally in Khyber Agency. Hussain (1987) listed 55 plants with their medicinal uses. Haq and Husain (1993) reported that locals of Mansehra are using 54 medicinal plants. Hussain and Sher (1998) recorded 87 species from five villages of Buner which were used for medicine. Arshad and Akram (1999) reported some medicinal plants from Rawalpindi. The medicinal uses of plants from different parts have been reported by Haq and Ghani (1984) and Haq and Rehman (1990). Ethnobotanical studies on plants of Manzary Baba, Malakand Agency were made by Zabihullah (2002). Sher and Hussain (1998) reported that the collection and trade of medicinal plants is the source of livelihood of about 5000 families in Malakand Division. The present study reveals the medicinal plants used for curing various ailments in Booni Valley, Chitral. The study area is about 346 KM away from Peshawar. Booni Valley is situated between 71° 12' and 73° 53' East longitude and between 35° 13' and 36° 55' North latitude. The valley is bounded on the North west by the Hindukush mountains and Afghanistan, on the East by Ghazur, Swat and Gilgit districts, on the South by district Dir and Kunar Province of Afghanistan. The highest peak of Hindukush range is Tirichmir which is 7726 m high.

Population of the valley mainly depends on agriculture based economy. The soil is fertile and the vegetation is under quite a high biotic pressure due to population explosion, deforestation, terracing, fire wood extraction and over grazing.

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MATERIALS AND METHODS

The present research study was undertaken to find out the plants locally used for treatment of various diseases. This being a descriptive research, survey method involving collection of data through questionnaire was adopted. Both men and women were interviewed through the questionnaire. The plants were collected from the study area, dried, preserved and identified with the help of available literature (Ali and Qaiser, 1995-2004; Nasir and Ali, 1971-1995). The voucher specimens were deposited in Herbarium Botany Department; G.P.G. Jahanzeb College, Saidu Sharif, Swat, Pakistan.

RESULTS AND DISCUSSION

During this study 75 species were documented which are used locally as crude drugs. Some plants are used singly while some are used in combination with bread, soup etc for a number of diseases. These 75 species belong to 43 families. Out of 75 species 70 are Dicots belonging to 40 families. Among these the largest are Apiaceae (8 spp), followed by Lamiaceae (6 spp), Asteraceae (5 spp), Rosaceae (5 spp), Papilionaceae (4 spp) and Solanaceae with 3 species. In addition to these families other families such as Plantaginaceae, Moraceae, Malvaceae, Vitaceae, Violaceae, Thymelaceae, Tamaricaceae, Saxifragaceae, Scrophulariaceae, Rutaceae, Rannunculaceae, Punicaceae, Polygonaceae, Papaveraceae, Paeoniaceae, Lythraceae, Linaceae, Juglandaceae, Elaeagnaceae, Convolvulaceae, Chenopodiaceae, Caryophyllaceae, Capparidaceae, Cannabinaceae, Campannulaceae, Brassicaceae, Betulaceae, Boraginaceae and Anacardiaceae have 1 to 2 species. Among Monocots there are 2 species which belong to Alliaceae and Poaceae. Two species are from Gymnosperms belonging to two families, Ephedraceae and Cupressaceae, while 1 species belongs to Fungi, family Helveliaceae.

The study showed that these plants of medicinal value are collected by farmers, tenants, nomads and traditional medicinal plant practitioners (*hakims*). Due to unawareness about the importance of medicinal plants the medicinal plants are not used properly and their collection and preservation is also in a very improper way. So it is very important to let the locals know the importance of medicinal plants that how they can exploit their sustainable use.

Following is the description of medicinal plants of the investigated area along their local names, part used, family name, botanical name, local uses and recipe. The plants are arranged alphabetically.

1. *Aesculus indica* Wall. ex Camb. Family Hippocastanaceae (Local name Ghudoom)
The nut of the plant is used for pimples and abdominal pain. The nuts are grinded and used in a powder form.
2. *Allium sativum* L. Family Alliaceae (Local name Wrezhnu)
Leaves and bulb used in flue, fever, cough, high blood pressure & condiments.
3. *Althea rosea* L. Cav. Family Malvaceae (Local name Layn)
The flowers are used for boils. Red petals are dried, grinded into powder and mixed with gur and a poultice is made which is applied to boils for drying puss.

4. *Amygdalus communis* L. Family Rosaceae (Local name Badam) Seeds are used as brain tonic. Oil extracted from seeds is used for massage on skin as well as used for facial complexion.
5. *Arcethubium oxycedri* M. Bieb. Family Loranthaceae (Local name Sarooz partung)
Whole plant is used for lumbago and also used as a tonic. The plant is dried and ground and the powder is mixed with dough of bread
6. *Artemisia parviflora* Roxb. Family Asteraceae (Local name Kharkhaliech)
Seeds, leaves and fruit are of medicinal value. These plant parts are dried and are used in grounded form for stomachache, high blood pressure and diabetes. Also effective as anthelmentic.
7. *A. santolinifolia* Turcz. ex. Krasch. Family Asteraceae (Local name Dron)
Leaves and flowers are used in stomachache and as anthelmentic. Used in fresh or dried form by mixing with soup.
8. *Astragalus amherstianus* Bth ex Royle. family Papilionaceae (Local name Garmenzu)
Roots of the plant are used as toot brush (*miswak*).
9. *Berberis pseudumbellata* sub sp. Gilgitica Jafri. Family Berberidaceae (Local name Chowenj)
Leaves, fruit and root are used in Dyspepsia, typhoid, and in muscular pains. Juice extracted from leaves, fruits and root is administered orally.
10. *Bergenia stracheyi* H & T. Engl. Family Saxifragaceae (Local name Besabur) Seeds, leaves, roots and latex used for pimples, eczema, toothache and bleeding gums.
11. *Betula utilis* D. Don. Family Betulaceae (Local name Bhuli) In past bark of this tree was used as paper. These days bark is heated and then wrapped around boils.
12. *Cannabis sativa* L. Family Cannabinaceae (Local name Bong)
Leaves, seeds and floral buds are of medicinal value. Juice of leaves and floral buds while ground seeds are highly sedative and appetizing.
13. *Capparis spinosa* L. Family Capparidaceae (Local name Kaveer) Flower, floral buds and fruit are used to treat jaundice, bronchitis, malaria. Floral buds are collected and soaked in a clay pot for 6 to 7 days then dried and used in making soups to treat the above mentioned diseases.
14. *Carthamus tinctorious* L. Family Asteraceae (Local name Pome) Flower and seeds of this herb are used in powdered form to treat chicken pox and heals.
15. *Carum capticum* L. Family Apiaceae (Local name Shonjmuk) Seeds, leaves and flowers are boiled with a little salt and given to the patients of scurvy, cough, bronchitis and diarrhea.
16. *Carum carvi* L. forma gracile (Lindle.) Wolf. Family Apiaceae (Local name Hojoj)
Seeds boiled and decoction is used in nausea and stomachache
17. *Chenopodium foliosum* (Moench) Aschers. Family Chenopodiaceae (Local name illiomrach) Fruit is collected, dried and grinded with adding few drops of water. The resultant paste is used for sensitive gums and pimples.

18. *Cichorium intybus* L. family Asteraceae (Local name Kasthi) Seeds and roots are chopped and kept in water for some time. The water is used to cure typhoid, constipation and nausea.
19. *Clematis graveolens* Lindl. Family Ranunculaceae (Local name Chuntrak) Extract of leaves is used for eczema.
20. *Codonopsis clematidea* (Schrenk) Clarke. Family Campanulaceae (Local name ondostak) Leaves, stem, flower and fruit are used in malaria and in abdominal pain. Whole plant is dried and grinded, the powder is used with water or milk.
21. *Convolvulus arvensis* L. Family Convolvulaceae (Local name Mishk) Flowers and leaves are used as vegetable to treat constipation.
22. *Coriandrum sativum* L. family Apiaceae (Local name Danu) Fruit, leaves and stem aromatic and are used as a condiment, carminative and diuretic agent.
23. *Daphne mucronata* Royle. Family Thymeleaceae (Local name Lovomekeen) Fruits are grinded the paste in water is used for the treatment of freckles and pimples.
24. *Datura stramonium* L. Family Solanaceae (Local name Phorol) Stem bark is heated slowly in a pan and is placed in shade and used in lumbago and backache.
25. *Daucus carota* L. Family Apiaceae (Local name Kheshgoom) Root and seeds are used in making soups and tea, which is used to treat eye disorders.
26. *Elaeagnus angustifolia* L. family Elaeagnaceae (Local name Shunjoor) Fruit and leaf latex is used for treating patients of dyspepsia, constipation and cough. Leaf latex is also used as shampoo. Fruit is dried and powdered for treating asthma.
27. *Ephedra gerardiana* Wall ex Stapf. Family Ephedraceae (Local name Sumani) Young branches are chopped, boiled in water and crushed; juice is extracted and is called Ghojja in Khewar. This is used to treat pneumonia and gastric problems.
28. *Ferula narthex* Boiss. Family Apiaceae (Local name Rauw) Incisions are made in young stems which result in oozing of a milky exudate. This exudate solidifies after one day and is locally called *Heeng*. This *heeng* is used against toothache, abdominal pain and diabetes.
29. *Foenicullum vulgare* Miller. Family Apiaceae (Local name Budiyong) Seeds and fresh leaves are chewed for cough, abdominal pain, toothache and pneumonia.
30. *Glycyrrhiza glabra* L. Family Papilionaceae (Local name Moyu) Whole plant is chopped and a decoction is made from it. This decoction is thought to be effective against cough and constipation.
31. *Hippophae rhamnoides* L. Family Hippocastanaceae (Local name Mirghinz) Fruits are crushed with water to make a paste which is applied on face as a face mask. Also used for treating skin infections and irritated eyes.
32. *Hyoscyamus niger* L. Family Solanaceae (Local name Bangedewana) Stem, leaves and flowers are heated in a pan and used for backache.

33. *Juglans regia* L. Family Juglandaceae (Local name Birmogh) Bark, leaves and pericarp of fruit are used for gum and tooth diseases. Pericarp of fruit is also used as hair dye.
34. *Juniperus excelsa* M.B. Family Cupressaceae (Local name Ghondolik) Leaves are burnt with tobacco leaves to make snuff. Leaves and cone are anthelmintic.
35. *Lepidium ruderale* Hk. & Anders. Family Brassicaceae (Local name Palak khardachi) Used raw as salad for dyspepsia.
36. *Lawsonia inermis* L. Family Lythraceae (Local name Shorang) Grinded leaves and flowers are used as mehndi, for foot cracks and for boils and spilt kin near nails.
37. *Linum usitatissimum* L. Family Linaceae (Local name Shetiki) Seeds are grinded and fried. Then a paste is made from it which is used in urinary tract infections and toothache. Also used in case of high blood pressure.
38. *Malva neglecta* Wallr. Family Malvaceae (Local name Soanchal) Young leaves are used as vegetable for treating constipation.
39. *Anthemis nobilis* L. Family Asteraceae (Local name Shirisht) Flowers are dried and mixed with flour to make bread. It is found quite good in abdominal pain.
40. *Mentha arvensis* L. Family Lamiaceae (Local name Pudeena) Leaves and young stems are used as condiment. It is anthelmintic.
41. *Mentha spicata* L. Family Lamiaceae (Local name Suspru) Flowers, leaves and seeds are used in decoction to cure dyspepsia, stomachache and typhoid. Also used as an appetizer.
42. *Mentha sylvestris* L. family Lamiaceae (Local name Bhen) Whole plant is chopped and its paste is made in little water. This paste is used for facial complexion and for pimples. According to some locals this paste is quite good for all skin infections.
43. *Morus alba* L. Family Moraceae (Local name Mratch) Fruit is used in jaundice. Dried fruit is also used in making jams.
44. *Morus nigra* L. Family Moraceae (Local name Shahtoot) Fruit is used in jaundice, dyspepsia and as a blood purifier.
45. *Morchella esculenta* (L) Pers ex Fr. Family Helvelliaceae (Local name Qotzu) Whole plant is used as laxative and as tonic.
46. *Myricaria elegans* Royle. Family Tamaricaceae (Local name Phapaki) Flowers are dried and crushed and its paste is use in backache.
47. *Nepeta cataria* L. Family Lamiaceae (Local name Mutrich) Seeds are grinded and their paste is made in water. This paste is applied to injuries and backache.

48. *Nasturtium officinale* R.Br. Family Brassicaceae (Local name Otzo kardachi) Leaves are used as vegetable to cure dyspepsia.
49. *Onosma echioids* Clarke. Family Boraginaceae (Local name Phusuk) Dried roots are grinded and mixed with mustard oil to remove dandruff.
50. *Paeonia emodi* Wall. ex G. Don. Family Paeoniaceae (Local name Mamekhi) Stem is dried and then grinded. Roots are dried and their decoction is made to treat emmenagogue and lumbago.
51. *Papaver somniferum* L. Family Papaveraceae (Local name Afune) The air dried milky exudates from the unripened capsule is used to treat cough, nasal and chest congestion, sunstroke. Highly sedative and anesthetic for wounds and scorpion stings.
52. *Paganum harmala* L. Family Rutaceae (Local name Ispandur) Fumes of this plant are considered to be devil repellent.
53. *Pistacia khinjuk* Stocks. Family Anacardiaceae (Local name Binju) Fruits and young branches are burnt and their fumes are thought to be devil repellent.
54. *Plantago lanceolata* L. Plantaginaceae (Local name Boikoligini) Seeds are soaked in water or milk and then used in constipation, loose motion and diarrhea.
55. *Plantago major* Aitch. Family Plantaginaceae (Local name Bronoachar) Leaves are used as bandage on wounds. Seeds are directly used for abdominal pain and boils.
56. *Prangos pabularia* Lindl. Family Apiaceae (Local name Shorum) Powdered leaves and seeds are used in gastric problems.
57. *Prunus persica* (L) Stocks. Family Rosaceae (Local name Zhuli) Fresh fruit is eaten or dried fruit is used for treating jaundice. Oil is extracted from seeds and is used to treat skin infections. Oil is edible too.
58. *Prunus cornuta* L. Family Rosaceae (Local name Guni) Fruit is used as a cure for asthma and in cardiac problems.
59. *Punica granatum* L. Family Punicaceae (Local name Dalum) Rind is used in treating wounds as it enhances the process of healing.
60. *Raphanus sativus* L. Family Brassicaceae (Local name Muli) Root is used in cases of jaundice. Eaten raw.
61. *Rheum australe* D. Don. Family Polygonaceae (Local name Ishpaar) Fresh stem is used in gum diseases.
62. *Rosa webbiana* L. Family Rosaceae (Local name Throni) Fruit is boiled and then strained to treat asthma.
63. *Rubus fruticosus* Hk f. non L. Family Rosaceae (Local name Atchu) Fruits eaten raw for anaemia.

64. *Salvia rhytidea* Benth, in DC. Family Lamiaceae (Local name Korotch) Used as salad for stomach disorders and abdominal pain.
65. *Silene conoidea* L. Family Caryophyllaceae (Local name Apupar) Seeds and young leaves are grinded and their paste is made. This paste is applied on pimples and in cases of backache.
66. *Sisymbrium irio* L. Family Brassicaceae (Local name Kheli kheli) Leaves and seeds are fried and mixed with soup. Such soup is used to increase breast milk, to warm up body and bronchitis.
67. *Solanum miniatum* Bernh Ex Willd. Family Solanaceae (Local name Pirmilik) Ripened fruits are collected and their juice is extracted. This extracted juice is effective in case of irritating eyes and is also used as a facial mask.
68. *Sophora griffithi* Stocks. Family Papilionaceae (Local name Beshu) Branches are heated mildly which results in exudation of oil from them. Oil is used as an insecticide and is also effective in eczema.
69. *Thymus serpyllum* L. Family Lamiaceae (Local name Sew) Seeds, leaves and seeds are grinded and a paste is made from them which is used as a lotion for message on women's back after delivery.
70. *Trachydium roylei* Lindl. Family Apiaceae (Local name Mushen) Leaves are crushed into a thick paste to be applied on scorpion stings.
71. *Trigonalla foenum-graceum* L. Family Fabaceae (Local name Sugon) Seeds and leaves are used as vegetable for loose motions and emmenagogue.
72. *Verbascum thapsus* L. Family Scrophulariaceae (Local name Gordokhkaru) Leaves are boiled and used in abdominal pain.
73. *Viola serpens* Wall. ex Roxb. Family Violaceae (Local name Milkon) Flowers are dried and ground into powder. This powder is used in making decoction for cough. It is also an astringent and purgative.
74. *Vitis vinifera* L. Family Vitaceae (Local name Drotch) Fruit used in cases of dyspepsia.
75. *Zea mays* L. Family Poaceae (Local name Jowari) Grain used in bread in abdominal pain

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