Research Paper

ETHNO BOTANICAL SURVEY OF WILD MEDICINAL PLANTS OF KHAIRABAD VALLEY DISTRICT DIR (LOWER), KHYBER-PAKHTUNKHWAS

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Abstract

The present survey for the ethno-botanical study was conduct on Khairabad Valley, Dir lower PK Pakistan, which as contain a lot of wild medicinal. Collect information including local names, local medicinal uses, Status of plants. A total of 50 plants were collected, out of which 4 were gymnosperm and 46 belong to angiosperm. Belong to 32 family, out of this the family Liliaceae was leading contain 8 specie, followed by family Solanaceae with 3 specie, and family Apiaceae two specie, Rosaceae and Rutaceae consist three specie and the remaining all consist of single species on the basis of the their status the plant were divided in to herb 50%, shrub 18%, tree 30% and climber 2%. 6 plant uses were as tonic, four were as anticancer, three purgative and two plants were used as antiseptic, 6 are laxative, 4 for wound, 3 used for digestive disorder, 5 sedative, 9 use as a pain killer, 2 for blood stopping, 4 used as anthelimints, 4 carminative, 2 used for vomiting, 5 for lever disorder, 5 headache, 7 for cough, 4 as a purgative, 3 ar0matic, 2 hemorrhoids, 4 astringent, 4 used as anti inflammatory.

Keywords: Rosacease, Rutaceae, Apiaceae, Liliaceae
Introduction

The word ethno botany was first coined by American botanist named John Harsh Berger in 1895. He refers to the study of those plants which are used by local people for health care. Ethno botany arises when initially man observed that animals used different plants for their food, curative wounds and also for shelters. The awareness of ethno botany increase prosperous use and get achievements in research on human beings. It also leads to our familiar medicines and food (Campbell et al., 2002). Many medicinal plants are used for maintaining health purpose they uses as traditional methods or as medicine (Ibrar et al., 2007). In Pakistan northern side are famous due to its climate condition (cool or humid) because different type of medicinal plant can grow easily. These plants cannot helps in economy of a country but it is very important due to botanically and medically uses. It’s our aim to save these types of plants because some plants contain synergistic and or side effects neutralizing combination (Gilani and Atta ur rehman 2005).

In Pakistan approximately 6000 plant species have been reported out of which 3200 species used in Homopathic and Unani allopathic while 300 plant species are utilized in ordinary medicine (Parveen and Hussain, 2007). The field ethno botany is extremely ignored in Pakistan however, a series of papers are published by many researcher’s on Pakistan’s medicinal plants, who reported that about 84% inhabitants of Pakistan needful for their medicinal requirement on the traditional medicines (Shahzebt et al., 2013). In traditional medicines plants has a key role in the treatment of different virus infection (Bakoet et al., 2005). Pakistan reveal flourishing history on the traditional use of flora. Plants considered as vital source in traditional medicines as their extract are used in allopathic remedies for health care of animals and humans (Hussain, et al 2010). In Pakistan about 10% (600-700 plants species) of the national flora are utilized for drug purposes (Shinwari, 2010).

From the different place of Pakistan conduct Ethno medicines, survey and collect a lot of medicinal plant for the different purposes but not specifically from Ouch Valley. Our studies accompaniment the information on ethno botanically important species of the Lower Dir district. Similarly, (Shinwari et al., 2002) explained the status of medicinal plants species of Shinaki Bar and Valleys, Northern Area of Pakistan. The present was conduct in district lower Dir,
Khairabad Valley. Valley located 18 kilometer from Chakdara, university of Malakand it is well-liked for the collection of medicinal plants for treating various diseases like cough, fever etc. It is evident from the literature review that previously no one has reported or documented the traditional uses of native plants from this valley. The present research are specifically designed to highlight the medicinal uses of plants present in Khairabad Valley and store the knowledge, and create awareness about conservation and documentation of the folk uses of the flora of the Khairabad Valley.

**Materials and Methods**

Field survey and collection of specimen was done in the study area of Khairabad Valley. The data of use of medicinal plants was collected the different localities of Khairabad Valley. The people of different age interviewed and information were collected about the plants, different information like local name, its nature, local uses, parts used, distribution, flowering time, and fruiting time about the taxa data were record.

The instruments and materials used for collection of plants are, A digger for digging of underground stems, pair of secateurs for cutting twigs, knife for cutting different parts of plants, pair of forceps, wooden plant press, newspaper, note book for writing notes about plants medicinal uses, Magnifying glass, Microscope, camera for taking photos of the collected plants.

The plants were collected at a specific time during plant life cycle; it is because that the drug contents of the plant are at their peak time. Roots were collected either very early in the spring before growth has begun, or late in the fall. Stem collect during the blooming or fruiting period. Leaves are usually collected before blooming begins and can either be removed from the plant in the field, or the plant can be harvested and the leaves can be removed later at a collection area. Seeds and fruits are best harvested when ripe. Bark should be collected it slips most easily, during the dormant season i.e. in early spring. The plant species were identified directly with the help of flora of Pakistan, flora of Australia and other relevant published sources.

**Results and Discussion**

The ethno medicinal flora of Khairabad Valley consists of 50 species belonging to 32 families. Among the collected plants 8 plants belong to family Lamiaceae, 3 to family Asteraceae, 3 belong to Solanaceae. 2 Moraceae 3 belong to Rosaceae and 3 Rutaceae. One
species was recorded for Amaryllidaceae, Brassicaceae, Asphodelaceae, Cannabaceae, Oleaceae, Mimosaceae, Chenopodiaceae, Apiaceae, Poaceae, Punicaceae, Cupressaceae, Sapindaceae, Myrtaceae, Fumariaceae, Juglandaceae, Malvaceae, Meliaceae, Anacardiaceae, Nyctaginaceae, Cucurbitaceae, Apocynaceae, Papaveraceae, and Vitaceae, Ascleiadiaceae, Oxalidaceae, Polygonaceae (fig. 1). on the basis of their status the plant were divided into herb 50%, shrub 18%, tree 30% and climber 2% (fig. 2). *Datura anoxia, Juglan regia, Canabus sativa, and Prunus amygdalous*, were used as tonic, *Ajuga bracteosa, Phoenix dactylifera, Vitis vinifera, and Olea ferruginea*, were used as anticancer, *Coriendrum sativum, Morus alba*, and *Mirabilis Jalapa*, were used as purgative, while *Mangifera indica and Mentha piperita* were used as antiseptic, residual aspect of the species such as the part used, local name and their family, specie table (1).

**Table 1: List of species with their family and local name, habit and part use**

| Family            | botanical name of plant | English/local name | habit   | part used               |
|-------------------|-------------------------|--------------------|---------|------------------------|
| Mimosaceae        | acacia nilotica         | arabica/kiker      | tree    | bark, gum, seed        |
| Lamiaceae         | ajuga bracteosa         | ajuga/boti         | herb    | whole plant            |
| Amaryllidaceae    | allium sativa           | garlic/ooga        | herb    | whole plant            |
| Asphodelaceae     | aloe vera (L.)          | lemon balm/kashmala| herb    | leaf gel               |
| Brassicaceae      | brassica comperistis    | mustard/sharshm    | herb    | seed, leaves           |
| Cannabinaceae     | canna sativa            | soft hemp/bung     | herb    | leaves, flowering tops |
| Chenopodiaceae    | chenopodium ambraiosides| goose foot/skha boti| herb    | whole plant            |
| Rutaceae          | citrus medica           | lemon/nembo        | shrub   | Fruit                  |
| Rutaceae          | citrus sinensis         | sweat orange/malta | shrub   | Fruit                  |
| Apiaceae          | coriendum sativa        | coriender/danya    | herb    | seed, leaves           |
| Cupressaceae      | cupress sempervirens    | cupress/sarwa      | tree    | needle, twigs          |
| Solanaceae        | datura innoxia will.    | thorn apple/datura | herb    | seed, leaves, flower   |
| Poaceae           | dendrocalamus strictus  | bamboo/banus       | tree    | leaves                 |
| Spindaceae        | dodonea viscos (L.)     | hupbush/ghwarasky | shrub   | whole plant            |
| Myrtaceae         | eucalyptus lanceolatal  | eucalyptus/ilachi  | tree    | leaves, gummy exudates |
| Moraceae          | ficus carrica           | fig/inzar          | tree    | Fruit                  |
| Fumariaceae       | fumaria indica          | Fumaria            | herb    | whole plant            |
| Juglandaceae      | juglan regia            | wallnut/ghuz       | tree    | bark, leaves, fruit    |
| Asteraceae        | luctca satiual          | Salad              | herb    | leaves and seed        |
| Family         | Species              | Common Name            | Type       | Part(s)                      |
|----------------|----------------------|------------------------|------------|------------------------------|
| Malvaceae      | malva neglecta       | mallow/panerak         | herb       | whole plant                  |
| Anacardiaceae  | magnifera indica     | mango/aam              | tree       | bark, fruit, leaves, flower  |
| Lamiaceae      | mentha longifolia    | horse nut/ wenally     | herb       | whole plant                  |
| Meliaceae      | melia azadarech      | neem/tora shundy       | tree       | leave, bark, fruit           |
| Lamiaceae      | mentha piperita      | mint/podena            | herb       | whole plant                  |
| Nyctaginaceae  | mirabilis jalapa     | /gulibada              | shrub      | whole plant                  |
| Cucurbitaceae  | momordica charantia  | biter guard/karela     | herb       | Fruit                        |
| Moraceae       | morus alba           | white mulbery/bedana   | tree       | bark and fruit               |
| Oleaceae       | olea ferruginea      | olea/khona             | tree       | whole plant                  |
| Arecaceae      | phoenix dactyliferal | date/kajora            | tree       | whole plant                  |
| Pinaceae       | pinnus roxburghii    | chir pine/nakhtar      | tree       | whole plant                  |
| Rosaceae       | prunus amygdalouss   | almond/badam           | tree       | Seed                         |
| Punicaceae     | punica grranatum     | ponigramte/anar        | tree       | rind fruit, leaves           |
| Apocynaceae    | nerium oleander      | oleander/gandery       | shrub      | Leaves                       |
| Lamiaceae      | osimum basilicum     | kashmaly               | herb       | whole plant                  |
| Papaveraceae   | papaver sommiferum   | poppy/qush qash        | herb       | capsule, gummy exudates      |
| Rosaceae       | rosa indica          | Gulab                  | shrub      | Flower                       |
| Solanaceae     | solonum nigrum       | black nightshad/kach machu | herb | whole plant                  |
| Solanaceae     | solonum surattense   | morghony               | herb       | Fruit                        |
| Asteraceae     | taraxium officinale  | dandelian/lalten       | herb       | whole plant                  |
| Vitaceae       | vitis vinifra        | grapes/kwar            | climber    | Fruit                        |
| Asclepiadaceae | carallum tubercullata | pamankey               | herb       | whole plant                  |
| Lamiaceae      | salvia moorcroftiana | kharghwag              | herb       | leaves, stem                 |
| Lamiaceae      | plectranthranthus rugoses | Sperkay     | shrub      | whole plant                  |
| Lamiaceae      | lathyrus aphaca      | kurkomany              | herb       | Leaves                       |
| Asterolaceae   | carthamus oxyantha   | Kareeza                | shrub      | Fruit                        |
| Lamiaceae      | otostegia limbata    | spenazghay             | herb       | whole plant                  |
| Oxalidaceae    | Oxalis kornialata    | Tarooky                | herb       | whole plant                  |
| Polygonaceae   | polygonum barbatum   | polpolak               | herb       | whole plant                  |
| Rosaceae       | rubus fruticosus     | karwara                | shrub      | Fruit                        |
| Rutaceae       | zanthoxylum armatum  | dambara                | tree       | leaves, fruit                |
Table 2: List of the 63 therapeutic.

| S.no | Full name           | S.no | Full name           |
|------|---------------------|------|---------------------|
| 1    | Stomach-ache        | 33   | Toothache           |
| 2    | Diurietries         | 34   | Astringent          |
| 3    | Astringent          | 35   | Pharynsitis         |
| 4    | Diarrhea            | 36   | Laryngitis          |
| 5    | Cancer              | 37   | Detergent           |
| 6    | Cough               | 38   | inti infilimation   |
| 7    | Dysentery           | 39   | skin disease        |
| 8    | Fever               | 40   | small pox           |
| 9    | blood purifier      | 41   | Tuberculosis         |
| 10   | Laxative            | 42   | Diabetes            |
| 11   | Wound               | 43   | Antiseptic          |
| 12   | digestive disorder  | 44   | Dyspepsia           |
| 13   | Narcotic            | 45   | Anemia              |
| 14   | Sedative            | 46   | Ulcer               |
| 15   | pain killer         | 47   | Influenza           |
| 16   | blood clotting      | 48   | kidney stone        |
| 17   | Anthelimintis       | 49   | mouth care          |
| 18   | Carminative         | 50   | Osteoarthritis      |
| 19   | Vomiting            | 51   | eye disease         |
| 20   | Lever               | 52   | Constipation        |
| 21   | Headache            | 53   | bladder disease     |
| 22   | Bilious             | 54   | Antioxidant         |
| 23   | Purgative           | 55   | Antimutagenic       |
| 24   | Aromatic            | 56   | Antimicrobial       |
| 25   | facial care         | 57   | muscle relaxant     |
| 26   | Hemorroides         | 58   | abdominal pain      |
| 27   | Hallucinogenic      | 59   | Swelling            |
| 28   | Asthma              | 60   | Antihyperlipidemic  |
| 29   | Rheumatism          | 61   | Antinephrolithiatic |
| 30   | Anodyne             | 62   | Tonic               |
| 31   | Iching              | 63   | Cordiovascular      |
| 32   | Intispasmadic       |      |                     |
As per medicinal use of the plants total 63 therapeutic classes as shown in Table (2) in which 8 used for dysentery, 8 for stomachic, 6 are diuretic, 2 are anticancer, 6 helping in fever, 7 are laxative, 4 for wound, 4 used for digestive disorder, 3 are narcotic, 6 sedative, 9 use as a pain killer, 2 for blood stopping, 4 used as anthelmintis, 4 carminative, 2 used for vomiting, 5 for lever disorder, 5 headache, 7 for cough, 5 as a purgative, 3 ar0matic, 2 hemorrhoids, 5 astringent, 5 used as anti inflammatory, 2 for skin disease, 2 as used small pox, 4 help in tuberculosis, 4
diabetes, 2 for kidney stone, 2 as mouth care, 2 plant are used as blood purifier, and one plant are used for, facial care, hallucinogenic, asthma, rheumatic, anodyne, itching, antispasmodic, 2 toothache, pharyngitis, laryngitis, detergent, anemia, ulcer, influenza, osteomalaria, eye disease, constipation, bladder, antimicrobial, antibacterial, tonic and antioxidant. Cardiovascular, antihyperlipidemic.

The present study indicated that a large number of medicinal plant are still present in which valley which is used for different purposes like wood, fuel, animal fodder and much more disease such as, the aqueous extract of Coriendrum sativum seed has anixolytic, and for muscle relaxant, used diuretic and vermifuge. The Ajuga bracteosa used as a anticancer, diuretic, tonic, malarial fever and the fresh dry leaves is used in case of fevers, abdominal pain, gastro-entries, constipation, nausea and poor digestion, also leaves used for sore throat, tension and headache and very effectively used in reduction of blood pressure, some similarity to that of (Hamayun et al., 2003) reported that for the treatment of jaundice, hypertension and sore throat the leaves decoction of Ajuga bracteosa is used. (Haidar Ali et al., 2009) suggested that when the fruit especially the pericarp of Punica granatum were grinded, dried, powdered and mixed it with sugar, to cure diarrhea and dysentery, and also help in swelling and injuries, and for Blood purification, cooling mainly fruit are use. And when the fruit pericarp and tea are mixed with each other it helps in whooping cough. And due to novelty in chemical constituents also people used as laxative. During present work it is investigate that the fruit of Punica granatumis taken as stomachic; rind of the fruit is useful in diarrhea, dysentery. Stem and root bark anthelmintic especially against tape-worms; seeds are stomachic, fresh juice is refrigerant, used in digestive disorders. Dry fruit also used for inflammation of throat. (Joshi, 2012) reported that the fruit of Olea ferruginea oil derived from fruit was analyses and contain (61–67%) monounsaturated oleic acid. It is a source of important nutrients and bioactive of remedial and therapeutic interest that is used by traditional people as remedy. Present study shows that the whole plant is for cure of diabetes, cancer lever problem, painkiller, and ulcer and also helps in heart trouble, and mostly in anemia. Leaves of Oleo ferruginea are used to cure gonorrhea and fever. The oil from the fruit is rubefacient and taken for digestive disorders. Bark is astringent. (Shinwari et al., 2002) done to facilitate for toothache, headache and epilepsy the leaves of Datura innoxia is effective, and their seeds are antipyretic and narcotic. Datura anoxia is used in seed used as sedative and anodyne, hallucinogenic intoxicant extremely used in asthma, in India the leaves of
datura used in cigarette for relieve of asthma, in china the leaves are used in anesthesia during surgery, also used as sore throat, headache and also avoid from heart problem. *Solanum nigrum* the juice from leaves and fruit is used for fever, eye disease and specially used in digestive disorder according to (Habib et al., 2013) reported that *Solanum nigrum* is used as antipyretic. *Melia azderacea* used in diabetes, help in arthritis problem and help in cough and fever.

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