

MEDICINAL WILD PLANTS FROM LAHORE-ISLAMABAD MOTORWAY (M-2)

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Abstract

Wild plant gathering is an ancient tradition that has endured in many rural communities in Pakistan. In order to understand the pattern and uses of medicinal plants available in the first ever constructed motorway of the country, passing through three major geographical patterns of Punjab, Pakistan, this study was undertaken through literature survey and fieldworks. In the recent times, the practice of herbal medicine is diminishing. Thus in the way of revitalization of traditional herbal medicines, it is an effort to record the valuable ethno-botanical and ethno-medicinal knowledge. Semi-structured interviews were carried out in order to examine the present use of wild medicinal plants growing in and around Lahore-Islamabad motorway. The research process comprises a total of 81 plants belonging 44 families which have been recorded for their medicinal uses like fever, skin diseases, snakebite, jaundice, dysentery etc. *Momordica balsamina*, *Evalvalvulus alsinoides*, *Salvadora oleoides* are vulnerable plants in the area. *Azadirachta indica*, *Fagonia eritica*, *Peganum hermala* are recommended for further cultivation and propagation in the surrounding area of motorway.

Introduction

Medicinal wild plant use has persisted as a long standing tradition in Indo-Pakistan. In the recent years, one can notice a global trend for survival interest in the traditional system of medicines. Screening of medicinal herbs has become a potential source of biodynamic compounds of therapeutic value. Ethnobotanical studies have become increasingly valuable in the development of health care and conservation programs in different parts of the world (Balck, 1996).

One of the objectives of ethnobotanical study is to record the indigenous knowledge about plants because people healed themselves with traditional herbal medicines long ago. The first ever constructed motorway, passing through different geographical regions has never been explored ethnobotanically before. So it was felt worthwhile to record the native uses of plants in areas surrounding it before the information is lost. The ethnobotanical information aims to be used for the solution of several constraints and conservation of medicinal herbs in and around motorway. Inventory of medicinal herbs is urgent in this rapidly changing environment.

In Pakistan the field of ethnobotany is quite virgin. Goodman & Ghafoor (1992) conducted ethno botanical study in Balochistan province of southwestern Pakistan. They collected information of about 114 plant species used by the village dwellers for nutritional, utilitarian and medicinal purposes. Malik *et al.*, (1990) gathered some preliminary ethnobotanical information from six districts of Balochistan. Leopratti & Lattanzi (1994) studied 27 medicinal plants ethno botanically in Makran, South Waziristan. Hocking (1958), (1962) wrote a series of papers on medicinal plants of Pakistan. Shinwari & Khan (2000) conducted ethno botanical research project in Margalla Hills National Park to record the native uses of these herbs.

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According to World Health Organization the majority of the world's population currently depends on traditional medicines for their primary health care needs. Medicinal plants are widely used in house hold remedies and by practitioners of traditional system of medicine in developing countries such as China, Pakistan, Nepal and India. At the same time interest in traditional and contemporary and alternative medicine in industrialized countries has grown rapidly e.g., in European countries, Japan and USA. The world's markets for herbal products based on traditional plants are collected from wild. The gathering of medicinal plants can provide an important source of income for rural people. Many medicinal plants are threatened with local, commercial and biological extinction. The causes include increased demand, a vastly increasing human population and extensive loss of habitats.

One of the challenges for conservation wild medicinal today is the knowledge gap, traditional knowledge on plants, ecology and its uses, maintenance and conservation was developed on the basis of human interaction with plants and its environment throughout history, which is not only useful for traditional society but also valuable for science and technology development today.

Study area: Pakistan is situated between the latitudes of 23° 47' and 37° 04' North and longitudes of 60° 55' and 77° 47' East, stretching over 1600 kilometers north to south and 885 kilometers east to west. It is bordered by Iran in the west, Afghanistan in the North, the Arabian Sea in the South and India in the East. It has a total area of 796,096 square kilometers, or 88.2 million hectares, of which 61.8 million has been surveyed. Approximately 20 million hectares is used for agriculture, while some 31 million hectares is forest, range land, unutilized or unutilizable. Approximately 59 % (468,000 sq km) of the total area of Pakistan consists of mountains and sub-mountain regions, while the rest (approximately. 328,000 sq km) consists of plains and low-lying deserts.

Pakistan has a sub-tropical and semi-arid climate. The annual rainfall ranges from 125 mm in the extreme southern plains to 55 to 900 mm in the sub-mountainous and northern plains. About 70% of the total rainfall occurs as heavy downpours in summer during July and September and 30% in the winter. Summer, except in the mountainous area, is very hot with a maximum temperature of more than 40 degree C while the minimum in winter is a few degrees above the freezing point.

Methodology: Regular field trips were made in different seasons of the year. Interviews were conducted and observations were made during transect walk. Plants specimens were collected and preserved in the herbarium of Gordon College, Botany Museum, Rawalpindi, Pakistan. Questionnaire was adopted for interviews and informants include local inhabitants and herbalists. The collected information was cross checked with the available literature about medicinal plants and ethno botany.

Results

The data collected are arranged in alphabetical order of the family name. The common name for each species in local language is also given . The botanical name, accession number of herbarium and their medicinal uses are given to each species. The medicinal uses include parts used, methods of preparation, administration, wherever available.

Acanthaceae

- *Barleria acanthoides* Vahl

Local name: Thath

Voucher specimen number: GCBM / M2 / 5

The leaves used as alternative and in fever and Catarrh.

- *Justicia adhatoda* L.

Local name: Bahekar

Voucher specimen number: GCBM / M2 / 7

The plant is pungent, bitter, acrid, cooling. It is used in bronchitis, heart troubles, asthma, fever, tumors, diseases of the mouth, useful in stranguary and leucorrhoea. The leaves and roots of the plant are very efficacious, remedy for all sorts of coughs administered along with ginger. The leaves are also used in rheumatism. Juice is used for diarrhoea and dysentery.

Amaranthaceae

- *Achanthes aspera* L.

Local name: Apang

Voucher specimen number: GCBM / M2 / 10

It is used in vomiting, heart diseases and useful in ulcers.

The seeds are useful in Leprosy; water in which crushed plant has been boiled is given in pneumonia. The infusion of the root is given as a mild astringent. It is also diuretic and pectoral. Every part of plant is recommended in the treatment of snakebite.

- *Aeruva javanica* (Burm.) Juss

Local name: Kanthi

Voucher specimen number: GCBM / M2 / 11

It is used as diuretic, also given to animals as purgative and emetic which contains galactoside kampferol.

- *Amaranthus viridis* L.

Local name: Putkanda

Voucher specimen number: GCBM / M2 / 12

The plant is cooling, laxative, diuretic, stomachic, antipyretic, blood diseases, leprosy, bronchitis, rat-bite and piles. The root is heating, expectorant, lessens the menstrual flow. The root is considered a specific in gonorrhea. It is also used as an anema for stomach trouble.

Apocynaceae

- *Nerium odorum* Soland

Local name: Kaner

Voucher specimen number: GCBM / M2 / 18

The root is bitter, good tonic for chronic pain in the abdomen and pain in the joints, very poisonous but an antidote to snake venom.

The flowers are good for inflammation, pain in the muscles, headache and scabies. The juice of the young leaves is poured into the eyes of ophthalmia. A decoction of leaves is recommended to reduce swellings and oil prepared from the root bark is used for skin diseases and in leprosy.

- *Rhazya stricta* Dene

Local name: Vena

Voucher specimen number: GCBM / M2 / 19

The juice of the leaves is given with milk to children for eruptions, and an infusion of them is very useful for sore throat and low fevers.

The fruit and leaves are considered effacious in case of boils and eruptions. The plant is used as a cooling medicine. It is also used as a medicine for teeth and eye diseases.

Asclepiadaceae

- *Calatropis procera* (willd) R.Br (AC)

Local name: Akk

Voucher specimen number: GCBM / M2 / 29

The plant is very bitter, heating, laxative, anthelmintic, relieves strangury, cures ulcers, the ash act as an expectorant. The hot leaves are applied to abdomen to cure the pain inside.

The plant is laxative, purgative, anthelmintic, cures leprosy, leucoderma, ulcers, tumors, and piles, disease of the spleen, the liver and the abdomen.

Asteraceae

- *Artemisia scoparia* Waldst & Kit

Local name: Cheree saroch

Voucher specimen number: GCBM / M2 / 31

Infusion of the plant is used as purgative. Plant is also used as cure for earache. Smoke is known to be good for burns.

- *Carthamus oxyacantha* M.B

Local name: Pohli

Voucher specimen number: GCBM / M2 / 41

Oil is extracted from the seed and is used for dressing ulcers.

- *Conyza bonariensis* (L) Cronquist

Local name : Paleet

Voucher specimen number: GCBM / M2 / 34

The herb is used as homeostatic, stimulant, astringent and diuretic. It is used in dysentery, diarrhoea and haemorrhage.

- *Taraxacum officinalis*

Local name: Kanfhul

Voucher specimen number: GCBM / M2 / 45

It is useful in dropsy and obstruction of the liver. It is used as a remedy for chronic obstructions of the liver and bowels, and as a diuretic in calculus effections. *Taraxacum* is very popular in case of hepatic congestion due to associated with dyspepsia and constipation.

- *Xanthium strumarium* L.

Local name: Ladhbuti

Voucher specimen number: GCBM / M2 / 46

The fruit is considered cooling and effectious in the small pox. It is also useful in urinary diseases.

Boraginaceae

- *Trichodesma indicum* (L.) R. Br.

Local name: Juri

Voucher specimen number: GCBM / M2 / 53

The plant is beneficial in diseases of the eye; also considered as diuretic. A cold infusion of the leaves is considered depurative pounded with water and it is given as a drink to children for dysentery. The plant is considered as a cure for fever.

Cactaceae

- *Opuntia monacantha* Haw.

Local name: Chnutarhar

Voucher specimen number: GCBM / M2 / 56

The plant is bitter, laxative, stomachic, carminative and antipyretic. It is used in urinary complaints tumors, piles, inflammations, anemia, ulcers, and enlargement of the spleen. The flowers cure bronchitis and asthma. The juice of the plant is heating, alexiteric, and leucoderma. It is used in ophthalmic and liver complaints. The juice is used as a cure for earache. The fruit is used in gonorrhea.

Caesalpinaeae

- *Bauhinia pupurea* L.

Local name: Kachnar

Voucher specimen number: GCBM / M2 / 57

The root is carminative. The bark acts as an astringent in diarrhea. Its decoction is recommended as a useful wash in ulcers. The flowers are laxative. The bark or root and flowers mixed with rice water are used as a maturant for boils and abscesses.

- *Bauhinia variegata* Linn.

Local name: Kachnar

Voucher specimen number: GCBM / M2 / 58

The bark of plant is acrid, sweet, appetizing, cooling, astringent to the bowels; cures biliousness, cough, asthma, diseases of the blood, ulcers, vaginal discharges, anthelmintic, used in stranguary, thirst burning sensation. The buds are indigestible, used in piles, cough, eye diseases, and liver complaints. The root is used for dyspepsia and flatulency, it is also laxative.

- *Cassia fistula* Linn.

Local name: Amaltas

Voucher specimen number: GCBM / M2 / 59

The root is useful in skin diseases, leprosy, tuberculosis, and glands' cures, burning sensations. The leaves are laxative, antipyretic; heal ulcers, used in rheumatism. The buds improve taste. The flowers have a flavor with a bitter acrid taste, cooling, astringent, cure biliousness. The seeds are sweetish, oily, laxative, and carminative; improve the appetite, cures biliousness. The root is generally given as a tonic and febrifuge. The juice of the young leaves is used to cure ringworm.

- *Cassia occidentalis* Linn.

Local name: Amla

Voucher specimen number: GCBM / M2 / 60

The root is useful in ringworm, elephantiasis, scorpion sting and snakebite. The leaves are aphrodisiac, alexiteric, cures cough, asthma. It is also diuretic. Every part of plant is tonic and febrifuge. The fresh leaves are ground to wounds and swellings.

Cannabinaceae

- *Cannabis sativa* L.

Local name: Bhang

Voucher specimen number: GCBM / M2 / 62

The plant is narcotic drug and is used for malaria, black water fever, blood poisoning, anthrax and dysentery, dried and crushed leaves are taken as a drink for narcotic action also used as refrigerant. The juice of the leaves is applied on the hand to remove dandruff and vermin.

Capparidaceae

- *Capparis aphylla* Roth

Local name: Karir

Voucher specimen number: GCBM / M2 / 64

The bark has an acrid, sharp hot taste, analgesic, diaphoretic, antidote, laxative, anthelmintic, good in cough and asthma, Ulcers and boils, vomiting and piles and all inflammations.

The fruit has a sharp hot taste, astringent to the bowels; destroy fuel breath, biliousness and urinary purulent discharge, good in cardiac troubles.

- *Capparis spinosa* L.

Local name: Kari

Voucher specimen number: GCBM / M2 / 65

The root bark is bitter, hot and dry, aperient, expectorant, anthelmintic, amengogue, amelgestic, good in rheumatism, paralysis, toothache, enlarged spleen, tubercula glands; the juice kills worms in the ear.

Chenopodiaceae

- *Chenopodium ambrosioides* L.

Local name: Chulai

Voucher specimen number: GCBM / M2 / 72

An infusion of herb is considered carminative, diaphoretic and emmenagogue. It is given in cough, pulmonary obstruction, and amenorrhea and is recommended for the expulsion of the dead fetus.

- *Chenopodium album* L.

Local name: Bathu

Voucher specimen number: GCBM / M2 / 71

The plant improves the appetite, oleaginous, anthelmintic, diuretic, aphrodisiac, tonic, useful in biliousness, abdominal pain, eye diseases, throat troubles, diseases of the blood, heart and the spleen.

The plant is also used as a laxative. It is also used as an infusion as an enema for intestinal Ulceration. The finely powdered leaves are used as a dusting about the external genitalia in children.

Convolvulaceae

- *Convolvulus arvensis* L.

Local name: Lali

Voucher specimen number: GCBM / M2 / 77

The root possesses cathartic properties. It is used as a substitute for Jalap.

- *Convolvulus icrophyllus* sieb. EX Sprang

Local name: Hiran Khuri

Voucher specimen number: GCBM / M2 / 41

The plant is considered as strong purgative.

- *Evolvulus alsinoides* L.

Local name: Sankha holi

Voucher specimen number: GCBM / M2 / 79

The plant is bitter, pungent, alexiteric, alterative, and toxic, anthelmintic, useful in bronchitis, epilepsy. Leucoderma, teething of infants, brightens and improves intellect, improve complexion, appetite. It is a remedy for dysentery and febrifuge.

Cruciferaceae

- *Eruca sativa* Miller

Local name: Tara meera

Voucher specimen number: GCBM / M2 / 83

Leaves are stomachic, ground fresh leaves are applied to abscesses, and the seeds are given in colic. It is good in piles, inflammations, Ulcers, epilepsy, toothache and stop vomiting.

- *Sisymbrium irio* L.

Local name: Jangli Sarson

Voucher specimen number: GCBM / M2 / 84

The seeds are described as expectorant, stimulant and restorative properties. It is also used externally as a stimulant poultice.

Cucurbitaceae

- *Momordica balsamina* L.

Local name: Jangli Karela

Voucher specimen number: GCBM / M2 / 88

The fruit is occasionally used medicinally for curing wounds. It is considered as a vulnerary and little inferior.

Cyperaceae

- *Cyperus nevieu*s Retz

Local name: Deela

Voucher specimen number: GCBM / M2 / 91

The root is pungent, acrid, cooling, gaactogogue, emmenagogue, enriches the blood, increases appetite, useful in defective mind, oedema, piles, ozoena, eye sore, brain and chest trouble. Scorpion sting, lumbago. The root is considered cordial, stomachic and desiccant and is used for washing hair.

- *Cyperus rotundus* L.

Local name: Dilla

Voucher specimen number: GCBM / M2 / 92

The root is pungent, stomachic, anthelmintic, and useful in leprosy, thirst, fever, blood diseases, biliousness, dysentery, vomiting, epilepsy and ophthalmia. Fresh tubers are applied to the breast as a galactagogue. A decoction of tuber is given in fever, diarrhea, dyspepsia and stomach complaints.

Euphorbiaceae

- *Euphorbia hirta* L.

Local name: Titra

Voucher specimen number: GCBM / M2 / 96

The juice of the plant is given in dysentery and colic, and the milk is applied to dysentery warts. A decoction is used in asthma and chronic bronchial effections. The plant is chiefly used in the effection of childhood in worms, bowel complaints and cough. It is also stomachic.

- *Euphorbia prostrata* Cuit

Local name : Doodi Buit

Voucher specimen number: GCBM / M2 / 97

The plant is used as cathartic, given in cholera. Milky juice is applied to eruption. Rots are known as anthemintic. Milky latex is known to be poisonous and cause swelling on skin.

- *Jatropha hastate* Jacq

Local name: Arind

Voucher specimen number: GCBM / M2 / 99

The decoctions of the leaves are used for stomachache. The seeds contain oil, which is purgative and emetic. The oil is useful in leprosy.

- *Ricinus communis* L.

Local name: Arind

Voucher specimen number: GCBM / M2 / 101

The root is sweetish, heating, carminative, and useful in inflammation, pains, ascites, fever glands, asthma, eruptions, bronchitis, leprosy, diseases of the rectum and the head. The flowers are useful in glandular tumors, troubles and vaginal pain. The root bark is purgative, good in skin diseases. The leaves are galactagogue, good for burns. The seeds are used in lumbago, boils, piles, ringworm, paralysis, inflammations, ascites, asthma, rheumatism, dropsy, and amenorrhea.

Fumariaceae

- *Fumaria india* (Hausskn) H. N.

Local name: Papra or Shahtra

Voucher specimen number: GCBM / M2 / 103

It is considered as laxative, diuretic, alterative, toxic, diaphoretic and febrifuge.

Labiatae

- *Ostostegia limbata* (Bth) BIOS

Local name: Chitta Jand

Voucher specimen number: GCBM / M2 / 106

The juice of the leaves is applied to children's gums and to ophthalmia in man and the beast.

- *Salvia aegyptiaca* L.

Local name: Tukhum Malanga

Voucher specimen number: GCBM / M2 / 108

The seeds are used in diarrhea, gonorrhea and hemorrhoids.

- *Salvia moorcroftiana* wall ex B

Local name: Gadakan

Voucher specimen number: GCBM / M2 / 109

The root is given in cough and the seeds are used as an emetic. The seeds are given in colic and dysentery and are applied to boils; the seeds are given for hemorrhoids.

Liliaceae

- *Asparagus adscendens* Roxb, FIInd

Local name: Shitangri

Voucher specimen number: GCBM / M2 / 111

The tuberous roots are used as demulcent and toxic and they are said to be useful in diarrhea, dysentery and general debility.

- *Asphodelus tenuifolius* Cavan

Local name: Piazi

Voucher specimen number: GCBM / M2 / 113

The seed is diuretic, applied externally to Ulcers and inflamed parts.

Lythraceae

- *Lawsomia alba* Lam

Local name: Mehndi

Voucher specimen number: GCBM / M2 / 115

The leaves are emetic, expectorant, allay burning, sensation, and cure leucoderma. The seeds are astringent to the bowels and antipyretic, cure insanity. The leaves have a bitter, bad taste, vulnerary, diuretic, useful in headache, hemicramia, bronchitis, boils, ulcers, stomatitis, ophthalmia, diseases of the spleen, enrich the blood, favors the growth of hair.

Malvaceae

- *Hibiscus rosa sinensis* L.

Local name: Shoe flower

Voucher specimen number: GCBM / M2 / 116

The herbs have a sweet odor and bitter taste, cooling, astringent, remove burning of the body, urinary discharges, seminal weakness, piles, uterine and vaginal discharges, promote the growth of the fetus, cure vomiting. Flowers are given for gonorrhea and the powdered root for menorrhagia.

- *Malva sylvestris* L.

Local name: Sonchal

Voucher specimen number: GCBM / M2 / 117

All parts of plant are mucilaginous and cooling, febrifuge good for blepharitis and all inflammatory conditions. It is internally good for sore throat, chronic bronchitis, jaundice. It is useful in stranguary and urinary discharges.

Meliaceae

- *Azadirachta indica* (L) Juss

Local name: Dhrek

Voucher specimen number: GCBM / M2 / 120

The bark has an acrid, sharp, hot taste, analgesic, diaphoretic, alexiteric, laxative, anthelmintic, good in cough and asthma, ulcers and boils, vomiting piles and all inflammations. The fruit has a sharp hot taste, astringent to the bowels; destroy foul breath, biliaryness, and good in cardiac troubles. It is an antidote to poison, also in affections of joints.

- *Melia azadirachta* L.

Local name: Bakain

Voucher specimen number: GCBM / M2 / 121

The root is astringent to the bowels, useful in vomiting, leucoderma, belching, blood impurities, heart diseases, ulcers, headache, uterine pains, cures fever, burning sensations, and lung complaints. The oil from the seeds is a brain tonic, laxative, good for earache and liver disorders. The flowers and leaves are diuretic, emmenagogue; relieve nervous headache and cold swellings.

Mimoceae

- *Acacia modesta* Wall.

Local name: Phalai

Voucher specimen number: GCBM / M2 / 123

The tree yields a gum, which is restorative.

- *Acacia nilotica* (Linn) Delite

Local name: Kikar

Voucher specimen number: GCBM / M2 / 124

Extract from wood is used as astringent in diarrhea and applied in spongy gums.

Mimosaceae

- *Albizia lebbek* (L.) Bth

Local name: Siris

Voucher specimen number: GCBM / M2 / 125

The root is sued in hemicramia. The bark is bitter, cooling, alexiteric, anthelmintic. It cures leucoderma, itching, skin diseases, piles, excessive perspiration, and inflammations. The leaves are good for ophthalmia. The flowers are given for asthma and snake bite.

Moraceae

- *Morus alba* L.

Local name: Toot

Voucher specimen number: GCBM / M2 / 132

The fruit is cooling and laxative. The bark is supposed to be vermifuge and purgative. The root is considered as anthelmintic and astringent.

Myrtaceae

- *Eucalyptus globules* L.

Local name: Suaida

Voucher specimen number: GCBM / M2 / 135

The leaves yield a strong, pungent essential oil, values in medicine as an antiseptic, febrifuge and anthelmintic.

- *Eugenia jambolana* Lam. Var. *Caryophyllifolia*. Du

Local name: Jamen

Voucher specimen number: GCBM / M2 / 136

The bark is digestive astringent to the bowels, anthelmintic, good for sore throat, bronchitis, asthma, thirst, biliousness, dysentery, blood impurities and ulcers. The ash of the leaves is used for strengthening the teeth and the gums. The vinegar from the fruit is toxic, astringent, carminative, and useful in the diseases of spleen. The seed is astringent and diuretic.

Nyctaginaceae

- *Boerhaavia procumbens* Elegans Choisy

Local name: Itsit

Voucher specimen number: GCBM / M2 / 139

The leaves have a sharp taste and are appetizer, alexiteric; used in ophthalmia, eye wounds and pain of the joints. The seeds are toxic, expectorant, carminative, and useful in muscular pain, lumbago scabies, hasten delivery. The root is well known for its diuretic properties. It is also very good expectorant.

- *Mirabilis jalapa* L.

Local name: Gul-e-abas

Voucher specimen number: GCBM / M2 / 141

The leaves have a very sharp taste, maturant, lessen inflammations. The root is aphrodisiac, good for syphilitic sores. The root is used as a purgative. The leaves are applied to boils, phlegmons and whitlow as maturant.

Oleaceae

- *Olea ferruginea* Royle

Local name: Kahu

Voucher specimen number: GCBM / M2/ 144

The root is a good application for scorpion sting. Its ashes are useful in rheumatism and diseases of the brain. The fruit is toxic, emmenagogue, appetizer, useful in biliousness, liver complaints scabies, thirst, burning of the eye, and caries of the teeth, toothache. The oil has a bad taste, purgative, toxic, and alexiteric, useful in griping, liver troubles, pains in the joints, rheumatism and good for old people.

Oxalidaceae

- *Oxalis corniculata* L.

Local name: Khat Kurla

Voucher specimen number: GCBM / M2 / 145

The herb is hot and bitter; easy to digest and a good appetizer; astringent cures dysentery and diarrhea, also cures skin diseases and fevers. An infusion of the small leaves is given as a cooling medicine in fevers. It is used externally to remove warts and opacities of the cornea.

Papilionaceae

- *Dalbergia sisso* Roxb

Local name: Shisham

Voucher specimen number: GCBM / M2 / 150

The bark and wood are bitter, hot, acrid, aphrodisiac, abortifacient, expectorant, anthelmintic and antipyretic allays thirst, vomiting, burning sensation, cures skin diseases, troubles of the anus, ulcers, and diseases of the blood, leucoderma, dyspepsia and dysentery. The juice of the leaves is good for anthelmintic, enriches the blood, good for diseases of the eye and the nose. It is used in scabies, burning sensation of the body, scalding urine, syphilis, and stomach troubles.

- *Pongania pinnata* (L.) Merill

Local name: Sukhechein

Voucher specimen number: GCBM / M2 / 155

The decoction of leaves and barks is used as bath for fever. The oil is used for the cure of skin diseases and rheurnatism.

Poaceae

- *Avena sativa* L.

Local name: Jai

Voucher specimen number: GCBM / M2 / 165

The seeds are nerve tonic, stimulant and antispasmodic. Avena forms an important restorative in nervous prostrations and exhaustion after all febrile diseases, and as a tonic in sprmatorrhoea and insomnia. It seems to exert a very beneficial action upon the heart muscles and on the urinary organs speeding relieving spasmodic conditions of bladder and ureters.

Polygalaceae

- *Polygala chinensis* L.

Local name: dale

Voucher specimen number: GCBM / M2 / 184

The roots are given in case of fever and dizziness.

Polygonaceae

- *Polygonum plebejum* R. Br

Local name: Hind rani

Voucher specimen number: GCBM / M2 / 186

The plant is dried, powdered and taken internally in pneumonia. The locals used the root in bowel complaints.

- *Rumex dentatus* Lissp. Klotschianus (Meissn.) Rech.f

Local name: Chora Chitra

Voucher specimen number: GCBM / M2 / 187

The root is used as an astringent application in cutaneous disorders.

- *Rumex hastatus* D. Don

Local name: *Salumi*

Voucher specimen number: GCBM / M2 / 188

The juice of the plant is considered cooling, aperient and to a certain extent diuretic.

Portulaceae

- *Portulaca oleracea* L.

Local name: Qulfa / Saag

Voucher specimen number: GCBM / M2 / 189

The leaves are sour, bitter, saltish, recommended in bilious conditions and low fevers; allay thirst and headache, tonic stops vomiting, good in diseases of kidney and the spleen, in stomatitis of children, piles, scabies and burns.

The herb is chiefly valued as a refrigerant and alterative pot herb. The seeds are believed to be vermifuge. Leaves are also applied to swellings.

Primulaceae

- *Anagallis arvensis*

Local name: Leh

Voucher specimen number: GCBM / M2 / 190

The herb cures inflammation, sores pain in the liver and the kidney, ophthalmia, kertistis, dropsical, swellings, improve eye sight, antidote to viperine poison; the juice as an errhine removes bad smell and secretion. It is used in cerebral affections, leprosy, hydrophobia, dropsy, epilepsy and mania.

Rhamnaceae

- *Zizyphus jujuba* Mill

Local name: Ber

Voucher specimen number: GCBM / M2 / 194

The root cures biliousness, headache. The bark cures boils, good in dysentery and diarrhoea. The leaves are bitter and cooling, diarrhoea, antipyretic, reduce obesity. The ripe fruit is tonic, laxative, invigoratory, removes biliousness, burning sensation, thirst, vomiting, good in consumption and blood diseases.

Rosaceae

- *Rosa indica* (Willd) Koehne

Local name: Gulab

Voucher specimen number: GCBM / M2 / 196

The fruit are used as an application to wounds, sprains injuries and foul ulcers. The root is bitter and astringent, used as a tonic and anthelmintic. The leaves are considered a good vulnerary.

Salvadoraceae

- *Salvadora oleoides* Dene

Local name: Pilu

Voucher specimen number: GCBM / M2 / 201

The fruit has a sharp, pungent, acrid and sweet sour taste with a flavor, appetizer, laxative, carminative, alexipharmac, useful in piles, tumors, bronchitis, diseases of the spleen, ascites. The root bark is used as a vesicant.

Sapindaceae

- *Dodonea viscosa* (L.) Jacq

Local name: Samath

Voucher specimen number: GCBM / M2 / 202

The leaves of this shrub are viscid, and have a somewhat sour and bitter taste. It is believed that the powdered leaves applied over a wound will heal it without leaving a whit scar. The leaf is said to be useful in rheumatism and to possess febrifugal properties. Leaves are used as a febrifuge; the wood in decoction is an astringent bath or fermentation.

Scrophulariaceae

- *Verbascum thapsus* Linn

Local name: Gadar tambakoo / Lootsela

Voucher specimen number: GCBM / M2 / 204

The leaves are anodyne narcotic to fish, useful in chest complaints gout, rheumatism, and diarrhea, cough, used externally as an emollient. The leaves, flowers and roots are demulcent, astringent and pectoral. Both leaves and flowers are useful in case of pulmonary diseases, cough, bleeding of the lungs and bowels.

Solanaceae

- *Datura innoxia* Mill

Local name: Dhatura

Voucher specimen number: GCBM / M2 / 207

The drug prevents hydrophobia. The leaves are useful as local application in rheumatism. The juice of the leaves is a good substitute for the Bella-Dona. An extract made from the seeds is a good mydriatic, and the leaves are used as emollient and supportive.

- *Solanum incanum* L.

Local name: Janglee baingan

Voucher specimen number: GCBM / M2 / 210

The root is said to be used as a medicine for horses. It is used as a remedy for toothache and sore throat. It is also used for pleurisy and pneumonia.

- *Solanum nigrum* L.

Local name: Mako

Voucher specimen number: GCBM / M2 / 211

The berries are oleaginous, bitter, pungent, alterative, aphrodisiac, toxic, diuretic, improve appetite and taste, useful in diseases of heart and eye, in pain, piles inflammation. The root bark is laxative, Used in diseases of ears, the eyes and the nose.

- *Solanum surrattense* Burn F.

Local name: Mokri

Voucher specimen number: GCBM / M2 / 212

Root is used in cough, asthma, and catarrh. Fruit and root are both demulcent and expectorant.

- *Withania coagulans* Dunal

Local name: Akri

Voucher specimen number: GCBM / M2 / 213

The fruit is applied to wounds, used in asthma, biliousness and stranguary. The seeds are emmenagogue, diuretic, useful in lumbago, ophthalmia, lessen the inflammation of piles, cures liver troubles.

- *Withania somnifera* (L.) Dunal

Local name: Asgand

Voucher specimen number: GCBM / M2 / 214

The leaves are applied to tumors and to tuberculosis glands. The tuber has a bitter, sharp, acrid, tonic, useful in inflammations, bronchitis, asthma, consumption and ulcers. The tuber is slightly bitter, toxic, aphrodisiac, good in asthma, inflammation, leucoderma, bronchitis, lumbago arthritis, favors conception.

Tamariaceae

- *Tamarix aphylla* (L.) Karst

Local name: Ghaz

Voucher specimen number: GCBM / M2 / 215

The galas are applied as an astringent. The bark is bitter, astringent, powdered and in combination with oil and Kanala, it is used as an aphrodisiac. It is also employed as an application in eczema capitis and other diseases.

Tiliaceae

- *Grewia asiatica*

Local name: Dhaman

Voucher specimen number: GCBM / M2 / 218

The ripe fruit is useful for cooling, digestible, toxic; aphrodisiac allays thirst and burning sensation, cures inflammation, heart and blood disorders, fever and consumption. It is also good for troubles of the throat, helps removal of dead fetus. The bark cures biliousness, removes troubles and burning in vagina.

Zygophyllaceae

- *Peganum hermala* L.

Local name: Harmal

Voucher specimen number: GCBM / M2 / 226

Hermaline and hermine obtained from seeds are employed for the treatment of 'parkinsonium'. The seeds are narcotic antispasmodic, hypnotic, anodyne, nauseant, emetic and emagogue

- *Fagonia cretica* L. Var *arabica* T. anders

Local name: Dramah

Voucher specimen number: GCBM / M2 / 225

The plant cures fever, dysentery, urinary discharges, erisepsis, typhoid, alexipharmac, reduces tumors, and purifies the blood. The plant is acrid and bitter, cooling, emmenagogue, good for liver troubles, in chronic bronchitis, asthma, spitting of blood, ophthalmia and toothache. The bark is used in scabies.

- *Tribulus terrestris* L.

Local name: Bhakra

Voucher specimen number: GCBM / M2 / 227

The root and fruit are sweetish, cooling, tonic, aphrodisiac, alterative, improve appetite, useful in strangury, urinary discharges, vascular calculi, pruritus, cough, asthma, pain, cure skin and heart diseases, piles leprosy. The seeds are cooling, flattening, diuretic, aphrodisiac remove inflammations, urinary troubles, and stones from bladder.

Discussion

The use of plants for various therapies is considerably higher in remote areas than in urban and semi urban areas. In this study a total of 81 species have been documented for various properties around the motorway. These plants are used to treat approximately 25 types of discomforts. Among various classes of indigenous uses, all across the globe, various types of gastrointestinal disorders are predominant, and a sizeable number of plant species have been discovered to cure such illness across different ethnic communities (Ankli *et al.*, 1999; Bennett & Prance, 2000). Similarly herbal use has also been reported by the Yanomami Indians of Brazil, where the healers use about 11

species of plants in curing snakebites (Milliken & Albert, 1997). Present study demonstrated that these plants are used under the direction of traditional healers otherwise they may cause serious effect or damage. For example the juice, *Cyperus nieviens* is dropped in the eyes; however varied concentrations and dosage can cause serious problems. Three plant species *Acyranthes aspera*, *Albizia lebek*, *Verbena officinalis* are used against snakebites. There is a definite treat that certain medicinal plants are endangered due to their small population, size, habitat specificity, habitat alteration, and present development activities. However study ascertains the value of great number of plants used in medicine, which could be of considerable interest to the development of new drugs. Similarly conservation of medicinally valuable plant species has become imperative (Dhar *et al.*, 2000) due to increasing interest in herbal medicines for health care all across the globe (Franz 1993).

References

Ankli, A., O. Sticher and M. Heinrich. 1999. Medical ethno botany of the Yucatec Maya: Healers consensus as a quantitative criterion. *Economic Botany*, 53: 144-160.

Balck, M.J. 1996. Transforming ethnobotany for the new millennium. *Annals of the Missouri Botanical Garden*, 83: 58-66.

Bennett, B.C. and G.T. Prance. 2000. Introduced plants in the indigenous pharmacopeias of northern South America. *Economic Botany*, 54: 90-102.

Dhar, U., R.S. Rawal and J. Upadhyay. 2000. Setting priorities for conservation of medicinal plants-a case study in the Indian Himalaya. *Biological conservation*, 95: 57-65.

Franz, C. 1993. Domestication of wild growing medicinal plants. *Plant research and development*, 37: 101-111.

Goodman, S.M. and A. Ghafoor. 1992. The Ethnobotany of southern Balochistan, Pakistan, with particular reference to medicinal plants. *Fieldiana: Botany*, New Series, 31, 1.V-II.84.

Hocking, G.M. 1958. Pakistan medicinal plants I, Qualitas Plantarum Et Material vegetabile, 5: 145-153.

Hocking, G.M. 1962. Pakistan medicinal plants IV, Qualitas Plantarum Et Material vegetabile, 9: 103-119.

Leoprotti, M.L. and E. Lattanzi. 1994. Traditional Phototherapy on Coastal areas of Makran (Southern Pakistan). *Fitoterapia*, 65(2): 158-161.

Malik, S., M. Shah and Q. Marwat. 1990. *Ethnobotanical evaluation of Valuable plants of Balochistan, Pakistan*. Project no.123. Pakistan Science Foundation, Pakistan.

Milliken, W. and B. Albert. 1997. The use of medicinal plants by the Yanomami Indians of Brazil, Part II. *Economic Botany*, 51: 264-278.

Shinwari, M.I. and M.A. Khan. 2000. Folk use of medicinal herbs of Margalla Hills National Park, Islamabad. *Journal of Ethno pharmacology*, 69: 45-56.

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