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Wild Medicinal Plants of Cholistan Area of Pakistan

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Abstract: This communication reports the findings of survey of medicinal plants found in barren Cholistan area of Pakistan. Information is presented about 71 species belonging to 23 families which are common and widespread in the different wild and barren lands together with information on the use by local inhabitants and professional workers.

Key words: Medicinal plants, Cholistan, Pakistan

Introduction

The majority of the population of Asian countries, especially those living in villages, use indigenous plants to cure the different diseases. Systematic scientific investigations, particularly during the current century, required because of search for potentially new medicines and economic plants and the need for conservation and utilization of plants resources (Rajput *et al.* 1991; Rahman, 1983). Ayensu (1979) and Rajput *et al.* (1991) reported 443 and 44 species of plants respectively having medicinal values, occur in various arid regions and semi arid regions of the world. Similarly Farooq (1990) listed 185 medicinal plants species used by ten leading Dawakhana in Pakistan. It is estimated that they together consume about 63 thousand Kg of plant material annually.

In Cholistan desert, there are plants which are commonly used by the local people for the treatment of various diseases. The Cholistan desert of Pakistan, often attract public attention due to drought and primitive vegetation.

The wild vascular flora of the Cholistan desert of Pakistan includes many species, of which many are definitely of some medicinal importance. While data yet complete to present an adequate overview of all the flowering species found in the Cholistan desert area, Ashraf *et al.* (2000) had given some information on the medicinal plants of Cholistan. This information has been based on traditional usage by the inhabitants of the region and evidence gathered by professional workers.

The species surveyed and described in this paper are common and widespread in the Cholistan desert and are acclaimed to be efficacious in various ailments. This paper offers suggestion for recovery and synthesis of new compounds from these plants, that could be helpful to provide better medical care and generate new venues for research by Pharmaceutical industries.

Materials and Methods

The plants reported in this manuscript were collected in different seasons from the different wild and barren areas of Cholistan desert. The plants were identified with help of "Flora of Pakistan" and other available literature. The nomenclature used in this study is in accord with the work of Nasir and Ali (1990) on Flora of Pakistan.

Local name of the plants have been recorded from the local people, or derived from the published work (Ashraf *et al.* 2000; Chaudhari and Chuttar, 1966; Bhandhari, 1978; Ayensu, 1979; Tewari, 1979; Ali, 1983; Baqar, 1989; Farooq, 1990). The information on medicinal uses of these plants and on the methods of their use were also gleaned from the local inhabitant and the literature.

Description of plants and their medicinal uses

Family: Acanthaceae

Botanical Name: *Blepharis indica* Linn.

Local Name: Asad

The plant is boiled in goat milk and is taken as a tonic for general weakness. It is given to the cattle for greater milk production.

Family: Acanthaceae

Botanical Name: *Barleria prionites* Linn.

Local name: Karunta

Leaves, stem, root, used to treat catarrhal affections, boils, toothache, paste of leaves used in hot poultices, also used in steam baths to cure stiffness of limbs, sciatica and enlargement of the scrotum.

Family: Amaranthaceae

Botanical Name: *Achyranthus aspera* Linn.

Local Name: Puth Kanda

Plant extract in boiled water is taken against pneumonia. It is also used for the removal of kidney stone.

Family: Amaranthaceae

Botanical: *Aerva javanica* (Burn.f.)

Local Name: BioKalan

The inflorescence and seeds are said to be prophylactic against rheumally excessive menstruation. It is also used as a cure for dysentery.

Family: Amaranthaceae

Botanical Name: *Amaranthus trilocular* Linn.

Local Name: Lal Beg, Lal Sag.

It is used against stomach pain in children and to control abnormally excessive menstruation. It is also used as a cure for dysentery.

Family: Apocynaceae

Botanical: *Wrightia tinctoria* R. Br.

Local Name: Svtakutaja

Bark, seeds, stem, used as tonic and aphrodisiac.

Family: Asclepiadaceae

Botanical Name: *Calotropis procera* (Ait) Ait

Local Name: Ak

The milky juice is used as a cure for cough. The young fresh leaves are used as bandage for rheumatic joint. The dried bark and leaves are used for smoking in water pipes (Fluka) for asthma and cough. The milky latex contain calotropin, uscharin, calotxin and calactin.

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Family: Asclepiadaceae
 Botanical Name: *Sarcostemma viminalis* (Linn.) R. Br.
 Local Name: Soma
 The roots called satar is ground and applied to snake bite and an infusion of it is taken as a remedy against mad dog bite. The stem is used to extirpate white ants.

Family: Asclepiadaceae
 Botanical Name: *Sarcostemma acidum* (Roxb)
 Local Name: Soma, Khir khimp
 stem, root, whole plant, alternative cooling agent. Voigt.

Family: Ateraceae
 Botanical Name: *Pulicaria crispa* Benth.
 Local Name: Bul
 The bruised leaves are applied to the head to relieve headache.

Family: Ateraceae
 Botanical Name: *Dicoma tomentosa* Cass
 Local Name: Vajrdanti
 Root, plant, used as a febrifuge, for putrescent wounds and roots used as toothbrush.

Family: Boraginaceae
 Botanical Name: *Heliotropium eichwaldi* Steud.
 Local Name: Uthchara
 The leaves rolled up and put into the ear are said to cure earache.

Family: Boraginaceae
 Botanical Name: *Heliotropium strigosum* Wild.
 Local Name: Kali Bui
 Plant, used as a laxative and for pain in limbs, sore eyes, foils, ulcers and wounds.

Family: Burseraceae
 Botanical Name: *Commiphora wightii* (Arm)
 Local Name: Guggle, Gugal, Bhandari.
 Root is the source of a very important drug known as "gugal" or Idian Bellium, a gum-resin that exudes from the branches. It largely used as an incense, in medicine and perfumery. It is also used to adulterate myrrh. The gum is used medicinally. It so forms one of the ingredients of incense. It is used as a tooth brush and is said to strengthen the gums and as a cure, for indigestion, urinary discharges, urinary concretions, mcoderma, tumors, inflammations, tubercular glands in the neck, tridosha. It has also been reported useful in ascites, asthma, troubles of the chest and for bad discharge from ears. The gum is demulcent, aperient, carminative and especially useful in nervous disease, scrofulous affectious, urinary, disorders and skin diseases. It is also said to regulate mansturation.

Family: Burseraceae
 Botanical Name: *Boswellia serrate* Roxb. ex
 Local Name: Shallaki
 Plant, gum, diaphoretic, diuretic, for rheumatism, Colebr. virous disorders and skin diseases.

Family: Cactaceae
 Botanical Name: *Opuntia elation* Mill.
 Local Name: Vidara, Thuar.
 Plant, leaves, plant are antibiotic and used for whooping cough, as a purgative and for ophthalmia.

Family: Caesalpiniaceae
 Botanical Name: *Cassia senna* Linn.
 Local Name: Senna-i-mkki
 It is an effective laxative drug used commonly as medicine by the local druggists. Dried leaves are valuable having cathartic properties and are used in biliousness, gout, rheumatism, skin diseases and against intestinal worms. The roots and the leaves are also used in rheumatic pain, the pods are cathartic.

Family: Cappataceae
 Botanical Name: *Capparis decidua* (Forsk.) Edgew.
 Local Name: Karira
 Leaves, bark, fruit and root used for boils, swellings, cough, asthma, cardiac troubles, rheumatism and as diaphoretic.

Family: Capridaceae
 Botanical Name: *Capparis decidua* (Forsk.)Edgow
 Local Name: Kirrar or Kiral
 Carminative and aphrodisiac tonic are prepared from its bark. It improves the appetite and is good for the treatment of rheumatism, lumbago, cough and asthma. The young shoots are very efficacious in relieving toothache, when chewed. The fruit is edible and have anti-diahoric property. It is said that juice of the stem is good for the growth of hairs on the bald head; moreover it has anti-dandruff effect.

Family: Capridaceae
 Botanical Name: *Cleome brachycarpa* Vahl ex. DC.
 Local Name: Ponwar, Kasturi
 The leaves of the plant are very bitter in taste; it is considered good for skin disease caused by mites, marked by itching, rheumatism and inflammations. Leaves are said to be beneficial in leucoderma (Unani). Plant is considered as a useful medicine for persons suffering from heat, it is also used to cure worms in camel's nose.

Family: Capridaceae
 Botanical Name: *Gyandropsis gynnandra* Linn. (Brig.)
 Local Name: Hurhuria, Karalia.
 The roots are said to cure stomachache, good in ascites, tumors, ulcers, pain, spleen enlargement and bilious fevers. The leaves are applied externally to boils to prevent the formation of pus. In Indo-China the plant is used as an anti-scorbutic. The green leaves applied to the skin and said to be useful against blister. Leaves are also used against rheumatism. The seeds are also given for stomach.

Family: Celastraceae
 Botanical Name: *Maytenus senegalensis* (Lihn.) Exell
 Local Name: Hekel, Malkagni.
 The roots and bark is used locally to treat dysentery. An oil extract from the seed is known as Oleum Nigrum or Black Oil having some medicinal values. Leaves ashes mixed with Ghee form an ointment used to heel sore.

Family: Chenopodiaceae
 Botanical Name: *Haloxylon recurvum* (Moq.) Gunge ex Boiss.
 Local Name: Khar
 Plant, used to treat intestinal ulcers.

Family: Convolvulaceae
 Botanical Name: *Cressa cretica* Linn
 Local Name: Rudanti, Bokari
 Leaves, root, seeds, used as tonic, aphrodisiac, expectorant and antibilious medication.

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Family: Cucurbitaceae
 Botanical Name: *Citrullus colocynthis* (Linn.)
 Local Name: Mahendra varuni
 Seeds, roots, used as a purgative and for ascites, Schrad. jaundice and rheumatism.

Family: Elatinaceae
 Botanical Name: *Bergia suffruticosa* (Delile)
 Local Name: Rohwan Fenzl.
 It is used in cleaning teeth and applied to broken bones. The leaves rubbed down in water were used as a poultice for sores.

Family: Euphorbiaceae
 Botanical Name: *Euphorbia caducifolia*
 Local Name: Thor, Haines
 Young branches, smoke from burning of young twigs inhaled to cure asthma.

Family: Euphorbiaceae
 Botanical Name: *Euphorbia neriiifolia* Linn.
 Local Name: Danda Thor
 The milky juice is used as a cure for cough and is applied to the skin as cure for blister.

Family: Euphorbiaceae
 Botanical Name: *Phyllanthus nirurii* Linn.
 Local Name: Bhui amla
 The roots pounded and mixed with commiphora nukui is given to camels suffering from indigestion.

Family: Euphorbiaceae
 Botanical Name: *Ricinus communis* Linn.
 Local Name: Arand, Arandi
 The seeds are counter irradiant; used in the scorpion sting and as fish poison. The seed oil (Caster oil) is used as a purgative. Leaves are applied as poultice to boils and relieve pain from joints. The seeds is used as contraceptive (for family planning).

Family: Fabaceae (Leguminosae)
 Botanical Name: *Acacia nilotica* Linn.
 Local Name: Kikar, Babul
 Young leaves are applied to sore eyes in children and also used against the asthma.

Family: Fabaceae (Leguminosae)
 Botanical Name: *Acacia senegal* (Linn.) Wind.
 Local Name: Svetakhadira, Khair.
 Plant gum, used as a demulcent and emulsifying agent to treat skin inflammations.

Family: Fabaceae (Leguminosae)
 Botanical Name: *Butea monosperma* (Lamk.) Taub.
 Local Name: Palasha
 Plant, flowers, seeds, used as an astringent and anthelmintic, for checking roundworms and tapeworms.

Family: Fabaceae (Leguminosae)
 Botanical Name: *Crotalaria burhia* Buch-Ham
 Local Name: Shimio
 Branches, leaves, used as a coolant.

Family: Fabaceae (Leguminosae)
 Botanical Name: *Crotalaria medicagenia* Lamk
 Local Name: Gugario
 whole plant, used as a tonic.

Family: Fabaceae (Leguminosae)
 Botanical Name: *Dichrostachys cinerea* (Linn.)
 Local Name: Viravriksha
 Root, stem, used as an astringent and to treat rheumatism and eye diseases.

Family: Fabaceae (Leguminosae)
 Botanical Name: *Mimosa rubicaulis* Lamk.
 Local Name: Shiah-kanta
 Leaves, roots, plant, used to treat piles and applied to burns, root ash powder used to check vomiting.

Family: Fabaceae (Leguminosae)
 Botanical Name: *Mimosa hamata* Willd.
 Local Name: Arati, Arkar.
 It is use as a tonic for weakness.

Family: Fabaceae (Leguminosae)
 Botanical Name: *Prosopis cineraria* (Linn.)
 Local Name: Sharni, Khejri, Jand, Kandi.
 Flowers, fruits, bark, branches, used to treat rheumatism and by women during pregnancy as a safeguard against miscarriage.

Family: Fabaceae (Leguminosae)
 Botanical Name: *Prosopis glandulosa* Torr.
 Local Name: Devi
 The paste prepared by grinding of leaf and fruits is applied to relieve the pains of broken bones. This paste is also use for sores caused by nails, prickles or other sharp objects.

Family: Flacourtiaceae
 Botanical Name: *Flacourtia sepiaria* Roxb.
 Local Name: Pracinamaloka
 Root, bark, leaves, used for snake bite and as a liniment for gout and rheumatism.

Family: Flacourtiaceae
 Botanical Name: *Securinega leucopyrus* (Willd) Muell
 Local Name: Svetakamboja
 Leaves, whole plant, used to destroy worms in sores and as fish poison.

Family: Gentianaceae
 Botanical Name: *Enicostemma hyssopifolium* (Willd) Verdoorn
 Local Name: Nandho, Chirayata
 The plant is crushed and applied locally against snake bite. It has some medicinal value.

Family: Labiatae
 Botanical Name: *Ocimum sanctum* Linn.
 Local Name: Tulsi
 The seeds are taken with milk as a tonic and decoction of them with Potash in water is used as cooling drink in fever. A bunch of plant hug in the corner of a room to attract the mosquitoes. The juice of the leaves is applied on Catarrhal affection in children; juice of the leaves is also used for the treatment of ring worms in kids.

Family: Lamiaceae (Labiatae)
 Botanical Name: *Leucas cephalotus* (Roth.) Sprang
 Local Name: Gono
 whole plant, used to treat fever and pain in joints.

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Family: Lamiaceae (Labiatae)
 Botanical Name: *Leucas utricaeifolia* Vahl.
 Local Name: Paniharai
 Whole plant, used to treat colds, fever and gastrointestinal troubles.

Family: Menispermaceae
 Botanical Name: *Anamitra cocculus* Linn.
 Local Name: Kakamari
 Whole plant, fruit, used for the treatment of inflamed surfaces and as fish poison, fruit used as an antidote for poisoning, occurrence of picrotoxin reported.

Family: Menispermaceae
 Botanical Name: *Cocculus pendulus* (J.R.A. G. Forst) Dials.
 Local Name: Llarbillar
 The juice of the leaves mixed with water has the property of coagulating into green jelly like substance which is taken orally with sugar as a tonic. The roots and leaves are used in rheumatic pains. Leaves have the property of preventing the milk from becoming sour and it also thickens the milk.

Family: Molluginaceae
 Botanical Name: *Mollugo nudicaulis* Lamk.
 Local Name: Rangatio khar
 Leaves, whole plant, applied to boils to draw out pus and used for whooping cough and athrepy.

Family: Papaveraceae
 Botanical Name: *Argemone mexicana* Linn.
 Local Name: Peela Ohatoora Sial kanta
 The juice is used in eyes infection and a rheumatic pains. The juice of the plants is used in drowsy, jaundice, skin disease and snake bites.

Family: Papilionaceae
 Botanical Name: *Alhaji camelorum* Fisch
 Local Name: Athariyum, Farakiyan, Javasa. Kas, Kashandero, Usturkhar.
 It is good for the removal of excess fat and is used to cure the brain afflictions, Leprosy, skin disease and bronchitis. It allays thirst, improves appetite and is useful epistaxis. Arail from the leaves is used for rheumatism. The flowers are good for piles. The plant is aperient cholagogue, expectorant diuretic, fattening and aphrodisiac. It purifies the blood, stop vomiting and small pox eruptions. The plant is smoked with black Dhatora, tobacco and ajwain seeds as a remedy for asthma. A decoction of the roots is made and used externally for swellings.

Family: Pedaliaceae
 Botanical Name: *Pedaliium murex* Linn.
 Local Name: Wilayati gokhru, Bara gokhru, Farid buti.
 It has the property of thickening water, leaves and branches, when briskly stirred in cold water yield a thick mucilage similar to the white of raw egg. The fruit is said to be antiseptic, aphrodisiac and diuretic.

Family: Poaceae (Gramineae)
 Botanical Name: *Chionachne koenigii* (Sprang) Thw.
 Local Name: Kanda.
 Whole plant, toxic, emetic, used to treat diseases of the blood, biliousness and hemorrhagic diathesis.

Family: Poaceae (Gramineae)
 Botanical Name: *Cymbopogon jwarancusa* (Jones) Schutt,
 Local Name: Lamajjaka.
 Root, whole plant, used to purify blood, as a tonic and to treat cough and rheumatism.

Family: Poaceae (Gramineae)
 Botanical Name: *Desmostachya bipinnata* (Linn.) Stapf.
 Local Name: Darbha.
 Plant used to treat dysentery and menorrhagia and as a stimulant.

Family: Rhamnaceae
 Botanical Name: *Zizyphus nummularia* (Burm.f)Wt.
 Local Name: Badari.
 Leaves, fruits, roots, used for curing scabies, boils, bilious affections, old wounds and ulcers.

Family: Rubiaceae
 Botanical Name: *Morinda citrifolia* Linn.
 Local Name: Ashyuka.
 Root, leaves, fruits, stimulant, used for fever, epilepsy, rheumatism, diseases of the liver and spleen, dysentery and leukorrhea.

Family: Salvadoraceae
 Botanical Name: *Salvadara oleoides* Decne.
 Local Name: Pilu,
 Fruits, leaves, seeds, used as a purgative aphrodisiac and for treating rheumatism.

Family: Salvadoraceae
 Botanical Name: *Salvadora persica* Linn.
 Local Name: Brihatpilu, Khabar Pilu.
 Leaves, bark, fruits, used to treat asthma, cough, rheumatism and as a stimulant and tonic.

Family: Simaroubaceae
 Botanical Name: *Ailanthus excelsa* Roxb.
 Local Name: Mahanimba.
 Bark, used as febrifuge and tonic for chronic bronchitis, diarrhea and dysentery, ailantic acid present, decoction of leaves used in menstrual disorders.

Family: Simaroubaceae
 Botanical Name: *Balanites aegyptiaca* (Linn.)
 Local Name: Ingudi, Hingot.
 Seeds, bark, whole plant, used to treat cough and colic and as antihelmintic and purgative, juice used as fish poison, whole plant used for snake bite, plant ash used for dermatosis, urinary diseases and for rejuvenation, a source of diosgenin.

Family: Solanaceae
 Botanical Name: *Lycium depressum* Stocks
 Local Name: Chirchita, Ganger.
 The leaves pounded and mixed with ghee are applied to abscesses. The bark of the wood is pounded and the powder is blown into the nostrils of horses for treating bronchitis. The berries are aphrodisiac.

Family: Solanaceae
 Botanical Name: *Solanum albicaule* ex Dunal.
 Local Name: Kotschly Katyia.
 The water in which crushed plant has been boiled is taken against the ulcers.

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Family: Solanaceae
Botanical Name: *Solanum surattense* Burm.
Local Name: Kateli, Bhatkatiya, Kundiari, Momoli Mokri.
The plant parts are of medicinal importance, roots, being used variously as an expectorant, juice of berries is useful in sore throat and leaves are applied to relieve local pain.

Family: Tamariceae
Botanical Name: *Tamarix troupii* Hole.
Local Name: Jahuro.
Bark, branches, fruits, used to treat dysentery and as a laxative and expectorant.

Family: Tiliaceae
Botanical Name: *Corchorus depressus* Linn.
Local Name: Bah Phali, Bahu phali, Babuna.
The plant is deemed to help in removing tumors and pains and cures piles. The plant has tonic properties, It is given as a cooling medicine in fevers. The seeds in decoction with milk and sugar are given as a tonic. This plant is sold by the herbalists and Ayurvedic doctors, under the name of Munderi. The leaves are used as an emollient and cooling agent. Mucilage is used for the treatment of the gonorrhoea and a decoction of them is efficacious in skin eruptions.

Family: Tiliaceae
Botanical Name: *Grewia tenax* (Forsk.) Fiori.
Local Name: Gangan.
Wood, stem. used to treat cough and pain in sides.

Family: Verbenaceae
Botanical Name: *Clerodendrum phlomidis* Linn.f.
Local Name: Vataghni.
Root, leaves, whole plant, source of a bitter tonic used for neglected syphilitic complaints.

Family: Verbenaceae
Botanical Name: *Vitex negundo* Linn.
Local Name: Nirgud, Nirgundi.
Its leaves are sometimes used for curing inflammatory swellings of joints and headache. An infusion of the seed is used for the rheumatism of the joint. The leaves are used as tonic and cure for intestinal worms.

Family: Verbenaceae
Botanical Name: *Clerodendrom phlomidis* Linn.
Local Name: Irni, Arni,
The root is given as a demulcent in gonorrhoea. It helps in curing stomach troubles and swelling in cattles. The leaves are applied locally against guinea worm.

Family: Zygophyllaceae.
Botanical Name: *Tribulus terrestris* Linn.
Local Name: Gokhru, Tirkundi.
The plant is used as a diuretic, tonic. The plant is used in painful micturition, urinary disorder cough and heart diseases and stimulant for sexual activity. The aqueous decoction of the whole plant is used in preparation of a medicine, useful in male impotency and in promoting the formation of motile sperms.

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