

Ethnomedicinal Flora of District Mandi Bahaudin, Pakistan

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Abstract: An ethnomedicinal survey was carried out in Phalia, District Mandi Bahauddin, Punjab, Pakistan for documentation of important flora and information from local community about their medicinal uses. The indigenous knowledge of local traditional uses was collected through questionnaire and personal interviews during field trips. Plants with their correct nomenclature were arranged by family name, vernacular name, part use, ethnomedicinal remedies and ethnomedicinal uses. The identification and nomenclature of the listed plants were based on The Flora of Pakistan. A total of 51 plants species were identified by taxonomic description and locally by ethnomedicinal knowledge of people existing in the region. Plant specimens collected, identified, preserved and mounted were deposited in the department of botany, University of Gujrat, Pakistan for future references.

Key words: Ethnomedicinal Survey • Indigenous knowledge • Mandi Bahauddin

INTRODUCTION

Pakistan is a large country enriched with a variety of ecological zones, topographical and regions climates [1]. The flora is, likewise, extremely diverse and highly fascinating. Nearly six thousand species of flowering plants are reported from Pakistan and Kashmir [2]. The history of discovery and use of different medicinal plants is as old as the history of discovery and use of plants for food [3]. Medicinal plants play a key role in traditional health care system both for human and animals. Extracts taken from medicinal plants are also used in allopathic drugs [4].

Unani system is dominant in Pakistan. Ethno medicinal plants use is seen in the remote areas [5]. About 80% population of the world depends on the traditional system of health care [6]. These medicines have less side effects and man can get the herbs easily from nature. Unfortunately the traditional knowledge of herbal plants of communities is fast disappearing from the face of world due to change in traditional culture [1, 7]. The people use around 90% of the medicinal species, who are native to the area in which the plants occur [8]. This is indicative of the vast repository of knowledge of plant medicine that is still available for global use, provided of course that it does not get lost before it can

be tapped or documented. Traditional and indigenous medical knowledge of plants, both oral and codified, are undoubtedly eroding [9].

Keeping in view the importance of medicinal flora, this study was arranged to document and collect Ethnomedicinal *Tibb* and *Ethnomedicinal* knowledge about the wild plants of District Mandi Bahaudin-Pakistan.

MATERIALS AND METHODS

Sample Collection and Preservation: Three field trips were arranged in order to collect information about the Ethnomedicinal *tibb* and ethnomedicinal uses of plants by the local people during 2009 in Phalia District Mandi Bahauddin, Punjab-Pakistan. Standard methods were followed with regard for collection of plant materials, drying, mounting, preparation and preservation of plant specimens described by Nasir and Ali [10]. Voucher specimens of medicinal plants in triplicates were collected, prepared and identified. Plants with their correct nomenclature were arranged alphabetically by family name, vernacular name, ethnomedicinal *tibb* and ethnomedicinal uses. The identification and nomenclature of the listed plants were based on The Flora of Pakistan [11].

Ethnomedicinal Knowledge: A questionnaire method was adopted for documentation of ethnomedicinal knowledge. The interviews were carried out from local community to document local name and ethnomedicinal uses. About 250 informants have been interviewed on random basis. The indigenous medicinal plants having traditional knowledge of utilization among the people have been selected as reference specimens.

RESULTS

During the present study, ethnomedicinal data on 51 plant species were collected. Information regarding their botanical name, vernacular name, family, part used and their ethnomedicinal uses are listed below starting with family name and binomial.

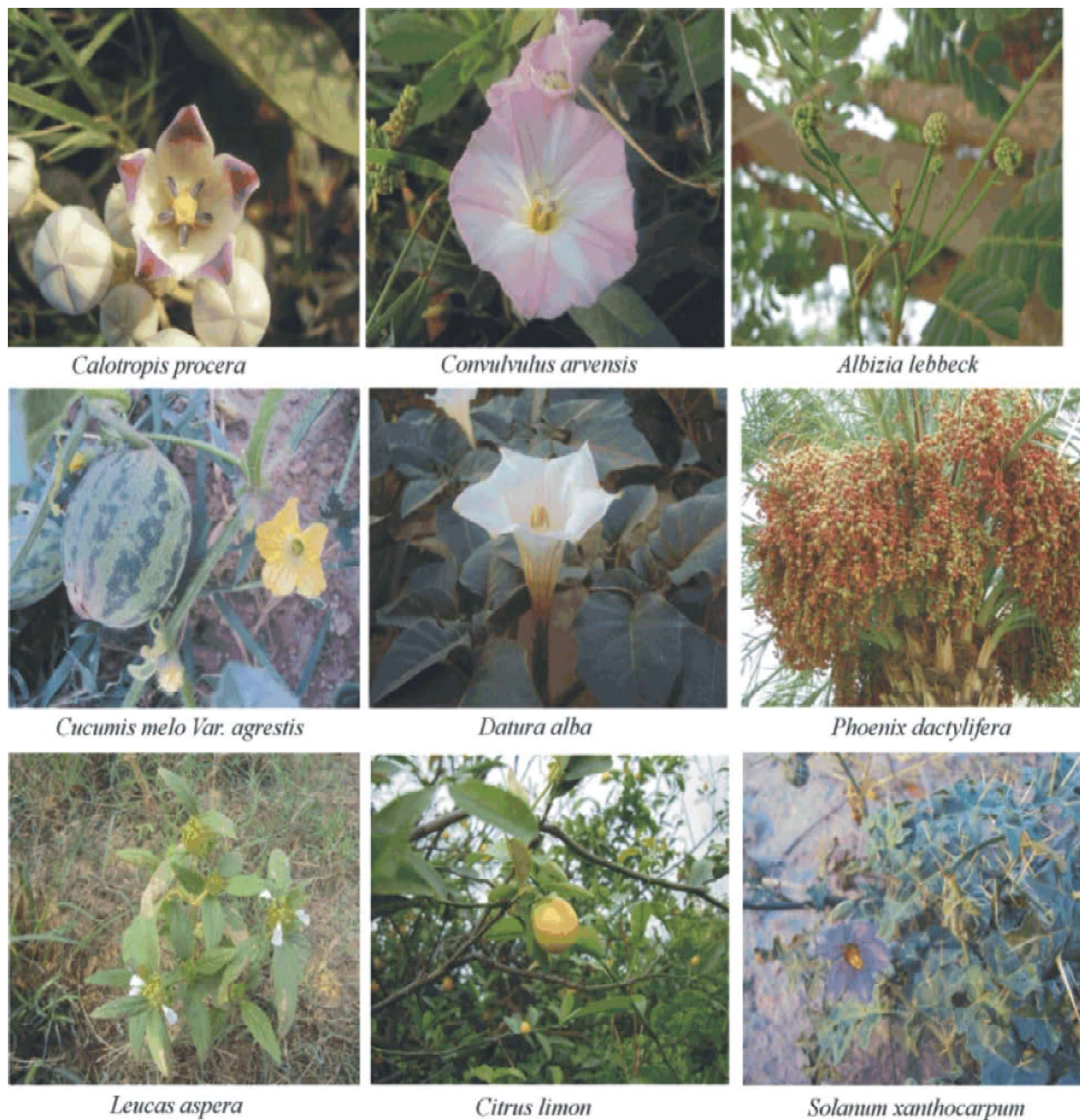


Fig. 1: Pictures of the plants growing in the area

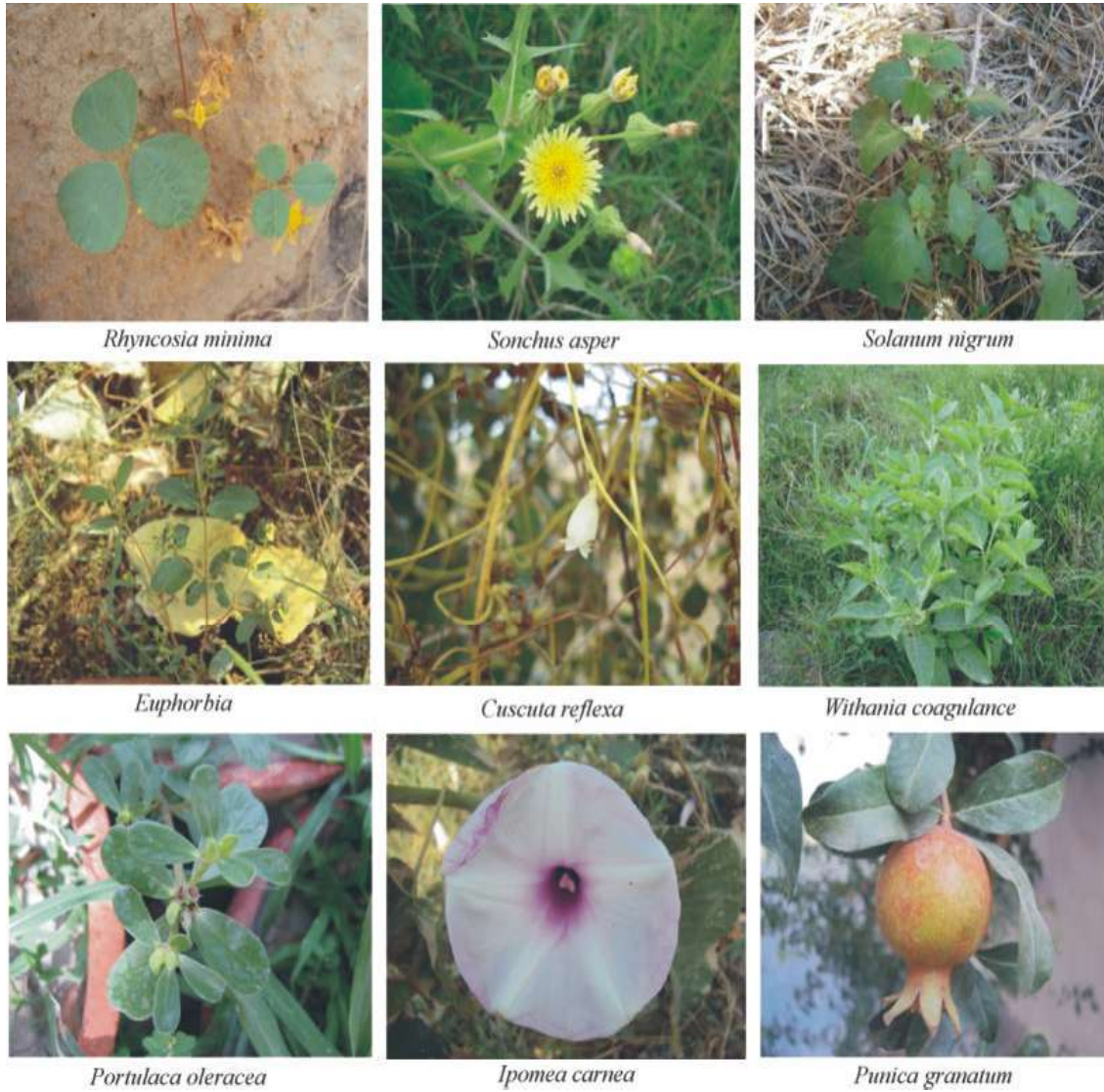


Fig. 2: View of the plants of Mandi Bahuadin District



Fig. 3: Pictures of the plants growing wild

Table 1: Ethanobotanical uses of some wild plants of District Mandi Bahaudin, Pakistan.

Sr. #	Botanical name	Family name	Common name	Part used	Ethnomedicinal use
1	<i>Albizia lebbek</i>	Mimosaceae	Siris	Bark	Inflammations, boils, cough, eye infections, flu, gingivitis, lung problems, pectoral problems, tonic, abdominal tumors, hernia, secondary infertility.
2	<i>Sonchus asper</i>	Asteraceae	Asgandh, dodak	Whole plant	Whole plant is ground and powder is applied on burns. It is diuretic, cooling and sedative. It is useful in cough, bronchitis and asthma
3	<i>Ipomea pes tigridis</i>	Convolvulaceae	Beli	Leaves and Seeds	Skin diseases, Constipation, Vomiting
4	<i>Althernanthera punjens</i>	Amaranthaceae	Haglon/waglon	Leaves,Fruits	Itching.
5	<i>Xanthium strumarium</i> Linn.	Asteraceae	Chhota Dhatura, Cocklebur	Roots, fruit & Seeds	Stomach diseases, demulcent, smallpox and dysentery
6	<i>Leucas aspera</i> (Jacq.) Ait. f.	Lamiaceae	Jhumka booti	Leaves	Gastritis
7	<i>Melilotus parviflora</i>	Papilionaceae	Sainji	Whole Plant and seeds	It is useful in treatments of swellings and bowel complaints.
8	<i>Rhyncosia minima</i>	Fabaceae	Jungli moath	Whole plant	Used for bath after delivery for body care
9	<i>Dodonaea viscosa</i> Jacq	Sapindaceae	Sanatha	Leaf	Stomach acidity and skin allergy
10	<i>Withania coagulens</i> L.	Solanaceae	Chota ak	Fruit & Seed	Digestive disorders, gastritis, diabetes and blood purification
11	<i>Datura innoxia</i> Mill.	Solanaceae	Datura	Seed	Gonorrhoea
12	<i>Vernonia scinerescens</i>	Asteraceae	Simbla	Leaves, Rhizomes	Gastritis, Urinary infections, Male sterility, navel-aches, constipation and internal ulcers
13	<i>Abutilon indicum</i> L.	Malvaceae	Peeli Buti	Leaves and flowers	As a resolvant, analgesic, inflammations, diarrhea, bleeding piles and toothache.
14	<i>Arundo donax</i> L.	Poaceae	Nerra	Leaf & stem	Fever, to treat dysfunctional organs of cattle
15	<i>Tribulus terrestris</i> L.	Zygophyllaceae	Bhakra, Puncture Vine	Seed, Leaf	Back pain, Gonorrhoea, Urinogenital diseases.
16	<i>Tephrosia lupinifolia</i> DC	Fabaceae	Fish Poison	Roots, Leaf, Stem bark	Stomach ache, diarrhea, rheumatism, asthma and urine Jaundice.ary disorders
17	<i>Boerhavia procumbens</i> Banks ex Roxb.	Nyctaginaceae	Itsit	Root	Jaundice
18	<i>Cynodon dactylon</i> (L.)	Poaceae	Khabal, Bahm Grass	Whole Plant	Paste apply externally on eyelids for reducing the swelling and redness of eye, relieve the eye pain, skins injuries or cutting
19	<i>Cyperus rotundus</i> L.	Cyperaceae	Deela	Rhizomes	Fever, diarrhea, dysentery and blood disorders. Tuberos, indigestion, dysentery, cholera, stomachic, diuretic, to cure chronic rores on scale of children and abdomen pain
20	<i>Solanum nigrum</i> L.	Solanaceae	Kainch Mainch, Nightshade	Whole Plant	Used for curing hepatitis, soar throat, abnormal and painful secretions from ears and used as pot herb
21	<i>Withania somnifera</i> (L.) Dunal	Solanaceae	Ak San, Winter Cherry	Whole Plant	Asthma, Rheumatic disorders, insomnia, fever, constipation and eye diseases, painful swellings and ulcer.
22	<i>Citrus limon</i> (L.)Burm.	Rutaceae	Nimboo, Lemon	Fruit	Toothpowder for teeth diseases and in infections
23	<i>Murraya exotica</i>	Rutaceae	Marva	Leaves & roots	Anthelmintic, blood disorders, skin diseases, carminative, purgative, Stomachic, leprosy, diarrhea and dysentery
24	<i>Ziziphus jujuba</i> Mill.	Rhamnaceae	Baer, Jujube	Leaf & fruit	Skin infections where pus is present and iron deficiency
25	<i>Ficus religiosa</i> L.	Moraceae	Pipal, Sacred Fig	Bark	Gonorrhoea
26	<i>Morus nigra</i> L.	Moraceae	Kala Toot, Mulberry	Root, leaf and fruit	Bad thorax, stomach worms
27	<i>Punica granatum</i> L.	Punicaceae	Anar, Pomegranate	Exocarp of fruit	Dysentery and menstrual irregularities
28	<i>Cleome viscosa</i>	Brassicaceae		Leaves, seeds root	Wounds, earaches and ulcers. The seeds are anthelmintic, carminative, stimulant and vesicant
29	<i>Ficus benghalensis</i> L.	Moraceae	Boher, Banyan	Adventitious roots and latex	Gonorrhoea ,chronic flue and influenza
30	<i>Psidium guajava</i> L.	Myrtaceae	Amrood, Guava	Fruit	Improvement of appetite and stomach problems,for old cough, bronchitis and chronic whooping cough
31	<i>Melia azedarach</i> L.	Malvaceae	Dherak, Chinaberry	Leaf and fruit	Skin infection, skin diseases
32	<i>Malva parviflora</i> L.	Malvaceae	Sonchal, Mallow	Leaf & seed	Common Cold, cough and constipation
33	<i>Ricinus communis</i> L.	Euphorbiaceae	Hernoli, Castor oil	Seed and leaf	Constipation, Stomach and bowels problems intestinal swelling, Injuries, make intestine soft, constipation, jaundice, rheumatic swelling,
34	<i>Abutilon indicum</i> (L.) Sweet	Malvaceae	Peeli Booti, Indian Mallow	Leaf and seed	Piles, laxative.
35	<i>Cuscuta reflexa</i> Roxb.	Cuscutaceae	Akash Bail, Dodder	Stem	Paralysis, Hair treatment homeostatic, astringent,diuretic, dysentery and diarrhea
36	<i>Portulaca oleracea</i> L.	Portulacaceae	Kulfa, Purslane, Warkharae	Whole plant	Refrigerants, used in cure liver, kidney, Jaundice, typhoid, iron deficiency and skin allergy. Seeds are demulcent, diuretic and wormifuge
37	<i>Cucumis melo</i> var. <i>agrestis</i>	Cucurbitaceae	Chibbar, Wild Water Melon	Fruit and seed	Dried powdered plant used to treat skin infections, stomach problem
38	<i>Convolvulus arvensis</i> L.	Convolvulaceae	Vahri, Bind Weed	Whole Plant, Leaves	Constipation,control dandruff,piles,skin wounds,Rootsarepurgative

Table 1: Continued

Sr. #	Botanical name	Family name	Common name	Part used	Ethnomedicinal use
1	<i>Albizia lebbek</i>	Mimosaceae	Siris	Bark	Inflammations, boils, cough, eye infections, flu, gingivitis, lung problems, pectoral problems, tonic, abdominal tumors, hernia, secondary infertility.
39	<i>Chenopodium album</i> L.	Chenopodiaceae	Bathu, Goose Foot	Whole Plant	Jaundice, Cooling effect, liver diseases,
40	<i>Amaranthus graecizans</i> subsp. <i>Sylvestris</i>	Amaranthaceae		Phulari	Leaves Inflammations, Piles, Gonorrhoea
41	<i>Calotropis procera</i> (Aiton) W.T. Aiton	Asclepiadaceae	Ak, Sodom's Apple	Whole plant	In the treatment of asthma, gastritis, abdomen diseases, Malaria and Cholera.
42	<i>Dalbergia sissoo</i> Roxb. ex DC.	Mimosaceae	Tali, Rosewood	Bark	Nose bleed
43	<i>Acacia nilotica</i> (L.) Delile.	Mimosaceae	Keekar	Pod	Gonorrhoea
44	<i>Eclipta alba</i> (L.) Hassk.	Asteraceae	Sofed Banghra	Leaf	leaf paste applied to treat allergy, athlete's foot and ringworm
45	<i>Artemisia scoparia</i> Waldst. & Kit.	Asteraceae	Jhahoo, Wormwood	Whole plant	Used as a purgative and in the treatment of burns, to cure earache. It is also used for snake and scorpion bite.
47	<i>Phoenix dactylifera</i> L.	Arecaceae	Khajur, Date	Fruit	General body weakness
48	<i>Aloe vera</i> (L.) Burm. f.	Asphodelaceae	Kwargandal, Aloe	Leaf	Rheumatism, body weakness & in the treatment of diabetics
49	<i>Mangifera indica</i> L.	Anacardiaceae	Aam, Mango	Leaf & Seed	Ear ache, Vomiting
50	<i>Nerium indicum</i> Mill.	Apocynaceae	Kaner, Oleander	Root	Root is ground into powder and used for abortion
51	<i>Achyranthes aspera</i> L.	Amaranthaceae	Puth Kanda, Chaff Plant	Whole Plant	Decoction in water is used for asthma, cough, stomachache, dropsy, piles and skin eruption. It is also used for kidney problems and cough

DISCUSSION

Life and diseases go together, where there is a life, diseases are bound to exist. Dependence and sustainability of men, women, children and animal life were revolving to exist. Traditional uses of natural plants remedies provide potential indicators for biological activities. In the last few decades, there is a resurgence of public interest in medicinal plants and their role in primary health care [12]. Alternative medicine using herbal mixtures is becoming more popular as these are believed to be safer and natural. However, there still exists an immense gap between the local traditional knowledge and modern medical sciences

In this study data on 51 medicinal plant species was presented. Main emphasis was on the traditional plant based remedies which are used through out the area and the correlation between their actions and active chemical constituents which were reviewed by Baquar [8]. It was found that the people of the area had and still have rich heritage of indigenous knowledge related to medicinal plants.

The need for a specific definition of traditional knowledge is impelled by the push from the formal sector to control, manage and market the knowledge and to bring it under a regulatory framework [2]. Traditional knowledge provides useful leads for scientific research, being the key to identifying those elements in a plant with a pharmacological value that is ultimately destined for the international markets. Indeed, such traditional knowledge

is very valuable. Annual global sales of products derived from the manipulation of genetic resources lie between US\$ 500 and US\$800 billion annually [13]. Due to the lack of modern communications, as well as poverty, ignorance and unavailability of modern health facilities, most people especially rural people are still forced to practice traditional medicines for their common day ailments [14]. Most of these people form the poorest link in the trade of medicinal plants [15]. A vast knowledge of how to use the plants against different illnesses may be expected to have accumulated in areas where the use of plants is still of great importance [16]. It is concluded that collaborative work amongst the taxonomists, ethnobotanists, ethnopharmacologists and phytochemists is essential for the productive evaluation of these resources.

REFERENCES

1. Ismail, S. and M.F. Nisar, 2010. Ethnomedicinal survey for important plants of District Lodhran, Punjab, Pakistan. *The Biol.*, 1(3): 52-58.
2. Shinwari, M.I. and M.K. Khan, 1999. Folk use of medicinal herbs of Margalla Hills National Park, Islamabad. *J. Ethnopharmacol.*, 69: 45-56.
3. Ibrar, M., 2002. Responsibilities of ethnobotanists in the field of medicinal plants. In *Proceeding of Workshop on Curriculum Development in Applied Ethnobotany*. Published by the Ethnobotany Project, WWF Pakistan, 34-D/2, Sahibzada Abdul Qayyum Road Peshawar, Pakistan, pp: 16-20.

4. Rashid, A. and M. Arshad, 2002. Medicinal plant diversity, threat imposition and interaction of a mountain people community. In Proceeding of Workshop on Curriculum Development in Applied Ethnobotany. Published by the Ethnobotany Project, WWF Pakistan, 34-D/2, Sahibzada Abdul Qayyum Road Peshawar, Pakistan, pp: 84-90.
5. Ahmad, M., M.A. Khan and R.A. Qureshi, 2003. Ethnobotanical study of some cultivated plants of Chhuchh region (District Attock). *J. Hamdard Medicus*. XLVI (3): 15-19.
6. Ahmad, H., 2005. Issues Regarding Medicinal Plants of Pakistan. *Udyana Today*, 6(3): 6-7.
7. Hussain, K., M.F. Nisar, A. Majeed, K. Nawaz and K.H. Bhatti, 2010. Ethnomedicinal Survey for Important Plants of Jalalpur Jattan, District Gujrat, Punjab, Pakistan. *Ethnobotanical Leaflets*, 14: 807-25.
8. Baquar, S.R., 1989. Medicinal and Poisonous Plants of Pakistan. Printas Karachi, Pakistan, pp: 343-344.
9. Mujtaba, G. and M.A. Khan, 2007. Check list of medicinal plants of Siran valley Mansehra-Pakistan. Leaflet Quaid-I-Azam University, Islamabad-Pakistan, pp: 15.
10. Nasir, E. and S.I. Ali, 2001. Flora of Pakistan National Herbarium, Islamabad. pp: 200.
11. Nasir, E. and S.I. Ali, 1978. Flora of Pakistan. National Herbarium, Islamabad, pp: 1-150.
12. Haq, I., 1983. Medicinal Plants-Report of Committee on Economic and Therapeutic importance of Medicinal Plants. Ministry of Health. Government of Pakistan. Hamdard Foundation Press. pp: 1-13.
13. Kate, K. and S.A. Laird, 1999. The Commercial Use of Biodiversity, Access to Genetic Resources and Benefit-Sharing, Earthscan, London.
14. Azaizeh, H., S. Fulder, K. Khalil and O. Said, 2003. Ethnomedicinal knowledge of local Arab practitioners in the Middle East Region. *Fitoterapia*, 74: 98-108.
15. Khan, A.U., 2002. History of decline and present status of natural tropical thorn forest in Punjab. *Pakistan Biological Conservation*, 63: 210-250.
16. Diallo, D., B. Hveem, M.A. Mahmoud, G. Berge, B.S. Paulsen and A. Maiga, 1999. An ethnobotanical survey of herbal drugs of Gourma district, Mali. *Pharmaceutical Biol.*, 37: 80-91.