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Biodiversity in Medicinal Plants and Its Distribution in Village Shahbaz Khel, Lakki Marwat, Kpk, Pakistan

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The research work was initiated to get information and report the diversity of medicinal plants in the village Shehbaz khel District Lakki Marwat, during October, 2012. A total of 33 plants belonging to 21 families were collected. These plants belong to the following families, Astraceae (5 sp), Solonaceae, (3 spp), Zygophyllaceae (3 sp), Poaceae (2 spp), Amaranthaceae (2 spp), Chenopodiaceae (2 spp) Convolvolaceae (1 sp), Boraginaceae (1 sp), Apocyanaceae (1 sp), Euphorbiaceae (1 sp), Fabaceae (1 spp), Cucurbitaceae (1 sp), Myrsiniaceae (1spp), Asphodelaceae (1 spp), Nyctaginaceae (1 spp), Cuscutaceae (1spp), Malvaceae (1 spp), Oxaladiaceae (1 spp), Polygonaceae (1 spp), Portulaceae (1spp), and Rannunculaceae (1 spp). It was found that the local inhabitants were unaware or had little knowledge about the uses of medicinal plant and their proper time of collection. Even the younger generations don't know about various medicinal plants, but the old people especially women have some knowledge about the wild resources of medicinal plants. The plants were identified botanically; arranged alphabetically along with their scientific names, family names, local names, habit, part used and medicinal uses. It was reported that *Achyranthes aspera* L. was used in stomach troubles and its aqueous extract for removing of stones in the bladder, astringent, and Haemostatic, *Anagallis arvensis* L. to expel worm, laxative, demulcent, toothache and locally applied to wounds, boils and ulcers, while *Amaranthus viridis* L. was used as vegetables, snakebite, inflammations, boils and abscesses.

Keyword: Biodiversity, Medicinal Plants, Shahbaz Khel

1. Introduction

Lakki Marwat is one of the Southern Districts of Khyber Pakhtunkhwa in Pakistan. It was created as an administrative district on July 1, 1992, prior to which it was a Tehsil of Bannu District. The district covers 3,164 km², with population density of 155 people per km², compared to the population density of 233 people per km² in the North-West Frontier Province as a whole. The population density at the 1981 census was 91 people per km², which indicates a high rate of population growth in the intervening 17 years. The region has all the characteristics of a desert due to its sand dunes, scorching heat and dry weather. Summers are very hot, while winters are moderately cool. The summer season begins from early April and continues till late October. June is the hottest month with a maximum temperature range of 42 to 45 Degree Celsius and a minimum temperature range of about 30 to 35 Degree Celsius. Periodic sand storms rage through the area during May and June due to the Prevalent low humidity. The hot wind, locally known as "Lu" blows across the district in these months. The cool wave starts from

somewhere in early November. December, January and February are the winter months. Medicinal plants and plant-derived medicine are widely used in traditional recipies all over the world and they are becoming increasingly popular in modern society as natural alternatives to synthetic chemicals (Hamayun *et al.,* 2003 and Hohn 1990). Medicinal plants have been under the constant vigilance of botanists and ethanobotanists to analyze its germplasm for pharmaceutical purposes as a remedy of different common diseases under different environmental regimes throughout the world. It is a never ending process and botanists have to continue their effort constantly to revel actual ingredients and the usefulness of medicinal flora to man kind on global basis. (Shabbir *et al.,* 2003)

2. Materials and Methods

2.1 Area Exploration: Trips were arranged to 20 different sites of the Lakki Marwat to explore and collect important flora of the area During 2010-2011. A total of 32 medicinal plants were photographed. All the Plants were conserved systematically in the Department of Botany, University of Science and Technology Bannu.

2.2 Exploration of Local Flora

Map of the Lakki Marwat was also obtained from concerned office for proper guidance in the collection of plants. To explore the flora of the study area, a Performa was designed for the characterization of the Medicinal flora.

2.3 Medicinal Flora

During exploratory trips, the Medicinal flora was carefully collected by adopting the recommended procedure used by M. Ahmad and Ali, (1998) and photographs were clipped of the spots. Local inhabitants were interviewed to know about the uses of the indigenous flora for curing different diseases. The local people were also interviewed for data collection by using the Questioner. Both old generation and young generation were also interviewed to compare the outlines of the local flora. The aim of the comparison is to extract the actual knowledge about the plants collected in relation to age difference. This information was then compared with each other and people of other villages of district were provoked to share and added their experiences. Such types of efforts are required to induce awareness in the local people about the conservation of the wealth of useful plants for their coming generations. Repeated queries were made to formulate the correct data. Outcome of the results were rechecked and compared with the available literature.

3. Result and Discussion

The present study deals with the study of medicinal plants used by the people of village Shehbaz Khel in district Lakki Marwat. A total of 32 plants belonging to 21 families were collected Table 1. Pakistan has verity of climate and its soil is rich with medicinal plants and herbs which are growing naturally in different season of the year in the country. District Lakki marwat of Pakistan is rich with plants communities, number of medicinal plants are found here. Cultivation, collection and proper storage of these plants in planned way is required as there is no proper way to screen these plants. More than 75% residents of city live in traditional style and are dependent on ethnomedicines. They prefer to cure themselves through plants. Old people of the study areas are well equipped with indigenous medicinal knowledge and they seek someone to share this treasure. Modern generation is not paying much attention to preserve this treasure. That is the reason the indigenous medicinal knowledge is in danger to extinct. The ethno medicinal

values of these plants are quite helpful for healthcare and hygiene of local people (Aumeeruddy, 1994).

Local people of study area are mostly dependent on indigenous plants for the cure of various diseases as *Physalis angulata* L. and *Polygonum barbatum* L. are frequently used to cure pains in body. *Sonchus asper* (L.) Hill, *Convolvulus arvensis* L., *Sonchus asper* (L.) Hill, *Launaea procumbens, Dichanthium annulatum* Stapf, *Cynodon dactylon (*L) Pers and *Tribulus terristris* L. is used as fodder while *Chenopodium murale and Chenopodium album* L. are used as vegetable by the local inhabitants. From this study three plants are reported that are effective against tumor that are *Citrullus colocynthis* Schard, *Physalis angulata* L. and *Withania somnifera* L. Few important plants were also reported that are considered valuable against Similarly, *Physalis angulata* L. is also used for jaundice and hepatitis and to treat infertility in women. A number of plants which can break kidney and spleen stones come in consideration through this investigation survey. These plants are a good source to interact with nature. It is crucial to have this precious ethno- medicinal knowledge and it should be transferred to the younger generation also, neither have we will loss a great treasure that is disappearing rapidly. In recent years there has been a reawakened scientific interest in the fundamental role of plants in medicinal field. It is noticed that the people living in urban areas have almost no knowledge about medicinal properties of plants (Alcorn, 1984; Altieri *et al.,*1987). In rural areas, the people, especially, elders and females have a sufficient knowledge about this prosperous natural treasure, which is gifted to mankind by God. The people were somewhat dependent upon medicinal plants for food and to cure themselves. Elders like to cure their child and themselves by these medicinal plants. The important factor to use plants as ailments is the higher prices of allopathic medicines and unavailability of better medical facilities (Qureshi *et al.,* 2006).

This survey was conducted in this scenario to preserve the possible available information. This data can be used in future for pharmacological studies, as most of the pharmaceutical companies are paying attention to plants for the development of various drugs. Synthetic drugs have side effects, while plant originated drugs are safe to use. Plants with high medicinal values are preferred for biological screening to get valuable pharmacological products. This research can offer a big source of medicinal information for pharmacological studies.

Table 1: Ethnobotanical Study of the Important Plants Collected from Shahbaz Khel, Lakki Marwat, KPK, Pakistan

S. No	Plant Name	Family	Local Name	Habit	Flowering period	Part Use	Uses
1	*Achyranthes aspera* L.	Amranthaceae	Aghzikai	Herb	September to November	Root, stem and leaves	-Stomach troubles -Nutritious -Astringent -Haemostatic -cancer.
2	*Anagallis arvensis* L.	Myrsiniaceae	Khoso beta	Herb	May to August	Whole plant	-Expel worm. - Laxative. - Demulcent -ulcers -Toothache.

3	*Amaranthus viridis* L.	Amranthaceae	Ranzaka	Herb	(summer)	Whole plant	- vegetables - snake bite. - Inflammations - Diuretic -Febrifuge -Anthelmintic.
4	*Asphadelus tunifolius* Car.	Asphodelaceae	Lewanai Piaz	Herb	March to April	Whole plant	-Weed -Fuel
5	*Boerhavia procumbens* Banks ex Roxb	Nyctaginaceae	Unknown	Herb	Sept.-Aug	Whole plant	-purgative, -febrifuge -anthelmintic diuretic.
6	*Convolvulus arvensis* L	Convolvulaceae	Parhatoona	Herb	Mid summer.	Whole plant	-Fodder -Menstruation cycle -Honey bee spp
7	*Chenopodium album* L	Chenopodiaceae	Surma	Herb	February-march.	Whole plant.	- vegetable -Digestive, -Antihelmintic, -Laxative and is used in -peptic ulcer, -cardiac disorder and -spleen disorder. -Jaundice, -urinary diseases -rheumatism.
8	*Chenopodium murale* L.	Chenopodiaceae	Tor surma	Herb	February-march.	Whole plant.	-edible -fodder
9	*Citrullus colocynthis,* Schard	Cucurbitaceae	Maragheniey	Trailing herb	Jan-Jun	Roots and fruits	-purgative -mammillitis in children. -Cooling -tumors -ulcers.
10	*Cuscuta reflexa* Roxb	Cuscutaceae	Chambal	Parasitic plants	-Early summer	Whole plant	-remove pain and swelling -Harmful to plant life.
11	*Cynodon dactylon (*L) Pers	Poaceae	Payya	Herb	June	Whole plant	-Fodder -Bleeding piles -Vomiting -Irritation of urinary organs -Tonic - Stimulant -Ornamental

12	*Datura metal* Nees	Solonaceae	Barbaka	Herb	November	Whole plant	-Gonorrhea -Fuel
13	*Dichanthium annulatum* Stapf	Poaceae	Shpozhoka barrowa	Grass.	November	Whole plant	-Fodder
14	*Eclipta alba* (L.) Hassk	Asteraceae	Theriza	Herb	October.	Whole plant	-liver tonic. -Improve hair growth and colour -To stop hair loss. - athlete foot -Dermatitis.
15	*Euphorbia helioscopia* L.	Euphorbiaceae	Purporai	Herb	July	Whole plant	-irritation - swelling on skin -to treat eruptions.
16	*Fagonia cretica* L.	Zygophyllaceae	Unknown	Spiny herb	Feb-march	Whole plant	-Cooling agent -Blood purifier -Fuel
17	*Heliotropium europaeum* L.	Boraginaceae	Parparai	Herb	June	Whole plant	-Fodder for camels -Honey bee species
18	*Launaea procumbens* Pravin Kawale	Asteraceae	Marchala	Herb	Feb-March	Whole plant	-Fodder Fuel
19	*Malva neglecta* L.	Malvaceae	Unknown	Herb	March-April	Whole plant	-Laxative -Urine inducing -Inflammation
20	*Nerium oleander* L.	Apocyanaceae	Ghanderai	shrub	November -December	Whole plant	-Soil binder -Harmful and poisinous -Skin diseases -Leprosy -Abortion -Reduce swelling.
21	*Oxalis corniculata.* L.	Oxalidaceae	Tarveka	Herb	May	Whole Plant.	-For healing fracture bones. - To purify blood. -juice is applied on wounds. -To treat indurations of breasts and watery vaginal discharges.

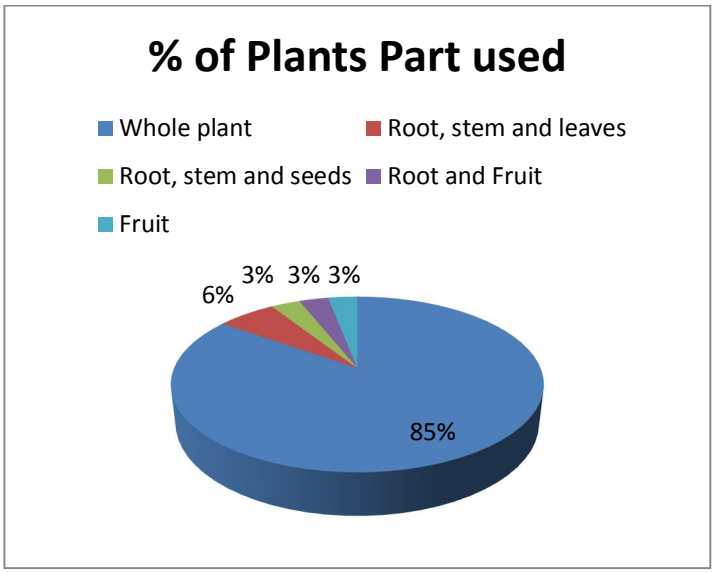
							-to treat wounds and swelling beneath tongue.
22	*Peganum harmala* L.	Zygophyllaceae	Sponda	Herb	November	Whole plant	-Repel evil sight -Antiseptic -Kill lice -Fuel
23	*Parthenium hysterophorous* L.	Asteraceae	Kerbotta	A small annual shrubby weed	March to November	Whole Plant.	-Energizer for general debility. -to treat leucoderma -Anticancerous
24	*Physalis angulata* L.	Solanaceae	Khotelai	Herb	January	Whole Plant.	- jaundice. -To facilitate childbirth, -ulcers, -abdominal pain -To treat infertility in women -dengue fever -To reduce fever - Ati-inflammatory -Antibacterial -Antitumour -Hypertensive -Antibody enhancement -antiviral properties.
25	*Polygonum barbatum* L.	Polygonaceae	Khowar	Herb	-December	Root, stem and leaves	-It is carminative -Parasiticide -To reduce the griping pains of colic -Astringent and cooling -To cure scabies.
26	*Portulaca oleracea* L.	Portulacaceae (Aizaoaceae)	Woorkhora.	Herb	May-June.	Whole plant	-Antibacterial -Anti-inflammatory -Anthelminthic. -Refrigerant -Laxative

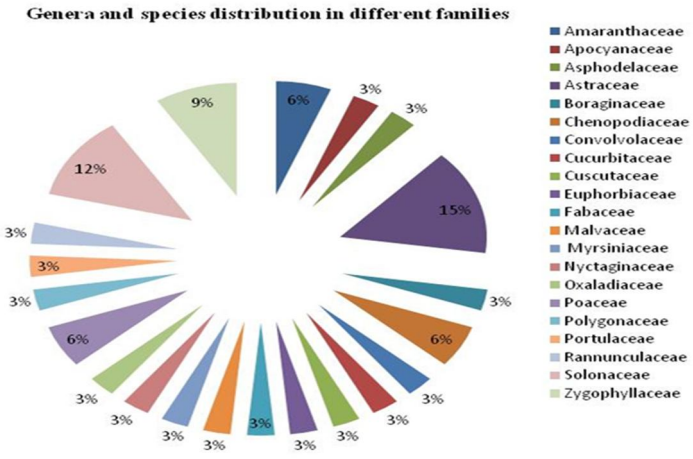
							- Urinary tract problems.
27	*Ranunculus muricatus* L.	Ranunculaceae	Zeiarhgulai	Herb	March-April	Whole plant	- Discontinuous fevers - Asthma.
28	*Solanum surattense* (Burn.) F	Solanaceae	Azgikai	Herb	-June	Whole plant	-Eye irritation - For abdomen pain. -Useful in dental pain and cough. -Mental disorders - Toothache.
29	*Sonchus asper* (L.) Hill	Asteraceae	Tharezha	Herb	At bloosoms season	Whole plant	-Fodder. - Used to stains clothes.
30	*Tribulus terristris* L	Zygophyllaceae	Unknown	Herb	March-April	Whole plant	-Fodder -Diseases of bladder and kidney -Fuel
31	*Trigonella corniculata* L.	Fabaceae	Malkindiey	Annual herb	March-April	Whole plant	-astringent, bitter and styptic
32	*Withania somnifera* L.	Solanaceae	Shapiangy	Herb	Feb-March	Fruit	Anti-tumor To treat stomach problem
33	*Xanthium strumarium* L	Asteraceae	Shapazaoka	PerennialHerb	May to September	Leaves, roots and seeds.	-Tonic -Cooling -Demulcent, -Chronic malaria -Urinary diseases.

Table 2: Genera and species distribution in different families.

Family	Spp
Amaranthaceae	2
Apocyanaceae	1
Asphodelaceae	1
Astraceae	5
Boraginaceae	1
Chenopodiaceae	2
Convolvolaceae	1
Cucurbitaceae	1
Cuscutaceae	1

Euphorbiaceae	1
Fabaceae	1
Malvaceae	1
Myrsiniaceae	1
Nyctaginaceae	1
Oxaladiaceae	1
Poaceae	2
Polygonaceae	1
Portulaceae	1
Rannunculaceae	1
Solonaceae	4
Zygophyllaceae	3
21 Family	**33 Spp**





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