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# SOME USEFUL PLANTS OF NORTHWEST FRONTIER PROVINCE AND ITS SUBURBS

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Local nomenclatural studies on 63 species belonging to 36 families of vascular plants from different parts of NWFP and Punjab have been conducted. Two species belong to gymnosperms and 61 to angiosperms, of which 7 taxa are nonocotyledonous while 54 are dicotyledonous. Families, genera and species have arranged in alphabetic order in Tables 1, 2 and 3.

*Key words:* Medicinal plants.

## INTRODUCTION

Phytochemical investigations require a large collection of different species of plants from their natural habitats. Collection often necessitates familiarity with and knowledge of the local names of different species of plants in order to enlist the help of the inhabitants of the areas.

The data on different species of the plants in Tables 1, 2 and 3 provide valuable information for ethnobotanical and ethnobiological investigation because plants affect different facets of the life, such as cultural, economical, medical and spiritual.

In view of the significance of plants, it is worth-while to document this knowledge as this will greatly help in the advancement of scientific work on plants. Research work on these lines has already been carried out in different countries where attempts are being made for the utilization of plant wealth.

*Review of literature.* Plants have been extensively used by man for the treatment of myriad illnesses. This have been discovered from the carving of hierographies on clay tablets even before man was able to record the medicinal value of plants on paprous parchement.

In the following description, attempts have been made to delineate some of the medicinal attributes of plants species which are being used in the allopathic system of medicine for various diseases.

*Cupressus sempervirens.* The wood and fruits possess astringent and anthelmintic properties. Young branches of the north African and European variety of *C. sempervirens,* var. *stricta* are used for the extraction of the oil of cypress, which has commercial value.

*Ephedra intermedia.* The herb called 'Ma Hung' identified as *E. siniaca* has been used in China for some five thousand years in the treatment of a variety of affections. A Chinese dispensatory written in A.D. 1596, states that the plant is useful as circulatory stimulant and also has diaphoretic, antipyretic and sedative property. This has been confirmed by modern scientific investigations [4].

*Asphodelus tenuifolius.* The seeds are considered diuretic. The poultice of seeds is applied externally for soothing effects to the inflammed parts [5].

*Matricaria chamomilla.* Chamomile was considered to be a remedy for all sorts of aches, pains, minor infections, cramps and inflammations. It was taken as tea, applied as poultice, and made up into ointments. Recent researches have established many curative properties of the flowers of *M. chamomilla* which contain a bright blue oil. Two components of the blue oil, bisabolol and chamazulene, possess antiseptic properties. Other components are coumarine, flavonic heterosides and esters of angelic acid. A recent study has shown that bisabolol speeds up the healing of ulcers, and can even prevent causing of ulcers. Other studies show that chamazulene, when applied externally, checks inflammation and promotes healing of skin burns and wounds, and also helps in the treatment of eczema.

Chamomile is a favourite treatment for digestive upsets, flatulence, heartburn, diarrhoea and colic. A recent German study showed its action on the smooth muscle of the intestine and uterus to counteract spasms. This would make it an effective treatment for diarrhoea which can cause bowel spasms, and it offers relief from painfull manstruation. Chamomile has been found to be active in reducing inflammation and has been used by doctors as a febrifuge in Sweden.

Chamomile infusion can serve as a soothing addition to a bath for rheumatic pains or itchiness caused by skin troubles [1].

*Silybum marianum.* It is in popular use in Germany for curing jaundice and biliary derangements. The decoc-

tion when applied externally is said to have proved beneficial in case of cancer. The infusion of the fresh roots and seeds is good against jaundice, as also for breaking and expelling stones and being good for dropsy when taken internally. The tender plant (after removing the Pickles) boiled and eaten in the spring acts as a blood purifier. It stimulates both the production and flow of bile. In homoeopathy a tincture produced from the seeds is used in liver disorders, jaundice, gall stones, cough, bronchititis, congestion of the uterus and for varicose veins [3].

Table 1. Gymnosperms species.

| S.No. | Family | | Species | Common names | Localities, flowering and fruiting periods | Uses |
|---|---|---|---|---|---|---|
| 1 | Cupressaceae | 1 | *Cupressus sempervirens* L. | "Saru" (Pashto and Urdu) | Peshawar, PCSIR Laboratories | Astringent and anthelmintic. |
| 2 | Ephedrales | 2 | *Ephedra intermedia Schrenk var.* glauca (Regel) Stapf. | Mahoo (Pashto) | Khyber Tribal Agency, Vill. Khajuri | Anti-asthmatic, paroxyms, cardiac and circulatory stimulant; juice of berries used in affections of respiratory passages. |

Table 2. Monocotyledonous species

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | Dioscoriaceae | 1 | *Dioscoria deltoidea* Wall ex Kunth. | "Khud alam" (Pashto) 'Kanees (Urdu) | Swat, Madyan | Tubers used to kill lice |
| 2 | Graminae | 2 | *Aristida cynantha* Nees ex Steud. | "Pahari jadugey" (Pashto) | Khyber Tribal Agency, Pak-Afghan Boarder Vill. Zava (May - Sept.) | Used for killing ring worms |
| | | 3 | *Aristida royleana* Trin. & Rupr. Syn. *A. funiculata* var. royleana Hk. f. | "Gaya" (Pashto) | Peshawar, Village Badaber ( June - Sept.) | – |
| | | 4 | *Desmostachys bipinnata* (L.) Stapf. Syn. *Briza bipinnata L. Eragrostis cynosuroides* (Retz.) *P. beavu. Stapfia bipinnata* (L.) O. Ktze. | "Drab" (Pashto) | Peshawar, Village Badaber (July - Oct.) | Culms diuretic, Anti dysentric, menorrhoea. |
| 3 | Iridaceae | 5 | *Iris aitchisonii* (Baker Boiss var. *chrysantha* Baker | "Gul-e-mashrang" (Pashto) | – do – | – |
| 4 | Liliaceae | 6 | *Asphodelus tenufiolius* Cavan. | "Piazakey" (Pashto) "Piazi" (Urdu) | Kohat | Seeds diuretic, applied externally to ulcers and inflamed parts. |
| | | 7 | *Tulipa stellata* HK. f. Syn. *T. clusiana* DC var. *stellata* Regel. | "Ain kawa" (Pashto) | Peshawar, Village Badaber | – |

Table 3. Dicotyledonous species

| S.No. | Family | Species | Common names | Localities, flowering and fruiting periodds | Uses |
|---|---|---|---|---|---|
| 1 | Acanthaceae | 1 *Adhatoda vesica* Nees. Syn. *Justicia adhatoda* L. | "Pahari gandey" (Pashto) | Kohat, Dara Adam Khel | Controls chronic bronchitis; anti-septic. |
| 2 | Amaranthaceae | 2 *Pupalia orbiculata* (Heyne) Wt. | "Malkundey" (Pashto) | Khyber Tribal Agency, Village Zava, Pak-Afghan Border. | – |
| 3 | Apocyanceae | 3 *Nerium indicum* Mill. Syn. *N. odorum* Soland | "Ganderey" (Pashto) | Khyber Tribal Agency, Village, Zava, Pak-Afghan Border. | – |
| 4 | Asclepiadaceae | 4 *Calotropis procera (Wild)* R. Br. Syn. *Asclepias procera* Wild. | "Spalmey" (Pashto) "Aak" (Urdu) | PCSIR Lab. Peshawar (all the year round) | Diaphoretic, expectorant and emetic. |
| | | 5 *Periploca aphylla* Dcne. | "Lara" (Pashto) | Khyber Tribal Agency, Village Khajori ((March - May) | Stomachic |
| 5 | Bignoniaceae | 6 *Incarville emodi* (Lindl.) Chatterji | "Samar gul" (Pashto) | Khyber Tribal Agency, Village Basti Khel (April-May) | – |
| 6 | Boraginaceae | 7 *Arnebia grifithii* Boiss. | Gul-e-Peghambari (Pashto) | Peshawar, Village Badaber | – |
| 7 | Brassicaceae | 8 *Coronopus didymus* (L) Sm. Syn. *Lepidium didymus* L., *Senebiera didyma* (L) Pers., *S. pinnatifida* DC. | "Alam" (Pashto) | Peshawar, Village Badaber (March - June) | – |
| | | 9 *Diplotaxis grifithii* (H. & T.) Boiss. Syn. *Brassica grifithii* H. & T. | "Spin guley jamey" (Pashto) "Barani muli" (Urdu) | Kohat (April - June) | – |
| | | 10 *Eruca sativa* Miller. | "Jamia (Hazara) "tara mira" (Urdu) | Abbottabad, Haripur (April - June) | Tender leaves stomachic, diuretic and antiseptic |
| | | 11 *Lepidium sativum* L. var. *schimperi* Thel. | "Malkhuzey" (Pashto) | Peshawar, Village Regi (April - June) | – |
| | | 12 *Malcolmia strigosa* Boiss. Syn. *M. cabulica* Boiss. | "Jamia" (Pashto) | Peshawar, Village Badaber (April - May) | – |
| | | 13 *Sisymbrium irio* L. | Morey (Pashto) | Peshawar, PCSIR Lab. (March - May) | Seeds expectorant |

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| 8 | Buxaceae | 14 | *Buxus papilosa* C.K. Schn Syn. *B. sempervirens* | "Shamshad" (Pashto) | Kohat, Dara Adam Khel, Village Ajab Khan Afridi (January - May) | Leaves purgative, diaphoretic; useful in rehumatism and syphilis. |
| 9 | Cannabaceae | 15 | *Cannabis sativa* L. Syn. *C. indica* Lamk | "Bang" (Pashto) "Bang" (Urdu) | Kohat Dara Dera Adam Khel, Village Shahu (April - Sept.). | Plant stomachic, antiseptic, , analgesic, sedative and anodyne |
| 10 | Chenopodiaceae | 16 | *Suaeda fruticosa* (L.) Forssk. Syn. *Chenopodium fruticosa* L. | "Shikar" (Pashto) "Aghzey" (Pashto) | Peshawar, Village Badaber and Landi Kotal | Poultice of the leaves applied in opthalmia |
| 11 | Compositae | 17 | *Calendula arvensis* L. | "Kherver" (Pashto) | Kohat, Dara Adam Khel, Vill. Shahu | Leaves reputed as antiseptic |
| | | 18 | *Carduus edelbergii* Rech. f. Syn. *C. nutans* Hk. f. non (L) *C. nutans* var. lucidue DC. *C. ananthoides* Aitch. *Cnicus lucidus* Wall. | "Ghund agzey" (Pashto) | Khyber Tribal Agency | Flower blood purifier and febrifuge |
| | | 19 | *Lactuca serriola* L. Syn. L. scariola L. | "Trija" (Pashto) | Peshawar, Village Badaber | Plant sedative and diuretic |
| 12 | – do – | 20 | *Matricaria chamomilla* L. Syn. *Chrysanthemum inodorum* L. | "Sotey gul" (Pashto) "Babuna" (Urdu) | Peshawar, Shagai Fort | Flowr attenuant, discutient, carminative, controls hysteria, dyspepsia and intermittent fever |
| | | 21 | Silybum marianum Gaertn. | "Ghat gazghey" (Pashto) | PCSIR Labs. Peshawar | Leaves sudoritic; seeds demulcent |
| 13 | Euphorbiaceae | 22 | *Andrachne aspera* Spring | "Shamey butey (Pashto) | Peshawar, Village Badaber (Dec. - May) | – |
| | | 23 | *Chrozophora plicata* (Vahl.) A. juss. Syn. *Croton plicata* Vahl. *C. rottleri* Geisel) Juss. *Chrozophora prostrata* Dalz. & Gibs. | "Rangtey" (Pashto) | Peshawar, Village Badaber. | Leaves considered depurative |
| | | 24 | *Euphorbia helioscopia* L. | "Ganda butey" (Pashto) | Peshawar. PCSIR Labs. | Roasted seeds given in cholora; plant, cathartic |
| | | 25 | *Ricinus communis* L. | Arhanda (Pashto) | Peshawar, PCSIR Labs., | Leaves analgesic seed oil laxative |
| 14 | Fumariaceae | 26 | *Fumaria indica* (Hausskn.) H.N. Syn. *F. parviflora* W. & A. | "Marsava" (Pashto) | Peshawar, Village Badaber (March - June) | Plant anthelminitic, diuretic and diaphoretic |

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| 15 | Juglandaceae | 27 | *Juglans regia* L. Syn. *J. duclouxiana* Dode. *J. fallax* Dode. | "Akhrot" (Hazara, Pashto and Urdu) | Azad Kashmir, Kail. (Feb - April) | Bark anthelmintic, leaves astringent Fruit alternative in rheumatism. |
| 16 | Labiatae | 28 | *Eremostachys loasifolia* Bth. Syn. *E. acanthocalys* Boiss *E. cabulica Rech. E. vacillans* Rech. f. | "Kharparey" (Pashto) | Kohat, Dara Adam Khel, Village Ajab Khan Afridi. | – |
| | | 29 | *Mentha longifolia* (L.) Hunds. Syn. *M. sylvestris* L. | "Jangli pudina" (Pashto) | Peshawar, Village Badaber. | Carminative |
| | | 30 | *Phlomis bracteosa* Royle ex Bth. | "Gurakey" (Pashto) | Tirah, Khyber Tribal Agency | – |
| | | 31 | *Salvia nubicola* Wall ex Sweet Syn. *S. glutinosa* Auct non L. | "Kharparey" (Pashto) | Triah, Khyber Tribal Agency | – |
| | | 32 | *Thymus serphyllum* L. ssp. *quinquecostatus* (Celak) Kitamura Syn. *T. Afghanicus* Ronn. | "Maorozey" (Pashto) | Tirah, Khyber Tribal Agency, | Reliaves toothache |
| 17 | Leguminosae | 33 | *Dalbergia sissoo* Roxb. | "Shawa" (Pashto) "Tali, Shisham (Urdu) | Peshawar PCSIR Lab., (March - May) | Anticonvulsant and antiemetic |
| | | 34 | *Medicago laciniata* (L.) Mill. var. *laciniata* | "Pishtarey malkhuzey (Pashto) | Kohat, Tanda Dam (March - April) | – |
| | | 35 | *Sophora mollis* (Royle) Baker var. *mollis* | "Gujarey" (Pashto) | Kohat, Dara Adam Khel, Village Ajab Khan Afridi, Shaboz Baba. (March - May) | Vermifuge |
| | | 36 | *Vigna aconitifolia* (Jacq.) Marechal Syn. *Phaseolus aconitifolius* Jacq. | "Moth" (Pashto) | Peshawar Village Badaber. (Sept - Oct.) | – |
| 18. | Malvaceae | 37 | *Gossypium wightianum* Todaro Syn. *G. herbaceum* L. var. *wightianum* Cooke | "Pumba" (Pashto) | Peshawar, Village Badaber. | Seeds demulcent, laxative, aphrodisiac, employed to procure abortion nervine tonic. Root and bark emmenagogue, galactagogue. |
| 19 | Menispermaceae | 38 | *Cocculus pendulus* (J. R. & G. Forst.) Diels Syn. *Cabatha pendula* J.R. & G. Forst. *Cocculus leaeba* (Del.) DC. *Epibaterium pendulum* J.R. & G. Forst | "Perwatha" (Pashto) | Zava, Khyber Agency, near Pak-Afghan Boarder (almost through out the year) | Root in intermittent fever. |

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| 20. | Mysinaceae | 39 | Myrsine africana L. | "Kaskey" (Pashto) | Kohat, Dara Adam Khel, Village Basti Khel, Ajab Khan afridi. (March - May) | Fruit anthelmintic, especially for tape-worm, laxative in dropsy and colic. Gum remedy for dysmenorrhoea. Decoction of leaves blood purifier. |
| 21. | Myrtaceae | 40 | *Callistemon citrinus* (curt.) stapf. Syn. *C. lanceolatus* DC *C. viminalis* (Solander) Cheel. | "Batal bosh" (Pashto) | Peshawar. PCSIR Labs. | – |
| 22. | Oxalidaceae | 41 | *Oxalis pescapre* L. Syn. *O. cernua* Thunb | "Pisho khut" (Pashto) | Peshawar. PCSIR Labs. | – |
| 23 | Papaveraceae | 42 | *Papaver hybridum* L. | "Gul-e-pamiri" (Pashto) | Kohat, Road to Peshawar (April - June) | – |
| 24 | Polygonaceae | 43 | *Polygonum barbatum* L. | "Bandakey" (Pashto) | Peshawar, Vill. Badaber | Seeds relieve colic pains, Roots astringent. |
| | | 44 | *Rumex dentatus* L. ssp. Koltzchianus (Meissn.) Rech. f. Syn. *R. koltzchianus* meissn. | Chalkhey (Pashto) | Peshawar, PCSIR Labs., | Roots astringent, applied in cutancous disorders. |
| 24 | Rosaceae | 45 | *Eriobotrys japonica* (Thunb) Lindley. | "Lakat" (Pashto and Urdu) | Peshawar. PCSIR Labs., | Fruit sedative, gives relief in vomitting, flowers expectorant, leaves antidiarrhoeic |
| 26 | Rutaceae | 46 | *Haplophyllum tuberculatum* (Forssk.) A. Juss. Syn. *Haplophyllum stocksianum* Boiss *H. glabrum* (DC.) G. Don. *Ruta tuberculata* Forssk | "Laktey" (Pashto) | Peshawar, PCSIR Lab. | Plant antiseptic, acro-narcotic, poison, emmenagogue, abortifacient. Plant and oil stimulant for uterine and nervous system. Leaves antirheumatic, analgesic vermifuge, regulating mesntrual disorders. |
| 27 | Sapotaceae | 47 | *Reptonia buxifolia* (Folc.) A.DC. Syn. *Edgeworthia buxifolia* DC. *Monotheca buxifolia* (Falc.) Dcne. | "Gurgura" (Pashto) | Campbellpur, Kala Chitta Hill. *(April* - May) | |
| 28 | Solanaceae | 48 | *Hyoscyamus insanus* stocks. Syn. *H. muticus* Auct. non. L. | Barbak (Pashto) | Peshawar, Warsak Dam | Intoxicant, antispasmodic. |
| | | 49 | *Withania coagulans* Dunal | "Shapranga" (Pashto) "Panirband" (Urdu) | Kohat, Dara Adam Khel | Dried fruit relives colic, cures dyspepsia and other intestinal disorders also emetic, anodyne, sedative, diuretic and useful in chronic liver complaints. |
| | | 50 | Withania somnifera (L.) Dunal | "Kuti lal" (Pashto) "Aslam" "Assand-i-Nagori" (Urdu) | Peshawar, PCSIR Lab. | Root considered alternative, aphrodiac deobstruent, diuretic, narcotic, abortificient, anti-rheumatic. |

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|---|---|---|---|---|---|---|
| 29 | Umbelliferae | 51 | *Platytania lasiocarpa* (Boiss.) Rech. f. & Reidl. Syn. *Peucedanum lasiocarpa* Boiss. *Zozimia lasiocarpa* (Boiss) Boiss. | "Leveney zera" (Pashto) | Tirah Khyber Tribal Agency (July) | |
| | | 52 | *Anethum graveolens* L. Syn. *Peucedanum graveolens* (L.) Bth. | "Jangli ajwain" (Pashto) "Sowa, Soe" (Urdu) | Peshawar, Village Badaber. (June) | Fruits carminative and stomachic. |
| 30 | Urticaceae | 53 | *Urtica dioica* L. | "Swazunkey" (Pashto) | Tirah, Khyber Tribal Agency (May - Sept.) | Roots diuretic, decoction of plant, diuretic astringent given in emmenorrhoea, anthelmintic, also used in treatment of nephriitis, haematuria, and jaundics. |
| 31 | Valerianaceae | 54 | *Valariana jatamansi* Jones. Syn. *V. wallichii* DC. | "Makhkak" (Pashto) "Mushkbala" (Urdu) | Khyber Tribal Agency, Village Aka Khel (March - May) | Roots stimulent, carminative, antiseptic, also useful in hysteria, epilepsy, chorea and neurosis. |

Number and percentage of the taxa recorded:

| | | |
|---|---|---|
| No. of dicotyledenous plants | = | 30 |
| No. of monocotyledenous plants | = | 4 |
| No. of Gymnosperm plants | = | 2 |
| Total No. of families | = | 36 |
| Percentage of the dicot plants | = | 83.33% |
| Percentage of the monocot plants | = | 11.11% |
| Percentage of the gymnosperm plants | = | 5.6% |
| Total percentage | = | 100% |

## DISCUSSION

It is interesting to note from the present study that Pashto common names are either based on some morphological characters or on the useful value present in the plant. Thus *Euphorbia helioscopia* known as "ganda butey" meaning filthy plant. *Urtica diocia* is known as "Swazunkey" meaning burning plant, *Silybum marianum*, "ghat azghey" meaning a big thorn, and *Incarville emodi*, 'Samar Gul" meaning as fruiting flower and so on.

These studies have revealed that sometimes two species of the same family are called by one common name in two different localities of the North West Frontier Province. For instance, *Eruca sativa* is known as 'jamia' in Haripur, Hazara, while *Malcolmia strigosa* is also known as "jamia" at Peshawar in village Badaber, though both species belong to Cruciferae. Another example is that of "kharparey". *Salvia nubicola* is known as "kharparey" in the Tirah tribal area of the Khyber Tribal Agency in NWFP while *Eremostachys loasifolia* is also known as "kharparey" in Dara Adam Khel area of district Kohat, though both species belong to N.O. Labiatae. Possibly both species have been given common names keeping in view the morphological structure of the leaf. Leaves of both species are similar to the ear of the donkey, so they named *S. nubicola* and *E. loasifolia* as the plants have leaves like the donkey's ears.

Gilgit, Chilas, Hunza, Chitral, Dir, Swat, Kaghan, Waziristan and Tirah tribal areas are suitable sites for ethnobiological studies in Pakistan because of specific ethnic races surviving in these areas. These unexplored habitats need further investigation in order to find out more and more useful pharmaceutical plants and also other plants of taxonomic importance

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