

**Research Article**

## **AN ETHNOBOTANICAL STUDY OF MEDICINAL PLANTS USED BY LOCALS OF THE SHIWALIKS OF DISTRICT KATHUA, J&K**

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### **ABSTRACT**

World Health Organization (WHO) estimated that traditional medicines are used by 70-80% of the world's population. The use of plants as a source of medicine has been inherited and is an important component of healthcare system in India. It is a systematic attempt to explore the knowledge of native people about medicinal plants, which they use to cure ailments of different kind. It is an attempt to conserve the local knowledge of medicinal plants of the Shiwalik Hills of the District Kathua (J&K) spread over Billawar, Basohli and Bani Tehsils. The data was prepared on account of explorations of area of the wild plants growing there and interactions with knowledgeable inhabitants. The data presents a list of over one hundred medicinal plants used by the locals to cure various ailments and also accompanied by brief descriptions of plants, names assigned to them in different languages especially the vernacular names of the area of study, the names of families to which they belong, and the images of some of the well known plants. The botanical names of plants have been supported by the author citations & are complete in all respects. Moreover, the present status of the medicinal plants like commonly seen, rare, endangered etc. has also been cited wherever necessary.

### **Keywords**

**Astringent:** *The Action of Binding Together*

**Abortifacient:** *To Cause or Promote Abortion*

**Anthelmintic:** *Anti Worm in Action*

**Alopecia:** *Loss of Hair*

**Antispasmodic:** *Capable of Preventing or Relieving Convulsions or Spasms*

**Caducous:** *To Fall off Soon*

**Coriaceous:** *Leathery, Tough & Thick*

**Crenate:** *With Rounded Teeth*

**Cuneate:** *Wedge Shaped, Acute at the Base*

**Divaricate:** *Spreading Widely Apart*

**Diuretic:** *Promoting Urine*

**Eczema:** *An Inflammatory Condition of Skin Characterized by Redness, Itching & Oozing Vesicular Lesions which Become Scaly*

**Emmenagogue:** *An Agent that Promotes the Menstrual Discharge*

**Expectorant:** *Promoting the Expulsion of Mucous*

**Fascicled:** *in Dense Clusters*

**Glacous:** *of a Bluish-Grey Colour*

**Galactagogue:** *Promoting Milk Secretion*

**Globose:** *Somewhat Spherical*

**Gynophore:** *Stalk Supporting the Ovary*

**Laxative:** *Promoting Intestinal Flow, Acting Against Constipation*

**Laticiferous:** *Latex Bearing*

**Leucoderma:** *Medically Called Vitiligo is a Chronic Skin Disorder that Causes De-Pigmentation of Skin*

**Lumbago:** *Painful Muscular Rheumatism Involving the Lumbar Region & Sciatica Pain along the Sciatic Nerve Esp. in the Back of Thighs, Buttocks, Hip & Adjacent Parts*

**Orbiculate:** *Flat with Circular Outline or Nearly so*

**Pedate:** *Like a Bird's Foot*

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**Procumbent:** Lying Flat Close to the Ground

**Spicate:** Resembling a Spike

**Terete:** Cylindrical or with a Circular Outline

**Tomentose:** Covered with Hairs which are very Short, Soft & Rather Dense

## INTRODUCTION

### Study Area



The area of research is one of the 22 districts of the state of Jammu and Kashmir adjoining Punjab to the south and Himachal Pradesh to the east. Its terrain is diverse consisting of rich agricultural plains along the Punjab border and a mountainous Pahari region in the north.

Kathua district, the gateway of J&K, lies between 32° 17' to 32° 55' North latitude and 75° 7' to 76° 17' East longitude. The district Kathua is subdivided into five Tehsils- three of them Billawar, Basohli and Bani lie in Shiwalik Himalayas whereas Kathua and Hiranagar are in the plains south-east of the foothills. The number of villages in the district is 512 and the population of the district is 6.15711 Lacs (as per 2011 census). The mainstay of the population is agriculture and rearing livestock. Due to varied altitude & topography, the study area possesses a diverse flora ranging from sub-tropical in the south to alpine meadows on the higher peaks of north. The area has thus a very rich floral diversity particularly in the Shiwalik Hills.

It is documented that 80% of the world population has faith in traditional medicines, particularly plant drugs for their primary healthcare. The use of plants for medicinal purposes & human sustenance has been in practice in India since the vedic age. The earliest mention of medicinal use of the plants is found in the Rigveda, 1500-400 BC, Atharveda 1500 B.C, Upanishada 1000-600 BC. In India there are about 17000 species of higher plants out of which 7500 are known for medicinal uses (Shiva, 1996). India is one of the major contributors to the world in terms of herbal drugs & its raw material. Plant wealth of the Indian Himalayan region is known for its uniqueness, natural & socio-economic values. The people of the area keep high medicinal reverence on plants from the ancient. Most of the population of this place lives in villages & is economically poor. The inhabitants of the area have been dependent on plant source for

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medicine. Due to lack of modern medicare facilities & in depth reach, they use plants & plant products to get rid of different ailments. Local people & tribals adjoining the forest areas are not only engaged in collection, processing & marketing of medicinal plants to boost their income but also themselves use them to cure a number of diseases.

The local people including *Gujjars*, *Bakarwals*, *Gaddis* along with *Hindu-Muslim* communities depend on plant resources for medicines, fuel, fodder, fiber, timber & many other requirements. The traditional use of plants as medicine is well known among the native communities of the area for centuries. The people usually depend upon herbs & other materials for the treatment of various diseases & ailments. The description on the data compiled in the present study is based on the survey and discussion with local people. The study aimed to record the indigenous knowledge of senior villagers regarding the medicinal uses of locally known plants.

## MATERIALS AND METHODS

The study was carried out to identify & determine the medicinal uses of plants in the area. During the present study several villages of the district were visited including *Galak*, *Ramkote*, *Makwal*, *Parnalla*, *Pallan*, *Dharalta*, *Mangar*, *Beril*, *Phinter*, *Bhaddu*, *Banhore*, *Dambra*, *Plail*, *Baanjal*, *Padwal*, *Uchapind*, *Sukrala*, *Macheddi*, *Malhar*, *Doula*, *Joddein*, *Basohli*, *Bhoond* & *Bani* and important information was gathered from knowledgeable persons particularly senior inhabitants including women folk. Questionnaires were prepared before visiting an area of the field of study & establishing contacts with subjective people to gather information on the points outlined in the questionnaire. Besides, personal visits to known *Vaids* & *Hakims* of the area were also organized. During field trips, the twigs of the plants or other suitable specimens were collected, brought back and preserved for further reference. The photographs of the concerned plants were also taken for the purpose of identification and record as well. The tools employed in the study include cutters, plant press, magnifying lens, photographic camera, field note-book and polythene bags etc.

The author has conducted several field trips in randomly selected villages of the research area and interviewed villagers particularly the senior inhabitants along with *Vaids* & *Hakims*. The common names of the plants were ascertained by way of investigations.

### Observations

A total of 135 species of medicinal importance including Pteridophytes, Gymnosperms and Angiosperms have been presently recorded from the various localities falling within the territorial limits of the Kathua district.

1. ***Abrus Precatorius* Linn.:** Eng. Wild liquorice, Crab-eyed Creeper; Hindi *Rati*, *Gungchi*; Vern. *Ratti*, *Raktaan bel*; Family-Papilionaceae.

A beautiful woody climber, found all along the Himalayas & plains of India. Leaves alternate, even pinnate leaflets 20-40. Flowers red, .5 in. long. Pod turgid, 3-5 seeded, 2/3 seeds red & 1/3 black.

*Medicinal Uses:* Decoction is used in cough & cold, colic pain, rheumatism. Also induces abortion. Seeds in small doses act as purgative.

2. ***Achillea Millefolium* L.:** Hindi *Gandhna*; Vern. *Dare di jadi*, *Pahale kutch*, *Gandhna*; Family-Asteraceae.

A 30-60 cm. tall perennial herb of temperate hills, leaves 2-3 pinnatisect, segments linear. Flower heads white, borne in dense corymbose clusters.

*Medicinal Uses:* Roots & stems are crushed & used against toothache. Decoction of leaves & flower heads is used in colds & as tonic.

3. ***Achyranthus Aspera* Linn.:** Hindi *Chirchita*, *Latzira*, *Apamarg*; Vern. *Pudkanda*; Family-Achyranthaceae.

An undershrub with a woody rootstock and opposite sub-orbicular leaves. Flowers- pinkish-white in long terminal spikes, bracteoles spiny.

*Medicinal Uses:* Used in renal dropsy, bronchial disorders, eye complaints, hydrophobia, insect bite, leucoderma, piles, whooping cough & rheumatism. Root paste is administered to stop bleeding after

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abortion & also to facilitate delivery. Roots are very effectively used as tooth-brush to stop bleeding of gums.

4. ***Acorus Calamus* Linn.:** Hindi *Vach*; Vern. *Bariyan*; Family- Araceae.

A marsh herb resembling *Typha* in habit. Leaves ensiform, 2-4 ft. by .5-1 in., with wavy margins. Spathe 6-18 in. long, spadix 2-3 in. long, sessile, cylindrical, dense flowered.

**Medicinal Uses:** The strongly aromatic root stock which has a piquent pungent taste, is much valued as a medicine, especially for cough. Rhizomes are carminative, used for treating nervous ailments. Also effective against stomach troubles, asthma, bronchitis, snake bite and teeth problems in children. Also possesses anti-carcinogenic property. Locally traded in J & K.

5. ***Adiantum Capillus-Veneris*:** Vern. *Hanspadi*, *Dumtuli*, *Kaki*; Family- Adiantaceae.

A mesophyte fern leaves 2, 3-pinnate, leaflets orbicular to obovate with sori at the apices.

**Medicinal Uses:** Whole plant is used as febrifuge, demulcent, diuretic, tonic & cough medicine.

6. ***Ajuga Bracteosa* Wallich ex Benth.:** Vern. *Neelkainthi*; Family-Lamiaceae.

A perennial herb about 20 cm tall with many sub-erect stems. Leaves 2-3 cm, oblanceolate, blunt, wavy toothed, hairy & glaucous. Flowers pale blue to whitish, with corolla-tube nearly twice as calyx, 2-lipped with upper lip 2-lobed, lower 3-lobed, borne in crowded whorls forming leafy spike like clusters.

**Medicinal Uses:** Leaf powder is bitter in taste & used with *gur* on daily basis to get relief from diabetes. Leaf juice finds use as blood purifier & also for fever & gonorrhoea.

7. ***Aloe Vera* Tourn. Ex Linn.:** Eng. Barbados Aloe ; Hindi *Ghee-Kunwar*; Vern. *Kawaar-Gandal*, *Ghee-Kunwar*; Family-Liliaceae.

A 2-3 ft. tall succulent with fleshy leaves, 1-2 ft. long, convex beneath. Flowers yellowish-orange in erect racemes.

**Medicinal Uses:** Leaves are used as stomachic, aphrodisiac, astringent, cathartic, anthelmintic & hepatic stimulant. Useful in enlargement of liver, spleen, gonorrhoea, constipation, piles, jaundice & rheumatic affections. Also useful in burns, bruises, wounds & gum problems.

8. ***Amaranthus Viridis* Linn.:** Eng. Wild Amaranth; Hindi *Chaulai*; Vern. *Chileri*; Family-Amaranthaceae.

A small spreading annual herb 30-80 cm high often with purplish grooved stem. Leaves rhombic-deltoid. Flowers greenish borne in spicate racemes.

**Medicinal Uses:** A poultice of leaves is used in abscess, boils & eczema. Decoction of leaves is used for chest problems.

9. ***Anagalis Arvensis* L.:** Eng. Pimpernel Flower, Poorman's Weather glass; Hindi *Jonkmari*; Vern. *Anni-tadd*, *Jonkmari*; Family- Primulaceae.

An annual herbing from base, branches 4-angled. Leaves ovate, cordate. opposite and sessile. Flowers- blue, about 1 cm in diam. occasionally pink. Capsule 3-5 mm, seeds black.

**Medicinal Uses:** Plant is used to expel leaches from nostrils of cattle. Also used in cerebral disorders, gout, hydrophobia & leprosy.

10. ***Angelica Glauca* Edgew.:** Eng. Glaucous Archangel; Vern. *Choru*; Family-Apiaceae.

A 1-2 m tall glaucous perennial, leaves pinnately divided, leaflets ovate, toothed, glaucous beneath. Flowers- purplish-white, rays more than 20.

**Medicinal Uses:** The roots are grinded & eaten with '*gur*' against stomach problems. Roots are also harvested for oil extraction & medicinal. Roots are burnt to drive away snakes from houses.

11. ***Anethum Graveolens*, Linn.:** Vern. Name *Koadi sounf*; Family Apiaceae.

An annual with long, wiry roots from which develops a hollow, upright stem with fern like foliage. Umbels of tiny bright yellow flowers develop at the stem tip followed by the pungent seeds.

**Medicinal Uses:** It is used as diuretic, emmenagogue and galactagogue, The decoction of seeds is a house-hold remedy as a stomachic medicine particularly for infants and women.

12. ***Arisaema Flavum*, (Forsskal) Schott:** Vern. *Sapp-kukdi*; Family- Araceae.



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It is distinguished from all other species by its very small spathe which has a yellowish-green ovoid tube, and a small yellowish or greenish triangular blade which is usually dark purple inside. Leaves pedate with 5-11 oblong-lanceolate, pointed leaflets and flowering stem 10-40 cm.

**Medicinal Uses:** The paste made from tubers is used in foot & mouth disease of cattle and also applied in snake bite.

13. ***Artemisia Absinthium*, Linn.:** Eng. Worm Wood; Vern. *Shambar*; Family- Asteraceae.

A silvery hoary pubescent aromatic perennial 1-3 m tall with ribbed stem. Leaves 2-3 pinnately divided, segments oblong linear. Flower heads hemispheric 3-5 mm in drooping secund racemes.

**Medicinal Uses:** Leaves & fronds are used for the extraction of drug santonin which is vermifuge & tonic. Herbal tea is recommended for pregnant women during labour pains.

14. ***Artemisia Capillaris* Thunb.:** (Syn. *Artemisia scoparia*); Eng. Red-stem wormwood; Vern. Name: *Danti*; Family: Asteraceae.

An erect, branched, perennial herb. Stem usually tinged with purple & radical leaves cut into filiform segments. Flowers greenish-yellow, arranged in capitula, heads minute, heterogamous, arranged in panicles. Achenes ellipsoid and minute.

**Medicinal Uses:** The plant is anticholesterolemic, antipyretic, antiseptic, diuretic and vasodilator. In case of viral infection, boil about 10 leaves in a cup of water for half an hour strain and drink 25 ml of this extract, twice daily for a week. The symptoms of infective condition will be resolved.

15. ***Bergenia Ciliata* (Haw.) Sternb.:** Hindi *Zakhme-e-Hayaat*; Vern. Name *Sapdotri*, *Sapdotar*, *Pashaan bhed*; Family-Saxifragaceae.

A sub-alpine perennial with thick rhizomatous rootstocks, leaves basal, rounded, coriaceous with bristly haired margins.

**Medicinal Uses:** Roots used to cure fever, diarrhea, wounds, pulmonary affections & eye-diseases. Also used to get rid of stones of the urinary bladder.

16. ***Boerhavia Diffusa*:** Vern. *Itt-sitt*, *Gadhapurna*, *Santhi*; Family- Nyctaginaceae.

A diffuse, much branched herb with several stems arising from woody rootstock, procumbent or with ascending tips, often purplish red. Leaves in unequal pairs, sub-opposite, ovate to suborbicular & whitish beneath. Flowers very small, pink in small heads arranged in long stalked axillary & terminal panicles.

**Medicinal Uses:** Root is used in treatment of eye troubles, asthma, jaundice, general weakness & urinary complaints. Also used in epilepsy, headache, rheumatism, menstrual complaints, itch & eczema.

17. ***Cannabis Sativa* L.:** Eng. Hemp; Hindi *Marijuana*, *Bhaang*; Vern. *Bhaang*; Family-Cannabinaceae.

An erect strong-smelling annual, with digitate leaves with narrow coarsely toothed leaflets, and with short axillary clusters of yellow green male flowers, & on different plants stalkless green female flowers.

**Medicinal Uses:** Plant yields 'Charas' & 'Ganja' which in action are sedative, appetizer, narcotic & toxic. Leaf juice is useful in dandruff & lice infestation.

18. ***Cardiospermum Helicacabum*;** Hindi *Karan-Saphota*; Vern. *Kanphuti*, *Pataki*; Family-Sapindaceae.

A delicate wiry climber leaves ternately divided, leaflets toothed. Flowers white, capsules inflated 3 angled, winged at the angles. Seeds white with characteristic black mark.

**Medicinal Uses:** Plant juice is used as an emmenagogue in ammenorrhoea, as demulcent, in gnorrhoea & pulmonary diseases.

19. ***Cassia Tora* Linn.:** Eng. Pot Cassia; Hindi *Chakunda*, *Chakramard*; Vern. *Lauki hedma*; Family-Caesalpinaceae.

An annual herb of rainy season, commonly seen along road side & wasteland. Leaves paripinnately compound, alternate, leaflets obovate. Flowers- axillary, yellow.

**Medicinal Uses:** Leaves are used to treat skin ailments, headache & other body pains. Also used as adulterant of coffee.

20. ***Centella Asiatica* (Linn.) Urb.:** Eng. Asiatic Pennywort; Hindi *Mandukparni*, *Brahmi*; Vern. *Brahmi-booti*, *Ghor-sumbi*; Family- Apiaceae.

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A prostrate mat forming herb rooting at the nodes, stem is weak, cylindrical, stolon, leaves & roots arise from the nodes. Leaves simple, reniform, stalked, glabrous & shining. Flowers- green.

**Medicinal Uses:** Used in the preparation of PEP-UP syrup which is recommended for improving digestion and appetite. Also used for as substitute for *Neer- Brahmi* in various preparations.

21. ***Centratherum Anthelminiticum***: Hindi *Somraj*; Vern. *Banjiri*; Family- Asteraceae.

A robust herb with pubescent branches, ovate-lanceolate, serrate leaves & purple flower heads.

**Medicinal Uses:** Seeds are used as anthelmintic to expel worms.

22. ***Chenopodium Album* L.**: Eng. Goose Foot, Fat Hen, Pigweed; Vern. *Bathu*; Family- Chenopodiaceae.

About 1 m tall mealy white annual herb with purple tinged leaves & greenish flower.

**Medicinal Uses:** Leaves are used in diarrhea & dysentery and also useful in diabetes.

23. ***Cirsium Wallichii* DC.**: Eng. Horse Thistle; Vern. *Kandshar*, *Bhuss*; Family- Asteraceae.

A robust herb, 1-2 m tall with fleshy hollow, more or less grooved stems. Leaves oblong, undulate, glabrous above, white to tomentose beneath, with strongly spinous lobes. Heads white, 2-3.5 cm long, densely fascicled. Achenes & pappus brownish-white. **Medicinal Uses:** Leaf extract is useful in stomach ailments.

24. ***Cissampelos Pareira* Linn.**: Hindi *Patha*; Vern. *Katordu*, *Battal Bel*, *pahre*; Family- Menispermaceae.

A twining shrub with grey-tomentose branches. Leaves suborbicular or reniform to broad-ovate or deltoid, 4-15 cm across, mucronate, ultimately glabrous above. Flowers minute, greenish-yellow, male in axillary, corymbose, branched cymes, female racemose, crowded in the axil of foliaceous, orbicular bracts. Drupe compressed scarlet when ripe.

**Medicinal Uses:** Dried roots are diuretic, stomachic & astringent. Useful in dyspepsia, diarrhea, dropsy & catarrhal disorders.

25. ***Costus Speciosus***: Eng. Spiral Ginger; Vern. *Keu*, *Chamar-gatha*, *Sape-di-kukdi*; Family- Zingiberaceae.

A succulent herb with elliptic oblong thick leaves & large white or pinkish-red flowers, corolla funnel shaped with large bright red bracts, corolla tube shorter than calyx, with unequal petals. Flowers borne on a stout red leafy stem 1-2 m. Leaves oblong acute, sheathing at base, 15-30 cm. Capsule red, crowned with persistent calyx.

**Medicinal Uses:** Root is used medicinally It is considered as astringent, purgative, stimulant & anthelmintic. Also effective against eye complaints, jaundice, leprosy, snake bite & urinary complaints. Exploited for the production of steroid hormones.

26. ***Cleome Gynandra* Linn.**: Hindi *Hulhul*; Vern. *Chitti neoli*, *Bhutmula*; Family- Capparaceae.

A strong smelling hairy annual herb of rainy season. Leaves alternate, long stalked, 5-foliolate, leaflets elliptic-ovate, acute, hairy, entire & sessile. Flowers white in corymbose racemes, both androphore & gynophores present.

**Medicinal Uses:** Leaf paste is recommended in rheumatism, neuralgia & headache. Seeds are rubefacient & anthelmintic. Also useful in scorpion bite.

27. ***Curcuma Aromatica* Salisb.**: Eng. Wild Turmeric; Hindi *Haldi*; Vern. *Halder*; Family- Zinziberaceae.

Leaves elliptic, 90-120 cm & 20 cm wide. Flowers pinkish-white with an orange lip, in a dense leafless spike crowned with enlarged coloured bracts tipped with pink & borne on a short stem with papery bracts. Rootstock tuberous, tubers yellow & aromatic inside.

**Medicinal Uses:** Rhizomes are used in gastric acid, indigestion, intestinal ulcers, bronchitis, asthma & whooping cough.

28. ***Cuscuta Reflexa* Roxb.**: Eng. Dodder; Vern. *Andle*, *Amar bel*; Family- Cuscutaceae.

A herbaceous parasitic climber with leaves reduced to scales forming dense interlacing masses of stout yellow to purplish stems and with lax clusters of fragrant white to pink flowers.

**Medicinal Uses:** Plant is useful in the infections of Scalp & hair wash as well.

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29. **Cyanodon Dactylon (L.) Pers.:** Eng. Bermuda grass, Bahmas grass; Hindi *Dub*; Vern. *Druva*, *Khabbal*; Sanskrit *Durva*; Family-Poaceae.

A tufted small grass bearing runners over soil.

*Medicinal Uses:* Infusion of the roots is given to stop bleeding from piles.

30. **Cyperus Rotundus L.:** Hindi *Mustaka*; Vern. *Deela*, *Motha*; Family- Cyperaceae.

Perennial sedge, 10-30 cm tall, stem trigonous at the top, leaves linear, sheathing, spikelets reddish brown, 2-3 in short spikes.

*Medicinal Uses:* Bulbous roots are astringent, anthelmintic, stomachic & emmenagogue. A poultice of roots is used on wounds, sores & ulcers.

31. **Datura Stramonium Linn.:** Eng. Thorn Apple, Stramonium; Hindi *Dhatura*; Vern. *Datura*; Family- Solanaceae.

An erect perennial, 2-4 ft. high with stems woody below & purplish towards tips. Leaves are 3-8 in. long by 2-4 in. broad, ovate-lanceolate. Flowers- solitary, erect, pedicellate, corolla 5-7 in. long, violet or purplish outside & white inside. Capsule globose.

*Medicinal Uses:* All parts are strongly intoxicant, narcotic, aphrodisiac, antispasmodic. Also used in asthma, whooping cough & bronchitis.

32. **Dioscorea Deltoidea, Wallich ex Griseb.:** Eng. Yam; Hindi *Shingli-Mingli*; Vern. *Shingli-Mingli*, *Krits*, *Kins*; Family- Dioscoreaceae.

A perennial climbing plant with hard spiny tubers. Leaves alternate, cordate-ovate, many nerved. Flowers unisexual in drooping spikes. Fruit- a 3-winged capsule.

*Medicinal Uses:* Tubers are a source of diosgenin which is used in the manufacture of contraceptive pills. Also used for curing swellings and sprains by local people.

33. **Diplazium Esculentum:** Hindi *Kasrore*; Vern. *Kasrore*, *Longer*, *Dhuskia*; Family-Athyriaceae.

A 3-4 ft. tall fern. Leaves 2-3 pinnate, leaflets ovate.

*Medicinal Uses:* Young fronds are eaten & also pickled. Considered effective against.

34. **Eclipta Alba:** Eng. Marsh Daisy; Hindi *Babri*, *Bhangra*; Vern. *Bhangra*, *Bhringraj*; Family- Asteraceae; Status- Common.

A procumbent to erect, rough, strigose herb often much branched & rooting from joints below, branches frequently purplish. Leaves usually oblong-lanceolate or elliptic. Heads white, axillary, on solitary or paired unequal peduncles.

*Medicinal Uses:* Useful against enlargement of liver, spleen & various skin diseases. Leaves are given in cough, alopecia & jaundice. Also used in hair oils.

35. **Ephedra Gerardiana, Wallich ex Stapf.:** Eng. Joint Pine, Desert Tea, Joint Fir, Young Weed; Hindi *Asmani-booti*; Vern. *Trudak*, *Tutjod*, *Asmani-booti*; Family- Ephedraceae.

A perennial shrubby plant with densely clustered slender erect green jointed twigs arising from a woody base. Male cones solitary or 2-3 together. Female cones solitary. Fruit scarlet red, edible.

*Medicinal Uses:* Dried twigs are used to get ephedrine drug for curing asthma. Also used in the treatment of bronchitis, rheumatism, syphilis & heart ailments (cardiac stimulant).

36. **Evolvulus Alsinoides L.:** Eng. Little Glory; Hindi *Mar*; Sanskt. *Vishnugandhi*; Vern. *Shankhpushpi*, *Shankholi*; Family- Convolvulaceae.

A perennial silver-hairy herb with ovate lanceolate leaves & bluish- white flowers in long stalks. *Medicinal Uses:* Acts as brain tonic & considered superior to *Brahmi-booti*. Finds use in asthma, bronchitis, leucorrhoea & scorpion bite.

37. **Euphorbia Hirta Linn.:** Eng. Common Spurge; Hindi *Dudhi*; Vern. *Dudhi*; Family- Euphorbiaceae.

A reddish brown hispid hairy herb. Leaves simple, opposite, superposed, sub-sessile, acute, ovate-elliptic with an oblique base. Flowers- large number of cyathia densely crowded & arranged in peduncled axillary cymes.

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**Medicinal Uses:** Used for bronchial ailments, skin diseases & piles.

38. ***Euphorbia Helioscopia* L.:** Eng. Sun Spurge; Vern. *Dudhi*; Family- Euphorbiaceae; Status-common.

A 15-40 cm. tall smooth stemmed annual herb. Leaves obovate. Flowers yellow borne in a flat topped cluster. All parts have milky white latex.

**Medicinal Uses:** Root is anthelmintic. Seed along with roasted pepper is used in cholera.

39. ***Fragaria Nubicola* Lindley ex. Lacaïta:** vern. *Akhrey, Panjaakha*. Family- Rosaceae; Status-common.

A small softly silky-haired perennial with trifoliolate leaves, with long runners which root at the nodes, with few white flowers 1.5-2.5 cm across. Fruit- globular, red.

**Medicinal Uses:** Roots are used as tea substitute; infusion of leaves is useful in diarrhea & mouth infection.

40. ***Fumaria Indica* (Hausskn.) Pugsley.:** Hindi *Pit-papra*; Vern. *Papra*; Family-Fumariaceae.

A glaucous annual herb commonly seen in the wheat crop as a weed. Leaves are much divided & irregular purple tipped pink flowers clustered in a raceme.

**Medicinal Uses:** Plant is used against fever & liver complaints.

41. ***Gentiana Kurroo, Royle.:*** Hindi *Karu*; Vern. *Karu, Neelkainth*; Family- Gentianaceae.

A perennial herb with several unbranched stems arising from the base. Leaves linear lanceolate, basal as well as cauline. Flowers sky blue with a paler spotted throat, borne solitary or 2-3 together.

**Medicinal Uses:** Used as a bitter tonic for improving appetite & stimulating gastric secretions. Drug is administered in fevers & urinary troubles.

42. ***Hedera Nepalensis* K.Koch.:** vern. *Karoori*; Family-Araliaceae; Status-common.

A woody climber, climbing by aerial roots. Leaves are simple, lanceolate to ovate, leathery, dark green & glossy. Flowers- tiny, many, yellowish-green, in stalked globular umbels. Fruit- globular, shining yellow, then black.

**Medicinal Uses:** An infusion of fruits is used in rheumatism.

43. ***Ipomoea Hedracea*:** Hindi *Krishna-beej*; Vern. *Kharpowa, Kaladana*; Family-Convolvulaceae. A herbaceous hairy climber, leaves ovate-cordate, acuminate, green to coppery-red depending upon the habitat. Flowers funnel like, purple, 5-6 cm. long.

**Medicinal Uses:** Used as galactagogue, purgative & tonic.

44. ***Jurinea Dolomiaea* Boiss.:** Vern. *Guggal, Dhooph*; Family- Asteraceae.

A stemless perennial of alpine slopes, leaves radical, pinnately branched. Flower heads purple.

**Medicinal Uses:** Roots are medicinal, used as stimulant & in fever & colic pains. Root extract is used as incense. Locally traded in J & K.

45. ***Lepidium Latifolium*:** Vern. *Smundersous*; Family-Lamiaceae; Status-common.

A annual herb 30-50 cm tall. Leaves small, entire, alternate & ovate. Fruit small flat silicula arranged in terminal inflorescences.

**Medicinal Uses:** Fruits are used to cure acute diarrhea.

46. ***Leucas Capitata*:** Hindi *Dronpushpi*; Vern. *Mall-Gha, Goma*; Family- Lamiaceae.

A stout hairy herb, stem 4-angled, leaves ovate-lanceolate, toothed. Flowers- white, corolla bi-lipped, aggregated in globose heads.

**Medicinal Uses:** Flowers are used in diabetes. Plant also finds use in earache, headache, piles, scabies, snakebite, gum troubles & constipation.

47. ***Lochnera Rosea* (L.) Reichb.** (Syn. *Catharanthus roseus* G.Don.); Hindi *Perivinkle*; Vern. *Sadda-bahar, Sadda-suhagan*; Family- Apocynaceae.

An introduced laticiferous glabrous perennial grown in gardens as an ornamental. Leaves are obovate, thick & leathery. Flowers pink.

**Medicinal Uses:** Roots & thick basal stem contain higher percentage of alkaloids & two of them vinblastine & vincristine are used as medicines in cancer therapy.

48. ***Mentha Longifolia*, (L.) Hudson.:** Eng. Horse-Mint; Vern. *Ban Pudina*; Family- Lamiaceae.



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A very aromatic hairy perennial, with tiny lilac flowers in whorls forming slender spikes at the ends of branches.

**Medicinal Uses:** Decoction is used on digestive complaints along with *Ajwain* & *Tulsi* leaves. It also finds use in mouth & throat irritation.

49. ***Micromeria Biflora* Benth.:** vern. *Sapraili*; Family-Lamiaceae.

A small usually tufted thyme-like shrublet 15-30 cm, with numerous tiny leaves and with axillary whorls of 1-4 small, stalked, pink or nearly white flowers. Leaves 4-6 mm, elliptic to ovate acute.

**Medicinal Uses:** Root is used as an antidote against snake-bite.

50. ***Mucuna Prurita* Hook.:** Eng. Cowitch; Hindi *Khajkhujli*, *Krainch*, *Kiwach*; Vern. *Jajooli*; Family- Papilionaceae.

A slender hairy climber, leaves trifoliate, leaflets unequal sided. Flowers purple 1.5 cm. long in drooping racemes. Hairs cause burning irritation.

**Medicinal Uses:** Infusion of pods used for dropsy. Ointment made of pod hairs is a local stimulant in paralysis & rheumatism. Hairs are also employed as an anthelmintic.

51. ***Ocimum sanctum* L.;** Eng. Holy Basil; Hindi *Tulsi*; Vern. *Tulsi*; Family- Lamiaceae.

It an annual hairy under-shrub and leaves opposite with long spreading hairs. Flowers bi-lipped & arranged in whorled cymose clusters.

**Medicinal Uses:** Used against bronchitis, skin ailments, respiratory & urinary troubles.

52. ***Oxalis Corniculata*, L.:** Eng. Common Sorrel; Hindi *Amrit-Sak*; Vern. *Ammi*, *Khatti-ammi*; Family- Oxalidaceae.

A small spreading hairy annual to perennial rooting at the nodes, with hairy trifoliate leaves. Capsule - about 2 cm, cylindrical.

**Medicinal Uses:** A fine paste of aerial parts of the herb along with few seeds of black pepper is applied on boils, abscesses & wounds.

53. ***Plumbago Zeylanica*, L.:** Eng. Leadwort, White Plumbago; Hindi *Chittra*; Vern. *Chittra*, *Chitrak*; Family- Plumbaginaceae.

A straggling perennial, leaves alternate, broad ovate. Flowers white in glandular inflorescence.

**Medicinal Uses:** Root is stimulant, stomachic, abortifacient & vesicant. Also used against rheumatism, paralysis & tumours.

54. ***Peristrophe Bicalyculata* L.:** Hindi *Kaakjangha*; Vern. *Harjodi*, *Chirchiri*; Family- Acanthaceae. An erect annual herb with opposite decussate branches, opposite leaves & pink bi-lipped corolla. Commonly seen along the hedges.

**Medicinal Uses:** Finds use in eye diseases, sprains, fractures, gout & rheumatism.

55. ***Persicaria Capitata* (Buch-ham ex. D. Don.):** vern. *Thippi*; Family-Polygonaceae.

It is a low trailing herb, leaves ovate. Flower heads pink.

**Medicinal Uses:** Herb possesses astringent, laxative, antiseptic & lithotriptic properties.

56. ***Phyllanthus Neruri*;** Hindi *Bhui- Amla*; Vern. *Hazarmani*; Family- Euphorbiaceae.

A 30-40 cm. tall annual herb of rainy season with oblong leaves, pale beneath. Flowers reddish-yellow, solitary axillary.

**Medicinal Uses:** Plant extract is useful against jaundice, also used against urinary troubles, gonorrhoea & sleeplessness in children.

57. ***Rubia Cordifolia* Linn.:** Eng. *Indian Madder*; Vern. *Manjeeth*; Family- Rubiaceae

A scabrid climber with quadrangular branches and whorled leaves. Flowers tiny, reddish brown. **Medicinal Uses:** Roots are used in rheumatism. Decoction of whole plant is very effective against treatment of diabetic foot ulcers and saves affected foot from being amputated due to setting in of gangrene.

58. ***Saussuria Costus* (Falc) Lipsch:** Eng. *Costus*; Vern. *Kuth*; Family- Asteraceae; Status- Critically Endangered.

A tall perennial herb, basal leaves long stalked & pinnately lobed, upper ones entire. Flower heads purple with numerous rigid involucre bracts having recurved tips.

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**Medicinal Uses:** Roots are insect repellent & used to protect garments from insect damage. It is also very useful in the treatment of bronchial asthma & joint pains. Locally traded in J & K.

59. ***Sida Cordifolia* L.:** Vern. *Ban-dhammi, Bala*; Family- Malvaceae.

An erect hairy under shrub, leaves are ovate, oblong, cordate; Flowers- yellowish.

**Medicinal Uses:** Used in leucoderma, rheumatism, spermatorrhoea, gonorrhoea, & other venereal diseases. Also effective against dysentery & stomachache.

60. ***Solanum Nigrum* Linn.:** Hindi *Makoi, Kakmachi*; Vern. *Kayankothi, Makoi*; Family- Solanaceae.

A herbaceous annual with alternate ovate leaves & small white flowers in axillary or extra-axillary drooping cymes. Berries red globose, finally become blackish.

**Medicinal Uses:** Used as cardiac tonic, sedative, expectorant, & cathartic. Recommended in chronic enlargement of liver & jaundice. Leaves are used in inflammation of kidney & bladder. Berries are given in fevers, diarrhoea & heart diseases.

61. ***Solanum Surratense*;** Hindi *Kantkari*; Vern. *Neeli kandiari, kanteli, Kantkari*; Family- Solanaceae.

A prostrate prickly under-shrub leaves lobed, studded with prickles; Flowers blue, 2.5 cm across.

**Medicinal Uses:** Used in treating cough, asthma, chest pain, sore throat, bladder stones, dropsy, gonorrhoea, snake-bite, piles, migraine & pyorrhea.

62. ***Sonchus Arvensis* Linn.:** Eng. Common Sow Thistle; Hindi *Dudhi*; Vern. *Dudhi*; Family- Asteraceae.

An erect annual herb about 1 m tall with grooved stem. Leaves toothed, deeply cut, long & narrow, ear-like extensions of leaves clasp around stem. Flowers yellow, terminal, pure white, silky seed seen after flowering.

**Medicinal Uses:** Whole plant is used in cholera, dysentery, jaundice, fever, inflammation, wound & cuts.

63. ***Stellaria Media*, (Linn.) Vill.:** Eng. Chickweed, Starweed; Vern. name: *Koku*; Family: Caryophyllaceae.

An annual, decumbent, glabrous, branching herb. Leaves ovate, usually cordate, lower ones stalked while upper ones sessile and narrow. Flowers in axillary or terminal cymes. Petals deeply two lobed. Capsules are ovoid.

**Medicinal Uses:** The plant makes a fine green cooling ointment that may be employed to treat acne and eczema. It may also be taken internally to treat chest ailments.

64. ***Tanacetum Dolichophyllum*, Kitam.:** Vern. *Amritdhara-ghas*; Family- Asteraceae.

An erect perennial with much dissected leaves & a dense rounded terminal cluster of relatively large yellow flower heads. Leaves 12-25 cm. usually grey-green, aromatic & oblong in outline.

**Medicinal Uses:** Leaves are made into round pills of the size of almond nut & swallowed with water in stomach pain & indigestion.

65. ***Taraxacum Officinale* Webr.:** Eng. Dandelion Vern. *Phull-Dudhi, Dudhi*; Family- Asteraceae.

A perennial laticiferous herb with basal leaves borne on rosette & palmately lobed. Flower heads yellow borne on a leafless stem.

**Medicinal Uses:** Roots are diuretic, tonic & employed in the treatment of chronic disorders of kidney & liver. Considered very good for ladies after childbirth.

66. ***Thymus Linearis* Benth in Wall:** Eng. Lemon Thyme, Wild Thyme; Vern. *Van-juain*; Family Lamiaceae.

An aromatic herb with opposite leaves, ovate 1 cm. Flowers pink purple borne in dense clusters.

**Medicinal Uses:** It is recommended in the: treatment of urinary & menstrual troubles. Also used as a tea substitute.

67. ***Tribulus Terrestris* L.:** Eng. Puncture Plant; Hindi *Gokhru*; Vern. *Gokhru, Bhakhra*; Family- Zygophyllaceae.

A prostrate hairy herb, leaves divided, leaflets 6-12, very small. Flowers yellow, solitary axillary. Fruit a spiny.

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**Medicinal Uses:** Recommended in disorders of urinary system for treating bladder stones, painful micturation. Also used in gonorrhoea, impotency & dropsy.

68. ***Urtica Dioica* L.:** Eng. Stinging Nettle; vern. *Kali Shadder*. Family-Urticaceae.

A 1m. tall stinging herbaceous perennial, leaves opposite, broad ovate & toothed, flowers tiny green borne in hanging clusters.

**Medicinal Uses:** used to excite the activity in paralyzed limbs. Also used in rheumatism.

69. ***Valeriana Jatamansii* Jones.:** Eng. Indian Valerian, All heal; Hindi *Sugandhbala*; Vern. *Mushkbala*, *Murmao*; Family- Valerianaceae; Status- Endangered.

A 15-45 cm forest perennial. Leaves ovate, cordate, 2.5-8 cm long, stalked, stem leaves lobed. Flowers pinkish-white, stigma trifid.

**Medicinal Uses:** Roots used medicinally in Ayurvedic formulations. Valtrats isolated from rhizomes have tranquilizing & sedative action. Also used in perfumes. Locally traded in J & K.

70. ***Verbascum Thapsus* L.:** Eng. Adam's Flannel; Vern. *Giddar Tamaku*; Family-Scrophulariaceae.

A tall unbranched stout herb, stem leaves sessile velvet hairy & oblong elliptic. Flowers yellow on terminal inflorescence.

**Medicinal Uses:** Decoction of roots is used for cramps & migraine. Leaves & flowers are used in pulmonary diseases. Also used on burns & wounds.

71. ***Viola Odorata*, Linn.:** Hindi *Bunafsh*; Vern. *Bunashaan*; Family-Violaceae.

A small perennial herb with violet flowers.

**Medicinal Uses:** Whole herb is boiled in water & used in cough, cold & throat problems.

72. ***Withania Somnifera*:** Hindi *Ashwagandha*; Vern. *Asgandh*; Family- Solanaceae; Status- Common.

A hairy under-shrub, leaves broad ovate, flowers 4-5 together in axillary clusters.

**Medicinal Uses:** Roots are used in sexual disorders & general weakness forms an important ingredient of 31 energy capsules.

73. ***Abutilon Indicum* Linn.:** Hindi *Atibala*; Vern. *Kangi*, *Peeli-booti*, *Son-patari*; Family- Malvaceae.

The hairy shrub, leaves cordate, toothed; Flowers – golden-yellow, 2.5 cm across.

**Medicinal Uses:** Used against impotency, piles, paralysis, urithritis, ulcer and gonorrhoea.

74. ***Adhatoda Vasica*, Nees.:** Hindi *Vasaka*, *Adusa*; Vern. *Brankad*; Family- Acanthaceae; Status- Common.

An unarmed shrub with broad ovate opposite leaves & bi-lipped pink spotted white flowers. Fruit is a dehiscent capsule.

**Medicinal Uses:** Antispasmodic & expectorant effect, used to treat asthma, chronic bronchitis. Powder of the shrub boiled with sesame oil is used to heal ear infections & arrest bleeding, boiled leaves are used in rheumatic pain & to relieve pain of urinary tract infection.

75. ***Asparagus Adscendens* Roxb.:** Eng. Asparagus; Hindi *Safed-Musli*; Vern. *Sainspaur*, *Chittimusli*; Family- Liliaceae; Status- common.

A shrub with stout terete stem & grooved ascending branchlets, spines .5-.7 in., stout, straight. Cladodes 6-20 together, terete & very slender. Racemes 1-2 in. long, many flowered, flowers white.

**Medicinal Uses:** Root is medicinal & used as tonic, aphrodisiac & galactagogue.

76. ***Berberis Lyceum* Royle.:** Eng. Barberry; Hindi *Daruharidra*; Vern. *Kemblu*, *Sumblu*, *Rasount*; Family-Berberidaceae.

A tall perennial shrub with spiny branches & spinous toothed sub-coreaceous leaves. Flowers yellow in drooping corymbose racemes. Fruit bluish purple, edible.

**Medicinal Uses:** Root bark yields *rasount* of commerce which is employed for curing ulcers, fevers, bleeding piles & eye sores.

77. ***Barleria Prionitis*:** Eng. Yellow Hedge Barleria; Hindi *Karunta*; Vern. *Kanda-Barenkar*, *Vajrandanti*; Family- Acanthaceae.

An armed shrub with opposite leaves & yellow flowers in dense spikes.

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**Medicinal Uses:** Bark is given in dropsy & whooping cough. Also recommended in ear complaints, gum troubles, piles, rheumatism & tuberculosis.

78. ***Cassia Occidentalis*, Linn.:** Eng. Ant- bush; Vern. Name *Baddi Heduyan*; Family: Caesalpiniaceae.

It is an under shrub. Leaves paripinnate, leaflets 6-10; leaflet, glaucous, acuminate, 2.5-7.5 cm long; racemes short peduncled, few-flowered, corolla pale yellow; stamens 6-7; pod 8-10 cm long, slightly falcate.

**Medicinal Uses:** Leaves, roots and seeds have been found to be purgative and are useful in cough and whooping cough. Leaves has antimalarial, antibacterial, antimutagenic, antiplasmodial and anticarcinogenic activity. Leaf decoction is used for malaria, fever, yellow fever, headache and conjunctivitis. Roots are considered as diuretic. Seeds are used as febrifuge and used for skin diseases.

79. ***Calotropis Procera* R. Br.:** Eng. Akund, Swallow wart; Hindi *Safed ak*; Vern. *Ak-datura*, *Jangli Ak*; Family- Apocynaceae (sub fam. Asclepidioideae)

A white mealy laticiferous shrub with sub-sessile coriaceous leaves, in opposite decussate pairs. Flowers- purplish with erect corolla lobes. Follicles- smooth.

**Medicinal Uses:** Flowers are used in cough, cold & asthma. Latex is used in skin diseases and also considered abortifacient. It is also recommended in epilepsy, rheumatism, spleen complaints & toothache.

80. ***Colebrookia Oppositifolia* Smith.:** Eng. Indian Squirrel Tail; Hindi *Binda*; Vern. *Dhuss*; Family- Lamiaceae.

A hoary shrub with grey bark. Leaves opposite, 4-10 by 1.5-3 in., oblong-elliptic, acuminate, softly tomentose, lateral nerves prominent. Spikes 2-4 in. long, in many branched panicles.

**Medicinal Uses:** Leaves are applied on painful joints & swelling.

81. ***Cryptolepis Buchanani* Roem. & Sch.:** Hindi *Krishna-Saariva*; Vern. *Kali- Terni*; Family- Ascelpiadaceae.

A laticiferous glabrous climber with elliptic oblong *jamun* like opposite leaves & pale-yellow flowers. Follicles divaricate & smooth.

**Medicinal Uses:** Bark is used against urinary troubles, loss of appetite & anaemia.

82. ***Lantana Camara*, L.:** Eng. Common Lantana; Hindi *Raimuniya*; Vern. *Panjfulli*; Family- Verbenaceae.

A rambling rough-hairy evergreen shrub with 4-sided branches, with ovate toothed leaves, and with long stalked rounded heads 2-3 cm across of many white, pale-purple, or commonly orange or yellow flowers.

**Medicinal Uses:** Leaves are antiseptic & used on wounds & externally for scabies. Leaf juice is used for skin itches.

83. ***Murraya Koenghii* Spreng.:** Hindi *Kari-Patta*, *Kath-Neem*; Vern. *Draikru*, *Draunkal*; Family- Rutaceae.

A strong smelling shrub, leaves about 1 ft. long, leaflets 11-25 ovate- lanceolate, gland dotted. Flowers pale yellow.

**Medicinal Uses:** Tender leaves are eaten in diarrhea & dysentery. A poultice of leaves applied over eruptions & bruises.

84. ***Nerium Indicum* Miller.:** Eng. Oleander; Hindi *Kaner*, *Lal Kaner*; Vern. *Lal Ganeera*, *Badhaa*; Family- Apocynaceae; Status- common.

An evergreen poisonous shrub with silvery-grey bark, usually seen in dry areas. Leaves in whorls of 3, linear-lanceolate or oblong, thickly coriaceous, acuminate, smooth, dark green & shining above. Flowers pink, red, in large terminal racemose cymes, petals twisted in bud, corona present.

**Medicinal Uses:** Roots are a cardiac poison; their paste is used in piles, skin diseases & inflammatory swellings. Root acts as an abortifacient.

85. ***Opuntia Dillenii*, Haw.:** Eng. *Prickly pear*; Vern. name: *Trappar Thor*, *Chhittar thor*; Family: Cactaceae.



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It is an evergreen xerophytic succulent shrub. Stem fleshy, jointed, subglobose or ovate flattened into phylloclades, bearing densely unequal, long, sharp spines & bristles. Leaves absent and reduced to spines. Flowers solitary, bright yellow, tinged with orange.

**Medicinal Uses:** Baked fruits are used in whooping cough, their syrup increases the flow of bile, controls the spasmodic cough and expectoration. The mashed stem is used as a poultice to allay inflammations and hot ones are applied to boils and abscesses. Pulp is also applied in ophthalmia.

86. ***Punica Granatum* Linn.:** Eng. Pomegranate; Hindi *Anar-dana*; Sanskrit *Dadima*; Vern. *Dhaduni*; Family- Punicaceae.

A deciduous shrub to a small tree with thin smooth & grey bark. Flowers- crinkle-petaled & scarlet.

**Medicinal Uses:** A paste made of the green leaves is applied for the cure of conjunctivitis. A decoction of the leaves is useful as eyewash and is an effective mouthwash. The root bark is also effective as a febrifuge for the treatment of leucorrhoea and hemorrhages. The fruit is valued as a stomachic and refrigerant. Bark of stem & root is effective against tape-worm.

87. ***Ricinus Communis* Linn.:** Hindi *Arandi*; Vern. *Arind, Airan*; Family- Euphorbiaceae.

An evergreen shrub of wastelands leaves 12-18 in. palmately lobed, serrate & long stalked.

**Medicinal Uses:** Decoction of leaves is used as purgative, galactagogue & emmenagogue. Roots are useful in rheumatism, lumbago & sciatica.

88. ***Solanum Xanthocarpum*:** Eng. Yellow-berried nightshade; Vern.name: *Peeli Kanteali, Kandiyari*; Family: *Solanaceae*.

A very prickly bright green, deep-rooted, ascending or spreading perennial under shrub. Stem branched, young branches stellate tomentose and covered with yellow, shining spines. Leaves, ovate, elliptic or pinnately lobed. Yellow sharp prickles present on midrib and often on veins. Flowers bluish-purple, few, in extra-axillary cymes.

**Medicinal Uses:** The whole plant is considered as expectorant, stomachic, diuretic, astringent, anthelmintic and alternative. It is used in cough, asthma, pain in chest, and certain kind of fevers. It is diuretic and considered useful in controlling stones of bladders. Also used in bronchitis, muscular pains, enlargement of liver and spleen, blood cancer, vomiting. The stem flowers and fruits are carminative and given in burning feet. The roots are carminative and form a constituent of Ayurvedic preparation 'Dasmula'.

89. ***Thalictrum Foliosum* DC.:** Eng. Meadow Rue; Hindi *Mamiri*; Vern. *Beeni*; Family- Ranunculaceae.

A perennial herb with pinnately compound leaves, leaflets 3-5 & sub-orbicular. Flowers greenish with filiform filaments.

**Medicinal Uses:** Roots medicinal, decoction is used in ophthalmia. Folk healers prescribe in treating mammary abscess.

90. ***Tinospora Cordifolia* Miers.:** Hindi *Giloe.*; Vern. *Garoe, Galoi, Gaduchi*; Family- Menispermaceae.

It is a large twiner with succulent stem, light grey, papery at first then corky. Leaves smooth cordate, petiolate. Flowers small, yellow, in long slender racemes; male ones in fascicles, females usually solitary. Sepals & petals 6 each, Drupes 1-3, red.

**Medicinal Uses:** The stem is used in constipation, fever, burning sensation, vomiting, diuretic, enriches blood, to cure jaundice and also useful in skin diseases. The juice is useful in diabetes and in enlarged spleen. Used in Ayurvedic preparations like Meryton Syrup to rejuvenate body vigour & to regulate blood metabolism.

91. ***Urena Lobata*, Linn.:** Eng. Common Purple Mallow; Hindi *Bachita*; Vern. *Dhamjojda, Dhamni*; Family- Malvaceae.

A variable shrubby perennial to 2 m, with short-stalked clusters of pink flowers. Leaves are heart shaped, 3-5 cm long, shallow lobed & densely hairy. Flowers- 3 cm across. Fruit- spiny & hairy.

**Medicinal Uses:** Roots used as an external remedy for rheumatism. Flowers used to purify blood.

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92. ***Vitex Negundo* L.:** Eng. Common Chaste Tree; Hindi *Sambhalu*; Vern. *Bana, Nilpushpi*; Family-Verbenaceae.

An aromatic shrub with digitately compound leaves, leaflets ovate-lanceolate, whitish beneath. Flowers are blue, borne terminally in cymose panicles. Common shrub along roadside & on river banks.

*Medicinal Uses:* Leaves are used as febrifuge, diuretic, emmenagogue & expectorant. Roots are demulcent, diuretic & expectorant. Flowers are astringent & cardiac tonic. Paste of leaves is applied on the wounds. Twigs are used to keep away evil spirits.

93. ***Woodfordia Fruticosa* Kurz.:** Eng. Fire bush; Hindi *Dhataki*; Vern. *Dhayee*; Family-Lythraceae.

A large deciduous shrub of roadside ridges with long spreading branches. Stem more or less fluted. Leaves opposite or sub-opposite, sub-sessile, 2-4 by 1 in., lanceolate or ovate-lanceolate, acuminate. Flowers in short paniced axillary cymes, flowers red, tubular, stamens protruding.

*Medicinal Uses:* Dried flowers are astringent, given in leucorrhoea, menorrhoea, piles & liver complaints.

94. ***Zanthoxylum Armatum* DC.:** Vern. *Timbru, Tirmru, Timar*; Family- Rutaceae; Status-Endangered.

A prickly shrub, leaves alternate, pinnate with winged rachis having prickles beneath. Flowers yellow, tiny in dense clusters. Fruit- a capsule, 3-4 mm, globular, red when ripe, wrinkled, aromatic, seed shining black.

*Medicinal Uses:* Bark, fruits & seeds are extensively used in medicine as carminative, stomachic & anthelmintic. Fruits are effective against tooth ache. Essential oil obtained from fruits is used in tooth powders.

95. ***Ziziphus Nummularia* (Burm.f.) Wight & Arn.:** Eng. Jujuva, Indian cherry plum; Vern. name *Foadi, Jhar beri, Jangli ber*; Family: Rhamnaceae.

A straggling, thorny shrub with widely-divaricating branches. Stipular prickles in pairs, one straight other curved. Leaves ovate to orbicular, rounded at the apex and base, densely tomentose beneath, serrate, dark green and velvety above. Flowers pale yellow, in axillary cymes; petals spathulate. Drupe about 1cm in diameter, globose, edible.

*Medicinal Uses:* Bark, a remedy in diarrhoea, cures kapha, biliousness and diarrhoea. They are antipyretic, reduce obesity. Fruit is mucilaginous, pectoral, styptic, considered to purify blood and help in digestion. They are cooling, aphrodisiac, anodyne, tonic and laxative.

96. ***Acacia Nilotica*, L.:** Eng. Egyptian thorn; Hindi *Babool*; Vern. *Kikar*; Family-Mimosaceae; Status- Common.

A moderate-sized tree with large spreading crown and dark- brown fissured bark. Spines .5-2 in. long, straight, white, sharply pointed. Leaves- 1 to 2 in. long and bipinnate. Leaflets in 10 to 20 pairs. Flowers- yellow, fragrant and in axillary globose heads. Pod- generally solitary, 4-6 in. by .5 in., deeply indented between the seeds (lomentum).

*Medicinal Uses:* The decoction of bark yields spongy gum which is useful in sore throat, for washing ulcers, to stop bleeding from wounds, skin diseases and as an astringent for diarrhea & leucorrhoea. Also used against eye ailments and liver complaints.

97. ***Aegle Marmelos* Corr.:** Eng. Bael, Bengal Quince; Hindi *Bel*; Vern. *Bil-patri*; Family- Rutaceae; Status-Common.

A deciduous spiny tree with trifoliate leaves and greenish-white flowers; Fruit- woody.

*Medicinal Uses:* The unripe fruit is astringent, stomachic, antiscorbutic and digestive. The ripe fruit is good for the heart, brain, digestive system & for back pain.

98. ***Aesculus Indica* (Colebr. Ex. Cambess.) Hook.:** Eng. Horse Chestnut; Vern. *Goon*; Family-Hippocastanaceae.

A large deciduous tree to 30 m or more with distinct long-stalked palmate leaves. Leaflets 5-9, elliptic, pointed and sharply toothed. Inflorescence with large terminal narrow pyramidal clusters of white flowers. Fruit- ovoid, 1-2 in., smooth; seeds 1-3, dark-brown and shining.

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**Medicinal Uses:** Oil from the seeds is externally applied against rheumatism. Seeds are given to horses in colic pain.

99. ***Albizia Lebbeck (L.) Benth.***: Eng. Albizia; Vern. *Siri*; Family-Mimosaceae.

A large deciduous tree with a spreading crown and dark grey bark. Leaves- large, bipinnate; leaflets- 4-9 pairs, oblong, oblique, obtuse and glabrous. Flowers- greenish-white, fragrant. Pod- 8 to 12 in. by 1-1.7 in., flat, thin, firm and straw coloured.

**Medicinal Uses:** The mild heated juice of the leaves of Albizia & Mango is used against earache. Leaves are also effective against cough. Bark strengthens the gum & flowers are used in chronic cough & asthma.

100. ***Alstonia Scholaris (L.) R.Br.***: Eng. Devil's Tree; Hindi *Saptparna*; Vern. *Satpatra*; Family-Apocynaceae; Status- Common.

An evergreen tree with digitate compound leaves which are dark green & shining. Flowers are greenish-white & fruit cylindrical.

**Medicinal Uses:** Bark is medicinal, used as an ingredient of Ayush-64 anti-malarial drug. Also used in asthma, bronchitis, pneumonia, mouth ulcers, neuralgia & tuberculosis.

101. ***Azadirachta Indica A. Juss.***: Eng.; Hindi *Neem*; Vern. *Nemm*; Family- Meliaceae;

A medium size deciduous tree with large bipinnate leaves, leaflets with an oblique base; Flowers lilac-blue, in numerous axillary cyme bearing panicles. Fruit a drupe, about .5 in. in diameter.

**Medicinal Uses:** Leaves are Anthelmintic, expetorantc, diuretic and insecticidal. Bark is bitter tonic. Also effective against skin ailments. Oil is used for healthy hair.

102. ***Bauhinia Variegata L.***: Eng. Mountain ebony; Hindi *Kachnar*; Vern. *Krail*; Family-Caesalpiniaceae.

A fairly large tree with 4-6 in. long leaves, deeply cordate, cleft about a quarter and lobes obtuse. Flowers- large, fragrant, 4 petals white and 1 purplish-red. Commonly seen in the Shiwaliks and blooms when leafless.

**Medicinal Uses:** Bark is anti-inflammatory, useful in skin diseases, scrofula and ulcers. The bark is alterative tonic, blood purifier, anthelmintic and astringent. Its decoction is given in scrofula, ulcers, syphilis, leprosy and other skin diseases. It is an effective wash for skin diseases, also useful in diarrhoea and liver complaints.

103. ***Bombax Ceiba L.***: Eng. Silk-Cotton Tree; Hindi *Semul*; Vern. *Simbal*; Family-Bombacaceae.

A Large deciduous tree commonly seen in the Shiwaliks. Stem is straight, covered with large conical prickles when young, branches whorled and horizontally spreading. Leaves are digitate compound. Flowers are large, 4-5 in. across, fleshy and crimson-orange. Fruit is a large capsule enclosing seeds surrounded by silky hairs.

**Medicinal Uses:** Bark is used in diarrhea, dysentery, menorrhea, stomach complaints, diabetes and menstrual disorders. The gum is well known astringent and used for surgical dressing of wounds. For the treatment of diarrhea and chronic dysentery.

104. ***Butea Monosperma (Lam.) Kuntze.***: Eng. Flame of the Forest, Dhak; Hindi *Palash*; Vern. *Palah*; Family-Papilionaceae.

A small deciduous tree. Leaves- trifoliate, leaflets rhomboid, lateral leaflets are smaller, terminal leaflet broadly obovate, all silky beneath. Blooms when leafless and thus giving a spectacular look. Flowers-bright red and tinged with orange.

**Medicinal Uses:** Tree gum is useful in diarrhea. Seeds are used against intestinal worms & root bark to restore blood pressure.

105. ***Cassia Fistula Linn.***: Eng. Indian Laburnum, Golden Shower; Hindi *Amaltas*; Vern. *Krongal*, *Keyaal*, *Sinaru*; Family-Caesalpiniaceae.

A small deciduous tree with pinnate leaves, leaflets 4-8 pairs, ovate-lanceolate. Flowers- yellow in drooping racemes. Blooms when leafless.

**Medicinal Uses:** The pulp of the fruits is laxative & used in curing constipation. The plant is also used in cough, urine problem & joint pains.

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106. ***Catunaregum Spinosa* (Thunb.) Tirveng.:** Hindi *Mainhar, Madan*; Vern. *Rara*; Family- Rubiaceae.

A small deciduous tree with stout axillary spines, opposite obovate leaves & pale white flowers 2 cm. across. Fruit round & yellow.

*Medicinal Uses:* Fruit is emetic, expectorant & antispasmodic. Bark is sedative, astringent, & given in diarrhea & dysentery. Also given in fevers to relieve bone-ache.

107. ***Cedrus Deodara* (Roxb.) G. Don.:** Eng. Himalayan Cedar, Deodar Tree; Hindi *Deodar*; Vern. *Diar*; Family- Pinaceae.

An evergreen tree with bark vertically fissured, leading shoot pendent, leaves needle like, male catkins erect. Cones solitary, scales imbricate.

*Medicinal Uses:* Decoction of the wood is used in the treatment of urinary disorder, piles, kidney stones & diabetes.

108. ***Cordia Obliqua* Willd.:** Eng. Clammy cherry, Broad-leaved sebestan, Hindi *Bada-risalla, Lasora*; Vern. *Lasura*; Family- Boraginaceae;

A middle-sized deciduous tree with grey to brown bark. Leaves are simple, large, broad-ovate, margins wavy, coriaceous and glabrous above. Flowers are white, polygamous and in corymbose cymes. Drupe is yellow and glossy when ripe, usually 1-seeded and filled with viscid pulp.

*Medicinal Uses:* Bark is useful against infections of mouth. Fruits are used in cholera, dysentery & dropsy.

109. ***Crateva Adansonii* DC. Subsp. *Odora* Jacobs.:** Eng. Sacred barna; Hindi *Barna*; Vern. *Barna*; Family-Capparaceae.

A deciduous tree with lenticellate branchlets & trifoliate leaves. Flowers pale yellow or white. Gynophore present.

*Medicinal Uses:* Bark is demulcent, antipyretic, & sedative, useful against urinary troubles, fever & gastric irritation.

110. ***Dalbergia Sissoo* Roxb.:** Eng. The sissoo tree; Hindi *Shisham*; Vern. *Tahli*; Family- Papilionaceae.

A fairly large tree with grey bark, somewhat reticulately longitudinally furrowed, exfoliating in narrow strips. Leaflets 3-5, alternate, 1-2.5 in. diam. Broad-ovate or rhomboid, tough, acuminate, glabrescent. Flowers .2-.3 in long, pale-white, in racemes arranged in short axillary panicles. Fruit a legume 2-3 by .3-.5 in., strap shaped.

*Medicinal Uses:* Freshly prepared extract of leaves mixed with honey is considered good for eyesight. Also useful in jaundice, skin diseases, cures boils & pimples.

111. ***Emblica Officinalis* Gaertn.:** Eng. Emblic Myrobalan, Indian Gooseberry; Vern. *Amla*; Sanskrit *Amulki, amalaki, amala*; Family- Euphorbiaceae; Status- Common.

A deciduous tree with tiny leaves arranged in distichous manner. Fruit- a globose drupe.

*Medicinal Uses:* Fruit forms an important constituent of *Triphala* which is used as laxative and in treatment of piles, liver, stomach complaints, anaemia, heart complaints, urinary troubles.

112. ***Erythrina Subrosa* Roxb.:** Eng. Coral Tree; Hindi *Pangra*; Vern. *Thubb*; Family- Papilionaceae. A medium-sized tree with spiny, corky, deeply fissured bark and spines present on branches. Leaves- compound, leaflets 3, broadly ovate, the terminal largest, 3-5 in., all densely hairy beneath often with reddish-brown hairs. Flower- scarlet red, in short crowded clusters at the ends of branches. Fruit- a hairless pod, cylindrical and long pointed.

*Medicinal Uses:* Leaves are cathartic, galactagogue & emmenagogue. Bark is used as laxative, expectorant, anthelmintic & febrifuge.

113. ***Eucalyptus Citriodora* Hooker.:** Eng. Eucalyptus; Hindi *Safeda*; Vern. *Safeda*; Family- Myrtaceae.

A large tree with smooth silver-grey bark. Leaves are simple, alternate, vertical, petiolate, ovate to lanceolate, acuminate & falcate. Flowers in umbels or heads. Stamens very numerous, capped in bud with a caduceus operculum. Fruit a woody consisting of the enlarged calyx-tube, seeds often very minute.



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**Medicinal Uses:** Decoction of leaves is useful in cough & cold.

114. ***Ficus Benghalensis L.***: Eng. Banyan Tree; Vern. *Bro*; Family-Moraceae.

A large spreading tree, with aerial roots descending from the spreading branches which root in the ground. Leaves are leathery ovate & blunt with entire margins, blade 8-20 cm & with thick leaf-stalk 1-5 cm. Figs in pairs, globular, hairy, stalkless 1.3-2 cm, red when ripe.

**Medicinal Uses:** The latex of this tree as also of *Ficus carica* is used to expel out thorns broken inside the body.

115. ***Ficus Racemosa L. (Syn. Ficus Glomerata)***: Eng. Country Fig, Cluster Fig; Vern. *Goolar Rumble*; Family- Moraceae;

A large tree usually seen near streams or ponds. Bark yellowish-grey or rusty with milky latex. Leaves- 4 to 6 in. long, leathery, tapering at both ends. Receptacles arise in large clusters directly from trunk or main branches, red when ripe and about an inch across.

**Medicinal Uses:** Fruits are used in the treatment of dry cough and loss of voice. Fruits are also used in kidney troubles. Latex is applied in wound healing.

116. ***Ficus Carica Linn.***: Hindi Anjir; Vern. Name *Fukada, Fukadi*; Family Moraceae.

A deciduous shrub or a small tree with dull grey bark. Stem erect woody, branched with gum exuding from its surface. Leaves cordate, more or less deeply lobed. Receptacles axillary, solitary or rarely in pairs, which ripen into purple -brown, pear shaped fruit.

**Medicinal Uses:** The sugars within the fruit have a pronounced but gentle laxative effect; syrup of figs is still a remedy for mild constipation. The fruit's emollient pulp helps to relieve pain, inflammation, swellings and gum abscesses. The milky latex from leaves and stems is reputed to be analgesic and has long been used to treat warts, insect bites and stings.

117. ***Helicteres Isora Linn.***: Hindi *Marorephali*; Vern. *Marorephali*; Family- Sterculiaceae.

A moderate sized tree, leaves broad ovate, serrate with shallow lobes. Flowers scarlet red, 2.5 cm. across.

**Medicinal Uses:** Pods are demulcent & mildly astringent. Used against intestinal disorders & ear complaints.

118. ***Holarrhena Pubescens Wall. Ex G. Don (syn. H. Antidysentrica Wall. Ex A.DC.)***: Hindi *Kogar*; Vern. *Kogar, Indrajau, Koda*; Family- Apocynaceae.

A small deciduous tree with rough brown bark, exfoliating in regular flakes. Leaves opposite, 6-12 by 2-5 in, elliptic-oblong, acute or acuminate, sub-coriaceous, glabrous or pubescent. Flowers white or cream in colour, slightly scented, in terminal corymbose cymes. Fruit of two distinct divaricate follicles.

**Medicinal Uses:** Bark & seeds are used against diarrhea & dysentery. It is also recommended in epilepsy, gout, leucoderma, menstrual complaints, snake bite & jaundice.

119. ***Juglans Regia Linn.***: Eng. Walnut; Hindi *Akhrot*; Vern. *Khoad*; Family- Juglandaceae.

A large aromatic deciduous tree with velvety shoots and grey bark which is longitudinally fissured. Leaves are imparipinnate, 6-15 in. long, tomentose when young, leaflets are large, elliptic-oblong and entire.

**Medicinal Uses:** The leaves are given in scrofula, rickets & leucorrhoea. The leathery pericarp of unripe fruits is grinded & applied on skin diseases.

120. ***Lannea Coromandelica (Houtt.) Merr.***: Hindi *goonja*; Vern. *Kemba*; Family-Anacardiaceae.; Status- common.

A medium size tree, leafless when in flower. Leaves pinnate, crowded towards end of branches. Flowers-pale yellow, unisexual, in long slender inflorescences, crowded towards ends of branches.

**Medicinal Uses:** Bark is used in sore throat & mouth, also good for teeth & gums. Leaves are applied on swellings & pains.

121. ***Litsea Umbrosa Nees.***: Eng. Aromatic Litsea; Vern. Singlu, Sangla, Chindu; Family- Lauraceae.

A moderate-sized evergreen tree with a spreading crown and dark-brown bark. Leaves- simple, alternate, 3-6 in. long, oblong-elliptic or oblong-lanceolate, thinly coriaceous, glabrous above, glaucous beneath, usually sub- triplinerved at the base, petiole about 1 in. Umbels in small, 4-5 flowered sessile clusters.

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Flowers yellowish. Fruit- .3 in. diam., globose or oblong. An oil is extracted from the fruit which is applied on ailments.

*Medicinal Uses:* Fruit oil is used for treatment of skin diseases.

122. ***Mallotus Philippensis (Lam.) Muell.-Arg.***: Eng. Monkey Face Tree, kamela tree, Kumkum; Vern. *Kaamla*; Family- Euphorbiaceae; Status- Common.

A small evergreen tree with thin, dark-grey and somewhat rough bark. Young branches are rusty. Leaves- alternate, simple, petiolate, 3-9 in. long, ovate, ovate-oblong or lanceolate, entire or closely toothed, glabrous above, pubescent and with close-set red glands beneath. Fruit- a 3-lobed capsule, .5 in. across, covered with a crimson powder when ripe.

*Medicinal Uses:* Fruits used as anthelmintic, fruit powder is beneficial for expelling worms. Also used in constipation & various skin ailments.

123. ***Melia Azedarach Linn.***: Eng. Persian Lilac, Pride of India, China Tree; Vern. Draink; Family- Meliaceae.

A medium size tree with 2-3 pinnately compound leaves. Flowers are in terminal panicles, lilac.

*Medicinal Uses:* Leaves are useful in expelling the worms. Seeds are used in rheumatism.

124. ***Moringa Oleifera***: Eng. Wild Drum Stick Tree; Vern. *Soajna*; Family- Moringaceae.

A medium sized deciduous tree, leaves 2-3 pinnate, leaflets 6-9 pairs. Flowers pinkish white. Pods cylindrical.

*Medicinal Uses:* Poultice of leaves used for healing wounds, boils & swellings. Bark is used in chest disorders, rheumatism & nervous complaints. Roots are pickled.

125. ***Oroxylum Indicum (L.) Kurz.***: Eng. Shyonak Tree; Vern. *Tantra*; Family- Bignoniaceae; Status- Common.

A small tree with few branches and a small open crown. Leaves- opposite, 3-pinnate near the base, 2-pinnate about the middle and simply pinnate towards the apex, 4-6 ft. long. Capsule 2-valved, 18-30 by 3 in. Flowers fleshy, red brown, malodorous. Pods large, flat, 15-30 in. long, buffalo horn like.

*Medicinal Uses:* Root bark is astringent, stomachic. Its decoction is used in rheumatic fever, cough, biliousness, diarrhea & dysentery.

126. ***Parkinsonia Aculeate, Linn.***: Eng. Jerusalem thorn, Jelly bean tree; Vern. name: Vedi-bathal; Family: Caesalpiniaceae.

A large shrub or small tree, up to 5 m tall with 3-sharp spines at each node, branches glabrous. Leaves modified as phyllodes with 2-6 pinnae on flattened rachis; rachis with minute, oblanceolate leaflets. The flowers are yellow and fragrant, 5 petaled, 20 mm in diameter, growing from a long slender stalk in groups of eight to ten. The fruit is a seedpod.

*Medicinal Uses:* Extracts of leaves, fruits and bark are used in herbal medicine to treat arthritis, fever & nerve stimulant.

127. ***Phoenix Sylvestris Roxb.***: Eng. Wild Date Palm; Hindi *Khajur*; Vern. *Khajur*; Family- Araceae; Status- common.

Trunk stout 7-13 m, covered with persistent leaf-bases & topped by a crown of large feathery pinnate leaves about 3-5 m long.

*Medicinal Uses:* Leaves extract is used for general body weakness.

128. ***Pinus Roxburghii Sergeant.***; Eng. Long leaved Pine, Three Leaved Pine, Chirpine; Vern. *Cheer*; Family- Pinaceae.

A lofty tree with soft flaky bark & resinous wood. Leaves needle like, aggregated in bundles of three. Female cones woody.

*Medicinal Uses:* Oil of turpentine is medicinal (applied for the dressing of wounds).

129. ***Pistacia Chinensis Subsp. Integerrima Stew.***: Eng. East Indian Mastiche; Hindi *Kakra*; Vern. *Kakarsinghi*; Family- Anacardiaceae.

A middle-sized deciduous tree with rough grey and thin bark. Leaves- alternate, imparipinnate, 6-9 in. long, leaflets in 4-6 pairs, sub-opposite, lanceolate, acuminate, entire and glabrous. Drupe- .3 in. across, oblique, broader than long, glabrous rugose.

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**Medicinal Uses:** The galls (*kakarsingi*) are used in medicines.

130. ***Prunus Persica* Batsch.:** Eng. Peach, Bells of Georgia; Vern. name: Aru; Family; Rosaceae.

A large shrub or small tree. Leaves oblong lanceolate, finely serrate, with petiolar and marginal glands. The flowers are produced in early spring before the leaves; they are solitary or paired, 2.5–3 cm diameter, pink, with five petals. Fruit a pome, variable in size and shape, pubescent, yellow or red-spotted. Seeds (stones) hard, deeply pitted.

**Medicinal Uses:** The plant is astringent, demulcent, diuretic, expectorant, febrifuge, laxative, parasiticide and mildly sedative. The bark is demulcent, diuretic, expectorant and sedative and used in gastritis, whooping cough, coughs, bronchitis to relieve vomiting and morning sickness during pregnancy. The dried and powdered leaves have been used to heal sores and wounds. The flowers are diuretic, sedative, vermifuge and used internally in the treatment of constipation and oedema. The seed is antiasthmatic, antitussive, emollient, haemolytic, laxative, sedative and used internally in the treatment of constipation, coughs, asthma and menstrual disorders.

131. ***Ricinus Communis*, Linn.:** Eng. Castor bean ; Vern. name: *Arindi, Rind, Arand*; Family *Euphorbiaceae*.

A glaucous evergreen shrub, stem erect, herbaceous above and woody below. Leaves, alternate palmately lobed, lobes ovate-oblong or lanceolate, serrate. Flowers monoecious upper female and lower male, greenish yellow, in branching racemes. Capsules prickly. Seeds oblong and smooth. **Medicinal Uses:** The leaf juice is given as an emetic in narcotic poisoning, a decoction of leaves is purgative, lactagogue and emmenagogue. A paste of fruit is applied in toothache. A poultice of seeds is applied to scrofulous sores, boils and rheumatic swellings. It is an effective purgative, generally given in acute diarrhoea, especially if caused by food poisoning. The oil of seeds is usually given in constipation during pregnancy, before and after childbirth to the mother.

132. ***Salix alba* Linn.:** Eng. White Willow; Vern. *Badha*; Family- *Salicaceae*.

A small deciduous tree to 5 m with narrow-elliptic, finely toothed leaves 4-5 cm, bright green above, becoming hairless & glaucous or pale beneath.

**Medicinal Uses:** Leaves & bark possess analgesic properties.

133. ***Syzygium Cumini* (L.) Skeels.:** Eng. Java Plum, Indian Blackberry; Hindi *Jamun*; Vern. *Dhallen, Jamun*; Family- *Myrtaceae*.

An evergreen tree with opposite leathery leaves & small greenish white flowers. Fruit purple drupe. **Medicinal Uses:** Dried seeds are recommended against diabetes. Bark is given in diarrhea & dysentery. Decoction of bark is efficacious for mouth troubles.

134. ***Taxus Wallichiana* (Zucc.) Pilger:** Eng. Himalayan Yew; Vern. *Birhmi, Brahmi, Thuneer*; Family-*Taxaceae*.

A medium sized gymnospermous tree, with linear flattened leathery leaves borne in 2 ranks on hairless branchlets. Fruit red & fleshy.

**Medicinal Uses:** Bark is used as tea substitute by locals. Bark is used as source of Taxol & also as tea substitute. Taxol is useful in cancer treatment.

135. ***Terminalia Bellirica* (Gaertn.) Roxb.:** Eng. Beliric Myrobalan; Vern. *Behra*; Hindi *Bahera*; Family- *Combretaceae*; Status- Common.

A deciduous large tree, leaves obovate, entire crowded towards the ends of branches. Fruit- an ovoid. **Medicinal Uses:** Fruit forms an important constituent of *Triphla* which is used as laxative and in treatment of piles, liver, stomach complaints, anaemia, heart complaints, urinary troubles.

136. ***Terminalia Chebula* Retz.:** Eng. Chebulic Myrobalan; Hindi *Harad*; Vern. *Harad, Rheed*; Family- *Combretaceae*.

A large deciduous tree. Leaves sub opposite, ovate-oblong. Flowers are dull white. Fruit- an ellipsoid drupe.

**Medicinal Uses:** Fruit is used in *Triphla*, *Chawanprash*, Blumin Syrup. Effective against chronic ulcers & mouth inflammations. Acts as laxative.

### **Research Article**

### **RESULTS AND DISCUSSION**

Most of the area of the district lies in the Shiwaliks including Billawar, Basohli and Bani tehsils. Each of these Tehsils has so many villages and many of them are inaccessible because of lack of road connectivity. Therefore, people inhabiting such remote villages keep strong faith in medicinal plants to get rid of day to day ailments related to their health and well being. They find it difficult to travel a long distance to fetch a tablet to get relief from headache or toothache or diarrhea and so and so whereas plants of medicinal value are found growing in their doorsteps. Hence, the knowledge of medicinal plants descends from generation to generation. In the present study it has also been inferred that the use of medicinal plants in some cases provide better relief than otherwise. *Ajuga bracteosa* is proven to give better relief to Diabetics. A total 135 species spread over 72 families have been reported and many more are yet to be explored. It has also been reported that a number of the medicinal plants are over-exploited through their extensive marketing in the nearby Amritsar Market or local consumption resulting in their rarity & even endangered status. In this category mention may be made of the plants like *Zanthoxylum armatum*, *Trillium govianum*, *Valleriana jatamansi*, *Taxus wallichiana* etc.

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