



Some medicinal
plants

Abelmoschus esculentus



- **Family** - *Malvaceae*.
- **Habitat** - Native to tropical Africa; cultivated throughout India, up to 1350 m.
- **English** - Gumbo, Lady Finger, Okra.
- **Ayurvedic** - Bhaandi, Bhindaka, Bhendaa.
- **Unani** - Baamiyaa.
- **Siddha/Tamil** - Vendai.
- **Folk** - Bhindi, Raamturai.
- **Action**- Immature pods (decoction)—emollient, demulcent and diuretic (in catarrhal affections, ardor urine, dysuria, dysentery). Seeds—antispasmodic. Fatty fraction of the fresh watery extract of the seeds causes destruction of cancerous cell growth *in vitro*. The pods are reported to exhibit antitumour activity. An ethanolic extract of pods was effective against Gram-positive bacteria. The ripe fruits contain quercetin, hyperin (hyperoside), hydrolysate of precipitated mucilage, proanthocyanidins, D-glucose, D-glucuronic and galacturonic acids. Fresh flowers contain flavonol glycosides and anthocyanins.

Abies pindrow



- **Family** - *Pinaceae*.
- **Habitat** - Kashmir, Himachal Pradesh, Tehri-Garhwal and other areas of northern India, at altitudes of 2,100–3,600 m.
- **English** - Pindrow-Fir, Silver-Fir, The West-Himalayan Low-Level Fir.
- **Ayurvedic** - Taalisha (related sp.).
- **Folk** - Badar, Morinda, Raisalla, Ransla.
- **Action** - Expectorant, bronchial sedative, decongestant, antitarrhal, antiseptic, carminative. Terpenoids, flavonoids, glycosides and steroids of the leaf were found to have mast cell stabilizing action in rats. Terpenoids and flavonoids offered bronchoprotection against histamine challenge in guinea pigs. The ulcer protective action of petroleum ether, benzene and chloroform fraction has been attributed to steroidal contents. Terephthalic acid dimethyl ester (TADE), isolated from the leaf, exhibited protection against inflammation and bronchospasmin guinea pigs. Ethanolic extract of leaves showed significant anxiolytic effects on all the paradigms of anxiety, barbiturate hypnosis potentiation. Pindrolactone, a lanostane-based triterpene lactone, isolated from the leaves, showed mild activity against Gram-positive bacteria but exhibited potent antibacterial activity against Gram-negative bacteria *E. coli*.

Abroma augusta



- **Family** - *Sterculiaceae*.
- **Habitat** - Throughout the hotter and moister parts of India, from Punjab and Uttar Pradesh, eastwards to Arunachal Pradesh, Assam, Meghalaya and Tripura, ascending to 1,200 m, southwards in Peninsular India.
- **English** - Perennial Indian Hemp, Devil's Cotton.
- **Ayurvedic** - Pishaacha Kaarpaasa, Pivari.
- **Unani** - Ulat-kambal.
- **Siddha/Tamil** - Sivapputtuti.
- **Folk** - Kumal, Sanukapaasi.
- **Action** – Root bark—emmenagogue (used for dysmenorrhoea, amenorrhoea), abortifacient. The root contains abromine (betaine), friedelin, abromasterol, abromasterol A, choline, beta-sitosterol, stigmasterol and octacosanol. Leaves, reported to be useful in treating uterine disorders, contain taraxerol, its acetate and lupeol.

Abrus precatorius



- **Family** - Papilionaceae; Fabaceae.
- **Habitat** - Throughout the country, ascending to an altitude of about 1050 m in the outer Himalayas.
- **English** - Indian Wild Liquorice, Jequirity, Crab's Eye, Precatory Bean.

Ayurvedic - Gunjaa, Gunjaka, Chirhintikaa, Raktikaa, Chirmiti, Kakanti, Kabjaka, Tiktikaa, Kaakananti, Kaakchinch. (Not to be used as a substitute for liquorice.)

Unani - Ghunghchi, Ghamchi.

Siddha/Tamil - Kunri.

Folk - Chirmiti, Ratti.

Action - Uterine stimulant, abortifacient, toxic. Seeds—teratogenic. A paste of seeds is applied on vitiligo patches. Along with other therapeutic applications, *The Ayurvedic Pharmacopoeia of India* has indicated the use of seeds in baldness. Seeds contain abrin, a toxalbumin, indole derivatives, anthocyanins, sterols, terpenes. Abrin causes agglutination of erythrocytes, haemolysis and enlargement of lymph glands. A nontoxic dose of abrin (1.25 mcg/kg body weight), isolated from the seeds of red var., exhibited a noticeable increase in antibody-forming cells, bone marrow cellularity and alpha-esterase-positive bone marrow cells. Oral administration of agglutinins, isolated from the seeds, is useful in the treatment of hepatitis and AIDS. The roots contain precol, abrol, glycyrrhizin (1.5%) and alkaloids—abrasine and precasine. The roots also contain triterpenoids—abruslactone A, methyl abrusgenate and abrusgenic acid.

Abutilon indicum



- **Family** - *Malvaceae*.
- **Habitat** - Throughout the hotter parts of India. Found as a weed in the sub-Himalayan tract and other hills up to 1,2000 m.
- **English** - Country Mallow, Flowering Maples, Chinese Bell-flowers.
- **Ayurvedic** - Atibalaa, Kankatika, Rishyaprokta.
- **Unani** - Kanghi, Musht-ul-Ghaul, Darkht-e-Shaan.
- **Siddha/Tamil** - Thutthi.
- **Folk** - Kanghi, Kakahi, Kakahiyaa.
- **Action** - Dried, whole plant— febrifuge, anthelmintic, demulcent, diuretic, anti-inflammatory (in urinary and uterine discharges, piles, lumbago). Juice of the plant—emollient. Seeds—demulcent(used in cough, chronic cystitis), laxative. Leaves—cooked and eaten for bleeding piles. Flowers—antibacterial, anti-inflammatory. Bark—astrigent, diuretic. Root—nervine tonic, given in paralysis; also prescribed in strangury. Along with other therapeutic applications, *The Ayurvedic Pharmacopoeia of India* indicates the use of the root in gout, polyuria and haemorrhagic diseases. The plant contains mucilage, tannins, asparagines, gallic acid and sesquiterpenes. Presence of alkaloids, leucoanthocyanins, flavonoids, sterols, triterpenoids, saponins and cardiac glycosides is also reported. Asparagine is diuretic. Gallic acid is analgesic. Mucilages act by reflex, loosen cough as well as bronchial tension. Essential oil—antibacterial, antifungal. The drug exhibits immunological activity.

Acacia arabica



- **Family** - *Mimosaceae*.
- **Habitat** - Throughout the drier parts of India.
- **English** - Babul, Black Babul, Indian Gum arabic tree.
- **Ayurvedic** - Babbuula, Babbuuri, Baavari, Aabhaa, Shuulikaa, Shitaka, Kinkiraata, Yugmakantaka, Sukshmapatra, Pitapushpaka.
- **Unani** - Aqaaqia, Babuul, Kikar, Mughilaan, Samur.
- **Siddha/Tamil** - Karu-velamaram, Karuvelei. Velampisin (gum).
- **Action** – Stem bark—astrigent, spasmolytic, hypoglycaemic. Gum—demulcent (soothing agent for inflammatory conditions of the respiratory, digestive and urinary tracts). Pods—used in urogenital disorders. Seeds—hypoglycaemic in normal rats; no such effect in diabetic rats. Seed oil—antifungal. Flowers, pods and gum resin—used in diarrhoea and dysentery. Along with other therapeutic applications, *The Ayurvedic Pharmacopoeia of India* indicates the use of stem bark in acute diarrhoea and helminthiasis. Tannin contents of the bark varies considerably (12-20%). Several polyphenolic compounds have been reported in the bark, also in the pods. The whole pod contains 12-19% tannins and 18-27% after the removal of seeds. The seeds of *A. benthamii*, *A. nilotica* ssp. *subulata*, probably same as ssp. *indica*, are considered hypoglycaemic. Some seed components stimulate insulin secretion by beta cells. The gum contains galactose; *l*-arabinose, *l*-rhamnose and aldobiouronic acids, also arabinobioses. The flowers contain flavonoids— kaempferol-3-glucoside, iso-quercitrin and leucocyanidin.

Acacia catechu



- **Family** - *Mimosaceae*.
- **Habitat** - Drier regions of India, particularly Punjab, Madhya Pradesh, Uttar Pradesh, Bihar, Andhra Pradesh, Orissa and Rajasthan.
- **English** - Cutch tree, Catechu.
- **Ayurvedic** - Khadira, Kadara, Somavalka, Gaayatri, Dantdhaavan, Kantaki, Raktasaara (heartwood extract).
- **Unani** - Khair, Kaat, Katthaa (heartwood extract).
- **Siddha/Tamil** - Karunkaali (bark), Kalippakku, Kadiram. Katthakkaambu, Kaasukkatti (heartwood extract).
- **Action** - Cutch from wood— powerful astringent (in urinary and vaginal discharge), antidiarrhoeal, haemostatic; used for treating excessive mucous discharges, haemorrhages, relaxed conditions of gums, throat and mouth, stomatitis, irritable bowel; also used as an antileprotic drug. Along with other therapeutic applications, *The Ayurvedic Pharmacopoeia of India* indicates the use of dried pieces of heartwood in inflammations, skin diseases and urinary disorders, recommends its use as a blood purifier, in diseases caused by lipid disorders. Cutch (the concentrated extract) contains tannins 2-20%, catechin 25-33%, phlobatannins including catechutannic acid 20-50%; flavonoids including quercetin, quercitrin, fisetin; gums, resins, pigments. The gum from *A. catechu* is a good substitute for Gum arabic. Seed extract—hypoglycaemic to normal albino rats, but not effective in diabetic rats. The saline extract of seeds shows leuco-agglutinating activity against leukaemic cells. It agglutinates white cells from patients with different types of leukaemia. The activity is inhibited by simple sugars. Root extract shows antibacterial and fungicidal activity. The heartwood contains a hepatoprotective principle—cyanidanol. Astringent and antibacterial properties of catechu result from its high tannin content.

Achyranthes aspera



- **Family** - *Amaranthaceae*.
- **Habitat** - Throughout the tropical and subtropical regions, up to an altitude of 2,100 m, in the southern Andaman Islands.
- **English** - Prickly Chaff Flower.
- **Ayurvedic** - Apaamaarga, Chirchitaa, Shikhari, Shaikharika, Adahshalya, Mayura, Mayuraka, Kharamanjari, Kharapushpa, Pratyakpushpa, Aaghaat, Vashira, Kanihi.
- **Unani** - Chirchitaa.
- **Siddha/Tamil** - Naayuruvi.
- **Folk** - Chirchitta, Chichidaa, Latjeeraa.
- **Action** - Astringent, pectoral (ashes of the plant used in asthma and cough), diuretic, hepatoprotective, emmenagogue. Benzene extract of the plant exhibited abortifacient activity. The flowers, ground and mixed with sugar, are given for menorrhagia. Roots—astrigent, haemostatic. Seeds—emetic; used for biliousness. Essential oil— antifungal. Along with other therapeutic applications, *The Ayurvedic Pharmacopoeia of India* indicates the use of the whole plant in lipid disorders and obesity, the root for its blood-purifying property. The plant juice and ash are used for treating bleeding piles. An alkaline powder of the plant is used in preparing Kshaarasutra of Ayurvedic medicine, which is recommended for treating fistula-in-ano. The whole plant contains the alkaloids achyranthine and betaine. Achyranthine, a water-soluble alkaloid, is reported to dilate blood vessels, lower blood pressure, decrease heart rate and increase the rate and amplitude of respiration. It also shows spasmodic effects on the rectus muscle of frog, diuretic and purgative action in albino rats. The presence of ecdysterone and oleanolic acid is also reported in the root. The ashes of the plant yield large quantities of potash.

Aconitum chasmanthum



- **Family** - *Ranunculaceae*.
- **Habitat** - The western Himalayas from Hazara to Kashmir and Chamba in Himachal Pradesh, between altitudes of 2,100 m and 3,600 m.
- **English** - Indian Napellus.
- **Ayurvedic** - Visha, Shringika-Visha, Vatsanaabha (related sp.).
- **Folk** - Mohri, Meethaa Zahar.
- **Action** - Sedative, antirheumatic, analgesic, antitussive, antidiarrhoeal. The alkaloid content of the root ranges from 2.98 to 3.11%; includes chasmanthine and chasmanthinine. Aconitum of homoeopathic medicine is an alkaloid obtained from the roots and stems of *A. nepellus*. Used as an analgesic and sedative. It contains terpenoids up to 1.2%, including aconitine and aconine. Aconitine, mesaconitine and hypaconitine exert widespread effects on cardiac, neural and muscle tissue by activating sodium channels. (*Natural Medicines Comprehensive Database*, 2007.)

Acorus calamus



- **Family** - *Araceae*.
- **Habitat** - Wild and cultivated throughout India in damp marshy places from 900 to 1,800 m; common in Manipur and Naga Hills.
- **English** - Sweet Flag, Calamus.
- **Ayurvedic** - Vachaa, Ugragandhaa, Ugraa, Golomi, Shadgranthaa, Shataparvaa, Tikshnagandhaa, Kshudra-patra, Maangalyaa, Ghorbach.
- **Unani** - Waj-e-Turki, Waj.
- **Siddha/Tamil** - Athividayam.
- **Folk** - Vasambu.
- **Action** - Rhizome—nervine tonic, hypotensive, tranquilizer, sedative (with neuroleptic and antianxiety properties), analgesic, spasmolytic, anticonvulsant; used for bronchial catarrh, chronic diarrhoea and Dysenter. Along with other therapeutic applications, *The Ayurvedic Pharmacopoeia of India* indicates the use of the dried rhizomes as a brain tonic in weak memory, psychoneurosis and epilepsy. Four types of Calamus are used in herbal medicine: type I—*Acorus calamus* L. var. *americanus*, a diploid American var.; type II—var. *vulgaris* L. (var. *calamus*), a European triploid; type III and type IV—var. *angustatus* Bess. and var. *versus* L., subtropical tetraploids. Beta-asarone is carcinogenic in animals. Volatile oil of types II, III and IV—major constituent is usually betaasarone (isoasarone), up to 96%. Indian calamus oil contains asarone up to 82% and its beta-isomer. In type I, beta-asarone and other phenylpropanoids are absent. It is superior in spasmolytic activity to the other types. Indian practitioners mostly use *A. calamus* externally. The essential oil-free alcoholic extract of *A. calamus* possesses sedative and analgesic properties. The ethanolic extract of rhizomes show significant antisecretory and antiulcerogenic activity; also, protective effect against cytotoxic agents, experimentally.

Adhatoda vasica



- **Family** - Acanthaceae.
- **Habitat** - Throughout India, up to an altitude of 1300 m.
- **English** - Malabar Nut, Vasaca.
- **Ayurvedic** - Vaasaa, Vaasaka, Vaasikaa, Simhaasya, Simhaparni, Simhavadanaa, Vaajidanta, Vrisha, Aataruushaka.
- **Unani** - Arusaa.
- **Siddha/Tamil** - Aadaathodai.
- **Folk** - Vasaakaa.
- **Action** - Expectorant (used in bronchial, asthmatic and pulmonary affections), antispasmodic, febrifuge.
- **Key application** - As bronchodilatory, expectorant. (Indian Herbal Pharmacopoeia.) The Ayurvedic Pharmacopoeia of India indicates its use in dyspnea.
- The chief quinazoline alkaloid vasicine is reported in all parts of the plant, the highest being in inflorescence. It is a bitter bronchodilator, respiratory stimulant, hypotensive, cardiac depressant, uterotonic and abortifacient. Vasicinone exhibited smooth muscle-relaxant properties of airways. The leaves are found to activate the digestive enzyme trypsin. An extract of the leaves showed significant antifungal activity against ringworm. Fresh leaf juice is used in haemoptysis and menorrhagia, also as an antiasthmatic.

Aegle marmelos



- **Family** - Rutaceae.
- **Habitat** - The plains and submountain regions of India, ascending to an altitude of 1200 m in the western Himalayas; cultivated all over India.
- **English** - Bael tree, Bengal Quince.
- **Ayurvedic** - Bilva, Shriphala, Shaandilya, Shailuusha, Shalya, Sadaaphala, Mahaakapitha (Kapitha is equated with *Feronia limonia*), Maaluura, Rudrajataa, Rudranirmaalya, Shivajataakhya.
- **Unani** - Bael.
- **Siddha/Tamil** - Vilvam, Koovilam.
- **Action** - Stomachic, antimicrobial (specific for diarrhoea, colitis, dysentery and enteric infections), digestive, astringent, spasmolytic, hypoglycaemic.
- **Key application** - As antidiarrhoeal. (*Indian Herbal Pharmacopoeia*.) Along with other therapeutic applications, *The Ayurvedic Pharmacopoeia of India* indicates the use of root in dysuria; stem bark in diabetes and lipid disorders. A number of coumarins (including xanthoxol and alloimperatorin methyl ether), flavonoids (including rutin and marmesin), alkaloids (including alpha-fagarine), sterols and essential oils have been isolated from plant parts. Pectin is an important constituent of the fruit. Alkaloid aegeline, present in the leaves, is efficacious in asthma. The active principle in aqueous extract of leaf shows hypoglycaemic activity similar to insulin. Leaves are also given in jaundice. Alcoholic extract of seeds shows anti-allergic activity. Marmin, a coumarin isolated from the roots, shows anti-inflammatory effects experimentally. Marmin also inhibited gastric haemorrhagic lesions in rats and exhibited anti-ulcer effects. Seed oil showed beneficial effects in regeneration of tumour cells. Root bark is used for palpitation of the heart.

Albizia lebeck



- **Family** - *Mimosaceae*.
- **Habitat** - All over India, from the plains up to 900m in the Himalayas; also in the Andamans.
- **English** - Siris tree, East Indian walnut.
- **Ayurvedic** - Shirisha, Bhandi, Bhandila, Shitapushpa, Mridupushpa, Kapitana (bark—dusty black).
- **Unani** - Siras.
- **Siddha/Tamil** - Vaagei.
- **Action** - Antiseptic, antibacterial, antiallergic, antidermatosis, antidyenteric. Bark—used in bronchitis; bark and seeds in piles; root in hemicrania; flowers in cough, bronchitis, tropical pulmonary eosinophilia, and asthma. Pod— antiprotozoal. Along with other therapeutic applications. *The Ayurvedic Pharmacopoeia of India* indicates the use of stembark in rhinitis, sinusitis and migraine. Analysis of the plant revealed the presence of flavonoids, triterpenoids and triterpenoid saponins; oleanolic acid, albigenic acid, albigenin and acacic acid. Alcoholic extract of stembark contains cardenolide glycosides of digitoxin nature. It showed antidermatophytic activity. Anthraquinone glycosides and its aglycone exhibited antibacterial activity.

Allium cepa



- **Family** - *Liliaceae*; *Alliaceae*.
- **Habitat** - Cultivated as an annual all over the country. The most important onion-growing states are Maharashtra, Tamil Nadu, Andhra Pradesh., Karnataka and Madhya Pradesh.
- **English** - Onion.
- **Ayurvedic** - Palaandu, Durgandh.
- **Unani** - Piyaz.
- **Siddha/Tamil** - Venkaayam.
- **Action** - Antibiotic, antibacterial, anticoagulant, anti-inflammatory, antiasthmatic, expectorant, carminative, antispasmodic, diuretic, hypotensive, antidiabetic.
- **Key application** - For the prevention of atherosclerosis and age-dependent changes in the blood vessels, and loss of appetite (*WHO*). Chinese onion is used for cough, dyspnea and dysentery. Onion bulbs contain a volatile oil with sulphurous constituents, including allylpropyldisulphide; sulphur containing compounds, including allicin, alliin; flavonoids; phenolic acids and sterols. Hypoglycaemic activity of the onion is attributed to the allylpropyldisulphide and allicin. Diphenylamine, isolated from mature bulbs, also exhibits potent antihyperglycaemic activity. Alliin and allicin have an inhibitory effect on platelet aggregation. Antibiotic activity is due mainly to allicin. Regular use of onion reduces insulin requirement of a diabetic patient. Thiosulphinates, isolated from onion juice, exhibited antiasthmatic activity *in vivo*.

Allium sativum



- **Family** - Liliaceae, Alliaceae.
- **Habitat** - Native to Central Asia. Cultivated all over India.
- **English** - Garlic.
- **Ayurvedic** - Lashuna, Rasona, Yavaneshta, Uragandha, Mahaushadh, Arishta.
- **Unani** - Seer, Lahsun.
- **Siddha/Tamil** - Ullippoondu, Vellaippondu.
- **Action** - Antibiotic, bacteriostatic, fungicide, anthelmintic, antithrombic, hypotensive, hypoglycaemic, hypocholesterolaemic. Also used for upper respiratory tract infections and catarrhal conditions.
- **Key application** - As a supportive to dietary measures for elevated levels of lipids in blood; as a preventive measure for age-dependent vascular changes. (*German Commission E, ESCOP, WHO, The British Herbal Pharmacopoeia.*) Also as an antimicrobial. (*The British Herbal Pharmacopoeia*). Garlic has been shown to be effective in respiratory infections and catarrhal conditions. (*The British Herbal Compendium.*) *The Ayurvedic Pharmacopoeia of India* indicates the use of the bulb as a brain tonic in epilepsy and psychic disorders. Heavy consumption of garlic prior to surgery led to increased clotting time or reduced platelet aggregation (in human case reports). Garlic cloves are high in sulphur containing amino acids known as alliin (no taste, no smell, no medicinal action). With crushing or chewing alliin comes into contact with the enzyme alliinase. The antibiotic effect is attributed to allicin; hypoglycaemic effect to allicin and allylpropyl disulphide (also to S-allyl cysteine sulfoxide); anticarcinogenic activity to diallyl monosulfide; platelet aggregation inhibitory effect to diallyl-di- and tri-sulphides. Ajoene inactivated human gastric lipase, which is involved in digestion and absorption of dietary fats.

Aloe barbadensis



- **Family** - *Liliaceae*; *Agavaceae*.
- **Habitat** - Cultivated throughout India, wild on coasts of Maharashtra, Gujarat and South India.
- **English** - Curacao Aloe, Barbados Aloe, Indian Aloe, Jaffarabad Aloe.
- **Ayurvedic** - Kanyaasaara, Eleyaka (dried juice of the leaves). Kumaari, Kumaarika, Kanyaa, Grihkanyaa, Ghritkumaarika (plant).
- **Unani** - Gheekwaar, Sibr.
- **Siddha/Tamil** - Sotru Kattrazhai, Kumaari. Moosaambaram (dried juice).
- **Folk** - Elwaa, Musabbar (dried juice of leaves).
- **Action** - Purgative (causes griping), emmenagogue. Gel—topically emollient, anti-inflammatory, antimicrobial (used for wound healing, sunburn).
- **Key application** - In occasional constipation; contraindicated in intestinal obstruction and acutely inflamed intestinal diseases, ulcerative colitis, appendicitis. (*German Commission E, ESCOP, WHO.*) *The Ayurvedic Pharmacopoeia of India* recommends the use of dried juice of leaves in dysmenorrhoea and diseases of the liver. Aloe vera improved the hypoglycaemic effect. The juice (same dose) showed antihyperglycaemic activity (independently). (Francis Brinker.) Anthraquinone glycosides, known as aloin, in small doses act as a tonic to the digestive system, and at higher doses become a strong purgative, as well as increase colonic secretions and peristaltic contractions. Resin fraction is also as important as aloin in cathartic action. Aloe produces pelvic congestion and is used for uterine disorders, generally with Fe and carminatives. The pulp is used in menstrual suppressions. A molecule in the Aloe vera gel, acemannan, stimulates macrophages and releases immune system potentiators; enhances function of T cells and interferon production. The carboxypeptidase and salicylate components of Aloe gel can inhibit bradykinin, a pain-producing agent; C-glycosyl chromone appears to reduce topical inflammation.

Alstonia scholaris



- **Family** - *Apocynaceae*.
- **Habitat** - Throughout moist regions of India, especially in West Bengal and west-coast forests of southern India.
- **English** - Devil's tree, Dita Bark tree.
- **Ayurvedic** - Saptaparna, Saptachhada, Saptaparni, Saptaahvaa, Vishaaltvak, Shaarada, Vishamchhada.
- **Unani** - Chhaatim, Kaasim (Kaasim Roomi, Anjudaan Roomi is equated with *Myrrhis odorata* Scop.)
- **Siddha/Tamil** - Ezhilamippalai, Mukkampalai.
- **Folk** - Chhitavan, Sataunaa.
- **Action** - Bark—febrifuge, antiperiodic, spasmolytic, antidysenteric, uterine stimulant, hypotensive; used for internal fevers. Along with other therapeutic applications, *The Ayurvedic Pharmacopoeia of India* indicates the use of stem bark in phosphaturia and recommends it as a blood purifier. *Alstonia* sp. is known as Fever Bark. *A. constricta* is native to Australia; *A. scholaris* to Australia and Southeast Asia. The bark of both the species contains indole alkaloids. *A. constricta* contains reserpine (a hypotensive agent). *A. scholaris* contains echitamine, which has also demonstrated hypotensive effects. Though *A. scholaris* produces fall in the temperature of human patients with fever, there are conflicting reports about the activity of echitamine against *Plasmodium berghei*.

Anacardium occidentale



- **Family** - *Anacardiaceae*.
- **Habitat** - Native to tropical America, from Mexico to Peru and Brazil. Cultivated largely in Malabar, Kerala, Karnataka, Tamil Nadu and Andhra Pradesh, and to some extent in Maharashtra, Goa, Orissa and West Bengal.
- **English** - Cashew Nut.
- **Unani** - Kaaju.
- **Siddha/Tamil** - Mindiri.
- **Action** - Leaves and bark—fungicidal, vermifugal, protozoicidal, antimicrobial (used for toothache, sore gums). Kernel—eaten for its high protein content. Cashew apple—antiscorbutic. Resinous juice contained in the seeds—used in cases of mental derangement, memory disturbances, palpitation of heart, rheumatic pericarditis, and sexual debility. Leaves contain flavonoids, mainly glycosides of quercetin and kaempferol, and hydroxybenzoic acid. The bark contains a balsam-containing anacardic acid, anacardol, cardol and ginkgol. The leaves are febrifuge. Anacardic acid is bactericidal, fungicidal, vermifugal and protozoicidal. The leaves and bark exhibited hypotensive activity in rats. The phenolics of the cashew-nut shell oil have inhibited the enzymic activity of alpha-glucosidase, invertase and aldose reductase (anacardic acids being the most potent). Cardols have also shown antifilarial activity in vitro. Anacardic acids, cardols and methyl cardols have been found to exhibit moderate cytotoxic activity.

Ananas comosus



- **Family** - *Bromeliaceae*.
- **Habitat** - Native to South America; cultivated mostly in Tamil Nadu, coastal Andhra Pradesh, Assam, Kerala, Karnataka, West Bengal, Tripura and Orissa.
- **English** - Pineapple.
- **Ayurvedic** - Anaanaasa, Bahunetra.
- **Unani** - Anannaas.
- **Siddha/Tamil** - Annanshippazham, Annasi.
- **Action** - Anti-inflammatory (fresh juice used as a gargle for sore throat). A proteolytic enzyme, bromelain, is derived from the stem—anti-inflammatory, smooth muscle relaxant, digester, inhibitor of blood platelet aggregation.
- **Key application** - Bromelain, the proteolytic enzyme, is used in acute post operative and post-traumatic conditions of swellings, especially of the nasal and paranasal sinuses. In Europe, a patented tape that contains bromelain is used for debriding skin.

Andrographis paniculata



- **Family** - *Acanthaceae*.
- **Habitat** - Throughout India, from Himachal Pradesh to Assam and Mizoram, and all over southern India.
- **English** - Creat.
- **Ayurvedic** - Kaalmegha, Bhuunimba, Bhuuminimbaka, Vishwambharaa, Yavtikta, Kalpanaatha, Kiraata-tikta (var.).
- **Unani** - Kiryaat.
- **Siddha/Tamil** - Nilavembu.
- **Action** - Hepatoprotective, cholinergic, antispasmodic, stomachic, anthelmintic, alterative, blood purifier, febrifuge. It acts well on the liver, promoting secretion of bile. Used in jaundice and torpid liver, flatulence and diarrhoea of children, colic, strangulation of intestines and splenomegaly; also for cold and upper respiratory tract infections.
- **Key application** - As bitter tonic, febrifuge and hepatoprotective. Kaalmegha, officinal in IP, consists of dried leaves and tender shoots, which yield andrographolide. Several active constituents have been identified from the leaf and rhizome, including andrographolide, deoxyandrographolide and other diterpenes. Andrographolide was found to be almost devoid of antihepatitis-B virus surface antigen-like activity. Clinical evidence of effectiveness of andrographis in humans is limited to the common cold. Preliminary evidence suggests that it might increase antibody activity and phagocytosis by macrophages, and might have mast cell-stabilizing and anti-allergy activity.

Anthocephalus cadamba



- **Family** - Rubiaceae.
- **Habitat** - Assam, Bengal, southwards to Andhra Pradesh and western Ghats.
- **English** - Kadam.
- **Ayurvedic** - Kadamba, Priyaka, Vrta-pushpa, Nipa, Halipriya. Kadambaka is equated with Adina cordifolia.
- **Siddha/Tamil** - Venkadambu, Vellai Kadambam.
- **Action** - Stembark—febrifugal, antidiuretic, anthelmintic, hypoglycaemic. Fruit—cooling; anticatarrhal, blood purifier, analgesic. Flowers and root—abortifacient. Leaves—astrigent. A decoction is used for gargling in stomatitis and aphthae. Along with other therapeutic applications, The Ayurvedic Pharmacopoeia of India indicates the use of dried stembark in disorders of female genital tract and bleeding disorders. The dried bark contains alkaloids, steroids, reducing sugars and also tannins. The ether-soluble alkaloid of the bark shows antibacterial activity.

Areca catechu



- **Family** - Palmae; Arecaceae.
- **Habitat** - Native to Malaysia; now grown along the coasts of Karnataka, Kerala, Tamil Nadu, West Bengal, Assam and Maharashtra.
- **English** - Arecanut, Betel Nut.
- **Ayurvedic** - Puuga, Puugi, Kramuka, Ghontaa, Guwaak, Ghorant.
- **Unani** - Fufal, Chhaalia, Supaari.
- **Siddha/Tamil** - Kottai Paakku, Kamugu.
- **Action** - Taeniocide (confined to veterinary medicine), astringent, stimulant. Along with other therapeutic application, The Ayurvedic Pharmacopoeia of India indicates the use of dried ripe seed in leucorrhoea and vaginal laxity. Arecanut contains several alkaloids belonging to pyridine group, the most important being arecoline. Arecaidine, guvacine and isoguvacine are also present. Arecoline is anthelmintic (in animals, not in humans). Isoguvacine produces hypotension. Powdered nuts are prescribed in diarrhoea and urinary disorders. In combination with other astringent and styptic herbs, arecanut is used as a major constituent in confections of Indian medicine for gynaecological disorders. Antimicrobial activity is due to polyphenolic fraction. Tannins potentiated the action of acetylcholine in ileum and uterus of rat and noradrenaline on seminal vesicle at low concentration. Due to increased incidence of oral cancer associated with betel chewing, the use of arecanut as a masticatory is being discouraged.

Artocarpus integrifolia



- **Family** - *Moraceae*.
- **Habitat** Cultivated throughout the hotter parts of India.
- **English** - Jackfruit, Jack tree.
- **Ayurvedic** - Panasa, Kantakiphala, Ativrihatphala, Aamaashayaphala.
- **Siddha/Tamil** - Murasabalam.
- **Folk** - Katahal, Phanasa.
- **Action** - Latex—bacteriolytic, promotes healing of abscesses. Juice of the plant—applied to glandular swellings and abscesses for promoting suppuration. Root— used for diarrhoea, asthma, skin diseases. Unripe fruit—acid, astringent. Ripe fruit—cooling, laxative, difficult to digest. Seeds— diuretic. Lactin extraction showed potent and selective stimulation of distinct human T and B cells. The seed extract stimulates the heart and causes a fall in arterial blood pressure of experimental animals pretreated with physostigmine. The seeds show equal inhibitory activity against trypsin and chymotrypsin. Leaves contain cycloartenone, cycloartenol and beta-sitosterol. Heartwood contains flavonoids, artocarpesin and norartocarpetin and their structures.

Asparagus officinalis



- **Family** - *Asparagaceae*.
- **Habitat** - Native to Europe and West Asia.
- **English** - Asparagus, Sparrow grass.
- **Ayurvedic** - Shataavari, Vari, Shatviriyaa, Shatmuuli, Shatpadi, Bhiru, Naaraayani, Bahusutaa, Atirasaa.
- **Unani** - Haliyun.
- **Action** - Diuretic, laxative, cardiotonic, sedative, galactagogue; used for neuritis and rheumatism, as well as for cystitis and pyelitis.
- **Key application** - In irrigation therapy for inflammatory diseases of the urinary tract and for prevention of kidney stones. It is contraindicated in kidney diseases and oedema because of functional heart. The root contains steroidal glycosides (asparagosides) and bitter glycosides; asparagusic acid and its derivatives; asparagines, arginine and tyrosine; flavonoids, including rutin, kaempferol and quercetrin; polysaccharides and inulin. Asparagine is a strong diuretic source of folic acid and selenium.

Asteracantha longifolia



- **Family** - *Acanthaceae*.
- **Habitat** - Common in moist places, paddy fields, throughout India and Sri Lanka.
- **Ayurvedic** - Kokilaaksha, Kokilaakshi, Ikshura, Ikshuraka, Kaakekshu, Kshurak, Bhikshu.
- **Unani** - Taalmakhaanaa. (Wrongly equated with *Euryale ferox* Salisb. **Siddha/Tamil** - Neermulli, Nerugobbi.
- **Action** - Diuretic, used for catarrh of the urinary organs, also for dropsy when accompanied by hepatic obstruction. *The Ayurvedic Pharmacopoeia of India* recommends the seed in lithiasis; the whole plant and root for gout. Essential oil from whole plant—antibacterial. The plant gave lupeol, stigmasterol and hydrocarbons; seed gave sterols; flowers, apigenin glucuronide. Aqueous extract decreased fasting glucose and improved glucose tolerance in rats. (Sharon M. Herr.)

Atropa acuminata



- **Family** - *Solanaceae*.
- **Habitat** - Kashmir and Himachal Pradesh.
- **English** - Indian Belladonna, Indian Atropa.
- **Ayurvedic** - Suuchi.
- **Unani** - Luffaah, Luffaah-Barri, Yabaruj, Shaabiraj.
- **Action** - Highly poisonous; sedative, narcotic, anodyne, nervine, antispasmodic (used in paralysis); parkinsonism; encephalitis; carcinoma; spastic dysmenorrhoea; whooping cough, spasmodic asthma; colic of intestines, gall bladder or kidney, spasm of bladder and ureters; contraindicated in enlarged prostate.
- **Key application** - In spasm and colic-like pain in the areas of the gastrointestinal tract and bile ducts. It is contraindicated in tachycardiac arrhythmias, prostate adenoma, glaucoma, acute oedema of lungs. *A. belladonna* L. is cultivated in Kashmir and Himachal Pradesh. The herb contains tropane (tropine) or solanaceous alkaloids, including hyoscamine and atropine; flavonoids; coumarins; volatile bases (nicotine). Tropane alkaloids inhibit the parasympathetic nervous system, which controls involuntary bodily activities; reduces saliva, gastric, intestinal and bronchial secretions, and also the activity of urinary tubules. Tropane alkaloids also increase the heart rate and dilate the pupils. These alkaloids are used as an additive to compound formulations for bronchitis, asthma, whooping cough, gastrointestinal hypermotility, dysmenorrhoea, nocturnal enuresis and fatigue syndrome. Atropine provides relief in parkinsonism and neurovegetative dystonia.

Azadirachta indica



- **Family** - *Meliaceae*.
- **Habitat** - Native to Burma; found all over India.
- **English** - Neem tree, Margosa tree.
- **Ayurvedic** - Nimba, Nimbaka, Arishta, Arishtaphala, Pichumarda, Pichumanda, Pichumandaka, Tiktaka, Sutiktak, Paaribhadra.
- **Unani** - Azaad-Darakht-e-Hindi.
- **Siddha/Tamil** - Vemmu, Veppu, Veppan, Arulundi.
- **Action** - Leaf, bark—antimicrobial, antifungal, anthelmintic, insecticidal, antiviral, antipyretic, antimalarial, antiperiodic, mosquito larvicidal, anti-inflammatory, antifertility, spermicidal, hypoglycaemic; used in inflammation of gums, gingivitis, periodontitis, sores, boils, enlargement of spleen, malarial fever, fever during childbirth, measles, smallpox, head scald and cutaneous affections. Oil—used as a contraceptive for intravaginal use, for the treatment of vaginal infections, and as a mosquito repellent. Plant tetranortriterpenoids have been examined extensively for their antibiotic, antitumour, insecticidal, antibacterial and antifungal activities. The methanolic extract of the bark shows antimalarial activity against *Plasmodium falciparum*. The aqueous extract of leaves exhibited antiulcer and anti-inflammatory activity. The oil has been found to retard the growth of human immunodeficiency virus.

Bacopa monnieri



- **Family** - *Scrophulariaceae*.
- **Habitat** - Throughout the plains of India in damp marshy areas.
- **English** - Thyme-leaved Gratiola.
- **Ayurvedic** - Braahmi, Aindri, Nirbraahmi, Kapotavankaa, Bhaarati, Darduradala, Matsyaakshaka, Shaaluraparni, Mandukaparni (also equated with *Centella asiatica* Linn., synonym *Hydrocotyle asiatica* Linn. *Umbelliferae*, *Apiaceae*).
- **Unani** - Brahmi.
- **Siddha/Tamil** - Piramivazhukkai, Neerbrami.
- **Folk** - Jalaneem, Safed-Chammi.
- **Action** - Adaptogenic, astringent, diuretic, sedative, potent nervine tonic, anti-anxiety agent (improves mental functions, used in insanity, epilepsy), antispasmodic (used in bronchitis, asthma and diarrhoea).
- **Key application** - In psychic disorders and as a brain tonic. It is assumed that endogenous increase in brain glutamine may be helpful in the process of learning. The herb contains the alkaloids brahmine, herpestine, and a mixture of three bases. Brahmine is highly toxic; in therapeutic doses it resembles strychnine. The herb also contains the saponins, monnierin, hersaponin, bacosides A and B. Bacosides A and B possess haemolytic activity. Hersaponin is reported to possess cardiogenic and sedative properties.

Balsamodendron mukul



- **Family** - *Burseraceae*.
- **Habitat** - Rajasthan, Madhya Pradesh, Assam, Andhra Pradesh, Karnataka.
- **English** - Indian Bdellium, Gum Guggul.
- **Ayurvedic** - Guggul, Devadhoop, Kaushika, Pur, Mahishaaksha, Palankash, Kumbha, Uluukhala.
- **Unani** - Muqallal yahood, Muql, Bu-e-Jahudaan
- **Siddha/Tamil** - Erumaikan Kungiliyam.
- **Action** - Oleo-gum-resin—used for reducing obesity and in rheumatoid arthritis, osteoarthritis, sciatica.
- **Key application** - In the treatment of hyperlipidemia, hypercholesterolaemia and obesity. (*WHO*.) Guggulipid is hypocholesteremic. Guggul resin contains steroids—gugglsterones Z and E, guggulsterols I– V, diterpenoids; volatile oil, including other constituents, contains a terpene hydrocarbon cembrene A. E- and Zguggulsterones are characteristic constituents, which distinguish *C. mukul* from other *Commiphore* sp. Guggul resin increases catecholamine biosynthesis and activity in cholesterol- fed rabbits, inhibits platelet aggregation, exhibits anti-inflammatory activity and appears to activate the thyroid gland in rats and chicken.

Bassia longifolia



- **Family** - *Sapotaceae*.
- **Habitat** - South India; common in the monsoon forests of Western Ghats.
- **English** - Mowra Butter tree, South Indian Mahua.
- **Siddha/Tamil** - Illupei, Elupa, Naatu, Iluppei, Iruppei.
- **Action** - Flowers—laxative, bechic (used in coughs, colds and bronchitis), stimulant and nervine tonic. Seed oil— laxative in cases of habitual constipation and piles; used externally in rheumatism and skin affections. Bark, seed oil and gum— antirheumatic. The herb contains tannins and is used for bleeding and spongy gums, tonsillitis, ulcers, rheumatism and diabetes mellitus. Roots are applied to ulcers. Seed kernel gave protobassic acid (asapogenol) and two major saponins— Mi-saponins A and B. Mi-saponins (bidesmosides of protobassic acid) exhibit anti-inflammatory activity in rheumatism.

Bauhinia variegata



- **Family** - *Caesalpinaceae*.
- **Habitat** - Punjab, Western Peninsula and Assam. Also cultivated in gardens.
- **English** - Mountain Ebony, Buddhist Bauhinia.
- **Ayurvedic** - Kaanchanaara, Kaanchanaaraka, Kanchanak, Kaanchana, Gandhaari, Sonapushpaka, Ashmantaka.
- **Siddha/Tamil** - Sivappumanchori.
- **Action** - Buds—a decoction is given in piles (also used against tumours), haematuria, menorrhagia. Dried buds are used in diarrhoea, dysentery, worm infestation, piles and tumours. Root—carminative, used in dyspepsia and flatulence (a decoction is reported to prevent obesity). Bark—astrigent, anthelmintic; used externally in scrofula and skin diseases. Seeds—possess human blood agglutinating activity. Leaf—antifungal. Along with other therapeutic applications, *The Ayurvedic Pharmacopoeia of India* indicated the use of the stem bark in lymphadenitis and goitre.

Berberis aristata DC.



- **Family** - *Berberidaceae*.
- **Habitat** - Northwestern Himalayas, Nilgiris, Kulu and Kumaon.
- **English** - Indian Barberry.
- **Ayurvedic** - Daaruharidraa, Daarur, Daarvi, Daarunishaa, Daarurajani, Vrahitaphala, Valliphala, Sthirphala. Pushpaphala, Somakaa, Parjanya, Parjani, Kantkateri, Taarthy, Pachampachaa. Kaaliyaka is now equated with Pita Chandana (*Coscinium fenestratum* (Gaertn.) Colebr., *Menispermaceae*). Extract—Rasaanjana.
- **Unani** - Daarhald. Rasaut (extract). Zarishk (fruit).
- **Siddha/Tamil** - Marmanjal.
- **Action** - Rasaut, Rasasranjana (extract)—bitter,, antidiarrhoeal, stomachic, laxative, diaphoretic, antipyretic, antiseptic. Used externally in ophthalmia,conjunctivitis, ulcers, sores, swollen gums. Root bark— anti-inflammatory, hypoglycaemic hypotensive, antiamoebic, anticoagulant, antibacterial. Bark— used in liver complaints, diarrhoea, dysentery, cholera, gastric disorders, enlargement of spleen and for regulating metabolism. Berries— antiscorbutic, laxative. Berberine hydrochloride and sulphate help in the diagnosis of latent malaria by releasing the parasites into the blood stream. Alkaloid berberine possesses antibacterial and anti-inflammatory activities. It is used as an intestinal antiseptic and bitter stomachic.

Boerhavia diffusa



- **Family** - Nyctaginaceae.
- **Habitat** - Throughout India as a weed.
- **English** - Horse-purslane, Hogweed.
- **Ayurvedic** - Rakta-punarnavaa, Punarnavaa, Katthilla, Shophaghni, Shothaghni. Varshaabhu (also equated with *Trianthema portulacastrum* Linn., which exhibits anti-inflammatory, antipyretic and analgesic activity).
- **Unani** - Itsit, Bishkhaparaa.
- **Siddha/Tamil** - Mookkirattai.
- **Folk** - Gadaha-purnaa.
- **Action** - Diuretic, anti-inflammatory, antiarthritic, spasmolytic, antibacterial (used for inflammatory renal diseases, nephrotic syndrome, in cases of ascites resulting from early cirrhosis of liver and chronic peritonitis, dropsy associated with chronic Bright's diseases, for serum uric acid levels). Root—anticonvulsant, analgesic, expectorant, CNS depressant, laxative, diuretic, abortifacient.
- **Key application** - As diuretic, hepatoprotective. (*Indian Herbal Pharmacopoeia*.) *B. repanda*, synonym *B. chinensis* Linn., roots exhibited antihepatotoxic activity against carbon tetrachloride galactosamine- and paracetamol-induced intoxication in rats. Powdered root gave encouraging results in spermatorrhoea and leucorrhoea. The chloroform and methanolic extracts of the roots and aerial parts of *B. diffusa* also exhibited antihepatotoxic activity against carbon tetrachloride induced intoxication in rats. Punarnavaa is official in IP as a diuretic. The diuretic action of the drug is attributed to the presence of xanthone, beta-ecdysone. Flavonoid, arbinofuranoside, present in the drug, was found to lower serum uric acid in experimental animals, as also in humans. Punarnavaa has been reported to increase serum protein level and reduce urinary protein excretion in clinical trials in patients suffering with nephrotic syndrome.

Borassus flabellifer



- **Family** - *Palmae; Arecaceae*.
- **Habitat** - Coastal areas of Bengal, Bihar and Western and Eastern Peninsula.
- **English** - Palmyra Palm, Brab tree.
- **Ayurvedic** - Taala, Taada, Trinraj, Mahonnata, Lekhyapatra.
- **Siddha/Tamil** - Panai, Panaimaram.
- **Action** - Fresh sap—diuretic, cooling, laxative, antiinflammatory. Slightly fermented juice is given in diabetes. Palmjaggery— used as an energy food for convalescents. Ash of dry spadix—antacid, antibilious (used in heartburn). Young root, terminal buds, leaf-stalks—used in gastritis and hiccups. The sap is given as a tonic to asthmatic and anaemic patients. Jaggery is given for anaemia, for diseases characterized by a marked loss of potassium. Palm candy is used in coughs and pulmonary affections and as a laxative for children. *The Ayurvedic Pharmacopoeia of India* recommends dried male inflorescence in dysuria. Jaggery solution may be used in hypertension and oedema due to heart and liver diseases, also as a food for typhoid patients. The sap is an excellent source of biologically available riboflavin.

Brassica campestris



- **Family** - *Cruciferae; Brassicaceae*.
- **Habitat** - Cultivated as an oil-yielding crop.
- **English** - Field Mustard, Turnip Rape.
- **Ayurvedic** - Sarshapa, Siddhaartha.
- **Unani** - Sarson.
- **Siddha/Tamil** - Kadugu.
- **Action** - Stimulant, diuretic, emetic, rubefacient, counter-irritant. Used externally for bronchitis and rheumatic pains (increases flow of blood to a specific area). Powdered seeds are used as a tea for colds, influenza and fever. The seeds contain glycosinolates (the derivatives are responsible for toxicity). The glucosinolates in rapeseed meal split upon enzymatic hydrolysis to produce glucose, potassium, hydrogen sulphate and a sulphurcontaining compound which undergoes intramolecular rearrangement to give rise to the antinutritional factors, isothiocyanates or thiocyanates. The volatile oil of mustard is given internally in colic; in overdoses it is highly poisonous and produces gastroenteric inflammations. It is employed externally as a liniment for rheumatic pains.

Butea monosperma



- **Family** - *Papilionaceae; Fabaceae*.
- **Habitat** - Throughout India, up to 1,000 m except in very arid regions.
- **English** - Flame of the Forest, Butea Gum, Bengal Kino.
- **Ayurvedic** - Paalasha, Kimshuka, Raktapushpaka, Kshaarshreshtha, Brahmavriksha, Samidvar.
- **Unani** - Dhaak, Samagh Dhaak, Kamarkas.
- **Siddha/Tamil** - Palasam, Purasus.
- **Folk** - Tesu.
- **Action** - Bark—astrigent, styptic (prescribed in bleeding piles, ulcers, haemorrhages, menstrual disorders), anthelmintic. Flowers—astrigent, diuretic, emmenagogue (also given for leucorrhoea). A decoction of flowers is given in diarrhoea and haematuria, also to puerperal women. Seeds—clinical use of seeds as an anthelmintic drug is not considered safe in humans. Leaves—antibacterial. Stem bark— antifungal.

Cajanus cajan



- **Family** - *Papilionaceae; Fabaceae*.
- **Habitat** - Cultivated as pulse crop, chiefly in Madhya Pradesh, Bihar, Andhra Pradesh, Maharashtra, Uttar Pradesh and Karnataka.
- **English** - Pigeon Pea, Red Gram.
- **Ayurvedic** - Aadhaki, Tuvari, Tuvara, Shanapushpikaa.
- **Unani** - Arhar.
- **Siddha/Tamil** - Thuvarai.
- **Action** - Green leaves are considered hypocholesterolaemic. Pulse shows cholesterol and phospholipid lowering effect (reported to cause flatulence). A paste of leaves with salt and water, is taken on an empty stomach for jaundice. Leaves are used in diseases of the mouth, and topically for treating measles and other eruptions. *The Ayurvedic Pharmacopoeia of India* indicated the use of the seed in lipid disorders and obesity; externally for promoting breast development, and attributed blood purifying properties to the root.

Calendula officinalis



- **Family** - *Compositae; Asteraceae*.
- **Habitat** - Throughout India; wild in Punjab.
- **English** - Pot-Marigold, Marigold; Calendula.
- **Unani** - Zergul.
- **Siddha/Tamil** - Thulvkka Saamanthi.
- **Action** - Flowers—anti-inflammatory, antiseptic, stimulant, antispasmodic, emmenagogue, antihemorrhagic, styptic. Used in gastric and duodenal ulcers and dysmenorrhoea; externally for cuts, bruises, burns, scalds. Plant—antiprotozoal. Flower—antimicrobial. Essential oil—antibacterial.
- **Key application** - In inflammation of the oral and pharyngeal mucosa, internally and externally. Externally, on poorly healing wounds, ulcus cruris. Anti-inflammatory, vulnerary. The flowers contain triterpenes, sterols, flavonoids, and carotenes, bitter glycosides, resins, volatile oil, mucilage (do not contain tannins). Polysaccharides from flowers exhibited immunostimulating and antitumour activity in several *in vitro* test systems. Wound healing and anti-inflammatory properties are attributed to Mn and carotene.

Calotropis procera



- **Family** - *Asclepiadaceae*.
- **Habitat** - An evergreen shrub distributed in West and Central India.
- **English** - Swallow-Wart, Milk Weed, (purple-flowered), King's Crown.
- **Ayurvedic** - Alarka, Surya, Suuryaahvya, Vikirna, Vasuka, Tapan, Tuulaphala, Kshirparna, Arkaparna, Aasphota.
- **Unani** - Aakh, Madaar, Ashar.
- **Siddha/Tamil** - Vellerukku, Erukku.
- **Action** - The plant is used against bronchial asthma (especially flowers with black pepper). Leaves—used for treating chronic cases of dyspepsia, flatulence, constipation and mucus in stool. Seed oil—geriatric and tonic. Leaves, flowers and root-bark oil—antimicrobial (maximum activity in leaves). *The Ayurvedic Pharmacopoeia of India* indicated the use of the root and leaf in asthma and dyspnoea; stem bark in diseases of the spleen. Root bark contains benzoyllineolone and benzolisolineolone. Root, stem and leaves, also latex contain beta-amyrin. The plant contains a cardenolide, proceragenin, an antibacterial principle. The latex is given for treating epilepsy, also in painful joints and swellings. The herb can alter menstrual cycle and temporarily inhibit ovulation. Cardiac glycosides may be additive when combined with Digoxin.

Camellia sinensis



- **Family** - *Theaceae*.
- **Habitat** - Cultivated in Assam, Darjeeling, Travancore, the Nilgiris, Malabar, Bengal, Dehra Dun and Kumaon.
- **English** - Tea.
- **Unani** - Chaai, Shaahi, Shaayi.
- **Siddha/Tamil** - Thaeyilai.
- **Action** - Stimulant, diuretic, astringent. In China, used for diarrhoea and dysentery (causes gastrointestinal upsets and nervous irritability when consumed in excess). Green tea: anticancer effects have been observed in Chinese green tea, *Camellia thea*, extract; the extract of Japanese green tea showed antihepatotoxic effects. Important constituents of leaf buds and very young leaves are: caffeine, with a much smaller amount of other xanthines (theophylline and theobromine); tannins; flavonoids, quercetin, kaempferol. The stimulant and diuretic are due to caffeine content, the astringency due to the tannins. Drinking tea lowers thiamine and thiamine diphosphate losses in urine and blood serum respectively but increases niacin losses. Hot water extract of black tea facilitates Ca absorption in the body experimentally. Tea may decrease zinc bioavailability. The tea, if added to the meal, significantly lower the availability of iron. Milk is as effective as ascorbic acid in countering the depressing effect of tea on iron availability (*in vitro*). Tea polyphenols exhibit hypocholesterolaemic activity. Saponins from tea are used as antiulcer agents.

Capsicum annuum



- **Family** - *Solanaceae*.
- **Habitat** - Native to the West Indies and tropical America; now cultivated throughout tropical regions of India.
- **English** - Chilli, Red Pepper.
- **Ayurvedic** - Raktamaricha, Lankaa, Katuviraa.
- **Unani** - Mirch, Filfil-e-Ahmar, Filfl-e-Surkh, Surkh Mirch.
- **Siddha/Tamil** - Milagay.
- **Action** - Stimulant, accelerates oxygenation of cells, encourages adrenal glands to produce corticosteroids, increases gastrointestinal secretion. Carminative, antispasmodic, antiseptic. Used externally for rheumatism, backache, lumbago, neuralgia, painful muscle spasm. Red chilli contains capsaicin, carotenoids, flavonoids, volatile oil; steroidal saponins (capsicidins, only in seeds). Capsaicin stimulates the circulation and alters temperature regulation; topically desensitizes nerve endings and acts as a local analgesic. Acute capsaicin treatment causes release of substance desensitization of the respiratory tract mucosa to a variety of lung irritants.

Carica papaya
Linn.



- **Family** - *Caricaceae*.
- **Habitat** - Native to West Indies and Central America; now cultivated in Uttar Pradesh, Punjab, Rajasthan, Gujarat, Maharashtra and South India.
- **English** - Papaya, Papaw.
- **Ayurvedic** - Erand-karkati, Papitaa.
- **Unani** - Papitaa Desi.
- **Siddha/Tamil** - Pappaali, Pappayi.
- **Action** - Ripe fruit—stomachic, digestive, carminative, diuretic, galactagogue. Useful in bleeding piles, haemoptysis, dysentery and chronic diarrhoea. Seeds— emmengagogue, abortifacient, vermifuge. Juice of seeds is administered in enlarged liver and spleen, and in bleeding piles.
- **Key application** - Papain, the enzyme mixture extracted from raw papain (latex of *Carica papaya*). Experiment-based as well as clinical research indicate that papain may be effective (in the treatment of inflammations) in high doses. Unripe fruit—emmengagogue and abortifacient. Latex—applied topically on eczema, ringworm, psoriasis, corns, warts, sloughing wounds, carbuncles and eschar of burns. Green parts of the plant and seed contain an alkaloid carpaine. Seeds also contain carpasemine. Latex contain enzymes—papain and chymopapain and alkaloids carpaine and pseudocarpaine. An alkaloid solution showed depressant action on heart, blood pressure and intestine. Papain, an enzyme mixture prepared from the fruit, seeds and leaf, hydrolyses polypeptides, amides and esters, particularly when used in an alkaline environment, and is used in digestive disorders. Papain inhibits platelet aggregation, which may further increase the risk of bleeding in patients also taking anticoagulants.

Carthamus tinctorius



- **Family** - *Asteraceae*.
- **Habitat** - Cultivated mainly as an oil-seed crop in Madhya Pradesh, Maharashtra.
- **English** - Safflower.
- **Ayurvedic** - Kusumbha, Vahinshikhaa, Vastraranjaka, Kusum.
- **Unani** - Qurtum.
- **Siddha/Tamil** - Chendurakam.
- **Action** - Oil— aids prevention of arteriosclerosis, coronary heart disease and kidney disorders as a polyunsaturated fat. Flowers— stimulant, sedative, diuretic, emmenagogue; used in fevers and eruptive skin conditions, measles. Charred safflower oil is used in rheumatism and for healing sores.
- **Key application** - Dried flowers— in cardiovascular diseases, amenorrhoea, dysmenorrhoea and retention of lochia; also in wounds and sores with pain and swelling. Safflower contains carthamone, lignans and a polysaccharide. Extracts of flowers have also been tested in China on blood coagulation, where a prolongation of clotting time was observed and platelet aggregation inhibited. Chinese research indicates that Safflower flowers can reduce coronary artery disease, and lower cholesterol levels. Flowers and seeds exhibit lipase activity. The flower extract also exhibited anti-inflammatory, sedative and analgesic effect and inhibitory effect on spontaneous motor activity. Safflower is contraindicated in pregnancy, gastric disorders, excessive menstruation, haemorrhagic diseases. The plant is diuretic. Seed oil is applied topically to ulcers.

Cassia alata



- **Family** - *Caesalpinaceae*.
- **Habitat** - Native to the West Indies. Found wild almost throughout India.
- **English** - Ringworm Cassia.
- **Ayurvedic** - Dadrughna, Dadrumardana.
- **Siddha** - Malanthakerai, Seemai agathi (Tamil).
- **Folk** - Daadmaari.
- **Action** - Leaf—used in skin diseases like herpes, blotch, eczema, mycosis (washerman's itch). Dried leaves— in leprosy. A strong decoction is used for ringworm, eczema and herpes. Leaves are also used as a purgative. Young pods contain rhein, emodin and aloe-emodin. The antibacterial activity of the leaves is reported to be due to rhein. The roots contain anthraquinone. Emodin, aloe-emodin and anthraquinone contribute to the purgative activity of the leaves and roots. Crushed leaves or roots are rubbed on to the skin to cure ringworm and to control *Tinea imbricata*, a skin fungus.

Catharanthus roseus



- **Synonym** - *Vinca rosea* L. *Lochnera rosea* (L.) Reichub.
- **Family** - *Apocynaceae*.
- **Habitat** - Commonly grown in Indian gardens.
- **English** - Madagascar Periwinkle (*Vinca major* L. Pich. and *Vinca minor* Linn. are known as Greater Periwinkle and Lesser Periwinkle respectively).
- **Folk** - Sadaabahaar, Nayantaaraa, Nityakalyaani.
- **Action** - The cytotoxic dimeric alkaloids, present in Madagascar Periwinkle, *Catharanthus roseus* L. Don, *Vinca rosea* L., and used for the treatment of certain type of cancer, have not been found in *V. major*. *Catharanthus roseus* (Madagascar Periwinkle) : cytostatic, anti-neoplastic, slows down growth of cells by suppressing immune response. Vinblastine and Vincristine are said to prolong remission of leukaemia to more than five years. These chemotherapeutic agents are toxic to the nervous system. Vinblastine is also used for breast cancer and Hodgkin's disease. *Vinca major* L. Pich. (Greater Periwinkle): astringent, anti-haemorrhagic; used for menorrhagia and leucorrhoea. Contains indole alkaloids including reserpine and serpentine; tannins. *Vinca minor* Linn. (Lesser Periwinkle): astringent; circulatory stimulant. Leaves—stomachic and bitter. Root—hypotensive. Used for gastric catarrh, chronic dyspepsia, flatulence; also for headache, dizziness, behaviours disorders. A homoeopathic tincture is given for internal haemorrhages.

Cedrus deodara



- **Synonym** - *C. libani* Barrel. var. *deodara* Hook. f.
- **Family** - *Pinaceae*.
- **Habitat** - North-western Himalayas from Kashmir to Garhwal
- **English** - Himalayan Cedar, Deodar.
- **Ayurvedic** - Devadaaru, Suradruma, Suradaaru, Devakaashtha, Devadruma, Saptapatrika, Daaru, Bhadradaaru, Amarataru, Amaradaaru, Daaruka, Devaahvaa, Surataru, Surabhuruha.
- **Unani** - Deodaar.
- **Siddha/Tamil** - Thevathaaram.
- **Action** - Bark—decoction is used internally as astringent, antidiarrhoeal and febrifuge. Essential oil—antiseptic (used in skin diseases). *The Ayurvedic Pharmacopoeia of India* indicated the use of the heartwood in puerperal diseases. The wood possesses diaphoretic, diuretic and carminative properties, and is used in fevers and in pulmonary and urinary disorders. Himalayan Cedarwood Oil contains two major sesquiterpenoids—alpha and beta-himchalenes. Presence of butyric and caproic acids is also reported. The oil shows *in vitro* antibacterial and antifungal activity. It increases vascular permeability. Needles, on steam distillation, yield a volatile oil, rich in borneol and its esters. An alcoholic extract of the needles shows significant antibacterial activity against diphtheria bacteria. The juice shows antiviral activity against tobacco mosaic virus and potato virus. Aqueous extract of the bark is found effective in reducing sugar content of diabetic patient's urine and blood to normal levels.

Centella asiatica



- **Synonym** - *Hydrocotyle asiatica* Linn.
- **Family** - *Umbelliferae; Apiaceae*.
- **Habitat** - In marshy places throughout India.
- **English** - Asiatic Pennywort, Indian Pennywort.
- **Ayurvedic** - Manduukaparni, Manduukaparnikaa, Maanduuki, Saraswati, Brahma-manduuki.
- **Siddha/Tamil** - Vallaarai.
- **Action** - Adaptogen, central nervous system relaxant, peripheral vasodilator, sedative, antibiotic, detoxifier, blood-purifier, laxative, diuretic, emmenagogue. Used as a brain tonic for improving memory and for overcoming mental confusion, stress, fatigue, also used for obstinate skin diseases and leprosy.
- **Key application** - Extracts orally to treat stress-induced stomach and duodenal ulcers; topically to accelerate healing, particularly in cases of chronic postsurgical and post trauma wounds; also to treat second and third degree burns. Patients suffering from venous insufficiency were treated with a titrated extract of the drug. (*WHO*.) Used in Indian medicine as a brain tonic and sedative. Major constituents of the plant are: triterpenoid saponins—brahmoside, asiaticoside, thankuniside; alkaloids (hydrocotyline); bitter principles (vellarin). Brahmoside, present in the plant, is reported to exhibit tranquilizing and anabolic activity. Raw leaves are eaten or plant decoction is drunk to treat hypertension. Asiaticoside, extracted from leaves, gave encouraging results in leprosy. It dissolves the waxy covering of *Bacillus leprae*. Centelloside has also been found useful in leprosy. Asiaticoside reduced the number tubercular lesions in the liver, lungs, nerve ganglia and spleen in experimental animals. Another derivative of asiaticoside, oxyasiaticoside, inhibits growth of *Tubercle bacillus*. Boiled leaves are eaten for urinary tract infections, and unfiltered juice for scrofula and syphilis.

Cicer arietinum



- **Family** - *Papilionaceae; Fabaceae*.
- **Habitat** - Cultivated in most parts of India.
- **English** - Bengal Gram, Chick pea.
- **Ayurvedic** - Chanaka, Chanakaa, Harimantha, Vajimantha, Jivan, Sakal-priya.
- **Unani** - Nakhud.
- **Siddha/Tamil** - Kadalai, Mookkukkadalai.
- **Action** - Antibilious, hypocholesteremic, antihyperlipidemic, antistress. Acid exudate from the plant—used in indigestion, diarrhoea, dysentery. Seed coat extract—diuretic, antifungal (externally). Dry leaf—refrigerant. Supplementation of gram in wheat based diet helps in lysine absorption which is otherwise a limiting amino acid in cereal based diets. Germination improves mineral bioavailability. In germinated gram flour, there is significant increase in nutritional quality of protein and very significant increase in ascorbic acid. The seeds contain pangamic acid, the stemina building, antistress and antihyperlipidemic principle of gram. Gram is given as preventive diet to atherosclerosis patients because of its rich phosphorus content. Seeds reduced postprandial plasma glucose in human.

Cinchona officinalis



- **Synonym** - *C. robusta* How.
- **Family** - *Rubiaceae*.
- **Habitat** - Cultivated in West Bengal and Tamil Nadu.
- **English** - Crown or Loxa Bark.
- **Ayurvedic** - Quinine.
- **Unani** - Al-keenaa, Kanakanaa.
- **Action** - Antimalarial, febrifuge, astringent, orexigenic, spasmolytic. Also prescribed in amoebic dysentery, jaundice, atonic dyspepsia, night cramps. Sometimes causes gastric and intestinal irritation.
- **Key application** - In peptic discomforts such as bloating and fullness, loss of appetite. (*German Commission E.*) The bark contains alkaloids quinine; quinidine; cinchonine; cinchonidine and other alkaloids, quinamine, javanine. The leaves contain quercetin, kaempferol and avicularin. Quinine is antimalarial; quinidine is antiarrhythmic and cardiac tonic, also used in psychic treatments. The bark shows potent inhibitory activity against polymorphonuclear leucocytes; the activity is attributed to the alkaloids of the bark. Cinchona may potentiate coumarin derivatives. In large doses, it is sedative to CNS and cardiac plexus. The bark of all the species contain quinine, quinidine, cinchonine and cinchonidine and exhibit antimalarial activity. The alcoholic extract of *C. ledgeriana* Moens ex Trimen bark exhibits antibacterial activity against Gram-positive bacteria comparable to sodium penicillin. The extract, however, exhibits lesser activity than dihydrostreptomycin sulphate against Gram-negative bacteria.

Cinnamomum camphora



- **Family** - *Lauraceae*.
- **Habitat** - A tree native to China and Japan and often grown as a hedge plant.
- **English** - Camphor tree.
- **Ayurvedic** - Karpura, Ghanasaara, Chandra, Chandra Prabhaa, Sitaabhra, Hima-valukaa, Himopala, Himakara, Shashi, Indu, Tushaara, Gandhadravya, Shitalraja.
- **Unani** - Kaafoor.
- **Siddha/Tamil** - Indu, Karupporam.
- **Action** - Camphor taken internally in small doses (toxic in large doses) acts as a carminative, reflex expectorant and reflex stimulant of heart and circulation as well as respiration. Also used as a sedative and nervous depressant in convulsions, hysteria, epilepsy, chorea. Topically used as a rubefacient and mild analgesic.
- **Key application** - Externally in catarrhal diseases of the respiratory tract and muscular rheumatism; internally in hypotonic circulatory regulation disorders, Catarrhal diseases of the respiratory tract. (*German Commission E.*) The plant contains a volatile oil comprising camphor, safrole, linalool, eugenol and terpineol. It also contains lignans (including secoisolariciresinol dimethyl ether and kusunokiol). Safrole is thought to be carcinogenic. The leaf oil is a natural source of linalool; also contained citronellal. Ethanolic extract of fruits show antibacterial activity against several Gram-positive and Gram-negative bacteria. The essential oil from the plant possesses antifungal activity against many fungi.

Cinnamomum tamala



- **Family** - *Lauraceae*.
- **Habitat** - The subtropical Himalayas, Khasi and Jaintia Hills.
- **English** - Indian Cassia, Lignea.
- **Ayurvedic** - Tejapatra, Patra, Patraka, Utkat, Tamaalpatra, Naalukaa, Naalikkaa.
- **Unani** - Saleekhaa, Saazaj Hindi (Also equated with Zarnab/Telispattar by *National Formulary of Unani Medicine, Part I.*)
- **Siddha/Tamil** - Talishpattiri (now equated with the leaf of *Abies webbiana*); Lavangappattiri.
- **Folk** - Tejpaata.
- **Action** - Leaf—Carminative, antidiarrhoeal, spasmolytic, antirheumatic, hypoglycaemic. Essential oil—fungicidal. The oil from bark contains cinnamaldehyde as major constituent. Leaves from Nepal yield a volatile oil, containing mainly linalool; cinnamaldehyde, alpha- and beta-pinene and limonene. *Cinnamomum wightii* Meissn. is also equated with Tejapatra. The leaves and bark contain cinnamaldehyde.

Cinnamomum zeylanicum



- **Synonym** - *C. verum* Persl.
- **Family** - *Lauraceae*.
- **Habitat** - Western Ghats at low levels. Plantations of cinnamon are confined to Kerala State.
- **English** - Cinnamon, Ceylon Cinnamon.
- **Ayurvedic** - Tvak, Daaruchini, Chochaa, Choncha, Varaanga, Utkata, Daarusitaa (bark).
- **Unani** - Daarchini (bark).
- **Siddha/Tamil** - Elavangappattai.
- **Folk** - Daalchini.
- **Action** - Bark—carminative, astringent, antispasmodic, expectorant, haemostatic, antiseptic. Leaf—antidiabetic. Ground cinnamon is used in diarrhoea and dysentery; for cramps of the stomach, gastric irritation; for checking nausea and vomiting; used externally in toothache, neuralgia and rheumatism. The bark is included in medicinal preparations for indigestion, flatulence, flu, mothwashes, gargles, herbal teas.
- **Key application** - As antibacterial and fungistatic. Internally, for loss of appetite, dyspeptic complaints such as mild spastic conditions of the gastrointestinal tract, bloating and flatulence. (*German Commission E, ESCOP.*) Contraindicated in stomach and duodenal ulcers. (*WHO.*) *The Ayurvedic Pharmacopoeia of India* indicated the use of dried mature leaves of *Cinnamomum tamala* and dried inner bark of *C. zeylanicum* in sinusitis. Cinnamaldehyde is the major constituent (74%) of the essential oil from bark. Major constituent of the leaf oil is eugenol (28-98%) and that of rootbark oil camphor (60%). Cinnamaldehyde is hypotensive, spasmolytic and increases peripheral blood flow; and it inhibits cyclooxygenase and lipoxygenase enzymes of arachidonic acid metabolism. Cinnamaldehyde exhibits CNS stimulant effects at high doses. The bark oil and extracts exhibit antibacterial, antifungal and antiviral activities, and enhance trypsin activity. Eugenol content of the leaf oil is antiseptic and anaesthetic. It is not interchangeable with the bark oil. Root bark oil acts as a stimulant in amenorrhoea. The bark contains tannins (6.5%) consisting of tetrahydroxyflavandiols; diterpenes, cinnzeylanin and cinnzeylanol. *C. malabattrum* (Burm. f.) Blume is equated with Jangali Daarchini.

Citrullus colocynthis



- **Family** - Cucurbitaceae.
- **Habitat** - Throughout India. English Colocynth Bitter Apple.
- **Ayurvedic** - Indravaaruni, Indravalli, Indravaarunikaa, Gavaakshi, Chitraa, Chitraphalaa, Indraasuri, Mrigaani, Mrigairvaaru, Vishaalaa, Vishaalyka, Indraayana. Aindri (also equated with Bacopa monnieri).
- **Unani** - Hanzal.
- **Siddha/Tamil** - Kumatti.
- **Action** - Dried pulp of ripe fruit— cathartic, drastic purgative, irritant and toxic. The pulp is used for varicose veins and piles. A paste of root is applied to various inflammations and swellings. The cataplasm of leaves is applied in migraine and neuralgia. The Ayurvedic Pharmacopoeia of India indicated the use of the fruit in jaundice. The drug and its preparations cause drastic irritation of the gastrointestinal mucus. Cucurbitacins include cucurbitacin E-, J-, L-glucosides. In addition, the pulp contains caffeic acid derivatives (chlorogenic acid). Roots contain aliphatic compounds. Ethanolic extract shows significant anti-inflammatory activity in albino rats. Leaves and flowers contain quercetin and kaempferol. The ethanolic extract of leaves and flowers exhibits antibacterial activity against a number of Gram-positive and Gram-negative bacteria. The fruit exhibited carcinogenic activity in animal studies.

Citrus limon



- **Family** - Rutaceae.
- **Habitat** - Cultivated all over India. English Lemon.
- **Ayurvedic** - Jambira, Jambh, Jambhir, Jaamphal, Nimbu, Nimbuka, Naaranga, Limpaka, Dantashatha, Airaavata, Neebu (bigger var.).
- **Unani** - Utraj
- **Siddha/Tamil** - Periya elumuchhai.
- **Action** - Fruit—antiscorbutic, carminative, stomachic, antihistaminic, antibacterial. Used during coughs, colds, influenza and onset of fever (juice of roasted lemon), hiccoughs, biliousness. Fruit juice—used externally for ringworm (mixed with salt), erysipelas, also in the treatment of leprosy and white spots. Leaves and stems—antibacterial. The acid content of the fruit, once digested, provides an alkaline effect within the body and is found useful in conditions where acidity is a contributory factor (as in case of rheumatic conditions). The bioflavonoids strengthen the inner lining of blood vessels, especially veins and capillaries, and help counter varicose veins, arteriosclerosis, circulatory disorders and infections of liver, stomach and intestines. The composition of cold pressed lime oil is quite similar to lemon oil, but citral content of lime oil is higher. Monoterpene alcohols and their esters, aldehydes—geraniol, geranial and neral, contribute to the characteristic aroma of lemon and lime.

Coccinia indica



- Family Cucurbitaceae.
- Habitat Cultivated in Assam, West Bengal, Bihar, Orissa, Maharashtra, Andhra Pradesh, Tamil Nadu; wild in many parts of India.
- English Ivy-Gourd.
- Ayurvedic Bimbi, Tundi, Tundikaa, Tundikeri, Kunduru, Raktaphala, Piluparni, Dantchhadaa. Unani Kanduri. Siddha/Tamil Kovvai. Action Carminative, antipyretic, galactagogue. Powder of root is taken with water to stop vomiting. Juice of leaves—antispasmodic and expectorant. Applied externally in eruptions of the skin. Root— antiprotozoal. Fruit, leaf and root— antidiabetic. Various plant parts are used in slow pulse and convulsions, also against infective hepatitis. The Ayurvedic Pharmacopoeia of India recommends the whole plant for oedema, anaemia, disorders due to vitiated blood, cough and dyspnoea. The fruit yielded beta-amyrin and its acetate, lupeol and cucurbitacin B.

Cocos nucifera



- **Family** - Palmae; Arecaceae.
- **Habitat** - Cultivated chiefly in Kerala, Tamil Nadu and Karnataka.
- **English** - coconut palm
- **Ayurvedic** - Naarikela, Naalikera, Laangali, Tunga, Skandhaphala, Sadaaphala, Trnaraaja, Kuurchshirshaka.
- **Unani** - Naarjeel, Naariyal.
- **Siddha/Tamil** - Thenkai. Kopparai (kernel of ripe coconut).
- **Action** - Water from tender fruit— cooling, used in thirst, fever, urinary disorders, gastroenteritis, and as a source of K for cholera patients. Fruit—stomachic, laxative, diuretic, styptic, sedative; useful in dyspepsia and burning sensation. Oil from endosperm—antiseptic; used in alopecia. Root—astrigent; used in urinary and uterine disorders.

Coffea arabica



- **Family** - Rubiaceae.
- **Habitat** - Grown in Tamil Nadu, Karnataka and Kerala.
- **English** - Arabian coffee.
- **Unani** - Kahvaa.
- **Siddha/Tamil** - Kaapi, Bannu.
- **Action** - Diuretic, antinarcotic, psychotropic agent, direct heart stimulant (raises blood pressure). Neutralizes therapeutic effects of many herbs; potentiates the action of aspirin and paracetamol; depletes the body of B-vitamins. Charcoal of the outer seed parts—astrigent, absorbent.
- **Key application** - Powdered coffee charcoal—in nonspecific, acute diarrhoea; local therapy of mild inflammation of oral and pharyngeal mucosa.

Colocasia esculenta



- **Family** - Araceae.
- **Habitat** - Cultivated throughout India.
- **English** - Taro, Edible Yam.
- **Ayurvedic** - Pindaaluka, Aaluki.
- **Siddha/Tamil** - Chaembu, Shaeppamkizhangu.
- **Folk** - Arvi, Ghuiyaa.
- **Action** - Juice from petiole—styptic, rubefacient. Juice of corn—used in alopaecia. The leaves contain flavones, apigenin and luteolin, also anthocyanins. Leaves cause severe irritation in mouth. Cooked leaves are a source of dietary fibre for diabetics helping in lowering post-prandial blood glucose level. A significant increase in total lipids, total cholesterol and triglyceride levels was observed in hypercholesterolaemic rats when fed with dried leaf powder. The pressed juice of the petioles is used as an astringent and styptic. All parts of the plant show an acidity. The acidity is removed by boiling and by addition of baking soda. From the tubers two dihydroxysterols, besides beta-sitosterol and stigmasterol, have been isolated. Five novel aliphatic compounds have been reported. Trypsin inhibitors are isolated from the tubers.

Coriandrum sativum



- **Family** - Umbelliferae; Apiaceae.
- **Habitat** - Cultivated chiefly in Madhya Pradesh, Maharashtra, Rajasthan, Andhra Pradesh, Tamil Nadu, Karnataka and Bihar.
- **English** - Coriander.
- **Ayurvedic** - Dhaanyaka, Kustumburu, Dhaanyeyaka, Dhanika, Dhanikaa, Dhaanaa, Dhaanya, Dhaniyaa, Kunati, Chhatraa, Vitunnaka.
- **Unani** - Kishneez.
- **Siddha/Tamil** - Kotthamalli.
- **Action** - Stimulant, stomachic, carminative, antispasmodic, diuretic; also hypoglycaemic and anti-inflammatory. Oil—bactericidal and larvicidal. Used in China as a remedy for measles, diabetes, aerophagy and gastroenteritis.
- **Key application** - In dyspeptic complaints, loss of appetite. (German Commission E, British Herbal Pharmacopoeia, Indian Herbal Pharmacopoeia.)

Crotalaria juncea



- **Family** - Papilionaceae; Fabaceae.
- **Habitat** - Throughout the plains of India, especially in South India.
- **English** - Sun Hemp.
- **Ayurvedic** - Shana, Shanapushpi, Malyapushpa.
- **Unani** - Sunn.
- **Siddha/Tamil** - Sanal, Manji, Sannappu.
- **Folk** - Jhanjhaniana.
- **Action** - Leaf—demulcent, purgative, emetic, emmenagogue, abortifacient, ant-implantation. Given in diarrhoea, dysentery and bleeding disorders. Seeds—used in psoriasis and impetigo.

Curcuma longa



- **Family** - Zingiberaceae.
- **Habitat** - Cultivated all over India, particularly in West Bengal, Tamil Nadu and Maharashtra.
- **English** - Turmeric.
- **Ayurvedic** - Haridraa, Priyaka, Haridruma, Kshanda, Gauri, Kaanchani, Krimighna, Varavarnini, Yoshitapriyaa, Hattavilaasini, Naktaahvaa, Sharvari.
- **Unani** - Zard Chob.
- **Siddha/Tamil** - Manjal.
- **Action** - Anti-inflammatory, cholagogue, hepatoprotective, blood-purifier, antioxidant, detoxifier and regenerator of liver tissue, antiasthmatic, anti-tumour, anticutaneous, antiprotozoal, stomachic, carminative. Reduces high plasma cholesterol. Antiplatelet activity offers protection to heart and vessels. Also protects against DNA damage in lymphocytes.
- **Key application** - In dyspeptic conditions. (German Commission E, ESCOP, WHO.) As antiinflammatory, stomachic. (Indian Herbal Pharmacopoeia.)

Cymbopogon citratus



- **Family** - Poaceae.
- **Habitat** - Grown in Punjab, Maharashtra, Gujarat and Karnataka.
- **English** - Lemongrass.
- **Ayurvedic** - Bhuutika, Bhuutikaa.
- **Action** - Leaf—stimulant, sudorific, antiperiodic, anticatarrhal. Essential oil—carminative, anticholerin, depressant, analgesic, antipyretic, antibacterial, antifungal.

Datura stramonium



- **Family** - Solanaceae.
- **Habitat** - The Himalaya from Kashmir to Sikkim, hilly districts of Central and South India.
- **English** - Thornapple, Jimsonweed, Stramonium.
- **Ayurvedic** - Krishnadhattuura, Dhuurta (black seed var.), Unmatta, Kitav, Tuuri, Maatul, Madan. Unani Dhaturaa.
- **Action** - Spasmolytic, antiasthmatic, anticholinergic, cerebral depressant, nerve-sedative. Controls spasms of bronchioles in asthma. Anticholinergic. Effects of overdose are similar to those of atropine. Temporary relief from Parkinsonian tremor recorded. (Contraindicated with depressant drugs.) Applied locally, stramonium palliates the pain of muscular rheumatism, neuralgia, also pain due to haemorrhoids, fistula, abscesses and similar inflammations.
- **Key application** - In diseases of the autonomic nervous system. (Included among unapproved herbs by German Commission E.) The British Herbal Pharmacopoeia reported antispasmodic action of the leaf; Indian Herbal Pharmacopoeia accepted it as expectorant and antispasmodic.

Daucus carota



- **Family** - Umbelliferae; Apiaceae.
- **Habitat** - Native to Europe and the Mediterranean region; extensively cultivated in Punjab, Haryana, Uttar Pradesh and Madhya Pradesh for its fleshy tap roots which are eaten raw or cooked. Wild Carrot: Native to Europe, Africa and Asia. Grows in the Himalayas.
- **English** - Carrot, Cultivated Carrot. Wild carrot (*D. carota* Linn.wildvar.: the root, small and white), Queen Anne's Lace, Bird's Nest. Bees' Nest Plant.
- **Ayurvedic** - Gaajara, Garjara, Granjana.
- **Unani** - Gaajar.
- **Action** - Roasted roots—prescribed in palpitation, burning micturation, cough and bronchitis. Carrot increases the quantity of urine and helps the elimination of uric acid; also lowers blood sugar. Juice—a rich source of carotene. Seeds—diuretic, emmenagogue, spasmolytic (prescribed in anuria and sexual debility). Wild carrot— diuretic and antilithic (used for kidney stones, cystitis and in gout). Seeds—emmenagogue. Also used for hot flushes of the menopause.

Digitalis purpurea



- **Family** - Scrophulariaceae.
- **Habitat** - Native to West Europe. Cultivated in Tangmarg and Kishtawar in Kashmir, Darjeeling and the Nilgiris. English Digitalis, Foxglove.
- **Ayurvedic** - Hritpatri, Tilapushpi (non-classical). (Purple var.)
- **Action** - Main source of digoxin for the pharmaceutical industry. Digitalis glycosides increase the force of contraction of heart without increasing the oxygen consumption and slow the heart rate when auricular fibrillation is present. To be used only under strict medical supervision. Not used as a herbal drug.

Dioscorea alata



- **Family** - Dioscoreaceae.
- **Habitat** - Native to East Asia; cultivated in Assam, Vadodara, Tamil Nadu, Bengal and Madhya Pradesh. English Wild Yam, Greater Yam, Asiatic Yam.
- **Ayurvedic** - Kaashthaaluka. Aaluka (var.). Aalukas (yams) of Ayurvedic texts, belong to Dioscorea spp.
- **Siddha/Tamil** - Perumvalli kizhangu.
- **Folk** - Kathaalu.
- **Action** - Even the best among the cultivated yams causes irritation in the throat or a feeling of discomfort when eaten raw. Wild yams—cholagogue, antispasmodic, anti-inflammatory, antirheumatic, diuretic. Also used for painful periods, cramps and muscle tension. Key application *Dioscorea villosa* L., Wild Yam—as spasmolytic, anti-inflammatory. (The British Herbal Pharmacopoeia.) The edible tubers of *Dioscorea alata* are purple-coloured and contain anthocyanins, cyanidin and peonidin -gentiobioside acylated with sinapic acid. The tubers contain sucrose, while leaves contain large quantities of D-fructose, D-glucose and the polyols.

Dolichos biflorus



- **Family** - Papilionaceae; Fabaceae.
- **Habitat** - A pulse crop, particularly in Madras, Mysore, Mumbai and Hyderabad.
- **English** - Horsegram.
- **Ayurvedic** - Kulattha, Kulittha, Khalva, Vardhipatraka.
- **Unani** - Kulthi.
- **Siddha/Tamil** - Kollu, Kaanam.
- **Action** - Plant—used in measles, smallpox, adenitis, burns, sores. Seeds—astrigent, antipyretic, diuretic. Decoction or soup is used in affections of the liver and spleen, intestinal colic, in leucorrhoea and menstrual disorders, urinary discharges. A valuable protein supplement. The Ayurvedic Pharmacopoeia of India recommends the decoction of dry seeds in calculus and amenorrhoea. Presence of vitamin A in the green pods makes them a valuable diet for children; green leaves may be used in vitamin C deficiency syndrome, due to the presence of ascorbic acid and calcium. The seeds contain several common phytosterols. Strepogenin—several times higher than in casein. A decoction of seeds (soaked or boiled in water) is prescribed as diuretic and antilithiatic and has been clinically established.

Eclipta alba



- **Family** - Compositae; Asteraceae.
- **Habitat** - Throughout India, up to 2000 m on the hills. English Trailing Eclipta Plant.
- **Ayurvedic** - Bhringaraaja, Bhringa, Bhringaja, Bhrngaaraka, Bhrngaara, Maarkava, Kesharaaja, Keshranjana
- **Unani** - Bhangraa
- **Siddha/Tamil** - Karisalaankanni.
- **Folk** - Bhangaraa.
- **Action** - Deobstruent, antihepatotoxic, anticatarrhal, febrifuge. Used in hepatitis, spleen enlargements, chronic skin diseases. Leaf—promotes hair growth. Its extract in oil is applied to scalp before bed time in insomnia. The herb is also used as an ingredient in shampoos. Key application As hepatoprotective. (Indian Herbal Pharmacopoeia; The Ayurvedic Pharmacopoeia of India.)

Eichhornia crassipes



- **Family** - Pontederiaceae.
- **Habitat** - Native to tropical South America; naturalized all over India.
- **English** - Water-Hyacinth, Bengal Terror, Blue Devil, The Million Dollar Weed.
- **Ayurvedic** - Wrongly equated with Jalakumbhi (*Pistia stratiotes* Linn., Tropical Duckweed.)
- **Siddha/Tamil** - Akasa thammaraai.
- **Action** - Flower—antifungal. Used in skin diseases. The plant gave stigmaterol, roots gibberellins, flowers delphinidin glucoside. Research shows that Water-Hyacinth can be used as a source to remove minerals, organic substances and even heavy metals like Cd, Cr, Cu, Zn and Ni present as pollutants from domestic or industrial effluents.

Embelia ribes



- **Family** - Myrsinaceae.
- **Habitat** - Throughout India.
- **English** - Embelia.
- **Ayurvedic** - Vidanga, Krmighna, Krmihara, Krmiripu, Chitratandula, Jantughna, Jantunaashana, Vella, Amogha.
- **Unani** - Baobarang, Barang Kaabuli.
- **Siddha/Tamil** - Vaayuvidangam.
- **Action** - Ascariocidal, anthelmintic, carminative, diuretic, astringent, anti-inflammatory, antibacterial, febrifuge. Used in diseases of chest and skin. Active principles are found to be oestrogenic and weakly progestogenic. Root—bechic, antidiarrhoeal. Seed—spermicidal, oxytocic, diuretic. The plant is also used for its blood purifying properties. It is an ingredient in cough syrups, preparations for anaemia, genitourinary tract infections, diarrhoea and diseases of the liver. Embelin, isolated from the berries, shows significant anti-implantation and post-coital antifertility activity. (Successful trials have been carried out at the National Institute of Immunology, New Delhi on human beings.) It is found to be a potential male antifertility agent.

Eucalyptus globules



- **Family** - Myrtaceae.
- **Habitat** - Native to Australia; now cultivated mainly at the hill-stations of India.
- **English** - Blue-Gum tree, Australian Gum tree.
- **Ayurvedic** - Tilaparna, Tailaparna, Sugandhapatra, Haritaparna Neelaniryaasa, Tribhandi, Triputaa, Saralaa, Suvahaa, Rechani, Nishotraa.
- **Unani** - Neelgiri oil.
- **Siddha/Tamil** - Karpooramaram.
- **Action** - Essential oil from leaves— antiseptic, antibiotic, antiviral, antifungal, antispasmodic, decongestant, antiasthmatic, expectorant, antirheumatic, diaphoretic. Used in chronic, bronchitis, migraine, congestive headache, neuralgia and ague, as an inhalant or internal medicine. Root—purgative. Key application Leaf tea for catarrhs of the respiratory tract. Oil used externally for rheumatic complaints, contraindicated internally in inflammatory diseases of the gastrointestinal tract, bile ducts, and in severe liver diseases. (German Commission E.) Oil—internally as adjuvant treatment of chronic obstructive respiratory complaints, including bronchitis and bronchial asthma, also for symptomatic relief of colds and catarrh of the upper respiratory tract; externally for symptomatic treatment of colds and rheumatic complaints. (ESCOP.) Leaf—antiseptic. (The British Herbal Pharmacopoeia.)

Euphorbia hirta



- **Family** - Euphorbiaceae.
- **Habitat** - Throughout warmer regions of India.
- **English** - Euphorbia, Australian Asthma Weed, Pill-bearing Spurge.
- **Ayurvedic** - Dudhi, Dudhikaa, Naagaarjuni, Vikshirini. Unani Dudhi Khurd.
- **Siddha/Tamil** - Amman pachharisi.
- **Action** - Pectoral, antiasthmatic, antispasmodic. Used for asthma, laryngitis, chronic nasal and bronchial catarrh; diarrhoea, dysentery, intestinal parasitosis. Also used in postnatal complaints, failure of lactation. Latex— vermifuge. Used in diseases of urinogenitory tract. The herb contains several terpenes, anthocyanins, alcohols and steroids. Aerial parts also gave shikimic acid, choline, L-inositol and free sugars. Antiasthmatic activity is attributed to choline and shikimic acid. Shikimic acid and choline showed relaxant and contracting properties on guinea-pig ileum. The aqueous extract of the herb exhibited sedative, anxiolytic, analgesic, antipyretic and anti-inflammatory activities; exerted an inhibitory effect on platelet aggregation. Quercitrin is reported to be responsible for antidiarrhoeal activity. Methanolic extract of the leaves exhibits antibacterial and antifungal activities.

Ferula narthex



- **Family** - Umbelliferae; Apiaceae.
- **Habitat** - Kashmir. English Narthex asafoetida.
- **Ayurvedic** - Hingu (var.). Unani Hilteet, Hing.
- **Siddha/Tamil** - Perungayam.
- **Action** - The gum-resin is used as asafoetida. The oil is reported to be bacteriocidal. It exhibited antimicrobial activity against Gram-positive and Gramnegative bacteria. The essential oil, obtained from seeds, shows antioxidant activity comparable to BHT. The plant gave coumarin derivatives including umbelliferone and scopoletin.

Ficus benghalensis



- **Family** - Moraceae.
- **Habitat** - Sub-Himalayan tract and Peninsular India. Planted along roadsides, and in gardens.
- **English** - Banyan tree.
- **Ayurvedic** - Vata, Nyagrodha, Bahupaada, Dhruv.
- **Unani** - Bargad, Darakht-e-Reesh.
- **Siddha/Tamil** - Aalamaram.
- **Action** - Infusion of bark—used in diabetes, dysentery, and in seminal weakness, leucorrhoea, menorrhagia, nervous disorders, erysipelas, burning sensation. Milky juice and seeds—applied topically to sores, ulcers, cracked soles of the feet, rheumatic inflammations. Buds—a decoction in milk is given in haemorrhages. Aerial roots—antiemetic, topically applied to pimples. Leaves—a paste is applied externally to abscesses and wounds for promoting suppuration. Along with other therapeutic applications, The Ayurvedic Pharmacopoeia of India recommends the aerial root in lipid disorders

Foeniculum vulgare



- **Family** - Umbelliferae; Apiaceae.
- **Habitat** - Native to the Mediterranean region; now cultivated mainly in Punjab, Assam, Maharashtra and Vadodara (Gujarat).
- **English** - Fennel. (Poison hemlock has been misidentified as fennel.)
- **Ayurvedic** - Mishreyaa, Mishi, Madhurikaa, Madhuraa, Shatapushpaa, Shataahvaa. (Shatpushpaa is equated with Saunf and Shataahvaa with Soyaa. Some authors treat these as vice-versa.)
- **Unani** - Baadiyaan, Saunf.
- **Siddha/Tamil** - Sombu.
- **Action** - Carminative, stomachic, antispasmodic, emmenagogue, galactagogue, anti-inflammatory, diuretic. Relieves bloating, nausea, settles stomach and stimulates appetite. Also used in amenorrhoea and enuresis. Key application In dyspepsias such as mild, spastic, gastrointestinal afflictions, fullness, flatulence. Fennel syrup or honey can be used for the catarrh of the upper respiratory tract in children. Fennel oil preparations not recommended during pregnancy. (German Commission E, ESCOP, WHO.)

Garcinia morella



- **Family** - Guttiferae; Clusiaceae.
- **Habitat** - Throughout southern India, also in Assam and West Bengal.
- **English** - Indian Gamboge.
- **Ayurvedic** - Kankushtha, Tamaal, Taapichha, Ushaare-revand.
- **Siddha/Tamil** - Iravakhinni.
- **Action** - Gum-resin—hydragogue, cathartic, anthelmintic. Used in dropy and amenorrhoea. Causes nausea, vomiting and griping in large doses. The gum contains morellin, neomorellin, beta-guttiferin and alphaguttiferin and their derivatives. The heartwood gave morelloflavone. Seed coat gave morellin, isomorellin and their neo derivatives which exhibited antibacterial and antiprotozoal activities.

Haematoxylon campechianum



- **Family** - Caesalpinaceae, Mimosaceae
- **Habitat** - Native to tropical America and the West Indies. GroEnglish Logwood, Peachwood, Compeachy tree.
- **Ayurvedic** - Pattanga, Patraanga, Bakam (substitute). (Caesalpinia sappan is also equated with Pattanga.)
- **Unani** - Buqqam, Bakam-Hindi.
- **Action** - Astringent. Used for atonic dyspepsia, diarrhoea, summer diarrhoea, dysentery, internal haemorrhages, menorrhagia, leucorrhoea. (It imparts red colour to urine and stool. Incompatible with chalk or lime-water.) in Indian gardens. English Logwood, Peachwood, Compeachy tree. Ayurvedic Pattanga, Patraanga, Bakam (substitute). (Caesalpinia sappan is also equated with Pattanga.) Unani Buqqam, Bakam-Hindi. Action Astringent. Used for atonic dyspepsia, diarrhoea, summer diarrhoea, dysentery, internal haemorrhages, menorrhagia, leucorrhoea. (It imparts red colour to urine and stool. Incompatible with chalk or lime-water.)

Hibiscus abelmoschus



- **Family** - Malvaceae.
- **Habitat** - Throughout the warmer parts and hilly regions of India; also cultivated.
- **English** - Musk Seed, Muskmallow, Ambette Seed.
- **Ayurvedic** - Lataakasturi, Lataakasturikaa, Kattaphala, Katuka.
- **Unani** - Mushkdaanaa.
- **Siddha/Tamil** - Kasturi-vendai.
- **Action** - Seeds—diuretic, antispasmodic, stomachic, nervine (nervous debility, hysteria and other nervous disorders). Used externally for skin diseases and itch.

Holarrhena antidysenterica



- **Family** - Apocynaceae.
- **Habitat** - The tropical Himalaya. Also found throughout many forests of India, in Travancore, Assam and Uttar Pradesh.
- **English** - Easter tree, Ivory tree, Tellicherry Bark.
- **Ayurvedic** - Kutaja, Girimallikaa, Kaalinga, Kalingaka, Indravriksha, Shakra, Vatsa, Vatsaka, Shakraahvya. Indrayava, Indrabija, Vatsabija (seed). Kurchi (bark).
- **Unani** - Inderjo talkh, Teewaaj-eKhataai.
- **Siddha/Tamil** - Kudasappaalai-pattai, -vidai (bark, seed).
- **Action** - Root and bark—used in amoebic dysentery. Bark—astrigent, anthelmintic, amoebicidal, diuretic. Used in colic, dyspepsia, piles, diseases of the skin and spleen. Seed—antibilious. Used for promoting conception, also for toning up vaginal tissues after delivery. The bark contains the alkaloids, regholarrhenine-A, -B, -C, -D, -E and -F; pubescine, norholadiene, pubescimine, kurchinin, kurchinine, kurchinidine, holarrifine, holadiene, kurchilidine, kurchamide, kurcholessine.

Hordeum vulgare



- **Family** - Gramineae; Poaceae.
- **Habitat** - Cultivated as food crop in Uttar Pradesh, West Bengal, Bihar, Madhya Pradesh, Rajasthan, Haryana, Punjab, Himachal Pradesh and Jammu and Kashmir.
- **English** - Barley
- **Ayurvedic** - Yava, Hayeshtha, Hayapriya, Shukadhaanya, Tikshnashuka.
- **Unani** - Barley, Jao Shaeer. Siddha Yavam. Saambaluppu (ash).
- **Action** - Barley—nutritive and demulcent during convalescence and in cases of bowel inflammation and diarrhoea. Protects immune system. The Ayurvedic Pharmacopoeia of India recommends barley in urinary disorders, muscular rigidity, chronic sinusitis, cough, asthma, lipid disorder and obesity.

Hygrophila auriculata



- **Family** - Acanthaceae.
- **Habitat** - Throughout India along the banks of fresh or stagnant water ditches and swampy grounds, mixed with marshy grasses and sedges.
- **Ayurvedic** - Kokilaaksha, Kokilaakshi, Ikshuraka.
- **Unani** - Taalmakhaanaa.
- **Siddha/Tamil** - Neermulli.
- **Action** - Leaves, roots and seeds— diuretic; used for diseases of the urinogenital tract, spermatorrhoea. Seeds promote sexual vigour, arrest abortion and cure diseases due to vitiated blood. Also used for arthritis and oedema.

Hypericum perforatum



- **Family** - Hypericaceae.
- **Habitat** - Temperate Western Himalayas from Kashmir to Shimla at 2000–3000 m.
- **English** - Common St. John's wort.
- **Unani** - Heufaariqoon, Bassant, Balsaan.
- **Action** - Antidepressant, sedative, relaxing nervine, anti-inflammatory. Used in anxiety, stress, depression, menopausal nervousness, menstrual cramps, neuralgia and rheumatism.
- **Key application** - Psychovegetative disturbances, depressive moods, anxiety and or nervous unrest. Externally, oil preparation for treatment and post-therapy of acute injuries.

Ipomoea batatas



- **Family** - Convolvulaceae.
- **Habitat** - Native to tropical America; cultivated throughout India for edible tubers.
- **English** - Sweet potato.
- **Ayurvedic** - Mukhaaluka, Rataalu, Raktaalu, Raktapindaka, Raktakanda.
- **Siddha/Tamil** - Sakkareivelleikulangu.
- **Unani** - Shakarkand, Rataalu.
- **Action** - Root—used in strangury, urinary discharges, burning sensation, thirst. Whole plant—used in low fever and skin diseases.

Kalanchoe integra



- **Family** - Crassulaceae.
- **Habitat** - Tropical Himalayas from Kashmir to Bhutan, on Lushai hills and in the Deccan.
- **Ayurvedic** - Parnabija (var.).
- **Unani** - Zakhm-e-Hayaat.
- **Folk** - Rungru, Tatara. Bakalpattaa, Patkuari (Kumaon). Hathokane (Nepal).
- **Action** - Plant—hypotensive, antiarrhythmic. Aqueous extract of the leaves depressed CNS and potentiated barbiturate-induced hypnosis in mice. The flowers yielded triterpenoids—friedelin, taraxerol and glutinol and a mixture of long chain hydrocarbons, n-alkanols and sterols. Kaempferol and its 3-O-rhamnoside, patuletin and patuletin-3, 7-di-O-rhamnoside, quercetin and quercetin-3-O-glucoside- 7-O-rhamnoside are reported from leaves and flowers. The leaves exhibit wound healing properties.

Lactuca sativa



- **Family** - Compositae; Asteraceae.
- **Habitat** - Native to Southern and West Asia. Cultivated throughout India as a cold weather crop.
- **English** - Garden Lettuce.
- **Unani** - Kaahuu Bustaani, Salaad Pattaa, Salaad Baaghi.
- **Siddha/Tamil** - Salattu.
- **Action** - Plant—used in painful ulcers and burns. The leaves contain calcium, phosphorus, iron, thiamine, riboflavin, cin, carotene, iodine, fluorine. Aqueous extract of roots gave a guaiene-type sesquiterpene glycoside, lactoside C, along with known glycosides, lactoside A and macro-cliniside A.

Leonurus cardiaca



- **Family** - Labiatae; Lamiaceae.
- **Habitat** - Native to Europe; also distributed in Himalayas from Kashmir to Kumaon.
- **English** - Common Motherwort, Lion's Tail.
- **Unani** - Baranjaasif. (Also equated with Artemesia vulgaris Linn; and Achillea millifolium Linn.)
- **Action** - Stomachic, laxative, antispasmodic, diaphoretic, emmenagogue (used in absent or painful menstruation, premenstrual tension, menopausal flushes). Hypnotic, sedative. Used as a cardiac tonic. (Studies in China have shown that Motherwort extracts show antiplatelet aggregation actions and decrease the levels of blood lipids.)
- **Key application** - In nervous cardiac disorders and as adjuvant for thyroid hyperfunction. (German Commission E.) As antispasmodic. (The British Herbal Pharmacopoeia.) The British Herbal Compendium indicated its use for patients who have neuropathic cardiac disorders.

Leucas aspera



- **Family** - Labiatae; Laminaceae.
- **Habitat** - Throughout India in cultivated fields, wastelands, roadsides.
- **English** - White Dead Nettle.
- **Ayurvedic** - Dronpushpi, Phalepushpaa, Kutambaka.
- **Siddha/Tamil** - Thumbai.
- **Folk** - Guumaa, Halkusa (smaller var.), Tumbaa.
- **Action** - Carminative, antihistaminic, antipyretic, febrifuge, antiseptic. Used in jaundice, anorexia, dyspepsia, fever, helminthic manifestation, respiratory and skin diseases. Flowers—given with honey for coughs and colds to children. Leaves—juice is used as an external application for psoriasis, chronic skin eruptions and painful swellings. An alcoholic extract of leaves shows antibacterial activity. The plant gave oleanolic acid, ursolic acid and beta-sitosterol. The root contains a triterpenoid, leucolactone, and the sterols, sitosterol, stigmasterol and campesterol.

Lippia nodiflora



- **Family** - Verbenaceae.
- **Habitat** - Throughout India, in wet places and river banks.
- **English** - Wild sage.
- **Ayurvedic** - Jalapippali, Shaaradi, Shakulaadani, Jalakarnaa, Matsyagandhaa. Laangali (now equated with *Gloriosa superba*).
- **Unani** - Bukkum Booti.
- **Siddha/Tamil** - Paduthalai.
- **Action** - Plant—cooling, febrifuge, diuretic. Poultice used as maturant for boils. Leaves—an infusion is given to women after delivery. An alcoholic extract of the leaves shows antibacterial activity against *E. coli*. The leaf juice enters into hair oils for alopecia areata. Aerial parts are reported to contain flavonoids, flavone aglycones and flavone sulphates.

Madhuca indica



- **Family** - Sapotaceae.
- **Habitat** - A large tree, cultivated mainly in Uttar Pradesh, Bihar.
- **English** - Mahua tree, Moha.
- **Ayurvedic** - Madhuuka.
- **Unani** - Mahuaa.
- **Siddha/Tamil** - Ieluppai.
- **Action** - Flowers—stimulant, demulcent, laxative, anthelmintic, bechic. Seed oil—galactogenic, anticephalgic, emetic. Used in pneumonia, skin diseases, piles. Bark—astrigent, emollient. Used for tonsilitis, gum troubles, diabetes, ulcers. Bark, seed oil and gum—antirheumatic. The Ayurvedic Pharmacopoeia of India recommends the flower without stalk or calyx in asthma and pthisis.

Melia azedarach



- **Family** - Meliaceae.
- **Habitat** - Cultivated and naturalized throughout India.
- **English** - Persian Lilac, Pride of India.
- **Ayurvedic** - Mahaanimba, Ramyaka, Dreka. (Neem is equated with Azadirachta indica.)
- **Unani** - Bakaayan.
- **Siddha/Tamil** - Malaivembu.
- **Action** - Leaf—diuretic, anthelmintic, antilithic. Leaf and flower—febrifuge, sedative, emmenagogue. Leaf, fruit and stem bark—antileprotic. Leaf, flower, fruit, root bark—deobstruent, resolvent. Seed oil—antirheumatic, insecticidal. Leaves, bark and fruit—insect repellent. Gum— used in spleen enlargement. Heartwood—an aqueous extract, used in asthma.

Mimosa pudica



- **Family** - Mimosaceae.
- **Habitat** - Native to tropical America; naturalized in tropical and subtropical regions of India.
- **English** - Sensitive-plant, Humble Plant.
- **Ayurvedic** - Lajjaalu, Laajavanti, Namaskaari, Samangaa, Sankochini, Shamipatraa, Khadirkaa, Raktapaadi.
- **Unani** - Chhuimui, Sharmili, Laajwanti.
- **Siddha/Tamil** - Thottalsurungi.
- **Action** - Leaf—astrigent, alterative, antiseptic, styptic, blood purifier. Used for diarrhoea, dysentery, haemophilic conditions, leucorrhoea, morbid conditions of vagina, piles, fistula, hydrocele and glandular swellings. Root—used in gravel and urinary complaints. A decoction is taken to relieve asthma.

Mirabilis jalapa



- **Family** - Nyctaginaceae.
- **Habitat** - North-West Himalayas, Bengal and Manipur.
- **English** - Four-O'Clock Plant, Marvel of Peru. Ayurvedic Trisandhi.
- **Unani** - Gul-abbaas.
- **Siddha/Tamil** - Andhimalligai.
- **Action** - Leaf—used for treating uterine discharge; as poultice for abscesses and boils; fresh juice is applied to body in urticaria, also for inflammations and bruises. Tuber— used as a poultice on carbuncles. Root—mild purgative, spasmolytic. The tuberous roots were erroneously thought to be the source of jalap. The plant is used for its antitumour and virus-inhibitory activity. The plant contains triterpenes, alpha-amyrin and its acetate. Mirabilis Antiviral Protein (MAP) was isolated from the tuberous roots. MAP also showed antiproliferative effect on tumour cells. (MAP is abortifacient.) Two Mirabilis jalapa antimicrobial proteins, isolated from seeds, showed broad spectrum antifungal activity involving a number of pathogenic fungi. Miraxanthins I, II, III and IV, indicaxanthin and vulgaxanthin have been isolated from flowers.

Moringa pterygosperma



- **Family** - Moringaceae.
- **English** - Drumstick, Horse-Radish.
- **Ayurvedic** - Shigru (white var.), Madhu Shigru, Sogra, Shobhaanjana, Haritashaaka. Raktaka, Murangi, Mochaka, Akshiva, Tikshnagandhaa.
- **Unani** - Sahajan.
- **Siddha/Tamil** - Murungai.
- **Action** - All parts of the tree are reported to be used as cardiac and circulatory stimulant. Pods—antipyretic, anthelmintic; fried pods are used by diabetics. Flowers—cholagogue, stimulant, diuretic. Root juice—cardiac tonic, antiepileptic. Used for nervous debility, asthma, enlarged liver and spleen, deep-seated inflammation and as diuretic in calculus affection. Decoction is used as a gargle in hoarseness and sore throat. Root and fruit—antiparalytic. Leaf—juice is used in hiccough (emetic in high doses); cooked leaves are given in influenza and catarrhal affections. Root-bark—antiviral, anti-inflammatory, analgesic. Bark—antifungal, antibacterial. Stem-bark and flower—hypoglycaemic. Seeds—an infusion, anti-inflammatory, antispasmodic and diuretic; given in venereal diseases.

Nelumbo nucifera



- **Family** - Nymphaeaceae.
- **Habitat** - Throughout warmer parts of India.
- **English** - East Indian Lotus, Sacred Lotus.
- **Ayurvedic** - Kamala, Padma, Nalina, Aravinda, Jalaja, Raajeeva, Pushkara, Ambuja, Abja, Pankaja. Pundarika (whitish), kokanada (red), Indivara (Bluish).
- **Unani** - Used as a substitute for Nilofar.
- **Siddha/Tamil** - Thaamarai, Ambel.
- **Action** - Filament—astrigent and haemostatic. Prescribed for bleeding piles and menorrhagia. Flowers—a decoction is given in cholera, fever, strangury, palpitation of heart. Rhizomes—given in piles, chronic dyspepsia and dysentery; applied externally to cutaneous eruptions, scabies and ringworm. Rhizome-arrowroot— given to children in diarrhoea and dysentery. Root—astrigent, diuretic, antiemetic, cooling. Used for dysentery, dyspepsia, piles, skin affections and for its anticoagulant properties. The Ayurvedic Pharmacopoeia of India recommends dried rhizomes, with roots attached at nodes, in syncope and vertigo.

Ocimum sanctum



- **Family** - Labiatae; Lamiaceae.
- **Habitat** - Throughout India; grown in houses, gardens and temples.
- **English** - Holy Basil, Sacred Basil.
- **Ayurvedic** - Tulasi, Surasaa, Surasa, Bhuutaghni, Suravalli, Sulabhaa. dundubhi, Apet-raakshasi, Shuulaghni, Graamyaa, Sulabhaa.
- **Unani** - Tulasi.
- **Siddha/Tamil** - Tulasi, Nalla-Tulasi.
- **Action** - Leaf—carminative, stomachic, antispasmodic, antiasthmatic, antirheumatic, expectorant, stimulant, hepatoprotective, antiperiodic, antipyretic and diaphoretic. Seed— used in genitourinary diseases. Root—antimalarial. Plant—adaptogenic, antistress. Essential oil— antibacterial, antifungal. The Ayurvedic Pharmacopoeia of India recommends the use of the leaf and seed in rhinitis and influenza; the seed in psychological disorders, including fear-psychosis and obsessions.

Opuntia dillenii



- **Family** - Cactaceae.
- **Habitat** - Native of Mexico; well-acclimatized throughout India.
- **English** - Prickly Pear, Slipper Thorn.
- **Ayurvedic** - Naagaphani, Kanthaari.
- **Unani** - Naagphani.
- **Siddha/Tamil** - Sappathikalli, Nagathali.
- **Action** - Leaves—applied as poultice to allay inflammation and heat. Fruit—baked and given in whooping cough. Dried or fresh flowers of cactus (opuntia series)—astringent and haemostatic. An infusion is given in bowel, mucous colitis, and prostatitis. Ash of the aerial portion, mixed with sugar candy, is given for 21 days for birth control in tribal areas of Andhra Pradesh. The Plant is recommended for growing in high pollution zones for abating sulphur dioxide pollution. Pods contain a polysaccharide, arbinogalactan. Betanin has been isolated from ripe fruits. Flowers contain the glycosides of isorhamnetin and quercetin, with small amounts of the free flavonols.

Pandanus facicularis



- **Family** - Pandanaceae.
- **Habitat** - Sea coast of the Indian Peninsula on both sides, and the Andaman Islands.
- **English** - Screw Pine.
- **Ayurvedic** - Ketaka, Ketaki, Suuchikaa pushpaa, Jambuka, Trinshunya, Ketakark, Krakchhada.
- **Unani** - Keoraa.
- **Siddha/Tamil** - Thazhai, Thalay.
- **Action** - Flower—carminative, stomachic, cooling, antiseptic. Used for headache, ulcers, dysuria, scabies and other skin diseases. Root— used for osteoarthritis, leucorrhoea and amenorrhoea; contraindicated during pregnancy. Leaves— used for skin diseases, small pox, scabies, leprosy. The Ayurvedic Pharmacopoeia of India recommends the decoction of the root in abdominal inflammation. Oil and otto—stimulant, antispasmodic, antirheumatic.

Papaver somniferum



- **Family** - Papaveraceae.
- **Habitat** - Native to Asia; now grown in Uttar Pradesh, Punjab, Rajasthan and Madhya Pradesh.
- **English** - Opium Poppy.
- **Ayurvedic** - Ahiphenā, Aaphuuka. Post-daanaa (seed).
- **Unani** - Afyum. Tukhm-ekhashkhaash (seed).
- **Siddha/Tamil** - Kasakasa (seeds).
- **Action** - Opium is obsolete as a drug. Narcotic, sedative, hypnotic, analgesic, sudorific, anodyne, antispasmodic. Crushed poppyheads were in use as a topical poultice for crippling pain in terminal diseases. Poppy seed—nutritive, demulcent, emollient, spasmolytic, devoid of narcotic properties. Specific against obstinate constipation, also used in catarrh of the bladder.

Raphanus sativus



- **Family** - Cruciferae; Brassicaceae.
- **Habitat** - Cultivated in Uttar Pradesh, Punjab, Maharashtra and Gujarat. English Radish.
- **Ayurvedic** - Muulaka, Laghumuulaka, Muulakapotikaa, Visra, Shaaleya, Marusambhava. Pods— Sungraa, Singri, Mungraa.
- **Unani** - Muuli, Turb Fajal.
- **Siddha/Tamil** - Mullangi.
- **Action** - Radish—preparations are used in liver, gallbladder and urinary complaints. Green leaves— diuretic and carminative. Seeds— diuretic, purgative, expectorant. A decoction of dry radish is given orally in piles. Extract of the dry root is given for hiccough, influenza, dysentery, colic and urinary troubles.
- **Key application** - In peptic disorders, especially those related to dyskinesia of the bile ducts; and in catarrhs of the upper respiratory tract. (German Commission E.) The Ayurvedic Pharmacopoeia of India recommends the juice of the whole plant in sinusitis; juice of the root in diseases of the throat and sinusitis; and the seed in amenorrhoea, cough and dyspnoea.

Rauvolfia serpentina



- **Family** - Apocynaceae.
- **Habitat** - The sub-Himalayas tract from Punjab to Nepal, Sikkim, Bhutan, Assam, Western Ghats and the Andamans.
- **English** - Rauvolfia root, Serpentina Root, Indian Snakeroot.
- **Ayurvedic** - Sarpagandhaa of Ayurvedic texts was not the Sarpagandhaa of modern medicine. (Sarpagandhaa was equated with Naakuli, Sarpachhatrikaa and Varshaasu Chhatrikaaraa. Sarpagandhaa and Sarpasugandhaa were synonyms of Naakuli.)
- **Folk** - Chhotaa Chaand.
- **Action** - Root—decoction is employed to increase uterine contractions and for expulsion of foetus in difficult cases. The total alkaloidal extract of the root induces bradycardia, hypotension, sedation. It finds application in hypochondria, neuropsychiatric disorders, psychosis and schizophrenia.
- **Key application** - In mild, essential hypertension (borderline hypertension, especially with elevated tension of the sympathetic nervous system sinus tachycardia, anxiety, tension and psychomotor irritation, when dietetic measures alone are not sufficient. (German Commission E.)

Ricinus communis



- **Family** - Euphorbiaceae.
- **Habitat** - Cultivated chiefly in Andhra Pradesh, Maharashtra, Karnataka, and Orissa.
- **English** - Castor seed.
- **Ayurvedic** - Eranda, Chitrabija, Triputi; Tribija, Vaataari, Chanchu, Manda, Uruvaka, Gandharva-hastaa, Panchaangula, Vardhamaana, Uttaanpatraka, Vyaaghrapuchha, Chitraa.
- **Unani** - Bedanjeer, Arand.
- **Siddha/Tamil** - Ammanakku.
- **Action** - Oil from seeds and young leaf—purgative. Oil is used in dermatosis and eczema. Leaves— used as poultice to extract the worm. Root—a decoction is administered for lumbago and allied complaints. Bark—purgative. The Ayurvedic Pharmacopoeia of India recommends the decoction of the dried, mature root in rheumatism, pain in the urinary bladder, lumbago, diseases of the abdomen and inflammations; fresh leaf in helminthiasis, dysuria, arthritis, pain in the urinary bladder, dysuria, abscesses; dried seed powder in constipation, rheumatism, diseases of the liver and spleen, piles, lumbago, sciatica.

Saraca asoca



- **Family** - Caesalpinaceae.
- **Habitat** - Throughout India, except Northwestern India, up to 750m.
- **English** - Ashoka tree.
- **Ayurvedic** - Ashoka, Ashoku, Hempushpa, Taamrapallava, Pindapushpa, Gandhapushpa. (Polyalthia longifolia Benth. & Hook. f., an ornamental roadside tree, is wrongly called Ashoka.)
- **Unani** - Ashoka.
- **Siddha/Tamil** - Asogam.
- **Action** - Bark—uterine tonic (imparts healthy tone to uterus), used for suppressed menses, leucorrhoea, menstrual pain, menorrhagia, complaints of menopause. Also used for dyspepsia, biliousness, colic, burning sensation. Flowers—pounded and mixed with water, used in haemorrhagic dysentery, bleeding piles and retention of urine. The Ayurvedic Pharmacopoeia of India recommends the bark in metrohgia, menorrhagia, chronic lymphadenitis and inflammations.

Sida cordifolia



- **Family** - Malvaceae.
- **Habitat** - Throughout India in moist places.
- **English** - Country Mallow.
- **Ayurvedic** - Balaa (yellow-flowered var.), Sumanganaa, Kharayashtikaa, Balini, Bhadrabalaa, Bhadraudani, Vaatyaalikaa.
- **Unani** - Bariyaara, Khirhati, Khireti, Kunayi.
- **Siddha/Tamil** - Nilatutti.
- **Action** - Juice of the plant— invigorating, spermatopietic, used in spermatorrhoea. Seeds—nervine tonic. Root—(official part in Indian medicine) used for the treatment of rheumatism; neurological disorders (hemiplegia, facial paralysis, sciatica); polyuria, dysuria, cystitis, strangury and hematuria; leucorrhoea and other uterine disorders; fevers and general debility. Leaves—demulcent, febrifuge; used in dysentery.

Solanum nigrum



- **Family** - Solanaceae.
- **Habitat** - Throughout India, in dry parts.
- **English** - Black Nightshade.
- **Ayurvedic** - Kaakamaachi, Kaakaahya, Kaakamaataa, Dhvankshamaachi.
- **Unani** - Mako (smaller var., black var.)
- **Siddha/Tamil** - Manittakkali.
- **Action** - Plant—anti-inflammatory, antispasmodic, sedative, diuretic, laxative, antiseptic; fresh extract is used for inflammatory swellings, enlargement of liver and spleen and in cirrhosis of liver. Berries—antidiarrhoeal, antipyretic. Berries and flowers—prescribed in cough and cold. Leaves—applied hot to swollen testicles; paste used as poultice to gout, rheumatic swellings and skin diseases. The berries contain steroidal alkaloid glycosides, solasonine, alpha and beta-solanigrine, alpha- and beta-solamargine; steroidal sapogenins, diosgenin and tigogenin; solasodine and solasodine

Swertia chirayita



- **Family** - Gentianaceae.
- **Habitat** - Temperate Himalayas from Kashmir to Bhutan and in Khasi Hills.
- **English** - Chiretta.
- **Ayurvedic** - Kiraata, Kairaata, Kiraataka, Kandatikta, Kiraatatikta, Kiraatatiktaka, Katutikta, Trinnimba, Bhuunimba, Aranyatikta, Raamasenaka. Bhuunimba (also equated with Andrographis paniculata).
- **Unani** - Chiraitaa.
- **Siddha** - Nilavembu.
- **Action** - Blood purifier and bitter tonic (The Ayurvedic Pharmacopoeia of India); used in skindiseases. Other properties: antiinflammatory (experimentally, the benzene extract was comparable with phenylbutazone and betamethasone in induced arthritis); hypoglycaemic (xanthone, swerchirin, lowers blood sugar), astringent, stomachic (in dyspepsia and diarrhoea); antimalarial (before the discovery of Peruvian bark), anthelmintic; antiasthmatic, bechic; and as a liver tonic (several active principles are hepatoprotective)

Tagetes erecta



- **Family** - Compositae; Asteraceae.
- **Habitat** - Native to Mexico, grown in gardens of India.
- **English** - Big Marigold, Aztec or African Marigold.
- **Ayurvedic** - Jhandu, Gendaa.
- **Unani** - Sadbarg, Gul-hazaaraa, Gul-jaafari.
- **Siddha** - Thuruksaamanthi.
- **Action** - Whole plant—infusion useful in cold and bronchitis, also in the treatment of rheumatism. Flowers—alterative; juice used for bleeding piles. Leaves—styptic, applied externally to boils and carbuncles; muscle pains. Leaves and florets—emengagogue, diuretic, vermifuge. The flowers gave lutein esters of dipalmitate, dimyristate and monomyristate. Fresh petals gave hydroxyflavones, quercetagenin and tagetin. The plant yields an essential oil containing limonene, ocimene, linalyl acetate, linalool, tagetone and n-nonyl aldehyde as major components. The aqueous extract of flowers showed activity against Gram-positive bacteria. *Tagetes minuta* Linn., synonym *T. glandulifera* Schrank (North-west Himalayas; native to South America), known as Stinking-Roger, gives highest yield of the essential oil with high carbonyl content, calculated as tagetone among the *Tagetes* sp. grown in India.

Terminalia arjuna



- **Family** - Combretaceae.
- **Habitat** - Throughout the greater part of India, also grown as an avenue tree.
- **English** - Arjun Terminalia.
- **Ayurvedic** - Arjuna, Dhananjaya, Kaakubha, Kakubha, Aartagala, Indravriksha, Paartha, Virataru, Viravriksha.
- **Unani** - Arjun
- **Siddha** - Marudam.
- **Action** - Bark—used as a cardioprotective and cardiotonic in angina and poor coronary circulation; as a diuretic in cirrhosis of liver and for symptomatic relief in hypertension; externally in skin diseases, herpes and leukoderma.

Vitex negundo



- **Family** - Verbenaceae.
- **Habitat** - Throughout India in the warmer zones; ascending to 900 m in the North-western Himalaya.
- **English** - Five-leaved Chaste tree.
- **Ayurvedic** - Nirgundi, Shephaalika, Sindhuka, Sindhuvaara, Suvahaa, Sugandhikaa. Nila, Nilanirgundi, Shveta nirgundi (var.). White-flowered var. is known as Sinduvaara, blue-flowered as Nirgundi or Shephaali,
- **Unani** - Sambhaalu, Fanjankisht.
- **Siddha/Tamil** - Nochi, Nalla Nochi, Vellai Nochchi, Nirkundi.
- **Action** - Seeds—prescribed in spermatorrhoea, and for promoting spermiogenesis (in Unanimedicine). Also given as a rejuvenating tonic for retarding old age and for retaining and promoting virility. (in Ayurvedic medicine). Leaf—anti-inflammatory, analgesic; removes foetid discharges and worms from ulcers. Flowers— astringent, febrifuge, antidiarrhoeic; prescribed in liver complaint. Oil— applied to sinus, scrofulous sores.

Withania ashwagandha



- **Family** - Solanaceae.
- **Habitat** - Throughout the drier and subtropical parts of India. English Winter Cherry.
- **Ayurvedic** - Ashwagandha, Hayagandha, Ashwakanda, Gandharvagandha, Turaga, Turagagandha, Turangagandha, Vaajigandha, Gokarna, Vrishaa, Varaahakarni, Varadaa, Balyaa, Vaajikari. (A substitute for Kaakoli and Kshirakaakoli.) Cultivated var.: Asgandh Naagori. (Indian botanists consider the cultivated plants distinct from the wild ones.)
- **Unani** - Asgandh.
- **Siddha** - Amukkuramkizhangu.
- **Action** - Root—used as an antiinflammatory drug for swellings, tumours, scrofula and rheumatism; and as a sedative and hypnotic in anxiety neurosis. Leaf— anti-inflammatory, hepatoprotective, antibacterial. Fruits and seeds—diuretic. Withanine— sedative, hypnotic. Withaferin A—major component of biologically active steroids; as effective as hydrocortisone dose for dose. Antibacterial, antitumour, antiarthritic, significantly protective against hepatotoxicity in rats. The root contains several alkaloids, including withanine, withananine, withananine, pseudo-withanine, somnine, somniferine, somniferinine.



Thank You