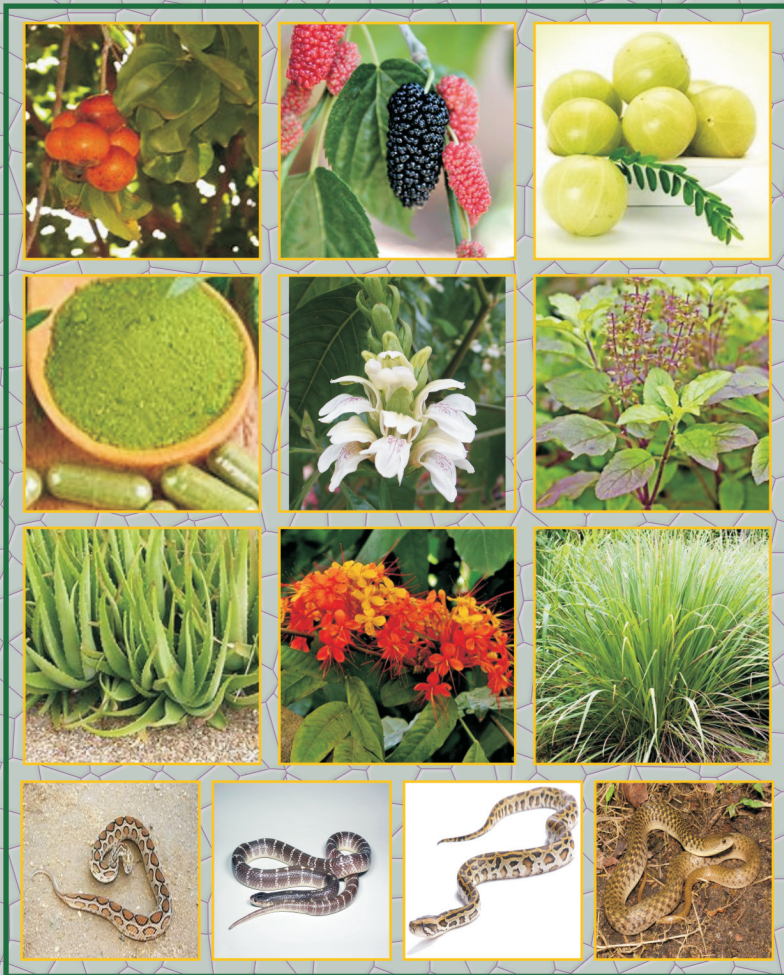


Medicinal Plants and Snakes of Ballia Forest Division, Uttar Pradesh

Namrata Pandey



Foreword

Good and Keen observation is an essential quality of a field forest officers. It is heartening to note that Ms. Namrata Pandey, State Forest Service (SFS) officer trainee of 2020-2022 batch from Uttar Pradesh possess such important quality of observing and recording it dutifully. She made a beautiful write up on medicinal plants and snakes of Ballia forest division of Uttar Pradesh during her on the job training as part of her Induction training programme. The brief pictorial description and illustration about each species of medicinal plants and snakes is interesting to read and I am sure that it will help the field foresters and researchers immensely.

I congratulate Ms.Namrata Pandey and I wish her to continue this zeal and enthusiasm in documentation. It is a small contribution in the field of forestry and wildlife conservation and it will be remembered.

Best Wishes.



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Preface

Biodiversity is the creation of nature. It not only has the visual beauty, but also it provides solution and remedy to the life on the planet. The increasing medical cost of modern medicine has left a large population of the country unable to access it. Besides the spectrum of the treatment of modern system is not uniform. At this juncture, nature comes to the heal mankind. The Covid pandemic has made us to realise the importance of traditional medicinal system. This book is a small endeavour in this directon to highlight the importance of medicinal plants of the Social Forestry Division, Ballia, where I did my On the Job Training from April,2022 to July,2022.

Nature is beautiful. The faunal diversity of Ballia Division was splendid. Out of this diverse faunal presence, I chose to document the various snakes of the division. In the division, work to extract venom used to be carried out, which is not functional now. But it is very exciting to know about these reptiles which are important part of the food chain in the ecosystem.

- Namrata Pandey

Medicinal Plants and Snakes of Ballia Forest Division, Uttar Pradesh

Compiled by [Namrata Pandey](#), 2020 - 22 SFS Batch

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Custard Apple

Botanical Name

Annona squamosa

Common name

Sitafal

General Description of Plant

These are evergreen plants that cannot tolerate frost. Leaves can be leathery or hairy, flowers have 6 - 8 fleshy curved petals in two whorls and the fruits are often scaly and succulent and sometimes segmented.

Parts used

Fruit

Uses

Used as cough cure, increasing blood levels, curing vomiting, toothache and as anti-diabetic.



Monkey Jack

Botanical name

Artocarpus lacucha

Family

Moraceae

Common name

Monkey fruit or *Badhal*

General Description of Plant

It is a tall deciduous tree which loves to grow in moist forests. It has dark brown bark, leathery and alternate leaves, monoecious and fruits are velvety - round or irregular.

Parts used

Fruit, juice, Bark

Uses

Decoction is used to treat fever, juice is useful in treatment of eye and ear diseases., bark chewed like betel nut in Assam.



Common Fig

Botanical name

Ficus carica

Family

Moraceae

Common name

Anjeer

General Description of Plant

Small deciduous tree. Tree growing upto 9 m height. Flower is yellowish green to coppery. Tree hardy in nature and requires low maintenance cost. Bark is smooth, silver grey. They have papaya like leaf. Fruit is pear shaped.

Parts used

Fruit, Latex, Leaves

Uses

Fruit is used to relieve constipation, leaves have anti-diabetic properties – useful in treatment of high cholesterol and other skin condition. Latex treats skin tumor and wart.



Cluster Fig

Botanical name

Ficus racemosa

Family

Moraceae

Common name

Gular

General Description of Plant

It is a fast-growing plant with large, very rough leaves, usually attaining the size of a large shrub, although older specimens can grow quite large and gnarled.

Parts used

Leaf, Fruit, Bark, Latex.

Uses

Leaf by rubbing help to dislodge stinging hairs, paste made from bark applied to boils or mosquito bites, fruit have anti-diabetic effect and treat stomach ache, Latex used to treat loose motions.



Mahua

Botanical name

Madhuca longifolia

Family

Sapotaceae

Common name

Butter tree

General Description of Plant

Medium sized deciduous tree, bark is grey, clustered and alternate leaves, short lived green/pink colored flowers, fruit is ovoid.

Parts used

Leaf, Oil, Fruit, Bark, Flower

Uses

Leaf ash used to make dressing for wounds and burns, bark extract used for dental problems, rheumatism treatment and as anti-diabetic.



Mango

Botanical name

Mangifera indica

Family

Anacardiaceae

Common name

Aam

General Description of Plant

Tree is evergreen reaching 15-18 m height, leaves are simple lanceolate, pinkish fragrant flower in terminal panicles, fruit is drupe.

Parts used

Fruit, Flower, Leaves, Seeds

Uses

Fruit has anti-diabetic properties and acts as anti-oxidant. Leaves are rich in Vitamins A, B and C. Seeds help to get rid off diarrhoea, anti-diabetic and keep hairs healthy. Flower juice help to burn excess fat and inhaling flowers helps to heal nose bleeds.



Mulberry

Botanical name

Morus alba

Family

Moraceae

Common name

Shahtoot

General Description of Plant

Fast growing deciduous tree in temperate region but evergreen in tropical region. Leaves are simple, inflorescence is Catkin and fruit is sorosis mainly violet black in colour.

Parts Used

Fruit

Uses

Mulberry fruits aid in digestion, control diabetes, treat high cholesterol, and prevent cavities and gum disease.



Madras Thorn

Botanical name

Pithecellobium dulce

Family

Fabaceae

Common name

Jungle Jalebi, Monkey pod tree

General Description of Plant

It is evergreen tree growing up to 20 m. Branches bear thorny spines and deciduous leaves, flowers are whitish green that give rise to red fruits or “pods”.

Parts used

Fruit

Uses

These are anti-inflammatory, anti-diabetic, anti-cancerous and anti-oxidant. Useful in relieving joint pains and treatment of digestive disorders.



Guava

Botanical name

Psidium guajava

Family

Myrtaceae

Common name

Amrood

General Description of Plant

Guava has quadrangular branchlets, oval to oblong leaves, four petalled white flowers, fruits are round to pear shaped.

Parts Used

Fruits, leaves, Bark

Uses

Ripe fruit rich in Vitamin C.

Bark used in treatment of diarrhoea, dysentery and gastrointestinal diseases.



Pomegranate

Botanical name

Punica granatum

Family

Lythraceae

Common name

Anaar

General Description of Plant

A shrub or small tree growing 5-10 m high, leaves are opposite or sub-opposite, flowers are bright red and fruit is berry.

Parts used

Fruit, Leaves

Uses

Fruit used in treatment of anaemia, jaundice, treatment of dysentery, rickets and ulcers. Juice from green leaves used to check hairfall.



Tamarind

Botanical name

Tamarindus indica

Family

Fabaceae

Common name

Imli

General Description of Plant

It is medium growth tree growing upto the height of 12-18m. Evergreen leaves are alternately arranged. Flowers are Yellow with red or orange streaks. Fruit is indehiscent legume.

Parts used

Flower, Fruit, Pulp,
Leaves, Bark, Roots, Seed

Uses

Dried tamarind acts as antacid, cures blood related ailments and digestive issues. Flowers used in pain relief and treatment of piles. Pulp useful in scurvy and bile disorder. Leaves used as poultice for cuts ,burn and pain relief. Bark is tonic for chest disorder. Roots improve appetite, treat urinary problems, diarrhoea, asthma and infections caused by mite and tick bites such as scabies. Seed is effective in curing fever and diarrhoea.



Ber

Botanical name

Zizyphus mauritiana

Family

Rhamnaceae

Common name

Indian plum, Indian jujube

General Description of Plant

It is a medium-sized tree that grows vigorously and has a rapidly developing taproot. The leaves are alternate, ovate or oblong elliptic with rounded apex, with 3 depressed longitudinal veins at the base. The flowers are tiny, yellow, 5-petalled and are usually in twos and threes in the leaf axils. The fruit is a soft, juicy, drupe that is 2.5 cm diameter.

Parts Used

Fruit, Leaf, Seed, Flower

Uses

Fruit treats cough and vomiting, Leaves cure of fever, Seeds treat eye diseases, Flowers treat cough and leprosy.



Kinnow

Botanical name

Citrus reticulata

Family

Rutaceae

Common name

Kinnow mandarin

General Description of Plant

Plant can grow upto 11 m high. Fruit matures in January/February. It peels easily and has high juice content.

Part used

Fruit

Uses

Regulates cholesterol, treats atherosclerosis, curing heart attack, prevention from stroke and improving digestion. Rich in Vitamin C.



Papaya

Botanical name

Carica papaya

Family

Caricaceae

Common name

Papita

General Description of Plant

Papaya is a small, sparsely branched tree with a single stem growing 5-10 m high. Leaves are palmately lobed. They are dioecious. Flowers are sweet scented and open at night. Fruit is large berry.

Parts Used

Fruit, Leaves

Uses

Juice from leaves used in treatment of dengue. Fruits useful in treatment of dysentery, wound in tongue, swelling, liver and spleen related diseases.



Amaltas

Botanical name

Cassia fistula

Family

Fabaceae

Common name

Golden Shower Tree, Indian Laburnum

General Description of Plant

Amaltas is a miraculous herb that is of deciduous origin. It is usually medium-sized growing to a height of 25 m.

Leaves are alternate smooth, ovate-shaped, hairy and pinnate. Fruits are pendulous, cylindrical, indehiscent pods bearing 20-25 shiny black, seeds.

Fruit pods are mainly green when ripe and dark brown when they reach maturity, whereas the flowers are usually bright yellow pentamerous and slightly zygomorphic in shape and occur in bunches.

Parts Used

Whole Plant

Uses

The leaves might possess laxative properties. Seeds have antipyretic (fever-reducing) properties. Fruits have Anti-pyretic and analgesic effect. Flowers have astringent (tightening skin tissues) and wound healing properties. Pulp has anti microbial properties. The bark of Amaltas contains antioxidants (prevention of cell damage) properties. It may have anti-inflammatory properties.



Arjun Tree

Botanical name

Terminalia arjuna

Family

Combretaceae

Common name

Arjuna

General Description of Plant

Arjun tree grows to about 20-25 m tall, usually buttressed trunk, leaves are oblong conical, flowers are yellow colored and fruit is glabrous.

Parts used

Bark

Uses

Bark has anti-cancerous and anti-diabetic properties. Useful in treatment of heart diseases.



Ashok Tree

Botanical name

Saraca asoca

Family

Fabaceae

Common name

Sorrowless tree, Sita Ashok

General Description of Plant

It is medium sized, evergreen tree with beautiful fragrant flowers. Leaves are alternate and paripinnate. Bark on old stem is dark green in color often marked by bluish and ash white patches of lichens. Flowers are orange or orange-yellow in color. Fruit is black coloured leathery pod.

Parts Used

Bark, Leaves, Seeds, Flowers



Kadamb

Botanical name

Anthocephalous cadamba

Family

Rubiaceae

Common name

Burflower tree

General Description of Plant

It is a large tree with a broad crown and straight cylindrical bole reaching upto a height of 45 m. The bark is gray, smooth in young trees, rough and longitudinally fissured in old trees. Leaves glossy green, opposite, simple more or less sessile to petiolate, ovate to elliptical. Inflorescence in clusters. Seed trigonal or irregularly shaped.

Parts used

Fruits, Leaves

Uses

Fruit useful in treatment of cough, inflammation, urinary tract and skin disease. Leaves used to increase appetite and cure dysentery.



Gulmohar

Botanical name

Delonix regia

Family

Fabaceae

Common name

Flamboyant or Royal Poinciana /
Peacock Tree

General Description of Plant

The main attraction of Gulmohar tree are its flowers hued with different chromas which are truly eye appealing and glamorous and the flowers are solitary and monoecious. The fruit of Gulmohar tree is called pod and is dehiscent. The leaves of Gulmohar tree are compound leaves also known as double pinnate leaves (Feathery). The stem is woody throughout its life span. The roots of the tree are shallow. It is a non-nodulating legume.

Parts Used

Flower, Fruit, Bark, Leaves, Roots

Uses

Flowers useful as anti-diabetic and in treatment of arthritis and jaundice. Stem bark used as antipyretic. Leaves used to treat inflammation, rheumatic joint pain and body pain. Roots effective in abdominal pain.



Toon

Botanical name

Swietenia mahagoni

Family

Meliaceae

Common name

Indian Mahogany, *Chakresia*

General Description of Plant

It grows upto height of 30-40 feet. Fruit is large greenish brown capsule, monoecious, bark is smooth dark brown in color and leaves are pinnate.

Parts Used

Bark, Flowers

Uses

Bark extracts used as an astringent for wounds. It is used to cure malaria, anemia, diarrhoea, fever, dysentery, Leaves have several limonoids which reduce blood cholesterol.



Putranjiva

Botanical name

Putranjiva roxburghii

Family

Putranjivaceae

Common name

Sutajva, Putrakamanjari

General Description of Plant

It is an evergreen tree growing up to 12 metres tall. An attractive tree with pendant branches, it is grown as an ornamental in gardens. The tree has long suspended branches, normal elongated leaves that are arranged alternately and its fruits are velvety and rounded with a hard stony seed. It has a sweet and pungent taste and is heavy in digestion. It bears both male and female flowers.

Parts used

Seeds

Uses

Seeds have been used in the treatment of infertility in the Ayurvedic system of medicine in India.



Balamkheera

Botanical name

Kigelia africana

Family

Bignoniaceae

Common name

Sausage tree / Cucumber tree

General Description of Plant

It is a tree growing up to 20 m. The bark is grey and smooth at first, peeling on older trees. The leaves are opposite or in whorls of three. Flowers are produced in panicles and are bell-shaped. The fruit is a woody berry with size 30-99 cm length.

Parts Used

Roots, Bark, Leaves

Uses

Roots/Bark used in treatment of toothache, ulcer and pneumonia. Leaves used to get relief from back pain. Useful in treatment of kidney stone, diabetes, arthritis, skin diseases and parasitic infection.



Bael

Botanical name

Aegle marmelos

Family

Rutaceae

Common name

Golden apple/ Wood apple

General Description of Plant

It is a deciduous shrub or small to medium-sized tree up to 13 metres high.

The bark is pale brown or grayish, smooth or finely fissured and flaking, armed with long straight spines. The leaf is trifoliate and alternate. The flowers are 1.5 to 2 cm, pale green or yellowish, sweetly scented and bisexual. Fruit is globose or slightly pear-shaped.

Parts Used

Fruit, Juice, Leaves, Roots

Uses

Fruit rich in Vitamin C, calcium, fibre, protein and iron and used as anti-diabetic, treatment of diarrhoea, scurvy. Leaves useful in treatment of kidney ailments. Juice from roots used to relieve head ache. Juice has anti-diabetic properties.



Amla

Botanical name

Phyllanthus emblica

Family

Phyllanthaceae

Common name

Indian gooseberries/ Emblic myrobalan

General Description of Plant

The tree is small to medium in size, reaching 1–8 m in height. Leaves are simple, subsessile and closely set along branchlets, light green, resembling pinnate leaves. The flowers are greenish-yellow. The fruit is nearly spherical, light greenish-yellow, quite smooth and hard on appearance, with six vertical stripes or furrows.

Parts used

Fruits

Uses

Important component of Triphala. Used in treatment of diabetes, diarrhoea, digestive ailments, joint pains etc.



Kaitha

Botanical name

Limonia acidissima

Family

Rutaceae

Common name

Elephant Apple.

General Description of Plant

It is a large tree growing to 9 metres tall, with rough, spiny bark. The leaves are pinnate. The flowers are white and have five petals. The fruit is a berry 5–9 cm diameter, and may be sweet or sour.

Parts Used

Fruit, Flower, Leaves, Bark

Uses

The pulp and powdered rind of the fruit is applied as poultice for insect bites and stings; the unripe fruit is used in the treatment of gum diseases, sore throat, coughs, dysentery and diarrhoea. Powdered fruit is mixed with honey and used to treat dysentery in children. Juice of young leaves is mixed with milk and sugar candy and given as a remedy for biliousness and intestinal troubles of children. Leaf oil is applied to alleviate itching and the leaf decoction is given to children as an aid to digestion. The spines and bark are crushed and an infusion taken as a remedy for excess menstruation, liver disorders, bites and stings.



Jamun

Botanical name

Syzygium cumini

Family

Myrtaceae

Common name

Black plum

General Description of Plant

It is a rapidly growing species and can reach heights of up to 30 m. At the base of the tree, the bark is rough and dark grey, becoming lighter grey and smoother higher up. The flowers are fragrant and small, about 5 mm in diameter. The fruits develop by May or June and resemble large berries.

Parts used

Fruit, Bark

Uses

Anti-diabetic properties in fruit. Bark has potential to increase body vigour, and treatment of blood related ailments and dysentery.



Baheda

Botanical name

Terminalia bellirica

Family

Combretaceae

Common name

Bastard myrobalan

General Description of Plant

It is a tree of deciduous origin that grows to a height of up to 12-50 metres and a diameter of 3 metres with a roundish-oval crown. It usually has a buttressed trunk at the base with branches of up to 20 metres in length. The leaves are about 15 cm long and crowded toward the ends of the branches. It is considered a good fodder for cattle. Its fruit is used in the popular Indian herbal rasayana treatment triphala. The nuts of the tree are rounded but with five flatter sides.

Parts used

Fruits, Bark, Seed

Uses

Fruit useful in treatment of cataract, bark removes deficiency of blood and jaundice. Seeds useful to control vomiting and asthma.



Harad

Botanical name

Terminalia chebula

Family

Combretaceae

Common name

Chebolic Myrobalan

General Description of Plant

It is a medium to large deciduous tree growing 30 m tall. The leaves are alternate to subopposite in arrangement. The fruit is drupe. The dull white to yellow flowers are monoecious, and have a strong, unpleasant odour. They are borne in terminal spikes or short panicles.

Part used

Fruit

Uses

Harad may show heart-protective, liver protective, anti-bacterial, antifungal, and anti-viral properties. In addition, it may benefit health conditions like cancer, diabetes, inflammation, and stomach disorders.



Ashwagandha

Botanical name

Withania somnifera

Family

Solanaceae

Common name

Indian Winter cherry or Indian Ginseng

General Description of Plant

It is an evergreen shrub growing 35–75 cm tall. Tomentose branches extend radially from a central stem. Leaves are dull green, elliptic, usually up to 10–12 cm long. The flowers are small, green and bell-shaped. The ripe fruit is orange-red.

Parts Used

Leaves, Flower, Seeds and Fruit.

Uses

Leaves have analgesic and antioxidant properties. Flowers have potent diuretic and aphrodisiac properties which is used for improving fertility and treating kidney problems such as kidney stones. The seeds have anthelmintic properties and are used for preventing and treating infectious diseases and parasitic invasions. The root has potent aphrodisiac, diuretic, anti-helminthic, antioxidant, anti-depressant, anti-diabetic properties and are hence used for treating neural problems, diabetes, constipation, infertility, skin disorders, etc.



Kewanch

Botanical name

Mucuna pruriens

Family

Fabaceae

Common name

Velvet bean

General Description of Plant

It is an annual climbing shrub with long vines that can reach over 15 metres in length. The leaves are tripinnate, ovate, reverse ovate, rhombus-shaped or widely ovate. The flower heads take the form of axially arrayed panicles. The crown is purplish or white. Fruit is leguminous.

Parts Used

Root, Leaves, Seeds

Uses

Roots, leaves and seeds of the plant are commonly used in the treatment of impotency, snake bite, diabetes, cancer and parkinsonism.



Tulsi

Botanical name

Ocimum sanctum

Family

Lamiaceae

Common name

Holy basil

General Description of Plant

Aromatic perennial plant 30-60 cm tall with simple opposite green or purple leaf. Flowers are purplish in elongate raceme in close whorls.

Part used

Whole Plant

Uses

Juice from leaves used in treatment of night blindness, removing stone, cure of migraine an sinus ,tuberculosis and arthritis .Roots used in treatment of leprosy.



Lemon Grass

Botanical name

Cymbopogon citratus

Family

Poaceae

Common name

Fever grass, Citronella grass, Malabar grass, Barbed wire grass.

General Description of Plant

It is tropical herb of 3-6 feet length. Culm is stout and leaves arise from rhizome. Inflorescence is long spike.

Parts Used

Leaves

Uses

It has anti-oxidant, anti-inflammatory and anti-septic properties .Rich in Vitamin C. Useful in reducing weight and stomachache.



Palmarosa

Botanical name

Cymbopogon martinii

Family

Poaceae

Common name

Indian geranium, Ginger grass,
Rosha grass

General Description of Plant

This grass grows fairly tall, ranging from 1.3-3 m in Height. It has a pale green color and strong thin stem.

Parts used

Leaves (Oil)

Uses

Grass used in perfume making. To bring roselike smell in food and treatment of skin diseases. Has anti-fungal properties.



Madaar

Botanical name

Calotropis gigantea

Family

Apocynaceae

Common name

Crown flower

General Description of Plant

Large shrub growing upto 4 m in height. Stem contains milky latex, leaves are 100-200 mm long. Flowers are waxy (white or lavender) with umbellate cyme inflorescence, Fruit is of follicles with hairy seeds.

Parts used

Whole plant

Uses

Root, bark and milk used in treatment of dysentery, leaves applied on paralyzed parts and painful joints. Milk useful in leprosy and ringworm.



Kuchila

Botanical name

Strychnos nux vomica

Family

Loganiaceae

Common name

Poison fruit, Quaker buttons

General Description of Plant

Medium sized tree that grows in open habitat, leaves are ovate and 5-9 cm in size and arranged in opposite decussate manner, wood is dense and close grained, flowers are small with a pale green colour and funnel shape, fruit of the size of a large apple.

Parts used

Seeds

Uses

Anti-cancer, improves appetite and useful in treatment of heart diseases.



Vasaka

Botanical name

Adhathoda vasica

Family

Acanthaceae

Common name

Malabar nut

General Description of Plant

Tall evergreen herbaceous shrub. Bark is yellow coloured, lance shaped leaves, white and purple flowers and capsular fruit.

Parts used

Whole plant.

Uses

Treatment of bronchitis, asthma and dental ailments. Powerful digestive stimulant and immunity booster.



Kapoor

Botanical name

Cinnamomum camphora

Family

Lauraceae

Common name

Kapur/Camphor tree

General Description of Plant

It reaches upto height of 60 to 100 feet.

Small white flowers are produced in spring season. Fruits are berry like in black color.

Parts used

Oil

Uses

Antibacterial, antifungal and anti-inflammatory properties, treat skin conditions, improves respiratory function and relieve pain.



Sweet Neem

Botanical name

Murraya koenigii

Family

Rutaceae

Common name

Curry tree

General Description of Plant

Small tree growing 4-5 metres, have aromatic pinnate leaves, small white flower self pollinate to produce small shiny black drupes containing a single large viable seed. Berry pulp is edible.

Parts used

Leaves

Uses

Leaves are indispensable part of Indian cuisine. Leaves used as herb in Ayurvedic and Siddha medicine as they are believed to possess anti-diabetic properties.



Thuhar

Botanical name

Euphorbia nerlifolia

Family

Euphorbiaceae

Common name

Milk spurge, Hedge Euphorbia

General Description of Plant

It is prickly, large, branched, erect, succulent, leafless shrub that occurs in dry, rocky and hilly area of North, Central and South India. This plant is extensively grown as hedge plant.

Parts used

Leaves, latex, root, stem and pulp of stem.

Uses

Drug of herbal origin. Leaves useful in treatment of cough, cold, bronchitis, bleeding piles. Latex used to defrost skin warts and arthritis. Root is used to treat snake bite. Root and pulp of stem has antiseptic properties. Useful in treatment of rheumatism, sciatica, bronchitis, asthma etc.



Giloy

Botanical name

Tinospora cardifolia

Family

Menispermaceae

Common name

Heart leaved moonseed/Guduchi

General Description of Plant

Large deciduous climbing vine. Leaves are simple and alternate. Flowers are unisexual. Fruits are ovoid drupelets & aggregate in clusters of one to three.

Parts used

Whole plant

Uses

Whole plant has high nutritional content and is strong immunity booster, anti-toxic, anti-pyretic, anti-inflammatory and anti-oxidant.



Brahmi

Botanical name

Bacopa monnieri

Family

Plantaginaceae

Common name

Water hyssop, Thyme leafed gratiola,
Herb of grace.

General Description of Plant

Non-aromatic herb, Oppositely arranged succulent leaves, Flowers are small and white in colour. Can grow even in slightly brackish condition.

Parts used

Whole plant

Uses

Nerve tonic, cure for epilepsy, insanity, rheumatism and asthma. Anti-pyretic and Anti-diabetic.



Sarpgandha

Botanical name

Rauvolfia serpentine

Common name

Indian snakeroot, Devil pepper

Family

Apocynaceae

General Description of Plant

Perennial under shrub widely distributed in sub-Himalayan regions upto 1000 metres.

Parts used

Root

Uses

Anti-bacterial, anti-diarrhoeal, improves blood sugar and heart rhythm.



Chiraita

Botanical name

Swertia chirata

Family

Gentianaceae

Common name

Bitter stick.

General Description of Plant

Chiraita is an erect, annual, branched herb upto 1.5 m high. Stem is robust and cylindrical below, leaves are lanceolate and opposite, inflorescence is large leafy panicle.

Parts used

Whole Plant

Uses

Cures fever, digestive problems, skin diseases like eczema & acne, acute stress, anti-inflammatory, anti-malarial and anti-diabetic.



Aloe vera

Botanical name

Aloevera barbadensis

Family

Asphodelaceae

Common name

Acemannan/Plant of immortality

General Description of Plant

Aloe vera is a stemless or very short stemmed plant growing to 60-100 cm. tall, spreading by offsets, leaves are thick and fleshy and flowers are produced on spikes.

Parts used

Leaves

Uses

Rich in vitamins, minerals, amino acid and anti-oxidants.



Gokharu

Botanical name

Echinops echinatus

Family

Asteraceae

Common name

Indian globe thistle

General Description of Plant

It is an erect branched herb about a metre high. It has short stout stem branching from the base covered with white cottony hair. Flower heads occur in solitary white or bluish spherical balls. Flowering occurs between December to January.

Parts used

Whole plant

Uses

Root has anti-diabetic properties, leaves used in treatment of asthma and seeds are aphrodisiac. It has antipyretic, cough suppressing ,anti-bacterial and anti-fungal properties.



Mandukparni

Botanical name

Centella asiatica

Family

Apiaceae

Common name

Indian pennywort

General Description of Plant

It is an aromatic perennial herb found both in temperate and tropical regions. Stem is slender that are green to reddish brown in color, leaves about 2 cm in length and fruit is smooth and watery.

Parts used

Whole plant

Uses

Treatment of skin and mental ailments. It has nourishing effect on nervous tissue, so it is used as a substitute of Brahmi.



Peeli Satavar

Botanical name

Asparagus adscendens

Family

Asparagaceae

Common name

Yellow Asparagus

General Description of Plant

It is a woody climber growing to 1-2 m in height. The leaves are like pine needles, small and uniform and flowers are white and have small spikes.

Parts used

Root

Uses

Stress buster, promotes mental & physical health, rich in anti-oxidants and therefore boosts immunity.



Bhumi Amla

Botanical name

Phyllanthus amarus

Common name

Gale of the wind

General Description of Plant

Annual herb 60-70 cm tall, paripinnate leaves, root is stout tortuous and woody, flowers are minute and yellow in colour, fruit is a capsule and dehiscent & seeds have strong parallel and transverse ribs.

Parts used

Whole Plant

Uses

Antiseptic, antiviral, anti-diabetic and anti-pyretic. Useful in the treatment of jaundice, diarrhoea, dysentery and urogenital diseases.



Bach

Botanical name

Acorus calamus

Family

Acoraceae

Common name

Sweet flag

General Description of Plant

Tall wetland monocot-herbaceous perennial. Leaves are yellowish brown with pink sheathing at base, leaves have smooth edges which can be wavy or crimped. Inflorescence is spadix.

Parts used

Roots, rhizomes

Uses

Treatment of gastro-intestinal diseases, essential oil valued in perfume industry.



Kalmegh

Botanical name

Andrographis paniculata

Family

Acanthaceae

Common name

Green chiretta or King of bitters.

General Description of Plant

Annual herb with dark green stem, glabrous leaves arranged opposite decussate, flowers are terminal raceme or panicles and seeds are sub-quadrate with yellowish brown colour.

Parts used

Leaves.

Uses

Anti-bacterial, anti-acne, anti-inflammatory, vermicide, expectorant and laxative.



Pipli

Botanical name

Piper longum

Family

Piperaceae

Common name

Indian long pepper

General Description of Plant

Slender climber with perennial woody roots

Parts used

Dried spikes and roots

Uses

Useful in Ayurvedic medicine as anti-asthma cure, anti-haemorrhoidal, liver tonic and appetizer.



Mulethi

Botanical name

Glycyrrhiza glabra

Family

Fabaceae

Common name

Liquorice

General Description of Plant

Herbacious perennial legume growing in temperate region. Distinctive sweetness is imparted by a substance called glycyrrhizin.

Parts used

Roots and rhizomes

Uses

Anti-viral, anti-inflammatory anti-bacterial anti-cancer properties shown.



Snakes of Ballia Forest Division, Bihar

Compiled by Namrata Pandey, 2020 - 22 SFS Batch

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Worm Snake

Zoological name

Carphophis amoenus

Type

Non-venomous snake

Habitat

Loose, rocky soil, or under forest leaf litter.

Breeding

Breeding occurs in early spring. Eggs laid in early summer and hatching in August or September. Clutch size is 2-5 eggs in a clutch (oviparous).

Hatchling size is from 7-12 cm.

Feeding Habit

Feed upon earthworms and soft bellied insects.



Asiatic Water Snake

Zoological name

Xenochrophis piscator

Type

Non-Venomous snake

Habitat

In or near fresh water lakes or river.

Breeding

They are oviparous and lay 30-70 eggs in a clutch. At birth juveniles are 11 cm long.

Feeding Habit

Mainly feed on small fish, water frogs, mice, lizards, birds, insects and even small snakes.



Krait

Zoological name

Bungarus caeruleus

Type

Venomous snake (Neurotoxic venom)

Habitat

Wide variety of habitats, from fields and low scrub jungle to settled areas. It rests in termite mounds, brick piles, rat holes and even inside houses. It is frequently encountered in water or in proximity to water source.

Breeding

Breeding season begins with summer.

Females lay 8-12 eggs in a clutch (oviparous) in mounds, holes, and in leaf litter from March to July. The eggs hatch in 60 days, and the hatchlings are 25-27 cm long.

Feeding Habit

Feed upon other snakes including “blind worms”, cannibalizes on other Kraits, feed small mammals (rat & mice), lizards and frogs. The young one is known to feed on arthropods.



Sand Boa

Zoological name

Eryx johnii

Type

Non-Venomous snake

Habitat

Bask below surface of sand, with only their eyes or head exposed.

Breeding

Sand boas are generally ovoviviparous (give birth to young ones). At least 3 species lay eggs.

Feeding Habit

Primary diet is rodents, lizards and birds.



Python

Zoological name

Python molurus

Type

Non-Venomous snake

Habitat

Stay in relatively warm, wet climates.

Breeding

Unlike their close relatives Sand Boas, Python females lay eggs (oviparous) in clutches of 6 (most common).

Feeding Habit

Primary diet is rodents, lizards, birds and mammals like monkeys, wallabies, pigs, or antelope.



Cobra

Zoological name

Naja naja

Type

Venomous snake (Neuro toxic)

Habitat

Found in variety of habitats, including forests, bamboo thickets, rivers and mangrove swamps.

Breeding

They are oviparous and lay 21-40 eggs in a clutch.

Feeding Habit

Primary diet is birds, small mammals, lizards, eggs, carrion and other snakes.



Indian Rat Snake

Zoological name

Ptyas mucosa

Type

Non-Venomous snake

Habitat

Stay in relatively warm, wet climates.

Breeding

Rat Snakes mate in late spring and early summer. Females lay eggs (oviparous) in clutches of 6-15.

Feeding Habit

Primary diet is small rodents, lizards, frog, birds and mammals like bird eggs.



Russel Viper

Zoological name

Daboia russelii

Type

Venomous snake (Haemotoxic)

Habitat

Mostly found in open, grassy, bushy area, scrub jungles, forested plantations and farmlands. It is most common in plains, coastal lowlands and hills of suitable habitat.

Breeding

They are ovoviviparous and lay 20-40 eggs in a clutch. At birth juveniles are 215-260mm long.

Feeding Habit

Primary diet is rodents, small reptiles, land crabs, lizards, scorpions, and other arthropods. Juveniles are cannibalistic.



Wolf Snake

Zoological name

Indian Wolf Snake
(*Lycodon aulicus*)

Oriental Wolf Snake
(*Lycodon capucinus*)

Type

Non-venomous snake

Habitat

Hide in dry and secure places like cracks, under large rocks, bark and crevices near houses. Remain hidden during day, climb trees and rocks in night in search of prey.

Breeding

Breeding occurs prior to monsoon. Females lay 4-11 eggs in a clutch (oviparous). The eggs hatch in September or October and the hatchlings are 14-19cm long.

Feeding Habit

Feed upon lizards, rodents and frogs.

Note

Wolf snake is often confused with the common Krait. The presence of a loreal shield can be used to distinguish it from Kraits.

Indian Wolf Snake



Oriental Wolf Snake





I am Namrata Pandey from Sultanpur, Uttar Pradesh. I belong to 2010 batch of B. Tech.(Mining) Engineering from IIT Kharagpur. I was previously working as a Mines Officer in Directorate of Geology and Mining, Govt. of Uttar Pradesh. Presently, I am a SFS Officer Trainee of 2020 - 22 batch at CASFoS, Coimbatore.



**Central Academy for State Forest Service
Coimbatore**