

Padap-sahita A book on common grasses and herbs.

Subhash kumar

Introduction

India is a vast country with many diversities whether social diversities or biological diversities. These diversities make India a unique country in the world. I will not talk here about social diversities but I will focus on biological diversity in India. The biological diversity in India arises mainly due to different types of terrains and climatic zones. In India we can found a small runner grass to tall eucalyptus trees, from wild weeds to useful herbs.

There are approx.45000and more Species of plants found in India.We can explore this diversity in our home garden even. When you will look at each plants whether weeds, herbs, shrubs etc. you will find that these plants have many uses. But unfortunately we even don't know their name properly.

So in this book I will solve these problems as in this book I am going to you about some herbs and grasses that are generally found in our homes as weeds, with full identification details and classification. So let us start exploring diversity of India from our home garden.

So let us first discuss about plants. What are plants? Plants are mainly multi- cellular eukaryotic organisms of the plantae kingdom. But they can be uni- cellular like spirogyra etc. They are generally green but can be red, brown etc. In colour. Plants of the earth can be generally classified into herbs, shrubs, trees, And grasses

Herbs :- This are small green plants which doesn't possess a woody stem. This type of plants possesses a vascular stem and generally found in moist area or nearby wet lands. As their stem is not woody that's why they are fragile. But their stem is stronger than stem of grasses. Mostly the herbs are wild and generally grows as a weed in fields or in open areas. Flowers can be inflorescence.

Shrubs :- This are green plants smaller than trees but taller than herbs shrubs possess woody stem like trees but not stronger such .These also grow as weed in forest but we plants most of the shrubs in our garden also. These plants also possess many use. But most the shrubs are wild in nature.

Grasses:- Grasses are the monocotyledonous flowering plants. Their leaves are elongated, green, and parallel veined. Their stem is very fragile and the peduncle arose from the top leaf node. The flower is an inflorescences and seeds are very tiny and ovoid. These plants possess fibrous root system. They can be heighted like bamboo and dwarf like doobh, crabgrass etc. The small grass generally creeps along the ground and hence adventitious root arises from the ground touching node. They reproduce by both sexual as well as vegetative propagation. They generally grow in our home garden, wasteland, agriculture fields and where not as weed. But some of them possess a good medical use and other use as well. They are found in all terrains and in all seasons but in India they are mostly found after rainy season. Plants are valuable and this value is correctly seen in Sanskrit

Shloka :-

“छायाम् अन्यस्य कुर्वन्ति तिष्ठन्ति स्वयम् आतपे ।
फलन्त्यपि परार्थाय वृक्षाः सत्पुरुषा इव ॥”

So, plants and trees are very important, we must not think about them or protect them only on 5th of June. But we must care about them every day every millisecond, because if plants alive, we alive.

“दशकूपसमा वापी दशवापीसमो हृदः ।
दशहृदसमः पुत्रो दशपुत्रसमो दुमः ॥”



Tridax procumbens

Common name :- Sanskrit : Jayanti veda
Hindi : Ghamra
English : Coat button , Tridax daisy

Scientific name :- *Tridax Procumben*

Classification :

Kingdom	Plantae
Subkingdom	Tracheobionta
Superdivison	Spermatophyta
Division	Mangoliophyta
Class	Mangolipsida
Subclass	Asteridae
Order	Asterales
Family	Asteraceae
Genus	<i>Tridax L.</i>
Species	<i>T. procumbens</i>

About the plant

Tridax procumbens is a species of flowering plants in daisy family. It is best known weed and pest plant.
Habitat : Native to tropical America but introduced to tropical, Subtropical and mild temperate region.

Flower : Bears daisy like yellow-centered white or yellow flowers with three toothed ray floret.

Leaves : Toothed and generally arrow shaped. They are slightly hairy on both the sides.

Fruit : Hard achene covered with stiff hairs and having a feathery, plume like white pappus at one end.

Method of :-

Reproduction : By vegetative and sexual reproduction.

seed dispersal : By wind.

Likely to be founded at : Fields, Meadow, croplands, disturbed areas, lawns

Medicinal use : Traditionally it has been used in India for wound healing and as an anti-coagulant, anti-fungal, insect-repellent and Its juice can be directly applied on wound. In Ayurveda medicines it is used for liver disorders, hepato-proection and heart burns etc.

Research : It has been studied for several potential therapeutic proper ties including antiviral, antioxidant, antibiotic, wound heal -ing, insecticidal, and anti- inflammatory activities vitro studies and animal models. A study by Gamboa–leon (2014)

showed that mixture of *Tridax procumbens* and *Allium sativum* extracts was a promising treatment for cutaneous leishmaniasis.



Euphorbia hirta

Common name :- Sanskrit : Chara, Amampatchairasi.
Hindi : Dudhi, Dudh ghas.
English : Asthma plant, Garden spurge.

Scientific name :- *Euphorbia hirta*

Classification :

Kingdom	Plantae
Subkingdom	Tracheobionata
Superdivision	Spermatophyta
Division	Mangoliophyta
Class	Mangolipsida
Subclass	Rosidae
Order	Euphorbiales
Family	Euphorbiaceae
Genus	<i>Euphorbia</i> L.
species	<i>E.hirta</i>

About the plant

Euphorbia hirta is a pantropical weed, possibly native to India. It is a hairy annual herb that can grow up to 60 cm long with solid, hairy stem that produce an abundant white latex. It possesses a white or brown taproot.

Habitat : Native to India.

Leaves : Leaves are simple, elliptical, hairy on both the side with finely dented margin. Leaves occur in opposite pairs on the stem.

Flower : The flower is unisexual a found in axillary cymes at each leaf node. They lack petals and are generally on a stalk.

Fruit : The fruit is a capsules with three valves and produces tiny, oblong, four sided red seed .

Method of

Reproduction : Both by sexual and vegetative means.

Seed dispersal : By animals and etc. Except wind.

Likely to be found at : Grass land, roadside, open moist area.

Medicinal use : *Euphorbia hirta* is often used for female disorders, worm stive problems and respiratory problems like asthma, cough and etc.

Research : Many research has been conducted on *Euphorbia*. The research proves that leaf extract of *Euphorbia* has an anti- microbial properties. Research is still going on this for its extracts in modern medicines.



Cynodon dactylon

Common name : Sanskrit : Doorwa, Sevta, Bhargavi.

Hindi : Dhoob

English : Scutch grass, devil's grass .

Scientific name : *Cynodon dactylon*

Classification :

Kingdom	Plantae
Subkingdom	Tracheobionta
Super division	Spermatophyta
Division	Mangoliophyta
Class	Liliopsida
Subclass	Commelinidae
Order	Cyperales
Family	Poaceae
Genus	Cynodon
Species	C.dactylon

About the plant

Cynodon dactylon is a perennial grass. It has a deep root system. The grass creeps along the ground and roots are formed at node wherever touches the ground, forming a dense mat.

Habitat : It is native to north and east Africa , Asia, Australia and southern Europe.

Leaves : The leaf blade is gray-green and long usually 2-15cm long with rough edges and approx. 4Mm in width. Leaf is slightly flattened and sharp at the tip.

Stem : The stem is erect and can grow up to 1-30cm long . The stem is slightly tinged green in colour and flattened. Stem is 0.8cm-2cm thick.

Flower : The flower of doobh is inflorescence and blooms on the spike. Each yellow in color and ovoid colour is purple. The peduncle is cm and green in color. The flowers appear white in color.

Root : It has a strong, thick and fibrous root system . Its roots are strong enough to penetrate soil up to 2m. Only due to its strong root sys- tem it can survive in harsh condition. Root is white in colour and approx. .5cm thick.

Seed : Seed is ovule in shape and dark brown in colour.

Method of :

Reproduction : By sexual and vegetative reproduction method.

Dispersal of seed : By wind dispersion.

Likely to be found at : Moist land , garden nearby canal.

Medicinal use : The is medicinal herb . It is use diseases like epilepsy, vomiting e.t.c. . Even the juice of the whole plant when given in the bleeding nose . It promptly controls the nasal bleeding. It is also used for recuring headache, skin problems. Its all part from leaf to root are full medicinal use.



Setaria viridis

Common name : Sanskrit : -nil-

Hindi : -nil –

English : Green fox tail, Wild fox tail millet, Bottle grass.

Scientific name : *Setaria viridis*

Classification :

Kingdom	Plantae
Subkingdom	Tracheobionta
Superdivision	Spermatophyta
Division	Magnoliophyta
Class	Liliopsida
Subclass	Commeliniade
Order	Cyperales
Family	Poaceae
Genus	Setaria P. Beauv.
Species	S. viridis (L.) P. Beauv.

About the plant

Setaria viridis is a annual grass that grows in summer . Its flower is green in colour and clumsy due to excessive tiny hair (look like bristel) and it also reassemble the tail of fox. It is a kind of weed .

Habitat : Native of Europe but spreaded to North America and now occurs in most temperate countries of the both hemisphere . It raely occurs in tropics other than at high altitude.

Stem : Stem is round, erect and thin in shape . Its colour is green . It poses several node and internode . Whole stem is hairless

Leaves : Leaves are light green in colour . Each leaf can length from 2-40 cm in length, flat and fine parallel veined. Leaves are always present at the node.

Flower : The flower is a inflorescence And dense, compact . Floret consist if every minute hair like spikes which sometimes stick to the cloth. Floret is also green in colour And inflorescence upto 20 cm long erect. Peduncle is also green and each floret is very closely attached to it. It is wind pollinated.

Root : Root is white in colour . The plant poses fibrouses root system as due to grass.

Seed : Seed is ovioid and little flattened at one side, brown to bone colour in colour and are very minute as particle .

Method of :

Reproduction : By sexual and vegetative reproduction method.

Dispersal of seed : By wind dispersion and explosion.

Likely to be found at : Moist land , garden nearby canal and moist area.



Phyllanthus niruri

Common name : Sanskrit : Bhumi Amalika

Hindi : Bhumi Amla

English : Country goosberry

Scientific name : *Phyllanthus niruri*

Classification :

Kingdom	Plantae
Subkingdom	Tracheobionta
Superdivision	spermatophyta
Division	Magnoliophyta
Class	Magnoliopsida
SubClass	Rosidae
Order	Malpighiales
Family	Phyllanthaceae
Genus	<i>Phyllanthus</i> L.
Species	<i>P. niruri</i> L.

About the plant

Phyllanthus niruri is medicinal herb that generally grow as a weed after first rain shower. But it can grow in the moist land in summer also.

Habitat : Tropical plant commonly found in coastal areas.

Stem : stem is slightly dark green in colour of matured plant & light green of new plant. The stem is cylindrical, erect and posses many branches

Leaves : Generally dark green in colour. Leaves is pinnate compound leaves and leaflets occur in alternate position. Leaflets are smaller than the leaflets of Amla plant. The leafs get closed during evening.

Flower : Flowers are found under the leaflet axis rachis and are pale green in colour . It consists of 5 petals and 1-3 stamen.

Fruit : Fruit is light green in colour and amla like . It also consists if black Coloured fruit.

Root : Plant possess a tap root system. And roots are white in colour.

Method of :

Reproduction : By sexual reproduction.

Seed dispersal : By manual as well as by explosion.

Likely to be found at : Moist area near pond, lakes in summer and wasteland garden, road side during monsoon.

Medical uses : The herb contains flavonoids, terpenoids , alkaloids etc. the plant has been used for centuries as an herbal remedy for urin- ary calculi. This medicinal herb is stomachic and useful in chronic dysentery. It is also used in diabetes and chronic fever.

Research : The research showed that the extract of *phyllanthus niruri* has a hepto protective effect. Studies relating to chemical characteristics and structural properties of the bioactive phytochemical found in P.niruri are very useful for further research on this plant as many ofthe phytochemical has showed preclinical therapeutic efficacies for a wide range of human





Phyllanthus amarus

Common name : Sanskrit : Bhumi Amalika

Hindi : Bhumi Amla

English : Country gooseberry, Gale of wind

Scientific name : *Phyllanthus amarus*

Classification :

Kingdom	Plantae
Subkingdom	Tracheobionta
Superdivision	spermatophyta
Division	Magnoliophyta
Class	Magnoliopsida
SubClass	Rosidae
Order	Malpighiales
Family	Phyllanthaceae
Genus	<i>Phyllanthus</i> L.
Species	<i>P.amarus</i>

About the plant

Phyllanthus amarus is medicinal herb that generally grow as a weed after first rain shower. But it can grow in the moist land in summer also. Another species of *Phyllanthus* genus.

Habitat : Dry deciduous forest, usually on humid, sandy soils, at elevations from sea-level up to 1,000 meters.

Stem : Stem is erect, cylindrical and light green in colour. Its length can be 10-30 cm but sometimes times it can go up to 50 cm. It generally get from Branched nodes of the leaves.

Leaves : Leaves are light green in colour. Leaves is pinnate compound leaves and leaflets occur in alternate position. Leaflets are broader than the leaflets of niruri and amal plant but smaller than amla in length. The leaf get closed during evening and opens during morning.

Flower : Flowers are found under the leaflet axis rachis and are pale green in colour. It consists of 5 petals and 1-3 stamen.

Fruit : Fruit is light green in colour and amla like . It also consists of black Coloured fruit.

Root : Plant possess a tap root system. And roots are white in colour.

Method of :

Reproduction : By sexual reproduction.

Seed dispersal : By manual as well as by explosion.

Likely to be found at : Moist area near pond, lakes in summer and wasteland, garden, road side during monsoon.

Medical use : It is traditional medicinal herb used in india. It is used in Ayurveda for stomach, liver, kidney and spleen problems. Whole plant is used in gonorrhoea, menorrhagia and for other Genital infections. It is also used against gastropathy, diarrhea and dysentery etc.

Research : Phytochemical studies have shown the presences of many valuable compounds such as lignans, flavonoids, alkaloids, polyphenols, triterpenes etc. Extracts and compounds isolated from *P. amarus* show wide spectrum of pharmacological activities. The extract includes Antiviral, Antibacterial, Anti-cancer, Anti-diabetic etc.



Arundinella pumila

Common name : Sanskrit : nil

Hindi : nil

English : Dwarf reed grass

Scientific name : *Arundinella pumila*.

Classification :

Kingdom	Plantae
Division	Tracheobionta
Class	Liliopsida
Order	Poales
Family	Poaceae
Genus	<i>Arundinella</i>
Species	<i>A.pumila</i>

About the plant

Arundinella pumila is grass commonly found in india near ponds or any water bodies. It is an annual hair less grass.

Habitat : Africa, America and India .

Stem : Stem is erect, cylindrical, And light green in colour. It is delicate and soft. Its length can be 20-25cm approx. long. It possess several nodes and internodes.

Leaves : Leafs are light green in colour and parallel veined. Length of leaves increases from top to bottom. Its length can vary from 1-8 cm and sometimes it goes upto 8+ in length. Leaves are pointed at the tip.

Flower : It bears a inflorescences with decreasing number of solitary flower that's why flower look like in conical shape. The length of peduncle can be 10-15 cm. Florets possess their own stalk. Inflorescences is white incolour and soft in touch.

Root : It possess a white coloured fibrous root system. Roots are small and forms a dense cluster.

Method of :

Reproduction : By sexual reproduction and vegetative propagation.

Seed dispersal : By manual as well as by explosion.

Likely to be found at : Moist area near pond, lakes in summer and wasteland garden , road side.



Phyllanthus virgatus

Common name : Sanskrit : Bhumi Amalika

Hindi : Bhumi Amla

English : Country gooseberry, Gale of wind

Scientific name : *Phyllanthus virgatus*

Classification :

Kingdom	Plantae
Subkingdom	Tracheobionta
Superdivision	spermatophyta
Division	Magnoliophyta
Class	Magnoliopsida
SubClass	Rosidae
Order	Malpighiales
Family	Phyllanthaceae
Genus	<i>Phyllanthus</i> L.
Species	<i>P.virgatus</i>

About the plant

Phyllanthus virgatus is medicinal herb that generally grow as a weed after first rain shower. It is another species of phyllanthus genus . It grows like fern .

Habitat : Montane grass-slopes or mixed deciduous forests.

Stem : Stem is erect, cylindrical and light green in colour. Its length can be 10- 30 cm but sometimes times it can go up to 50 cm. It generally get Branched from nodes of the leaves.

Leaves : Leaves are dark green in colour. Leaves is pinnate compound leaves and leaflets occur in alternate position. Leaflets are long and rounded at the tip. The leaf get closed during evening and opens during morning.

Flower : Flowers are found under the leaflet axis rachis and are pale green in colour. It consists of 5 petals and 1-3 stamen.

Fruit : Fruit is light green in colour and amla like . It also consists if black Coloured fruit.

Root : Plant possess a tap root system. And roots are white in colour.

Method of :

Reproduction : By sexual reproduction.

Seed dispersal : By manual as well as by explosion.

Likely to be found at : Moist area near pond, lakes in summer and wasteland, garden , road side during monsoon.

Medical use : It is traditional medicinal herb used in India. plant is used in gonorrhoea, menorrhagia and for other Genital infections. Its medical uses is same as p. niruri and p. amarus because all are of same genus but different species.

Research : Phytochemical studies have shown the presences of many valuable compounds such as flavonoids, alkaloids, polyphenols, triterpenes etc. Extracts and compounds isolated from *P.virgatus* show wide spectrum of pharmacological activities. The extract showed Antiviral, Antibacterial, Anti-cancer, Anti -

diabetic etc. properties. Although the plants that I have listed here are only handful amount. But the plants listed here are very commonly found in our home, garden, and our surroundings. The main reason behind listing only 8 plants is that I have faced the identification problems. And I can't write about a plant with wrong identification. But I have successfully identified some plants. Now I have identified plants with hardiness. The upper studies/research showed that India is full of biological diversities, even our garden showed that. Mostly they are grasses and herbs. Now we can explore more about the plants but for that we have to increase the area.