

# Glossary

## Abbreviations

*adj.*—adjective

*n.*—noun

*pl.*—plural

*sing.*—singular

*syn.*—synonym

*v.*—verb

## A

**Abaxial** off or away from the axis; (of the surface of a leaf etc.) initially facing away from the stem. The underside of a frond.

**Adaxial** toward the axis; (of the surface of a leaf etc.) initially facing toward the stem.

**Adventitious** formed in an unexpected place anatomically; (of roots, buds, etc.) arising from a part other than that usual in plants generally, or at an unusual time of development.

**Angiosperm** a plant which bears its seeds enclosed in a seed-vessel, that is, a flowering plant.

**Apex** the growing point of a shoot etc. The tip, or distal end of an organ, usually of a leaf or fruit.

**Articulated** place of separation.

**Aquatic** growing or living in or near water.

**Aril** an additional envelope, often fleshy, developed around the seed in certain plants, evolved mainly to attract birds and insects, which then distribute the seed, for example, *Commiphora*, *Cnestis* and *Trichilia*.

**Axil** the upper angle between a leaf surface and the stem which bears it; also the angle between a leaf midrib and the side or lateral veins.

## B

**Basal** at the base.

**Bisexual** having both male and female sexual organs in a single flower. Compare unisexual.

**Bract** a leaf, often modified or reduced, which subtends a flower in its axil, sometimes brightly coloured, for example *Poinsettia*.

**Bud** a rudiment of a shoot, leaf, or flower.

**Budding** a mode of propagation in which a bud from one plant (scion) is inserted under the bark of another (stock).

**Bulb** the globular underground organ of an onion, lily, or similar plant, which contains the following year's bud and scale leaves that serve as food reserves. Also, a plant growing from a bulb.

**Bulbil** a small bulb or bulb-like organ, often produced above ground, such as in the axil of a leaf, which when detached, is able to propagate a new plant.

**Bushveld** a colloquial term of South African origin to denote any vegetation type composed of both trees and grasses, often with shrubby thicket.

## C

**Callus** (*pl. calli*) an outgrowth of tissue formed to cover a wound or cut, or at the base of a cutting.

**Calyx** the outer whorl of a flower, made up of a number of sepals (calyx lobes) which protect the flower in bud. Collective term for all the sepals of a flower; usually green.

**Cambium** a thin layer of cells that occurs within the stem and roots, which divides to form permanent tissues. In higher plants, the cambium lies between the wood and the bast, adding elements to both, namely wood (xylem) on the inner, and phloem on the outer.

**Canopy** the branches and leaves of a tree, also known as the crown; a term usually applied to the top or upper layer of a forest.

**Capillary action** the force of attraction of a very thin tube (capillary) or minute space on a liquid, which acts to suck the liquid into that space; part of the means whereby water moves in the xylem and in soil.

**Capsule** a dry fruit comprised of more than one carpel; may be indehiscent (not splitting open) or dehiscent (splitting open). A dry seed-case, which opens when ripe by the parting of valves.

**Carnivorous plant** a plant that is capable of catching and digesting small creatures such as insects.

**Caudex** a woody swollen or succulent stem that is either above or below ground in a plant. See suffrutex.

**Chlorosis** loss of colour; blanching of normally green tissues, or the turning green of petals, as in a green rose.

**Chlorotic** pale yellow; suffering from chlorosis.

**Clonal seed** seed produced from plants of one clone.

**Clone** a group of plants that have been vegetatively propagated from a single parent, which therefore have identical genes.

**Commensal** an association between two species in which one benefits and the other is neither harmed nor benefited.

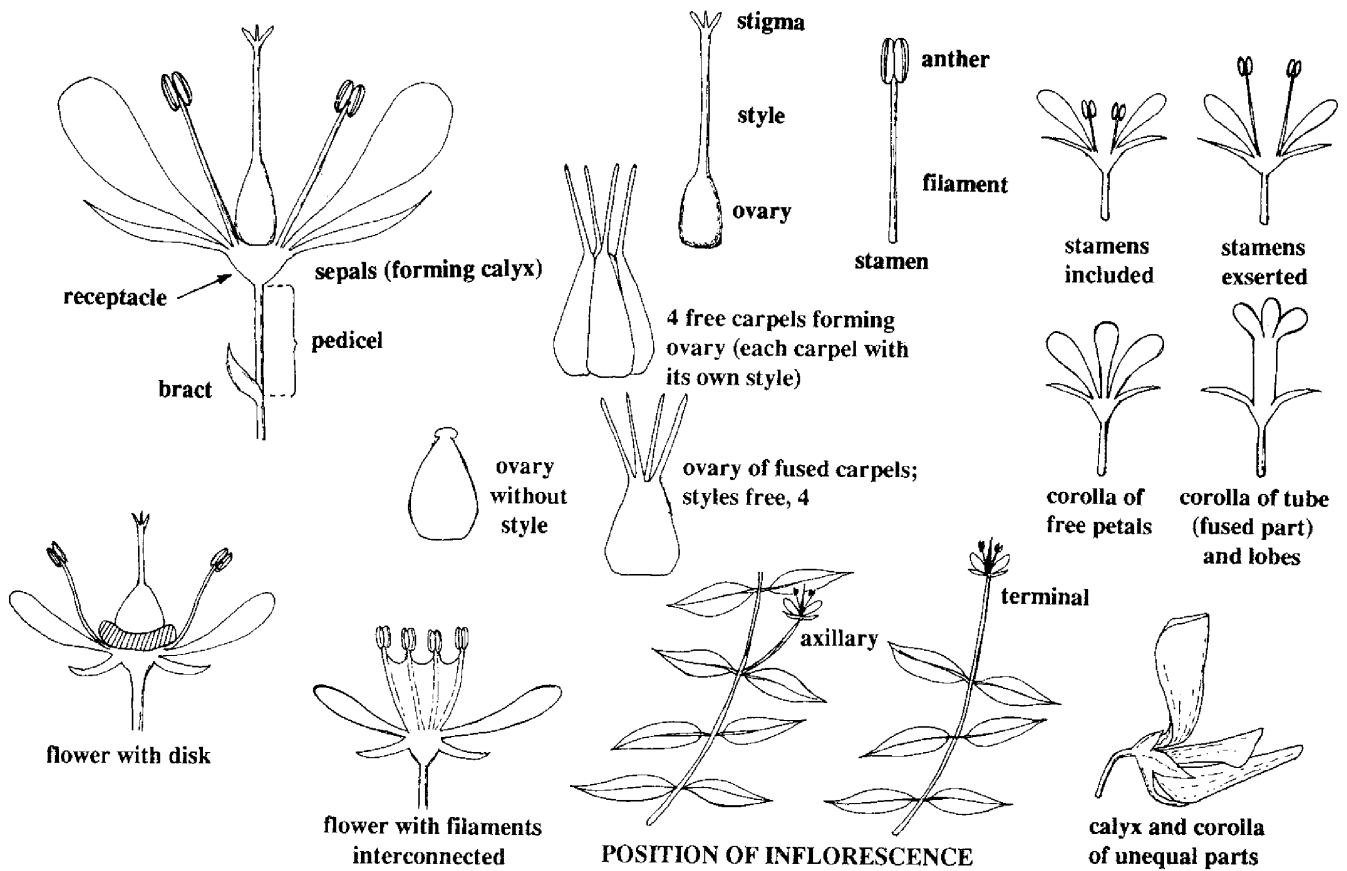
**Cone** fruit of a pine tree, with scales.

**Coppice** the young, vigorous shoots produced from the base of a tree trunk in response to it being damaged or felled, or from damaged roots. Compare sucker.

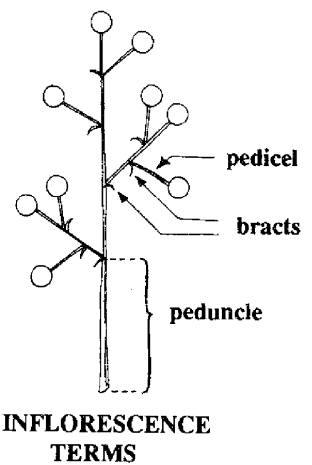
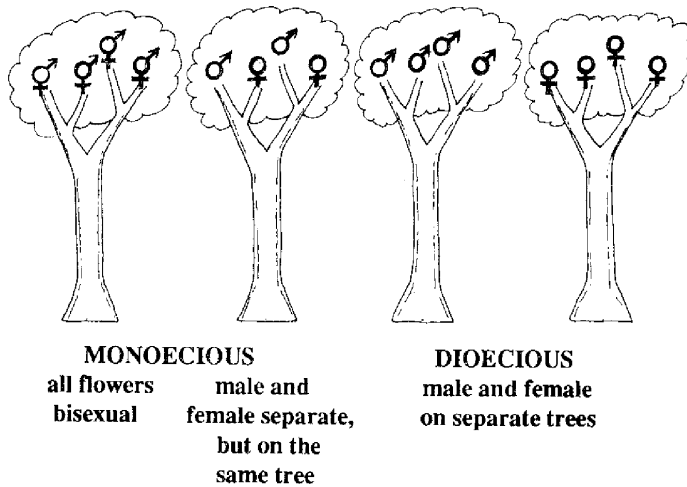
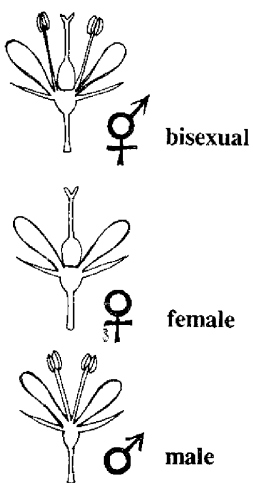
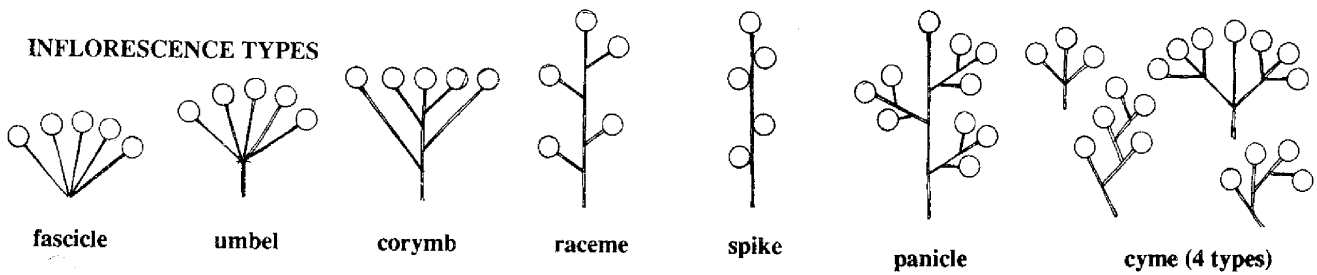
**Coppicing** the periodic cutting-back of trees to or near the ground, which then are replaced by regrowth from suckers arising from the stump. Some trees, for example, many Eucalypts, *Hibiscus*, and *Acacia*, are especially adapted to coppicing. Compare pollarding.

**Corm** a tuberous bulb-like rootstock.

**Cotyledon** the first leaf, or pair of leaves, of a plant,

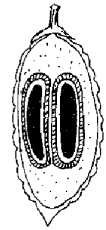
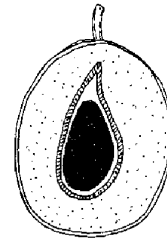
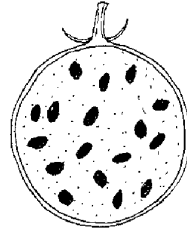
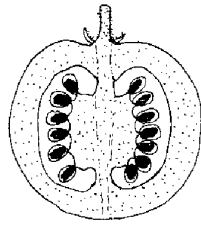
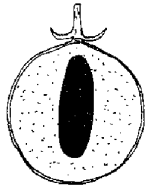


**INFLORESCENCE TYPES**



**INFLORESCENCE TERMS**

**FLESHY FRUITS**



**Berry**

No hard layer; 1-many seeded

**Drupe**

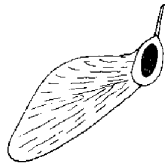
1-several seeds, each surrounded by a stony layer

**DRY FRUITS - INDEHISCENT (not splitting open)**



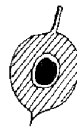
**Achene**

Small, single-seeded



**Samara**

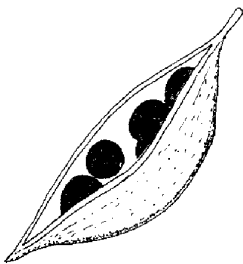
Winged achene



**Nut**

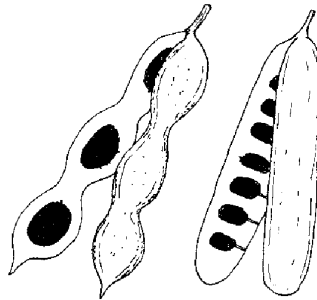
Single seeded,  
with woody outer layer

**DEHISCENT FRUITS (splitting open)**



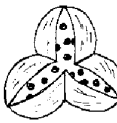
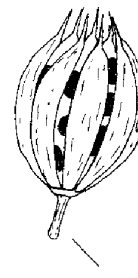
**Follicle**

Splits on one side



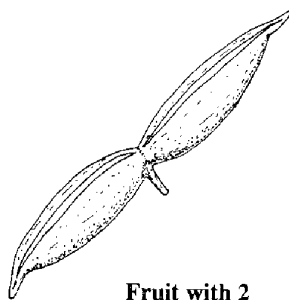
**Legume**

Splits into 2 valves



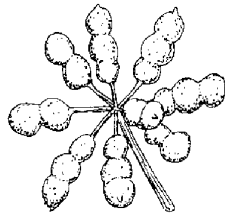
**Capsule**

Splits into several valves; dry



**Fruit with 2  
mericarps**

Monocarps and mericarps originate from a single flower

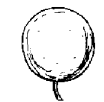
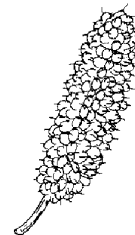


**Fruit with many  
monocarps**



**Fruit  
syncarpous**

originate from many flowers  
close together



**ROUND**



**ELLIPSOID**



**OVOID**



**OBOVOID**



**OBCONIC**

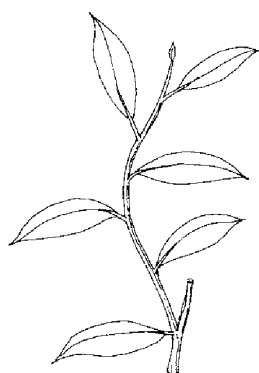
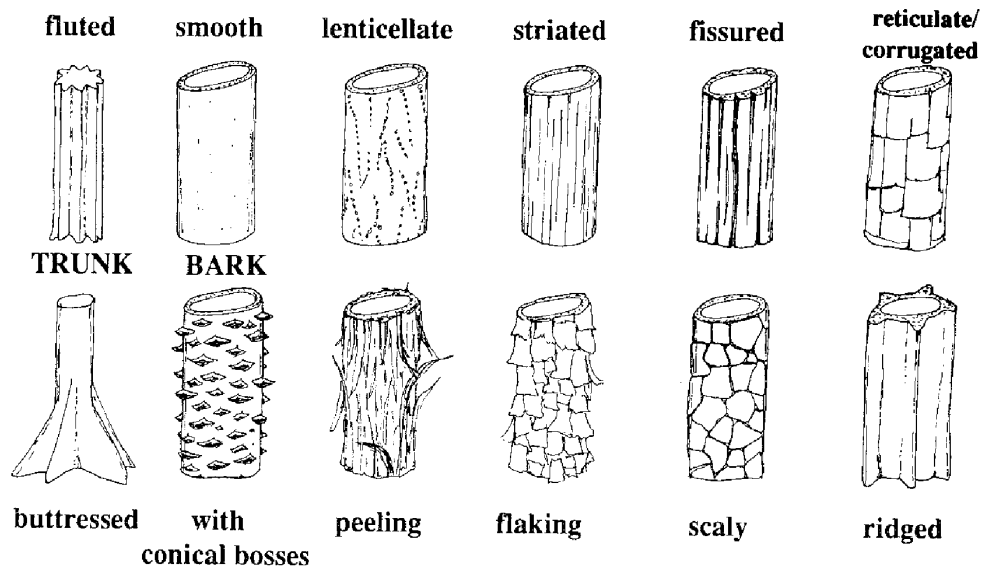
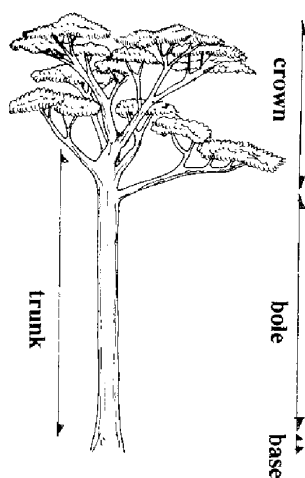


**CYLINDRICAL**

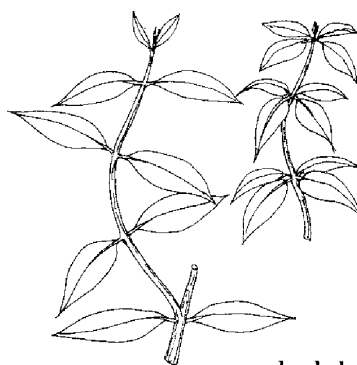


**FUSIFORM**

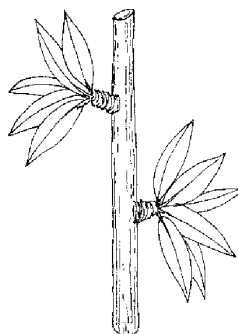
**GENERAL TERMS**



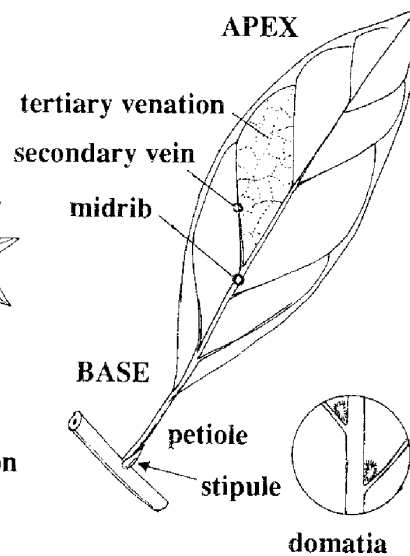
alternate



opposite

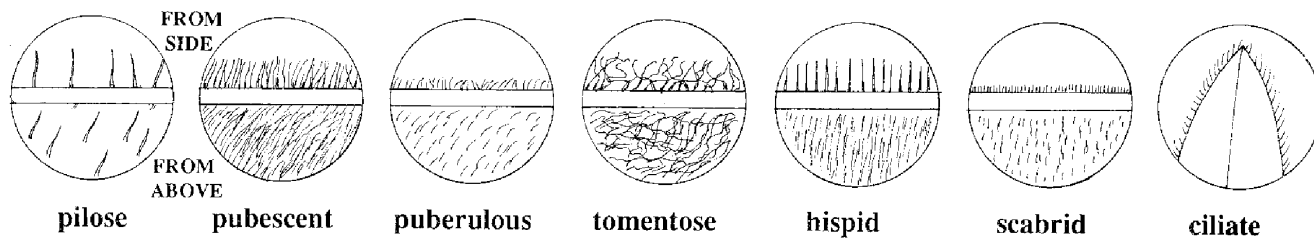


fascicled  
or crowded on  
short shoots



**LEAF ARRANGEMENT**

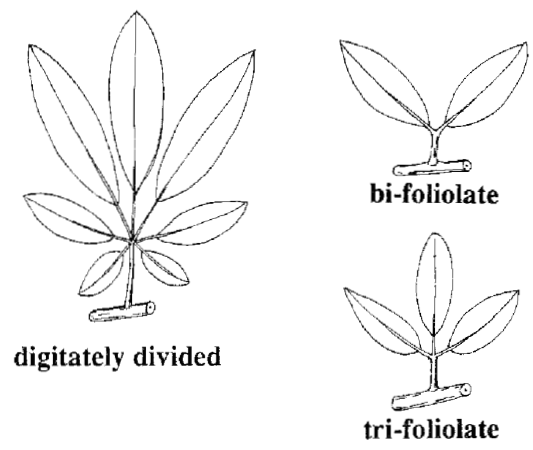
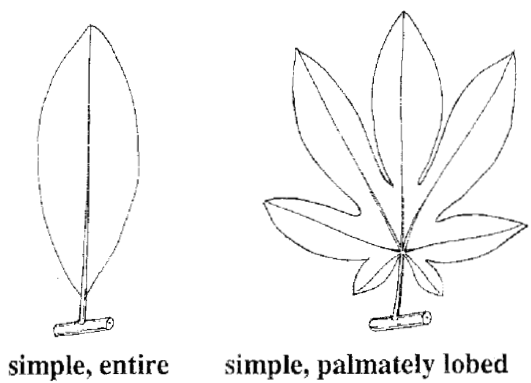
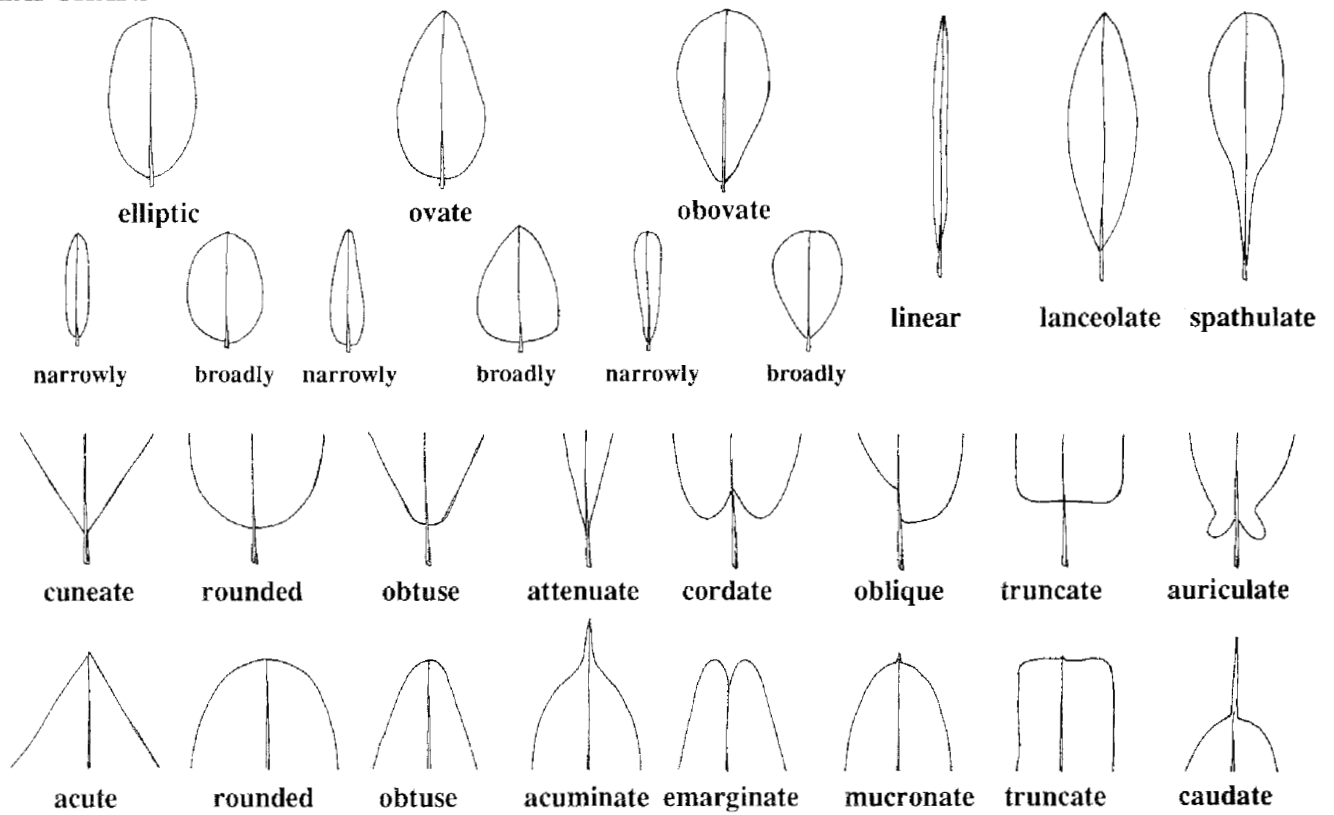
**HAIRYNESS (much enlarged)**



**LEAF MARGINS**



**LEAF SHAPE**



**SIMPLE LEAVES**

**COMPOUND LEAVES**

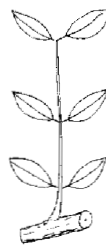
**pinnately lobed**



**pinnately divided**



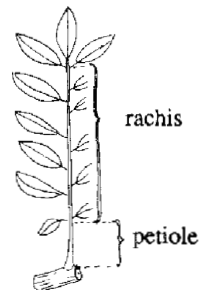
**imparipinnate**  
(single top leaflet)



**paripinnate**  
(pair of top leaflets)



**bipinnate**



either remaining within the seed coat (testa), or rising above the ground on germination. Compare dicotyledon and monocotyledon.

**Cross-pollination** fertilisation of the flower(s) of one plant by pollen from another plant. Compare self-pollination.

**Crown** the leafy head of a tree or shrub.

**Cryptogams** any plant of the Linnaean division Cryptogamia (now disused), which embraced all non-flowering plants, as ferns, mosses, algae, fungi, etc. (Opposite: phanerogam).

**Cutting** a piece of root or stem, either taken from the tip, or from the harder wood below; used to propagate a new plant. Compare strike.

## D

**Deciduous** the seasonal shedding of leaves, in winter in cold countries, or at the beginning of the dry season in the tropics (where it is uncommon).

**Dehiscent** splitting open to release seeds, pollen, or spores.

**Dicotyledons** a plant whose embryo has two cotyledons.

**Dimorphic** of different shapes and functions.

**Dioecious** with unisexual flowers, the male and the female flowers on separate plants. Compare monoecious.

**Distal** situated away from the centre of the body or the point of attachment; further, more distant.

**Dormant** resting, not in active growth; usually in plants which are deciduous.

## E

**Ebracteate** without bracts.

**Ecology** the branch of biology that deals with organisms' relations to one another and to the physical environment in which they live; (the study of) such relations as they pertain to a particular habitat or a particular species.

**Economic botany** the study of the uses of plants and their products.

**Economic plants** plants which are of use to man, either directly or indirectly, as distinct from plants which are merely ornamental.

**Embryo** the part of the inside of a seed which develops into a plant.

**Endemic** of a plant or animal native to, and especially restricted to, a certain country or area. Compare indigenous.

**Epiphyte** (*adj.* **epiphytic**) a plant (especially one that is not parasitic) which grows on another plant for support, generally not attached to the ground, for example, many orchids and some ferns.

## F

**Family** group of genera resembling each other in various characteristics, and, in plants, given a scientific name with the suffix -ae or -aceae.

**Flagging** see wilting.

**Flush** the periodic production of copious young shoots; a sudden rise of sap after a dormant period.

**Follicle** a many-seeded dry fruit, derived from a single carpel and splitting down one side, for example, one lobe of a pod of *Sterculia*.

**Forb** any non-woody plant other than a grass, sedge, rush, etc.

**Forest** a vegetation type composed primarily of large trees which have overlapping canopies, under which are characteristically a small tree layer, a shrub stratum and a herb layer. Compare woodland.

**Fungi** (*sing.* **fungus**; *adj.* **fungal**) any of a large division of organisms, including mushrooms, toadstools, moulds, rusts, yeasts, and constituents of lichens, which lack chlorophyll, and grow on and obtain nutriment from organic matter. Also collectively, a growth formed by such organisms.

## G

**Gamete** a mature haploid germ cell (male or female) which unites with another of the opposite sex in sexual reproduction to form a zygote.

**Gametophyte** in the alternation of generations, the gamete-producing phase in the life cycle of a plant (the dominant form in bryophytes) which forms the zygote from which the sporophyte arises.

**Genes** units of biological material (DNA) which are passed on from generation to generation.

**Genus** (*pl.* **genera**) a group of closely allied species. The generic name forms the first part of the scientific name of any species.

**Geocarpic** a plant that produces its fruits underground, like peanuts and *Cucumis humifructus*.

**Gland** any of various (groups of) cells on or within a plant structure which secrete some particular substance or substances (e.g. oils, nectar, resin, or water).

**Grassland** a vegetation type dominated by grasses. When a quantity of trees is present, it is termed wooded grassland.

**Gymnosperms** a woody plant belonging to the Gymnospermae, one of the two main divisions of seed plants, lacking flowers and with seeds unprotected by an ovary or fruit, and including conifers, cycads, and ginkgos.

**Gynoecium** the female part of an angiosperm flower.

## H

**Habit** the characteristic mode of growth; the form and shape of a plant.

**Habitat** the environment in which a plant lives.

**Haploid** (of a cell) containing a single set of unpaired chromosomes.

**Herb** a general term for medicinal or culinary plants, which may or may not be woody. A plant whose stem does not become woody and persistent (as in a shrub or tree).

**Herbaceous garden** (or border) a section of the garden devoted to herbaceous plants, usually planted in a systematic order.

**Herbaceous** resembling a leaf in colour or texture. With non-woody stems as opposed to woody stems. Opposite scariosus.

**Herbarium** a collection of dried plant specimens, mounted on sheets of paper and systematically arranged and named. Also, a room or building housing such a collection.

**Host** an organism on which a parasite lives and by which it is nourished (also applied, loosely, to a plant supporting an epiphyte).

**Humus** the organic constituent of soil, formed by the decomposition of plant materials.

**Hybrid** a plant produced as a result of cross-pollination of two different species.

## I

**In situ** in position; sowing or planting where a plant is intended to remain at maturity.

**Incompatible** plants between which hybrids cannot be formed.

**Indehiscent** not dehiscent, not splitting open to release the seed.

**Indigenous** native to; belonging naturally to (a particular area, country, etc.). Compare endemic.

**Inflorescence** flowering part of a shoot, including stem, flower(s) and bracts.

**Invasive** tending to intrude upon the domain of another; spread into.

## K

**Kernel** softer (often edible) part within hard shell of a nut or stone fruit; body of seed within husk, for example grain of wheat.

## L

**Lamina** the thin, flat blade of a leaf or petal.

**Larva** (*pl.* **larvae**) an insect in a state of development (displaying little or no similarity to the adult) lasting from the time of its leaving the egg until its transformation into a pupa.

**Latex** a milky liquid found in many plants, for example, of the Moraceae, Euphorbiaceae, Apocynaceae families, which exudes when the plant is cut and coagulates on exposure to the air. The latex of *Hevea brasiliensis* or other plants is used to produce rubber.

**Layer** a shoot fastened down and partly covered with earth to take root while still attached to the parent plant.

**Layering** the rooting of a branch while still attached to the parent plant by natural or artificial means. Bend down a layer to the ground and cover it partly with earth to take root and propagate the plant.

**Leaflet** a separate unit of a compound leaf.

**Legume** (*adj.* **leguminous**) any plant belonging to the large family Leguminosae (in recent times usually broken down into the families Mimosaceae, Caesalpiniaceae, and Fabaceae), characterised by their potential to fix atmospheric nitrogen into the soil; also a colloquial term applied to plants with a bean-like pod.

**Lianas** or **lianes** woody, climbing vines, with rope-like stems common in wet tropics.

**Lichen** any of a large group of composite organisms formed by association of algal cells with a fungus, and

occurring as encrusting or branching friable growths on surfaces, to which they give a green, grey, or yellow colour; originally, a liverwort. Also collectively, such organisms growing as a crust or clump.

**Lignin** a cross-linked phenolic polymer which combines with cellulose to give woody plant tissue its rigidity.

**Lithophyte** (*adj.* **lithophytic**) (= **epilithic**) a plant that grows on rocks.

**Lobe** a (chiefly rounded) projection or division of a leaf, petal, or other organ of a plant; especially one extending less than halfway to the centre. Formerly also, a pod, a capsule.

## M

**Monocotyledons** plants with one cotyledon or seed-leaf, the true leaves also being usually parallel-veined, not net-veined as in most dicotyledons; one of the two subclasses of angiosperms.

**Monopodial** (of growth) with a persistent terminal growing point producing many lateral organs successively (compare sympodial).

**Monopodium** a single continuous growth axis which extends at its apex and produces successive lateral shoots.

**Montane** of, pertaining to, or inhabiting mountainous country; specifically, designating or pertaining to the belt of upland vegetation below the tree line.

**Meiotic** cell division in which the number of chromosomes in the daughter cells is half that of the parent cell—usually leading to the formation of spores.

**Mitotic** cell division in which the number of chromosomes in the daughter cells is the same as that of the parent cell.

**Mucilage** (*adj.* **mucilaginous**) a polysaccharide substance extractable as a viscous or gelatinous solution in water from roots, seeds, and other parts of certain plants, and used in medicines and adhesives.

**Mycorrhiza** a symbiotic or slightly pathogenic fungus growing in association with the roots of a plant, either on the surface or within the cortex.

## N

**Node** the point on a stem where the leaf or leaves emerge.

**Nucellus** the central part of an ovule in which the embryo plant is generated.

**Nucleus** the kernel of a nut or seed; the nucellus of an ovule.

## O

**Offset** a short lateral shoot, especially from the lower stem, bulb, or corm, of a plant, serving for propagation.

**Organic** (a) of, pertaining to, or designating carbon compounds, (originally, those naturally existing as the constituents of living organisms or derived from such compounds); containing carbon in combination. (b) (Of a fertilizer) produced from (only) natural substances; (c) (of farming, gardening, etc.) involving the growing of plants without the use of artificial fertilizers, pesticides, etc.; (d) (of food) produced without the use of such chemicals.

## P

**Parasite** an animal or plant which lives in or on another and draws its nutriment directly from it, harming it in the process. Compare commensal, symbiosis; epiphyte, saprophyte.

**Pathogenic** causing disease.

**Perennial** of plants, their roots, etc., remaining alive through a number of years; specifically designating herbaceous plants which die down to the root and shoot up afresh every year. Also remaining green or leafy throughout the year, evergreen.

**Permanent wilting point** the soil moisture content at which plants wilt and fail to recover turgidity when water is added.

**Petiole** the stalk of a leaf. If absent, the leaf is sessile.

**Phloem** one of the two chief components of a vascular bundle, which conducts synthesized food downwards from the leaves.

**Photosynthesis** the process in plants by which carbon dioxide is converted into organic compounds using the energy of light absorbed by chlorophyll, which in all plants except some bacteria involves the production of oxygen from water; any photochemical synthesis of a chemical compound.

**Phyllopodium** (*pl. phyllopodia*) a leaf-like frond that forms on the rhizomes of some ferns that is flattened and takes on the photosynthetic functions of a normal leaf/frond. Especially in the genera *Platyserium* and *Drynaria*.

**Pistil** the unit of the gynoecium.

**Pod** a (long) seed-vessel, especially a dry and dehiscent one; specifically that of a leguminous plant, a legume.

**Pollarding** lopping or removing the crown of a tree, at some height above the ground, as of shade and roadside trees, which afterwards send out new shoots or branches. Compare coppicing.

**Proliferous buds** bearing plantlets.

**Propagation** reproduction of new individuals, by sexual or asexual means.

**Prothallus** a minute cellular disc or thallus produced by the germination of a spore. Also, the female gametophyte of a gymnosperm.

**Pulp** the fleshy or succulent part of a fruit.

## R

**Rachis** (*pl. rachides*) (=rhachis) the main axis of a compound leaf (especially the frond of a fern) or of an inflorescence in which flower stalks occur at short intervals from each other, as in Poaceae.

**Resin** any hard, sticky, flammable, frequently aromatic substance containing organic polymers and terpenoids, secreted by various trees and other plants, often extracted by incision especially from fir and pine, and, unlike a gum, insoluble in water.

**Rhizome** (*adj. rhizomatous*) a continuously growing, usu. horizontal, underground stem, which puts out lateral shoots and adventitious roots at intervals, always distinguished from a true root by the presence of buds, leaves, or scales.

**Rootstock** (a) a rhizome; especially a short erect rhizome or underground stem from which new leaves and shoots

are produced annually; (b) a stock on to which another variety has been grafted or budded.

**Ruderal** (*adj.*) growing on waste ground or among rubbish.

**Runner** a long creeping stem arising from an axillary bud, which roots at the nodes and forms new plants. Compare stolon.

## S

**Sapling** a young tree.

**Saprophyte** a plant that derives its nutriment from decaying organic matter.

**Scandent** having a climbing habit.

**Scarify** make scratches or slight incisions in; cover with scratches or scars. Hurt, wound. Make incisions in the bark; remove surplus branches from.

**Scion** a shoot or twig, especially one cut for grafting or planting.

**Scrambling plant** a plant with a creeping, spreading habit, usually anchored with tendrils, hooks, or thorns.

**Seedling** a young plant raised from seed, as distinct from a grafted or budded plant or a rooted cutting.

**Self-pollination** pollination occurring between flowers of the same plant, or within the same flower. Compare cross-pollination.

**Self-sterile** not self-fertilizing.

**Sessile** attached directly to a surface; having no stalk. Also, having stalkless fruit.

**Shrub stratum** the layer in a forest or woodland below the tree canopy which is dominated by shrubs.

**Shrub** a woody, perennial plant with two to several stems arising from near the ground; compare to a tree.

**Species** the basic unit of biological classification; a group of individual plants resembling each other by a combination of constant characteristics, with inter-breeding possible within the species, but generally not between species.

**Spine** a stiff sharp-pointed outgrowth arising especially from the wood of a plant; specifically one that represents a modified leaf, part of a leaf, or stipule. Compare thorn.

**Spore** a small, usually one-celled, reproductive unit capable of giving rise to a new individual without sexual fusion, characteristic of fungi. Compare gamete.

**Sporophyte** the fern plant.

**Stamen** the male reproductive organ of a flower.

**Stigma** that part of the pistil in flowering plants which receives the pollen in impregnation, very varied in shape, and situated either directly on the ovary (sessile) or at the summit (more rarely, the side) of the style.

**Stock** the trunk or woody stem of a living tree or shrub (as opposed to the root and branches), esp. one into which a graft is inserted.

**Stolon** a long horizontal side-stem of a plant that roots at the tip to form a new plant. Originally, a sucker. Compare runner.

**Stoloniferous** producing stolons, spreading or reproducing by means of stolons.

**Strike** send down or put forth (a root or roots); cause (a cutting etc.) to root.

**Style** a narrowed frequently elongated projection of the ovary, bearing the stigma.

**Succulent** having thick fleshy leaves and/or stems adapted to storing water.

**Sucker** (*n.*) a shoot thrown out from the base of a tree or plant; specifically one arising from the root below ground level, frequently at some distance from the stem. Also, a side-shoot from an axillary bud, as in tomato plants or maize.

**Sucker** (*v.*) to produce suckers.

**Suffrutex** (*pl. suffrutices*) a plant woody at the base but herbaceous above; a subshrub.

**Syconium** (*pl. syconia*) A multiple fruit developed from numerous flowers embedded in a fleshy receptacle, such as the fruit of a fig. The swollen stem structure is the edible portion, as in *Ficus*.

**Symbiosis** an interaction between two dissimilar organisms living in close physical association; especially one in which each benefits the other.

**Sympodial** (of growth) pertaining to, of the nature of, or producing a sympodium.

**Sympodium** an apparent axis formed by successive lateral growth, each year's terminal bud dying at the end of the season. Compare monopodium.

## T

**Tap-root** the primary, descending root.

**Taxon** (*pl. taxa*) a taxonomic group of any rank, as species, family, class, etc.; an organism contained in such a group.

**Terrestrial** growing on land or in the soil. Opposite aquatic, epiphytic.

**Testa** (*pl. testae*) the protective outer covering of a seed; the seed-coat.

**Thorn** a curved spine; sometimes a term applied to a sharply-pointed branch.

**Transpiration** the loss of moisture by evaporation from the surface of a plant, esp. from the stomata of the leaves.

**Tuber** (*n.*) a much thickened underground part of a stem or rhizome, for example in the potato, serving as a food reserve and bearing buds from which new plants arise. A thickened fleshy root, for example *Impatiens flanaganiae*, *Plectranthus esculentus*.

**Turgidity** swollen, distended condition.

## U

**Understorey** a thing compared to a storey of a building; each of a series of stages or divisions lying horizontally one over the other; specifically, a layer within the canopy of a forest.

**Unisexual** of one sex; containing either stamens or pistil, but not both, the other sex being on the same plant (monoecious) or on a different plant (dioecious).

## W

**Weeping** (of branches) having long drooping branches, as in Weeping Willow (*Salix*), or *Chamaecyparis funebris*.

**Wilding** a term used for wild germinated seedlings often found under the parent tree or plant.

**Wilting** temporary loss of turgidity in leaves, stem, etc., due to insufficient water in the tissues, or more permanently, to excessive watering causing an unhealthy condition in the roots. Also known as flagging. Compare permanent wilting point.

**Wing** a flattened outgrowth from a fruit or seed which assists in the wind-dispersal of the seed or fruit.

**Woodland** a vegetation type composed largely of trees, where the crowns of the trees are well-spaced apart or just touching, with only a herb layer beneath the canopy. Compare forest.