

This glossary is modified from those of Shinnery (1958a) and Mahler (1988), with additional entries obtained or modified from a variety of sources including Lawrence (1951), Featherly (1954), Correll (1956), Gleason and Cronquist (1963), Radford et al. (1968), Correll and Johnston (1970), Gould (1975), Lewis and Elvin-Lewis (1977), Benson (1979), Schmutz and Hamilton (1979), Fuller and McClintock (1986), Jones and Luchsinger (1986), Schofield (1986), Gandhi and Thomas (1989), Blackwell (1990), Isely (1990), Harris and Harris (1994), Spjut (1994), and Hickey and King (1997).

A

A- A prefix meaning without or not.

ABAXIAL Located on the side away from axis; e.g., lower leaf surface; contrasting with adaxial.

ABERRANT Different from normal or typical condition.

ABORTIVE Not developing or imperfectly developed; barren; defective.

ABSCISSION Act or process of cutting off or shedding; e.g., the shedding or abscising of leaves.

ABSCISSION LAYER Zone at base of petiole or other structure (e.g., pedicel) forming a layer of separation. This layer is important in the drop or shedding of leaves and fruits.

ACAULESCENT Stemless or apparently so; having leaves basal with stems not elongated.

ACCESSORY FRUIT A fruit or assemblage of fruits with fleshy parts derived from organs other than the pistil; e.g., strawberry with fleshy receptacle with achenes (individual fruits) embedded in its surface.

ACCRESCENT Enlarging after anthesis or with age, frequently in reference to the calyx.

ACCUMBENT COTYLEDONS Cotyledons lying face to face with the edges against the radicle.

ACEROSE (= Acicular) Needle-shaped or -like.

ACHENE Small, dry, indehiscent, one-seeded fruit with ovary wall free from seed.

ACHLAMYDEOUS Lacking a perianth.

ACHLOROPHYLLUS Lacking chlorophyll or apparently so; e.g., a number of non-green saprophytes or parasites.

ACICULAR (= Acerose) Needle-shaped or -like.

ACORN Fruit of a *Quercus* species (oak) composed of a nut and its cup or cupule made of fused bracts.

ACRID With sharp and harsh or bitterly pungent taste.

ACROPETAL Developing or maturing in succession from the base toward the apex.

ACTINOMORPHIC (= Regular) Radially symmetrical. The term usually refers to the arrangement of flower parts.

ACUMINATE Having a long, tapering point; longer tapering than acute.

ACUTE Forming a sharp angle of less than 90 degrees; less tapering than acuminate.

AD- A prefix meaning to or toward.

ADAXIAL Located on side towards axis; e.g., upper leaf surface; contrasting with abaxial.

ADHERENT Touching or sticking together, when two organs or parts (typically dissimilar) touch each other but are not grown or fused together.

ADNATE United or fused, when the fusion involves dissimilar structures; e.g., as in fusion of stamens and corolla.

ADRESSED (= Appressed) Lying flat against a surface.

ADVENTITIOUS Referring to structures or organs that develop in an unusual position; e.g., buds or roots that develop out of their usual place.

ADVENTIVE Not fully naturalized or established; of occasional occurrence.

AERIAL Above ground level.

AESTIVAL Appearing in or pertaining to the summer.

AESTIVATION Arrangement of young flower parts in the bud.

AGAMOSPERMY The production of seeds without fertilization.

AGGREGATE Crowded into a dense cluster or tuft.

AGGREGATE FRUIT A fruit formed by the clustering together of a number of separate pistils from a single flower; e.g., a blackberry is a cluster of drupelets.

AGLYCONE The nonsugar component of a glycoside. Glycosides are composed of a sugar plus another compound (the aglycone); many aglycones are toxic.

ALATE Winged.

ALBIDUS White.

ALBUMEN Nutritive material stored within the seed.

ALKALOID Any of a broad class (> 5000 known alkaloids) of bitter, usually basic (alkaline), organic compounds that contain nitrogen and typically have a ring in their structure. They are often physiologically active in animals; many are poisonous; many affect the nervous system; there are a number of general types based on chemical structure including indole, isoquinoline, piperidine, purine, pyrrolidine, quinoline, and tropane alkaloids; well-known examples of alkaloids include atropine, caffeine, cocaine, quinine, morphine, nicotine, theobromine, and strychnine.

ALLELOPATHY, ALLELOPATHIC Harmful or detrimental chemical effect by one species upon another; e.g., a plant producing phytotoxic compounds that inhibit the germination or growth of other plants.

ALLERGEN Substance capable of inducing an allergic response.

ALLERGENIC Causing an allergic response or an allergy to become manifest.

ALLERGY Hypersensitivity of the body cells to specific substances as antigens and allergens, resulting in various types of reactions (e.g., anaphylaxis, contact dermatitis, hay fever).

ALLIACEOUS Onion-like.

ALLUVIAL Of or pertaining to alluvium (= organic or inorganic materials, including soils, deposited by running water).

ALTERNATE Bearing one leaf or other structure at a node; having only one attached at a given point; contrasting with opposite or whorled.

ALVEOLATE Honeycombed.

AMENT (= Catkin) A flexible often pendulous spike or spike-like raceme of small, inconspicuous, unisexual, apetalous, usually wind-pollinated flowers, the whole falling as one piece; e.g., male inflorescence of oaks or pecan.

AMENTIFEROUS Bearing aments.

AMETHYSTINE Violet-colored.

AMINO ACIDS Compounds containing both an amino group and a carboxyl group. They are the subunits (monomers) that are linked together by peptide bonds to form the polymers known as proteins; some nonprotein amino acids are found free in plants and are sometimes toxic; e.g., in *Lathyrus* (Fabaceae).

AMORPHOUS Without regular or definite form; shapeless.

AMPHITROPOUS OVULE Ovule that is half inverted so that the point of attachment is near the middle.

AMPLEXICAUL (= Clasping) With base of leaf or other structure (e.g., stipule) wholly or partly surrounding the stem.

AMPLIATE Enlarged.

ANASTOMOSING Net-like; with veins connecting by cross-veins to form a network.

ANATROPOUS OVULE Ovule that is completely inverted, the micropylar end being essentially basal.

ANDROECIUM Collective term for the stamens or male structures of a flower.

ANDROGYNOPHORE A stalk bearing both androecium and gynoecium; e.g., in many Passifloraceae.

ANDROGYNOUS Bearing staminate flowers above (= distal) to the pistillate in the same spike; e.g., in some Cyperaceae.

ANDROPHORE A support or column bearing stamens.

ANEMOPHILOUS, ANEMOPHILY Wind-pollinated.

ANGIOSPERM (= Flowering plant) Literally, "vessel seed"; a plant having its seeds enclosed in an ovary (= the proximal part of the carpel or "vessel"); a member of Division Magnoliophyta.

ANNUAL Plant or root system living only one growing season (year); completing the growth cycle within one year.

ANNULAR Arranged in a ring or circle.

ANNULATE With the appearance of rings; e.g., cross-ribbed or ringed spines of some Cactaceae.

ANNULUS A group or ring of thick-walled cells, on the sporangia of some ferns, that are involved in spore dehiscence.

ANTERIOR Describing the position of an organ located toward the front in relation to the axis; e.g., in a flower the side away from the axis and toward the subtending bract.

ANTHER That part of a stamen producing the pollen.

ANTHER-CELL (= Theca) One of the pollen-sacs or locules of an anther.

ANTHERIDIUM Male sexual organ; structure forming male gametes, typically found in less derived plants (e.g., ferns) but so reduced evolutionarily as to not be present in flowering plants.

ANTHESIS (a) Time or process of flower expansion or opening; (b) also descriptive of period during which a flower is open and functional.

ANTHOCARP A structure that includes a fruit united with the perianth or the receptacle; e.g., Nyctaginaceae.

ANTHOCYANIN A red, purplish, or blue water-soluble pigment found in most flowers. The color of these pigments is affected by pH (e.g., in *Hydrangea*); chemically, anthocyanins are phenolic.

ANTIPETALOUS Referring to stamens that are of the same number as, and borne in front of (= on the same radius as) the petals or corolla lobes.

ANTISEPALOUS Referring to stamens that are of the same number as, and borne in front of (= on the same radius as) the sepals or calyx lobes.

ANTORSE Directed toward the summit, upward, or forward; e.g., pubescence directed up the stem, the free end of the hair above or distal to the attached end; contrasting with retrorse.

ANTORSELY BARBED With barbs (= points) pointing upward toward the summit or apex.

APETALOUS Having flowers without petals.

APETALY The condition of being without petals.

APETURE An opening.

APEX (pl. APICES) The tip or summit.

APHYLLOPODIC Lacking leaves at the base.

APHYLLOUS Leafless; e.g., Cuscutaceae.

APICAL At the tip or apex; relating to the apex.

APICAL BUD (= Terminal bud) Bud at the end (= apex) of a stem or branch.

APICULATE Having a small sharp point formed by blade tissue (of a leaf, sepal, or petal) rather than by projection of a rib or vein; with an abrupt tip or projection.

APOCARPOUS With the carpels separate or free from one another.

APOGAMOUS Forming a sporophyte without the union of gametes.

APOMIXIS A collective term for reproduction, including vegetative propagation, that does not involve sexual processes; any form of asexual reproduction.

APOPETALOUS (= Polypetalous) Referring to a corolla consisting of separate petals.

APOPHYSIS Swelling or enlargement of the surface of an organ.

APOSEPALOUS (= Polysepalous) Referring to a calyx consisting of separate sepals.

APPENDAGE Any attached structure that is supplementary or secondary.

APPENDICULATE With an appendage.

APPRESSED (= Adpressed) Lying flat against a surface.

APPROXIMATE Close together.

AQUATIC Living in water.

ARACHNOID, ARACHNOSE Cobwebby; cobweb-like, with entangled, slender, loose hairs; thinly pubescent with relatively long, usually appressed and interlaced hairs.

ARBORESCENT Tree-like or becoming tree-like.

ARCHEGONIUM Female sexual organ; structure forming female gametes, typically found in less derived plants (e.g., ferns) but so reduced evolutionarily as to not be present in flowering plants.

ARCuate Curved or bent like a bow, often used in reference to curving veins.

ARENACEOUS Sand-like or growing in sand.

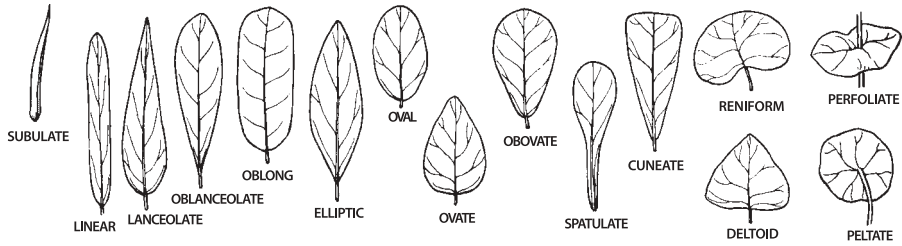
AREOLATE Divided into small angular spaces; marked with areolae.

AREOLE, AREOLA (pl. AREOLAE) (a) Small space marked out on a surface, usually referring to the space bounded by veinlets on the surface of a leaf; (b) the small spine-bearing areas on a cactus stem.

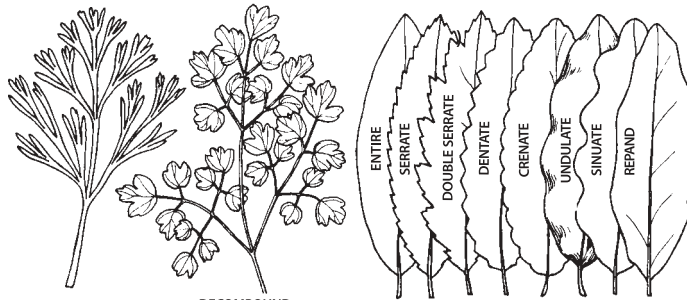
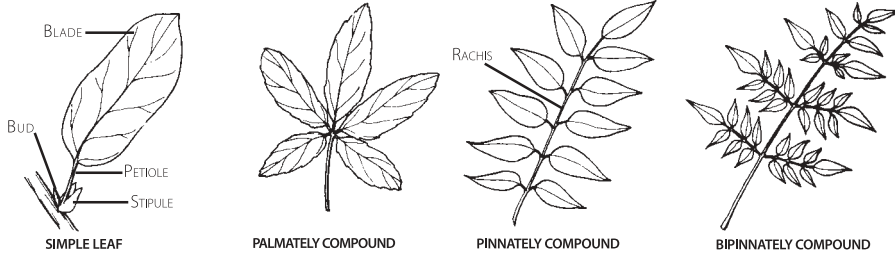
ARGILLACEOUS Clayey; growing in clay or clay-like material.

ARIL An appendage or covering on a seed, typically involved in dispersal by animals.

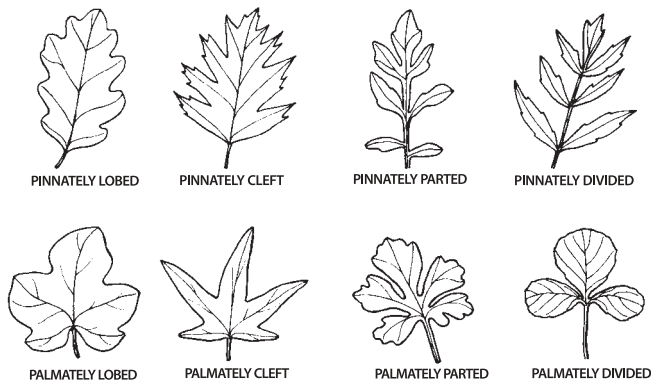
LEAF CHARACTERS



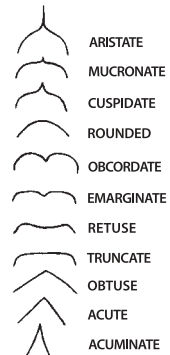
LEAF SHAPES



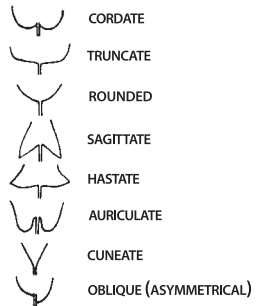
MARGINS



APEX OF BLADE



BASE OF BLADE



ARILLATE With an aril.

ARISTATE Bearing a stiff awn or bristle.

ARISTULATE Diminutive of aristate.

ARMED Possessing sharp projections; e.g., prickles, spines, or thorns.

AROMATIC (a) Generally, having a fragrant odor; (b) chemically, containing or patterned after benzene rings, with or without fragrance.

ARTICLE The individual unit of a constricted or jointed fruit; e.g., in some Fabaceae such as *Desmodium*.

ARTICULATE Jointed; joined.

ARTICULATION A separation place; joint.

ASCENDING, ASCENDENT Rising at an oblique angle.

ASEPALOUS Without sepals.

ASEXUAL Without sex; reproducing without sex.

ASPEROUS Rough to the touch.

ASSURGENT Ascending, rising.

ASTYLOUS Without a style.

ASYMMETRICAL Without symmetry.

ATOMIFEROUS Bearing very fine glands.

ATROCASTANEOUS Very dark chestnut-colored.

ATROPURPUREOUS Dark purple; purple-black.

ATTENUATE Gradually tapering to a very slender tip, the taper more gradual than in acuminate.

ATYPICAL Not typical; deviating from the norm.

AURICLE Earlobe-like lobe or appendage; e.g., at the base of some leaves, sepals, etc.

AURICULATE With an auricle.

AUTOTROPHIC Descriptive of an organism capable of making its own food, usually through photosynthesis; free living, not parasitic or saprophytic; e.g., green plants.

AUTUMNAL Associated with or occurring in the fall of the year.

AWL-SHAPED (= Subulate) Tapering from the base to a slender or stiff point; narrow and sharp-pointed.

AWN Terminal slender bristle or hair-like extension or projection; e.g., in grasses, the prolongation of the midnerve of the glumes or lemmas.

AWN COLUMN In certain grasses, a prominent narrowed beak at the apex of the lemma. The awns arise from this structure.

AXIAL Relating to the axis.

AXIL Angle between two organs; e.g., upper angle formed by a leaf and a stem.

AXILE or **AXILLARY PLACENTATION** Placentation with the ovules attached to the central axis of the ovary.

AXILLARY In an axil; e.g., in the angle between a leaf and a stem.

AXIS (pl. *AXES*) (a) the central stem from which organs arise; (b) a portion of a plant from which a series of organs arises radially; e.g., the axis of an inflorescence.

B

BACCATE Resembling or having the structure of a berry; berry-like.

BALLISTIC Referring to fruits that are forcibly or elastically dehiscent, whose seeds are thrown catapult-like; e.g., *Phyllanthus* (Euphorbiaceae).

BANNER (= Standard) Adaxial and typically largest petal of a

papilionaceous flower.

BARBED With short reflexed points like a multi-pronged fishhook.

BARBELLATE Diminutive of barbed; with short, fine, stiff hairs.

BARK Outer (= external to vascular cambium) protective tissues on the stems or roots of woody plants.

BASAL Located at the base of a plant or of an organ.

BASAL ROSETTE Cluster of leaves on or near the ground.

BASAL STYLE Style projecting from among the lobes of a deeply lobed ovary.

BASIFIXED Attached basally, typically referring to attachment of an anther to a filament; contrasting with either dorsifixed or versatile.

BASILAMINAR At base of blade of leaf or other structure.

BASIPETAL Developing or maturing in succession from the apex toward the base.

BASISCOPIIC Directed toward the base.

BASONYM The original epithet assigned to a species (or other taxon of lower rank) by its author.

BEAK A long, prominent, and relatively thickened point; a tapering projection; e.g., projection on a fruit resulting from a persistent style.

BEAKED Ending in a beak.

BEARD A group of long awns or bristle-like trichomes; a zone of pubescence; e.g., on some corollas.

BEARDED Bearing long or stiff hairs, typically in a line or tuft.

BERRY Indehiscent type of fruit with the entire pericarp fleshy and lacking a stone, usually with several to many seeds; e.g., tomato, grape.

BETALAINS Reddish, nitrogen-containing pigments (characteristic of most Caryophyllidae) that derive their name from the genus *Beta* (beets).

Bi-, Bis- Latin prefix signifying two, twice, or doubly.

BICOLORED Two-colored.

BICONVEX Convex on both sides.

BIDENTATE Two-toothed.

BIENNIAL Plant or root system living only two years (growing seasons), typically producing only leafy growth the first year, then flowering and dying the second.

BIFID Two-cleft, usually deeply so; with two lobes or segments.

BIFURCATE Two-forked; e.g., some Y-shaped trichomes, stigmas, or styles.

BILABiate Two-lipped, typically referring to corollas or calyces.

BILATERAL Arranged on two sides; two-sided.

BILATERALLY SYMMETRICAL With only one plane of symmetry; divisible into halves in one plane only.

BILOCULAR Having two cavities.

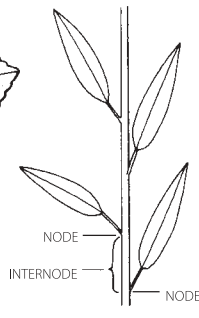
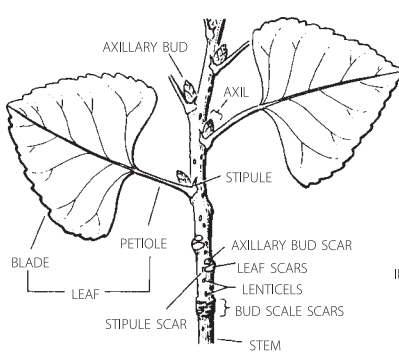
BINOMIAL The combination of a generic name and a specific epithet given to each species.

BINOMIAL NOMENCLATURE System of nomenclature where each species has a two-part name composed of a generic name and a specific epithet.

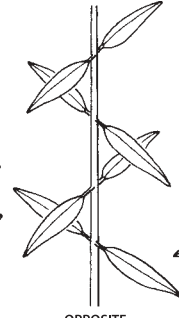
BIPARTITE Two-parted; divided into two parts nearly to the base.

BIPINNATE (= Twice-pinnate or 2-pinnate) Descriptive of a leaf with leaflets pinnately arranged on lateral axes that are themselves pinnately arranged on the main axis; with the primary divisions (pinnae) themselves pinnate.

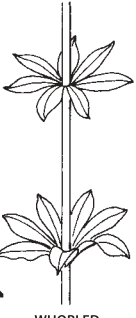
LEAF AND TWIG STRUCTURE AND ARRANGEMENT



ALTERNATE



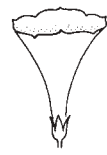
OPPOSITE LEAVES 2-RANKED



OPPOSITE LEAVES 4-RANKED

WHORLED

FLOWER SHAPE



FUNNEL-SHAPED (FUNNELFORM)



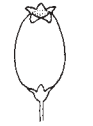
SALVERFORM



ROTATE



BELL-SHAPED (CAMPANULATE)



URN-SHAPED (URCEOLATE)

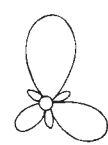


2-LIPPED (BILABIATE)

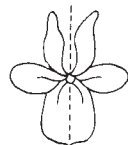


PEA-LIKE (PAPILLIONACEOUS)

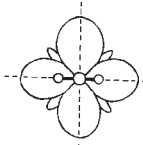
FLOWER SYMMETRY



ASYMMETRIC

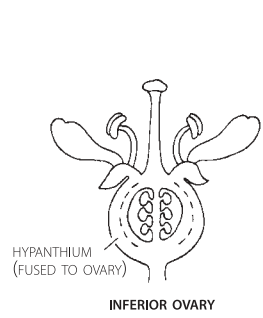


BILATERAL

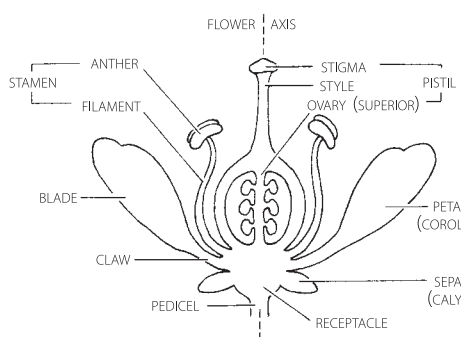


RADIAL

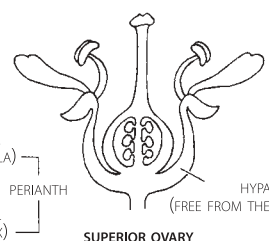
FLOWER STRUCTURE



INFERIOR OVARY



BISEXUAL FLOWER



SUPERIOR OVARY

BISECTED Completely divided into two parts.

BISERIATE In two whorls or cycles; e.g., a perianth with both calyx and corolla.

BISEXUAL FLOWER Type of flower with both stamens and pistil(s) functional within the same flower.

BIVALVATE Opening by two valves.

BLADDER (a) A thin-walled, inflated structure; (b) a hollow, membranaceous appendage that traps insects; e.g., *Utricularia* (Lentibulariaceae).

BLADDERY Thin-walled and inflated; like the bladder of an animal.

BLADE Flat, expanded portion, as the main part of a leaf or petal.

BLOOM (a) Flower or flowering; (b) coating of white wax or powder, as on plums or grapes.

BOLE The main trunk or stem of a tree.

BOSS A protrusion.

BRACKISH Somewhat salty.

BRACT A modified reduced leaf typically subtending a flower or cluster of flowers. Bracts can vary from very leaf-like to scale-like or thread-like; in some cases they can be colorful and attract pollinators.

BRACTEAL Having the form or position of a bract.

BRACTEATE Having bracts.

BRACTEOLATE Having bracteoles.

BRACTEOLE, BRACTLET A usually small bract borne on a secondary axis (e.g., on a pedicel).

BRACTEOSE Having numerous or conspicuous bracts.

BRANCH A shoot or secondary stem growing from the main stem.

BRANCHLET The ultimate division of a branch.

BRISTLE Stiff, strong but slender hair or trichome.

BRISTLY Bearing bristles.

BROAD (= Wide) Distance across a structure (equal to diameter if tubular); sometimes restricted to signify the width or diameter of three-dimensional structures.

BRYOPHYTA Group containing the mosses, liverworts, and hornworts. The Bryophyta is not treated in this flora.

BUD (a) Undeveloped or unopened flower; (b) undeveloped, much-condensed shoots, containing embryonic (meristematic or growing) tissue, usually covered by scales or bracts. Such buds are usually found at the tips of stems or in the axils of leaves.

BULB Underground structure composed of a short, disc-like stem and one or more buds surrounded by layers of thickened fleshy leaf bases or scales; e.g., an onion.

BULBIL Small bulbs produced in an inflorescence or in leaf axils; e.g., in *Allium* inflorescences.

BULBLET Small bulbs produced alongside a parent bulb; e.g., the numerous underground small bulbs produced by some garlics.

BULBOUS, BULBOSE Having bulbs or bulb-like structures.

BULLATE Describing a surface with rounded elevations resembling blisters or puckers.

BUR, BURR A structure with a rough or prickly envelope or covering; e.g., sandbur.

BUSH (= Shrub) A woody perennial usually branching from the base with several main stems.

C

CA. Latin, circa; abbreviation meaning about, around, approximately.

CADUCOUS Falling off early, quickly, or prematurely; e.g., the sepals in some Papaveraceae.

CAESPITOSE (= Cespitose) Growing in clumps or tufts.

CALCARATE With a spur.

CALCAREOUS Containing an excess of available calcium, usually in the form of the compound calcium carbonate; containing limestone or chalk.

CALICHE A crust of calcium carbonate formed on stony soils in arid regions.

CALLOSITY (= Callus). A hard protuberance or thickened, raised area.

CALLOUS Having the texture of a callus.

CALLUS (= Callosity). A hard protuberance or thickened, raised area; e.g., thickened, hardened, basal portion of some lemmas in the Poaceae.

CALYCINE Resembling or pertaining to a calyx.

CALYCLATE Calyx-like; e.g., describing bracts that by their size or position are suggestive of a calyx.

CALYPTRA A lid, cap, cover, or hood; e.g., the lid of certain fruits and moss spore cases.

CALYX (pl. CALYCES, CALYXES) Collective term for the sepals; outer series of floral "leaves", often enclosing the other flower parts in bud. The calyx is typically green but can be corolla-like and showy.

CALYX LOBE One of the free projecting parts of a synsepalous calyx; also referred to as a calyx tooth.

CALYX TUBE The basal or tubular portion of a synsepalous calyx, as opposed to the free, distal, calyx lobes.

CAMBium The thin layer of delicate, rapidly dividing, meristematic cells that forms wood internally and bark externally; also known as vascular cambium.

CAMPANULATE Bell-shaped; rounded at base with a broad flaring rim.

CAMPYLOTROPUS OVULE Ovule curved in its development, so that the morphological apex lies near the base.

CANALICULATE Longitudinally channeled or grooved.

CANCELLATE Latticed.

CANE Stem, specifically (a) floricanes, the flowering stem of *Rubus* species (blackberries and dewberries); (b) primocane, first-year leafy stem of the same; (c) persistent woody stems of *Arundinaria gigantea*, giant cane.

CANESCENT With whitish or grayish-white appearance due to abundance of soft short hairs.

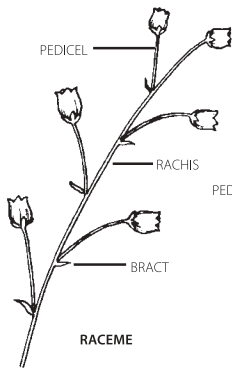
CAP A convex, lid-like, removable covering; e.g., the apical portion of a circumscissile capsule. The term calyptra is used for the cap of some fruits and moss spore cases.

CAPILLARY Hair-like; very slender.

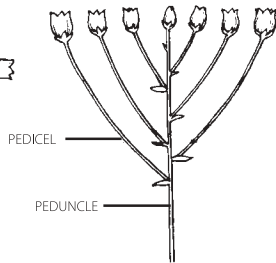
CAPITATE (a) In heads, head-like, or head-shaped; aggregated into a dense or compact cluster; (b) referring to capitate hairs, like a pin-head on a stalk.

CAPITELLATE Aggregated into a small, dense cluster; diminutive of capitate.

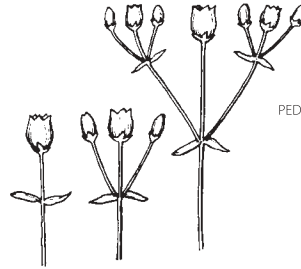
TYPES OF INFLORESCENCES



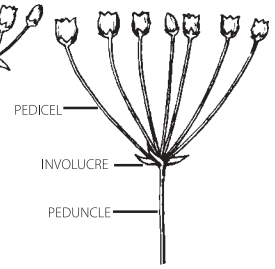
RACEME



CORYMB



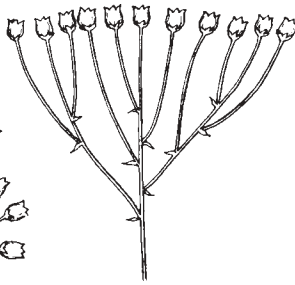
CYME



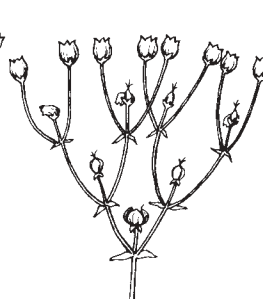
UMBEL



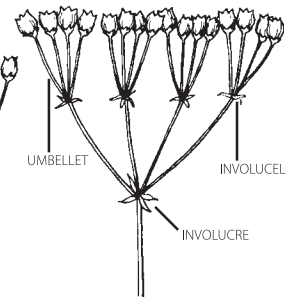
PANICLE



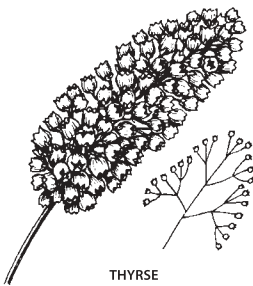
COMPOUND CORYMB



DICHOTOMOUS CYME



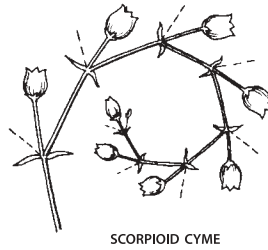
COMPOUND UMBEL



THYRSE



SPIKE



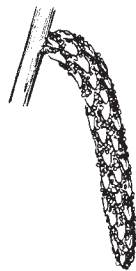
SCORPIOID CYME



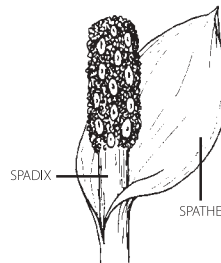
HEAD



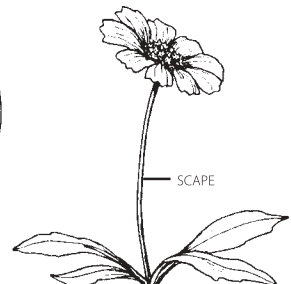
VERTICAL



AMENT (CATKIN)



SPADIX



HEAD (ANTHODIUM)

CAPITULUM (= Head) Dense cluster of sessile or nearly sessile flowers. This type of inflorescence is typical of the Asteraceae.

CAPSULAR Having the structure of a capsule.

CAPSULE A dry dehiscent fruit developed from more than one carpel.

CARCINOGEN A substance potentially inducing cancer or malignancy.

CARDIAC GLYCOSIDE A glycoside (two-component molecule) that upon breakdown yields a heart stimulant as the aglycone (= non-sugar component). The aglycones are steroidal in structure and are typically poisonous; e.g., digoxin and digitoxin from *Digitalis*, used as in treating heart trouble.

CARINA (= Keel) The two lower (= abaxial) fused petals of a papilionaceous flower (Fabaceae); (b) prominent longitudinal ridge, shaped like the keel of a boat.

CARINATE Keel-shaped; provided with a ridge or keel extending lengthwise along the middle. If more than one keel is present, the fact may be indicated by a numerical prefix.

CARNIVOROUS Referring to plants that digest animal (primarily insect) tissue to obtain nutrients such as nitrogen.

CARNOSE Fleshy; succulent.

CARPEL A modified leaf bearing ovules; a simple pistil or one unit of a compound pistil; female reproductive structure in flowering plants.

CARPELLATE Possessing carpels. The term is sometimes used with a numerical prefix to indicate the number of carpels.

CARPOPHORE The slender prolongation of the floral axis between the carpels that supports the pendulous fruit segments (= mericarps) in the Apiaceae.

CARTILAGINOUS Tough and hard but not bony; gristly; cartilage-like.

CARUNCLE Enlarged, somewhat spongy, seed appendage.

CARYOPSIS Achene-like, 1-seeded fruit with pericarp adnate to the seed coat; fruit typical of the Poaceae.

CASTANEOUS Chestnut-colored; dark brown.

CATKIN (= Ament) A flexible often pendulous spike or spike-like raceme of small, inconspicuous, unisexual, apetalous, usually wind-pollinated flowers, the whole falling as one piece; e.g., male inflorescence of oaks or pecan.

CAUDATE Having a tail or tail-like appendage.

CAUDEX (pl. CAUDICES) Woody stem base.

CAULESCENT With an evident leafy stem above ground.

CAULIFLOROUS Having flowers borne along the stems or trunks.

CAULINE Growing on or pertaining to the stem.

CELL (a) One of the living units of which a plant is composed; (b) (= locule) cavity or compartment containing the ovules in a carpel or the pollen in an anther.

CENTRIFUGAL Maturation of parts from the center toward the periphery.

CENTRIPETAL Maturation of parts from the periphery toward the center.

CERACEOUS Waxy.

CERIFEROUS Wax-bearing; waxy.

CERNUOUS Nodding or drooping.

CESPITOSE (= Caespitose) Growing in clumps or tufts.

CHAFF Thin, dry, or membranous scales or bracts, often used to refer to receptacular scales or bracts in many Asteraceae; see

pale or palea.

CHAFFY Thin, dry, or membranous.

CHALAZA The basal part of the ovule where it attaches to the funiculus.

CHANNELED Deeply grooved.

CHARTACEOUS Stiffly papery.

CHASMOGAMOUS Referring to flowers that open at anthesis; with pollination after opening of flowers; contrasting with cleistogamous.

CHIROPTEROPHILY, CHIROPTEROPHILOUS Bat-pollination.

CHLOROPHYLL The light-capturing pigment giving the green color to plants. Because chlorophyll absorbs less green than other wavelengths of light (and thus reflects and transmits relatively more green), leaves appear green to the human eye.

CHORIPETALOUS Composed of or characterized by separate petals.

CHORISEPALOUS Composed of or characterized by separate sepals.

CHROMOSOMES Thread-like "colored bodies" occurring in the nuclei of cells and containing the genetic material.

CLILATE With a marginal fringe of hairs similar to eye lashes.

CLILATE Diminutive of ciliate.

CLILUM (pl. CLILIA) Marginal hair or trichome.

CINCINNUS A curl; e.g., a helicoid (= curled or coiled) cyme, as in the Boraginaceae.

CINEREOUS Ash-colored; light-gray.

CIRCINATE Coiled, with the apex innermost, as the young fronds in some ferns.

CIRCUMSCISSILE Dehiscing by a regular transverse line around the fruit or anther, the top coming off like a lid.

CIRRHOUS Tendril-like; e.g., a leaf with a slender coiled apex.

CLADOPHYLL, CLADODE (= Phylloclade) A portion of a stem having the general form and function of a leaf; a flattened photosynthetic stem.

CLAMBERING Vine-like; growing over other plants often without the aid of tendrils or twining stems.

CLASPING (= Amplexicaul) With base of leaf or other structure (e.g., stipule) wholly or partly surrounding the stem.

CLASS The unit, category, or rank in classification made up of one or more orders; ending in -ae or -opsida; sometimes divided into subclasses which in turn are made of orders.

CLATHRATE Latticed; with a series of crossed members.

CLAVATE Club-shaped; becoming gradually enlarged apically.

CLAVELLATE Diminutive of clavate.

CLAW Stalk-like basal portion of some petals or sepals.

CLAWED Having a claw.

CLEFT (a) Cut 1/2 or more the distance from the margin to midrib or from the apex to base; (b) generally, any deep cut.

CLEISTOGAM A small flower that does not open and is necessarily self-pollinating.

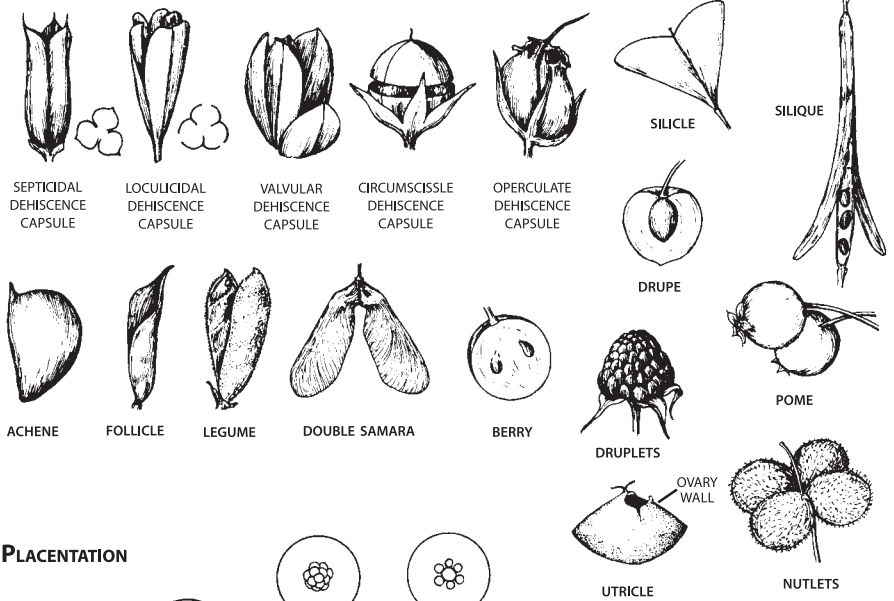
CLEISTOGAMOUS, CLEISTOGAMIC Referring to flowers not opening at anthesis and thus self-pollinating; with pollination prior to opening of flowers. Such flowers frequently have reduced or incompletely formed parts (e.g., petals).

CLEISTOGAMY The self-pollination of flowers that do not open.

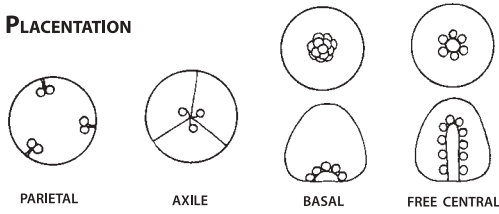
CLONE A group of individuals of the same genotype, usually propagated vegetatively.

TYPES OF FRUITS AND ROOT AND STEM VARIATIONS

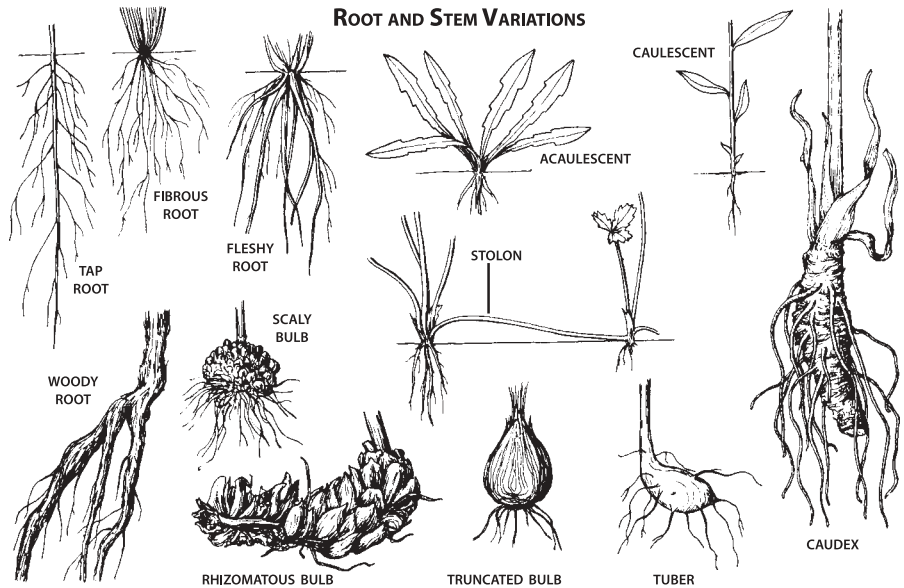
TYPES OF FRUIT



PLACENTATION



ROOT AND STEM VARIATIONS



CLUMP A single plant with two to many, more or less crowded stems arising from a branched rootstock or short rhizome.

CM Centimeter; 10 mm; 1/100 of a meter; ca. 2/5 of an inch.

COALESCENT Referring to organs of one kind that have grown together.

COARCTATE Crowded together.

COB Rachis or central stalk of the pistillate inflorescence of corn.

COCCUS (pl. Cocco) (a) a berry; (b) one of the parts of a lobed or deeply divided fruit with 1-seeded sections.

COCHLEATE Coiled like a snail shell; spiral.

COETANEOUS At the same time or of the same age; e.g., flowers and leaves appearing at the same time.

COHERENT Descriptive of the close association of two similar structures without fusion.

COLLAR The outer side of a grass leaf at the junction of the blade and sheath.

COLLATERAL Located side by side; e.g., ovules located side by side; e.g., accessory buds located on either side of a lateral bud.

COLUMELLA The persistent central axis around which the carpels of some fruits are arranged.

COLONIAL Forming colonies usually by means of underground rhizomes, stolons, etc. The term is commonly used to describe groups of plants with asexual reproduction.

COLONY A stand, group, or population of plants of one species, spreading vegetatively, or from seeds, or both.

-COLPATE A suffix referring to pollen grains having grooves (= colp).

-COLPORATE A suffix referring to pollen grains having grooves and pores.

COLUMN (a) United style and filaments in Orchidaceae; (b) united filaments in Malvaceae and Asclepiadaceae; (c) basal differentiated portion of the awn(s) in certain grasses.

COLUMNAR Column-shaped.

COMA (a) A tuft of soft hairs or trichomes, as at the apices or bases of some seeds; (b) tuft of structures projecting from something (e.g., tuft of bracts projecting from heads of some *Eryngium* species).

COMATE, COMOSE Resembling or provided with a coma.

COMMISURE The surface where organs are joined; e.g., the face by which one carpel joins another.

COMPLANATE Flattened.

COMPLETE With all of the usual parts; e.g., a flower with all four flower parts: sepals, petals, stamens, and pistils.

COMPLICATE Folded together.

COMPOSITE (a) (= Compound) made up of several distinct parts; (b) common name for species of the Asteraceae.

COMPOUND (= Composite) Made up of several distinct parts.

COMPOUND INFLORESCENCE One having two or more degrees of branching; e.g., a compound umbel is one whose branches bear branchlets rather than ending directly in flowers.

COMPOUND LEAF A leaf that is cut completely to the base or midrib into segments (= leaflets) resembling miniature leaves; a leaf with two or more leaflets.

COMPOUND OVARY Ovary developed from two or more united carpels, as evidenced by the presence of two or more locules, valves, placentae, styles, or stigmas.

COMPOUND PISTIL Pistil composed of two or more united carpels.

COMPRESSED Flattened.

CONCAVE Hollow; with a depression on the surface.

CONCOLOR, CONCOLOROUS Of a uniform color.

CONDUPLICATE Folded together lengthwise.

CONE (= Strobilus) A usually globose or cylindrical structure involved in reproduction and composed of an axis with a spiral, usually dense aggregation of sporophylls, bracts, or scales (these bearing spores, pollen, or seeds).

CONFLUENT Blending of one part into another.

CONGESTED Crowded together.

CONGLOMERATE Densely clustered.

CONICAL, CONIC Cone-shaped.

CONIFEROUS Cone-bearing.

CONJUGATE Jointed in pairs.

CONNATE United or fused, when the fusion involves two or more similar structures; e.g., as in fusion of stamens into a tube.

CONNATE-PERFOLIATE Both connate and perfoliate; e.g., two leaves grown together and completely encircling a stem; e.g., in *Eupatorium perfoliatum*.

CONNECTIVE The tissue connecting the pollen-sacs of an anther. In certain plants the connective is prolonged at its base or apex.

CONNIVENT Converging or nearly or quite in contact, but not fused; e.g., connivent stamens in *Solanum*.

CONSERVED Term applied to a scientific name whose use, even though illegitimate according to nomenclatural rules, is allowed by the International Code of Botanical Nomenclature; e.g., many family names long in use, such as Cactaceae and Caryophyllaceae, have been conserved to prevent confusion.

CONSPECIFIC Of the same species.

CONSTRICTED Tightened or drawn together or narrowed.

CONTACT DERMATITIS Inflammation of the skin due to contact with poisons, irritants, or sensitizers. In some individuals it can be caused by even the slightest contact; caused by a variety of plants including poison-ivy (*Toxicodendron radicans*).

CONTIGUOUS Touching, but not fused.

CONTINUOUS Not interrupted; not articulated; not jointed.

CONTORTED Twisted or distorted.

CONTRACTED Narrowed or shortened; reduced in size.

CONTRARY In an opposite direction or at right angles to.

CONVERGENT Coming together or approaching.

CONVEX Rounded or bulged on the surface.

CONVOLUTE Rolled or twisted together when in an undeveloped stage.

CORALLOID Coral-like.

CORDATE, CORDIFORM (a) Heart-shaped; with a notch at the base and ovate in outline (the words apply specifically to flat surfaces and to solid shapes, respectively); (b) often referring only to the notched base of a structure; e.g., leaf base.

CORIACEOUS With texture like leather; tough; leathery.

CORM Bulb-like usually subterranean stem base, solid instead of with layers of modified leaves as in a true bulb.

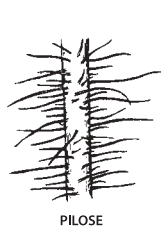
CORMOUS Having a corm.

CORNEOUS Horny in texture.

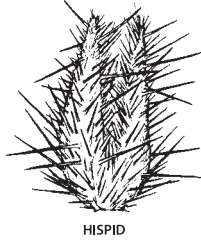
CORNICULATE Bearing a small horn or horns.

CORNUTE Horned or spurred.

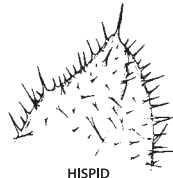
TYPES OF PUBESCENCE



PILOSE



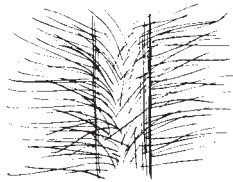
HISPID



HISPID



PILOSE-HISPID



HIRSUTE



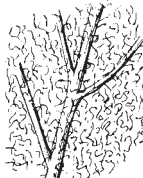
VILLOUS



HIRSUTE-VILLOUS



LANATE



DOWNY



EDGE OF LEAF



TOMENTOSE



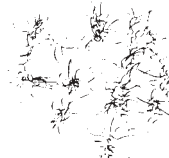
EDGE VIEW



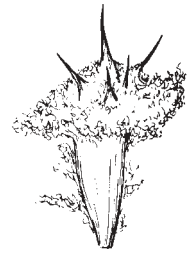
VELUTINOUS



ARACHNOID



FLOCCOSE



ARACHNOID-FLOCCOSE



STRIGOSE



SERICEOUS



COROLLA Collective term for the petals; the inner series of floral "leaves." Corollas are typically but not always colorful and showy.

COROLLA LOBE A free projecting part of a synsepalous corolla; also referred to as a corolla tooth.

COROLLA TUBE The basal or tubular portion of a synsepalous corolla, as opposed to the free, distal, corolla lobes.

CORONA (= Crown) Projection or outgrowth of a corolla, perianth, or anthers, in the form of a fringe, cup, or tube, sometimes greatly resembling an extra corolla or perianth.

CORONIFORM SCALES Membranous scales broader than long.

CORPUSCULUM In Asclepiadaceae, the gland-like clip connecting the two bands (= filament-like retinacula) attached to the pollinia; part of the translator.

CORRUGATE Having wrinkles or folds.

CORTEX (a) The tissue between the stele and epidermis of a stem; (b) bark or rind.

CORYMB A more or less flat-topped inflorescence (resulting from lower branches being longer than upper) that is indeterminate (i.e., with the outer flowers opening first); inflorescence superficially similar to an umbel but with the branches arising at different points rather than one.

CORYMBIFORM Shaped like a corymb.

CORYMBOSE In corymbs or corymb-like inflorescences (i.e., flat-topped).

COSTA (pl. *COSTAE*) A rib; the midvein of a leaf.

COSTATE Longitudinally ribbed.

COSTULES Midveins of the pinnules.

COTYLEDON Seed leaf; main leaf or leaves of the embryonic plant.

COUMARIN GLYCOSIDE A glycoside (two-component molecule) that upon breakdown yields coumarin as the aglycone (= non-sugar component). Coumarin can be converted to dicoumarin, a toxic compound which prevents blood-clotting; e.g., in *Melilotus*.

CRATERIFORM In the shape of a saucer; shallow and hemispherical.

CREeping Growing along the surface of the ground and emitting roots at intervals, usually from the nodes.

CRENATE Scalloped with rounded teeth; shallowly round-toothed or with teeth obtuse.

CRENULATE Diminutive of crenate; with small rounded teeth.

CREST An elevated ridge, process, or appendage on the surface of an organ or structure.

CRESTED Having a crest.

CRISPATE, CRISPED Irregularly curled or twisted.

CROSS-SECTION A slice cut across an object; e.g., a slice of bread.

CROWN (a) An irregular perennial or over-wintering stem or stem-root structure from which new growth arises; (b) (= Corona) projection or outgrowth of a corolla, perianth, or anthers, in the form of a fringe, cup, or tube, sometimes greatly resembling an extra corolla or perianth.

CROZIER A young coiled leaf of some ferns.

CRUCIATE, CRUCIFORM Cross-shaped.

CRUCIFEROUS (a) Cross-bearing; (b) specifically descriptive of cross-like arrangement of petals of members of the Brassicaceae (Cruciferae).

CRUSTACEOUS, CRUSTOSE With a brittle, hard texture.

CRYPTOGAMS An old term for plants that reproduce without flowers or seeds. Cryptogams typically reproduce by spores.

CRYSTALLINE Crystal-like.

CUCULLATE Hood-like.

CULM Stem of Poaceae and Cyperaceae.

CULTIGEN A plant known only in cultivation.

CULTIVAR A variety or race of a cultivated plant; abbreviated cv.

CUNEATE, CUNEIFORM Wedge-shaped; triangular with tapering, straight-sided, narrow base.

CUP, CUPULE The cup-like structure at the base of a fruit; e.g., acorn.

CUPULIFORM, CUPULATE Cup-shaped.

CURVI- A prefix to denote curved or bent.

CUSP A sharp, abrupt, and often rigid point.

CUSPIDATE Bearing a cusp or strong sharp point.

CUT A general term for any dissection of a leaf or petal deeper than a lobe.

CUTICLE The waxy, more or less waterproof coating secreted by the cells of the epidermis. The cuticle prevents water loss.

CYANOGENIC GLYCOSIDE A glycoside (two-component molecule) that upon breakdown yields hydrocyanic (prussic) acid (HCN) as the aglycone (= non-sugar component). Hydrocyanic acid is extremely dangerous, causing cyanide poisoning; e.g., amygdalin in cherry and peach leaves or apple seeds (Rosaceae).

CYATHIFORM Cup-shaped.

CYATHIUM (pl. *CYATHIA*) (a) Cup-shaped structure producing unisexual flowers; (b) specifically, the units of the inflorescence in *Euphorbia*. In this case the cup contains a single pistillate flower and a number of staminate flowers, each consisting of a single stamen; on the rim of the cup there are glands and these often have a petal-like appendage; the whole structure superficially resembles a single flower.

-CYCLIC A suffix referring to the circles of different parts in a flower, commonly used with a numerical prefix; e.g., a *Verbascum* flower with sepals, a corolla, stamens, and an ovary is four-cyclic; compare with -merous.

CYLINDRICAL, CYLINDRIC Elongate, circular in cross-section; having the form of a cylinder.

CYMBIFORM Boat-like or boat-shaped.

CYME A broad, flattish or convex, determinate inflorescence with the central flowers maturing first.

CYMOSE With the flowers in cymes; having an inflorescence type with the oldest flowers in the center.

CYMULE A small or few-flowered cyme.

CYPSELA Achene derived from an inferior ovary and adnate to the enclosing floral tube; e.g., in Asteraceae.

CYSTOLITH A stone-like mineral concretion, usually of calcium carbonate.

CD

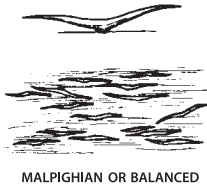
DC. De Candolle, name of a distinguished family of Swiss botanists; specifically Augustin Pyramus, who sponsored early botanical exploration in Texas by Berlandier, and named many Texas species; A. DC.: Alphonse, son of the preceding.

DECIDUOUS Falling away; not persistent over a long period of time.

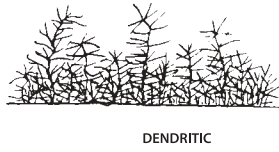
DECLINATE, DECLINED Bent forward or downward.

DECOMPOUND More than once compound.

TYPES OF HAIRS AND PROCESSES



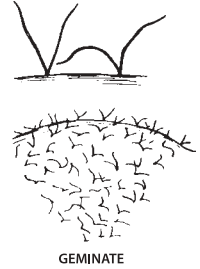
MALPIGHIAN OR BALANCED



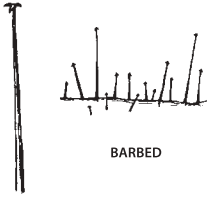
DENDRITIC



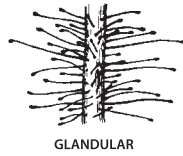
CILIATE



GEMINATE



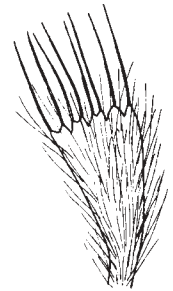
BARBED



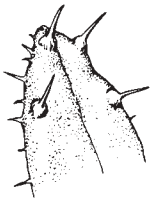
GLANDULAR



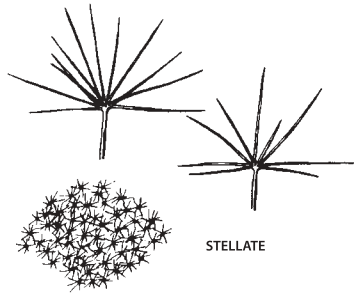
CILIATE



FLAGELLIFORM BRISTLES



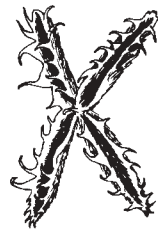
PUSTULATE



STELLATE



SQUAMELLATE



PECTINATE



MONILIFORM



FIMBRIATE



HAMATE

DECUMBENT Lying flat or reclining with terminal shoots or stem tips ascending.

DECURRENT Extending down the stem and united with it, as in the continuation of leaf bases down the stem as wings.

DECURVED Curved downward.

DECUSSATE Arranged oppositely in pairs, each successive pair at right angles to the preceding one (resulting in the appearance of four rows), typically referring to arrangement of leaves.

DEFLEXED Bent downward.

DEFOLIATE To shed or remove leaves.

DEHISCENT, DEHISCENT To open at maturity to discharge the contents; e.g.; fruit releasing seeds or anther releasing pollen.

DEHISCENCE The process or act of opening.

DELIQUESCENT Softening, dissolving, melting away, or wasting away; e.g., ephemeral petals of *Tradescantia*.

DELTATE, DELTOID Shaped like an equilateral triangle, like the Greek letter delta (Δ).

DENDRITIC Tree-like, as in branching.

DENTATE With sharp teeth not directed forward.

DENTICULATE Minutely dentate.

DEPAUPERATE Smaller than the usual natural size; short of the usual development; stunted; impoverished.

DEPRESSED Low as if flattened.

DERMATITIS Inflammation of the skin due to exposure to poisons, irritants, or sensitizers. It can be caused by a number of plants including poison ivy.

DESCENDING With a gradual downward tendency.

DETERMINATE Descriptive of an inflorescence whose flowers begin to open first at the top or center, progressing downward or outward; with the number of flowers fixed or limited in number; contrasting with indeterminate.

DI-, DIS- Greek prefix meaning two or double.

DIADELPHOUS With filaments united so as to form two groups of stamens. The most common situation is nine in a group and a tenth separate; e.g., numerous Fabaceae.

DIANDROUS Having two stamens.

DIAPHANOUS Transparent.

DIAPHRAGM Dividing membrane or partition.

DICHASIAL With or in the form of a dichasium.

DICHASIMUM A cyme with lateral branches on both sides of the main axis.

DICHOTOMOUS Forking regularly into two equal or nearly equal branches.

DICOTYLEDONS (abbreviated Dicots) Flowering plants having two cotyledons, mostly net venation, and flower parts usually in 4s or 5s; one of the two classes of flowering plants which, depending on the system of classification, is known as Dicotyledonae or Magnoliopsida. The dicots are now considered to be a paraphyletic group.

DIDYMOUS Developed in or occurring in pairs; twin.

DIDYNAMOUS Having four stamens, two longer and two shorter.

DIFFUSE Loosely branching or spreading; of open growth; widely spread.

DIGITATE Fingered; with a number of structures attached at one point, like fingers on a hand.

DILATED Widened, flattened, broadened, or enlarged.

DIMIDIATE Halved, as if one half is missing.

DIMORPHIC, DIMORPHISM Occurring in two forms.

DIOECIOUS With staminate flowers on one plant (staminate plant) and pistillate flowers on a different plant (pistillate plant); literally, "two houses."

DIPLOID Possessing two sets of chromosomes in each nucleus; twice the haploid number typical for gametes.

DIPLOSTEMONOUS The stamens in two series, those of the outer series alternating with the petals.

DIPTEROPHILY, DIPTEROPHILOUS Pollination by dipterans (members of the insect order Diptera—flies, gnats, mosquitoes, and their relatives).

DISARTICULATING Separating; coming apart or falling apart.

DISC, DISK (a) A more or less fleshy or elevated development of the receptacle or of coalesced nectaries or staminodes about the pistil; (b) the central part of an Asteraceae head.

DISC FLORET (= Disk flower) In Asteraceae, small flower with tubular corolla, in disk (disc) portion of head; contrasting with ray (= ligulate) floret.

DISCIFORM (a) Shaped like a disc; (b) in Asteraceae, in reference to a head with disk florets in center and marginal florets with ligule reduced or lacking.

DISCLIMAX The condition where succession is indefinitely arrested or altered due to factors such as persistent disturbance (e.g., overgrazing).

DISCOID (a) Shaped like a disc; (b) in reference to disc (disk) florets of an Asteraceae head; (c) in reference to the head of some Asteraceae with disk florets in center and marginal florets with ligule reduced or lacking; (d) without ligulate flowers.

DISCOID HEAD In Asteraceae, a head with only disk (disc) florets.

DISCOLOROUS Having the two surfaces of a structure dissimilar in color.

DISCRETE Separate.

DISJUNCT (a) Outside the main range of a species; (b) being divided into separate groups; disconnected.

DISK FLOWER (= Disc floret) In Asteraceae, small flower with tubular corolla, in disk (disc) portion of head; contrasting with ray (= ligulate) florets.

DISPARATE Dissimilar; unequal.

DISSECTED Divided into numerous narrow or slender segments, the divisions usually deeper than lobes.

DISTAL Located at or toward the apex of a plant or organ; the terminal portion; the end opposite the attachment; contrasting with proximal.

DISTANT In reference to similar parts remote from one another; contrasting with approximate.

DISTICHOUS In two vertical rows or ranks, not spirally arranged; e.g., leaves occurring in two rows on opposite sides of a stem.

DISTINCT (= Free) Separate, not united or fused.

DISTURBED Referring to a habitat that has been altered or modified but not completely destroyed.

DIURNAL Occurring during the daytime.

DIVARICATE Very widely spreading.

DIVERGENT Spreading, but less broadly than divaricate.

DIVIDED (a) Cut 3/4—completely the distance from margin to midrib or from apex to base; (b) generally, cut deeply.

DIVISION The highest rank, category, or taxon in the plant kingdom; made up of classes; ending in -phyta; equivalent to the rank of phylum in the animal kingdom.

DM Decimeter; 10 cm.

DOCTRINE OF SIGNATURES Ancient belief that a plant structure that resembles a portion of the human body (a sign or signature) gives clues to its use. Some people believed that a creator had placed such signs to indicate the plant's value as a remedy for ailments of those body portions; e.g., *Hepatica*, named for its lobed, liver-shaped leaves, possibly useful for liver problems.

DOLABRIFORM (a) Referring to pubescence where the hairs are attached near the middle or towards (but not at) one end and are thus 2-forked; (b) having the form of an ax or hatchet.

DORMANT Not active.

DORSAL Referring to the back or outer surface of an organ; the side away from the axis; the lower or abaxial surface; contrasting with ventral.

DORSIFIXED Attached by the back or dorsal edge, often in reference to the attachment of an anther to a filament; contrasting with either basifixed or versatile.

DORSIVENTRAL Differentiated into upper and lower surfaces distinct in appearance or structure.

DOUBLE FERTILIZATION Process essentially unique to the angiosperms in which an egg unites with a sperm, forming a zygote, and a second sperm often unites with two nuclei resulting in a triploid endosperm. Double fertilization is also known in the small gymnosperm group the Gnetophyta.

DOUBLE FLOWER (a) One with more than the normal number of petals (anywhere from a few more to many times the usual number); (b) in Asteraceae, double can refer to a head with more than the normal number of ray (= ligulate) florets.

DOUBLY SERRATE With coarse serrations bearing minute teeth on their margins, the teeth angled toward the apex of the structure.

DOWNY Closely covered with short, weak, soft hairs.

DROOPING More or less erect at base but with upper part bending downward.

DRUPACEOUS Pertaining to, or of the nature of a drupe.

DRUPE One-seeded indehiscent fruit with a stony endocarp, the middle part fleshy or juicy, and an outer skin; e.g., plum or cherry.

DRUPELET A small drupe; one drupe from an aggregate fruit composed of many drupes; e.g., a blackberry is an aggregate fruit composed of drupelets.

DUPLEX Double, as in pubescence composed of two kinds of hairs.

E

E East.

E-, Ex- Latin prefixes denoting without, that parts are missing.

EBENEUS Black, ebony-like.

EBRACTEATE Without bracts.

ECHINATE Prickly.

ECILIATE Without cilia.

ECOLOGICAL INDICATOR An organism that is sensitive to pollution or some other environmental problem and can therefore be

used as an indicator or gauge of the condition of an ecosystem.

ECOTONE Transition zone between two biological communities; e.g., much of the TX is an ecotone between the eastern deciduous forest and the central North American grassland.

ECOTYPE Those individuals adapted to only one of the kinds of environment occupied by a widespread species.

EDAPHIC Pertaining to soil conditions.

EDENTATE Without teeth.

EGG A female gamete or sex cell, in flowering plants contained in an ovule.

EGLANDULAR Without glands.

ELAIOSOME An oily appendage on the seeds of some plants. These structures have apparently evolved to attract ants that act as dispersal agents.

ELIMBATE Referring to a corolla without a limb.

ELLIPSOID A solid that is elliptical in outline.

ELLIPTIC Shaped like an ellipse, with widest part at the middle; in the form of a flattened circle usually more than twice as long as wide.

ELONGATE Lengthened; stretched out.

EMARGINATE With a notch in the usually rounded apex.

EMBRYO The new plant in a seed.

EMERSED, EMERGENT Raised above and out of the water.

EMETIC A substance that causes vomiting.

ENATION Outgrowth on the surface; epidermal outgrowth.

ENDEMIC Confined geographically to or native to a single area.

ENDOCARP Innermost layer of pericarp or fruit wall.

ENDOGENOUS Produced deep within another body.

ENDOSPERM The food reserve of many angiosperm seeds.

ENSIFORM Sword-shaped; e.g., leaves of an *Iris*.

ENTIRE With smooth margins; without teeth.

ENTOMOPHILOUS, ENTOMOPHILY Pollinated by insects.

EPAPPOSE Without pappus.

EPHEMERAL Lasting for a brief period; e.g., for only one day.

EPI- Greek prefix meaning upon or on.

EPICALYX A whorl or involucre of sepal-like bracts just below the true sepals; e.g., Malvaceae.

EPICARP (= Exocarp) The outermost layer of the pericarp or fruit wall.

EPICOTYL The portion of the embryo just above the cotyledon(s); the young stem.

EPIDERMAL Relating to the epidermis.

EPIDERMIS The cellular covering of plant tissue below the cuticle.

EPIGEOUS Growing upon or above the ground.

EPIGYNOUS Borne on the ovary; indicating a flower in which the hypanthium or the basal parts of the perianth are adnate to the ovary, the perianth and stamens thus appearing to rise from the summit of an inferior ovary.

EPIGYNY The state of being epigynous.

EPIPETALOUS Descriptive of stamens in which the filaments are adnate to the corolla for all or part of their length; borne upon or arising from the petals or corolla.

EPIPHYTE A plant growing on another plant for physical support only and not parasitic; e.g., many Bromeliaceae including *Tillandsia* species.

EPIPHYTIC Having the character of an epiphyte.

EQUIDISTANT Of equal distance.

EQUITANT Overlapping in two ranks; folded lengthwise and distichous; e.g., leaves folded around a stem in the manner of the legs of a rider around a horse.

ERADIATE Lacking ray (= ligulate) florets; e.g., discoid heads in Asteraceae.

ERECT (a) Growing essentially in a vertical position (e.g., whole plant); (b) a structure perpendicular to the object to which it is attached.

ERGOT An alkaloid producing fungus, *Claviceps purpurea* (and related species).

ERGOTISM A sometimes lethal poisoning due to a number of alkaloids (e.g., lysergic acid hydroxyethylamide—LSD-like, ergotamine—vasoconstrictive) produced by ergot fungi, *Claviceps purpurea* (Fr.) Tul., *C. paspali* Stev. & Hall, and related species, which sometimes infect the inflorescences of members of the grass family (e.g., *Secale*—rye). Symptoms resulting from eating ergot-contaminated grain can include hallucinations, psychosis, convulsions, and gangrene of the extremities (due to vasoconstriction); referred to in ages past as Saint Anthony's Fire. The reference to fire resulted from the assumption that the burning sensations and blackened (gangrenous) limbs were retribution for sins. Saint Anthony, supposedly with special powers to protect against fire, infection, and epilepsy, was often prayed to for help by those with the condition. Large scale epidemics of ergotism in Europe prior to 1800, from eating bread made with contaminated grain, resulted in 1,000s of deaths; isolated instances still occur where grain purity is not controlled; ergotism is blamed by some for the hysteria that resulted in the Salem witch trials in 17th century Massachusetts. See treatment of *Secale* (Poaceae) for references.

EROSE With ragged margin, as if nibbled or chewed.

ESCAPE A cultivated plant not purposely planted but found growing as though wild.

ESCARPMENT A steep slope.

ESSENTIAL OILS Fragrant (often pleasantly so) substances that are typically rather simple terpenoid compounds (monoterpenes, sesquiterpenes). They are responsible for the fragrance of many flowers and other plant tissues and are currently used in aromatherapy; e.g., in mint family and citrus family.

ESTIPELLATE Without stipels.

ESTIPULATE Without stipules.

ETIOLATE Lengthened and deprived of color by absence of light.

EVANESCENT Of short duration; quickly lost.

EVEN-PINNATE Descriptive of a compound leaf with terminal leaflet absent; with an even number of leaflets.

EVERGREEN Remaining green through the winter.

EXALATE Without wings.

EXALBUMINOUS In reference to seeds without endosperm.

EXCENTRIC Not having the axis placed centrally.

EXCURRENT Extending beyond the tip or margin.

EXCURVED Curved outward or away from a central part.

EXFOLIATE To peel off or come off in scales, flakes, plates, layers, or shreds; e.g., some types of bark.

EXOCARP (= Epicarp) The outermost layer of the pericarp or fruit wall.

EXOTIC Foreign; not native; from another geographic area.

EXPLANATE Spread out flat.

EXPLOSIVELY DEHISCENT Descriptive of a fruit that suddenly and forcibly dehisces its seeds, with the seeds being thrown away from the plant; e.g., *Impatiens*.

EXsertED Projecting out or beyond (e.g., stamens projecting beyond the corolla); contrasting with included.

EXstIPULATE Lacking stipules.

EXtANT Still existing; contrast with extinct.

EXtINCT No longer in existence; descriptive of a species for which living representatives no longer exist. Locally extinct refers to extinction in a given geographic region.

EXtraFLORAL Outside the flower; e.g., extrafloral nectaries.

EXtrORSE Facing outward, away from the axis, typically used to refer to manner of anther dehiscence.

EXUDATE Material coming out slowly through small pores or openings.

EYE (a) The marked or contrastingly colored center of a flower; (b) a bud on a tuber; e.g., on potatoes.

F

f. (a) After an author's name: abbreviation of *filius*, the son, or "jr."; (b) abbreviation of forma or form (see next page).

FACET One of a set of small plane surfaces.

FACULTATIVE Not necessary or essential; optional; contrasting with obligate.

FALCATE Sickle-shaped, with the tip curved to one side.

FALL Outer, spreading, often recurved, and commonly bearded perianth segment in *Iris*.

FAMILY The unit, category, or rank in classification made up of one or more genera; ending in -aceae; sometimes divided into subfamilies, which in turn are made up of genera.

FARINACEOUS Mealy in texture.

FARINOSE Covered with a whitish mealy powder or mealiness.

FASCIATED With an abnormal widening and flattening of the stem as if several stems had grown together.

FASCICLE A condensed or close bundle or cluster.

FASCICULATE Congested in bundles or clusters.

FASTIGIATE In reference to branches, close together and nearly parallel.

FENESTRATE Perforated with holes, openings (windows), or translucent areas.

FERAL Wild; not cultivated.

FERRUGINEOUS Rust-colored.

FERTILE Capable of normal reproductive functions, as a fertile stamen producing pollen, a fertile pistil producing ovules, or a fertile flower normally producing fruit (although it may lack stamens); e.g., used to describe Asteraceae flowers capable of maturing achenes, irrespective of ability to produce pollen.

FERTILIZATION Union of two gametes (e.g., egg and a sperm) to form a zygote.

FETID With a disagreeable odor.

FIBRILLOSE Having small fibers or appearing finely lined.

FIBROUS Resembling or having fibers.

FIBROUS ROOT SYSTEM One with several roots about equal in size and arising from about the same place; contrasting with taproot.

-FID A suffix meaning deeply cut.

FILAMENT (a) The thread-like stalk supporting an anther; (b) a thread or thread-like structure.

FILAMENTOUS, FILAMENTOSE Composed of filaments or threads; thread-like.

FILIFEROUS With coarse marginal threads.

FILIFORM Slender; having the form of a thread; filamentous.

FIMBRIATE Fringed; with narrow or filiform appendages or segments along the margin.

FIMBRILLATE With a minute fringe.

FIRST GLUME Lowermost of the two glumes in a grass spikelet.

FISSURED Cracked or fractured.

FISTULOSE Hollow; lacking pith.

FLABELLATE, FLABELLIFORM Fan-shaped; broadly wedge-shaped.

FLACCID Lax, weak, floppy, not rigid.

FLAGELLIFORM Whip-like.

FLANGE A rim-like structure.

FLAVESCENT Yellowish or becoming yellow.

FLESHY Succulent, juicy, or pulpy.

FLEXUOUS Zigzag; bending or curving alternately in opposite directions.

FLOCCOSE Covered with tufts of soft woolly hairs.

FLOCCULENT Minutely floccose.

FLORA (a) Collective term for the plants of an area; (b) a taxonomic work on the plants of an area.

FLORAL BRACT Reduced leaf subtending a flower in the inflorescence.

FLORAL ENVELOPE The calyx or corolla; the floral "leaves."

FLORAL TUBE, FLORAL CUP Tube or cup formed by union of sepals, petals, and stamen bases. The structure can be either adnate to or free from the ovary; in some cases it is synonymous with hypanthium.

FLORET (a) Small flower in a dense cluster; (b) in reference to individual flowers of Asteraceae and Poaceae; (c) in grasses referring to the lemma and palea together with the enclosed reproductive structures.

FLORICANE Flowering stem of the genus *Rubus* (dewberries and blackberries).

FLORIFEROUS Bearing or producing flowers.

FLOWER An axis bearing stamen(s), pistil(s), or both, and in addition, often floral envelopes (= calyx and corolla); the reproductive structure of an angiosperm.

FLUTED With alternating ridges and grooves.

FOLIACEOUS Leaf-like.

FOLIAGE Collective term for the leaves of a plant.

FOLIATE With leaves.

FOLIOLATE With leaflets.

FOLIOSE Leafy.

FOLLICLE Dry, one-carpellate fruit dehiscing along one suture only.

FORB An herbaceous, non-grass-like plant.

FORKED Dichotomous; divided into two equal or nearly equal branches.

FORMA, FORM (abbreviated f.) A taxon below the rank of variety

used to refer to minor variations without distinctive geographic occurrence; e.g., occasional albinos or seasonal growth forms. This category is generally ignored in this book.

FORNICES Internal appendages in the upper throat of a corolla; e.g., in some Boraginaceae.

FOVEA (pl. FOVEAE). A pit or depression.

FOVEATE Pitted.

FOVEOLATE Minutely pitted.

FREE (= Distinct) Separate from one another.

FREE-CENTRAL PLACENTATION Placentation with the seeds attached to a central column and surrounded by a single continuous locule.

FROND The leaf of a fern, often compound or decompound.

FRUCTIFEROUS Producing or bearing fruit.

FRUGIVORE Animal that feeds on fruits.

FRUIT A mature, ripened pistil or ovary. In the case of accessory "fruits" other tissues may be involved.

FRUTICOSE Shrubby or bushy in sense of being woody.

FUGACIOUS Falling or disappearing early, usually in reference to parts of a flower.

FULVOUS Tawny, brownish yellow.

FUNCLE, FUNICULUS The stalk attaching an ovule or seed to the ovary wall or placenta.

FUNNELFORM (= Infundibuliform) Funnel-shaped; gradually widening upwards.

FURROWED With longitudinal channels or grooves.

FUSCOUS Grayish-brown.

FUSED United by normal growth.

FUSIFORM Spindle-shaped; with broadest diameter at middle tapering to each end.

G

GALEA The helmet-like or hood-like upper lip of a bilabiate corolla or calyx, especially one that is strongly concave.

GALEATE Hooded, hood-like, or helmet-like.

GAMETE A sex cell; an egg or sperm.

GAMETOPHYTE The gamete-producing, typically haploid generation alternating with the sporophyte (= spore-producing, typically diploid); the stage in the life-history of a plant that produces male or female cells (= gametes); the dominant generation in mosses and liverworts. In ferns and fern allies it is green and autotrophic, although small; in all flowering plants it is microscopic and develops within the tissues of the sporophyte.

GAMO- A prefix meaning united; e.g., gamopetalous or gamosepalous.

GAMOPETALOUS (= Sympetalous) With petals united, at least basally, forming a tube.

GAMOSEPALOUS (= Synsepalous) With sepals united, at least basally, forming a tube.

GASTROENTERITIS Inflammation of the stomach and intestines. It can be caused by a number of plant materials.

GEMINATE In pairs; twin.

GEMMA An asexual propagule sometimes appearing as, but not homologous with, a vegetative bud.

GENICULATE Bent abruptly, like a knee.

GENUS (pl. GENERA) The unit, category, or rank in classification between family and species; composed of one or more closely related species; sometimes divided into subgenera, which in turn are made up of species.

GIBBOUS Swollen basally on one side.

GLABRATE, GLABRESCENT Becoming hairless with age.

GLABROUS Without hairs.

GLADIATE Sword-shaped.

GLAND A secreting part or appendage, often protruding or wart-like.

GLANDULAR Having or bearing secreting organs, glands, or trichomes.

GLANDULAR-PUBESCENT With gland-tipped, pinhead-like hairs.

GLANDULAR-PUNCTATE With glands recessed in depressions.

GLAUDESCENT Becoming glaucous.

GLAUCOUS With waxy substances forming a whitish or gray-silvery covering or bloom.

GLOBOSE Nearly spherical or rounded.

GLOCHID (pl. GLOCHIDIA) An apically barbed bristle or hair; e.g., in many Cactaceae.

GLOMERATE In a dense cluster or glomerule.

GLOMERULATE Arranged in small dense clusters.

GLOMERULE A dense cluster of two or more structures.

GLUCOSIDE A glycoside with glucose as the sugar.

GLUMACEOUS With greenish bracts or petals similar in appearance to the glumes in grass spikelets.

GLUME One of a pair of bracts at the base of a grass spikelet.

GLUTINOUS Sticky, gluey, or resinous.

GLYCOSIDE Complex, two-component chemical compound that can break down or hydrolyze under certain conditions, yielding a sugar plus another compound (= aglycone) that can be physiologically active including poisonous. Types of glycosides include cardiac, coumarin, cyanogenic, mustard oil, steroidal, and saponic; the term glucoside refers to those in which the sugar molecule is glucose.

GLYCOSINOLATE (= Mustard oil glycoside) A complex molecule that upon breakdown yields a sugar, a sulfate fraction, and isothiocyanates (= mustard oils); e.g., in the Brassicaceae or mustard family.

-GONOUS A suffix meaning angled; e.g., trigonous means three-angled.

GRADUATED Referring to a sequence in shape or size; e.g., leaves becoming narrowed up a stem.

GRAIN The 1-seeded fruit typical of cereal crops; often used synonymously with caryopsis.

GRANULAR, GRANULOSE, GRANULATE Covered with minute, grain-like particles.

GRIT CELL (= Stone cell) A sclerotic or hardened cell, as in the flesh of pears.

GYMNOSPERMS Literally, "naked seed"; a polyphyletic assemblage of plants without flowers, the seeds "naked," (= not enclosed in a special structure), often on the surface of thick or thin, sometimes woody cone scales.

GYNEANDROUS The pistillate flowers above (= distal to) the staminate of the same spike; e.g., in some Cyperaceae.

GYNOBASAL, GYNOBASIC Referring to or having a gynobase.

GYNOBASE An enlargement of the receptacle at the base of the ovary.

GYNODIOECIOUS Basically dioecious, but with some flowers perfect and others pistillate.

GYNOECIUM The pistil or pistils of a flower considered collectively; collective term for the female parts of a flower.

GYNOMONOECIOUS Having female and bisexual flowers on the same plant.

GYNOPHORE Prolonged stipe (= stalk) of a pistil.

GYNOSTEGIUM (a) Sheath or covering of the gynoeceium; (b) in Asclepiadaceae, the columnar or disk structure made up of the connate stamens, style, and stigma.

GYPSIFEROUS, GYPSEOUS Containing gypsum (= calcium sulfate).

H

HABIT Style or arrangement of growth; general appearance.

HABITAT Type of locality in which a plant grows; e.g., prairie.

HAIR An epidermal appendage that is usually slender, sometimes branched, not stiff enough to be called a spine, not flattened as a scale; often used synonymously with trichome.

HALBERD-SHAPED (= Hastate). Arrowhead-shaped but with the two basal lobes turned outward.

HALLUCINOGEN A material capable of causing the perception of imaginary sights, sounds, or objects through effects on the nervous systems. Various plant products, including certain alkaloids, are capable of such effects.

HALOPHYTE A plant tolerant of salty or alkaline soils.

HAMATE Hooked.

HAPLOID Having the reduced number of chromosomes typical of gametes; usually with a single set of chromosomes in each nucleus.

HASTATE (= Halberd-shaped). Arrowhead-shaped but with the two basal lobes turned outward.

HAUSTORIUM (pl. HAUSTORIA) Sucker-like attachment organ of parasitic plants by which they draw their food supply from the host-plant; e.g., in Cuscutaceae and some Scrophulariaceae.

HAY FEVER Respiratory allergy, frequently due to plant substances or microstructures such as pollen; e.g., *Ambrosia* (ragweed) pollen is a well-known cause of hay fever.

HEAD (= Capitulum) Dense cluster of sessile or nearly sessile flowers; the type of inflorescence typical of the Asteraceae.

HEARTWOOD The innermost and oldest wood, often with materials (e.g., toxins) giving it different characteristics from sapwood (e.g., more durability or resistance to rotting).

-HEDRAL A suffix signifying surface, usually preceded by a number and then indicating the number of sides, as a tetrahedral spore.

HELICOID, HELICAL Coiled or spiraled, usually in reference to inflorescences.

HELIOPHYTE A plant adapted to grow in or tolerate full sun.

HEMI- Greek prefix meaning half.

HEMIPARASITIC (= Semiparasitic) Descriptive of a plant that carries out photosynthesis but obtains some of its food, mineral nutrition, or water needs from another living organism (the host).

HERB A vascular plant lacking a persistent woody stem and typically dying back to the ground each season.

HERBACEOUS (a) Referring to the aerial shoot of a plant that does not become woody; typically dying back to the ground each year; (b) of a soft texture, as green leaves.

HERBAGE Collective term for the green or vegetative parts of a plant.

HERBARIUM (pl. HERBARIA) A collection of dried pressed plants prepared for permanent preservation (see Appendix eight for further details).

HERBICIDAL Having the ability to kill plants.

HERMAPHRODITIC With stamens and pistils in the same flower; bisexual.

HESPERIDIUM A specific type of fruit usually associated with the citrus family; a berry developed from a pistil with numerous carpels, pulpy within, and externally covered with a hard rind; e.g., orange.

HETERO- Greek prefix meaning other, various, or having more than one kind.

HETEROCARPOUS With more than one kind of fruit.

HETEROCHLAMYDEOUS With the perianth differentiated into a calyx and a corolla.

HETEROGAMOUS (a) With more than one kind of flower; (b) in Asteraceae, with each head composed of more than one kind of flower.

HETEROGENEOUS Not uniform in kind.

HETEROPHYLLOUS Having more than one form of leaf.

HETEROSPOROUS Having two spore types; e.g., *Selaginella*.

HETEROSTYLOUS Having styles of different lengths.

HEXAGONAL Six-angled.

HEXAPLOID Having six sets of chromosomes.

HILUM Scar or mark on a seed indicating where the seed was attached by a funiculus (= stalk) to the ovary wall or placenta. The hilum is the "eye" of a bean or other large seeds.

HIP The "fruit" of a rose; actually a fleshy hypanthium or floral cup with the true fruits (= achenes) inside.

HIPPOCREPIFORM Horseshoe-shaped.

HIRSUTE With straight moderately stiff hairs.

HIRSUTULOUS Diminutive of hirsute.

HIRTELLOUS Minutely hirsute.

HISPID Resembling hirsute but the hairs stiffer, ± bristly, feeling rough to the touch.

HISPIDULOSE Minutely hispid.

HOARY Covered with a fine, white, whitish, or grayish white pubescence.

HOLOPHLETIC A term used to describe a group consisting of a common ancestor and all of its descendants. The term monophyletic is sometimes used in the same sense.

HOLOTYPE The one specimen used or designated by the author of a species or other taxon as the nomenclatural type in the original publication. The holotype is the specimen to which the scientific name is permanently attached; it is not necessarily the most typical or representative element of a taxon.

HOMO- Greek prefix meaning all alike, very similar, same, or of one sort.

HOMOCHLAMYDEOUS With a perianth of tepals undifferentiated

into calyx and corolla.

HOMOGAMOUS (a) With only one kind of flower; (b) with anthers and stigmas maturing simultaneously.

HOMOGENOUS Of the same kind or nature; uniform; contrasting with heterogeneous.

HOMOSPOROUS With spores all of one type.

HOOD (a) A segment of the corona in Asclepiadaceae; (b) a hollow arched structure.

HOODED Descriptive of an organ with the lateral margins more or less inrolled and the apex more or less inflexed; helmet-like; shaped like a hood.

HONEY-LEAF Petal-like perianth part producing nectar; e.g., in some Ranunculaceae.

HORN An exerted tapering appendage resembling a cow's horn; e.g. appendage on the hood in some Asclepiadaceae.

HORNY Hard or dense in texture.

HOST Organism from which a parasite obtains nourishment.

HUMIC Consisting of or derived from humus (= organic portion of soil).

HUMISTRATE Laid flat on the soil.

HUMUS Decomposing organic matter in the soil.

HUSK The outer covering of some fruits, typically derived from the perianth or bracts.

HYALINE Thin, membranous, and transparent or translucent.

HYBRID (a) A cross between two unlike parents; (b) specifically, the offspring resulting from a cross between two species.

HYDATHODE An epidermal structure, usually marginal or terminal, that excretes water.

HYDROPHILY, HYDROPHILOUS Water-pollination; water-mediated pollination; using water as the mechanism of transferring pollen; e.g., in some Callitrichaceae; see Philbrick (1991).

HYDROPHYTE A plant typically growing partially or wholly immersed in water; contrasting with mesophyte and xerophyte.

HYGROSCOPIC Susceptible of expanding, shrinking, twisting, or untwisting on the application or removal of water or water vapor.

HYMENOPTEROPHILY, HYMENOPTEROPHILOUS Pollination by hymenopterans (= members of the insect order Hymenoptera—bees, wasps, and their relatives).

HYPANTHIUM (pl. HYPANTHIA) Cup-shaped or tubular structure formed by (a) fusion of the sepals, petals, and stamens; or (b) enlargement of the receptacle so that the perianth and androecium are attached above the gynoecium. A hypanthium may be adnate to ovary (resulting in epigyny) or free from ovary (perigyny); formerly referred to as calyx tube.

HYPOCOTYL Axis of an embryo below the cotyledons.

HYPOGEOUS Below the ground.

HYPOGYNIUM A structure below the ovary, as in *Scleria* (Cyperaceae).

HYPOGYNOUS Referring to a flower having floral organs attached below the ovary. Hypogynous flowers have superior ovaries.



ILLEGITIMATE NAME Name unacceptable as the accepted scientific name because it is not the earliest one given to the plant in question, or published without description, or violating some other specific requirement of the International Code of Botanical Nomenclature.

IMBRICATE Overlapping like shingles on a roof.

IMMACULATE Not spotted.

IMMERSED (= Submerged, Submersed) Growing under water.

IMPARIPINNATE Unequally or odd-pinnate, with a single terminal leaflet.

IMPERFECT In reference to a flower having either functional stamens or functional pistils, but not both; unisexual.

INCANOUS Gray or hoary.

INCIPIENT Beginning to be; coming into being.

INCISED Cut rather deeply and sharply; intermediate between toothed and lobed.

INCLUDED Not exerted; within; not projecting beyond the surrounding organ.

INCOMPLETE Referring to a flower lacking one or more of the flower parts: sepals, petals, stamens, or pistils.

INCOMPLETE VEINS In *Carex*, referring to veins that do not extend the entire length of the perigynium body.

INCURVED Curved inward.

INDEHISCENT Referring to a fruit that does not open at maturity; contrasting with dehiscent.

INDETERMINATE Inflorescence whose flowers begin to open first at bottom or outside, progressing upward or inward with the number of flowers not pre-determined at the beginning of flowering; growth of inflorescence not stopped by opening of the first flowers; contrasting with determinate.

INDIGENOUS Native to an area; not introduced.

INDUMENT, INDUMENTUM Surface coating such as hairs, roughening, bloom, or glands.

INDUPLICATE Folded or rolled inward.

INDURATE Hardened.

INDUSIUM (pl. INDUSIA) Epidermal outgrowth covering the sori or sporangia on fern fronds.

INFERIOR Descriptive of an ovary fused to the hypanthium or to the lower parts of the perianth and therefore appearing to be located below the rest of the flower; an ovary positioned below the point of attachment of the floral organs. This type of ovary is found in epigynous flowers.

INFERTILE (a) Incapable of normal reproductive functions; (b) specifically used to describe Asteraceae flowers incapable of maturing achenes, irrespective of presence of functional stamens.

INFLATED With an internal air space; bladderly.

INFLEXED Bent inward.

INFLORESCENCE (a) Term commonly used to refer to the flowering structure of a plant; (b) a flower cluster; (c) arrangement of flowers on the floral axis; (d) manner of bearing flowers.

INFRA- Latin prefix meaning below.

INFRASPECIFIC Within the species; referring to a unit of classification below the species; e.g., subspecies, variety, form.

INFRUCTESCENCE An inflorescence in the fruiting stage.

INFUNDIBULIFORM (= Funnelform) Funnel-shaped; gradually

widening upwards.

INNOCUOUS Harmless, unarmed, spineless.

INNOVATION A basal shoot of a perennial grass.

INROLLED Rolled inward.

INSECTIVOROUS Consuming insects; referring to plants that digest insect tissue to obtain nutrients such as nitrogen.

INSERTED Attached to another part or organ.

INSERTION The place or mode of attachment of an organ.

INTEGUMENT The covering of an organ; e.g., of the ovule.

INTER- Latin prefix meaning between.

INTERCALARY Medial in position.

INTERCOSTAL Located between the ribs or costae.

INTERLACUNAR Between air spaces.

INTERNODE Area of stem or other structure between two nodes.

INTERRUPTED Not continuous or regular.

INTERSPECIFIC Between different species.

INTERSTITIAL Referring to the space intervening between one thing and another.

INTRA- Prefix used to denote within.

INTRODUCED Brought from another geographic region; not native.

INTROGRESSION, INTROGRESSIVE HYBRIDIZATION Successive crosses, first between plants of two species, then between the offspring of this cross and plants of one parent species, followed by further interbreeding between mongrels of varying percentage of impurity with purebreds of the parent line. This eventually leads to whole populations of one parent species being contaminated with genes derived from the other.

INTRORSE Facing inward, toward the axis, typically used to refer to manner of anther dehiscence.

INTRUDED Projecting inward or forward.

INVAGINATE To enclose in a sheath.

INVOLUCEL Diminutive of involucre; a secondary involucre; e.g., the bracts subtending the secondary umbels in Apiaceae or the whorl of bracts subtending a flower in Malvaceae.

INVOLUCellate With an involucrel.

INVOLUCRAL, INVOLUCRATE Pertaining to or having an involucre.

INVOLUCRE The whorl of bracts subtending a flower cluster or flower; e.g., involucre of bracts (= phyllaries) subtending a head in Asteraceae or small involucre (= involucrel) subtending a flower in many Malvaceae (specifically called an epicalyx).

INVOLUTE With margins or edges rolled inward toward the upper side.

IRREGULAR (a) Structures not similar in size or shape; asymmetrical; (b) descriptive of a flower without any plane of symmetry; contrasting to regular and zygomorphic.

-ISH Suffix meaning "slightly," often used with color terms.

ISODIAMETRIC Of equal dimensions.

ISOLATERAL Equal-sided.

ISOTHIOCYANATE (= Mustard oil) Organic compound containing nitrogen and sulfur that has a pungent odor and taste and is irritating to the skin and mucous membranes. Isothiocyanates are toxic and can cause liver and kidney damage as well as other problems; e.g., in the Brassicaceae or mustard family.

ISOTYPE A specimen of the type collection other than the holotype; an extra or duplicate specimen made at the same time and place as the holotype.

J

JOINTED With or apparently with nodes or points of articulation; e.g., jointed hairs of *Physalis* (Solanaceae).

JUVENILE LEAVES In plants with more than one leaf type (e.g., leaf dimorphism), the leaves on new growth, often quite different in appearance from adult leaves; e.g., found in *Juniperus*, *Hedera*.

K

KEEL (a) (= Carina) The two lower (= abaxial) fused petals of a papilionaceous flower (Fabaceae); (b) prominent longitudinal ridge, shaped like the keel of a boat.

KEELED With a ridge or keel.

KNEES Erect woody projections; e.g., found in *Taxodium* (bald-cypress).

L

L. Linnaeus, Swedish naturalist who established the binomial system of nomenclature; L. f., his son.

LABELLUM (= Lip) In Orchidaceae, the enlarged upper petal that appears to be the lowest petal because of twisting of the pedicel.

LABIATE Lipped; differentiated into an upper and a lower portion.

LACERATE Irregularly cleft as if torn.

LACINIATE Cut into long, narrow, ± equal divisions or segments.

LACTIFEROUS, LACTESCENT With milky sap.

LACUNA (pl. LACUNAE) A space, hole, cavity, or areole.

LACUNOSE Perforated, with holes, cavities, or depressions.

LAEVIGATE Smooth as if polished.

LAMELLA A flat, thin plate.

LAMELLATE Made up of flat, thin plates.

LAMINA The blade or expanded part of an organ.

LAMINATE In plates or layers.

LANATE, LANOSE Woolly; covered with dense, long, entangled hairs resembling wool.

LANCEOLATE Lance-shaped; several times longer than wide, tapering at both ends, widest about a third above the base.

LANUGINOSE With a cottony or woolly appearance, the hairs shorter than in lanate.

LATENT Dormant.

LATERAL Belonging to or borne on the sides.

LATERAL BUD Bud in a leaf axil; contrasting with terminal or apical bud.

LATEX A water insoluble mixture of organic compounds, predominantly hydrocarbons, produced in specialized cells called laticifers and often milky in color. The latex of some species has elastic properties (e.g., *Hevea brasiliensis*, rubber) while that of others contain compounds such as alkaloids (e.g., *Papaver somniferum*, opium poppy).

LATICIFEROUS Latex-bearing.

LATISEPT With broad partitions in the fruits; e.g., Brassicaceae.

LATORSE Dehiscing laterally and longitudinally; e.g., some anthers.

LAX (a) Spread apart, loose, distant; (b) not rigid.

LEAF The primary photosynthetic organ of most plants, usually composed of an expanded blade and a stalk-like petiole.

LEAFLET A single, expanded segment or division of a compound leaf.

LEAF SCAR The mark or scar left on the stem by the fall of a leaf.

LEAF TRACE A vascular bundle, one or more in number, extending from the stem into the leaf.

LECTOTYPE A specimen or other material selected by a later worker from the original material studied by the author of the species (or other taxon) to serve as the nomenclatural type when a holotype was not originally designated or was lost or destroyed.

LEGUME (a) Fruit type with a single carpel typically dehiscent along both sutures (= margins); (b) a member of the Fabaceae; (c) any fruit type within the Fabaceae.

LEMMA The outer (= lowermost) of the two bracts enclosing the reproductive structures in the grass floret.

LENTICEL A small corky pore or spot on the bark of young twigs found in many trees and shrubs and allowing gas exchange.

LENTICULAR Two-sided; lens-shaped.

LEPIDOTE Covered with small scales; scurfy.

LEPIDOPTEROPHILY, LEPIDOPTEROPHILOUS Pollination by lepidopterans (= members of the insect order Lepidoptera—butterflies and moths).

LECTINS Certain plant proteins that cause linking or agglutination between cells. They can be toxic or mitogenic (= capable of stimulating mitosis); they apparently function in the binding of symbiotic nitrogen-fixing bacteria to roots and in protecting against pathogenic bacteria; often found in members of the Fabaceae.

LIANA, LIANE A woody climber (e.g., grape vine). Lianas are common in the tropics.

LIGNEOUS Woody.

LIGNESCENT Somewhat woody or becoming woody.

LIGULATE Tongue-shaped; strap-shaped.

LIGULATE FLORET (= Ray floret) Flower, with corolla expanded into a ligule, typical of many Asteraceae.

LIGULATE HEAD Head having only bisexual flowers with strap-shaped corollas.

LIGULE (a) A strap-shaped limb or body; (b) strap-shaped part of ray (= ligulate) corolla in Asteraceae; (c) membranous or hairy appendage on adaxial surface of the leaf at junction of blade and sheath in Poaceae.

LIGULIFORM Strap-shaped.

LIMB (a) In a corolla of united petals, the main expanded portion, as distinguished from a basal tube; (b) expanded part of an organ.

LIMBATE With limb present.

LINEAR Resembling a line, long and narrow, with margins parallel to one another.

LINGULATE Tongue-shaped.

LIP (a) Either of the principal lobes of a bilabiate or strongly zygomorphic corolla or calyx (e.g., Lamiaceae); (b) (= Labellum) the enlarged upper petal in Orchidaceae that appears to be the lowest petal because of twisting of the pedicel.

LITHOPHYTE Plant that grows on rocks but derives its nourishment from the atmosphere and from accumulated humus.

LITTORAL Of a shore, particularly of the seashore.

LOAM Soil consisting of a mixture of sand, clay, silt, and organic matter.

LOBATE Having lobes.

LOBE A usually rounded segment or division of a leaf, petal, or other organ.

LOBED Having deep or coarse indentations of the margin, larger than mere teeth (However, there is no sharp distinction between large teeth and small lobes.)

LOBULATE Having small lobes.

LOCULAR Having one or more locules.

LOCULE, LOCULUS The cavity, compartment, or cell containing the ovules in a carpel or the pollen in an anther.

LOCULICIDAL Descriptive of a capsule dehiscing along the middle of the back of each locule or chamber (= along the midrib of each carpel).

LODICULE One of the two or three minute scales at the base of the ovary in most grasses, thought to be a rudiment of a perianth part. They swell and thus open the lemma and palea, allowing the reproductive parts to be exposed.

LOMENT, LOMENTUM An indehiscent fruit separating into one-seeded segments at maturity.

LONGITUDINAL Lengthwise; along the long axis.

LUMPER A taxonomist who in general has the tendency to lump segregates into larger groups; contrasting with splitter.

LUNATE Crescent-shaped; half-moon-shaped.

LURID Dirty, dingy.

LUSTROUS Shining.

LUTESCENT Becoming yellow.

LYRATE Lyre-shaped; pinnately lobed with the terminal lobe the largest.

M

m Meter; 10 decimeters; 39.37 inches.

MACRO- Greek prefix denoting large or long.

MACROSPORE (= Megaspore) A large spore giving rise to the female gametophyte; the larger of two kinds of spores produced by heterosporous plants; a female spore.

MACULATE With a spot or spots.

MALODOROUS Foul-smelling.

MALPIGHIAN Describing hairs lying parallel to a surface and attached by their middle; with two branches and almost no stalk; appearing to be an unbranched hair attached at the middle.

MAMMIFORM Breast-shaped; conical with rounded apex.

MAMMILLATE Having nipple-like structures.

MARbled With irregular streaks or blotches of color.

MARCESCENT Withering, but the remains persistent; e.g., the corollas of most *Trifolium*.

MARGIN Edge; the outer portion of a blade or other structure.

MARGINAL Attached to the edge or pertaining to the edge.

MARGINATE Distinctly margined; with a distinctly different margin.

MARSH Wet or periodically wet, treeless area.

MEDIAL, MEDIAN Central, middle.

MEDULLARY Pertaining to the pith.

MEGA- Greek prefix meaning very large.

MEGAPHYLL Leaf with branched veins.

MEGASPORANGIUM Sporangium in which megaspores are formed.

MEGASPORE (= Macrospore) A large spore giving rise to the female gametophyte; the larger of two kinds of spores produced by heterosporous plants; a female spore.

MEGASPOROPHYLL A sporophyll (= spore-bearing leaf) bearing one or more megaspores.

MEMBRANACEOUS, MEMBRANOUS Having the nature of a membrane, thin, somewhat flexible, translucent.

MENTUM A projection near the base of some flowers in the Orchidaceae.

MEPHITIC Having an offensive odor.

MERICARP The individual, separated carpels of a schizocarpic fruit; e.g., one of the fruit segments in the Apiaceae or one of the "nutlets" in the Boraginaceae.

MERISTEM Embryonic or undifferentiated tissue, capable of developing into various organs.

MERISTEMATIC Pertaining to or with the nature of a meristem.

-MEROUS Greek suffix used to refer to the number of parts (or multiples of such) in each circle of the floral organs, usually with a numerical prefix (e.g., a 3-merous perianth would mean there are three petals and three sepals or some multiple of three). The term often refers to the perianth only.

MESA A flat-topped hill with abrupt or steeply sloping side or sides.

MESOCARP The middle layer of the pericarp or fruit wall.

MESOPHYTE Plant that grows under medium moisture conditions; contrasting with hydrophyte and xerophyte.

MICRO- Greek prefix meaning small.

MICROPHYLL A relatively small leaf with a single unbranched vein, typical of the Lycopodiophyta and Equisetophyta.

MICROPHYLLOUS Having small leaves.

MICROPYLE A minute opening through the integuments into the ovule through which the pollen-tube usually enters and often distinguished in the mature seed as a slight depression.

MICROSPORANGIUM Sporangium in which microspores are produced. In angiosperms, the microsporangium is equal to the pollen sac and there are typically four microsporangia per anther.

MICROSPORE A small spore giving rise to the male gametophyte; the smaller of two kinds of spores produced by heterosporous plants; a male spore.

MICROSPOROPHYLL The sporophyll (= spore-bearing leaf) upon which microspores are produced.

MICROTUBERCULATE Minutely tuberculate.

MIDRIB The central or main rib or vein of a leaf or other similar structure.

MITRIFORM Shaped like a miter or bishop's hat.

MIXED INFLORESCENCE One in which the parts are not consistent in being all determinate or all indeterminate.

mm Millimeter; 1000 microns or 1/1000 of a meter.

MONADELPHOUS With all filaments united into a single tube surrounding the pistil.

MONANDROUS Having a single stamen.

MONILIFORM Like a string of beads.

MONO- Greek prefix meaning one or of one.

MONOCARPIC (a) Descriptive of a plant that flowers only once before dying; (b) having a single carpel.

MONOCEPHALOUS, MONOCEPHALIC Bearing only a single head.

MONOCHASIAM A cyme with lateral branching on only one side of the main axis.

MONOCHLAMYDEOUS Having only one set of floral envelopes; having perianth of a single series.

MONOCOLPATE With a single furrow; e.g., on a pollen grain.

MONOCOTYLEDONS (abbreviated **MONOCOTS**) Flowering plants having one cotyledon (= seed leaf), mostly parallel venation, and flower parts usually in threes; one of the two classes of flowering plants which, depending on the system of classification, is known as Monocotyledonae or Liliopsida.

MONOECIOUS Plants with staminate flowers and pistillate flowers on the same plant, but lacking perfect flowers.

MONOMORPHIC One form; contrasting with polymorphic.

MONOPHYLETIC A term previously used to describe a group of organisms with a common ancestor; more recently it has been used to describe a group consisting of a common ancestor and all of its descendants. Some authorities believe that a different term, holophyletic, should be used for a group consisting of a common ancestor and all of its descendants.

MONOPODIAL With an evident single and continuous axis.

MONOTYPIC Having a single type or representative; e.g., a genus with only one species.

MONTANE Pertaining to or living in mountains.

MOSTLY A quantitative term meaning "most of them."

MUCILAGINOUS Slimy; with mucilage.

MUCRO A short and small abrupt tip, as with the midrib extending as a short point.

MUCRONATE With a mucro.

MUCRONULATE Diminutive of mucronate.

MULTI- Latin prefix for many.

MULTICIPITAL Literally, "many-headed"; descriptive of a crown of roots or a caudex from which several stems arise.

MULTIFID Divided into many narrow segments or lobes.

MULTIFLOROUS Many-flowered.

MULTIPLE FRUIT (= Syncarp) A single "fruit" formed by the coalescence of several fruits from separate flowers; e.g., *Morus* (mulberry), *Maclura* (bois d'arc), *Ananas* (pineapple).

MURICATE With numerous minute short points; roughened.

MURICULATE Diminutive of muricate.

MUSTARD OIL (= Isothiocyanate) Organic compound containing nitrogen and sulfur that has a pungent odor and taste and is irritating to the skin and mucous membranes. Mustard oils are toxic and can cause liver and kidney damage as well as other problems; e.g., in the Brassicaceae or mustard family.

MUSTARD OIL GLYCOSIDE (= Glycosinolate) A complex molecule that upon breakdown yields a sugar, a sulfate fraction, and an irritating mustard oil or isothiocyanate; e.g., in the mustard family.

MUTICIOUS Blunt, lacking a point.

MYCORRHIZA (pl. MYCORRHIZAE) A mutually beneficial, symbiotic association of a fungus and the root of a plant. Mycorrhizal relationships are characteristic of most vascular plants.

MYCORRHIZAL Pertaining to mycorrhiza.

N

N North.

NAKED Lacking various coverings, organs, or appendages, almost always referring to organs or appendages present in other similar plants; e.g., a naked flower lacks perianth.

NAPIFORM. Turnip-shaped; e.g., roots.

NASCENT In the act of being formed.

NATANT Floating underwater; immersed.

NATURALIZED Referring to an introduced foreign plant that has become part of the spontaneous, self-perpetuating flora of a region.

NAVICULATE, NAVICULAR Boat-shaped.

NECTAR A sugar-rich solution secreted by plants, typically produced in nectaries. Nectar production has apparently evolved to attract insects or other animals for pollination or other purposes.

NECTAR-GUIDE A line or other marking leading insects to the nectary; e.g., contrastingly colored lines on many corollas.

NECTARIFEROUS Having or producing nectar.

NECTARY A specialized nectar-secreting structure or area; there can be floral nectaries (in the flowers) or extra-floral nectaries (not associated with the flowers).

NEEDLE Linear, often stiff leaf as in *Pinus* (Pinaceae).

NEOTYPE A specimen selected by a later worker to serve as the nomenclatural type of a taxon when all material studied by the original author has been lost or destroyed.

NERVE A simple vein or slender rib of a leaf, bract, or other structure.

NERVED Having nerves.

NET-VEINED With veinlets branching irregularly and not uniformly angular, forming a net-like pattern.

NEUTER Sexless, as a flower that has neither functional stamens nor pistils.

NEUTRAL FLOWER A sterile flower; flower with a perianth but without functional sexual organs.

NIGRESCENT Turning black.

NITID Smooth and clear, lustrous, glittering.

NITRATES Nitrogen containing compounds that can be accumulated in plant tissues and cause toxicity in animals if ingested. During digestion, nitrates are converted to nitrites that are toxic due to their ability to render hemoglobin incapable of transporting oxygen.

NOCTURNAL Occurring at night or lasting for only one night.

NODAL Located at or pertaining to a node.

NODE Area of stem or axis at which branches, leaves, bracts, or flower stalks are attached; joint of a stem.

NODDING Hanging down.

NODOSE Nodular, knotty, with semispheroid protuberances.

NODULOSE Diminutive of nodose; having small, knobby nodes or knots.

NUT Hard-shelled and indehiscent fruit with a single seed.

NUTANT Nodding.

NUTLET (a) Diminutive of nut; (b) used to refer to any small, dry, nut-like fruit or seed, thicker-walled than an achene; (c) seed-like sections into which the mature ovary breaks in Boraginaceae, Labiatae, and most Verbenaceae, each section consisting of one seed with extra coat formed from ovary wall or partitions, making it technically a fruit.



OB- Latin prefix indicating the reverse or upside-down, as obcordate, meaning cordate or ovate with wider end at top or away from point of attachment.

OBCONIC, OBCONICAL Inversely cone-shaped, with attachment at the small end.

OBDELTOID Inversely deltoid; triangle-shaped with base pointed.

OBDIPLSTEMONOUS Describing a flower with two circles of stamens, in which those of the outer circle are borne in front of (= on the same radius as) the petals.

OBLANCEOLATE Lanceolate with broadest part above the middle and tapering toward the base.

OBLATE Nearly spherical but flattened at the poles.

OBLIGATE Necessary or essential; contrasting with facultative.

OBLIQUE Slanting; unequal-sided.

OBLONG Longer than wide with sides nearly parallel.

OB OVATE Egg-shaped with attachment at narrow end; inversely ovate.

OBOVOID Inversely ovoid; a solid that is obovate in outline.

OBPYRIFORM Pear-shaped with attachment at narrow end.

OB SOLESCENT Nearly or becoming obsolete; rudimentary; referring to structures that are not or are only slightly evident.

OB SOLETE Not apparent or evident; rudimentary; vestigial; extinct.

OB TUSE Forming a blunt or rounded angle of more than 90 degrees; not pointed.

OCHRACEOUS Ochre-colored, yellow with a tinge of red.

OCHROLEUCOUS Yellowish-white, buff.

OCREA (pl. OCREAE) Tube formed by fused, sheathing stipules; e.g., in Polygonaceae.

OCREATE With an ocrea.

OCREOLA (pl. OCREOLAE) Secondary sheath; sheath surrounding a fascicle of flowers; e.g., in the Polygonaceae.

ODD-PINNATE Compound leaf with terminal leaflet present; with an odd number of leaflets.

OFFSET A short lateral shoot, arising near the base of a plant, primarily propagative in function and thus can give rise to a new plant.

OLIGO- Greek prefix signifying few.

OLIVACEOUS Olive-green.

ONTOGENY The developmental cycle of an individual organism.

OPAQUE Impervious to light.

OPERCULATE Having an operculum.

OPERCULUM Literally, "a small lid"; term applied to the terminal portion (= lid or cap) of a circumscissile fruit or other organ.

OPPOSITE Arranged two at each node, on opposite sides of the axis.

ORBICULAR, ORBICULATE With round, approximately circular outline.

ORDER The unit, category, or rank in classification made up of one or more families; ending in -ales; sometimes divided into suborders or superfamilies, which in turn are made up of families.

ORIFICE An opening.

ORNITHOPHILY, ORNITHOPHILOUS Pollination by birds.

ORTHO- Greek prefix signifying straight.

ORTHOTROPOUS OVULE An erect ovule, with the micropylar end at the summit.

OVAL Broadly elliptic.

OVARY Basal, ovule-containing portion of the pistil in angiosperms, developing into the fruit.

OVATE Egg-shaped with widest part at the base.

OVOID Solid oval or solid ovate.

OVULATE Bearing ovules.

OVULE An immature or unfertilized seed; the megasporangium of a seed plant; the egg-containing unit of the ovary.

OXALATES Salts of oxalic acid, a carboxylic acid that can occur in plant tissue either as the free acid (e.g., rhubarb leaves) or as salts in the form of calcium oxalate, potassium oxalate, or sodium oxalate. Ingestion of the soluble oxalates by animals results in the formation of calcium oxalate crystals, which when deposited in the kidneys and other organs can cause serious mechanical damage; calcium deficiencies can also result; calcium oxalate also occurs in some plant tissues in the form of raphides or needle-like crystals; e.g., in Araceae.



PALATE The raised portion within the throat of a bilaterally symmetrical corolla.

PALE (= Palea) A chaffy scale or bract on the receptacle of many Asteraceae, often subtending the fruit; see chaff.

PALEA (a) In Poaceae, the inner (= uppermost) bract of a floret, often partly enclosed by the lemma; (b) (= pale) the receptacular scale or bract in Asteraceae; see chaff.

PALEACEOUS Chaffy; with small membranaceous scales.

PALLID Pale in color.

PALMATE Attached or radiating from one point, as leaflets in a palmately compound leaf, veins in some leaf blades, or fingers of a hand.

PALMATELY COMPOUND With the leaflets attached at one point at the apex of the petiole, like the fingers all attached to the palm of a hand.

PALMATELY TRIFOLIOLATE Having three leaflets with the terminal leaflet unstalked, sessile.

PALMATIFID Cut so as to appear nearly palmately compound.

PALUDAL Growing in marshes.

PANDURATE, PANDURIFORM Fiddle-shaped; obovate with a contraction on each side.

PANICLE A branched usually elongate (not flat-topped) inflorescence with flowers on the branches of the primary axis; a compound racemose inflorescence. Panicles are indeterminate.

PANICULATE Resembling a panicle.

PANICULIFORM Having the form and appearance but not necessarily the structure of a panicle.

PANNOSE Having the texture or appearance of woolen cloth or felt.

PAPILIONACEOUS, PAPILIONOID Descriptive of a flower having a bilaterally symmetrical corolla composed of a banner (= standard), two lateral wing petals, and a keel of two fused petals; descriptive of flowers characteristic of many Fabaceae in the subfamily Papilionoideae.

PAPILLA (pl. PAPILLAE) Small pimple-like or nipple-like projection.

PAPILLATE, PAPILLIFORM, PAPILLOSE Shaped like or bearing papillae.

PAPPUS The crown of bristles, awns, scales, etc. at the apex of the achene of most Asteraceae, thought to be the modified calyx.

PAPYRACEOUS Papery.

PARALLEL-VEINED With main veins parallel to each other. Such leaves are typical of many monocots.

PARAPHYLETIC A term used to describe a taxonomic group consisting of an ancestral species and some but not all of its descendants. Paraphyletic groups can give an inaccurate view of phylogeny but are often useful in classification; see Appendix 6 for discussion.

PARASITE A plant that derives its food, mineral nutrition, and/or water wholly or chiefly from another plant (the host) to which it is attached; contrasting with epiphyte, saprophyte, or autophyte.

PARASITIC Deriving food, mineral nutrition, water, or any combination from another living organism (the host).

PARIETAL Located on the inner side of the exterior wall of the ovary.

PARIETAL PLACENTATION Placentation with ovules attached to the ovary wall instead of the axis.

PARIPINNATE Referring to a pinnately compound leaf with an even number of leaflets or pinnae.

PARTED (a) Cut nearly but not quite the distance from the margin to midrib or from the apex to base; (b) more generally, any deep cut; (c) as a suffix can be combined with a numerical prefix to indicate the number of segments.

PARTHENOGENETIC Developing without fertilization.

-PARTITE A suffix synonymous with -parted.

PATELLIFORM Disk-shaped; circular with narrow rim.

PATENT Spreading.

PAUCI- Latin prefix denoting few.

PECTINATE With narrow closely set segments or units similar to the teeth of a comb.

PEDATE Palmately divided with the lateral segments again divided.

PEDICEL (a) Stalk supporting a single flower of an inflorescence; (b) in grasses the stalk supporting a single spikelet.

PEDICELLATE, PEDICELLED, PEDICELLED Borne on a pedicel; contrasting with sessile.

PEDUNCLE Stem or stalk of an inflorescence, flower cluster, or of the only flower in an inflorescence.

PEDUNCULAR Pertaining to or on a peduncle.

PEDUNCULATE With a peduncle.

PELLICLE A thin skin or filmy covering.

PELLUCID Clear, almost transparent.

PELTATE Shield-shaped, with stalk attached on the undersurface away from the margin or base (sometimes attached at the middle like the axis of an umbrella).

PENDENT, PENDULOUS Hanging down or suspended.

PENICILLATE Like a brush, usually referring to a tuft of hairs.

PENTAGONAL Shaped like a pentagon; five-sided or -angled.

PENTAMEROUS Having the parts in fives.

PEPO A specific type of fruit usually associated with the Cucurbitaceae; a many-seeded fruit with a hard rind; e.g., gourd.

PERENNATING Surviving from growing season to growing season.

PERENNIAL Root system or plant living at least three growing seasons (years); lasting from year to year.

PERFECT FLOWER One with both functional stamens and pistils; a bisexual flower.

PERFOLIATE Referring to a sessile leaf or bract whose base completely surrounds the stem, the latter seemingly passing through the leaf or with two leaves basally united around the stem.

PERFORATE Having translucent dots that look like small holes, or pierced through.

PERI- Greek prefix denoting around, enclosing.

PERIANTH Collective term for the corolla and calyx, often used when corolla and calyx are not well differentiated.

PERICARP Fruit wall; structure enclosing the seeds in angiosperms. The pericarp can be subdivided into endocarp, mesocarp, and exocarp.

PERIGYNIUM Urn-shaped, sac-like or pouch-like structure surrounding the pistil in *Carex* (Cyperaceae).

PERIGYNOUS Having floral organs united forming a tube (= floral tube) surrounding but not adnate to the pistil, the floral organs thus borne around (versus above or below) the ovary.

PERIPHERAL On or near the margin.

PERISPERM The nutritional material of a seed surrounding the embryo and formed outside the embryo sac.

PERISPORIUM, PERISPORE A thin envelope enclosing a spore.

PERNICIOUS Highly hurtful or harmful.

PERSISTENT Remaining attached; not falling off; contrasting with deciduous.

PERSONATE Referring to a strongly two-lipped corolla with the throat closed by a palate.

PETAL One of the next-to-outermost whorl of parts in a complete flower; a segment of the corolla; the inner series of floral "leaves." The petals are collectively referred to as the corolla.

PETAL-LIKE (= Petaloid) Having the character or appearance of a petal, usually showy.

PETALOID (= Petal-like) Having the character or appearance of a petal, usually showy.

PETALIFEROUS Bearing petals.

PETIOLAR Pertaining to or located on the petiole.

PETIOLATE With a petiole.

PETIOLE Stalk of a leaf supporting the blade.

PETIOLULATE Having a petiolule.

PETIOLULE Stalk supporting a leaflet.

PHANEROGAM A seed plant or spermatophyte; contrasting with cryptogam.

PHENOLIC, PHENOL An aromatic alcohol; more technically, a substance with an alcohol (= hydroxyl) group attached to an aromatic (= benzene or phenyl) ring structure. Plant phenolics are sometimes toxic; a number of plant resins or resinoids are phenolic in nature; e.g., urushiol from poison ivy, tetrahydrocannabinol (THC) from marijuana; other phenolic compounds include vitamin E and anthocyanins.

PHENOLOGY Study of the times at which various events occur in the life of a plant or a flower.

PHLOEM The food-conducting tissue in a plant.

PHOTODERMATITIS Skin inflammation resulting from increased sensitivity to sunlight, often caused by exposure to certain plants or plant-derived materials.

PHOTOSYNTHESIS The process by which plants convert carbon dioxide and water into carbohydrates in the presence of light.

PHYLLARY (= Involucral bract) One of the bracts subtending a head in the Asteraceae.

PHYLLOCLADE (= Cladophyll, Cladode) A portion of stem having the general form and function of a leaf.

PHYLLODE, PHYLLODIUM An expanded bladeless petiole; a leaf reduced to a flattened petiole. These structures typically serve the photosynthetic function of a blade.

PHYLLODIAL Having the character of a phyllode.

PHYLOTAXY Arrangement of the leaves on their axis.

PHYLOGENY The evolutionary history of a group.

PHYTODERMATITIS Plant-induced skin inflammation resulting from increased sensitivity to sunlight.

PHYTOTOXIC Term used to describe materials that are toxic to plants.

PHYTOTOXIN (a) General term for a plant-derived toxin; (b) more typically used to refer to toxic plant proteins or toxalbumins; e.g., ricin from *Ricinus*.

PILOSE With long, soft, ± straight hairs; softer than hirsute, not flexuous or curved as in villous.

PILOSULOUS Diminutive of pilose.

PINNA (pl. PINNAE) A primary division of a compound leaf. A pinna can be simple (and thus equivalent to a leaflet) or compound and divided into leaflets. The term is frequently used in describing fern leaves—here the term is used for any primary division of a leaf (e.g., a leaflet or a leaf division divided into leaflets). In flowering plants the term is generally used to describe a primary division of a decompound leaf (a pinna is thus divided into leaflets).

PINNATE, PINNATELEAF COMPOUND Descriptive of a compound leaf with leaflets distributed along both sides of an elongate axis; feather-like. Bipinnate or 2-pinnate leaves have the leaflets distributed along a secondary axis; tripinnate or 3-pinnate leaves have the leaflets along a tertiary axis, etc.

PINNATELY TRIFOLIATE Referring to trifoliolate leaves in which the terminal leaflet is extended beyond the other two by having a distinct petiolule.

PINNATIFID Pinnately divided into stalkless segments, but the segments not distinct leaflets (i.e., not divided all the way to the midrib).

PINNATISECT Pinnately divided to the midrib.

PINNIPALMATE Descriptive of a leaf exhibiting a combination of pinnate and palmate arrangements of the leaflets.

PINNULE A secondary pinna; division of a pinna or a leaflet.

PISIFORM Pea-shaped.

PISTIL The female reproductive organ of a flower consisting of the ovary, stigma, and style. Pistils can be either simple (of one carpel) or compound (with > one carpel); the pistils are collectively referred to as the gynoecium.

PISTILLATE With only the female reproductive structures being functional or with female reproductive structures only.

PISTILLODE, PISTILLODIUM A rudimentary or vestigial pistil.

PITH The soft spongy center of a stem.

PITTED Having little depressions or cavities.

PLACENTA (pl. PLACENTAE) Place of attachment of the ovule(s) within an ovary.

PLACENTATION Arrangement of placentae and thus ovules in an ovary.

PLAIT A lengthwise fold or pleat.

PLAITED (= Plicate) Folded like a fan.

PLANE With a flat even surface.

PLANO- A suffix denoting flat.

PLEATED Folded.

PLICATE (= Plaited) Folded like a fan.

-PLOID A suffix used in genetics, prefixed by a term indicating number, to denote the number of sets of chromosomes in the nucleus.

PLUMOSE Feathery; descriptive of a long hair with long, slender, lateral hairs.

POD A legume, or more generally, a dry dehiscent fruit; sometimes loosely synonymous with capsule.

POLLEN, POLLEN GRAIN The microscopic spheroidal structures that produce the male cells and borne within the anther of a flowering plant or on the microsporophyll of a gymnosperm; technically microgametophytes develop from microspores.

POLLEN SAC A microsporangium containing pollen. In angiosperms there are typically four pollen sacs per anther.

POLLEN TUBE The slender tube that develops from a pollen grain, penetrates the tissue of the ovary, and enters the ovule.

POLLINATE To transfer pollen from a stamen to a stigma.

POLLINATION The act or process of pollinating.

POLLINIUM (pl. POLLINIA) A mass of coherent pollen, as developed in Asclepiadaceae and Orchidaceae.

POLY- Greek prefix meaning many.

POLYADELPHOUS With several groups of stamens.

POLYGAMO-DIOECIOUS Descriptive of dioecious plants having some perfect flowers; bearing on one plant flowers partly perfect and partly pistillate, on another plant flowers partly perfect and partly staminate.

POLYGAMO-MONOECIOUS Descriptive of monoecious plants having some perfect flowers; bearing partly perfect, partly unisexual flowers.

POLYGAMOUS Bearing unisexual and bisexual flowers on the same plant.

POLYMORPHIC Of various forms; with three or more forms.

POLYPETALOUS (= Apopetalous) With corolla of separate petals; contrasting with gamopetalous.

POLYPHYLETIC A taxonomic group having species derived from more than one common ancestor, the species having been placed in the same group because of similarities due to convergent or parallel evolution. Polyphyletic taxa give an inaccurate view of phylogeny.

POLYPLOID A plant with three or more basic sets of chromosomes.

POLYSEPALOUS (= Aposepalous) Composed of or possessing separate sepals.

POLYSTICHIOUS Arranged in several longitudinal rows.

POME A fleshy indehiscent fruit developing from a compound inferior ovary embedded in receptacular or floral cup tissue; e.g., apples or pears.

PORE A small aperture or opening; e.g., opening at end of anther in *Solanum* species.

PORICIDAL Opening by pores.

PORULUS Somewhat porous (= pierced with small round holes).

POSTERIOR Describing the position of an organ located on the side adjacent to the axis. In flowers, the upper lip is posterior, the lower anterior.

PRAEMORSE Short and truncate at the base, as if eaten or chewed off; descriptive of the rhizomes in some species of *Viola* and *Hieracium*.

PRECOCIOUS Developing or appearing very early; denoting flowers that appear in advance of the leaves.

PREHENSILE Clasping or grasping; e.g., tendrils.

PRICKLE A slender, sharp, epidermal outgrowth without vasculature; e.g., the armature of roses.

PRIMOCANE The first year's shoot of woody biennials, typically non-flowering; e.g., *Rubus*.

PRISMATIC Angular with flat sides; shaped like a prism.

PROCUMBENT Trailing or prostrate, not rooting.

PROLIFEROUS Bearing or developing offshoots or redundant parts; producing numerous new individuals, or parts, of the same kind; bearing offsets, bulbils, or other vegetative progeny.

PROPHYLL, PROPHYLLUM (a) In the Poaceae, the first leaf of a lateral shoot or vegetative culm branch, consisting of a sheath without a blade; (b) bracteole subtending an individual flower; e.g., in some species of *Juncus*.

PROPHYLLATE Furnished with prophylls.

PROSTRATE Lying flat.

PROTANDROUS, PROTERANDROUS Having the anthers mature before the pistils in the same flower.

PROTHALLUS, PROTHALLIUM Gametophyte stage or generation in ferns and fern-allies, bearing the sexual organs.

PROTOGYNOUS Having the stigma receptive to pollen before pollen is shed from the anthers of the same flower.

PROTUBERANCE A protrusion, swelling, bump, or bulge.

PROXIMAL Located nearest to the base or attachment point of a structure; contrasting with distal.

PRUINOSE Having a bloom on the surface; with a waxy or powdery secretion; with a surface coating more pronounced than glaucous.

PSEUDO- Greek prefix meaning false, not genuine.

PSEUDOANTAGONISM Pollination system (e.g., in some Orchidaceae) in which a flower mimics a male insect, thereby attracting a male insect that "fights" with the flower in an effort to protect his territory. In the process of repeating this activity, pollen can be transferred from one plant to another.

PSEUDOBULB The thickened or bulb-like, above ground stems of certain orchids.

PSEUDOCARP A structure made up of the mature ovary combined with some other organ; e.g., the hip of a rose.

PSEUDOCOPULATION Pollination system (e.g., in some Orchidaceae) in which a flower mimics a female insect (e.g., wasp or fly), thereby attracting male insects who copulate with the flowers and in the process of repeating this activity transfer pollen from one plant to another.

PSYCHOACTIVE Mind altering. A number of psychoactive materials are produced by plants.

PTERIDOLOGY The study of ferns and similar plants.

PTERIDOPHYTE A fern or similar plant; any member of the Lycopod-

iophyta, Psilophyta, Polypodiophyta (formerly Pteridophyta), or Equisetophyta (formerly Sphenophyta).

PUBERULENT Minutely pubescent.

PUBESCENCE The covering or indumentum of hairs on a plant without reference to specific type (e.g., pilose, hirsute).

PUBESCENT (a) General term for covering or indumentum of hairs; (b) sometimes used in a more restricted sense to refer to fine short hairs; downy.

PULP The juicy or fleshy tissue of a fruit.

PULVINATE With a pulvinus; cushion-shaped.

PULVINUS The swollen base of a petiole, as in many Fabaceae. The structure is often involved in leaf movements.

PUNCTAE Dots, depressions, or pits, commonly glandular in nature.

PUNCTATE With translucent or colored dots, depressions, or pits.

PUNCTICULATE Minutely punctate.

PUNGENT (a) Ending in a rigid sharp point or prickle; (b) acrid to the taste or smell.

PURPURASCENT Becoming or turning purple.

PUSTULATE With pustules, blisters, or blister-like swellings.

PUTAMEN The bony endocarp or "pit" of some fruits.

PYRENE The "nutlet," "pit," or stone in a drupe or drupelet; a seed together with the bony endocarp.

PYRIFORM Pear-shaped.

PYXIS (pl. PYXIDES) A capsule with circumscissile dehiscence, the top coming off as a lid; e.g., in *Plantago*.

Q

QUADR- Latin prefix meaning four.

QUADRANGULAR Four-cornered; square.

QUADRATE Nearly square.

QUASI- Prefix meaning "as if."

R

RACEME An unbranched (= simple) inflorescence with pedicelled flowers from an elongate main axis. Racemes are indeterminate.

RACEMIFORM Having the form, but not necessarily the technical character of a raceme.

RACEMOSE In racemes or resembling a raceme.

RACHILLA (a) A small rachis; (b) specifically the axis of a spikelet in the Poaceae.

RACHIS (a) Leaflet-bearing central axis of a pinnately compound leaf; (b) axis of an inflorescence.

RADIALLY SYMMETRICAL Descriptive of a structure that can be cut into halves from any marginal point through the center. When used in reference to flowers, the term is synonymous with actinomorphic or regular.

RADIATE (a) Spreading from a common center; (b) in Asteraceae, describing a head with disk florets in center and a whorl of ray (= ligulate) florets around the periphery.

RADIATE HEAD In Asteraceae, a head with both peripheral ray (= ligulate) florets and central disk florets.

RADICAL LEAVES Leaves arising from a root crown; basal leaves.

RADICLE Embryonic root of a germinating seed.

RAMEAL Pertaining to or located on a branch.

RAMIFICATION The arrangement of branching parts.

-RANKED Suffix, when combined with a numerical prefix, indicating the number of longitudinal rows in which leaves or other structures are arranged along an axis or rachis.

RAPHIDE Needle-shaped crystal in a plant cell, typically of calcium oxalate.

RAPHIDULOUS Resembling or having raphides.

RAY (a) Flat or strap-shaped type of corolla found in many Asteraceae; (b) primary branch of a compound umbel.

RAY FLORET (= Ligulate floret) Flower, with corolla expanded into a ligule, typical of many Asteraceae.

RECEPTACLE (a) (= Torus) Tip of a stem or pedicel, usually more or less enlarged, on which flower parts are attached; (b) in Asteraceae, the structure on which the florets of a head are attached.

RECEPTACULAR Referring to the receptacle.

RECLINED, RECLINATE Bent or turned downward.

RECUMBENT Leaning or reclining.

RECURVED Curved downward or backward.

REDUCED Small but probably derived from larger forerunners.

REFLEXED Abruptly bent downward.

REGULAR (= Actinomorphic or Radially symmetrical) Referring to a structure that can be cut into halves from any marginal point through the center; with the parts in each series alike or uniform. The term usually refers to flowers.

RELIC (a) A long-surviving species whose relatives have become extinct; (b) a plant persisting in a relatively small portion or portions of its former range.

REMOTE Widely or distantly spaced.

RENIFORM Kidney-shaped.

REPAND With a shallowly sinuate, undulating, or slightly wavy margin; less strongly wavy than sinuate.

REPENT Creeping and rooting at the nodes.

REPLICATE Folded backward.

REPLUM The partition between the halves of a fruit; e.g., Brassicaceae.

RESIN, RESINOID A miscellaneous or catchall term for a variety of amorphous, sometimes semisolid, perhaps gummy substances from plants. A number are toxic, sometimes extremely so; some are terpene derivatives while others are phenolic compounds; examples of phenolic resins are tetrahydrocannabinol (THC) from marijuana, urushiol from poison ivy, and hypericin from *Hypericum perforatum*.

RESINOUS, RESINIFEROUS Producing or bearing resin.

RESUPINATE Upside down; inverted; turned 180 degrees; e.g., some members of the Fabaceae and Orchidaceae have resupinate flowers.

RETICULATE Net-veined or with a net-like pattern.

RETINACULUM (pl. RETINACULA) (a) In Asclepiadaceae, the filament-like band connecting a pollinium to the gland-like corpusculum; (b) in Acanthaceae, the curved, hook-like, modified funiculus which retains the seed until maturity.

RETROSE Bent or turned backward or downward; e.g., hairs pointing down a stem, the free end of the hair below or proximal to the attached end; contrasting with antrorse.

RETROSELY BARBED With barbs (= points) pointing downward toward base.

RETUSE Shallowly notched at a rounded apex.

REVOLUTE With margins rolled down and inward; e.g., revolute leaves.

RHIZOID A filamentous root-like structure (without the anatomy of a root) on the gametophyte of ferns or other non-seed-producing plants.

RHIZOMATOUS Possessing a rhizome.

RHIZOME Underground stem with nodes and scale leaves.

RHIZOPHORE In certain Pteridophytes, a specialized leafless stem emitting roots.

RHOMBIC Somewhat diamond-shaped; shaped like two adjacent equilateral triangles.

RHOMBOID, RHOMBOIDAL A three-dimensional rhombic figure.

RIB (a) One of the principal longitudinal veins of a leaf or other organ; (b) ridge on a fruit.

RIBBED With prominent ribs or veins.

RINGENT Gaping; open.

ROOT The portion of the main axis (or one of its subdivisions) of a plant usually found below ground and lacking nodes, internodes, or leaves.

ROOTLET (a) A little root; (b) term often applied to the holdfast roots of certain climbing plants.

ROOTSTOCK According to Shinnors (1958), a "weasel-word" indicating an elongate crown, rhizome, or rhizome-like structure; an old inaccurate term for rhizome.

ROSEATE Rosy or pinkish.

ROSETTE A cluster or whorl of leaves or other organs closely arranged in a radial pattern.

ROSTELLATE Diminutive of rostrate.

ROSTELLUM (a) A small beak; (b) in Orchidaceae, an extension from the upper edge of the stigma.

ROSTRATE Beaked.

ROSTRUM A beak or any beak-like extension.

ROSULATE In rosettes.

ROSY The rich pink characteristic of the petals of some roses.

ROTATE Wheel-shaped or saucer-shaped as in a sympetalous corolla with an obsolete or very short tube and a flat circular limb.

ROTUND Essentially circular in outline.

RUDERAL Weedy or growing in waste places.

RUDIMENT A structure very imperfectly developed, non-functional, or represented only by a vestige; e.g., rudimentary non-functional florets in some grass spikelets.

RUDIMENTARY Having the character of a rudiment.

RUFESCENT Becoming reddish brown.

RUFIOUS Reddish brown.

RUGOSE Wrinkled.

RUGULOSE Diminutive of rugose.

RUMINATE Appearing as though chewed or wadded; roughly wrinkled.

RUNCINATE With margins that are coarsely serrate to sharply incised with the segments pointing toward the base, as in *Taraxacum*.

RUNNER An elongate, slender, prostrate stem taking root at the nodes or tip.

RUPTURING Bursting open along irregular lines.

RUSSET Reddish brown.

s South.

SAC A pouch or bag.

SACCATE Sac-like; pouch-like.

SAGITTATE With the form of an arrowhead; triangular with the basal lobes pointing downward or inward toward the petiole.

SALIENT Projecting forward.

SALINE Of or pertaining to salt.

SALVERFORM Descriptive of a corolla having a narrow, nearly straight basal tube, abruptly expanded at top into a flattened or saucer-shaped limb.

SAMARA A dry, indehiscent, winged fruit; a fruit that is achene-like but with a flat wing; e.g., in maple, *Acer* (Aceraceae).

SAP The juice of a plant.

SAPONACEOUS Soapy, slippery to the touch.

SAPONIC or **SAPONIN GLYCOSIDE** A glycoside (two-component molecule) that upon breakdown yields a saponin.

SAPONIN A soap-like molecule that lowers the surface tension of aqueous solutions. Saponins usually have a bitter acrid taste and are commonly irritating to mucous membranes; chemically saponins are either triterpenes or steroids; they can alter the permeability of cell membranes and may react with proteins and are thus potentially toxic; they are highly toxic to cold-blooded animals and have long been used to stun fish.

SAPROPHYTE A non-photosynthetic plant without chlorophyll, deriving its food from dead organic material in the soil by mycorrhizal relationships or otherwise; e.g., *Monotropa* (Ericaceae).

SAPROPHYTIC Subsisting on dead organic matter.

SAXICOLOUS Growing on rocks.

SCABERULOUS Minutely scabrous.

SCABRIDULOUS Slightly rough.

SCABROUS Rough to the touch due to short stiff hairs or the structure of the epidermis.

SCALARIFORM Ladder-like.

SCALE Any small, thin, usually dry, appressed leaf or bract, often only vestigial.

SCALLOPED Crenate.

SCANDENT Climbing without aid of tendrils.

SCAPE A naked (leafless but scales or bracts may be present) flowering stem or stalk arising from the ground.

SCAPIFORM Resembling a scape.

SCAPOSE Bearing or resembling a scape.

SCARIOUS Membranous, dry, papery, translucent or transparent, not green.

SCATTERED Distributed in an irregular manner; not clustered together.

SCHIZO- Greek suffix meaning split or divided.

SCHIZOCARP A fruit that splits between carpels into one-seeded portions (= mericarps); e.g., in the Apiaceae or Boraginaceae.

SCIOPHYTE A plant adapted to grow in or tolerate shade.

SCIMITAR-SHAPED With the shape of a curved sword or scimitar.

SCLERENCHYMA An internal tissue composed of hard, thick-walled cells.

SCLERENCHYMATOUS Having sclerenchyma.

SCLEROTIC Hardened; stony in texture.

SCORPIOID Uncurling, like a scorpion's tail.

SCROBICULATE Marked by minute or shallow depressions.

SCROTIFORM Pouch-like.

SCRUB Vegetation of stunted or densely crowded bushes.

SCURFY With whitish, scaly, blister-like structures or scales on the surface.

SCUTELLUM A shield-like protrusion on the calyx; e.g., in some Lamiaceae.

SECONDARY COMPOUNDS Naturally occurring plant materials not essential to the primary (= life-sustaining) metabolism of the plant; examples of categories include alkaloids and glycosides. Many are significant because of their physiological activity when given to animals; they are probably important to plants in defense against herbivores or microbes.

SECOND GLUME The uppermost of the two glumes of a spikelet.

SECUND Directed to one side; arranged on one side only; unilateral; one-sided.

SEED A fertilized ripened ovule, covered by a seed coat (developed from the integument(s)) and containing the embryo and in flowering plants the endosperm. The seed also contains the remnants of the nucellus (= sporangium) and megagametophyte.

SEED COAT (= Testa) Outer covering of a seed, developed from the integument(s).

SEEP A moist spot where underground water comes to or near the surface.

SEGMENT One of the parts of a leaf, petal, or calyx that is divided but not truly compound.

SEGREGATE Term used as a noun or adjective to refer to or describe a taxon that is sometimes recognized separately from a more inclusive group; e.g., depending on authority, the segregate, *Tovara* (or the segregate genus, *Tovara*), is either included in, or recognized separately from, the more inclusive genus *Polygonum*.

SELENIFEROUS Containing selenium.

SELENIUM An element that is concentrated in the tissues of some plants (e.g., poison-vetches in genus *Astragalus*) and can cause a toxic, sometimes fatal response in livestock.

SELF-FERTILE Capable of self-fertilization (= union of gametes from same plant).

SELF-INCOMPATIBLE Incapable of self-fertilization.

SEMI- Latin prefix meaning half.

SEMIPARASITIC (= Hemiparasitic) Descriptive of a plant that carries out photosynthesis but obtains some of its food, mineral nutrition, or water needs from another living organism (the host).

SENESCENT Aging or aged.

SENSU LATO "In a broad sense"; used to refer to the broad treatment of taxa; e.g., a genus sensu lato is one that has not been split into a number of segregates.

SENSU STRICTO "In a narrow sense"; used to refer to a restricted or narrow treatment of a taxonomic group; e.g., a genus sensu stricto is viewed in a more restricted sense than previously as the result of segregating or splitting out various taxa.

SEPAL A single unit of the calyx; one of the outermost whorl of parts in a complete flower. Sepals typically cover the other flower parts during the bud stage; they are collectively referred to as the calyx.

SEPALOID Sepal-like, usually green and thicker in texture than a petal.

SEPARATE Not joined; of individual units.

SEPTATE With partitions or divisions.

SEPTICIDAL Descriptive of a capsule that dehisces along or through the septa or partitions separating its locules or seed chambers; contrasting with loculicidal.

SEPTIFRAGAL Breaking away at the partitions, as the valves of a capsule.

SEPTUM A partition or cross wall within an organ; e.g., the septa of an ovary or of the leaf of a rush (*Juncus*).

SERiate, SERIAL With series or distinct rows.

SERICEOUS Silky; with appressed, fine, and straight hairs.

SEROTINOUS Literally, "late"; in *Salix* indicating those species in which the catkins develop later than the leaves; produced or occurring late in the season.

SERRATE With pointed teeth sloping forward; saw-toothed.

SERRULATE Finely serrate.

SESSILE Without a pedicel, petiole, or stalk; inserted directly.

SETA (pl. SETAE) A bristle.

SETACEOUS Bristle-like.

SETIFEROUS Bearing bristles.

SETIFORM Resembling a bristle.

SETOSE Bearing bristles.

SETULOSE Diminutive of setose.

SHEATH (a) \pm tubular structure surrounding an organ; portion that clasps or encloses; (b) specifically, the basal tubular portion of the leaf in grasses and grass-like plants between the node and the blade.

SHOOT (a) A young stem or branch; (b) the ascending axis of a plant.

SHOULDER That part of an organ that rather abruptly curves inward.

SHRUB A woody perennial usually branching from the base with several main stems.

SIGMOID S-shaped; doubly curved.

SILICA Silicon dioxide; a white or colorless, very hard, crystalline mineral substance.

SILICEOUS Containing or composed of silica (the principal component of glass and sand); e.g., descriptive of certain hairs, with high silica content, that easily break off in the flesh.

SILICLE, SILICULA A short silique; short and broad capsular fruit of the mustard family. A silicle is not much longer than broad; sometimes defined as < 3 times as long as broad.

SILIQUE, SILIQUA Dry, dehiscent, variously shaped, many-seeded, 2-valved capsule with valves splitting from the bottom and leaving a false partition known as a replum; the fruit type typical of the mustard family. The term is sometimes restricted to long and narrowly cylindrical fruits 3 times as long as broad or longer; shorter fruits with the same structure are then referred to as silicles.

SILKY Sericeous; with appressed, fine, and straight hairs.

SILVERY With a whitish, metallic, more or less shining luster.

SIMPLE (a) Single, of one piece, not compound, as a pistil of one carpel. (b) descriptive of an unbranched stem, inflorescence, or other structure; (c) descriptive of a leaf that is not compound.

SIMPLE LEAF Single-bladed leaf, not divided into individual leaflets.

SIMPLE PISTIL Pistil composed of only one carpel (and with a single style branch).

SINUATE, SINUOUS Having the margin wavy with regular strong indentations.

SINUS The space or recess between two lobes, segments, or divisions of a leaf or other expanded organ.

SLOUGH A wet place or deep mud or mire; a sluggish channel.

SMOOTH Not rough to the touch; without vestiture or other special covering.

SOBOL A basal shoot.

SOBOLIFEROUS Producing basal shoots, clump-forming.

SOLITARY Borne singly.

SORDID Dirty white.

SORUS (pl. SORI) A cluster or heap of sporangia. The term is used mainly to refer to the sporangial clusters of ferns.

SPADIX (pl. SPADICES) Fleshy spike with inconspicuous flowers, usually surrounded or partially enclosed by a spathe; e.g., characteristic of Araceae.

SPATHACEOUS, SPATHIFORM Resembling a spathe.

SPATHE Enlarged leafy bract surrounding or partially enclosing an inflorescence.

SPATULATE Spatula-shaped; rounded above and gradually narrowed to base.

SPECIES Unit of classification below the rank of genus; a group of individuals that are actually or potentially capable of interbreeding in natural populations and are reproductively isolated from other such groups. Generally there are morphological characteristics that distinguish and can thus be used to separate such groups; the definition is complicated by instances of asexual reproduction.

SPECIFIC EPITHET The second half of the scientific name of a species, the scientific name being composed of the genus name and the specific epithet.

SPERMATOPHYTE A plant that produces seeds; all gymnosperms and angiosperms.

SPHERICAL Globular; orbicular.

SPICATE In spikes or resembling a spike.

SPICIFORM Having the form of a spike but not necessarily the technical structure.

SPIKE Indeterminate inflorescence with sessile flowers on a \pm elongate floral axis.

SPIKELET The basic unit of the grass inflorescence, usually consisting of a short axis (= rachilla) bearing two empty bracts (= glumes) at the basal nodes and one or more florets above. Each floret usually consists of two bracts (the lemma = lower bract and the palea = upper bract) and a flower. The flower usually includes two lodicules (= vestigial perianth segments that become turgid and open the bracts at flowering time), three stamens, and a pistil. The term spikelet is also used to refer to the basic unit of the inflorescence in the Cyperaceae.

SPINE A sharp-pointed structure, usually vascularized and thus \pm stout or woody, generally modified from part or all of a leaf or stipule. A spine is sometimes distinguished from a thorn, which is a modified branch.

SPINESCENT Becoming spine-like; ending in a spine; having spines.

SPINIFEROUS, SPINOSE Having spines.

SPINULOSE With small spines over the surface, margin, or edge.

SPIRAL Describing the arrangement of like organs, such as leaves, at regular angular intervals along an axis.

SPIRAL THICKENING Thickening of the walls of a xylem cell laid down in the form of a spiral.

SPLITTER A taxonomist who in general has the tendency to split or divide larger taxa into a number of segregates; contrasting with lumper.

SPONGIOSE Soft, spongy.

SPORADIC Of irregular occurrence.

SPORANGIOPHORE An appendage holding a sporangium.

SPORANGIUM (pl. SPORANGIA) A spore case or spore sac.

SPORE An asexual, usually one-celled reproductive body; a cell resulting from meiotic cell division in a sporangium representing the first cell of the gametophyte generation.

SPOROCARP A specialized structure containing sporangia.

SPOROPHYLL Spore-bearing leaf.

SPOROPHYTE The spore-producing, typically diploid generation that alternates with the gametophyte (= gamete-producing, typically haploid); the dominant generation in most plants except mosses and liverworts.

SPREADING Diverging to the side, almost to the horizontal.

SPREADING HAIRS Hairs that are \pm erect, not at all appressed.

SPUR (a) Basal, sac-like, hollow projection, short or long and narrow, from a corolla or calyx, and often containing nectar; (b) a short lateral branch with little internode development resulting in closely clustered leaves or flowers.

SQUAMA (pl. SQUAMAE) A scale, usually reduced from and homologous to a leaf.

SQUAMELLA (pl. SQUAMELLAE) A tiny or secondary scale.

SQUAMOSE, SQUAMATE Covered with scales; scaly.

SQUAMULOSE With small scales.

SQUARROSE Spreading rigidly at right angles or more; e.g., with leaves or bracts spreading and bending backward abruptly in the upper part.

STALK The supporting structure of an organ; e.g., petiole, pedicel, peduncle.

STAMEN The male reproductive organ of a flower consisting of a filament (= stalk) and anther (= pollen-bearing structure). The stamens of a flower are collectively referred to as the androecium.

STAMINAL Pertaining to a stamen.

STAMINATE Referring to a flower with only the stamens being functional or with stamens only.

STAMINODE, STAMINODIUM (pl. STAMINODIA) An abortive, sterile, or nonfunctional stamen with reduced anther or usually none. A staminode can be enlarged or widened, sometimes so much so as to be petal-like.

STANDARD (a) (= Banner) The usually large, upper (= adaxial) petal of a papilionaceous flower (Fabaceae); (b) the inner erect tepals or perianth segments in *Iris* (Iridaceae).

STELE The central vascular cylinder of a plant.

STELLATE Star-shaped or star-like; when used in reference to hairs it means those branched hairs with a central stalk and branch hairs arising at the top of the stalk (like points of light coming out of a star).

STEM A major division of the plant-body in contrast to root

and leaf, distinguished from both by certain anatomical features and commonly also by general aspect; the main axis or axes of a plant; the portion of the plant axis bearing nodes, leaves, and buds and usually found above ground.

STERILE Unproductive; nonfruiting; without functional sex organs; without spores.

STERIGMA (pl. STERIGMATA) A very short persistent stipe or stalk.

STERNOTRIBAL Descriptive of flowers in which anthers are positioned to dust pollen on underside of thorax of insects.

STEROID Any of a large group of lipid soluble organic compounds based on a complex framework of four interconnected rings of carbon atoms. A number of plant glycosides have steroids as the aglycone; these aglycones are often toxic.

STEROID GLYCOSIDE A glycoside (two-component molecule) that upon breakdown yields a steroid as the aglycone (= non-sugar component). Cardiac glycosides and some saponic glycosides have steroidal aglycones; these are often poisonous.

STIGMA Portion of pistil (usually terminal and small) modified (roughened, sticky, or branched) to catch or receive pollen; the receptive surface of the pistil.

STIGMATIC Like or pertaining to a stigma.

STIPE (a) In general, a stalk; (b) specifically, the leaf stalk of a fern; (c) specifically, the narrow, stalk-like, basal portion of an ovary or fruit; e.g., in *Cleome*.

STIPEL Appendage at the base of a leaflet, analogous to a stipule at base of a leaf.

STIPELLATE With stipels.

STIPITATE With a stalk or stipe.

STIPULAR Pertaining to or located on a stipule.

STIPULATE With stipules.

STIPULE Paired appendages subtending the petiole of a leaf. Stipules can be conspicuous and persistent, small and rapidly lost, or totally lacking; the evolutionary origin and original function of stipules is unclear. They have become variously modified to serve as spines, additional photosynthetic area, etc.

STOLON A creeping horizontal stem that loops or runs along the surface of the ground and roots at the nodes.

STOLONIFEROUS Producing stolons.

STOMA, STOMATE (pl. STOMATA) A minute opening (= "breathing" pore) between the epidermal cells of a leaf or stem through which gases and water-vapor enter and leave the plant.

STOMATIFEROUS Bearing stomata.

STONE Bony endocarp of a drupe.

STONE CELLS (= Grit cells) Individual cells that have become hardened or sclerotic; e.g., in flesh of a pear.

STRAMINEOUS Straw-colored.

STRIATE With fine longitudinal lines, channels, or ridges.

STRICT Very straight, unbranched, upright.

STRIGILLOSE, STRIGULOSE Diminutive of strigose.

STRIGOSE With sharply bent (at base) but otherwise straight, appressed hairs.

STROBILUS (pl. STROBILI) (= Cone) A usually cone-like, globose or cylindrical structure involved in reproduction and composed of an axis with a spiral, usually dense aggregation of sporophylls, bracts, or scales (these bearing spores, pollen, or seeds).

STROPHILOLATE Having a strophiole.

STROPHIOLE On certain seeds, an appendage to the hilum.

STRUMOSE Descriptive of the surface of an organ bearing cushion-like swellings.

STYLE Portion of pistil between ovary and stigma, often elongated and narrow, frequently branched with the number of branches often indicative of the number of carpels making up the pistil.

STYLOPODIUM Enlarged base of style as in many Apiaceae.

SUB- Latin prefix meaning almost, somewhat, of inferior rank, beneath.

SUBAPICAL Almost at the apex.

SUBBASAL Almost at the base.

SUBCLASS The unit, category, or rank in classification between class and order, composed of one or more orders; e.g., the Liliidae is a subclass of class Monocotyledonae.

SUBCORIACEOUS Somewhat leathery in texture.

SUBEROSE Corky in texture.

SUBFAMILY The unit, category, or rank in classification between family and genus, composed of one or more genera.

SUBGENUS A unit, category, or rank in classification between genus and species, composed of one or more species.

SUBORDER The unit, category, or rank in classification between order and family, composed of one or more families.

SUBMERGED, SUBMERSED (= Immersed) Growing under water.

SUBSESSILE Almost sessile.

SUBSPECIES A unit, category, or rank in classification below the level of species and between species and variety; a geographically distinct variant. The categories of subspecies and variety are not used consistently by taxonomists.

SUBTEND To be present just below; e.g., an involucre of bracts immediately subtends the flowers of some Malvaceae.

SUBTERRANEAN Below ground.

SUBULATE (= Awl-shaped) Tapering from the base to a slender or stiff point; narrow and sharp-pointed.

SUCCULENT Fleshy, thickened.

SUCKER A shoot of subterranean origin. Many tree species have sucker shoots with leaves atypical for the species (e.g., oaks).

SUFFRUTESCENT, SUFFRUTICOSE Woody only at base with the upper parts herbaceous and annual; obscurely shrubby or fruticose.

SULCATE Grooved or furrowed longitudinally.

SULCUS A furrow or groove.

SUPERIOR OVARY One that is separate from the other flower parts. The other flower parts may over-top it but are attached at or under its base; a superior ovary is found in either a hypogynous or a perigynous flower.

SUPINE Laying flat with face upward.

SUPRA-, SUPER- Latin prefix meaning above.

SUPRAMEIAL Above the middle; when used to refer to the location of fern sori, it means somewhat beyond the middle of the distance between the leaf segment midvein and margin, but not so much so as to be called submarginal.

SUPPRESSED Failing to develop.

SURCULOSE Producing suckers or shoots arising from underground parts.

SURCURRENT Extending upward; said of a pinnule whose base extends upward and forms a wing along the rachis; opposite

of decurrent.

SUSPENDED Hanging downward.

SUTURE A line of dehiscence or a longitudinal seam.

SWALE A moist meadowy area lower than the surrounding areas.

SWAMP Wet or periodically wet area with some trees.

SYM-, Greek prefix meaning with or together.

SYMMETRICAL Possessing one or more planes of symmetry; regular in number and size of parts.

SYMPATRIC Growing together with or having the same range as.

SYMPETALOUS (= Gamopetalous) With petals united, at least basally, forming a tube.

SYMPODIAL With the main axis or stem ceasing to elongate but growth being continued by the lateral branches.

SYMPODIUM An apparent main axis formed of successive secondary axes, each of which represents one fork of a dichotomy, the other being much weaker or entirely suppressed.

SYN- Greek prefix meaning united.

SYNCARP (= Multiple fruit) Used to refer to a structure composed of several more or less coalescent fruits from separate flowers; e.g., *Morus* (mulberry), *Maclura* (bois d'arc), *Ananas* (pineapple).

SYNCARPOUS (a) Having carpels united; (b) of or pertaining to a syncarp.

SYCONIUM The multiple, hollow "fruit" of a fig (*Ficus*), which is actually an enlarged fleshy branch or receptacle enclosing the inflorescence (with flowers borne inside). Much of the tissue of a fig is morphologically derived from the stem.

SYNGENESIOUS With anthers united into a tube surrounding the style. This condition is typical of Asteraceae.

SYNSEPALOUS (= Gamosepalous) With sepals united, at least basally, forming a tube.

SYNONYM A currently unaccepted scientific name for a taxon.

SYNONYMY Referring to the series of names no longer used for a taxon.

SYSTEMATICS Scientific study of the kinds and diversity of living organisms and of the relationships between them. The term is often used synonymously with taxonomy.

T

TANNIN A type of phenol (= aromatic alcohol) that can act as a digestion inhibitor by binding up proteins and thus stopping enzymatic action. They are widespread in plants apparently as a chemical defense against herbivores; used by humans to tan leather; when ingested in quantity they can be toxic to animals.

TAPROOT, TAPROOTED The primary descending root, giving off small laterals but not dividing; the one dominant root markedly larger than the others.

TAWNY Dull brownish-yellow; fulvous.

TAXON (pl. TAXA) (a) General term referring to any unit of classification such as variety, subspecies, species, genus, family, etc.; (b) term used to refer to a specific variety, subspecies, etc.

TAXONOMY The branch of science that deals with classification, identification, and nomenclature.

TEETH (plural of tooth) Marginal projections, protuberances,

serrations, or dentations, usually sharply pointed.

TENDRIL A slender twining or coiling appendage or axis that enables plants to climb; often a modified leaf or stem.

TEPAL Part of a perianth, usually of a perianth consisting of only one whorl, or of one not differentiated into sepals and petals; a part of the outermost whorl or whorls of flower parts.

TERATOLOGICAL Distinctly abnormal; malformed.

TERETE Rounded or circular in cross-section, cylindrical.

TERMINAL At the tip or apex; distal.

TERMINAL BUD (= Apical bud) Bud at the end (= apex) of a stem or branch.

TERNATE, TERNARY In threes.

TERPENES, TERPENOIDS Common organic compounds in plants that are products of acetate metabolism. Numerous kinds are known resulting from variations in the use of 5-carbon isoprene units in their structures; they are often combined with other substances to form complex molecules; essential oils, saponins, some resins, latex, carotenoid pigments, and steroids are examples of compounds that are terpene derivatives.

TERRESTRIAL Growing in the ground; supported by soil; contrasting with aquatic.

TESTA (= Seed coat) The outer covering of a seed; hardened mature integument(s).

TETRA- Greek prefix referring to four.

TETRAD A group of four similar objects; e.g., in Ericaceae, the four pollen grains remaining together.

TETRADYNAMOUS With four long stamens and two short stamens.

TETRAGONAL, TETRAGONOUS Four-angled.

TETRAHEDRAL Four-sided, as a three-sided pyramid and its base.

TETRAMEROUS (= 4-merous) Having flower parts in fours or multiples of four.

TETRAPLOID With four sets of chromosomes; twice the normal diploid level.

THALLOID Consisting of a thallus; thallus-like.

THALLOPHYTES Algae and fungi.

THALLUS (a) A plant body not differentiated into true leaves, stems, or roots; (b) a flat, leaf-like organ.

THECA (= Anther cell) One of the pollen sacs or locules of an anther.

THORN A sharp-pointed, stiff, woody structure derived from a modified branch.

THROAT The area of juncture of limb and tube in a sympetalous corolla.

THYRSE A panicle-like inflorescence consisting of cymes, usually elongate and slender with main axis indeterminate and the lateral axes determinate.

THYRSOID With the appearance of a thyrse.

TOMENLOSE Covered with short, soft, curly, densely matted or entangled hairs.

TOMENTULOSE Diminutive of tomentose.

TOMENTUM Densely matted wool.

TOOTH (pl. TEETH). Any marginal projection, protuberance, serration, or dentation, usually sharp pointed.

TOOTHED With minor projections and indentations alternating along the margin.

TOPOTYPE A specimen from the original or type locality of that species or other taxon.

TOROSE Alternately contracted and expanded.

TORTUOUS Twisted or bent in different directions.

TORULOSE Cylindrical with slight constrictions at intervals; necklace-like.

TORUS (= Receptacle) Tip of a stem or pedicel, usually more or less enlarged, on which flower parts are attached.

TOXALBUMIN Toxic plant proteins; e.g., ricin from *Ricinus*. The term phytotoxin is also often used in this context.

TRABECULA A transverse partition or cross-bar.

TRABECULAR, TRABECULATE Like or with a partition or cross-bar.

TRAILING Prostrate, but not rooting.

TRANSLATOR In Asclepiadaceae, the wishbone-shaped combination of the clip (= gland-like corpusculum) and bands (= filament-like retinacula) connecting a pair of pollinia from adjacent anthers.

TRANSLUCENT Allowing the passage of light rays, but not transparent.

TRANSVERSE Lying or being across or in a cross direction.

TRAPEZOID A body with four unequal sides.

TREE A woody perennial with usually a solitary trunk or main stem.

TRI- Latin prefix indicating three, or three times.

TRIAD In threes.

TRIBE The unit, category, or rank in classification between subfamily and genus, composed of one or more genera.

TRICHOME Any hair, hair-like projection, or bristle from the epidermal surface.

TRICHOTOMOUS Forking into three equal parts.

TRICOLPATE Three-grooved; e.g., a three-grooved pollen grain.

TRIFID Three-cleft.

TRIFOLIATE Having three leaves. The term is often used synonymously with trifoliate.

TRIFOLIOLATE Having three leaflets.

TRIFURCATE With three prongs; three-forked.

TRIGONOUS, TRIGONAL Three-angled.

TRILOBED, TRILOBATE Three-lobed.

TRIMEROUS Having the parts in threes.

TRIMORPHIC Of three forms.

TRINERVED With three primary nerves; triple-nerved; usually with a midrib and two main lateral nerves arising from the base of the midrib.

TRIPARTITE Three-parted.

TRIQUETROUS Three-angled in cross-section.

TRISTICHOUS In three vertical rows.

TRULLATE Trowel-shaped, widest below the middle.

TRUMPET-SHAPED Describing a gamopetalous corolla or gamosepalous calyx in which the tube gradually widens upward.

TRUNCATE Ending abruptly as if cut off squarely at the end; appearing "chopped off."

TUBE The narrow, cylindrical, basal portion of a sympetalous corolla or synsepalous calyx.

TUBER Modified underground stem; stem enlarged and subterranean with nodes, buds, and scale leaves, often serving to store food; e.g. in *Solanum* (potato).

TUBERCLE (a) A small, tuber-like structure; (b) small rounded protuberance or projection from a surface; (c) the persistent style base in some Cyperaceae.

TUBERCULATE Covered with tubercles or warty or nipple-like protuberances.

TUBERIFEROUS Bearing tubers.

TUBEROUS Bearing tubers or resembling a tuber in appearance.

TUBULAR With the shape of a hollow cylinder.

TUFT; TUFTED A cluster or fascicle of trichomes, leaves, or other elongate structures.

TUMID Swollen; inflated.

TUNIC A loose, membranous, outer skin or coat.

TUNICATE Describing a bulb in which the leaves are arranged in concentric circles; with coats or tunics.

TURBINATE Top-shaped; inversely conical.

TURGID Swollen, but solid or full; contrasting with inflated.

TURION A scaly swollen structure or offshoot, often serving to overwinter; e.g., in some *Myriophyllum* species the turions store carbohydrates and serve as propagules.

TWICE-PINNATELY COMPOUND (= Bipinnate) Descriptive of a leaf with leaflets pinnately arranged on lateral axes that are themselves pinnately arranged on the main axis; with the primary divisions (= pinnae) themselves pinnate.

TWIG A young woody stem; the growth of the current season.

TWO-LIPPED (= Bilabiate) Descriptive of a corolla (or calyx) of united petals (or sepals) cut on the two sides forming an upper and a lower portion.

TYPE A plant specimen to which the name of a taxon is permanently attached. When a new taxon (e.g., species, variety) is named, the name has to be associated with a particular "type" specimen.

U

UBIQUITOUS Occurring everywhere.

UMBEL Usually flat-topped or convex inflorescence with flower pedicels all attached at the same point, like the rays of an umbrella; inflorescence type typical of Apiaceae (Umbelliferae).

UMBELLATE Umbel-like, or in an umbel.

UMBELLET A secondary or ultimate umbel; one of the smaller umbellate flower clusters in a compound umbel.

UMBELLIFORM Resembling an umbel in appearance.

UMBO A rounded elevation or protuberance at the end of or on the side of a solid organ.

UMBONATE With an umbo or projection.

UNCINATE With apex hooked; e.g., hairs with a hook at tip.

UNCINULATE Minutely uncinata.

UNDULATE Gently wavy, less pronounced than sinuate.

UNGUICULATE Narrowed at the base into a claw.

UNI- Latin prefix meaning one.

UNIFOLIATE With only one leaf.

UNIFOLIOLATE Referring to a compound leaf reduced to a single leaflet; e.g., in some members of the Fabaceae.

UNILATERAL One-sided; developed or hanging on one side.

UNILOCULAR Having only one locule or cell.

UNISERIATE Arranged in a single horizontal row.

UNISEXUAL Having only stamens or only pistils; of only one sex; having flowers either staminate or pistillate.

UNITED Fused into one unit.

URCEOLATE Urn-shaped or pitcher-like, ovoid or subcylindrical in shape with narrowed top or opening; e.g., corollas in some Ericaceae.

UTRICLE (a) A small, bladder-like, one-seeded, usually indehiscent fruit; (b) a small bladder.

V

VALVATE Meeting along the margins only and not overlapping; contrasting with imbricate.

VALVE A separable part of a capsule; the units or pieces into which a capsule splits or divides in dehiscing.

VARIEGATED Irregularly colored in patches; blotched.

VARIETY A unit, category, or rank in classification below the level of species, sometimes treated as a subdivision of subspecies; group of plants with minor characters or differences separating them from other similar plants. The terms variety and subspecies are used inconsistently by taxonomists.

VASCULAR Pertaining to the conducting tissues (xylem and phloem).

VASCULAR BUNDLE Thread-like fiber of xylem and phloem in a stem or other organ.

VASCULAR CAMBIUM The thin layer of delicate rapidly dividing cells that form wood internally and bark externally; also known as cambium.

VEGETATIVE ORGAN Root, stem, leaf, or other non-reproductive organ of a plant.

VEIN Strand or bundle of vascular tissue.

VEINLET A little or ultimate vein.

VELAMEN A thin sheath or covering; e.g., on orchid roots.

VELAMENTOUS With a thin sheath or covering.

VELUM Thin flap of tissue.

VELUTINOUS Velvety with numerous erect hairs.

VENATION The pattern or arrangement of veins.

VENTRAL Situated on or pertaining to the adaxial side (= side toward axis) of an organ; typically the upper or inner surface; contrasting with dorsal.

VENTRICOSE (= Gibbous) Swollen or inflated on one side.

VERMIFORM Worm-like.

VERMILLION Scarlet; brilliant red.

VERNAL Appearing in spring.

VERNATION The arrangement of leaves, sepals, or petals in the unopened bud.

VERRUPOSE Covered with wart-like protuberances.

VERRULOSE Diminutive of verrucose.

VERSATILE Attached near the middle and often capable of swinging about the attachment point, typically referring to attachment of an anther to a filament; contrasting with either basifixed or dorsifixed.

VERTICIL (= Whorl) A whorl of three or more members or parts attached at the same node of the supporting axis.

VERTICILLASTER A false whorl composed of pairs of opposite cymes; e.g., in some Lamiaceae.

VERTICILLATE (= Whorled) With three or more leaves or flowers attached at the same node; in a circle or ring.

VESPERTINE Opening in the evening; e.g., night-blooming *Cereus* (Cactaceae).

VESICLE A small cavity or bladder.

VESSEL Water conducting structure of the xylem, formed from the walls of a series of dead xylem cells stacked end to end.

VESTIGIAL Reduced to a trace, rudiment, or vestige; degenerate; referring to a once more fully developed structure.

VESTURE, VESTITURE Any covering on a surface making it other than glabrous; e.g., hairs, scales.

VEXILLUM The standard or banner in papilionaceous flowers.

VILLOSULOUS Diminutive of villous.

VILLOUS, VILLOSE With long, soft, spreading, or ascending, unattached hairs; shaggy.

VINE A plant that climbs by tendrils or other means, or that trails or creeps along the ground.

VIRGATE Wand-shaped; slender, straight, and erect.

VISCID, VISCOUS Sticky; with sticky surfaces formed by secretions; glutinous.

VISCIDULOUS Slightly viscid.

VIVIPAROUS Germinating or sprouting from seed or bud while attached to the parent plant.

VOLUBLE Twining.

W

w West.

WAIF A species that is only fleetingly established and probably not permanently naturalized.

WEED (a) A plant growing where it is not wanted; (b) a plant with the genetic endowment to inhabit and thrive in places of continual disturbance, most especially in areas that are repeatedly affected by the activities of humankind.

WHORL, WHORLED (= Verticillate) With three or more leaves or flowers attached at the same node; in a circle or ring.

WIDE (= Broad) Distance across a structure (equal to diameter if tubular).

WING (a) A thin, membranous or flat extension or projection; (b) the two lateral separate petals in some Fabaceae and Polygalaceae.

WINTER ANNUAL An annual plant (the total life cycle taking one year or less) vegetatively persistent through the winter, and flowering and fruiting in the late winter or early spring.

WOOLLY (= Lanate) With long, soft, and more or less matted or entangled hairs; wool-like.

WORT An old word of Anglo-Saxon origin meaning the equivalent of herbaceous plant.

X

XERIC Characterized by or pertaining to conditions of scanty moisture supply; dry.

XERO- Greek prefix signifying dry.

XEROPHYTE A plant that can subsist with a small amount of moisture, such as a desert plant; contrasting with hydrophyte and mesophyte.

XEROPHYTIC Dry-adapted; drought resistant; contrasting with mesophytic and hydrophytic.

XYLEM Water conducting tissue.

Z

ZYGOMORPHIC Referring to a flower or other structure with only one plane of symmetry; divisible into halves in one plane only; bilaterally symmetrical; e.g., with the left half a mirror image of the right; contrasting with both actinomorphic and irregular.

ZYGOTE Cell produced from fertilization or the union of two gametes; a fertilized egg.