This glossary is modified from those of Shinners (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).

GLOSSARY

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.

ACALLESCENT 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 in the edges against the radicle.

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

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

ACGLAMYDEOUS Lacking a perianth.

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

ACICULAR (= Aceric) 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.

ADHESENT 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 druplets.

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.
AMORPHOUS Without regular or definite form; shapeless.

ANTHESIS Reduced evolutionarily as to not be present in flowering plants.

AMENPHEROUS 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 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).

AMPHITROUS 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.

AMPRIATE Enlarged.

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

ANATOMOUS Ovule that is half inverted, the micropylar end being essentially basal.

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

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.

ANEMOPHYLUS, ANEMOPHYLY Wind-pollinated.

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.

APICULATE Appendix Any attached structure that is supplementary or functional.

APICEPUS Lacking leaves at the base.

APHYLLUS 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.

APETALOUS Having flowers without petals.

AREOLATE Divided into small angular spaces; marked with areolae.

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

Subulate  |  Linear  |  Lanceolate  |  Oblong  |  Ovate  |  Oblanceolate  |  Elliptic  |  Obovate  |  Reniform  |  Cuneate  |  Perfoliate

Leaf Shapes

Simple Leaf  |  Palmately Compound  |  Pinnately Compound  |  Bipinnately Compound

Apex of Blade

Aristate  |  Micronate  |  Cupulate  |  Rounded  |  Acuminate

Obcordate  |  Emarginate  |  Retuse  |  Truncate

Obtuse

Margins

Entire  |  Fimbriate  |  Crenate  |  Sinuate

Dentate  |  Double-Serrate

Municate  |  Bifid

Base of Blade

Cordate  |  Truncate  |  Rounded

Sagittate

Hastate  |  Auralculate

Cuneate  |  Oblique (asymmetrical)
**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.

**ASPERSOUS** Rough to the touch.

**ASSurgent** Ascending, rising.

**ASYMETRICAL** Without symmetry.

**ATOMIFEROUS** Bearing very fine glands.

**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.

**AUricular** 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.

**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** Styles arising from the base of a pistil at an angle.

**BASAL PLACEMENT** Placentation with the ovules arising at the base of the ovary.

**BASAL SYMMETRY** With only one plane of symmetry; arranged on two sides; two-sided.

**BASILAMINAR** At base of blade of leaf or other structure.

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

**BASIScopic** Directed toward the base.

**BASIONYM** 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.

**BEFFER** 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.

**BICOncave** 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**

**Node**
- Alternate
- Opposite leaves 2-ranked
- Opposite leaves 4-ranked
- Whorled

**Flower Shape**
- Funnel-shaped (funneliform)
- Salverform
- Rotate
- Bell-shaped (campanulate)
- Urn-shaped (urceolate)
- 2-lipped (bilabiate)
- Pea-like (papilionaceous)

**Flower Symmetry**
- Asymmetric
- Bilateral
- Radial

**Flower Structure**
- Bisexual flower
- Superior ovary
- Inferior ovary

Adapted from Mason (1957); used with permission of Univ. of California Press; ©1957.
**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.

**Bosk** 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.

**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 moss spore cases.

**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 axis 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 puckerers.

**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.
TYPES OF INFLORESCENCES

ILLUSTRATED GLOSSARY 1427

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CARYOPSIS  Centripetal periphery.

CASTANEOUS  The seed coat; fruit typical of the Poaceae.

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

CHAFFY  Thin, dry, or membranous.

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

CHAMOED  Deeply grooved.

CHARTACEOUS  Stiffly papery.

CHASMOMIOUS  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.

CHORISEPALOUS  Composed of or characterized by separate petals.

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

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

CILIOLATE  Diminutive of ciliate.

CILIUM  (pl. Cilia) Marginal hair or trichome.

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

CINEREUS  Ash-colored; light-gray.

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

CIRCUMCISESSILE  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  CLADOIDE  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.

CLAVALATE  Club-shaped; becoming gradually enlarged apically.

CLAVELLATE  Diminutive of clavate.

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

CLEF  (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, CLLESTOGAMIC  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).

CLONE  A group of individuals of the same genotype; usually propagated vegetatively.
TYPES OF FRUITS AND ROOT AND STEM VARIATIONS

Types of Fruit
- Septicidal Dehiscence Capsule
- Loculicidal Dehiscence Capsule
- Valvular Dehiscence Capsule
- Circumscissile Dehiscence Capsule
- Operculate Dehiscence Capsule
- Silicle
- Silique
- Achenes
- Follicle
- Legume
- Double Samara
- Berry
- Drupe
- Pome
- Druplets
- Ovary Wall
- Utricle
- Nutlets

Placentation
- Parietal
- Axile
- Basal
- Free Central

Root and Stem Variations
- Caudex
- Acaulescent
- Stolon
- Scaly Bulb
- Woody Root
- Tap Root
- Fleshy Root
- Fibrous Root
- Rhizomatous Bulb
- Truncated Bulb

Adapted from Mason (1957); used with permission of Univ of California Press; ©1957.
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. Coeci) (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.

COELATE 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.

COLUMNELLA 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 (= colpi).

-COLPORATE A suffix referring to pollen grains having pores.

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 COMPOSE Resembling or provided with a coma.

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

COMPLAINATE 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.

COMPRIMED 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.

CONIC Conical shape.

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.

CONSPECTICOF Of the same species.

CONSTRUCTED 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.

CONVOLUTED 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.

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

CORNOUS Having a corn.

CORNERY Horned in texture.

CORNICULATE Bearing a small horn or horns.

CORNUTE Horned or spurred.
Types of Pubescence

- Pilose
- Hirsute
- Villous
- Lanate
- Downy
- Velutinous
- Arachnoid
- Flocose
- Arachnoid-Flocose
- 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**  Greatly resembling an extra corolla or perianth.

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

**Cruicate**  Cross-shaped.

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

**Crustaceous, Crustose**  With a brittle, hard texture.

**Cryptogam**  A young coiled leaf of some ferns.

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

**Decomposi**  More than once compound.

**Dicoumarin**  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., amygdaline in cherry and peach leaves or apple seeds (Rosaceae).

**Cymiform**  Cup-shaped.

**Cyme**  A broad, flattish or convex, determinate inflorescence 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.

**Cystolith**  A crystal-like mineral concretion, usually of calcium carbonate.
TYPES OF HAIRS AND PROCESSES

MALPIGHIAN OR BALANCED

DENDRITIC

GEMINATE

BARBED

GLANDULAR

CILIATE

FLAGELLIFORM BRISTLES

PUSTULATE

STELLATE

SQUAMELLATE

PECTINATE

MONILIFORM

FIMBRiate

HAMATE

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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.
Demihedral  With or in the form of a demihedron.
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  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 poison, 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.
Diaendrous  Having two stamens.
Diaphanous  Transparent.
Diaphragm  Dividing membrane or partition.
Dichasial  With or in the form of a dichasium.
Dichasium  A cyme with lateral branches on both sides of the main axis.
Dichotomous  Forking regularly into two equal or nearly equal branches.
Dichotyledons (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 Dicotyledoneae 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.
Diocious  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.
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 lique reduced or lacking.
Discoid  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.
Distant  Located at or toward the apex of a plant or organ; the terminal portion; the end opposite the attachment; contrasting with proximal.
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.

**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.

**Duplex** Double, as in pubescence composed of two kinds of hairs.

**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 nc 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.

**E glandular** Without glands.

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

**Eliminate** Referring to a corolla without a limb.

**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.

**Enform** 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 involucel 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.

**Epigeneous** Growing upon or above the ground.

**Epignous** Born 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.
Glossary: Equitant–Fibrous

**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.

**Eradicate** 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 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 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 those with the condition. 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**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.

**Falcaté** 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.

**Fastigate** In reference to branches, close together and nearly parallel.

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

**Feral** Wild; not cultivated.

**Ferruginous** 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.

-Flid 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.

Fimbriate. With a minute fringe.

First glume. Lowermost of the two glumes in a grass spikelet.

Fissured. Cracked or fractured.

Fistulose. Thread or thread-like structure.

Flabellate, flabelliform. Fan-shaped; broadly wedge-shaped.

Flaccid. Lax, weak, floppy, not rigid.

Flagelliform. Whip-like.

Flagellate, flagelliform. Whiplike.

Flange. A rim-like structure.

Flavescent. Yellowish or becoming yellow.

Fleshy. Succulent, juicy, or pulpy.

Flexible. 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 hypantherium.

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.

Florican. 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. Placental with the seeds attached to a central column and surrounded by a single continuous locule.

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

Fruticiferous. 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.

Fruitecose. 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.

Funicle. 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.

Fuscosus. Grayish-brown.

Fused. United by normal growth.

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

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.
Glossary

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.

Glaucous, Glaucous 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, steroideal, 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.

-Gonus 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.

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

Gynobasic, 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 gynoecium; (b) in Asclepiadaceae, the columnar or disk structure made up of the connate stamens, style, and stigma.

Gyspiferous, Gypseous Containing gypsum (= calcium sulfate).

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.

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

Hallerd-shaped (= Halberd). 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.

Hostorium (pl. Hasteria) 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 hedral.

Helical Coiled or spiraled, usually in reference to inflorescences.

Helicoid Helical Coiled or spiraled, usually in reference to inflorescences.

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

Hem- 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).

Hericidal  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.

Hirse  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.

Holophylectic  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 exserted 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.

Hydrophylic, 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.

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

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-pinnae, with a single terminal leaflet.

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

INCANUS  Gray or hoary.

INCIPIENT  Beginning to be; coming into being.

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

INCLUDED  Not exserted; 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. INDUSA) 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.

INFERFLE (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; bladdery.

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.

INFRACTESCENCE  An inflorescence in the fruiting stage.

INFUNDIBULIFORM (= Funneliform)  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.

INTEGRUMENT  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 contaminat-ed 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 involucre.

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 (= involucel) 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.
**A**

**LAMINA**
L. broad, flat part of a leaf, excluding the petiole. (pl. LAMINAE)

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

**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).

**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.

**L**

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

**LAMINATE**
In plates or layers.

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

**LATEX**
L. milk, juice, sap, gum, produced in specialized cells called laticifers, usually in vessels or ducts.弹力 (e.g., Hevea brasiliensis, rubber) while that of others contain compounds such as alkaloids (e.g., Papaver somniferum, opium poppy).

**LATEX-BEARING**
Latex-bearing.

**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.

**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.

**LIGNESCENT**
Two-sided; lens-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.

**LIMBATE–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. 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. LUMENT. An indehiscent fruit separating into one-seeded segments at maturity.

LONGITUDINAL. Longwise; 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.

LUTESENT. Becoming yellow.

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

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.

MARGINATE. 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.

MEGASPOROPHYL. 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.

MERISTIC. 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.

MICROPHYLLUS. 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.

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

MICROSPOROPHYL. 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.

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

MONANDROUS. Having a single stamen.

MONILIFORM. Like a string of beads.

MONOMICRO-. Greek prefix meaning one or of one.

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

**Monocious** 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 only one 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.”

**Muclaginous** Slimy; with mucilage.

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

**Mucronulate** With a mucro.

**Mucronulate** Diminutive of mucronate.

**Mucronule** Latin prefix for many.

**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** Diminutive of muriculate.

**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.

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**Mucronulate** With a mucro.

**Mucronulate** Diminutive of mucronate.

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

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

**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** 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., contrasting 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).

**Nodding** Hanging down.

**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.

**Nuttal** (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.

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**Nuttant** Nodding.
**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.

**Oblate** - Nearly spherical but flattened toward the base.

**Oblong** - Longer than wide with sides nearly parallel.

**Oblate** - Nearly spherical but flattened toward the base.

**Oblute** - Having an operculum.

**Obluntoidea** - Inversely deltoid; triangle-shaped with base pointed.

**Obdiplostemonous** - 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.

**Obconical** - Inversely cone-shaped, with attachment at the small end.

**Obcordate** - Having an operculum.

**Obcordate** - Having the form and appearance but not necessarily the structure of a panicle.

**Obdeltoid** - Inversely deltoid; triangle-shaped with base pointed.

**Obdeltoid** - Inversely deltoid; triangle-shaped with base pointed.

**Obovate** - Egg-shaped with widest part at the base.

**Obovoid** - Inversely ovoid; egg-shaped with attachment at narrow end; inversely ovate.

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**Obconical** - Inversely cone-shaped, with attachment at the small end.

**Obovate** - Egg-shaped with widest part at the base.

**Obovoid** - Inversely ovoid; egg-shaped with attachment at narrow end; inversely ovate.

**Obconical** - Inversely cone-shaped, with attachment at the small end.

**Obovate** - Egg-shaped with widest part at the base.

**Obovoid** - Inversely ovoid; egg-shaped with attachment at narrow end; inversely ovate.
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-VENED | With main veins parallel to each other. Such leaves are typical of many monocots.

PARAPHRAGMATIC | 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 | Derived food, mineral nutrition, water, or any combination from another living organism (the host).
PARICHAL | Located on the inner side of the exterior wall of the ovary.
PARICHAL 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.
PARENTED | (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.
PEDEATE | 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 | Born on a pedicle; contrasting with sessile.
PEDICULE | 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.
PENTAGONAL | Shaped like a pentagon; five-sided or -angled.
PENDULOUS | Hanging down or suspended.
PENDICILLATE | Like a brush, usually referring to a tuft of hairs.
PENDENT | Like a brush, usually referring to a tuft of hairs.

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.
PEDI- | 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.
PERNOCIOUS | Highly hurtful or harmful.
PERSEVERENT | 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.
PETALIC | (= 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.
PETIOL | Stalk of a leaf supporting the blade.
PETIOLATE | 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 (= hydroxy) 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.

**Phylloide, 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.

**Phylogeny** The evolutionary history of a group.

**Phytophotodermatitis** 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 hisolute, 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 compound leaf (a pinna is thus divided into leaflets).

**Pinnate, Pinnately 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 trifoliolate** 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.

**Pinnode** 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.

**Pistilloide, Pistilloidium** A rudimentary or vestigial pistil.

**Pith** The soft spongy center of a stem.

**Pitted** Having little depressions or cavities.

**Placenta (pl. Placenta)** 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** (= Plaited) Folded like a fan.

**Plane** With a flat even surface.

**Plano-** A suffix denoting flat.

**Platae** Folded.

**Plimate** (= Plaited) Folded like a fan.

**Polyploid** 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.

**Polydelphous** 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.

**Polyhedral** Of various forms; with three or more forms.

**Polyantheus** (= Apotheleus) 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.

**Polyplody** A plant with three or more basic sets of chromosomes.

**Polysepalous** (= Aposepalous) Composed of or possessing separate sepals.

**Polystichous** 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.

PRECOCCUS  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 vascularature; e.g., the armature of roses.

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

PRISMATIC  Angulate 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  (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.

PROSTATE  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.

PTERIDOPHYTE  The study of ferns and similar plants.

PTERIDOPHYTE  A fern or similar plant; any member of the Lycophyta, 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.

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

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

PUNCTICULATE  Minutely punctate.

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

PURPURASCENT  Becoming or turning purple.

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

PUTAMEN  The bony endocard 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.
and hypericin from Hypericum perforatum. Resovle

**-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.

**RECLINATE**  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 portion 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.

**REPELT**  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 antrose.

**RETROSERELY 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.

**RHOMBID, 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 Shinners (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**  Beaked.

**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 spikes.

**RUDIMENTARY**  Having the character of a rudiment.

**RUFESCENT**  Becoming reddish brown.

**RUFUS**  Reddish brown.

**RUGOSE**  Wrinkled.

**RUGULose**  Diminutive of rugose.

**RUMINATE**  Appearing as through chewed or waddled; 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.
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**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.
**SAXICOLORUS** Growing on rocks.
**SCABERULOUS** Minutely scabrous.
**SCABRIRUDULOUS** 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.
**SCIOPHYTIC** A plant adapted to grow in or tolerant 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.
**SCROPIOD** Uncurling, like a scorpion’s tail.
**SCROBICULATE** Marked by minute or shallow depressions.
**SCROSFORM** Pouch-like.
**SCRUB** Vegetation of stunted or densely crowded bushes.
**SCRUNGY** With whitish, scaly, blister-like structures or scales on the surface.
**SCUTELLUM** A shield-like protrusion on the calyx; e.g., in some Lamiaceae.
**SECOND GLUME** The uppermost of the two glumes of a spikelet.
**SECOND GLUMINE** 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.
**SELENIFORM** Descriptive of a corolla having a narrow, nearly straight basal tube, abruptly expanded at top into a flattened or saucer-shaped limb.
**SEMPARASITIC (= 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).
**SEMINAL** Latin prefix meaning half.
**SEMIPARASITIC** Descriptive of a plant that car-
**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.

**SERRULATE** Finely serrate.

**SERRULE** 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) ± 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.

**SILICILE, 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, SILICIUM** 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.

**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 inter-breeding 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.

**SPIRATE** 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 ± 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.

**SPIRAX** A sharp-pointed structure, usually vascularized and thus ± 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 lumpers.

**SPONGIOSE** Soft, spongy.

**SPORADIC** Of irregular occurrence.

**SPORANGIOPHORE** An appendage holding a sporangium.

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

**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 ± 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.

**SQUAMATE (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** (b) a short lateral branch with little internode development contrasting with lumper.

**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.

**STELLE** The central vascular cylinder of a plant.

**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 axis 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.

**STRIATE** With fine longitudinal lines, channels, or ridges.

**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.

**STIPEND** Appendage at the base of a leaflet, analogous to a stipule at base of a leaf.

**STIPULATE** With stipules.

**STIPITATE** With a stalk or stipe.

**STIPULAR** Pertaining to or located on a stipule.

**STIPULACE** With stipules.

**STIPE** 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.

**STOMATA** (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.

**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).

**STROPHIOLATE** Having a strophiole.
STROPHIQLE  On certain seeds, an appendage to the hilum.
STROMOSE  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 order and family, composed of one or more families.
SUBCORIACEOUS  Somewhat leathery in texture.
SUGEROSE  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 variety and subvariety; 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.
SUPRAMEDIAL  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).
SYNCPAROUS  (a) Having carpels united; (b) of or pertaining to a syncarp.
SYNCONIUM  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.

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 sepalas 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, cartenoid 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, Tetragonal** Four-angled.

**Tetradehal** 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.

**Thyroid** With the appearance of a thyre.

**Tomentose** 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.

**Trabeula** A transverse partition or cross-bar.

**Trabecular, Trabeulate** 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 trifoliolate.

**Trifoliolate** Having three leaflets.

**Trifurcate** With three prongs; three-forked.

**Trigonous** Three-angled.

**Triquetrous** Three-angled in cross-section.

**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.
Tuberosus — 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 any new taxon (e.g., species, variety) is named, the name has to be associated with a particular “type” specimen.
Twice-unilaterally compound (= Bipinnate) — Descriptive of a corolla (or calyx) of united petals (or sepals) cut on the two sides forming an upper and a lower portion.
Umbel — Usually flat-topped or convex inflorescence with flower pedicles 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.
Umbroneate — With an umbo or projection.
Uncinate — With apex hooked; e.g., hairs with a hook at tip.
Uncinate, Uncinate — With apex hooked; e.g., hairs with a hook at tip.
Undulate — Gently wavy; less pronounced than sinuate.
Unguiculate — Narrowed at the base into a claw.
Uni — Latin prefix meaning one.
Unifoliolate — 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.
Unilocular — Having only one locule or cell.
Unguiculate — Narrowed at the base into a claw.
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.
Venticose — (Gibbous) Swollen or inflated on one side.
Veriform — Worm-like.
Vermillion — Scarlet; brilliant red.
Vernal — Appearing in spring.
Vermination — The arrangement of leaves, sepals, or petals in the unopened bud.
Verrucose — Covered with wart-like protuberances.
Verruculose — 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.
Vertical — (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, unmatted 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.