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A REVISED GLOSSARY OF THE MORE COMMON BOTANICAL AND HORTICULTURAL TERMS

AS a result of frequent requests this revised edition of the glossary of horticultural terms, first published fifteen years ago in the BULLETIN OF POPULAR INFORMATION has been prepared. This glossary is a selective compilation of the more common technical terms used in horticultural literature and is recorded here as an aid to both horticulturists and amateur gardeners who do not have ready access to the many well prepared glossaries already in existence. Several of my colleagues have contributed considerably by suggesting many additional terms which are appearing more frequently in current horticultural literature and in the revised definition of some of the terms as used in the original edition of this glossary. The works of many authors have been utilized, among them L. H. Bailey, A. Gray, Fuller and Tipppo, B. D. Jackson, Jepson, Mayr and Simpson, G. H. M. Lawrence, A. Rehder, et al.

abaxial the side of an organ away from the axis; dorsal.

aberrant differing from usual structure, departing from the type; used mostly of variation.

abortive barren; imperfectly or not developed; as abortive stamens when only filaments are present.

acaulescent stemless; as in the dandelion.

achene a small, dry, indehiscent, one-celled and one-seeded fruit; as in the buttercup.

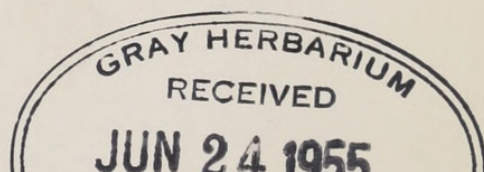
actinomorphic having flowers with a regular pattern; symmetrical.

acuminate having a gradually diminishing point; long pointed.

adaxial the side of an organ toward the axis; ventral.

adnate grown to, united to another part; stamens adnate to the corolla-tube.

adventitious buds those produced abnormally, as from the stem instead of the axils of the leaves.



adventive applied to an introduced plant, not definitely established or naturalized.

alate winged; furnished with an expansion, as found on the stem or petiole.

allopolyploid a polyploid in which at least one set of chromosomes is derived from an unrelated taxon.

ament a catkin; a spike of flowers usually bracteate and frequently deciduous, as the male flowers of willow, birch, beech and oak.

amphidiploid a type of polyploid characterized by the addition of both sets of chromosomes from each of two species.

amphiploid see **amphidiploid**.

anastomosed netted; leaves in which the cross veins form a net.

androecium the male or stamen-bearing part of the flower. See also **gynoecium**.

aneuploid having a chromosome number which is not an exact multiple of the haploid number.

angiosperms plants having their seeds enclosed in an ovary. See also **gymnosperms**.

anther the pollen-bearing part of the flower.

anthesis flowering; strictly the time of expansion of a flower; often used to designate the flowering period.

anthocyanins blue, red and purple water-soluble pigments of plants.

apetalous without petals; as in willows.

apomictic hybrid hybrid which can be reproduced true to type from seed, which develops without fertilization.

appressed lying flat and close against.

arborescent attaining the size or habit of a tree.

articulate jointed; having a node or joint where separation may take place naturally.

asexual without sex; destitute of male or female organs;
asexual reproduction reproduction vegetatively; without the aid of sexual organs.

attenuate tapering slenderly; applied usually to the apex of a leaf.

atypical not typical; departing from the normal.

auriculate furnished with ear-shaped appendages (auricles), as the base of a petal or leaf.

autoploid see **autopolyploid**.

autopolyploid a polyploid originating by the multiplication of the chromosome set of an individual.

auxin a specific organic product transported in the sap of a plant producing a specific effect on the growth activities of the cells.

awl-shaped tapering from the base to a slender or stiff point.

awn a bristle-like appendage.

axil the upper angle formed by a leaf or branch with the stem.

axillary situated in the axil.

B

- baccate** berry-like; pulpy or fleshy; as in the gooseberry.
- barb** hooked hair, frequently doubly hooked.
- barbellate** finely barbed.
- basifixed** attached or fixed by the base.
- beaked** ending in a beak or prolonged tip.
- bearded** furnished with a tuft of hairs.
- berry** an indehiscent fruit developing from a single ovary, having few to many seeds and a fleshy or pulpy outer wall; as the tomato or gooseberry. See also **drupe** and **pome**.
- bi** or **bis** Latin prefix signifying two or twice.
- bicolored** two-colored.
- biennial** a plant which requires two years to complete its life-cycle; as the hollyhock.
- bifid** two cleft.
- bifoliolate** a leaf composed of two leaflets.
- bigener (bigeneric hybrid)** plant hybrid resulting from a cross between two genera.
- bilabiate** two-lipped; as in flowers of *Salvia*.
- bilocular** two-celled.
- binomial** the combination of a generic and specific name to denote a given organism; as *Acer rubrum*.
- biotype** an elementary stable form.
- bi-pinnate** twice pinnate; when the divisions of a pinnate leaf are again pinnately divided.
- bisexual** having both stamens and pistils.
- blade** the expanded portion of a leaf.
- bloom** (1) see blossom. (2) The white waxy or pruinose covering of many fruits and leaves.
- blossom** the flower, more often applied to those of fruit trees.
- bole** the trunk or stem of a tree.
- bract** a much reduced leaf, particularly the small or scale-like leaves in a flower-cluster or associated with the flowers.
- bracteate** having bracts.
- bracteolate** having bractlets.
- bractlet** bract borne on a secondary axis, as on the pedicel.
- breed** a group of plants having distinctive qualities in common, which, developed through the influence of man, requires control by man to prevent mixtures with other groups; does not imply directly traceable descent from any particular plant and may be propagated from seed.
- bristle** stiff hair.
- bud** the nascent state of a flower, leaf or branch.

- bud mutation** an abnormal shoot (caused by genetic change), which can be propagated only asexually.
- bud-scale** covering of a bud.
- bud-sport** same as bud-mutation.
- bud-variation** same as bud-mutation.
- bulb** a modified bud with fleshy scales, usually underground.
- bulbil** a diminutive bulb.
- bullate** blistered or puckered; as the leaf in Savoy cabbage.
- bush** a low, several- to many-stemmed shrub, without distinct trunk.

C

- caducous** falling off early.
- callus** a hard prominence or protuberance; in a cutting or on a severed or injured part, the roll of new covering tissue.
- calyx** the outer perianth of the flower; the collective term for sepals.
- cambium** the layer of delicate, rapidly dividing cells that form wood internally and bark externally.
- campanulate** bell-shaped.
- canescent** gray-pubescent and hoary.
- capitate** head-like; collected in a dense cluster.
- capsule** a dry fruit of more than one carpel, opening at maturity.
- carinate** keeled.
- carpel** a simple pistil or a member of a compound pistil.
- catkin** a deciduous spike of unisexual, apetalous flowers. See **ament**.
- caudate** having a slender, tail-like appendage.
- caudex** the main axis of a plant, including both stem and root.
- caulescent** more or less stem-bearing; having an evident stem above ground.
- cauline** belonging to the stem, as cauline leaves.
- cell** one of the minute compartments or living units of protoplasm of which plants are composed or made up; also a cavity of an anther or ovary.
- cespitose** (or **caespitose**) growing in tufts; forming mats.
- channeled** deeply grooved longitudinally.
- chartaceous** having the texture of stiff writing paper.
- chlorophyll** the green coloring matter within the cells of plants.
- choripetalous** having separate petals; polypetalous. See also **gamopetalous**.
- chromosomes** chromatin threads bearing hereditary determiners (genes) in the nuclei of cells; chromosomes contract by coiling at the time of cell division and are visible as rod-like masses.
- ciliate** fringed with hairs.
- ciliolate** minutely ciliate.
- cinereous** ash-colored, light gray.
- circumscissile** opening or dehiscing by a regular transverse line of division.
- clavate** club-shaped; said of a long body thickened toward one end.

cleistogamous closed self-fertilized flowers; as in some violets.

clone a group of plants composed of individuals produced vegetatively from a single original plant; clones differ from races and strains in failing to come true from seeds; examples: Concord grape, Baldwin apple.

coalescence the union of similar parts or organs, or of those in the same series as stamens with stamens and petals with petals.

coalescent two or more similar parts united.

colchicine a poisonous alkaloid; used experimentally and commercially to produce new plant varieties (polyploids) when applied to mitotic cells.

columnar having the shape of a column.

compost a fertilizing mixture composed of such substances as peat, leaf mold, manure, lime, etc., thoroughly mixed for fertilizing and renovating land; usually decomposed in a pile with top soil as a compost heap.

compound of two or more similar parts united into one whole;

compound-leaf one divided into separate leaflets.

cone the fruit of such plants as fir, pine and spruce.

conifer cone bearing (not synonymous with evergreen).

connate joined in one organ.

connective the portion of the stamen which connects the sac of the anther.

cordate heart-shaped; usually referring to the base of the leaf.

coriaceous leathery.

corolla the inner series of floral envelopes consisting either of connate or distinct petals.

corm the enlarged fleshy base of a stem, bulb-like but solid, as in gladiolus.

corymb a flat-topped or convex flowering cluster with the outer flowers opening first. See also **cyme**.

costa a rib; the midrib or middle-nerve of a leaf.

cotyledon the primary leaf or leaves in the embryo.

creeper a trailing shoot that produces roots at intervals.

crenate toothed with rounded, shallow teeth.

cross hybrid of any description.

cross-fertilization fertilization secured by pollen from the flower of another plant.

cross-pollination transfer of the pollen of one flower to the pistil of another.

crustaceous having a hard or brittle covering.

culm the stem of grasses and sedges.

cultigen a plant, group, or series known only in cultivation. See also **indigen**.

cultivar so-called "horticultural variety" or "garden variety." Progeny of a clone, chimera, or the result of selective hybridization, which is known only in cultivation and may or may not be reproduced from seed. The name, usually selected by the propagator, appended to either a generic name or a binomial, should be set off by different type or included within quotations to distinguish it from the binomial of a natural species. Examples: *Syringa* Congo or *Syringa* **Congo**; *Malus* "Bob White"; *Deutzia scabra* "Pride of Rochester."

cuneate wedge-shaped; triangular with narrow end at point of attachment.
cupular cup-like or cup-shaped.
cupule cup of such fruits as the acorn.
cuspidate sharp-pointed.
cutting a severed vegetative or asexual part of a plant used in propagation; as a cutting of root, of stem, or of leaf.
cyme a convex or flat flower-cluster with the central flowers opening first. See also **corymb**.
cymose arranged in cymes; cyme-like.
cytology the branch of biology which treats of cells, especially of their internal structure.

D

damping off collapse of seedlings usually ascribed to the attack of fungi.
deciduous falling, not persistent, as the leaves of non-evergreen trees.
decompound more than once compound.
decumbent reclining or lying on the ground but with the ends ascending.
decurrent (leaf) extending down the stem below the insertion.
decussate opposite leaves in four rows up and down the stem; alternating in pairs at right angles.
defoliation the casting or falling off of leaves.
dehiscence the method or process of opening of a seed-pod or anther. See also **indehiscent**.
deltoid triangular; delta-like.
dentate with more or less spreading teeth.
di, dis Greek prefix signifying two or twice.
diadelphous in two groups, as the stamens of some *Leguminosae*, joined by their filaments.
diandrous with two stamens.
dichotomous forked regularly in pairs.
dicotyledons (dicots) plants having two cotyledons or seed lobes. See also **monocotyledons**.
die-back to die down; generally applied to the apex of the shoot system.
diffuse loosely or widely spreading.
digitate with the members rising at one point.
dimorphous occurring in two forms.
dioecious staminate and pistillate flowers on different plants. See also **monoecious**.
diploid an organism with a chromosome number double that of the haploid generation; the $2n$ generation.
dissected divided into many narrow segments.
dissipiment a partition in an ovary or fruit.
distichous disposed in two vertical ranks, as the florets in many grasses.

divaricate spreading, widely divergent.

divided separated to the base.

dormant restive or non vegetative; applied to buds or other parts of a plant in winter, or to the plant itself.

dorsal relating to the back or outer surface of an organ.

double (flowers) when the number of petals is increased at the expense of other organs, especially the stamens.

drupe a fleshy indehiscent fruit with a bony, usually one-seeded endocarp; like the cherry or peach.

E

e or ex Latin prefix usually denoting parts are missing, as **ebracteate** or **exstipulate** meaning without bracts or without stipules.

ellipsoid a solid body, elliptic in section.

elliptic a flat part or body that is oval and narrowed to rounded ends.

emarginate with a shallow notch at the apex.

embryo the rudimentary plantlet within the seed.

endemic native or local.

entire without toothing or division; with an even margin.

epi prefix meaning upon, such as epiphyte.

epigynous borne on the top of the ovary. See also **hypogynous** and **perigynous**.

epiphytic growing on other plants but not parasitic.

ericoid of leaves which are like those of heaths.

escape a cultivated plant found growing as though wild, dispersed by some agency.

espalier a fruit tree trained lattice-fashion in one plane.

euploid having a chromosome number which is a multiple of the haploid number.

evanescent soon disappearing, lasting only a short time.

evergreen remaining green throughout the year as pines and some rhododendrons. Does not necessarily refer to cone-bearing plants. See also **deciduous**.

excurrent with a projecting tip, as the nerve of a leaf projecting beyond the margin; the trunk of a tree with undivided main stem, as in the fir.

exfoliating peeling off in thin layers; as the bark of the birch.

exotic foreign, not native.

exserted prolonged beyond the surrounding organs, as stamens from the corolla.

exsiccatae dried, pressed specimens.

exstipulate without stipules.

eye the marked center of a flower; a bud on a tuber, as on the potato; a single-bud cutting.

F

F₁ first generation of a cross between species or varieties; often cultivated for the hybrid vigor; succeeding filial generations are designated **F₂**, **F₃**, etc.

falcate sickle-shaped.

fasciated an abnormal widening and flattening of the stem or branches.
fascicle a dense cluster.
fastigate with close and erect branches, as in the Lombardy poplar.
ferrugineous rust-colored.
fertile capable of producing fruit and seeds; also said of pollen-bearing anthers.
fertilization effect of pollen deposited on a stigmatic surface resulting in conversion of flower into fruit and of ovule into seed; the union of egg and sperm.
filament stalk of the anther.
filiform thread-like; long and very slender.
fimbriate fringed.
flaccid not rigid; lax and weak.
floccose clothed with tufts of soft hair or wool.
florets small individual flowers of compact heads or spikes.
floriferous flower-bearing, usually in the sense of abundantly flowering.
foliaceous leaf-like in texture or appearance; said particularly of sepals and calyx-lobes and of bracts that in texture, size or color look like small or large leaves.
-foliate in combinations, -leaved; having leaves; as tri-foliate, *three-leaved*, as the stem of trillium. Often confused with trifoliate.
-foliolate having leaflets; as trifoliate, *of three leaflets*.
follicle dry, dehiscent pericarp opening only along one suture; as the milkweed or peony.
form sub-division of a variety or species usually differing in one character and usually perpetuated vegetatively.
frond leaf of a fern; sometimes used in the sense of foliage.
fructiferous producing or bearing fruit.
fructification the act or process of fruiting; also the fruiting organ.
fruit the seed-bearing product of a plant.
frutescent nearly shrubby.
fruticose shrubby; with woody persistent stems and branches.
fugacious falling or withering away very early.
funnelform said of a corolla with the tube gradually widening upward; as in the morning-glory.
furrowed with longitudinal channels or grooves.
fusiform spindle-shaped; narrowed toward both ends from a swollen middle; as in the roots of the dahlia.

G

gamopetalous having the petals more or less united. See also **choripetalous** and **polypetalous**.
gamosepalous calyx of one piece; sepals united.
geniculate bent abruptly like a knee.
genus (pl. **genera**) a group of allied species under a single heading; or consisting of an isolated species exhibiting unusual differentiation (monotypic genus).

germination the development of the plantlet from the seed.

girdle (to) restrict or remove bark around the stem or other parts of plants.

girdling roots encircling roots at or below the surface of the ground which tend to strangle the plant.

glabrate nearly glabrous or becoming glabrous with age.

glabrous not hairy.

gladiate sword-shaped or sword-like.

gland a definite secreting structure on the surface embedded in or ending a hair; also any protuberance of the like nature which may not secrete, as the warty swellings at the base of the leaf in the cherry and peach.

glandular bearing glands or gland-like appendages.

glaucous covered with a bloom; bluish white or bluish gray.

glochidiate barbed; tipped with barbs.

glomerate in compact clusters.

glume a chaff-like bract; particularly one of two empty bracts at the base of the spikelet in grasses.

gourd a fleshy one-celled many-seeded fruit; like the melon.

graft a branch or bud inserted on another plant with the intention that it will grow there; a scion.

graft-hybrid plant showing influences of scion and stock caused by mechanical union of the tissues.

grafting the process of inserting a scion in a plant (stock) with the intention that the tissues of both shall unite and that the stock shall furnish the nourishment for the growth of the scion.

granular, granulose composed of or appearing as covered by minute grains.

gymno in Greek compounds, signifying naked or not covered.

gymnosperms plants with uncovered ovules, as the conifers. See also **angiosperms**,

gynoecium the female or pistil-bearing part of the flower. See also **androecium**.

H

habit the general aspect of a plant, or its mode of growth.

habitat the type of locality in which a plant grows.

haploid an organism with a single set of chromosomes (the n generation).

hastate halberd-shaped; like an arrowhead but with the basal lobes pointing outward nearly at right angles.

head a dense cluster or short, dense spike of sessile or nearly sessile flowers.

heartwood the innermost and oldest wood next to the pith, usually of a dark color.

heel an enlarged or more or less transverse part on the lower end of a cutting secured from the older or larger branch from which the cutting is taken.

heliotropism the characteristic of turning toward the light.

herb a plant not woody, at least above ground.

herbaceous of the texture of an herb; not woody.

herbarium a collection of dried specimens of plants with data, often mounted on linen paper, preserved for study or comparison.

heterogen group of plants heterozygous from hybridity or mutation among which there are several phenotypes. Individuals here may be propagated as clones, or cultivars may be segregated by selective breeding. Example: Japanese azalea.

heteromorphous parts of different shape.

heterophyllous with two sorts of leaves.

hip the fruit of the rose.

hirsute with rather coarse or stiff hairs.

hirtellous minutely hirsute.

hispid beset with rigid hairs or bristles.

hispidulous diminutive of hispid.

homo in Greek compound, all alike or of one sort.

homogamous bearing only one kind of flowers.

hormone see **auxin**.

horny hard and dense in texture.

host a plant which nourishes a parasite.

humus decomposing organic matter in the soil.

humus soils garden soils enriched with organic manure.

hyaline transparent or nearly so.

hybrid a plant resulting from a cross between two or more parents that are more or less unlike.

hybridization (1) the art of obtaining hybrids by artificial crossing; (2) also used for the same operation occurring naturally.

hydrophytes water plants, partially or wholly immersed.

hygrophytes marsh plants, or plants which need a large supply of moisture for growth.

hypanthium the cup-shaped or tubular receptacle on which the perianth and the stamens are inserted; as in the flower of the cherry.

hypogynous borne on the receptacle beneath the ovary; said of stamens and petals. See also **epigynous** and **perigynous**.

I

imbricate overlapping, as shingles on a roof; as the bud-scales of horse-chestnuts and azaleas.

impari-pinnate pinnate with a single leaflet at the apex; odd-pinnate. See also **pari-pinnate**.

imperfect flower having either stamens or pistils, but not both. See also **perfect flower**.

inarching grafting by approach, the scion remaining attached to its parent until union has taken place.

incanescens hoary or gray-pubescent.

incised cut sharply in the margin.

indehiscent not opening by valves or along regular lines. See also **dehiscent**.

indigen a plant of known origin growing spontaneously or in cultivation. See also **cultigen**.

indigenous original to the country, not introduced.

indumentum any covering, as hairiness.

inferior ovary one that is below the perianth. See also **superior ovary**.

inflorescence the flower cluster; disposition of the flowers on the floral axis.

infraspecific any category of classification below the specific level.

infructescence the inflorescence in a fruiting stage.

infundibuliform funnel-shaped.

insectivorous used of those plants which capture insects and absorb nutriment from them.

insertion node or place where one body is attached to its support.

integument covering of a body or organ; envelope of an ovule.

internode the space or portion of stem between two nodes.

introduced used of plants which have been brought from another country; exotic.

involucre a whorl or set of bracts around a flower, umbel or head, etc., as in the heads of composites and the flowering dogwood.

involute having the edges of the leaves rolled inwards.

irregular flower some parts different from other parts of the same whorl; usually applied to zygomorphous flowers.

K

karyotype the chromosomal complex characteristic of a group of allied plants; associated with both morphology and number of chromosomes.

keel a projecting ridge on a surface, like the keel of a boat; the two front petals of a papilionaceous corolla.

key or key fruit a winged-fruit, like in the maples; samara.

knee an abrupt bend in a stem or tree trunk; an outgrowth of some tree roots.

L

labellum lip, particularly the odd petal in orchids.

lacerate with margins appearing as if torn.

lacinate cut into deep narrow lobes.

lactescent producing milky juice; as in the milkweeds.

laevigate smooth, as if polished.

lamina the blade or expanded portion of an organ, such as the leaf.

lanate, lanose woolly, clothed with soft entangled hairs.

lanceolate lance-shaped, about four times long as broad and broadest below or about the middle.

lanuginose, lanuginous woolly or cottony; with long and interwoven hairs.

latex the milky juice of such plants as the milkweed.

latifoliate, latifolious broad-leaved.

leaching losing material by percolation, as rain washing away nutriment through the soil.

leader the primary or terminal shoot of a tree.

leaf the principal appendage or lateral organ borne by the stem or axis. **Simple leaf**: when undivided; **compound leaf**: when divided into distinct parts.

leaf-scar the mark or cicatrix left by the fall of a leaf.

leaf-stalk the stem of a leaf, petiole.

leaflet the separate division of a compound-leaf.

legume seed vessel or pod of the pea or bean family; usually dehiscing by both sutures.

lemma the lower of the two bracts enclosing the flower in the grasses.

lenticel lens-shaped spots on young bark equivalent in function to the stomata on the leaf.

lepidote with small scurfy scales.

liana, liane a woody climbing or twining plant.

ligneous woody.

ligulate furnished with a ligule.

ligule the strap-shaped corolla in the ray florets of composites; the membranous appendage at the summit of the leaf-sheaths of most grasses.

linear long and narrow with nearly parallel margins.

lip the principal lobes of a bilabiate corolla or calyx.

loam combination of clay with enough sand to counteract the cohering property of the clay; usually implies the presence of considerable decomposed organic matter with accompanying fertility.

lobed divided into or bearing lobes.

locule compartment of cell; usually referred to the ovary, fruit or anther.

loculicidal dehiscence on the back of the cells of a capsule. See also **septicidal**.

lyrate pinnatifid with a large terminal lobe and small basal lobes.

M

macro in Greek compounds meaning long, large or great.

maculate blotched or spotted.

male (flowers or plants) having stamens but no pistils.

marcescent withering but not falling off.

midrib the central vein or rib of a leaf; costa.

meiosis reduction division; the process (in cell division) wherein the chromosomes are reduced (by one-half) in number.

membranaceous thin and soft in texture.

mitosis the process of nuclear duplication involved in cell division.

monadelphous stamens united in one group by their filaments.

moniliform resembling a string of beads like the legume in *Sophora*.

mono in Greek compounds meaning one.

monocotyledons (monocots) plants having one cotyledon or seed-lobe, as lilies and grasses. See also **dicotyledons**.

monoecious with unisexual flowers of both sexes on the same plant. See **dioecious**.

muck any kind of impure or decayed peat or black swamp earth, especially when used as manure.

mucronate tipped with a short abrupt point or mucro.

mulch strawy dung or any other material, as leaves, etc., spread on the surface of ground to protect the roots of newly planted shrub or tree.

mule an old word for a cross, particularly between different species; hybrid; cross-breed; usually an infertile hybrid.

multiple fruit the united product (in one body) of several or many flowers; as the pineapple or mulberry. See also **syncarp**.

muricate roughened with short hard points.

mutation deviation occurring by a sudden change in the genetic makeup of a plant or an animal. See also **bud-mutation**.

N

naked flower a flower without perianth.

nectary a place or organ where sugar or nectar is secreted.

nerve a slender rib or vein, particularly if unbranched.

node the place upon the stem which normally bears a leaf or leaves.

nut an indehiscent one-seeded hard and bony fruit.

O

ob Latin prefix usually signifying inversion.

oblanceolate inversely lanceolate; with the broadest part of a lanceolate body away from the point of attachment.

oblique slanting; unequal sided.

oblong at least twice as broad as long.

obovate inverted ovate.

obtuse blunt, rounded.

odd-pinnate see **impari-pinnate**.

offset a plant arising on a stolon or underground branch close to the base of the mother plant.

oleaginous oily and fleshy.

oligo in Greek compounds meaning few.

opaque applied to a surface means dull, not shiny.

orbicular circular; rounded in outline.

ortet the original plant from which a clone is derived.

ovary that part of the pistil containing the ovules or future seeds.

ovate having an outline like that of a hen's egg.

ovule the body which becomes a seed after fertilization.

P

palea the upper bract which with the lemma encloses the flower in grasses.

paleaceous chaffy.

- palmate** (leaf) radiately lobed or divided with three or more veins arising from one point.
- panicle** a compound, usually loose flower-cluster, longer than broad as a branched raceme or corymb.
- pannose** covered with a felt of woolly hair.
- papilionaceous** butterfly-shaped; applied to such a corolla as that of the pea.
- papillose** bearing minute nipple-shaped protuberances.
- pappus** peculiar calyx-limb of composites, being plumose, bristle-like scales or otherwise.
- parasite** an organism which grows on and derives nourishment from another plant, the host.
- parietal** borne on or pertaining to the wall of the fruit.
- pari-pinnate** pinnate with an even number of leaflets. See also **impairi-pinnate**.
- parted, partite** cleft nearly but not quite to the base.
- parthenogenesis** producing seed without fertilization.
- pathology** the study of the diseases of plants or animals.
- peat** carbonaceous substance formed by partial decomposition in water of various plants especially sphagnum; used as fertilizer or mulch.
- pedicel** the stalk of a flower.
- pedicellate** borne on a pedicel.
- peduncle** the stalk of a flower-cluster; also used for the stalk of a solitary flower.
- pedunculate** borne on a peduncle.
- peltate** shield-shaped; attached to its stalk inside the margin, like the leaf of nasturtium (*Tropaeolum*) and *Nelumbium*.
- penninerved** nerves arising along a central midrib.
- pentamerous** in fives.
- pepo** a hard-rinded berry of the gourd family such as pumpkin, squash, etc.
- perennial** of three or more seasons duration.
- perfect flower** having both stamens and pistils; bi-sexual. See also **imperfect flower**.
- perfoliate** (leaf) having the stem apparently passing through the leaf.
- peri** Greek prefix meaning around.
- perianth** the floral envelope; commonly used when there is no clear distinction between calyx and corolla; as in the lilies.
- pericarp** the wall of the ripened ovary.
- perigynous** borne around the ovary and not at its base, as in flowers of cherry, where the perianth and stamens are borne on a cup-shaped hypanthium. See also **epigynous** and **hypogynous**.
- persistent** remaining attached, not falling off; opposite of deciduous.
- petal** one of the separate members of the corolla.
- petiole** leaf-stalk.
- petiolule** stalk of a leaflet.
- phenotype** the external appearance resulting from the expression of the genotype; often used to denote a specific appearance pattern shared by several to many individuals.

photosynthesis the manufacture of carbohydrates within green leaves by energy derived from light, from simple inorganic materials such as carbon dioxide and water.

phyllotaxy the arrangement of leaves on the stem.

pilose with long straight hairs.

pinnate (leaf) compound with the leaflets placed on each side of a rachis. See also **impairi-pinnate** and **pari-pinnate**.

pinnatifid cleft or divided in a pinnate way.

pistil the seed-bearing organ of a flower consisting of ovary, style and stigma.

pistillate having a pistil and no stamens; female.

placenta part of the ovary which bears the ovules.

placentation the arrangement of placentae within an ovary.

platy Greek prefix meaning broad.

pleio Greek prefix for full or abounding, or many.

plicate folded into plaits.

plumose feathery.

pluri Latin prefix meaning many.

pod a dry dehiscent fruit.

pollen spores or grains borne in the anther which later produce sperm cells.

pollination the transfer of pollen from the stamen to the stigma.

poly Greek prefix meaning many.

polycotyledonous having several cotyledons.

polygamous bearing unisexual and bisexual flowers on the same plant.

polypetalous having separate petals; choripetalous. See also **gamopetalous**.

polyploid plant with a chromosome complement of more than two sets of the haploid number.

pome a fleshy fruit like the apple and pear.

procumbent trailing on the ground.

prickle spine-like outgrowth from bark or epidermis.

primocane the first year's cane (seldom producing flowers) of *Rubus* and similar genera.

prostrate lying flat on the ground.

pruinose covered with a waxy, powdery secretion on the surface; a bloom.

pruning artificial removal of twigs or branches from trees, shrubs, etc.

pruning shears strong-bladed shears used in light pruning of woody ornamentals.

pseudo Greek prefix for false, as **pseudo-bulb**.

puberulent, puberulous minutely pubescent.

pubescent covered with hairs, particularly if short and soft.

pulvinate cushioned.

punctate with translucent or colored dots or depressions.

pungent prickly-tipped as in the holly; acrid.

pyrene a seed-like nutlet or stone of a small drupe.

pyriform pear-shaped.

Q

quadri Latin prefix meaning four; as **quadrangular** (four-angled); **quadrifoliate** (four-leaved); **quadrifid** (four-cleft).

quaternate in fours.

quinate in fives.

quinque Latin prefix meaning five; as **quinquelocular** (five-celled).

R

race a permanent variety or group of individuals whose distinguishing characters are constant and are reproduced true to type from seed.

raceme a simple inflorescence of stalked flowers on a more or less elongated axis.

racemose in racemes or resembling a raceme.

rachis an axis bearing flowers or leaflets.

radiate spreading from a common center; with ray-flowers.

ramet any individual of a clone.

ray the margin portion of a composite flower head when distinct from the disk.

receptacle the more or less expanded portion of an axis which bears the organs of a flower or the collected flowers of a head.

recurved curved downward or backward.

reflexed abruptly turned downward.

reniform kidney-shaped.

repand with a slightly sinuate margin.

reticulate in the form of a network; net-veined.

retuse slightly notched at the rounded apex.

revolute rolled backward.

rhachis see **rachis**.

rhizome an underground stem, often enlarged by food storage.

rib a primary or prominent vein in leaf.

root prune pruning of roots, especially in preparation or in the process of transplanting trees or shrubs; a technique used to force flowering (e.g. *Wisteria*).

rosette a cluster of leaves or other organs in a compact circular arrangement.

rostrate beaked.

rotate (corolla) wheel-shaped; a flat circular limb with a short tube.

rufous reddish brown.

rugose wrinkled.

runcinate coarsely saw-toothed or cut, the pointed teeth turned toward the base of the leaf; as in the dandelion.

runner a slender and prostrate branch, rooting at the end or at the joint.

S

saccate sac-shaped.

sagittate shaped like an arrow-head, the basal lobes directed downward.

salver-shaped (flower) with a slender tube abruptly expanded into a flat limb.

samara an indehiscent winged fruit. See **key**.

scabrous rough to the touch.

scale a minute leaf or bract, usually appressed or dry.

scandent climbing.

scape a peduncle rising from the ground, naked or without proper foliage.

scarious thin and dry, not green.

scion a slip or shoot used for grafting. See **graft**.

scorpioid coiled (ring-like) while in bud.

scrobiculate pitted.

seed the ripened ovule consisting of the embryo and its integuments.

semi-double partly changed into a double flower with the inner stamens perfect and the outer stamens petaloid.

sepal a division of the calyx.

separation multiplication of plants by means of naturally detachable asexual bodies or organs, as offsets, stolon.

septicidal dehiscing along or in the partitions. See also **loculicidal**.

septifragal where the valves in dehiscence break away from the partitions.

septum a partition.

serrate having teeth pointing forward.

serrulate serrate with fine teeth.

sessile without any stalk.

setaceous bristle-like.

setose beset with bristles.

sheath a tubular envelope, as the lower part of the leaf in grasses.

shrub a woody plant branched from the base.

sinuate with the outlines of the margin strongly wavy.

sinus the recess between lobes, as in the leaves of some oaks.

slip a softwood cutting "slipped" off or pulled off; applied also to similar parts cut off.

spadix a spike with a fleshy axis.

spathe a large bract or pair of bracts inclosing the inflorescence; like Jack-in-the pulpit.

spathulate gradually narrowed from a rounded summit.

species a natural botanical unit; composed of individuals which exhibit characters distinguishing them from all other units within a genus, still not differing from one another beyond the limits of a recognizable and integrated pattern of variation.

spicate arranged in or resembling a spike.

spike a simple inflorescence with the flowers sessile or nearly so on a common axis.

spine a sharp-pointed woody outgrowth from the stem.

sport a sudden deviation starting from a bud or seed.

spur any projecting appendage of a flower, looking like a spur but hollow; as in larkspur.

stamen the pollen-bearing male organ of a flower.

staminate having stamens and no pistil; male.

staminode, staminodium a sterile stamen or similar structure inserted between the corolla and the pistil.

standard the upper broad petal of a papilionaceous flower.

stellate star-shaped; where several similar parts spread out from a common center, like a star.

stem the axis or axes of a plant arising from its root.

sterile barren; not fertile; the petiole of a fern frond.

stigma the part of the pistil that receives the pollen.

stipe the stalk of a pistil.

stipitate having a stipe.

stipule the appendage at the base of the petiole, usually one on each side.

stock the part on which the scion is grafted; the strain or parentage.

stolon a slender stem above or below ground which produces a new plant at its tip.

stoloniferous bearing stolons.

stoma (pl. **stomata**) or **stomate** a "breathing" pore in the epidermis of the leaf leading into an intercellular space communicating with the internal tissue.

stool a clump of roots or rootstalk that may be used in propagation; also an established low plant from which layers are taken.

strain a group of plants differing from the race to which it belongs by no apparent morphological characters, but by some enhanced or improved growth characteristics; as heavier yield in fruit; resistance to disease, etc.

stratification the operation or method of burying seeds to keep them fresh and to soften their integuments, or to expose them without injury to cold temperatures, that they may be more readily and successfully germinated.

striate marked with fine longitudinal lines.

strict very straight and upright.

strigose beset with appressed straight and stiff hairs.

strike to emit roots as from a cutting.

strobile an inflorescence marked by imbricated bracts or scales; as in the pine-cone.

style a stalk between the ovary and stigma.

subshrub an under-shrub or small shrub which may have partially herbaceous stems.

subulate awl-shaped.

succulent fleshy; juicy.

sucker a shoot arising from the roots or beneath the surface of the ground.

suffrutescent slightly woody; woody at the base.

suffruticose perennial plant with only the lower part of the stem and of the branches woody and persistent.

sulcate grooved or furrowed.

superior ovary borne above the insertion of the perianth and free from it. See also **inferior ovary**.

suture a line of splitting.

syncarp a fleshy aggregate fruit.

T

taxon (pl. **taxa**) a general term applied to any taxonomic element, population, or group regardless of its level of classification.

taxonomy the science of classification and arrangement of living organisms according to relationships.

tendrill a coiling thread-like organ by which a plant grasps an object for support.

tepal used for sepals and petals of similar form and not readily distinguishable; as in the lily or tulip.

teratology the subject of monstrosities, or of abnormal and aberrant forms and malformations.

terete circular in cross section.

ternate in threes.

testa the outer seed-coat.

tetra Greek prefix meaning four; **tetragonal** (four-angled); **tetragonous** (with four pistils or styles); **tetramerous** (with its parts or sets in fours); **tetrandous** (with four stamens).

tetradynamous six stamens, four long and two short.

throat the place where the limb of the corolla joins the corolla-tube.

thyrs a compact narrow panicle.

tomentose dense woolly pubescence.

tomentum dense covering of matted hairs.

topiary ornamental gardening in which trees and shrubs are clipped into formal shapes.

tortuous twisted or bent.

tree a woody plant with one main stem, and at least four to five meters tall.

tri Latin prefix signifying three or thrice, as **trifoliolate** (with three leaflets).

trichome any hair-like outgrowth of the epidermis.

triploid having three sets of chromosomes (i. e., three times the haploid number).

truncate the end nearly straight across; as the apex of the leaf in the tulip-tree.

tuber a thickened portion of a subterranean stem or branch, provided with eyes (buds) on the sides.

tuberous bearing or producing tubers.

tumid swollen.

turbinate top-shaped; inversely conical.

turgid swollen as a result of internal water pressure.

type the specimen with which the scientific name of a taxon is always associated; the type along with other related specimens is used in describing the taxon.

U

umbel an inflorescence with pedicels or branches arising at the same point and of nearly equal length.

undulate wavy surface or margin.

uni in compound words meaning one.

unisexual of one sex, either staminate or pistillate.

urceolate urn-shaped.

utricle a small bladder; a bladdery one-seeded fruit.

V

vaginate sheathed or surrounded by a sheath.

valvate opening by valves; meeting by the edges without overlapping as leaves or petals in the bud.

variety (as a botanical unit) a sub-division of the species composed of individuals differing from other members of the species in certain minor characters which are usually perpetuated through generations by seed.

vascular with vessels or ducts.

veins the small ribs or branches of the framework of leaves.

velutinous velvety.

venation arrangement of veins.

ventral relating to the inner surface or part of an organ; the part nearer the axis.

ventricose swelling unequally, or inflated on one side.

vernation the arrangement of leaves in the bud.

verrucose covered with wart-like elevations.

versatile relating to an anther attached near the middle and moving freely on its support.

verticillate disposed in a whorl.

villous bearing long and soft, usually curved or curly, hairs.

viscid glutinous; sticky.

W

whorl the arrangement of three or more like organs in a circle around the axis.

wing any membranous expansion.

woolly clothed with long and entangled soft hairs.

Z

zygomorphic said of a flower which can be bisected only in one plane in similar halves.

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