

The following characters denote the duration of a plant.

⊙ annual—♂ biennial—24 perennial—2 woody.

Accent and quantity.

The marks over the generic and specific names have reference not only to the *syllable which is to be accented*, but to the *quantity of the vowel* in the accented syllable, as either *long or short*.

Those syllables over which the *single mark* is placed have the *vowel pronounced long*, as in *Fra-ga-ri-a*; those over which the *double mark* is placed, have the *vowel pronounced short*, as in *He-pat'-i-ca*; in the latter case, the stress of voice seems thrown upon the consonant; the two marks may, therefore, be considered as indicating that the consonant, as well as vowel, is accented.

The general rule respecting words of two syllables is simple, and renders it unnecessary to prefix to such words the marks for accent and quantity.

Words of *two syllables* always have the *accent on the first*, if the syllable *end with a vowel it is long*, as in *Cro'-cus*; if it *end with a consonant it is short*, as in *Cac''-tus*.

NOTE—It would be well for the teacher to request the pupil to commit to memory the directions for pronouncing the name of plants—the signification of the letters—and to observe particularly the marks used to point out *accent and quantity*.

DESCRIPTION OF GENERA OF PLANTS.

CLASS I. MONANDRIA. *One Stamen.*

Order 1. Monogynia. One pistil.

SALICOR'NIA. Calyx inflated, entire, 3 or 4-sided, obconic; corolla 0; style 2-cleft; seed 1, enclosed in the calyx.—(sapphire.)

Order 2. Digynia. Two pistils.

BLIT'UM. Calyx 3-cleft, or 3-parted, berry-like; corolla 0; seed 1, immersed in the calyx.—(blite.)

CLASS II. DIANDRIA. *Two Stamens.*

Order 1. Monogynia. One pistil.

A. *Corolla 1-petaled, inferior, regular; seeds in a drupe or nut.*

CHIONAN'THUS. Calyx 4-parted; corolla 4-parted, with very long divisions: nucleus of the drupe, striate-fibrous.—(fringe-tree.)*

Exotic.

JAS'MINUM. Corolla salver-form, 5 to 8 cleft: berry 2-seeded, each seed solitary, arilled.—(jasmine.)

SYRIN'GA. Corolla salver-form: capsule 2-celled.—(lilac.)

B. *Corolla 1-petaled, inferior, irregular; seeds in capsules.*

VERON'ICA. Calyx 4-parted: corolla cleft into 4 lobes, lower division smaller: capsule obcordate, few-seeded, 2-celled.—(speedwell.)

CATAL'PA. Corolla 4 or 5-cleft, somewhat inflated, bell-form: calyx 2-parted or 2-leaved: stigma 2-lipped: capsule cylindrical, 2-celled.—(catalpa tree.)

C. *Corolla 1-petaled, inferior, irregular; seeds naked.*

MONAR'DA. Calyx cylindrical, striated, 5 toothed: corolla ringent tubular.—(Oswego tea, mountain mint.)

SAL'VIA. Calyx tubular, striated, 2-lipped, under lip 2 to 3-toothed, lower lip 2-cleft: corolla ringent, upper lip concave, lower lip broad, three-lobed, the middle lobe the largest, notched: stamens with two spreading branches, one of which bears a one-celled anther; germ four

* This is an exotic in our region, but grows wild in the southern states.

cleft: style thread-shaped, curved; seeds 4, in the bottom of the calyx.—(sage.)

D. *Corolla superior.*

CIRCEA. Calyx 2-leaved or 2-parted; corolla 2-petaled; capsule hispid, 2-celled, not gaping; cells 1 or 2 seeded, seeds oblong.—(chanter's nightshade.)

Order 2. *Digynia. Two pistils.*

ANTHOXAN'THUM. Calyx of two egg-shaped, pointed, concave, chaffy scales; 1 flowered; corolla of two equal husks, shorter than the calyx, awned on the back; an internal corolla or nectary, consisting of two egg-shaped minute scales: stamens longer than the corolla; anther oblong, forked at both ends; germ superior: seed, 1.—(sweet vernal grass.)

CLASS III. TRIANDRIA. *Three Stamens*

Order 1. *Monogynia. One pistil.*

A. *Flowers superior.*

IRIS. Calyx spatula 2 or 3-valved: corolla 6-parted, divisions alternately reflexed: stigmas 3, petal-like: style short: capsule 3-celled. (flower-de-luce, iris or flag.)

Exotic.

CROCUS. Spatha radical: corolla funnel form, with a long slender tube; stigma deep-gashed, crested.—(saffron.)

IXIA. Spatha 2 or 3 valved, ovate, short; corolla 6-parted or 6-petaled; sometimes tubular: stamens strait or incurved; stigmas subfiliform.—(black-berry lily.)

Order 2. *Digynia. Two pistils.*

A. *Calyx and corolla of a similar texture—flowers in spreading panicles.*

AGROS'TIS. Calyx herbaceous, 2-valved, 1-flowered, valves acute, a little less than the corolla: corolla 2-valved, membranaceous, often hairy at the base: stigmas longitudinally hispid or plumose florets spreading; nectary lateral; seed coated.—(redtop.)

Calyx and corolla of similar texture—flowers in compact panicles, often spikeform.

PHLEUM. Calyx hard, 2-valved, equal, sessile, linear, truncate, bicuspidate; corolla enclosed in the calyx, 2-valved, awnless, truncate.—(timothy-grass.)

B. *Spikelets 1 flowered; corolla with 1 or 2 abortive rudiments of flowers at the base.*

Calyx and corolla of similar texture.

PHALARIS. Calyx membranaceous, 2-valved, valves keeled, nerved, equal in length, including the 2-valved pilose corolla. The corolla is

shorter than the calyx and coriaceous: rudiments opposite, sessile, resembling valves: nectary lateral.—(ribbon-grass.)

C. *Spikelets many-flowered.*

POA. Spikelets oblong or linear, compressed, many-flowered; calyx shorter than the florets: corolla herbaceous, awnless, often arachnoid at the base; lower valve scarious at the margin.—(spear-grass.)

Exotic.

SORG'HUM. Florets in pairs, one perfect, with a 3-valved corolla, and sessile; the other staminate or neutral, and pedicelled.—(broom corn.)

DACTYLIS. Spikelets aggregated in unilateral heads, many flowered: calyx shorter than the florets, with one large glume, keeled, pointed: corolla with the lower valve keeled, emarginate, mucronate.—(orchard grass.)

AVE'NA. Calyx 2-valved; 2, 3, or many flowered: corolla valves mostly bearded at the base, lower one torn, with a twisted awn on the back: glumes membranaceous, and somewhat follicle-like; seed coated.—(oats.)

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D. *Flowers in spikes.*

TRITICUM. Calyx 2-valved, about 3-flowered; florets sessile on the teeth of the rachis, obtusish and pointed; glumes beardless, or interruptedly bearded.—(wheat.)

SECALE. Calyx 2-valved, 2 or 3-flowered: spikelets sessile on the teeth of the rachis, with the terminal floret abortive: glumes subulate, opposite, shorter than the florets: corolla with the lower valve long-awned.—(rye.)

CLASS IV. TETRANDRIA. *Four Stamens.*

Order 1. *Monogynia. One pistil.*

A. *Flowers superior.*

(1-petaled.)

CEPHALANTHUS. Inflorescence in a head: general calyx none, proper calyx superior, minute, angular, 4-cleft: corolla funnel-form: receptacle globular, hairy: seed solitary, oblong.—(button-bush.)

HOUSTONIA. Calyx half superior, 4-toothed: corolla salver-form, 4-cleft; capsule 2-celled, many-seeded, opening transversely.—(innocence.)

(4-petaled.)

COR'NUS. Calyx 4-toothed: drupe with a 2-celled nut. Some species have a 4-leaved involucre.—(dogwood, false box.)

Southern.

LYCIUM. Corolla tubular, having the throat closed by the beards of the filaments: stamens often 5: berry 2-celled; many seeded.—(matrimony.)

CLASS V. PENTANDRIA. *Five Stamens.*Order 1. *Monogynia. One pistil.*A. *Flowers 1-petaled, inferior; seeds naked in the bottom of the calyx**Rough Leaved Plants.*

CYNOGLOS'SUM. Calyx 5-parted; corolla short, funnel-form, vaulted; throat closed by five converging convex processes; seeds depressed, affixed laterally to the style.—(hound's-tongue.)

BORAGO. Corolla wheel-form, the throat closed with rays.—(borage.)

B. *Flowers 1-petaled, inferior; seeds covered.**(Capsule 1-celled.)*

LYSIMACH'IA. Calyx 5-cleft; corolla wheel-form, 5-cleft; capsule 1-celled globular, 5 or 10-valved, mucronate; stigma obtuse. (In some species the filaments are united at the base.)—(loose-strife.)

(Capsule 2-celled—rarely 3-celled.)

VERBAS'CUM. Calyx 5-parted; corolla wheel-form, 5-lobed, somewhat irregular, stamens declined, hairy; capsules 2-celled, 2-valved; valves inflexed when ripened, many-seeded.—(mullein.)

CONVOL'VULUS. Calyx 5-parted, with or without 2 bracts; corolla funnel-form, plaited; stigma 2-cleft or double; cells of the capsule 2 or 3; each 1 or 2 seeded.—(blind-weed—morning glory.)

(Capsule 3 to 5-celled.)

PHLOX. Calyx prismatic, 5-cleft; segments converging; corolla salver-form, 5-lobed, with a tube somewhat curved; filaments unequal in length, attached to the inside of the tube of the corolla; stigmas 3-cleft; cells 1 seeded, seeds oblong; concave.—(lichnidia.)

DATU'RA. Calyx tubular, angled, caducous, with a permanent orbicular base; corolla funnel-form, plaited; capsule 4-valved, 2 celled, and each cell half divided; generally thorny.—(thorn-apple.)

(Seed in a berry.)

SOLA'NUM. Calyx 5 to 10-parted, permanent; corolla bell or wheel form, 5-lobed, plaited; anthers thickened, partly united, with two pores at the top; berry containing many seeds, 2 to 6-celled.—(potato, nightshade, bitter-sweet.)

Exotic.

CAP'SICUM. Corolla wheel-form; berry juiceless, inflated; anthers converging; calyx angular.—(red pepper.)

C. *Flowers 1-petaled, superior.**(Seeds in a capsule.)*

CAMPAN'ULA. Calyx mostly 5-cleft; corolla bell-form, closed at the bottom by valves bearing the flattened stamens; stigma 3 to 5-cleft; capsules 3 to 5-celled, opening by lateral pores.—(bell flower.)

LOBE'IA. Calyx 5-cleft; corolla irregular, often irregularly slit; anthers cohering, and somewhat curved; stigma 2-lobed; capsule 2 or 3-celled.—(cardinal flower, wild tobacco.)

LONICE'RA. Calyx 5-toothed; corolla tubular, long, 5-cleft, unequal.

stamens exsert; stigmas globose; berry 2 or 3-celled, distinct; seeds many—(trumpet honey suckle.)

Exotic.

MIRA'BILIS. Corolla funnel-form, compressed below; calyx inferior; germ between the calyx and corolla; stigma globular.—(four o'clock.)

*Flowers 5-petaled, inferior.**(Seed in a capsule.)*

IMPA'TIENS. Calyx 2-leaved, deciduous; corolla irregular, spurred, anthers cohering at the top; capsule 5-valved, bursting elastically when ripe.—(touch-me-not, jewel weed.)

VI'OLA. Calyx 5-leaved or deeply 5-cleft, corolla irregular, with a horn behind; (sometimes it is a mere prominence); anthers attached by a membranous tip, or slightly cohering; capsule 1-celled, 3-valved.—(violet.)

CELAS'TRUS. Calyx 5-lobed; flat; corolla spreading; capsule obtusely 3-angled, 3-celled, berry-like; valves bearing the paritions on their centres; cells 1 or 2-seeded; stamens standing around a glandular 5-toothed disk; style thick; stigma 3-cleft; seeds calyptred or arilled.—(staff tree, false bittersweet.)

E. *Flowers 5-petaled, inferior.*

RIBES. Calyx bell-form, 5-cleft, (sometimes flat;) corolla and stamens inserted on the calyx; style 2-cleft; berry many seeded. 36. 85.—(currant, goose-berry.)

Order 2. *Digynia. Two pistils.*A. *Corolla 1-petaled, inferior.*

GENTIA'NA. Calyx 4 or 5-cleft; corolla with a tubular base, bell-form, without pores, 4 or 5-cleft, stigmas 2, sub-sessile, capsule 1-celled oblong; columellas 2, longitudinal; stamens but 4, when the divisions of corolla are 4.—(gentian.)

Exotic.

Plants umbelliferous: flowers 5-petaled, superior: seeds 2.

(Seeds prickly or hispid.)

DA'UCUS. Seeds striate on their joining sides outer sides convex hispid ribs; involucre pinnatifid; flowers sub-radiated, abortive in the disk.—(carrot.)

Exotic.

ANE'THUM. Seeds flat or convex, 5-ribbed; germ lenticular, compressed; calyx and petals entire; involucre none.—(fennel, dill.)

Order 3. *Trigynia. Three pistils.*A. *Flowers superior.*

VIBUR'NUM. Calyx 5-parted or 5-toothed, small; corolla bell-form, 5-cleft, with spreading or reflexed lobes; stigmas almost sessile; berry or drupe 1-seeded.—(snow ball, sheep-berry, high cranberry.)

SAMBU'CUS. Calyx 5-parted or 5-cleft, small; corolla sub-urceolate; 5-cleft; stigma minute, sessile; berry globose, 1-celled 3-seeded elder.)

LI'NUM. Calyx 5-leaved or 5-parted, permanent; corolla 5-petaled inferior, with claws; capsule 5 or 10-valved, 10-celled; seeds solitary, ovate, compressed; filaments spreading or united at the base.—(flax.)

CLASS VI. HEXANDRIA. *Six Stamens*

Order 1. *Monogynia. One pistil.*

A. *Flowers having a perianth and corolla, without a spathe.*

TRADESCAN'TIA. Calyx inferior, 3-leaved; corolla 3-petaled; filaments with jointed beards; capsules 3-celled, many-seeded.—(spiderwort.)

B. *Flowers having a spathe or glume, without a perianth.*

AMARYLL'IS. Corolla superior, 6-petaled, unequal; filaments unequal in proportion or direction, declined, inserted in the throat of the tube.—(atamask lily.)

Exotic.

GALAN'THUS. Petals 3, concave, superior; nectarines (or inner petals) 3, small, emarginate; stigma simple.—(snowdrop.)

C. *Flowers having no calyx.*

LI'LIIUM. Corolla liliaceous, inferior, 6-petaled; petals with a longitudinal line from the middle to the base; stamens shorter than the style; stigma undivided; capsule sub-triangular, with the valves connected by hairs crossing as in a sieve.—(lily.)

ERYTHRO'NIUM. Corolla liliaceous, inferior, 6-petaled; petals reflexed, having two pores and two tubercle-form nectarines at the base of the three inner alternate petals; capsule somewhat stiped; seeds ovate.—(dog-tooth violet, or adder-tongue.)

ASPAR'AGUS. Corolla inferior, 6-parted, erect, the three inner divisions reflexed at the apex; style very short; stigmas 3; berry 3-celled, cells 2-seeded.—(asparagus.)

Exotic.

TU'LIPA. Corolla 6-petaled, liliaceous, style 9; stigma thick; capsule oblong, 3-sided.—(tulip.)

FRTLILLA'RIA. Corolla inferior, 6-petaled, bell-form, with a nectariferous cavity above the claw of each; stamens of the length of the corolla; seeds flat.—(crown imperial.)

Order 3. *Tryginia. Three pistils.*

TRIL'LIIUM. Calyx 3-leaved, inferior, spreading; corolla 3-petaled; styles 0; stigmas 3; berry 3-celled, many seeded.—(false wake robin.)

CLASS VII. HEPTANDRIA. *Seven Stamens.*

Order 1. *Monogynia. One pistil.*

ES'CLUSUS. Calyx inflated; 4 or 5-toothed; corolla 4 or 5-petaled inserted on the calyx, unequal, pubescent; capsule 3-celled; seeds large, solitary, chestnut-form.—(horse chestnut.)

CLASS VIII. OCTANDRIA. *Eight Stamens.*

Order 1. *Monogynia. One pistil.*

OENO'THERA. Calyx 4-cleft, tabular, caducous, divisions reflected, petals 4, inserted on the calyx; stigma 4-cleft; capsule 4-celled, 4-valved; seeds not feathered, affixed to a central 4-sided columella.—(cassia, or evening primrose.)

TROP'EOLUM. Calyx 4 or 5-cleft, coloured spurred; petals 4 or 5, unequal; nuts leathery, sulcate.—(nasturtion)

CLASS IX. ENNEANDRIA. *Nine Stamens.*

Order 1. *Monogynia. One pistil.*

LAU'RUS. Calyx 4 to 6-parted; corolla 0; nectarines 3, each a 2-bristled or 2-lobed gland, surrounding the germ; drupe 1-seeded. Stamens vary from 3 to 14, but they are generally in two series of 6 each, with 3 of the inner series barren—often dioecious. The calyx may be taken for a corolla.—(sassafras, spice-bush.)

CLASS X. DECANDRIA. *Ten Stamens.*

Order 1. *Monogynia. One pistil.*

A. *Flowers polypetalous, irregular, (mostly papilionaceous.)*

CAS'SIA. Calyx 5-leaved; corolla 5-petaled; anthers 3, lower ones beaked, and on longer incurved filaments; legume membranaceous cassia.)

B. *Flowers polypetalous, regular.*

PY'ROLA. Calyx 5-parted, petals 5; styles longer than the stamens, anthers with two pores at the base before, and the top after the opening of the flower; capsule 5-celled, dehiscent at the angles near the base.—(shin leaf.)

CHIMAPH'ILA. Calyx 5-parted; petals 5; anthers beaked, with 2 pores at the base before, and at the top after the opening of the flower; style immersed; stigma thick, orbiculate; capsule 5-celled, dehiscent at the angles near the summit—(prince's pine, pipsissiwā.)

Exotic.

RU'TA. Calyx 5-parted; petals concave; receptacle surrounded by 10 nectariferous dots; capsule lobed. (Petals sometimes 4, and stamens 8.)—(rue.)

C. *Flowers monopetalous.*

EPIGE'A. Calyx double, outer 3-leaved, inner 5-parted; (or calyx 5-parted, with 3 bracts;) corolla salver-form; border 5-parted, spreading; tube villose within; capsule 5-celled, many-seeded; receptacle 5-parted.—(trailing arbutus.)

VACC'NIUM. Calyx superior, 5 toothed or 5-parted, corolla bell or pitcher form, 5-cleft, the divisions reflected. filaments inserted on the

germ with the corolla; berry 4 or 5-celled, many-seeded. (The foreign species are sometimes octandrous.*)—(whortleberry.)

KAL'MIA. Calyx 5-parted; corolla wheel-salver-form, with 10 horns beneath, and 10 cavities within, containing the anthers until the pollen is mature; capsule 5-celled, many-seeded.—(laurel.)

D. *Flowers without a calyx: (or with a coloured petal like a calyx,) whole plant destitute of green herbage.*

MONOT'ROPA. Corolla confusedly polypetalous, permanent; petals about 5, with nectariferous hollows at their bases; anthers reniform, subpeltate, 1-celled, giving out pollen by 2 holes near the middle; stigma orbicular, not bearded; capsule 5-celled, 5 valved.—(bird's nest, Indian pipe.)

Order 2. Digynia. Two pistils.

HYDRAN'GEA. Calyx 5-toothed, superior; corolla 5-petaled; capsule 2-celled, 2-beaked, dehiscent between the beaks.

SAXIFRA'GA. Calyx 5-parted, half superior; corolla 5-petaled; capsule 2-celled, 2-beaked, opening between the beaks; many-seeded.—(saxifrage.)

SAPON'RIA. Calyx inferior, 1-leaved, tubular, 5-toothed, without scales; petals 5, with claws; capsule oblong, 1-celled.—(soap wort.)

DIAN'THUS. Calyx inferior, cylindrical, 1-leaved, with 4 or 6 scales at the base; petals 5, with claws; capsule cylindrical, 1-celled, dehiscent at the top.—(pink, sweet-william.)

Order 3. Trigynia. Three pistils.

SILE'NE. Calyx 1-leaved, tubular or conic, 5-toothed; petals 5, with claws, generally crowned at the orifice; capsule 3-celled, 6 toothed, many-seeded.

Order 5. Pentagynia. Five pistils.

AGROSTEM'MA. Calyx 5-cleft, prismatic or tubular; coriaceous, petals 5, with claws; border obtuse, entire; capsule 1-celled, many-seeded, opening with 5 teeth.—(cockle.)

Order 10. Decagynia. Ten pistils.

PHYTOLAC'CA. Calyx 9; corolla 5-petaled or 5-cleft, calyx-like, inferior; berry 10-celled, 10-seeded. By some authors the calyx is called a corolla.—(poke-weed.)

CLASS XI. ICOSANDRIA. *More than Ten Stamens situated on the Calyx.*

Order 1. Monogynia. One pistil.

PRU'NUM. Calyx-cleft, inferior, bell-form; corolla 5-petaled; nut ⁶

* Having eight stamens.

the drupe smooth, with prominent seams at the sutures.—(cherry plum.)

Exotic.

AMYG'DALUS. Calyx 5-cleft, inferior; petals 5, drupe with a nut perforated with pores, flowers sessile.—(peach.)

PHILADEL'PHUS. Calyx 4 or 5-parted, superior, top-form; corolla 4 or 5-petaled; style 4-cleft; capsule 4 or 5-celled, many-seeded; seed arilled.—(false syringa, or mock orange.)

Order 2. Digynia, to Order 5. Pentagynia; or Dipentagynia. From two to five pistils.

CRATE'GUS. Calyx superior, 5-cleft; petals 5; styles 1 to 5; berry mealy; seeds 2 to 5, bony.—(thorn-bush.)

ARO'NIA. Calyx superior, 5-toothed; petals 5; fruit pomaceous; berry 5 or 10-celled; cells 1 or 2-seeded; seeds cartilaginous.—(shad-flower, choak berry.)

PYRUS. Calyx 5-cleft, superior; corolla 5-petaled; pome 5-celled, many-seeded; seeds compressed-ovate.—(pear, apple, quince.)

Order 13. Pologynia. Many pistils.

RO'SA. Calyx urn-form, inferior, 5-cleft, fleshy; contracted towards the top; petals 5; seeds numerous, bristly, fixed to the sides of the calyx within. A genus remarkable for the multiplication of its petals, by rich culture.—(rose.)

RU'BUS. Calyx 5-cleft, inferior; corolla 5-petaled; pistils numerous; berry composed of many juicy, 1-seeded acines, on a dry receptacle.—(raspberry, black-berry.)

FRAGA'RIA. Calyx inferior, 10-cleft; 5 alternate divisions smaller; corolla 5-petaled; receptacle ovate, berry-like; acines naked, immersed in the receptacle, caducous.—(strawberry.)

CLASS XII. POLYANDRIA. *More than ten Stamens situated on the receptacle.*

Order 1. Monogynia. One pistil.

SANGUINA'RIA. Calyx caducous, 2-leaved; corolla about 8-petaled, stigma sessile, twinned, 2-grooved; capsule pod-like, ovate, 1-celled, 2-valved, acute at each end; valves caducous; columella 2, permanent.—(blood-root.)

PODOPHYL'LUM. Calyx 3-leaved, minute; corolla about 9-petaled, stigma large, crenate, sessile; berry 1-celled, crowned with the stigma, large, many-seeded; columella one-sided.—(wild mandrake.)

Exotic.

PAPA'VER. Calyx 2-leaved, caducous; corolla 4-petaled; stigma a broad disk, with radiating lines; capsule 1-celled, dehiscent by pores under the permanent stigma.—(poppy.)

Order 2. Digynia, to Order 5. Pentagynia, or Di-Pentagynia.

DELPHI'NUM. Calyx 0; corolla 5-petaled, unequal; nectary, 2-cleft

horne behind; capsules 1 or 3, pod-like. By some the corolla is considered as a coloured calyx.—(larkspur.)

AQUILE'GIA. Calyx 0; petals 5, caducous; nectaries 5, alternating with the petals, and terminating downwards in a spur-like nectary; capsules 5, erect; acuminate with the permanent styles, many-seeded. By some the nectaries are considered as petals, and the corolla as a coloured calyx.—(columbine.)

HYPER'ICUM. Calyx 5-parted; divisions equal, sub-ovate; corolla 5-petaled; filaments often united at the base in 3 or 5 sets; styles 2 to 5; capsules membranaceous, roundish, with a number of cells equal to the number of styles. The bases of the filaments are often in groups, when they are not united.—(St. John's wort.)

Exotic.

PEO'NIA. Calyx 5-leaved; petals 5; styles 0; stigmas 2 or 3; capsules pod-like, many-seeded. Remarkable for the multiplication of petals by rich culture.—(peony.)

Order 13. Polygynia. Many pistils.

A. Perianth none.

CLEM'ATIS. Petals 3, 4, 5, or 6; seeds compressed; styles permanent, becoming long plumose tails. (Some species are diœcious.) (virgin's bower.) By some the corolla is considered a coloured calyx.

ANEMO'NE. Petals 5 to 9; seeds numerous, naked.—(wind-flower, rue anemone.) The corolla is considered a calyx by some.

CAL'THA. Petals 5 to 9; orbicular; capsules numerous, (5 to 10), many-seeded, compressed; 1-celled, spreading; nectaries 0. (Pistils variable in number.)—(American cowslip.) By some the corolla is mistaken for a coloured calyx.

B. Having a perianth.

HEPAT'ICA. Calyx 3-leaved, a little distance below the corolla, entire; petals 6 to 9; seeds without tails.—(liverleaf.)

RANUN'CUS. Calyx 5-leaved; petals 5, with claws, and a nectariferous pore or scale on the inside of each; seeds without tails, naked, numerous.—(crow-foot.)

CLASS XIII. DIDYNAMIA. Having Four Stamens. Two Stamens longer than the other two.

Order 1. Gymnospermia. Seeds naked in the Calyx.

A. Calyx 5-cleft, with the divisions, or teeth, nearly equal.

MEN'THA. Corolla nearly equal, 4-lobed; broadest division, emarginate; stamens erect, distant.—(spearmint, peppermint.)

HEDEO'MA. Calyx 2-lipped, gibbose at the base; upper lip with 3 lanceolate teeth; lower lip with two subulate ones; corolla ringent; 2 short stamens barren.—(pennyroyal.)

NEP'ETA. Calyx dry, striate; corolla with a longish tube; under lip with the middle division crenate, throat with a reflected margin; stamens approximate.—(catmint.)

GLECHO'MA. Calyx 5-cleft; corolla double the length of the calyx; upper lip 2-cleft; lower lip 3-cleft, with the middle segment emarginate;

nate; each pair of anthers approaching so as to exhibit the form of a cross.—(ground ivy, gill-overground.)

Exotic.

LAVAN'DULA. Calyx ovate, sub-dentate; bracts under-studded; corolla reserpinate; stamens in the tube.—(laven her.)

B. Calyx 2-lipped.

PRUNEL'LA. Calyx with the upper lip dilated; filaments 2-forked, with an anther on one of the points; stigma 2-cleft.—(self-heal, or heal-all.)

SCUTELLA'RIA. Calyx with an entire mouth, which is closed with a helmet-form lid after the corolla falls out; tube of the corolla bent—(scull-cap.)

Exotic.

THY'MUS. Calyx sub-campanulate, with the throat closed with hairs; corolla with the upper lip flat, emarginate; lower lip longer.—(thyme.)

Order 2. Angiospermia. Seeds in a capsule.

ANTIRRH'NUM. Calyx 5-leaved or deeply 5-parted; the two lower divisions remote; corolla personate or ringent, spurred, or with a prominent base; the throat closed with a prominent palate; capsule ovate, 2-valved, dehiscent at the apex, with reflexed teeth.—(snap-dragon, toad-flax.)

GERAR'DIA. Calyx 5-cleft or 5-toothed; corolla sub-campanulate, unequally 5-lobed; segments mostly rounded; capsule 2-celled, dehiscent at the top.—(false foxglove.)

PENTSTE'MON. Calyx 5-cleft or 5-leaved; corolla ringent, inflated; the rudiment of a bearded filament between, and longer than two tallest stamens; anthers smooth; capsule 2-celled, 2-valved, ovate; seeds numerous, angular.—(beard tongue.)

CLASS XIV. TETRADYNAMIA. Having six stamens—Four stamens longer than the other two.

Order 1. Siliculosa. Short pod.

Exotic.

LUNA'RIA. Silicle entire, oval, flat-compressed, pedicelled; valves equalling the partition, parallel, flat; calyx consists of coloured sack-like leafets. 39. 63.—(honesty, or satin-flower.)

Order 2. Siliquosa. Long pod.

CHEIRAN'THUS. Calyx closed, two of the leafets gibbous at the base; petals dilated; silique, when young with a glandular tooth each side; stigma 2-lobed; seed flat, sometimes margined.—(stock-july-flower, wall-flower.)

SINA'PIS. Calyx spreading; corolla with strait claws; glands between the short stamens and the pistil, and between the long stamens;

and the calyx; partition extending beyond the valves of the silique unisiform; seeds in a single series.—(mustard.)

RAPHANUS. Calyx closed, silique, terete, not opening by valves, 1 or 2-celled; glands between the short stamens and pistil, and between the long stamens and the calyx.—(radish.)

Exotic.

BRASSICA. Calyx erect, converging; partition extending beyond the valves of the silique; seed globose; glands between the short stamens and pistil, and between the long stamens and calyx.—(cabbage, turnip.)

CLASS XV. MONADELPHIA. *Stamens united by filaments in one set.*

Order 3. Triandria. Three stamens.

SISIRYNCHIUM. Spatha 2-leaved; perianth 0; corolla superior, 6 cleft or 6-petaled, tubular; style 1; stigma 3-cleft; capsule 3-celled. (blue-eyed grass.)

Order 5. Pentandria.

Exotic.

ERODIUM. Calyx 5-leaved; corolla 5-petaled; nectariferous scales 5, alternating with the filaments; anthers 5, 1-seeded, awned, beaked at the base of the receptacle; awn spiral, bearded within.—(stork's bill.)

Order 7. Heptandria. Seven stamens.

Exotic.

PELARGONIUM. Calyx 5-parted, upper division broader, ending in a capillary nectariferous tube; corolla 5-petaled, irregular; the two upper petals usually broader, with coloured veins; filaments 10, 3 of them usually without anthers; anthers 5, each 1-seeded, awned; some of the awns spiral.—(stork geranium.)

Order 10. Decandria. Ten stamens.

GERANIUM. Calyx 5-leaved; corolla 5-petaled, regular; nectariferous glands 5, adhering to the base of the 5 alternating long filaments; anthers 5, 1-seeded, awned, beaked at the elongated top of the receptacle; awn naked or smooth within, straight. 14. 73.—(cranebill, false crow-foot, herb-robert.)

Order 12. Polyandria. Many stamens.

ALTHEA. Calyx double, outer one 6 or 9-cleft; capsules many, arranged circularly, 1-seeded.—(hollyhock.)

MALVA. Calyx double, outer one 3-leaved, inner one 5-cleft; capsules many, arranged circularly, 1-celled, 1-seeded.—(mallows.)

CLASS XVI. DIADELPHIA. *Stamens united by filaments in two sets.*

Order 5, to Order 8. Pent-octandria. From 5 to 8 stamens.

POLYGALA. Calyx 5-leaved, permanent, unequal, 2 of the leaflets wing-like, larger, coloured, corolla irregular (or rather, calyx 3-leaved, corolla imperfectly papilionaceous;) capsule obcordate, 2-celled 2-valved. Keel of the corolla sometimes appendaged: seeds hairy (snake root, milk-wort, low centaury, mountain flax.)

Order 10. Decandria. Ten stamens.

Legume without transverse divisions or portions; seeds numerous.

(Stigma pubescent.)

PISUM. Calyx with the divisions leaf-like, about equal: banner protruding 2 folds: style compressed, carinate, villose above: legume without down at the suture.—(pea.)

LATHYRUS. Calyx with the two upper divisions shorter: style flat, villose above, broader towards the top. (Stems mostly winged, leaflets 2 or more, terminated by a divided tendril.)—(sweet pea.)

(Stigma not pubescent.)

PHASEOLUS. Keel stamens and style spirally twisted together; legum compressed, falcate; seeds sub-compressed, reniform.—(bean.)

ROBINIA. Calyx small, bell-form, 4-cleft, upper division 2-parted: banner large, reflexed, roundish, legume compressed, elongated, many seeded; seeds compressed, small.—(locust tree.)

TRIFOLIUM. Flowers sub-capitate; legume included in the calyx, not opening by valves, 1 to 4-seeded. Leaves always ternate. (clover.)

LUPINUS. Calyx 2-lipped, anthers, 5 oblong and 5 roundish; legume coriaceous.—(lupine.)

CLASS XVII. SYNGENESIA. *Anthers united.*

Order 1. Polygamia Æqualis. Disk and ray florets perfect

A. Floret ligulate.

LEONTODON. Calyx imbricate, with flexible leaflets; receptacle naked: egret stiped.—(dandelion.)

LACTUCA. Calyx imbricate, cylindric, with the margin of the scales membranaceous; receptacle naked; egret simple, stiped; seed smooth.—(lettuce.)

CARDUUS. Calyx ovate, imbricate with prickly scales; receptacle villose; egret pilose.—(comb-tooth thistle.)

CYNARA. Receptacle bristly; calyx dilated, imbricate, scales with

fleshy bases, emarginate and pointed; egret plumose, sessile.—(garden artichoke.)

B. *Florets tubulous; flower discoid.*

EUPATORIUM. Calyx imbricated (rarely simple) oblong; style long cloven halfway down; egret pilose, scabrous, or rough papillose; receptacle naked: seed smooth and glandular, 5 striate.—(boneset thoroughwort, joeye.)

Order 2. *Polygamia superflua.* Florets of the disk perfect those of the ray having pistils only.

A. *Flowers discoid; the ray florets being obsolete.*

TANACETUM. Calyx imbricate, hemispheric; scales acuminate, rays obsolete, 3-cleft; egret somewhat marginal; receptacle naked. (Flowers corymb.)—(tansey.)

GNAPHALIUM. Calyx imbricate with the marginal scales rounded scarious, shortish, glossy, coloured; receptacle naked; egret pilose or plumose, scabrous; florets of the ray subulate, of the disk entire. Sometimes all the florets are perfect.—(life everlasting.)

B. *Flowers radiate; the ligulate ray florets very manifest.*

(Receptacle naked.)

ASTER. Calyx imbricate, the inferior scales generally spreading, egret simple, pilose; receptacle often deep pitted. Florets of the ray more than 10, except in a few species; colour purple or white, never yellow.—(star-flower.)

SOLIDAGO. Calyx oblong or sub-cylindric, with oblong, narrow, pointed straight scales, imbricate, closed upon the flower; ray florets about 2, and fewer than 10, lanceolate, 2-toothed, equal to, or shorter than the calyx; filaments capillary, very short; style thread form, equalling the length of the stamens, stigma cleft, spreading; egret simple, pilose, scabrous; receptacle furrowed with dots or punctures; seed: oblong ovate.—(golden rod.)

CHRYSANTHEMUM. Calyx hemispherical, imbricate, with the scales membranous at the margin; egret none, or a narrow margin.—(ox-eyed daisy, fever-few.)

Exotic.

BELLIS. Calyx hemispherical; scales equal; egret 0; receptacle conical; seed obovate.—(garden daisy.)

TAGETES. Calyx simple, 1-leafed, 5-toothed, tubular: florets of the ray about 5, permanent; egret 5 erect awns.—(marigold.)

(Receptacle chaffy or hairy.)

ANTHEMIS. Calyx hemispherical; scales with scarious margins, nearly equal; egret 0, or a membranous margin: florets of the ray more than 5; receptacle chaff: flat, with a rigid acuminate apex; seed crowned with a membranous border or egret.—(may-weed, chamomile.)

Order 3. *Polygamia Frustranea.* Florets of the disk perfect, those of the ray having neither stamens nor pistils.

HELLANTHUS. Calyx imbricate, sub-squarrose, leafy; receptacle

flat, chaffy; egret 2-leaved, chaff-like, caducous.—(sunflower, Jerusalem artichoke.)

CLASS XVIII. GYNANDRIA. *Stamens growing out of the pistil.*

Order 1. *Monandria. One stamen.*

A. *Anther adnate, sub-terminal, not caducous; masses of pollen affixed by the base, and made up of angular particles.*

ORCHIS. Corolla ringent-like, upper petal vaulted; lip dilated, spurred beneath: masses of pollen 2, adnate, terminal.—(orchis.)

Order 2. *Diandria. Two stamens.*

CYPRIPEDIUM. Calyx coloured, 4-leaved, spreading; corolla 0, (by some the calyx is called a corolla); nectary large, hollow, inflated; style with a terminant lobe, and petal-like appendage on the upper side.—(lady's slipper.)

Order 5. *Pentandria. Five stamens.*

Plants bearing seeds in follicles; and pollen in masses called pollinia.

ASCLEPIAS. Petals 5, reflected; nectaries 5, concave, erect, containing little horns; each stamen with a pair of pendulous masses of pollen, suspended from the top of the stigma; follicles smooth.—(milk-weed, silk-weed.)

CLASS XIX. MONECIA. *Staminate and pistillate flowers on the same plant.*

Order 3. *Triandria. Three stamens.*

TYPHA. Ament cylindric, dense-flowered. Staminate flowers calyx obsolete, 3-leaved: corolla 0; stamens 3 together, on a chaffy or hairy receptacle, united below into one. Pistillate flowers—below the staminate; calyx 0; corolla 0; seed 1, pedicelled; the pedicels surrounded at the base with long hairs resembling an egret.—(cat-tail or reed mace.)

CAREX. Aments imbricate (usually in cylindric spikes.) Staminate flowers—calyx scales single; corolla 0. Pistillate flowers—calyx scale single; corolla inflated, monopetalous, 2-toothed at the apex; stigmas 2 or 3; nut 3-sided, enclosed in the inflated, permanent corolla, which becomes an utriculous-like permanent aril. Sometimes dioecious.—(sedge.)

COMPTONIA. Staminate flowers—ament cylindric, with calyx scales 1 flowered; corolla 2-petaled or none; filaments 2-forked. Pistillate flowers—spike or ament ovate; corolla 6-petaled (the corolla may be called a calyx); styles 2; not oval, 1-celled.—(sweet fern.)

ZEA. Staminate flowers—calyx glume 2-flowered, awnless; corolla glume awnless. Pistillate flowers—calyx glume 2-valved (number of

valves increased by cultivation;) style 1, very long, filiform, pendulous; seed solitary, immersed in an oblong receptacle.—(Indian corn.)

Order 4. Tetrandria. Four stamens.

MO'RUS. Staminate flowers—calyx 4-parted; corolla 0. Pistillate flowers—calyx 4-leaved; corolla 0; styles 2, calyx becoming berry-like; seed 1.—(mulberry.)

Order 5. Pentandria. Five stamens.

AMARA'NTHUS. Staminate flowers—calyx 3 or 5-leaved; corolla 0; stamens 3 or 5. Pistillate flowers—calyx and corolla as the staminate; styles 3; capsule 1-celled, opening transversely; seed 1.—(amaranth, red cockscomb.)

Order 12. Polyandria. Many stamens.

A. Stems not woody.

SAGITTA'RIA. Staminate flowers—calyx 3-leaved; corolla 3 petaled; filaments mostly 24. Pistillate flowers—calyx and corolla as in the staminate; germs many; capsules aggregate, 1-seeded, not opening.—(arrow-head.)

AR'UM. Spatha cucullate, 1-leaved; spadix not entirely covered with fructification; being more or less naked above, with pistillate flowers beneath, and staminate in the middle (sometimes a few are staminate beneath; berry mostly 1-seeded, generally cirrose glandular beneath).—(Indian turnip, wake-robin.)

B. Stems woody.

QUER'CUS. Staminate flowers—ament loose; calyx sub 5-cleft; corolla 0; stamens 5 to 10. Pistillate flowers—calyx 1-leaved, entire, scabrous, being a woody cup; style 1, stigma 2 to 5; nut or acorn 1-celled, 1-seeded, coriaceous, surrounded at the base by the permanent calyx.—(oak.)

CASTA'NEA. Polygamous. Staminate flowers—ament naked, linear; corolla (or calyx) 1-leaved, 5 or 6-parted; stamens 10 to 20. Pistillate flowers—calyx 5 or 6-leaved, (or 5 or 6-lobed) muricate; germs 3; stigma pencil-form; nuts 3, with coriaceous putamen, enclosed in the calyx, becoming echinate.—(chestnut.)

Order 15. Monadelphia. Filaments united.

A. Stems not woody.

Exotic.

CUCUR'BITA. Staminate flowers—calyx 5-toothed; corolla 5-cleft; filaments 3. Pistillate flowers—calyx and corolla like the staminate; pistil 3-cleft; pomaceous berry large, 3 to 5-celled; seeds thickened at the margin.—(gourd, squash, pumpkin, water-melon.)

RICINUS. Staminate flowers—calyx 5-parted; stamens numerous. Pistillate flowers, calyx 3-parted; styles 3 or 4-cleft; capsules echinate, 3-celled, 3-seeded.—(castor-oil plant.)

B. Stems woody.

PR'UNUS. Staminate flowers—calyx 4-leaved, peltate; corolla 0; stamens many; anthers naked, 2, sessile, 1-celled. Pistillate flowers—calyx in strobiles or cones, scales closely imbricate, 2-flowered; pistil 1; nu. with a membranous wing.—(pine.)

CLASS XX. DICECIA. *Staminate and pistillate flowers on different plants.*

Order 2. Diandria. Two stamens.

SA'LIX. Staminate flowers—ament cylindric; calyx a 1-flowered scale, with a nectariferous gland at the base; stamens 1 to 6. Pistillate flowers—ament and calyx like the staminate; stigmas 2, generally 2-cleft; capsule 1-celled; 2-valved; seeds many, with egret-like down (willow.)

Order 5. Pentandria. Five stamens.

HUM'ULUS. Staminate flowers—calyx 5-leaved; corolla 0; anthers with two pores at the extremity. Pistillate flowers—calyx 1-leaved; entire, oblique, spreading; styles 2, seed 1, within the leaf-like calyx, inflorescence strobile-form.—(hop.)

Exotic.

CAN'NABIS. Staminate flowers—calyx 5-parted. Pistillate flowers—calyx 5-leaved, entire, gaping laterally; styles 2; nut 2-valved, within the closed calyx.—(hemp.)

Order 8. Octandria. Eight stamens.

PO'PULUS. Staminate flowers—ament cylindric, calyx a torn scale; corolla turbinate, oblique, entire, supporting 8 to 30 stamens. Pistillate flowers—ament, calyx and corolla like the staminate; stigma 4 or 6-lobed; capsule 2-celled, 2-valved, many-seeded; seed with egret-like hairs. Leaves have a tremulous motion.—(poplar, balm of Gilead.)

NOTE. The 21st Class, Cryptogamia being too difficult for the beginner in Botany to analyze, is omitted.