

inflorescence (PO:0009049)

Current def'n:

A reproductive shoot system (PO:0025082) that has as parts all of the shoot axes (PO:0025029) and flowers (PO:0009046; must have two or more) distal to the most distal leaf (PO:0009025).

Current comment:

Inflorescences are reproductive shoot systems from which at least two flowers develop. The growth pattern of an Inflorescences may be monopodial (single main shoot axis), or sympodial (growth occurs from axillary meristems). The axes of an inflorescence can be determinate or indeterminate. Many plants, for example Magnolia, have solitary flowers (PO:0009046).

Revised comment: Inflorescences are reproductive shoot systems from which at least two flowers develop. The growth pattern of an inflorescences may be monopodial (single main shoot axis) or sympodial (growth occurs from axillary meristems). The axes of an inflorescence can be determinate or indeterminate. Inflorescence flower pedicels (PO:0009052) are the ultimate axis in an inflorescence. Many plants, for example Magnolia spp., have solitary flowers (PO:0009046).

comments:

- *Open PATO tracker with proposed definitions*

<https://github.com/pato-ontology/pato/issues>

Current synonyms:

inflorescencia (Spanish, exact), 花序 (Japanese, exact), Asteraceae floret (narrow),

ament (narrow)

anthela (narrow)

anthelae (narrow)

bostryches (narrow)

bostryx (narrow)

capitula (narrow)

capitulum (narrow)

catkin (narrow)

cincinnati (narrow), cincinnus (narrow)

corymb (narrow), cyathia (narrow), cyathium (narrow), cyme (narrow), cymule (narrow),
dichasium (narrow), drepanium (narrow)
glome (narrow), glomerule (narrow)
head (narrow), helicoid cyme (narrow),
monochasium (narrow),
panicle (narrow),
raceme (narrow),
rhipidia (narrow), rhipidium (narrow),
scorpioid cyme (narrow), spadices (narrow), spadix (narrow), spike (narrow),
thyrses (narrow), Triticeae spike (narrow)
umbel (narrow)
verticillaster (narrow)

Alt Ids:

PO:0020111
PO:0020112
PO:0020113
PO:0020114
PO:0020115
PO:0020116
PO:0020117
PO:0020118
PO:0020119
PO:0020120
PO:0020088
PO:0009048
PO:0009050

<https://www.arabidopsis.org/servlets/TairObject?type=keyword&id=20216>

Revised synonyms: inflorescencia (Spanish, exact), 花序 (Japanese, exact), infloreszenz (? , German, exact)

<https://github.com/Planteome/plant-ontology/issues/260>

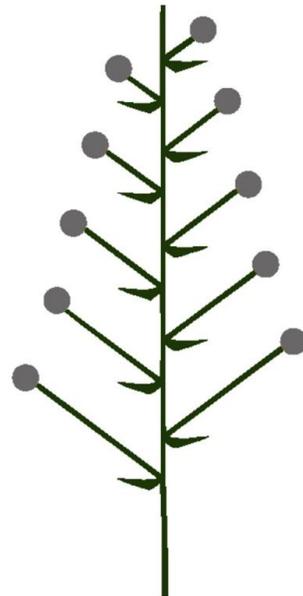
Changes made to the PO; LC, April 4th 2017

raceme inflorescence

Definition: An inflorescence (PO:0009049), with a monopodial growth habit, which at anthesis is composed of pedicellate (PATO:0001438) flowers (PO:0009046) on an indeterminate first order inflorescence axis (PO:0025104).

Comment: Examples: mouse-ear cress (*Arabidopsis thaliana*, Brassicaceae), wild black cherry (*Prunus serotina*, Rosaceae), and pokeweeds (*Phytolacca* spp., Phytolaccaceae).

Synonym: raceme (exact)



- *Need to cite source of images...modified from wikimedia?*

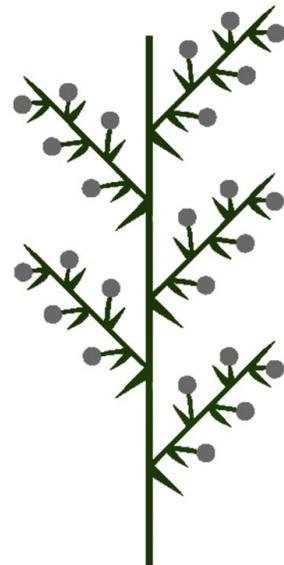
compound raceme inflorescence

Definition: An inflorescence (PO:0009049), with a monopodial growth habit, which at anthesis is composed of an indeterminate first order inflorescence axis (PO:0025104) and pedicellate (PATO:0001438) flowers (PO:0009046) on indeterminate higher order inflorescence axes (PO:0009081).

Comment: Examples: many species of Fabaceae, such as melilot (*Melilotus officinalis*) and hop trefoil (*Trifolium campestre*) species.

- Add additional examples, use

Synonym: compound raceme (exact), double raceme (exact), homothetic double raceme (narrow), heterothetic double raceme (narrow).



spike inflorescence

Definition: An inflorescence (PO:0009049), with a monopodial growth habit, which at anthesis is composed of sessile (PATO:0001436) flowers (PO:0009046) on an indeterminate first order inflorescence axis (PO:0025104).

Comment: The basal-most flowers of some spike inflorescences have short inflorescence flower pedicels (PO:0009052), such as in ladies'-tresses orchids (*Spiranthes*; Orchidaceae).

Example: black pepper (*Piper nigrum*; Piperaceae).

Synonym: spike (exact), stachyoid (narrow)

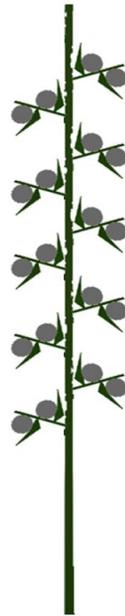


compound spike inflorescence

Definition: An inflorescence (PO:0009049), with a monopodial growth habit, which at anthesis is composed of an indeterminate first order inflorescence axis (PO:0025104) and sessile (PATO:0001436) flowers (PO:0009046) on indeterminate higher order inflorescence axes (PO:0009081).

Comment: Examples: some amaranth species (*Amaranthus* spp., Amaranthaceae).

Synonym: compound spike (exact), double spike (exact), homothetic compound spike (narrow), heterothetic compound spike (exact), homothetic double spike (narrow), heterothetic double spike (exact).



catkin inflorescence

Definition: An inflorescence (PO:0009049), with a monopodial growth habit, which at anthesis is composed of indeterminate first order inflorescence axis (PO:0025104) and sessile (PATO:0001436), unisexual flowers (PO:0009046) that are each subtended by conspicuous (PATO:0000463) inflorescence bracts (PO:0009054).

Comment: Examples: poplars (including *Populus trichocarpa*, Salicaceae) and birches (*Betula* spp., Betulaceae). Catkin inflorescences are often pendulate.

Synonyms: ament (exact), catkin (exact)

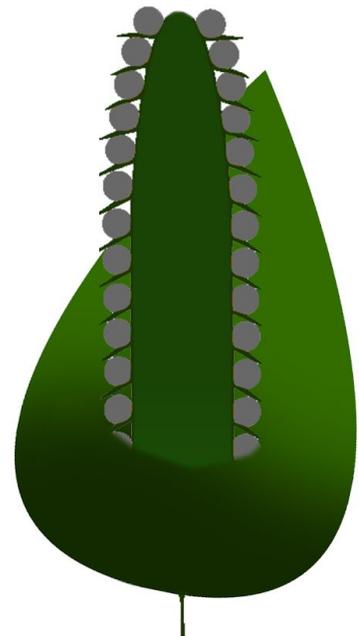


spadix inflorescence

Definition: An inflorescence (PO:0009049), with a monopodial growth habit, which at anthesis is composed of sessile (PATO:0001436) flowers (PO:0009046) on a radially-enlarged, indeterminate first order inflorescence axis (PO:0025104), and a basal, enveloping inflorescence bract (PO:0009054).

Comment: Examples: aroids (Araceae), palms (Arecaceae), and the pistillate inflorescence (PO:0025598) of corn (*Zea mays*, Poaceae).

Synonym: spadix (exact)



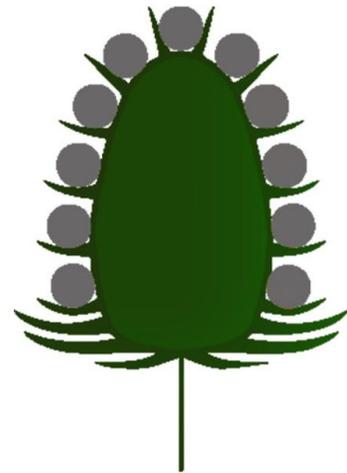
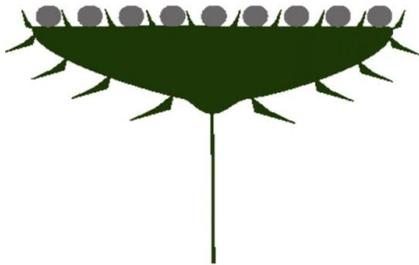
capitulum inflorescence

Definition: An inflorescence (PO:0009049), with a monopodial growth habit, which at anthesis is composed of sessile (PATO:0001436) flowers (PO:0009046) on a radially-enlarged, determinate first order inflorescence axis (PO:0025104).

Comment: Many capitulum inflorescences have basal involucre bracts (PO:0009045) and are often discoid or globose in shape.

Examples: including sunflowers (*Helianthus* spp.; Asteraceae) and teasels (*Dipsacus* spp.; Dipsacaceae).

Synonym: capitulum (exact), calathidium (exact), hypanthodium (narrow)

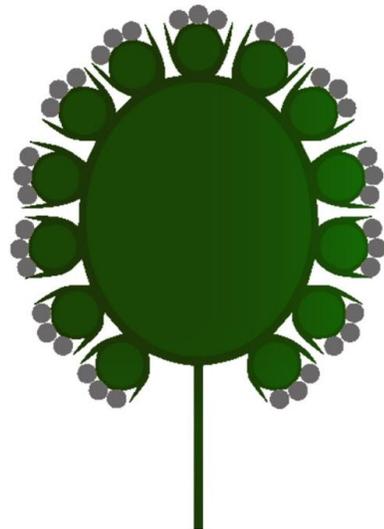


compound capitulum inflorescence

Definition: An inflorescence (PO:0009049), with a monopodial growth habit, which at anthesis is composed of a radially enlarged inflorescence axis (PO:0020122) and sessile (PATO:0001436) flowers (PO:0009046) on determinate higher order inflorescence axes (PO:0009081) with basal involucre bracts (PO:0009045).

Comment: Examples: many species of daisy family (Asteraceae). The second order inflorescences (PO:0025240) of compound capitulum inflorescences are often called glomerules.

Synonym: compound capitulum (exact), double capitulum (exact), heterothetic compound capitulum (related), homothetic compound capitulum (related), heterothetic double capitulum (related), homothetic double capitulum (related)



panicle inflorescence

Definition: An inflorescence (PO:0009049), with a monopodial growth habit, which at anthesis (PO:ID) is composed of pedicellate (PATO:0001438) flowers (PO:0009046) on determinate inflorescence axes (PO:0020122).

- *Include spikelets?*

Comment: Panicle inflorescences are most often conical in shape. Examples: the majority of species in the grass family Poaceae (including *Avena* spp., *Brachypodium* spp., *Hordeum vulgare*, *Leersia perrieri*, *Oryza* spp., *Setaria* spp., *Triticum aestivum*, *Zizania palustris*, and the staminate inflorescence of *Zea mays*), grapes (*Vitis* spp.; Vitaceae), and *Polemonium caeruleum* (Polemoniaceae).

Synonym: panicle (exact)



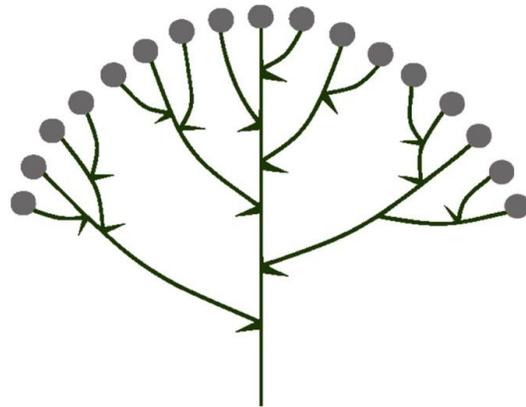
corymb inflorescence

Definition: An inflorescence (PO:0009049), with both monopodial and sympodial growth habits, which at anthesis is composed of a determinate first order inflorescence axis (PO:0025104) and determinate higher order inflorescence axes (PO:0020122) with pedicellate (PATO:0001438) flowers (PO:0009046) that collectively form a convex plane of flowers (PO:0009046).

Comment:

Example: Including highbush blueberry (*Vaccinium corymbosum*; Ericaceae).

Synonym: corymb (exact), dichasium (broad), double corymb (exact), compound corymb (exact)



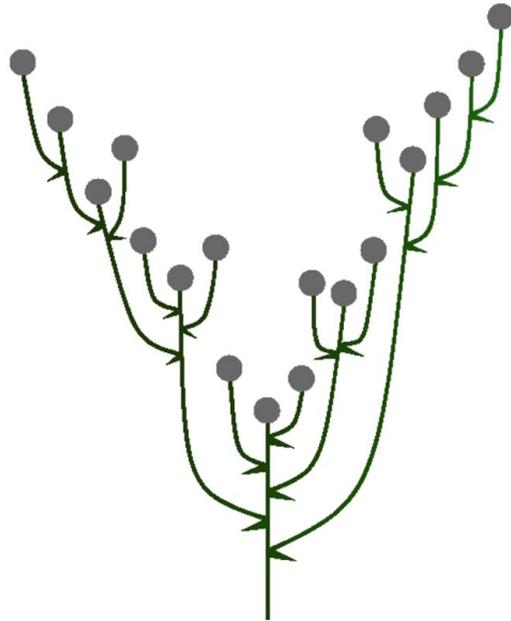
anthela inflorescence

Definition: An inflorescence (PO:0009049), with a monopodial growth habit, which at anthesis is composed of a determinate first order inflorescence axis (PO:0025104) and determinate higher order inflorescence axes (PO:0020122) with pedicellate (PATO:0001438) flowers (PO:0009046) that collectively form a concave plane of flowers (PO:0009046).

Comment:

Example: species of *Filipendula* (Rosaceae).

Synonym: anthela (exact), dichasium (broad), **anthelae (narrow)**



cyme inflorescence

Definition: An inflorescence (PO:0009049), with a monopodial growth habit, which at anthesis is composed of a determinate first order inflorescence axis (PO:0025104) and pedicellate (PATO:0001438) flowers (PO:0009046) on paired, determinate higher order inflorescence axes (PO:0009081).

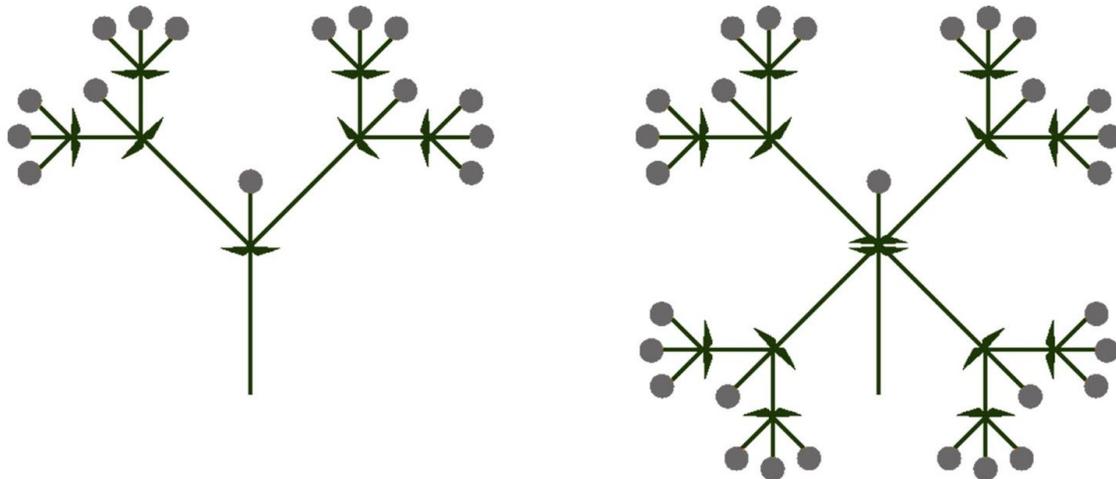
Comment:

Lamiaceae

Cyme inflorescence is used here to treat inflorescences that are commonly referred to as dichasial, pleiochasial, or polychasial cymes; each of which are named according to the number of higher order inflorescence axes at a single axis. Cyme is not used here to treat monochasial cymose inflorescences, which contain at least one repeating sympodial unit, such as cincinnus inflorescence (PO:NEW), compound cincinnus inflorescence (PO:NEW), bostryx (PONEW), drepanium inflorescence (PO:NEW), and compound drepanium inflorescence (PO:NEW).

Example: many species of the Figwort family (Scrophulariaceae, including green figwort *Scrophularia umbrosa*) and the Verbena family (Verbenaceae).

Synonym: cyme (exact), dichasium (narrow), pleichasium (narrow), polychasium (narrow)



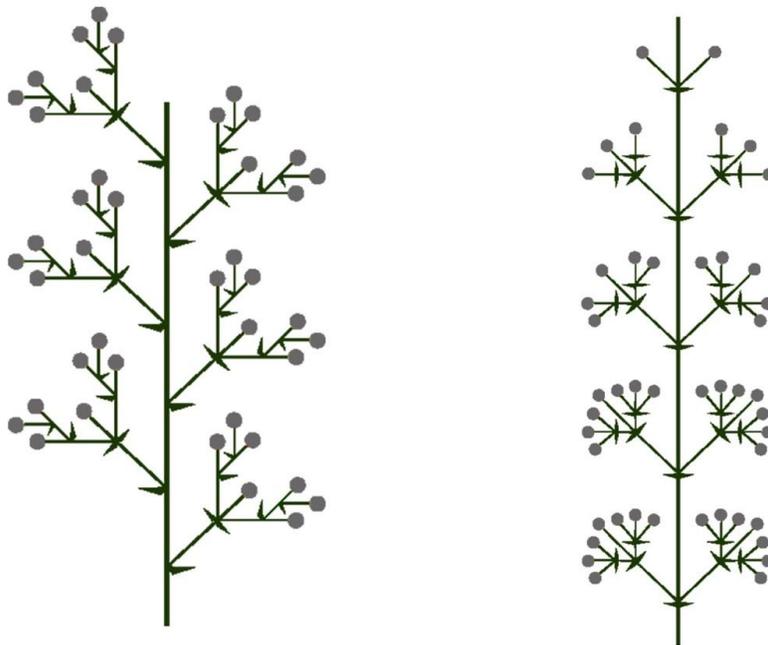
indeterminate thyrse inflorescence

Definition: An inflorescence (PO:0009049), with monopodial and/or sympodial growth habits, which at anthesis is composed of an indeterminate first order inflorescence axis (PO:0025104) and bilaterally-symmetrical second order inflorescences (po:ID) with pedicellate (PATO:0001438) flowers (PO:0009046) and determinate higher order inflorescence axes (PO:0009081).

Comment: The higher order inflorescence axes (PO:0009081) of an indeterminate thyrse inflorescence may have either a monopodial or sympodial growth habit depending on whether single or paired inflorescence axillary meristems (PO:0009105) develop at each axis.

Synonym: thyrse (exact), indeterminate thyrse (exact), dichasium (broad), monothyrse inflorescence (exact), heterocladic thyrse (exact), double thyrse (exact), pleiothyrse (exact), diplothyrse (exact), conjunct-heterocladic thyrse (exact), disjunct-heterocladic thyrse (exact)

Add examples..... E.g. Lilacs...



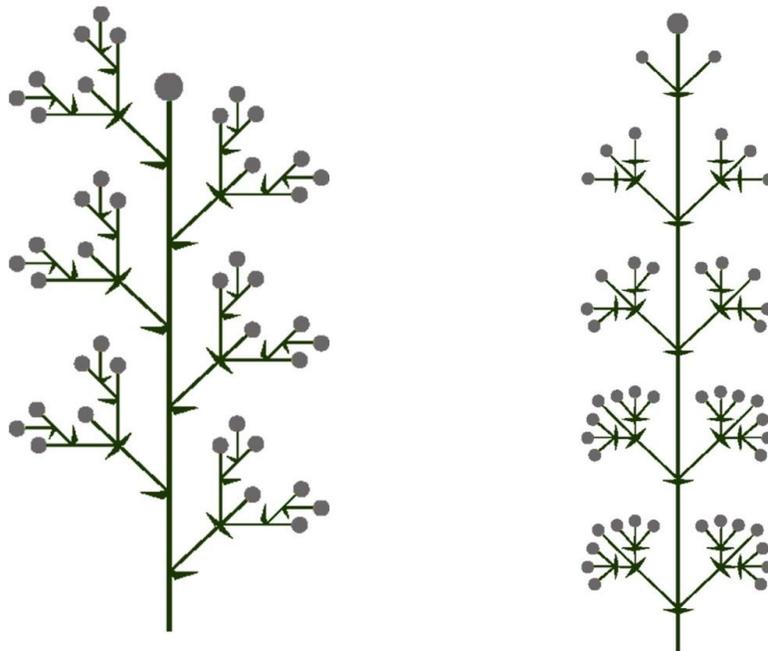
determinate thyrse inflorescence

Definition: An inflorescence (PO:0009049), with a monopodial growth habit, which at anthesis is composed of an determinate first order inflorescence axis (PO:0025104) and bilaterally-symmetrical second order inflorescences with pedicellate (PATO:0001438) flowers (PO:0009046) and determinate higher order inflorescence axes (PO:0009081).

Comment: The higher order inflorescence axes (PO:0009081) of an determinate thyrse inflorescence may have either a monopodial or sympodial growth habit depending on whether single or paired inflorescence axillary meristems (PO:0009105) develop at each axis.

- *Add examples...*

Synonym: determinate thyrse (exact), dichasium (broad), thyrsoïd (exact)



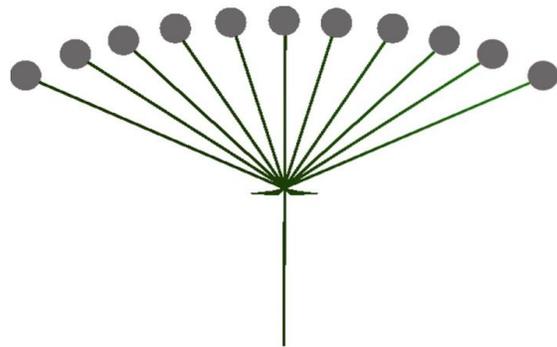
umbel inflorescence

Definition: An inflorescence (PO:0009049), with a monopodial growth habit, which at anthesis is composed of pedicellate (PATO:0001438) flowers (PO:0009046) on a first order inflorescence axis (PO:0025104) with compressed inflorescence axis internodes (PO:0006326).

Comment: The flowers (PO:0009046) of an umbel inflorescence appear as clusters originating from a single point, due to compression of the inflorescence axis internodes (PO:0006326) of the first order inflorescence axis (PO:0025104).

Examples: characteristic of the Ivy family (Apiaceae), including english ivy (*Hedera helix*) and ginseng (*Panax ginseng*).

Synonym: umbel (exact)



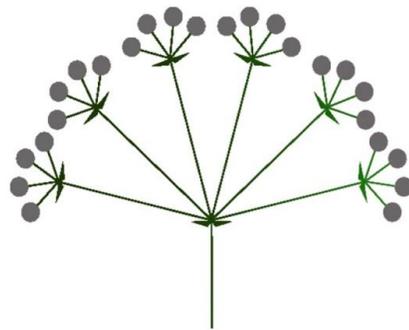
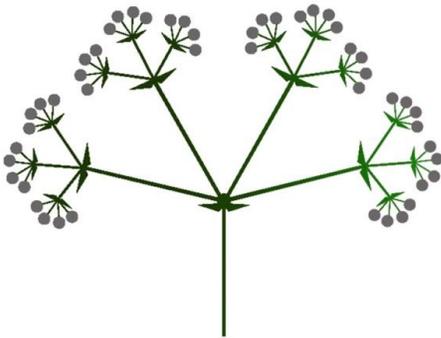
compound umbel inflorescence

Definition: An inflorescence (PO:0009049), with a monopodial growth habit, which at anthesis is composed of a first order inflorescence axis (PO:0025104) with compressed inflorescence axis internodes (PO:0006326) and pedicellate (PATO:0001438) flowers (PO:0009046) on higher order inflorescence axes with compressed inflorescence axis internodes (PO:0006326).

Comment: The flowers (PO:0009046) of a compound umbel inflorescence appear as clusters originating from a single point, due to compression of inflorescence axis internodes (PO:0006326) of the higher order inflorescence axes (PO:0009081).

Examples: fennel (*Foeniculum vulgare*, Apiaceae) and poison hemlock (*Conium maculatum*, Apiaceae).

Synonym: compound umbel (exact), double umbel (exact), homothetic compound umbel (?), heterothetic compound umbel (?), homothetic double umbel (?), heterothetic double umbel (narrow)

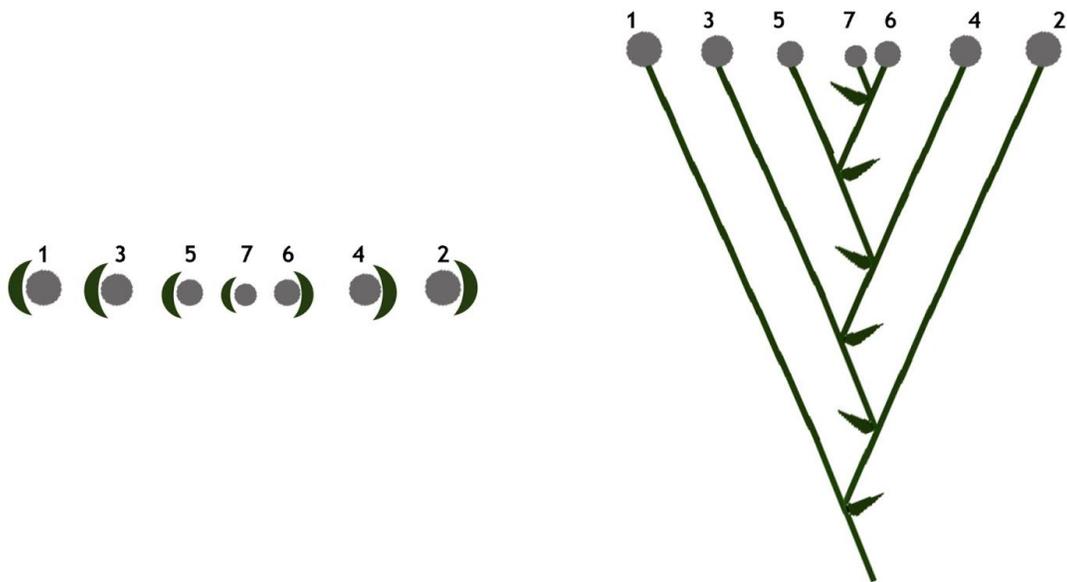


rhipidium inflorescence

Definition: An inflorescence (PO:0009049), with a sympodial growth habit, which at anthesis is composed of determinate inflorescence axes (PO:0020122) with pedicellate (PATO:0001438) flowers (PO:0009046) that form a single plane, with the latest-developing flowers on the highest order inflorescence axis which is found at the center of the inflorescence.

Comment: Example: characteristic of the Iris family (Iridaceae).

Synonym: rhipidium (exact), monochasium (broad)

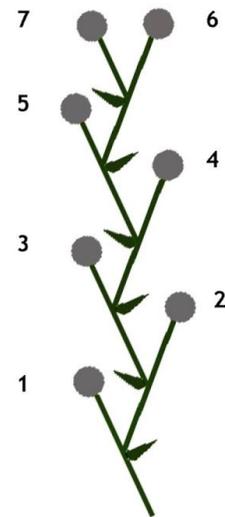
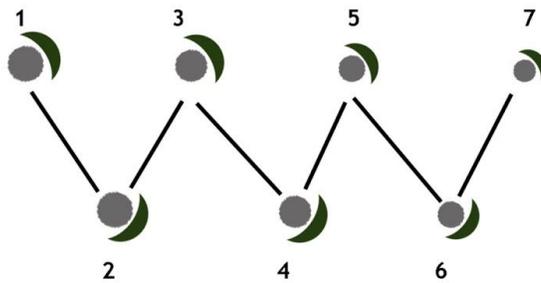


cincinnus inflorescence

Definition: An inflorescence (PO:0009049), with a sympodial growth habit, which at anthesis is composed of determinate inflorescence axes (PO:0020122) with pedicellate (PATO:0001438) flowers (PO:0009046), with the latest-developing flowers on the highest order inflorescence axis.

Comment: Example: characteristic of the Dayflower family (Commelinaceae).

Synonym: cincinnus (exact), monochasium (broad), homaxone (exact), congenital cincinnus (exact), boragoid (exact), scorpiod (broad)



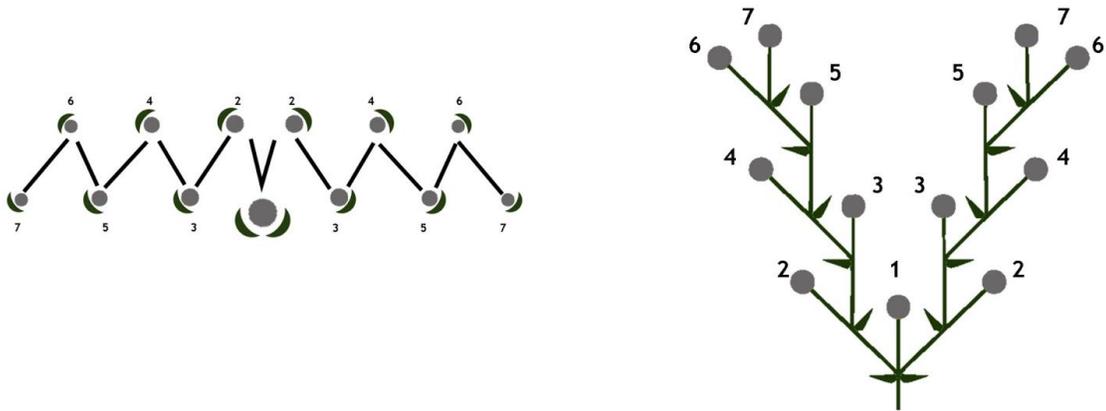
compound cincinnus inflorescence

Definition: A cincinnus inflorescence which at anthesis has second order inflorescences (PO:0025240) that each comprise a cincinnus inflorescence.

An inflorescence (PO:0009049), with a sympodial and monopodial growth habits, which at anthesis is composed of determinate inflorescence axes (PO:0020122) with pedicellate (PATO:0001438) flowers (PO:0009046), with the latest-developing flowers on the highest order inflorescence axes of the second order inflorescences (PO:0025240).

Comment: Examples: some species of the Forget-me-not family (Boraginaceae).

Synonym: compound cincinnus (exact), double cincinnus (exact), dichasium (broad)



bostryx inflorescence

Definition: An inflorescence (PO:0009049), with a sympodial growth habit, which at anthesis is composed of pedicellate (PATO:0001438) flowers (PO:0009046) on determinate inflorescence axes (PO:0020122), each of which develop at approximately 90 degree angles from each higher inflorescence axis (PO:0009081).

Comment: Examples: some species of the Forget-me-not family (Boraginaceae).

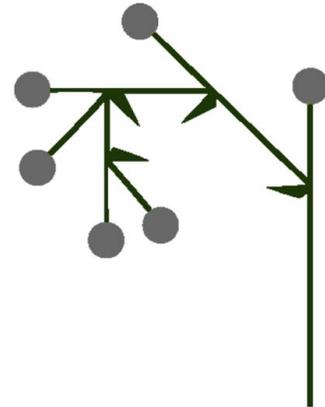
Synonym: bostryx (exact), helicoid cyme (broad), monochasium (broad)

drepanium inflorescence

Definition: An inflorescence (PO:0009049), with a sympodial growth habit, which at anthesis is composed of pedicellate (PATO:0001438) flowers (PO:0009046) on determinate inflorescence axes (PO:0020122), each of which develops at progressively more acute angles from each higher inflorescence axis (PO:0009081).

Comment: Example: tomato (*Lycopersicon esculentum*; Solanaceae).

Synonym: drepanium (exact), monochasium (broad), scorpioid inflorescence (exact)



compound drepanium inflorescence

Definition: An inflorescence (PO:0009049), with both sympodial and monopodial growth habits, which at anthesis is composed of pedicellate (PATO:0001438) flowers (PO:0009046) on determinate inflorescence axes (PO:0020122), each of which develops at progressively more acute angles from each higher inflorescence axis (PO:0009081).

Comment: Examples: some species of the Forget-me-not family (Boraginaceae).

Synonym: drepanium (exact), dichasium (broad), scorpioid inflorescence (exact), helicoid inflorescence (exact)

