CONCEPT MAF

INFLORESCENCE

Inflorescence is the arrangement and distribution of flowers on the shoot system of a plant. The axis of the inflorescence is called peduncle, whereas the stalk of individual flower is called pedicel. A flattened peduncle is known as receptacle. Inflorescence is of five types-solitary, racemose, cymose, mixed and special.

Solitary terminal Single flower occurs on the terminal part of a branch, e.g., poppy.

Solitary axillary Single flower occurs in

the axil of a leaf, e.g., Petunia, China rose.



Cymose

Solitary

Flowers occur singly or are

separated from other flowers

of the same plant by

vegetative regions

A determinate inflorescence in which the tip of main axis terminates in a flower and further growth continues by one or more lateral branches. The arrange-ment of flowers is either basipetal (vertical orientation of axis) or centrifugal (horizontal orientation of

Scapigerous

Head

The leafless flowering axis

known as **scape** bears clusters

of flowers that form a head

which is covered by spaths,

e.g., Allium cepa.

Multiparous

or Polychasial cyme

More than two lateral branches

continue the growth of

inflorescence when the parent axis ends in a flower, e.g.,

Hamelia, Calotropis,

Asclepias

axis).

Cymose head

Cymos

Sessile or subsessile flowers are borne centrifugally around a receptacle, e.g., Albizzia, Anthocephalus cadamba, Acacia.

Biparous or **Dichasial cyme**

A terminal flower is subtended by two lateral branches which also end in flowers. The process is repeated. Inflorescence axis is multipodial, e.g., Spergula, Stellaria media Clerodendrum

Uniparous or

Monochasial cyme A single lateral branch arises from the peduncle of old flower which terminates in a flower. The lateral branch also terminates in a flower. It is of two types: (a) Helicoid cyme – All the flowers are borne on the same side forming a sort of helix, e.g., Drosera, Begonia, Myosotis.

(b) Scorpioid cyme - Flowers are alternately borne on both the sides, e.g., Tecoma, Ranunculus, Heliotropium.

Mixed

Two or more types of inflorescences get mixed up to form a mixed inflorescences. It is of following types: (a) Panicle of spikelets, e.g., oat, rice. (b) Corymb of capitula, e.g., Ageratum

conyzoides (c) Umbel of capitula raceme of capitula.

(d) Thyrsus, e.g., grapevine

Compound racemose Compound racemose inflorescence is an

indefinite or indeterminate inflorescence in which the peduncle is branched repeatedly once or twice in a racemose fashion. It is of following types-

- (a) Compound raceme or panicle, e.g., goldmohur, Cassia fistula, Yucca
- (b) Compound spike or spike of spikelets, e.g., wheat. (c) Compound spadix, e.g., coconut, date, banana. (d) **Compound corymb,** e.g., Pyrus, cauliflower.
 - (e) Compound umbel, e.g., Daucus carota,
 - fennel, Coriandrum sativum (f) Compound capitulum, e.g.,
 - Echinops.

Racemose

It is an indeterminate inflorescence which shows indefinite growth. The arrangement of flowers is either acropetal (vertical orientation of axis) or **centripetal** (horizontal orientation of axis).

Simple

racemose Simple racemose inflorescence is an indefinite inflorescence in which the peduncle is unbranched.

Umbel

short peduncle

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All the pedicellate flowers arise from a single point in a centripetal fashion. The peduncle is very much reduced, e.g., Hydrocotyle, Prunus.

Corymb

The main axis is comparatively short, and the lower flowers have much longer pedicels than the upper ones so that all the flowers are brought more or less to the same level, e.g., Iberis amara.

Corvmbose raceme

The young flowers appear to be arranged like a corymb but in mature state the longer pedicels of the lower flowers do not bring them to the level of upper ones, e.g., mustard.

Capitulum

Flatten or The flattened receptacle bears numerous sessile and small florets (ray florets and disc florets) in a centripetal manner, e.g., Zinnia, Sunflower, Cosmos.

Cyathium

The inflorescence looks like a flower. The bracts or the involucre become fused to form a cup shaped structure. The inflorescence contains pedicellate, achlamydeous, unisexual flowers of both the types, male and female. The cup encloses a single female flower surrounded by a large number of male flowers E.g., Euphorbia

pulcherrima



Achyranthes, Callistemon, Adhatoda vasica.

Raceme

Linaria

Spike

Spikelet

Spikelets are small and few flowered spikes which are surrounded at the base by two scales or glumes, *e.g.*, rice, bamboo, oat, etc.

long pedunc

Umbel

Peduncle is elongated having

fashion, e.g., Lupinus, Raphanus,

An elongated peduncle bears sessile

flowers in an acropetal fashion, e.g.,

edicellate flowers in an acropetal

Catkin

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Pendulous spike which bears naked pistillate or staminate flowers, (but not both) e.g., mulberry, poplar, Salix, Quercus.

Spadix

Spike with fleshy peduncle and having both male and female flowers. It is surrounded by a large green or coloured bract called spathe, e.g., palm, Colocasia, Musa.

Hypanthodium

It has a flask-shaped fleshy receptacle which possesses a narrow apical opening guarded by hairy structure. The receptacle bears male flowers towards the pore and female flowers towards the base. E.g., Ficus religiosa, Ficus carica.

Verticillaster

Two dichasial cyme inflorescences develop from axil of opposite leaves. They together form a false whorl around the node, e.g., Ocimum, Leucus.