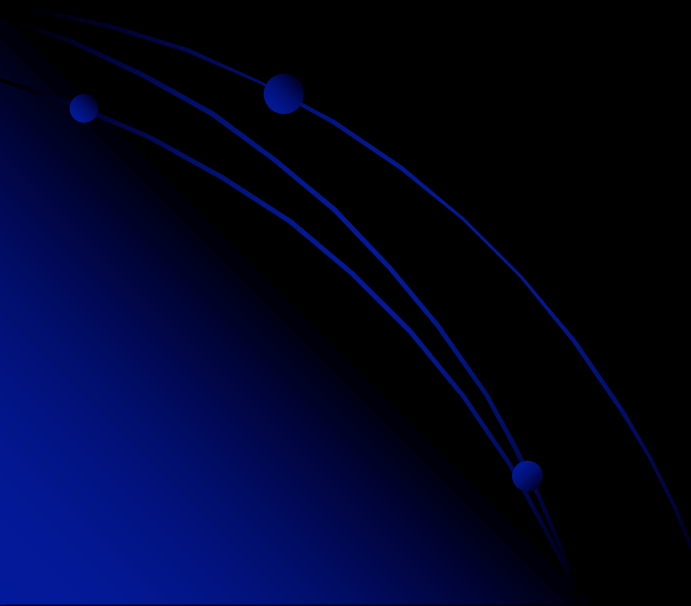



10-INFLORESCENCE TYPES



INFLORESCENCES

An inflorescence is a group or cluster of flowers arranged on a stem that is composed of a main branch or a complicated arrangement of branches. Morphologically, it is the modified part of the shoot of seed plants where flowers are formed.

A “**peduncle**” is the stalk of an entire inflorescence. A “**pedicel**” is a stem that attaches a single flower to the inflorescence. In the absence of a pedicel, the flowers are described as “**sessile**”.



Several terms deal with leaflike structures found in the inflorescence.

“**Bract**”, usually small, modified, leaflike structure often positioned beneath a flower or inflorescence. A group or cluster of bracts subtending an entire inflorescence is called “**involucre**”, A “**spathe**” is an enlarged, sometimes colored bract subtending and usually enclosing an inflorescence.

The most important two types of inflorescence are as follows:

1. Racemose inflorescence
2. Cymose inflorescence

1. Racemose Inflorescence:

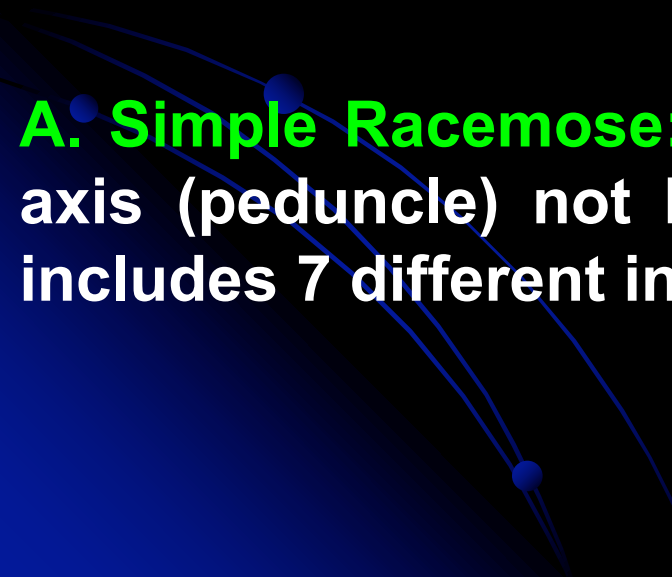
In this type of inflorescence the main axis does not end in a flower, but it grows continuously and develops flowers on its lateral sides in acropetal succession.

The racemose inflorescence is divided into two parts;

A. Simple racemose

B. Compound racemose

A. Simple Racemose: In this type of inflorescence, the main axis (peduncle) not branches and it grows continuously. It includes 7 different inflorescence type.



1. Racem: A raceme is an indeterminate inflorescence in which the single axis bears pedicellate flowers. The lower or older flowers possess longer stalks than the upper or younger ones.

For example, Muscari, Thlaspi
Ornithogalum, and genera

Muscari sp.



Ornithogalum sp.

2. Spike: A spike is an indeterminate inflorescence, consisting of a single axis bearing sessile flowers.

For example, some members of *Poaceae* (grass) family



3. Spadix: A spadix is a spike of flowers densely arranged around it, enclosed or accompanied by a highly specialised bract called a "**spathe**".

It is characteristic of the **Zea mays** (maize) and **Araceae** family.

4. Catkin: A catkin (also called an *ament*) is a uniexual, typically male spike or elongate axis that falls as a unit after flowering or fruiting.

For example, members of **Quercus**, **Salix**, **Juglans** and **Betula** genera



5. Umbell: An umbel is a type of raceme with a short axis and multiple floral pedicels of equal length that appear to arise from a common point on a peduncle.

For example, *Hedera helix* and *Allium sp.*

6- Korymb: In this inflorescence the main axis remains comparatively short and the lower flowers possess much longer stalks or pedicels than the upper ones so that all the flowers are brought more or less to the same level.

For example, members of *Sambucus* and *Iberis* genus.



7. Capitulum: A head or capitulum is a determinate or indeterminate, crowded group of sessile or subsessile flowers on a compound receptacle, often subtended by an involucre.

For example, It is characteristic of *Asteraceae* and *Dipsacaceae* family



B. Compound racemose: In this type of inflorescence the main axis (peduncle) branches repeatedly once or twice in racemose or cymose manner.

1. Panicle: A panicle is like a branched raceme, defined as an indeterminate inflorescence having several branched axes bearing pedicellate flowers.

3. Thyse: A thyse is a type of inflorescence in which the main axis grows indeterminately, and the subaxes (branches) have determinate growth.

For example, *Aesculus hippocastanum*, *Syringa vulgaris*

4. Compound umbel: A compound umbel is another secondary inflorescence in which the peduncle bears secondary axes called rays that are attached at one point and unit, simple umbels attached at the tip of the rays.

For example, it seems in members of *Apiaceae* (parsley family) family



3. Compound Corymb: Also known as corymb of corymbs. Here the main axis (peduncle) branches in a corymbose manner and each branch bears flowers arranged in corymbs.

For example, *Sambucus nigra*



2. Cymose inflorescence

In this type of inflorescence the growth of the main axis is ceased by the development of a flower at its apex, and the lateral axis which develops the terminal flower also culminates in a flower and its growth is also ceased. The flowers may be pedicellate (stalked) or sessile (without stalk).

The cymose inflorescence includes **three main** types:

- (i) Monochasial cyme
- (ii) Dichasial cyme
- (iii) Polychasial cyme

A. Monochasial cymes: Here the main axis ends in a flower and it produces only one lateral branch at a time ending in a flower. The lateral and succeeding branches again produce only one branch at a time like the primary one.

1. Bostryx: A helicoid cyme or bostryx is a monochasium in which the axes develop on only one side of each sequential axis, appearing coiled at least early in development.

For examples, *Begonia*, *Juncus*, *Hemerocallis* and some members of *Solanaceae*

2. Cincinnus: A scorpioid cyme or cincinnus is a monochasium in which the branches develop on alternating sides of each sequential axis, typically resulting in a geniculate (zig-zag) appearance.

For examples, *Gossypium* (cotton), *Drosera* (sundew), *Heliotropium* genera

3. Drepanium: A drepanium is a monochasium in which the axes develop on only one side of each sequential axis; like a helicoid cyme, drepania typically appear coiled at least early in development.

4. Rhipidium: A rhipidium is a monochasium in which the branches develop on alternating sides of each sequential axis; like scorpioid cymes, rhipidia typically have a geniculate (zig-zag) appearance.

For example, some members of *Iridaceae* family



Rhipidium

B. Dichasial Cymes: In this type of inflorescence the peduncle bears a terminal flower and stops growing. At the same time the peduncle produces two lateral younger flowers or two lateral branches each of which terminates in a flower.

For examples, *Ixora*, *Dianthus*, *Saponaria* genera

C. Polychasial cyme: In this type of cymose inflorescence the main axis culminates in a flower, and at the same time it again produces a number of lateral flowers around.

For example, *Hamelia patens*, some members of *Euphorbiaceae* family



Thanks ...

