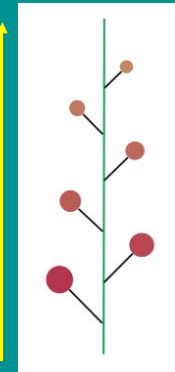


Inflorescences - Floral Displays



The vast majority of flowering plants possess flowers in clusters called an **inflorescence**.

These clusters facilitate pollination via a prominent visual display and more efficient pollen uptake and deposition.



Raceme



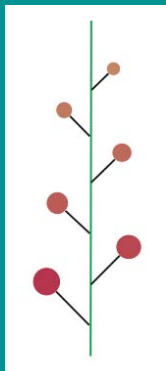
(*Prunus* or cherry)

A shift from widely spaced single flowers to an inflorescence required condensation of shoots and the loss of the intervening leaves.

The simplest inflorescence type would thus be **indeterminate** with the oldest flowers at the base and the younger flowers progressively closer to the apical meristem of the shoot.

= a **raceme**

One modification of the basic raceme is to make it compound



Raceme

compound



Panicle

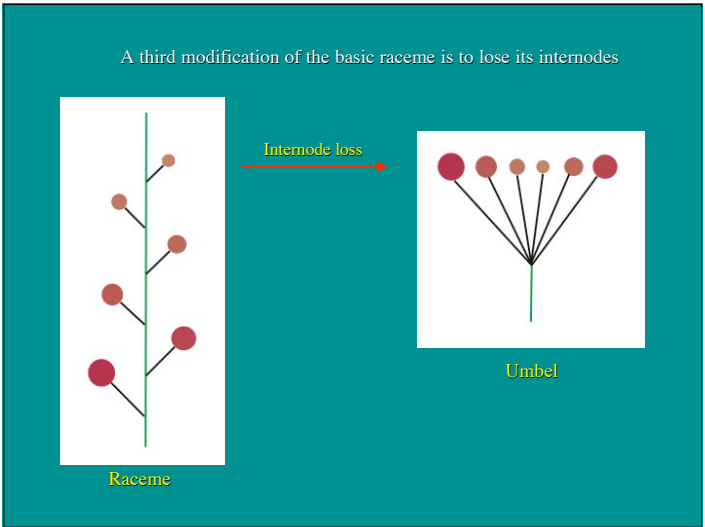
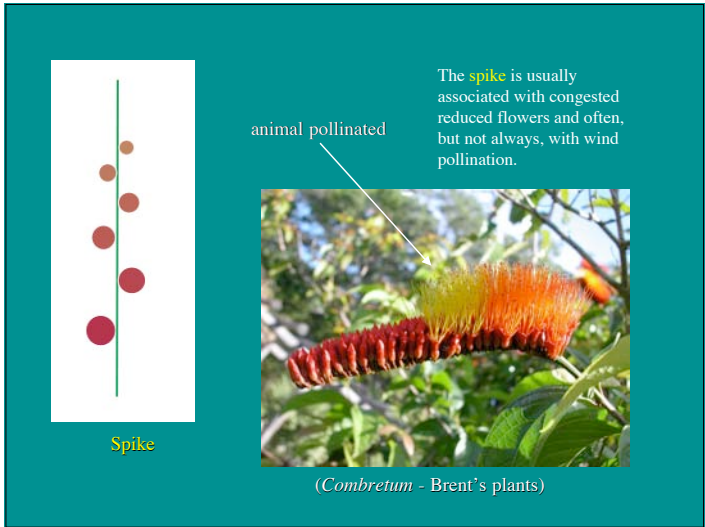
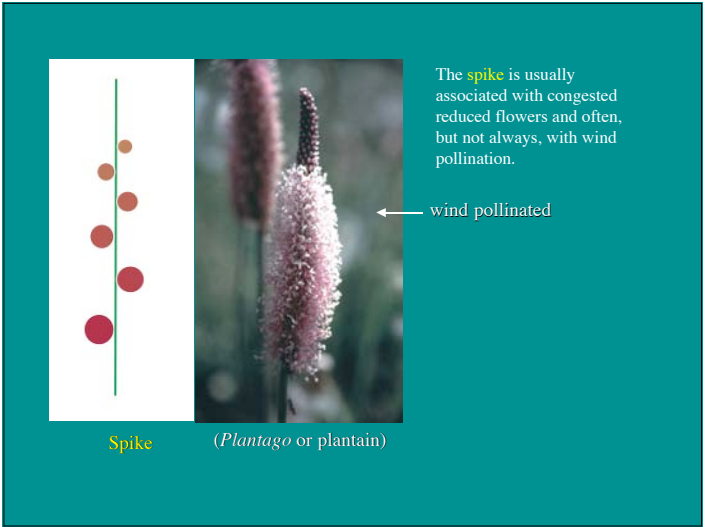
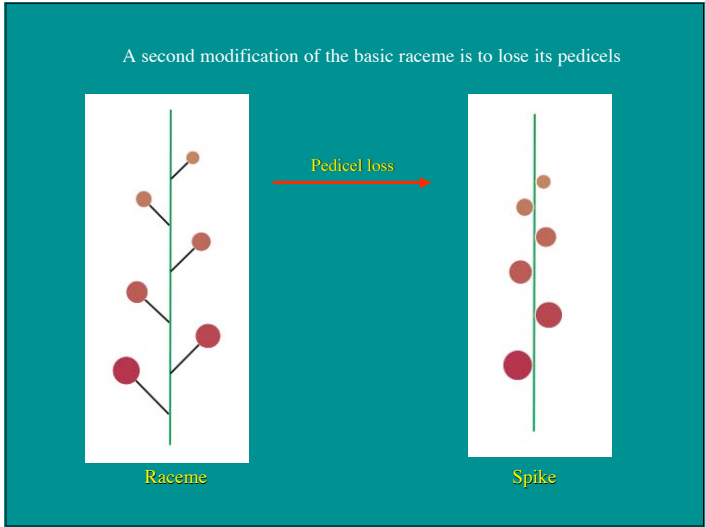


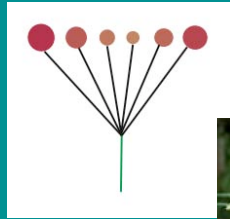
Panicle



(*Zigadenus* or white camass)

The **panicle** is essentially a series of attached racemes with the oldest racemes at the base and the youngest at the apex of the inflorescence.





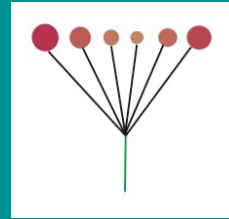
Umbel

The **umbel** characterizes specific families (carrot and ginseng families for example).

These families typically show a compound umbel - smaller **umbellets** on a larger umbel.



(*Cicuta* or water hemlock) (*Zizia* or golden alexander)



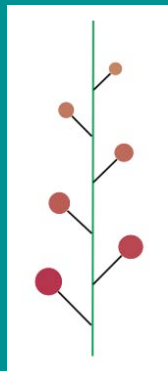
Umbel

The **umbel** is found scattered in many other families as well.



(*Eriogonum* or false buckwheat - family Polygonaceae) - Ben's plants

A fourth modification of the basic raceme is for the stem axis to form a head

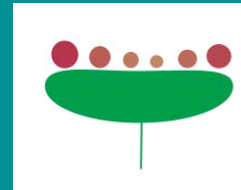


Raceme

Stem head →



Head or capitulum



Head or capitulum

The **head or capitulum** characterizes specific families - most notably the Compositae or Asteraceae. Not surprisingly, this family is closely related to families possessing umbels.



Helianthus



(*Helianthus* or sunflower)

Besides these indeterminate inflorescences based on the raceme, there is a series of inflorescence types based on **determinate** shoots (shoot can not grow up indefinitely). The simplest is the **dichasium**.

Raceme

Dichasium

The **dichasium** inflorescence is terminated (i.e., determinate) by the oldest flower and flanked by two lateral younger flowers.

Dichasium

(Clematis or virgin's-bower)

One modification of the basic dichasium is to make it compound

Dichasium

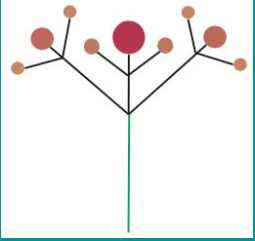

Cyme

The **cyme** characterizes specific families - most notably the Caryophyllaceae - the pink or carnation family . . .

Cyme

(Silene or campion)

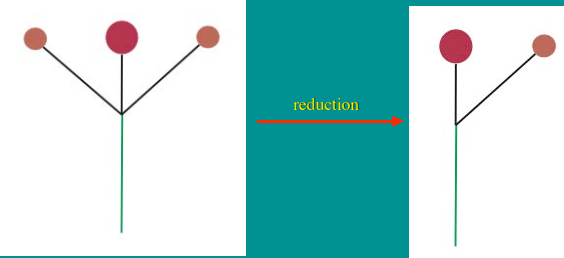
or the Gentianaceae - the gentian family.

Cyme

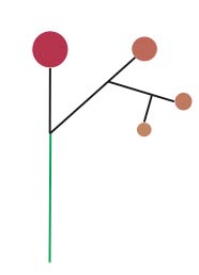

(Lisianthus)

A second modification of the basic dichasium is to reduce it



Dichasium → *reduction* → *Monochasium*

The **monochasium** is most often seen in compound form as a **scirpoid** inflorescence. The Boraginaceae (Virginia bluebell family) is characterized by this distinctive inflorescence.

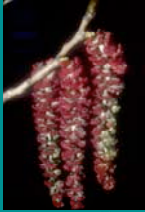

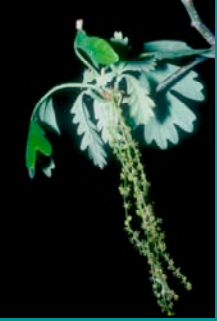



Scirpoid

(Mertensia or bluebell)

Another specialized inflorescence is the **catkin** or **ament**

- unisexual cluster of small flowers
- apetalous (without petals)
- hard bracts around the flowers
- wind pollinated
- falls as a unit

[male catkin] [female catkin] [male catkin]

(Populus or cottonwood) *(Quercus or white oak)*

A final specialized inflorescence is the **spadix**.

- thickened, fleshy spike
- associated with **spathe** bract
- frequently flowers unisexual
- best developed in the aroid family (Araceae)



(*Symplocarpus* or skunk cabbage)



(*Arisaema* or Jack-in-the-pulpit)