

## FLOWER MATURATION

Flower maturation refers to the time of development of flowers or flower parts. **Anthesis** is the general time of flowering, the opening of flowers with parts available for pollination. The relative timing of development of male versus female flowers or floral parts can be an important feature in reproductive biology. **Protandrous** refers to stamens developing, or pollen release occurring, prior to the maturation of carpels or stigmas being receptive. **Protogynous** is the reverse, with carpels or stigmas developing before stamens mature or pollen is released. Both protandry and protogyny may function to promote outcrossing (and thus inhibit selfing) within individuals of a species.

Two flower maturation terms dealing with the relative direction of development of parts can be important in describing taxonomic groups. **Centrifugal** refers to developing from the center toward the outside or periphery, whereas **centripetal** is development from the outside or periphery toward the center region.

## PERIANTH

The **perianth** (or perigonium) is the outermost, non-reproductive group of modified leaves of a flower. (The term perianth has also been used for components of the reproductive structures of various Gnetales, but these are not homologous.) A perianth is absent in some flowering plants, typically those taxa that have very small, reduced flowers. The perianth, where present, functions both to protect the young flowering parts and to aid in pollination.

The units of the perianth arise like leaves as primordia from the apical meristem of the flower. Typically, they may retain leaf like characters. Sepals, in fact, are usually green with stomata and veins; even petals will have veins and may have vestigial stomata. However, the perianth can undergo significant developmental changes and be highly modified at maturity.

## PERIANTH PARTS

Various specialized terms are used for parts of the perianth. These include the following: **anterior** or **ventral**, referring to the lower, abaxial lobe(s) or side, toward a subtending bract; **beard**, a tuft, line, or zone of trichomes on a perianth or perianth part; **claw**, an attenuate base of a sepal or petal; **corona**, a crown-like outgrowth between stamens and corolla, which may be petaline or staminal in origin; **hypanthium** or **floral cup**, a generally tubular or cup shaped structure at the top rim of which are attached the calyx, corolla, and androecium; **labellum**, a modified, typically expanded, median petal, tepal, or perianth lobe, such as in the Orchidaceae; **limb**, the expanded portion of corolla or calyx above the tube, throat, or claw; **lip**, either of two variously shaped parts in to which a calyx or corolla is divided, usually in to upper (posterior) and/or lower (anterior) lips, such as most Lamiaceae and Orchidaceae (Note: each lip may be composed of one or more lobes); **lobe**, a segment of a synsepalous calyx or sympetalous corolla; **petal**, a corolla member or segment; a unit of the corolla; **posterior** or **dorsal**, referring to the upper, adaxial lobe(s) or side, nearest to the axis, away from the subtending bract; **sepal**, a calyx member or segment, a unit of the calyx; **spur**, a tubular, rounded or pointed projection from the calyx or corolla, functioning to contain nectar; **tepal**, a perianth member or segment not differentiated in to distinct sepals or petals; **throat**, an open, expanded region of a perianth, usually of a sympetalous corolla; **tube**, a cylindrically shaped perianth or region of the perianth, usually of a sympetalous corolla.