

FLOWERS

FLOWER PARTS

- Perianth (Tepals)
 - Sepal – outer perianth part; separate or united; collectively the calyx
 - Petal – inner perianth part; separate or united; collectively the corolla
- Stamen – male reproductive organ (Staminode is a sterile stamen) Attach on or below petals and . . .
 - opposite or alternate with petals
 - Filament – can be separate or united (or 9 united and 1 separate in some legumes)
 - Connective – portion of the filament connecting the two cells of an anther
 - Anther – pollen-bearing portion of the anther
 - Basifixed – base of anther attached to connective
 - Versatile – middle of anther attached to connective
- Pistil – female reproductive organ (Gynoecium – the female reproductive structure *in toto*).
 - Ovary – one or more free or fused carpels; inferior or superior
 - Carpel – the basic unit of the gynoecium consisting of ovary, style, & stigma
 - Style – can be single, multiple, or branched
 - Stigma – receptive part of the pistil where pollen germinates
 - Stipe – a stalk below an ovary and above the attachment of perianth parts
 - Cercocarpus montanus* – sepals only; hypanthium tube surrounds achene, but . . .
 - achene is superior; style elongates in fruit
 - Purshia* – sepals persist; petals fall; hypanthium partially surrounds achenes
- Receptacle – the end of a flower stalk bearing the floral parts (or flowers in Asteraceae)
 - Hypanthium – saucer, cup-shaped, or tubular receptacle, often enclosing the ovaries
- Involucre – a set of leaf-like bracts surrounding a flower or flower cluster
- Involucel – a secondary involucre, such as subtending secondary umbels in a compound umbel
- Peduncle – primary flower stalk of a solitary flower or cluster of flowers
- Pedicel – stalk of a single flower within a cluster
- Perfect – both female and male reproductive organs present within the same flower
- Imperfect – either female or male organs present -- but not both -- within the same flower
- Monoecious – separate male and female flowers occur on the same plant
- Diocious – male and female flowers occur on separate plants

FLOWER SHAPES

- Regular – radially symmetrical (separate petals and sepals or united petals and sepals)
 - Rotate – short corolla tube with abruptly flattened limb
 - Salverform – long slender corolla tube with abruptly flattened limb
 - Tubular (cylindrical) – parallel sides of corolla tube with small or no limb
 - Funnelform – corolla tube slowly expands toward limb
 - Campanulate – corolla tube widely expands toward limb
 - Urn-shaped – corolla tube narrows toward limb
 - Reflexed
- Irregular – bilaterally symmetrical (separate petals and sepals or united petals and sepals)
 - Bilabiate – two lipped (calyx or corolla) (some with galea)
 - Pea-shaped – banner, wings, and keel
- Sepals or petals with spurs
 - Columbine – petals spurred
 - Larkspur & Jewelweed – one sepal spurred
 - Milkweed – hood; stamens and pistils combined
 - Orchids – stamens and pistil combined into a column
- Sepals only

FLOWER ARRANGEMENTS

- Solitary flower
- Spike – flowers sessile; no pedicels (often really spike-like racemes, because peduncles are small & hidden)
- Raceme – flowers with pedicels
- Panicle – a branched raceme
- Corymb – flat-topped or convex racemose inflorescence; lower or outer pedicels longer than upper or inner pedicels. Outer or lower flowers bloom first -- indeterminate inflorescence
- Cyme – terminal (center) flower is the first to open -- determinate inflorescence; flat or round-topped
 - Scorpioid cyme (Helicoid cyme)
- Umbel & Compound Umbel
- Catkin (ament) – a scaly spike or raceme usually bearing many small unisexual apetalous flowers
- Secund – arranged to lie on one side of an axis only
- Asteraceae
 - Ray flowers (strap-shaped)
 - Disk flowers
 - Phyllaries (bracts) below receptacle
 - Pappus – hairs, bristles, scales, etc borne upon the crown of an achene

FRUITS

- Nut – single seed with hard fruit wall -- acorn
- Achene – single seed with thin fruit wall – composites, buttercups, *Anemone*, strawberry, *Geum*,
Purshia, *Cercocarpus*
- Drupe – single seed surrounded by a stony wall, which is surrounded by fleshy fruit – peach,
chokecherry, *Shepherdia argenteus*
 - Drupelet – small drupe, often aggregated --
 - Aggregate – a fruit composed of many drupelets -- raspberry, blackberry, mulberry
 - Pome – bony or leathery inner fruit wall is surrounded by fleshy fruit; multiple seeds – apple,
Sorbus, serviceberry
 - Berry – fleshy fruit with multiple seeds – gooseberry
 - Samara – dry, indehiscent, winged fruit; single seed – maple, ash
 - Follicle – one carpel that splits along one suture; multiple seeds – columbine, monkshood
 - Capsule – two or more carpels; multiple seeds --
 - Legume – one carpel that splits along two sutures; multiple seeds
- Other Fruits
 - Schizocarp – indehiscent fruit that splits into two or more one-seeded segments
(mericarps) -- Apiaceae
 - Utricle – small, bladderly, one-seeded, usually indehiscent fruit – 4-winged saltbush