Some Botanical Vocabulary Used in Floristic Keys

Life form:

- Tree – woody plant, some quite tall, usually with a single main trunk with branching away from this above the ground. Occasionally, a tree's trunk may be divided near the base by some accident in its youth.
- Shrub – woody plant, with multiple stems branching out from the ground or near to it
- Subshrub – a perennial plant that is woody at the base but puts out extensive herbaceous (non-woody) growth that dies back seasonally (includes California sage scrub plants that engage in facultative summer deciduousness)
- Vines – plants with a climbing or trailing habit, often with twining tendrils to help them clasp other plants or objects. Vines can be woody: These are sometimes called lianas. They can also be herbaceous, even annual. Some are parasitic.
- Forb – herbaceous, non-woody flowering plant that is broad leaved (that is, not a grass, sedge, or rush)
- Graminoid – nearly always herbaceous, flowering plant with narrow stems (culms) that grow out from the base and are sheathed with leaves that then extend out as blades above nodes.
- Fern – nearly always herbaceous, non-flowering plant that reproduces from spores.
- Succulent – plant with the ability to store water in thick, fleshy leaves and/or stems. This ability is found in cacti and also in other plants in a variety of life forms, including annual herbaceous plants, vines, shrubs, and trees, as well as cacti.

Leaf organization:

- Simple – leaves not broken up into separate leaflets, though they may be deeply lobed
- Compound – leaves broken up into separate leaflets
  - Palmate – leaflets attached to a common base fanning out from it
  - Pinnate – leaflets attached to a central rachis that then attaches to a stem of the plant. There will be a terminal leaflet in this arrangement and, so, an odd number of leaflets.
  - Bipinnate – leaflets themselves broken up into leaflets that attach to a rachis that attaches to the main rachis of the leaf that then attaches to the plant stem.

Leaf attachment

- Petiole – small stem at base of simple or compound leaf attaches it to stem
- Rachis – central stem of a pinnately compound leaf; the bottom may extend as the leaf petiole
- Stipule – small structures at the base of a petiole, usually paired, that may look like wings running along the petiole, tiny leaves, scales, or spines
- Node – the connection between leaf and stem
- Axil – the upper angle between leaf and stem at the node
- Sessile – a leaf that has no petiole stem, so the base of the leaf comes directly out of the stem

Leaf arrangement

- Alternate – leaves come out of the stem node singly, first on one side and then on the other
- Opposite – leaves come out of the stem node in pairs opposite one another
  - 2 ranked opposite – leaf pairs follow same orientation up the stem
  - 4 ranked opposite – each leaf pair is at 90° from the pair above and below it
- Whorled – three or more leaves come out of a single node, giving a fascicled or bunched look

Leaf or leaflet margins:

- Entire – no teeth or lobes, though the margins may be wavy
- Lobed – leaf margins cut or indented, sometimes pretty deeply
- Toothed – leaf margins lined with small lobes, whether rounded or sharp
    - Crenulate – leaf margins are lined with small, rounded teeth
    - Dentate – sharp teeth
    - Serrate – sharp teeth pointing forward toward the tip like a saw
    - Spinose – teeth sharped to a spiny point

Overall shape of the leaf:

- Linear – much thinner than long, sometimes threadlike
- Lanceolate – much longer than wide, but not as much so as linear; often a bit wider at base
- Oblanceolate (like lanceolate, but wider toward the tip)
- Spatulate – much wider at the tip than the base
- Elliptical – symmetrical oval, with the widest part in the middle
- Oblong – elliptical, but with roughly parallel sides in the middle, a flattened oval
- Ovate – elliptical, but wider toward the base, like an egg
- Obovate – elliptical, but wider toward the tip
- Cordate – heart-shaped, with a notch in the base where the petiole attaches
- Obcordate – heart-shaped, but with the notch at the rounded, wide tip
- Deltoid – triangular, with the base wide and the tip narrow
- Cuneate – wedge-shaped, but with the tip wide and the base narrow
- Reniform – kidney-shaped, noticeably wider than long
- Lobed:
    - Palmate – lobed like a hand and its fingers
    - Pinnatisect – lobed perpendicularly along the axis, like many mustards
    - Hastate – a triangularly lobed leaf, basal lobes more or less perpendicular to the axis
    - Sagittate – spear-like, with the base barbed back over the petiole, almost parallel to it
- Flabellate – fan-shaped, with a base perpendicular to the axis
- Rhomboid – diamond-shaped, with the widest part in the middle
- Orbicular – almost perfectly round
- Falcate – sickle-shaped, a narrow leaf with a crooked axis

Leaf tip:

- Emarginate – tip of leaf is notched inward
- Rounded – tip of leaf is smooth, blunt, with no tip or notch
- Mucronate – a short point on the tip of the leaf
- Acute – a distinct point at the tip of the leaf
- Acuminate – leaf tapers down to a sharp point at the tip
- Spinose – leaf tip features a long, sharp point

Leaf flatness:

- Flat – more or less flat
- Folded – leaf folded along center
- Revolute – leaf margins rolled inwards/upwards
- Reflexed – leaf curved backward/downward

Leaf texture:

- Membranous – thin, pliable, sometimes to the point of translucent
- Sclerophyllous – tough, dense, leathery

Leaf surface:

- Glabrous – smooth, sometimes shiny
- Glaucous – whitish with a fine powder, like that on grapes or blueberries
- Pubescent – covered with a fine fuzz, almost like velvet
- Hispid – covered with stiff or bristly hairs
- Nettlesome – hairs sting, can be quite irritating or painful
- Tomentose – woolly
- Glandular – sticky glands

Flowers:

- Calyx – outermost organ of a flower, which envelop and protect the bud as it's developing. Usually green, though some plants have colorful calyxes.
- Sepals – the individual blades of the calyx. Often resemble leaves, usually being colored green. Sometimes sepals may be fused in an overlapping, imbricate manner with only a scale-like tip disclosing the location of a particular sepal; other times they look like individual leaves; still other times, they are partially fused with prominent individual blades above the fusion. Sometimes, they're colorful and look a lot like petals: This is a petaloid sepal.
- Corolla – the showy, often colorful parts of a flower. The colors attract particular pollinators and trick them into picking up or depositing pollen grains. The corolla can be very aromatic for the same reason, often very pleasant for us (*e.g.,* roses), but sometimes a smell disgusting to us is what lures in the pollinators (*e.g.,* the corpse flower of Indonesia, the size, color, and stench of a person-sized corpse in advanced decay, which brings in carrion flies). Many flowers produce nectar to attract pollinators.
- Petals – the individual blades comprising a corolla. Usually they are brightly colored and may be spotted or striped, too. Some are, however, dull in color and inconspicuous (grasses come to mind and *Artemisia* produces tiny straw-colored flowers). Some are green or greenish and look like sepals: These are sepaloid petals.
- Stamens – the male sexual organs of a flower. They consist of an anther, which looks like a small dot or capsule and contains pollen. The anther is supported on a filament. There may be just a few or very many of these; sometimes they are found partly fused with one another in a tube-like structure.
- Pistils (aka carpels) – the female sexual organs of a flower. A pistil consists of an ovary at the base, which tapers into a style or slender stalk, on top of which is the stigma. The stigma is a somewhat enlarged sticky "landing pad" for pollen coming off a pollinator. There may be one or a few pistils per flower but sometimes several of them (called carpels) , which are fused into a compound pistil.
- Composite flowers – these look like a single flower. They occur in three configurations:
    - Ray and disk flowers – these have ray flowers or strap-like ligules that look like separate "petals." They are, instead, each a separate flower or floret in the composite head. There is also a disk of a different kind of floret, disk flowers. Each of these is a thin tubular corolla of a separate individual floret. Examples of ray and disk composite flowers would be *Encelia californica* (coastal sunflower) or *Helianthus californicus* (California sunflower).
    - Ray flowers – these only have ray flowers. A dandelion would be an example.
    - Disk flowers – these have only disk flowers. An example would be various thistles, such as artichokes, bull thistles, and tocalotes.