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 pr 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.