



## iNaturalist Observations – What Should I Photograph?

### *Tips for Photographing Some Local Plant Families*

*Thank you for participating in the San Diego County Plant Atlas Project on iNaturalist. To optimize the likelihood of being able to identify species from photographs submitted to iNaturalist, we offer these tips about photographing plants.*

**General Guidelines:** Keep in mind that these guidelines are intended to optimize identification, but we want you to submit plant observations to iNaturalist and the San Diego County Plant Atlas Project even if you are unable to follow the guidelines.

1. Try to obtain photographs of the plant as a whole, showing scale if possible by including a recognizable object in the photo. (*e.g.*, for a large tree, have a person stand next to the tree; for a small plant, hold the leaves or flower so that your fingers are in the photo; or you can place a ruler or other scale in the photo.)
2. Take close-up photographs of leaves (both upper and lower surfaces), flowers (straight-on and side views), and fruits.
3. In most cases, it is helpful to photograph both flowers and fruits. While there are some plants that do not bear fruits and flowers at the same time, try to photograph both if possible. A botanist often needs reproductive parts of the plant in order to positively identify it. Including all representative parts of the plant makes it more likely that the species can be determined without having a specimen in hand.
  - a. “Fruit” is a collective term used to describe the different types of mature ovaries that flowering plants can have. The fruit contains the seeds, and some examples are: berry (grape), nut (acorn), capsule (poppy), pod (pea, bean), drupe (plum, cherry), bur (cocklebur, teasel), caryopsis (grass grain), and achene (dandelion or sunflower seeds). With some plants, characteristics of the seeds are used to determine the species.
  - b. If the plant does not have both flowers and fruit, and fruit/seeds are required for a positive identification, then your observation may not be identified as to species. In some cases, a higher level of identification may be possible, such as the family or genus of the plant.
4. Try to have the sun at your back to provide the best light for your photos.
5. Before touching any plant, be sure you know how to recognize and avoid Poison Oak (*Toxicodendron diversilobum*) and other plants that may irritate your skin, such as those in the Nettle Family (Urticaceae).

### **What exactly should I photograph?**

Depending on the plant family, different plant parts may be essential to establish the identity of a photographed plant. With some plants, required features may not be easily photographed in the field (*e.g.*, tiny hairs on the lower side of leaves, bulbs or roots). Below are some tips to

help you understand what you should photograph, depending upon which plant family your observation belongs to. If you do not know what family the plant you observe belongs to, follow the general guidelines above.

## **FERNS, CONIFERS, EPHEDRA, HORSETAIL**

**Ferns – (Bracken, Wood Fern, Polypody, Brake Families)** – these will look mostly vegetative; need to see sori/indusium (yellow or brown dots) found on back of fronds (leaves), so take photos of both sides of fronds. The farina color on the underside of the blade for Pentagramma species is essential.

**Conifers – (Cypress, Pine Families)** – Pine, Cypress, Juniper – take a photo of the female cones showing the shape of the scales and a photo that shows how many needles are in each bundle.

**Ephedraceae – (Ephedra Family)** – Ephedra - photograph fruits (stalked, small and brown) at nodes (where leaves join stem) and stem nodes to see how many leaves are present.

**Equisetaceae – (Horsetail Family)** – Horsetail, Scouring-Rush – photograph fruiting stems which have small cone-like structures (strobili) on tips, plus the base of the plant to see the teeth and coloration at basal nodes.

## **EUDICOTS**

**Acanthaceae – (Acanthus Family)** – Chuparosa – flower or fruits

**Aceraceae – (Maple Family)** – Maple, Box-Elder - fruits or flower

**Aizoaceae – (Fig-Marigold Family)** – Carpobrotus, Iceplant, Sea-Fig - flower, flower color very important, if no flowers, may not be able to determine species.

**Amaranthaceae – (Amaranth Family)** – Amaranth, Pigweed – closeup of fruits

**Anacardiaceae – (Sumac or Cashew Family)** – Sumac, Lemonade Berry, Pepper Tree, Poison-Oak – fruits or flower

**Apiaceae – (Carrot Family)** – Sanicle, Lomatium, Hemlock - fruits essential; if present, flower color is important

**Apocynaceae – (Dogbane, incl. Asclepias or Milkweed Family)** – Milkweed, Oleander, Periwinkle – flowers and fruits, especially closeup of flower structure

**Araliaceae – (Ginseng Family)** – Ivy – fruits or flower

**Asteraceae – (Composite Family)** – Our largest family, includes Daisies, Baccharis, Ragweed, Ambrosia, Thistle, Goldenbush, Tarplant, Filago, Matchweed, Sunflower, Cudweed, Artichoke – flower and fruits if present. Take a side view of flower to show the “involucre” – the structure between the flower and the stem. A close-up photo of fruit is essential for the genus *Stephanomeria*.

**Berberidaceae – (Barberry Family)** – Barberry – fruits

**Betulaceae – (Birch Family)** – Alder – fruits or flower

**Bignoniaceae – (Bignonia Family)** – Catalpa, Desert Willow, Jacaranda - flower

**Boraginaceae – (Borage Family)** – Fiddleneck, Cryptantha, Popcorn Flower – flowers and mature fruits (found below the flowers on a coiled cyme). The sculpturing and number of the nutlets is especially important in *Cryptantha*, *Pectocarya*, *Plagiobothrys*.

**Brassicaceae – (Mustard Family)** – Mustard, Rocket, Cress, Peppergrass, Wallflower, Stock, Fringepod – flowers and mature fruits (below flowers at top of plant); leaves at the base of the plant should also be photographed.

**Cactaceae – (Cactus Family)**

*Opuntia* & *Cylindropuntia* – Cholla, Prickly-Pear - photograph pads and spines, flowers (must have), and fruits if present.

*Ferocactus* – Barrel - closeup of areole (spine cluster)

*Mammillaria* – Fish-Hook - flowers and closeup of areole (spine cluster)

*Echinocactus* & *Bergerocactus* – Hedgehog, Mound – flowers and/or fruits

**Campanulaceae – (Bellflower Family)** – Bluecup, Threadplant, Lobelia - flowers and fruits

**Caprifoliaceae – (Honeysuckle Family)** – flowers and/or fruits

**Caryophyllaceae – (Pink Family)** – Chickweed, Catchfly, Sand-Spurry - flowers

**Chenopodiaceae – (Goosefoot Family)** – Tumbleweed, Goosefoot, Saltbush – closeup of fruits

**Cistaceae – (Rock-Rose Family)** – Rush-Rose, Rock-Rose - flowers and/or fruits

**Cleomaceae – (Spiderflower Family)** – Bladderpod – flowers and shape of mature fruits

**Convolvulaceae – (Morning-Glory, Dodder Family)** Convolvulus – Morning-Glory, Bindweed – flowers and fruits, *Calystegia* - leaf shape, and side view of flowers showing outer bracts

*Cuscuta* – Dodder – orange colored parasite, photograph with flowers (tiny & white); include part of host plant in the photo; Note name of the host plant (if known).

**Cornaceae – (Dogwood Family)** – flowers and/or fruits

**Crassulaceae – (Stonecrop Family)** – flowers and basal leaf shape

*Dudleya* – leaves and flower stalk; note number of leaves in whole rosette and diameter of plant in description

**Cucurbitaceae – (Gourd Family)** – Melon, Wild Cucumber - flower or fruits

**Ericaceae – (Heath Family)** – Manzanita – fruits.

*Arctostaphylos* – photograph base of the shrub/tree to show the burl (woody outgrowth at base of trunk)

**Euphorbiaceae – (Spurge Family)** – Doveweed, Croton, Castor Bean - closeup of stem nodes showing stipules, fruits and flowers, including a closeup of the cyathium (tiny flower-like structures containing male & female flowers and often with appendages and glands present)

**Fabaceae – (Legume Family)** – Clover, Vetch, Locoweed, Broom, Pea, Lupine

*Acacia* – fruits, *Astragalus* – flowers & fruits, *Lathyrus* – flowers, *Acmispon*, *Hosackia*, *Lotus* - fruits, *Lupinus* – flower, *Trifolium* – flower and bracts of the lower, outside of flower clusters, *Vicia* - flower and fruits

**Fagaceae – (Oak Family)** – fruits (acorns) essential, upper and lower surface of leaves

**Fouquieriaceae – (Ocotillo Family)** – flowers

**Garryaceae – (Silk Tassel Family)** – flower or fruits; upper and lower surface of leaves (determining hairs on underside)

**Gentianaceae – (Gentian Family)** – Canchalagua, Centaury - flowers and basal leaves

**Geraniaceae – (Geranium Family)** – Storksbill, Geranium – fruits, flowers, and lower leaves

**Grossulariaceae – (Gooseberry Family)** – Currant – flowers, fruits and presence or absence of spines on stems

**Hydrophyllaceae – ( Waterleaf Family)** – Phacelia, Eucrypta, Baby Blue Eyes, Bluebells, Yerba Santa – flowers, *Phacelia* needs fruits

**Lamiaceae – (Mint Family)** – Sage, Monardella, Woolly Bluecurls - flowers

**Loasaceae – ( Loasa Family)** – Stick-Leaf, Blazing Star – fruits and closeup of mature seeds

**Lythraceae – ( Loosestrife Family)** flowers, closeup of fruits, growth habit

**Malvaceae – (Mallow Family)** – Hollyhock, Mallow, Checkerbloom – flowers and mature fruits. *Malacothamnus* -- closeup side view of flower and stem (showing calyx, bracts, & hairs)

**Montiaceae – (Purslane Family)** – Red Maids, Miner’s-Lettuce, Montia, - flowers and fruits

**Myrtaceae – (Myrtle Family)** – Gum, Bottlebrush, Eucalyptus – flowers and fruits  
*Eucalyptus* – leaves, trunk shot, flower buds with caps attached and mature fruits

**Nyctaginaceae – (Four O’Clock Family)** – Wishbone Plant, Ringstem, Sand Verbena – flowers, fruits  
*Abronia* (Sand Verbena) – flower color, fruits  
*Boerhavia* (Spiderlings) – flower arrangement, closeup of fruits, lower part of stem

**Oleaceae – (Olive Family)** – Ash, Privet - fruits

**Onagraceae – (Evening-Primrose Family)** – Sun-Cup, Clarkia, California Fuschia, Willow-Herb, Evening Primrose - flowers and fruits essential

**Orobanchaceae – (Broom-Rape Family)** – Paintbrush, Bird’s Beak - flowers

**Oxalidaceae – (Oxalis Family)** – Sorrel - flowers

**Paeoniaceae – ( Peony Family)** – flower or fruits

**Papaveraceae – (Poppy Family)** – Matilija Poppy, Cream Cups, Golden Ear-Drops - flowers and fruits

**Phrymaceae – (Hopseed Family)** – Monkey Flower – flowers

**Plantaginaceae – (Plantain Family)** – Snapdragon, Chinese Houses, Toadflax, Penstemon, Plantain, Speedwell – flowers, fruits, and basal leaves  
*Penstemon* – flowers, leaves

**Platanaceae – (Sycamore Family)** – fruits

**Plumbaginaceae – (Leadwort Family)** – Marsh Rosemary, Statice - flowers

**Polemoniaceae – (Phlox Family)** – Gilia, Woolly-Star, Navarretia - flowers

**Polygonaceae – (Buckwheat Family)** – Spineflower, Buckwheat, Willow Weed, Dock - flowers and basal leaves (for annual plants); flowers (shrubs), closeup of leaves and adjacent stems for varieties of *Eriogonum fasciculatum*

**Primulaceae – (Primrose Family)** – Shooting Star – flowers

**Ranunculaceae – (Buttercup Family)** Columbine, Larkspur, Meadow Rue – flowers, fruits

**Resedaceae – (Mignonette Family)** – Oligomeris, Reseda - fruits

**Rhamnaceae – (Buckthorn Family)** – Wild Lilac, Redberry, Coffeeberry - flowers and/or fruits  
*Ceanothus* (Wild Lilac) – fruits, closeup of lower leaf surface and stem nodes

**Rosaceae – (Rose Family)** – Chamise, Mountain-Mahogany, Cotoneaster, Toyon, Horkelia, Cinquefoil, Cherry, Berry, Plum – flowers and/or fruits  
*Rosa* – flowers, especially side view showing sepals and prickles on stems

**Rubiaceae – (Coffee Family)** – Galium, Bedstraw – fruits, stem node with leaves attached

**Rutaceae – (Citrus Family)** – Coast Spice Bush - fruits or flowers

**Salicaceae – (Willow Family)** – Cottonwood, Willow, Poplar – fruits, closeup of flower catkins, both sides of leaves

**Saxifragaceae – (Saxifrage Family)** – Heuchera, Woodland Star, Alumroot - flowers  
*Jepsonia* - leaves or flowers

**Scrophulariaceae – (Figwort Family)** – Bee Plant, Mullein - flowers

**Solanaceae – (Nightshade Family)** – Jimson Weed, Desert Thorn, Tomato Tobacco, Nightshade – flowers especially with a scale next to anthers for white flowered species and/or fruits

**Tamaricaceae – (Tamarisk Family)** – Tamarisk, Salt-Cedar – flowers, arrangement of flowering spikes on stems

**Ulmaceae – (Elm Family)** – Elm – fruits and closeup of leaves

**Urticaceae – (Nettle Family)** – Nettle, Pellitory, Urtica - fruits

**Verbenaceae – (Vervain Family)** – Lantana, Vervain, Phyla – flower  
*Verbena*- flower and fruits

**Violaceae – (Violet Family)** – Violet – flower, basal leaves

**Viscaceae – (Mistletoe Family)** – Mistletoe - parasite; flowers or fruits and host plant (if known, note name of host plant in description)

**Vitaceae – (Grape Family)** – Grape - flowers

**Zygophyllaceae – (Caltrop Family)** – Fagonia, Creosote Bush - flower and/or fruits

## MONOCOTS

**Agavaceae – (Agave Family)** – Hesperoyucca, Yucca, Agave - flowers or fruits

**Alliaceae – (Onion Family)** – Onion – flowers, fruits, bulbs if possible

**Arecaceae – (Palm Family)** – Palm – frond, fruits or flowers

**Asparagaceae – (Asparagus Family)** – Smilax, Asparagus - fruits

**Cyperaceae – (Sedge Family)** – Sedge, Carex, Bulrush – leaves and fruits

**Iridaceae – (Iris Family)** – Iris, Blue Flag, Blue-Eyed-Grass - leaves and flowers

**Juncaceae – (Rush Family)** – Rush, Juncus - fruits

**Liliaceae – (Lily Family)** – Calochortus, Mariposa Lily, Fritillaria, Chocolate Lily - leaves and flowers

**Melanthiaceae – (Camas Family)** – Zigadenus, Camas - leaves and flower

**Nolinaceae – (Nolina Family)** – Nolina, Bear-Grass - flowers or fruits

**Orchidaceae – (Orchid Family)** – Orchid, Coralroot, Rein Orchid – closeup of flowers

**Poaceae – (Grass Family)** – Grass - leaves and fruits

**Themidaceae – (Brodiaea Family)** – Goldenstar, Blue Dicks, Wild Hyacinth, Brodiaea - leaves and flowers

**Typhaceae – (Cattail Family)** – Cattail, Typha – leaves especially at base where clasping stem, and flowering/fruiting spikes

For more information about the San Diego County Plant Atlas, a project of the San Diego Natural History Museum, visit our website at <https://www.sdnhm.org/plant-atlas/> or email us at [plantatlas@sdnhm.org](mailto:plantatlas@sdnhm.org) or call 619.255.0298