
Liliaceae and related families

CNPS El Dorado Chapter

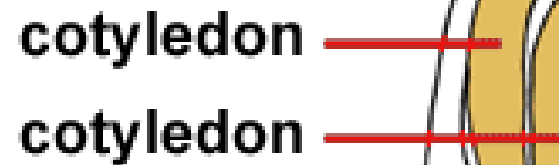
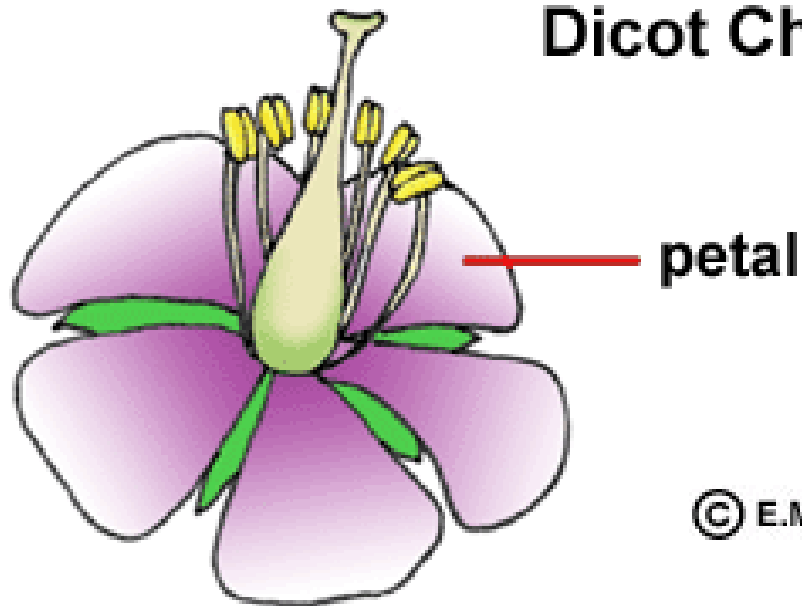
Angiosperms (flowering plants)

- Traditionally, two major groups of angiosperms :

Dicotyledons

Monocotyledons

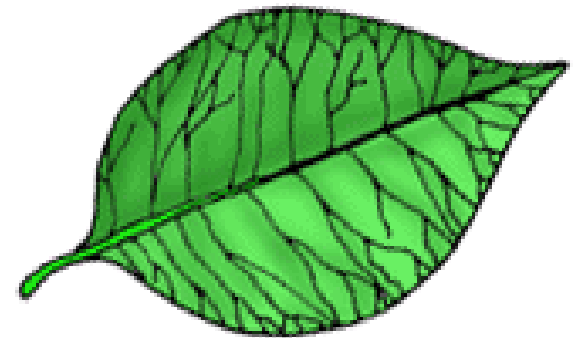
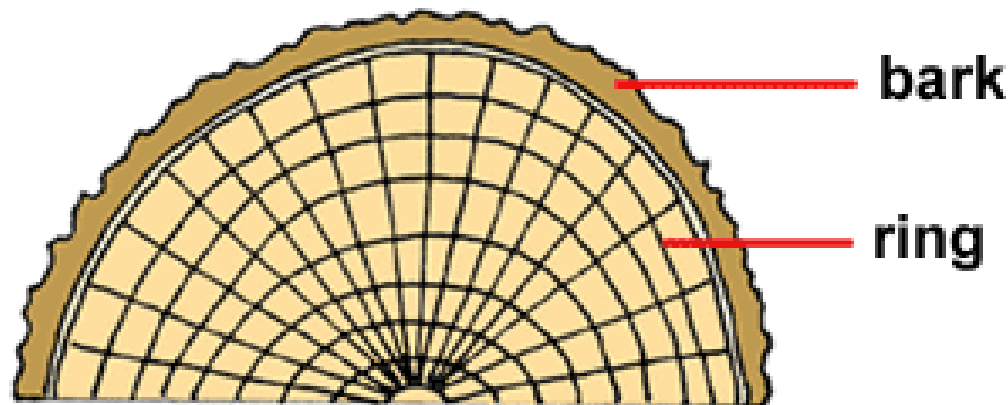
Dicot Characteristics



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Flower parts in 4's or 5's.

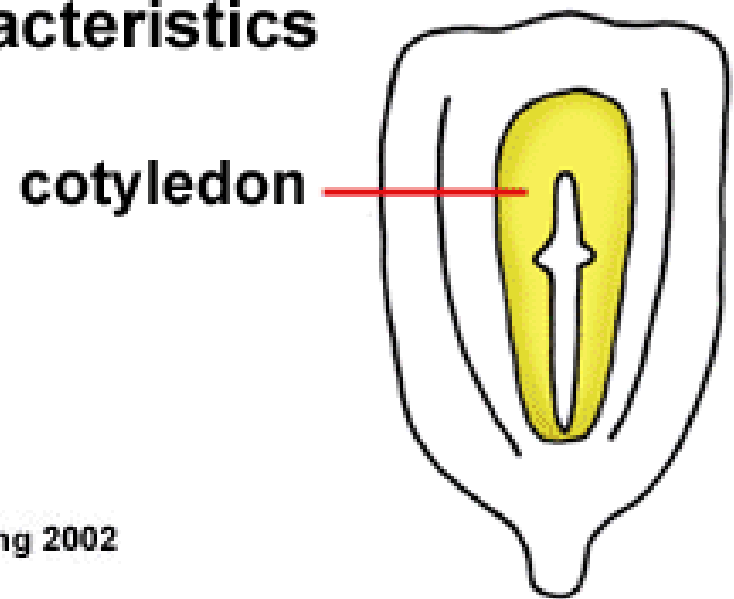
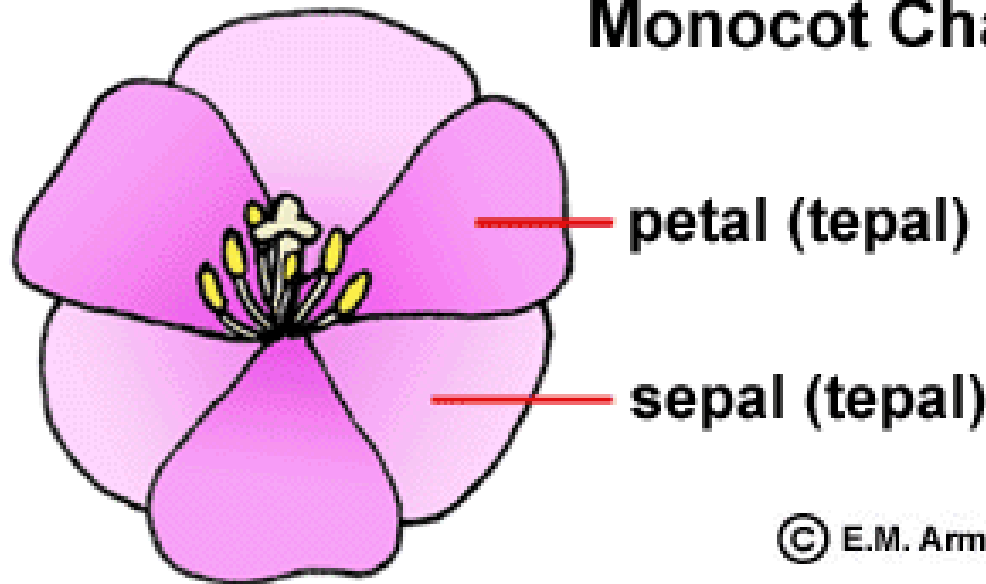
Seed with two cotyledons.



Wood with concentric growth rings.

Leaf with net venation.

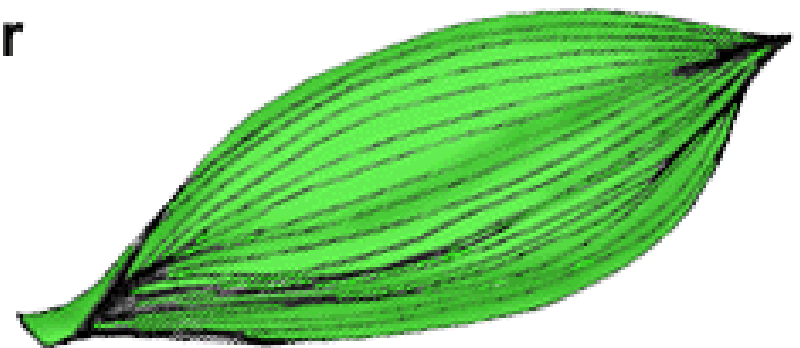
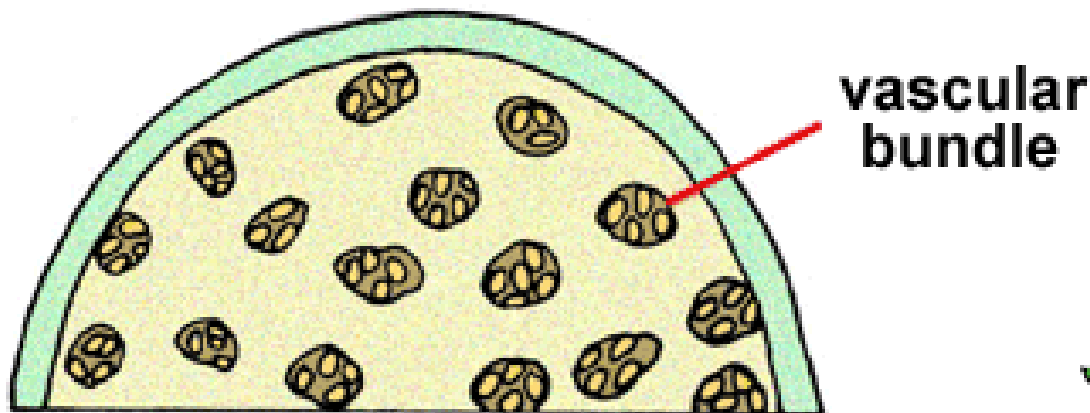
Monocot Characteristics



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Flower parts in 3's.

Seed with one cotyledon.



Stem with vascular bundles.

Leaf with parallel venation.

Modern phylogenetic classification of angiosperms

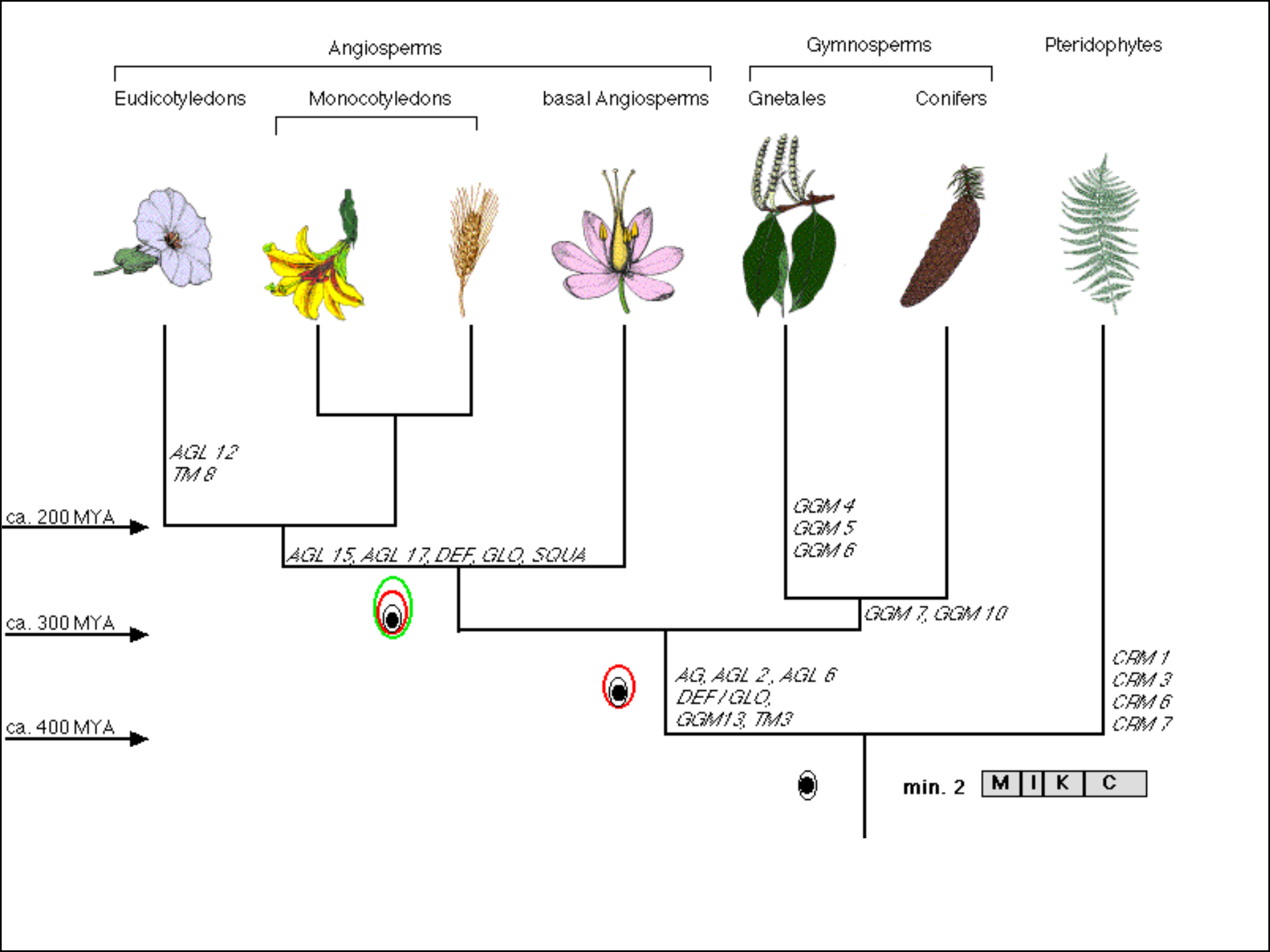
- four major groupings :

palaeoherbs (were part of “dicots”)

magnoliids (were “primitive dicots”)

monocots

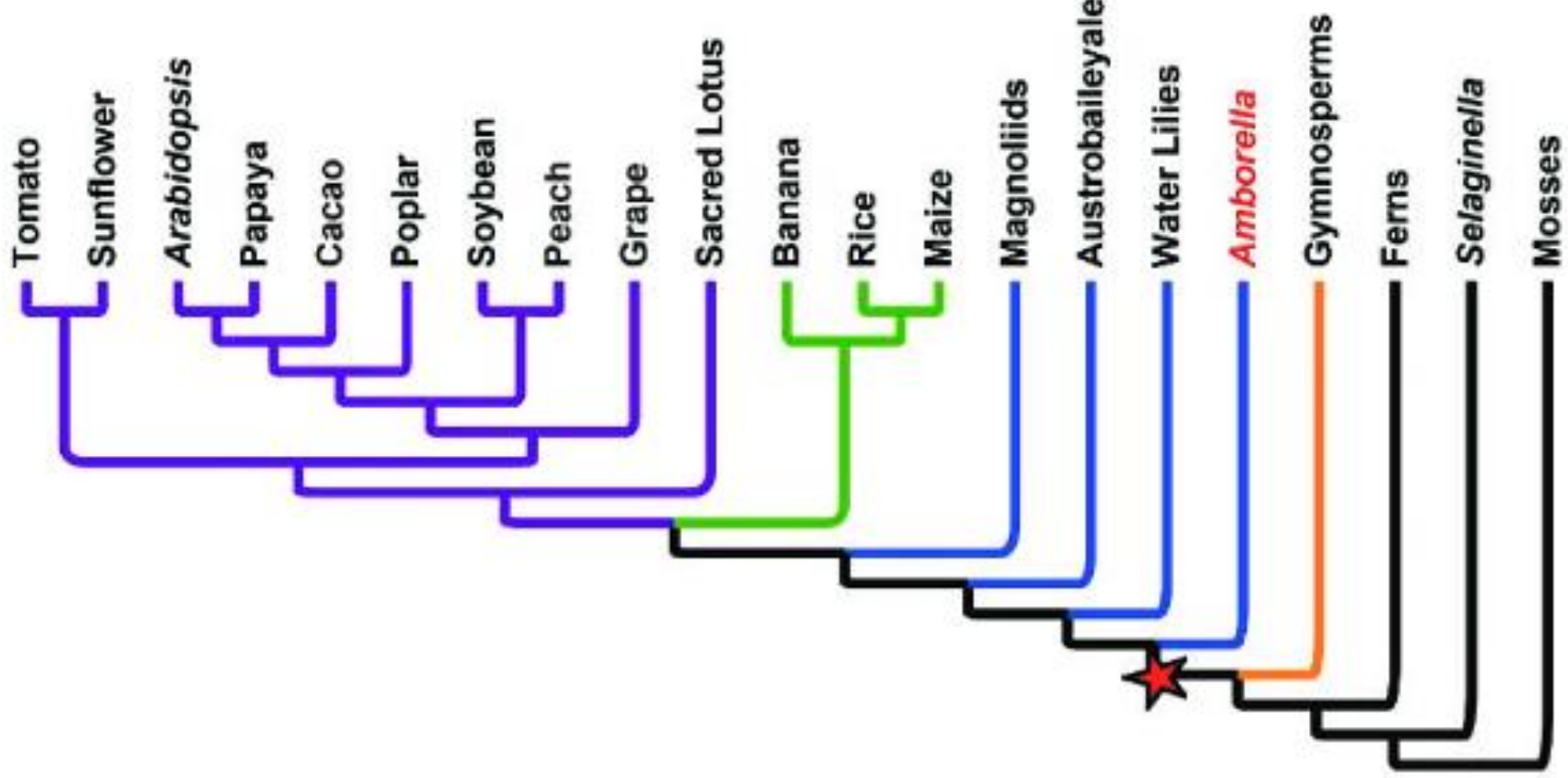
true dicots (remaining “dicots”; often called eudicots)



Eudicots

Monocots

Basal
Angiosperms



Monocots

- Two major lines (informal groups) :
 - “graminoid monocots” increasing specialisation towards wind pollination; parallel leaf venation; small, inconspicuous flowers
e.g. Cyperaceae, Juncaceae, Poaceae
 - “petaloid monocots” increasing specialisation towards insect pollination; parallel or net leaf venation; often showy, conspicuous flowers
e.g. Liliaceae, Amaryllidaceae, Iridaceae, Orchidaceae
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Liliaceae

- Treated by Cronquist (and Jepson Manual first ed) as a single family, encompassing
 - Liliaceae
 - Amaryllidaceae
 - and (several to many) others
 - However, in many floras (including most recent treatments worldwide, and Jepson Manual second ed) are treated as separate families
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Liliaceae

- Traditional classification
 - Liliaceae – superior ovary
 - Amaryllidaceae – inferior ovary
 - Cronquist (1981), Jepson Manual first ed (1993).
 - Liliaceae
 - Modified classification
 - Liliaceae – superior ovary
 - Amaryllidaceae – inferior ovary, or superior ovary and umbellate inflorescence
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Liliaceae

- Alternative modified classification
 - Liliaceae – superior ovary
 - Alliaceae – superior ovary, umbellate inflorescence
 - Amaryllidaceae – inferior ovary
 - Many families (Jepson Manual 2 ed 2012)
Californian families only, and (Californian genera)
Liliaceae (9), Agavaceae (7), Alliaceae (3), Asparagaceae (1),
Asphodelaceae (2), Melanthiaceae (4), Nartheciaceae (1),
Ruscaceae (2), Smilacaceae (1), Tecophilaceae (1), Themidaceae (6)
-

Liliaceae s.str.

- Liliium
 - Erythronium
 - Calochortus
-



Lilium



Erythronium



Fawn lily



Calochortus albus

Fairy lanterns



Calochortus monophyllus

Yellow cat's ear

Calochortus Mariposa lily



Amaryllidaceae

- Narcissus
(naturalised only)
-

Amaryllidaceae



Agapanthus



Amaryllidaceae



Narcissus Daffodil

Alliaceae

- Allium
-



Allium campanulatum Sierra onion

Themidaceae

- Brodiaea
 - Dichelostemma
 - Tritoleia
 - (at one time, all were placed in Brodiaea)
-



Brodiaea elegans



Harvest brodiaea



Dichelostemma capitatum

Blue dicks



Dichelostemma multiflorum

Wild hyacinth



Dichelostemma volubile

Twining brodiaea



Triteleia hyacinthina

White brodiaea





Triteleia ixioides

Golden brodiaea





Triteleia laxa

Ithuriel's spear