

## ASTERIDS

### CORNALES

**Cornaceae\***  
 Curtisiaceae  
 Grubbiaceae  
 Hydrangeaceae  
 Hydrostachyaceae  
**Loasaceae**  
 Nysaceae\* [Cornaceae]

### ERICALES

Actinidiaceae  
**Balsaminaceae**  
 Clethraceae  
 Cyrillaceae  
 Diapensiaceae  
 Ebenaceae  
**Ericaceae**  
 (incl. Empetraceae, Epacridaceae)  
**Fouquieriaceae**  
 Lecythidaceae  
 Maesaceae\* [Primulaceae]  
 Marcgraviaceae  
 Mitrastemonaceae  
**Myrsinaceae\*** [Primulaceae]  
 Pentaphragmataceae  
**Polemoniaceae**  
**Primulaceae\***  
 Roridulaceae  
 Sapotaceae  
**Sarraceniaceae**  
 Sladeniaceae  
 Styracaceae  
 Symplocaceae  
 Tetrameristaceae (incl. Pellicieraceae)  
**Theaceae**  
 Theophrastaceae\* [Primulaceae]

### LAMIIDS

#### GARRYALES

Eucommiaceae  
**Garryaceae** (incl. Aucubaceae)

#### BORAGINALES\*\*

**Boraginaceae** (incl. Cordiaceae,  
 Ehretiaceae, Heliotropaceae,  
 Hoplestigmataceae,  
 Hydrophyllaceae, and Lemnaceae)

Icacinaceae  
 Metteniusaceae  
 Oncothecaceae  
 Vahliaceae

#### GENTIANALES

**Apocynaceae**  
 Gelsemiaceae  
**Gentianaceae**  
 Loganiaceae  
**Rubiaceae**

#### LAMIALES

**Acanthaceae**  
**Bignoniaceae**  
 Byblidaceae  
 Calceolariaceae  
 Carlemanniaceae  
 Gesneriaceae  
**Lamiaceae (Labiatae)**  
 Lentibulariaceae  
 Linderniaceae  
 Martyniaceae  
**Oleaceae**  
**Orobanchaceae**  
 Paulowniaceae  
 Pedaliaceae  
**Phymaceae**  
**Plantaginaceae**  
 Plocospermataceae  
 Schlegeliaceae  
**Scrophulariaceae**  
 (incl. Myoporaceae)  
 Stilbaceae  
 Tetrachondraceae  
 Tomandersiaceae  
**Verbenaceae**

#### SOLANALES

**Convolvulaceae**  
 Hydroleaceae  
 Montiniaceae  
**Solanaceae**  
 Sphenocleaceae

### CAMPANULIDS

#### AQUIFOLIALES

**Aquifoliaceae**  
 Cardiopteridaceae  
 Helwingiaceae  
 Phyllomnaceae  
 Stemonuraceae

#### ESCALLONIALES

Escalloniaceae  
 (incl. Fremosynaceae,  
 Polyosmaceae, Tribelaceae)

#### BRUNIALES

Bruniaceae  
 Columelliaceae  
 (incl. Desfontainiaceae)

#### APIALES

**Apiaceae (Umbelliferae)**  
 (incl. Mackinlayaceae)  
**Araliaceae**

Griselinaceae  
 Myodocarpaceae  
 Pennantiaceae  
**Pittosporaceae**  
 Torricelliaceae (incl. Aralidiaceae,  
 Melanophyllaceae)

#### PARACRYPHIALES

Paracryphiaceae (incl. Quintiniaceae  
 and Sphenostemonaceae)

#### DIPSACALES

Adoxaceae  
**Caprifoliaceae\***  
 Diervillaceae\* [Caprifoliaceae]  
**Dipsacaceae\*** [Caprifoliaceae]  
 Linnaeaceae\* [Caprifoliaceae]  
 Morinaceae\* [Caprifoliaceae]  
**Valerianaceae\*** [Caprifoliaceae]

#### ASTERALES

Alseuosmiaceae  
 Argophyllaceae  
**Asteraceae (Compositae)**  
 Calyceraceae  
**Campanulaceae** (incl. Lobeliaceae)  
**Goodeniaceae**  
 Menyanthaceae  
 Pentaphragmataceae  
 Phellinaceae  
 Rousseaceae  
 Styliaceae

# Lamiaceae (=Labiatae) - Mint family

(Lamium, gullet, after the shape of the corolla tube or old Latin name used by Pliny). 251 genera / 6,700 species.

herbs or shrubs

*often aromatic with ethereal oils*

usually *4-sided stems*

*opposite* [or whorled] leaves

*verticillaster or thyrs*e inflorescence

[flowers solitary and axillary in some]

zygomorphic [rarely actinomorphic], *usually bilabiate* flowers  
superior, *deeply 4-lobed ovary* and *gynobasic style*

fruit a *schizocarp of usually 4 nutlets*.

**K** (5) **C** (5) **A** 4 or 2 **G** (2), superior, hypanthium absent

Economic importance includes medicinals, herbs (e.g., *Mentha*, mint; *Ocimum*, basil; *Rosmarinus*, rosemary; *Salvia*, sage; *Thymus*, thyme), fragrance plants (e.g., *Lavandula*, lavender; *Pogostemon*, patchouli), and a number of cultivated ornamentals.



**Leaves opposite; stems 4-sided**



**Inflorescence a thyrse or verticillaster (usu.)**

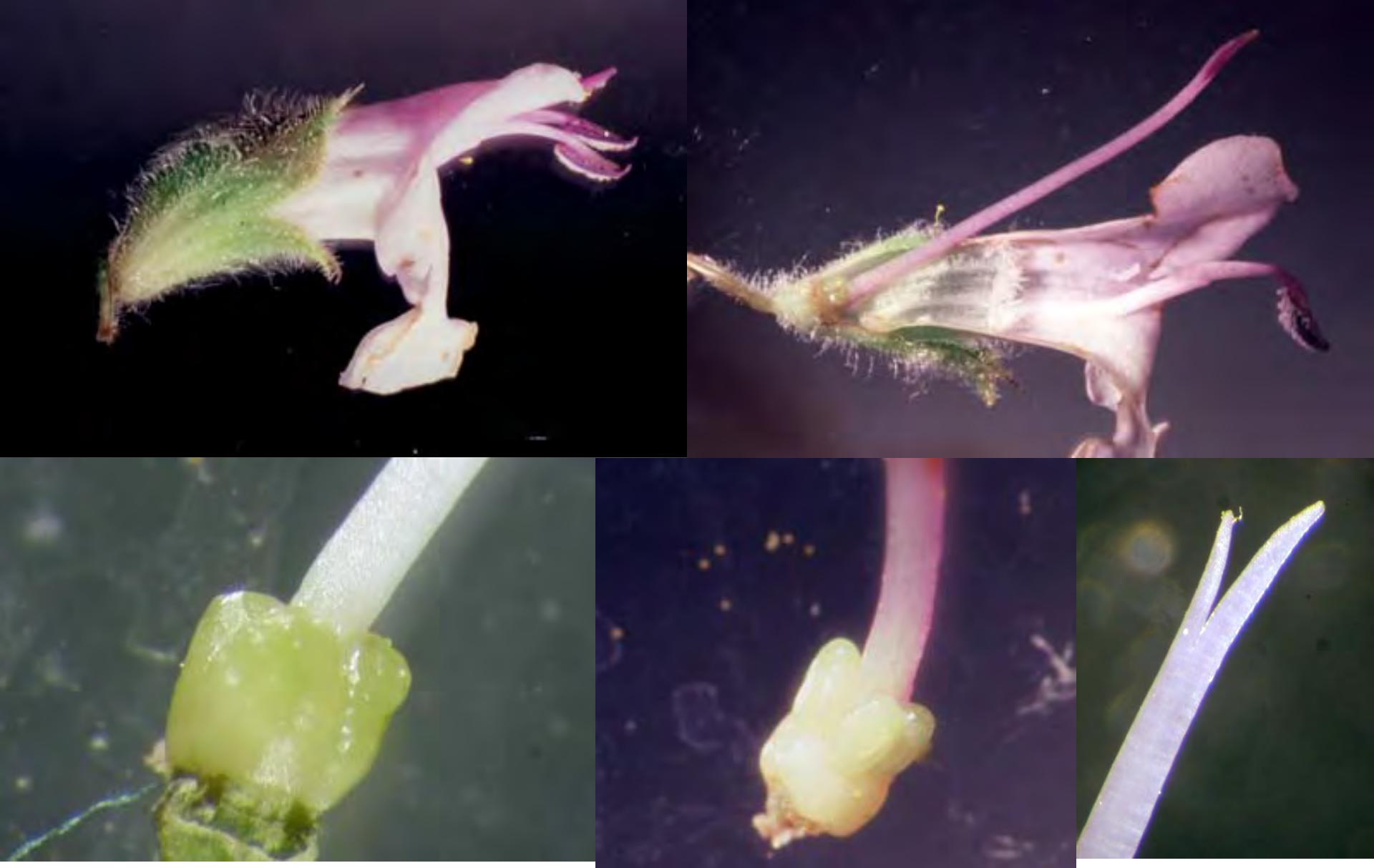


**Flowers zygomorphic; corolla sympetalous, bilabiate**

# Salvia's: lever mechanism







**carpels 2; style gynobasic**



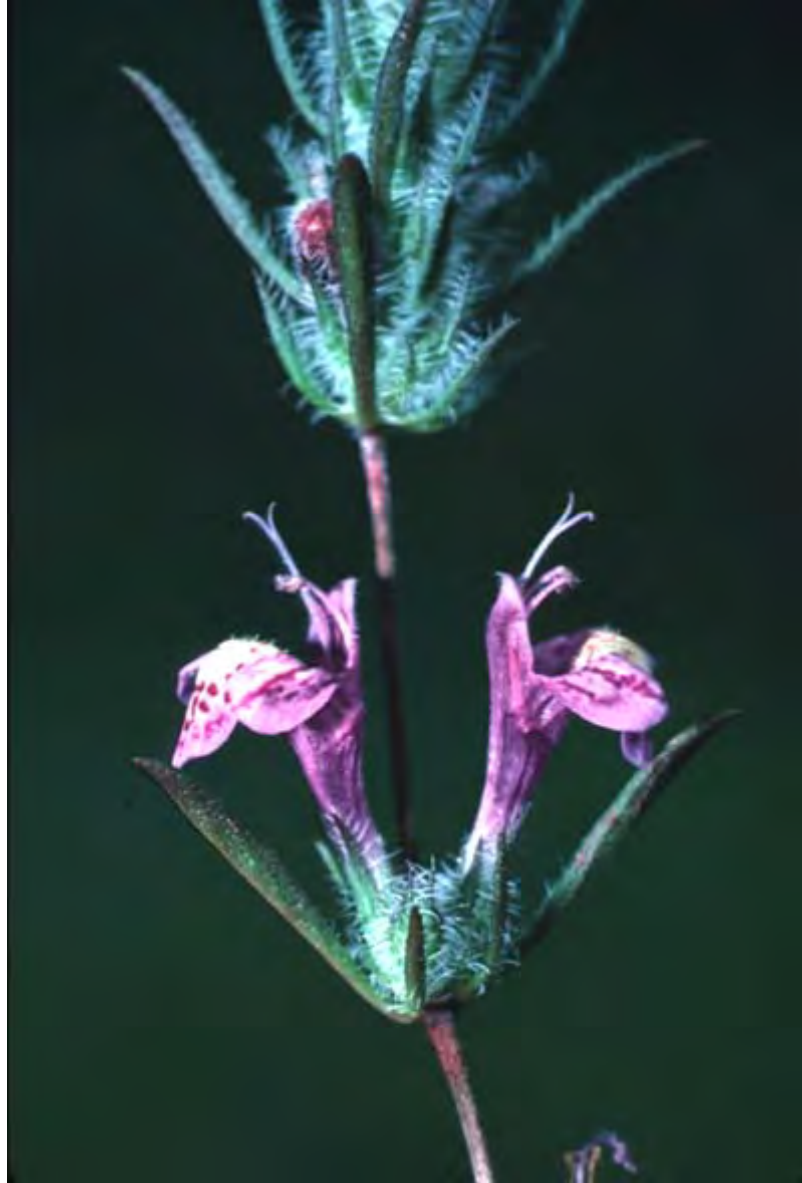
**Fruit a schizocarp of nutlets**



**Ocimum basilicum** **BASIL**



*Rosmarinus officinalis* **ROSEMARY**



*Pogogyne abramsii* MESA MINT  
Fed/Cal. endangered species



***Pogogyne nudiuscula* Otay Mesa Mint  
Fed/Cal. endangered species**

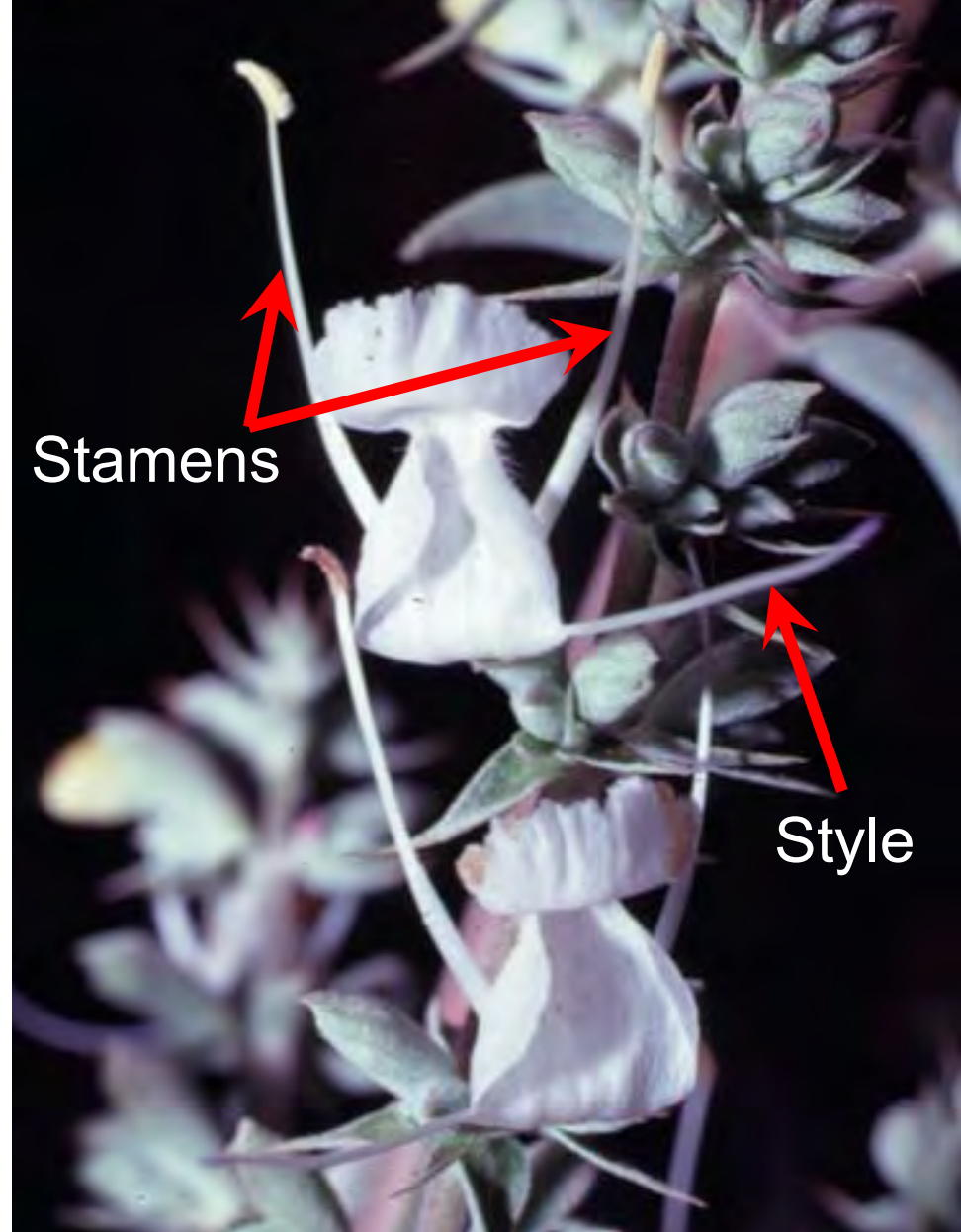


shrub; leaves elliptic, whitish; inflorescence an elongate thyrse; flowers enantiostylous; corolla bilabiate, personate.

*Salvia apiana* White Sage  
Lamiaceae

***Salvia apiana***  
**WHITE SAGE**  
**enantiostylous flowers**

the condition in which the gynoecium protrudes laterally, to the right (dextrostyly) or to the left (sinistrostyly) of the androecium







shrub; inflorescence a verticillaster.

*Salvia clevelandii* Cleveland Sage  
Lamiaceae



annual herb; leaves basal, pinnatifid; inflorescence a verticillaster.

*Salvia columbariae* Chia  
Lamiaceae



shrub; leaves crenate, rugose; inflorescence a verticillaster.

*Salvia mellifera* Black Sage  
Lamiaceae





shrub;

*Trichostema lanatum* Woolly Blue Curls  
Lamiaceae

A close-up photograph of a purple flower, likely a member of the Scrophulariaceae family. The flower is characterized by its vibrant purple color and long, slender stamens that extend far beyond the petals. The petals are also purple and appear to have a slightly ruffled or lobed structure. The background is dark, which makes the purple of the flower stand out. The text "Trichostema lanatum" is overlaid on the lower part of the image.

Trichostema lanatum



*Trichostema lanceolatum* Vinegar Weed  
Lamiaceae



*Trichostema parishii* Mountain Blue Curls  
Lamiaceae