#### Salacious Salvias

### **What is it - Botanical Description**

**Salvia** is the largest genus of plants in the mint family, Lamiaceae. This genus, some which are highly ornamental, contains nearly 1000 species which include shrubs, herbaceous annuals, biennials and perennials.

The name *Salvia* originates from the Latin *salvere* ("to feel well and healthy, health, heal") referring to the herb's healing properties. Pliny the Elder was the first author known to describe a plant called "*Salvia*" by the Romans, likely describing the type species for the genus *Salvia*, *Salvia officinalis*, "common sage" or "culinary sage"). The ornamental species are commonly referred to by their genus name *Salvia*.

Salvias are distributed throughout the Old World and the Americas, with three distinct regions of diversity: Central and South America (approx. 500 species); Central Asia and Mediterranean (250 species); Eastern Asia (90 species).

### **Plant Description:**

The stems of Salvias, like other members of the Lamiaceae, are typically angled. The flowering stems bear small bracts which don't look like the basal leaves—in some species the bracts are ornamental and showy.

The leaves are usually entire, but sometimes toothed or pinnately divided.

The flowers are often showy and are produced in racemes, or panicles. Colours ranging from blue to red, with white and yellow less common.

Salvia flowers go through two stages beginning with a male stage and then progressing to a female stage. The calyx is normally tubular or bell shaped, and is divided into two parts or lips. The upper lip entire or three-toothed, the lower lip is two-cleft.

What defines this genus is it's unusual pollination mechanism which consists of two stamens which have been reduced to two short structures with the anthers divided into two parts, only the upper of which is fertile. In Salvias, the two thecae (pollen sacs) are separated by an elongate connection which forms a lever mechanism. In the male stage of the flower, when a pollinator probes the flower for nectar, the lever causes the stamens to move and the pollen to be deposited on the pollinator. When the pollinator withdraws from the flower, the lever returns the stamens to their original position. In older, female stage flowers, the stigma is bent down in a general location that corresponds to where pollen would be deposited on the pollinator's body.

The lever of most *Salvia* species is not specialized for a single pollinator, and can be easily released by many different bird and bee pollinators.

Many salvias have trichomes (hairs) growing on the leaves, stems, and flowers, which may help to reduce water loss in some species. Sometimes the hairs are glandular and

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secrete volatile oils that can give the sages their distinctive aromas. These oils often results in the plant being unattractive to grazing animals.

# Phylogenetic analyses

Through DNA sequencing, *Salvia* was shown to consist of three separate clades (*Salvia* clades I-III). DNA analysis also showed that the lever mechanism evolved at least two and possibly three separate times, (parallel evolution)

The description of individual species within *Salvia* has undergone constant revision. Many species are similar to each other, and many species have varieties that have been given different specific names. There have been as many as 2,000 named species and subspecies. Over time, the number has been reduced to less than a thousand.

### Other Info

## **Salvia - 4 Main Cultivation Groups**

- 1. **Shrubby Salvias** These are generally hardy, obliging plants producing vast quantities of flowers over an extremely long season, provided their main requirements of full sun and good drainage are met. Tidy minded gardeners can remove the spent inflorescences during the growing season this is not essential.
- 2. **Hardy Herbaceous Salvias** -These are generally late spring and early summer flowering plants, however re-blooming can be encouraged by cutting back to just above ground level immediately after their main flowering period. Cut back again in either autumn or early spring.
- 3. **Half-hardy Herbaceous Salvias** -These require a more sheltered position but are otherwise quite easy to overwinter. In very cold areas S. patens can be mulched during the winter to protect the tubers from frost or the plants may be cut back, lifted and overwintered in a cool, frost-free place pretty much like Dahlia tubers
- 4. Half-Hardy / tender shrubby and woody-based Salvia Unless in a in mild, sheltered garden, these plants require a conservatory. Several of this group are triggered into flowering by the shortened days of autumn and winter thus making them excellent subjects for the conservatory, often blooming well into the spring.