

Cattleya Lindley 1824

SUBFAMILY Epidendroideae, TRIBE Epidendreae, SUBTRIBE Laeliinae.

TYPE SPECIES: *Cattleya labiata* Lindley 1824

SYNONYMS: `Maelenia DuM. 1834

ETYMOLOGY:

Named for the English orchid aficionado William Cattley [1788-1832] ²

DESCRIPTION:

Dazzling large flowers with trumpet-shaped lips, thick leaves, and elongated pseudobulbs make *Cattleya* easy to recognize. Flower: Large flowers are variously hued, commonly purple, white, or brown. Petals are considerably wider than sepals, often with undulating edges. The large lip curls into a tube at the base, while the flared opening exhibits a notched and wavy margin. Plant: Pseudobulbous stems are thick and club—like or columnar, often fluted, with horizontal joints. Each stem bears 1 to 3 leathery leaves from the top. Inflorescences typically of 1 to few flowers arise from sheathed leaf bases. Species with 2 leaves (e.g., *C. bicolor*) belong to the so-called bifoliate group; their flowers are smaller and fleshier, their inflorescences yield up to 4 dozen blossoms. ⁵

DISTRIBUTION:

Some 150 epiphytic and rock-dwelling species thrive in low-elevation wet forest. They range from Costa Rica and Trinidad to Brazil and Uruguay. This genus has been expanded to encompass two additional, distinctive groups: rock—dwelling (rupicolous) species in Brazil (e.g., *C. milleri*), formerly placed in *Laelia* and typically bearing orange, yellow, and purple flowers; and small Brazilian species (e.g., *C. coccinea*), formerly known as *Sophranitis* (now

defunct), often with brilliant orange-red flowers. Furthermore, bifoliate species distributed from Mexico to Venezuela and Trinidad and once classified as *Cattleya* now have been moved to *Guarianthe* (e.g., *G. aurantiaca*).⁵

ECOLOGY and HISTORY

Most species are pollinated by large bees that collect nectar or floral scents. Upon landing, their weight depresses the lip, but as the pollinator enters the flower the lip swings upward, trapping the insect against the column. Bees often visit in the morning, when sweet fragrances are most potent. Many species are considered general food mimics, in that they assume a tubular form widely associated with pollinator rewards; however, as they offer no nectar, they must be visited by naive insects that have not yet learned the deception. Meanwhile, *C. violacea* is occupied by crab spiders that mimic floral colors to ambush visiting insects. The genus is named for Englishman William Cattley (1788—1835), the first to raise orchids in greenhouses. Orchids previously had been cultivated outdoors in a climate fatally inhospitable to warm weather plants. One nobleman savagely branded England “the graveyard of tropical orchids.” An oft—repeated legend states that the original specimens (*C. labiata*) had been included inadvertently in mossy packing material from Rio de Janeiro by William Swanson. In truth, Swanson, an accomplished botanist, was well aware of the beautiful orchids he had collected, albeit in Pernambuco, miles north of Rio. The allure of *Cattleya* blossoms largely sparked England’s fascination for orchids, and the subsequent American craze for orchid corsages. Two countries claim *Cattleya* species as their national flowers: Venezuela (*C. mossiae*) and Colombia (*C. trianae*), the latter because the species’ yellow, blue, and red lip matches the national flag.⁵

CULTIVATION:

Cattleyas are among the most popular orchids. Their culture is often used as the basis for comparison with other types of orchids. Cattleyas and their related hybrids come in many colors, shapes, forms and sizes. Culture varies only slightly among most of these. This sheet is a general guide to basic cattleya culture. Like many other cultivated orchids, cattleyas are epiphytes, or air plants. They have developed water-storage organs, called pseudobulbs, and have large, fleshy roots covered with a spongy, water-retentive velamen. They are accustomed to being dry at the roots between waterings, and therefore should be potted in freedraining media.

Light is the most important factor in growing and flowering cattleyas, whether in a greenhouse or in the home. Bright light to some sun should be given to the plants, with no direct sun in the middle of the day. This means an east, shaded south (as with a sheer curtain) or west window in the home, and 50 to 70 percent full sun in a greenhouse (3,000 to 5,000 foot-candles). Leaves should be a medium green color, pseudobulbs erect and requiring no staking.

Temperatures should be 55 to 60 F at night and 70 to 85 F during the day. Seedlings should have night temperatures five to 10 degrees higher. A 15- to 20-degree differential between day and night is recommended, especially for mature plants. Higher day temperatures can be tolerated (up to 95 F), if humidity, air circulation and shading are increased.

Water should be provided in two ways: in the pot by watering and in the air as humidity. Watering in the container is dictated by many criteria: size and type of the vessel, temperature, light, etc. Mature cattleyas need to dry out thoroughly before being watered again. Seedlings need more constant moisture. Compare the weight of a dry pot of the same size and type of mix; it can indicate if a plant needs water by the relative weight - light means dry, heavy means wet. If in doubt, it's best to wait a day or two until watering. Plants in active growth need more water than plants that are resting. Water below 50 F may injure plants, as will water softened by the addition of salts.

Humidity should be 50 to 80 percent for cattleyas. This can be provided in the home by placing the plants on trays of gravel, only partially filled with water so that the plants do not sit in the water. Air should always be moving around the plants to prevent fungal or bacterial disease, especially if high humidity or cool temperatures exist. In the greenhouse, the humidity is best increased by use of a humidifier. Evaporative cooling increases humidity while cooling the air.

Fertilize on a regular schedule. In fir bark, a high-nitrogen (such as 30-10-10) formulation, or a similar proportion, is used. Otherwise, use a balanced fertilizer. When in active growth, plants need fertilizer at least every two weeks, and when not actively growing, once a month. Fertilizer can also be applied with every watering at one-quarter the recommended dilution. Thorough flushing with clear water every month is recommended to prevent the buildup of fertilizer salts.

Potting is necessary when the rhizome of the plants protrudes over the edge of the pot or the

potting medium starts to break down and drain poorly (usually after two to three years). It is best to repot just before new roots sprout from the rhizome, after flowering or in the spring. Mature cattleyas are usually potted in coarser potting material than are seedlings. Until a plant has at least six mature pseudobulbs, it generally should be put into a larger pot and not divided. If dividing a plant, three to five pseudobulbs per division are required. Select a pot that will allow for approximately two years of growth before crowding the pot. Pile mix against one side of the pot and cut off any dead roots. Spread the firm, live roots over the pile, with the cut rhizome against the side of the pot. Fill the pot with medium, working it around the roots. Pack firmly and stake if necessary. Keep the plant humid, shaded and dry at the roots until new root growth is seen.⁷

References

¹ www.orchidspecies.com

² **Aldridge, Peggy. 2008.** *An Illustrated Dictionary of Orchid Genera.* Selby Botanical Garden Press.

³ **Chase MW. 2006.** Tribe Epidendreae. In: Pridgeon AM, Cribb PJ, Chase MW, Rasmussen F, eds. *Genera Orchidacearum, Vol. 4.* Oxford: Oxford University Press.

⁴ **la Croix, Isobyl. 2008.** *The New Encyclopedia of Orchids.* Timber Press

⁵ **Meisel, Kaufmann, Pupulin 2014.** *Orchids of Tropical America.* Cornell University Press

⁶ **Withner, Carl L. 1998.** *The Cattleyas and Their Relatives: Volume I.* Timber Press

⁷ www.aos.org