

## ***Clivia* Breeding at Longwood Gardens<sup>©</sup>**

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Longwood Gardens, in Kennett Square, Pennsylvania, has recently released three cultivars of *Clivia miniata* from their breeding program which began in 1976. At the beginning of the program, most existing *C. miniata* were orange flowered cultivars, and yellow flowers were rare and very desirable. The original goal of the breeding program was to produce a superior yellow flowered *Clivia*. Thirty-four years after the program began, in 2010, *C. miniata* ‘Longwood Debutante’ was released at the North American Clivia Society Show at Longwood Gardens. “Debutante” is a fitting name as this plant was the first release from Longwood’s breeding program to enter into *Clivia* Society. It was revealed in the grandeur of the Longwood Ballroom. *Clivia miniata* ‘Longwood Debutante’ produces slightly fragrant, buttery yellow flowers, with overlapping tepals, in an umbel set on a sturdy scape, that rises nicely above the dark green foliage. The goal of the breeding program was realized with ‘Longwood Debutante’. Superiority of the plant was validated when single blooming fans of *Clivia* ‘Longwood Debutante’ sold for \$900.

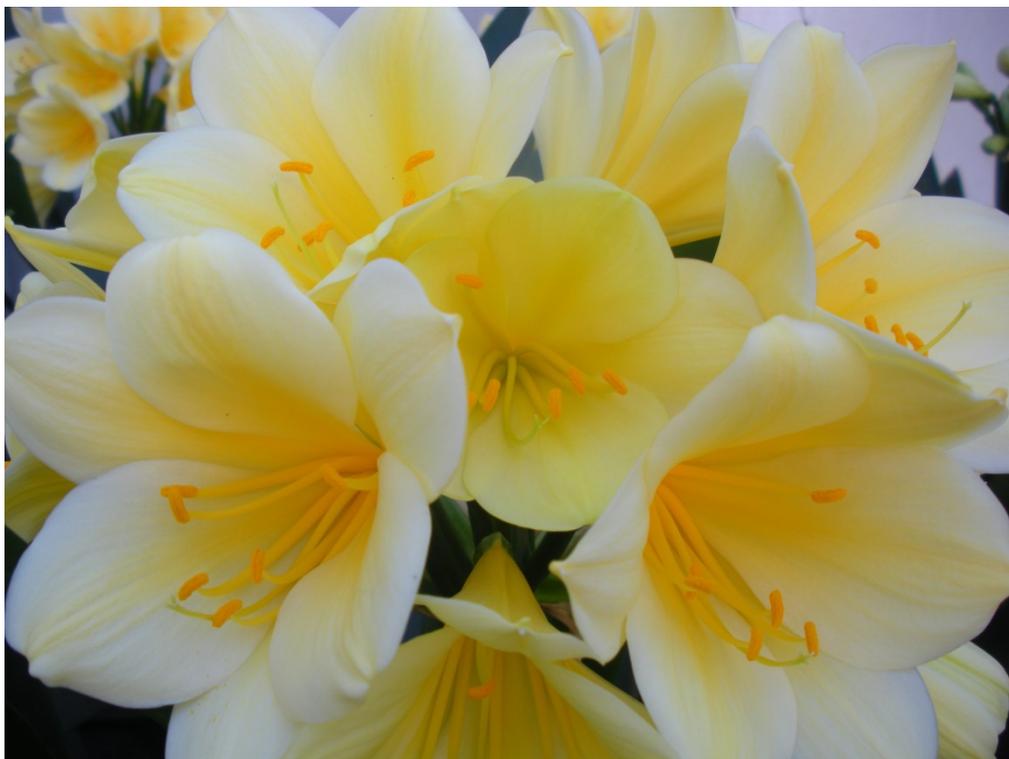


Fig. 1. *Clivia miniata* ‘Longwood Debutante’.

In 2011, *C. miniata* ‘Longwood Fireworks’, a second yellow flowered cultivar, was released and again sold for \$900 per single blooming division. *Clivia miniata* ‘Longwood Fireworks’ produces large, soft yellow flowers, with reflexed tepals and protruding stamens, which are held on a spherical umbel, that rises well above the foliage. Fireworks traditionally fill the summer skies over Longwood during the Festival of Fountains, and the reflexed tepals, protruding stamens, and impressive umbel of ‘Longwood Fireworks’ creates a flower that looks like an explosion of fireworks in the sky.



Fig. 2. *Clivia miniata* 'Longwood Fireworks'.

In the process of breeding *Clivia* at Longwood, a chance mutation manifested keeled tepals. A keel refers to a raised area on a flower petal that resembles a keel of a boat. In some cases, the keel actually changed the shape of the flower. The keeled tepals were so unique and interesting, that a new breeding goal of producing keeling cultivars was set. Several years of data was collected on keeling seedlings. In some cases, a plant that keeled very well one year had very little keeling other years. After years of observation, *C. miniata* 'Longwood Sunrise' was introduced with uniformly keeled orange tepals.

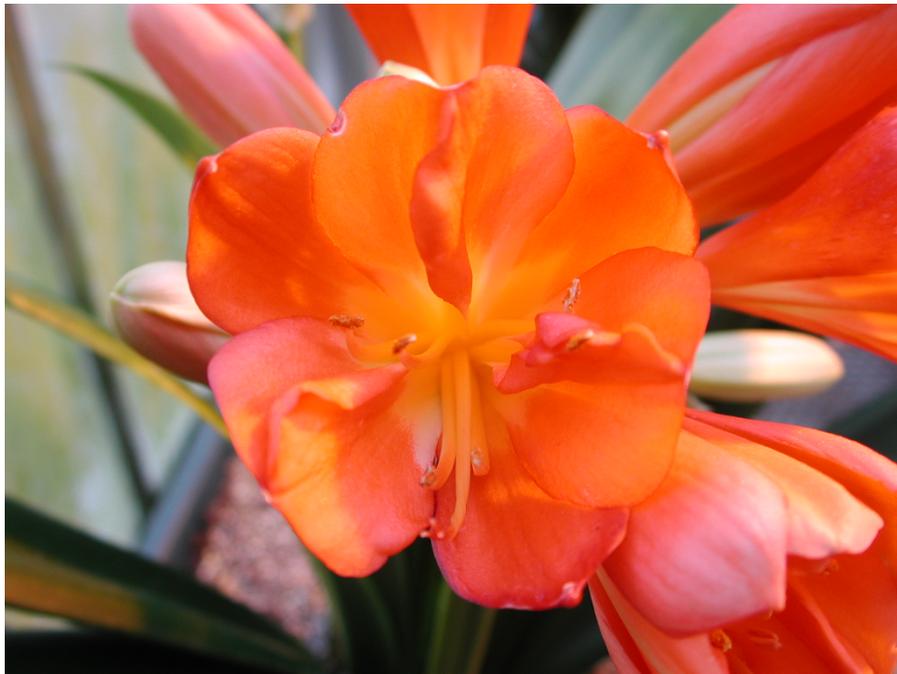


Fig. 3. *Clivia miniata* 'Longwood Sunrise'.

The evaluation of seedlings continues and several new cultivars are in the pipeline. In 2015 Longwood plans to release a cultivar with orange tepals with a deep bronze cast, and green throats. The tepals fade to a brick red color. Red is a rare and desired color in *Clivia* breeding. A 2008 cross produced a plant with green flowers with an ivory highlights. Green is also a very coveted color in the *Clivia* world. Several other keeled selections of various color combinations may also be released in the future.

It should be mentioned that not all *Clivia* cost \$900 for a single plant. Seeds can be purchased relatively cheaply. Unnamed selections of attractive plants can be obtained for reasonable prices. Do not be afraid of *Clivia*. They make great house plants, and thrive on the coast of California. They tolerate low light conditions and are drought tolerant. Protect them from direct sunlight and freezing, and they should grow well for you. They have attractive leaves that look good all year, and amazing flowers if grown correctly.

*Clivia* are easily started from seed. The seed should be planted soon after it is removed from the berry. If it desiccates, it may not germinate. Place the seed on the surface of moist vermiculite in a Tupperware container in indirect sunlight. The seed will produce a huge root that tends to push the seed out of the soil. After the leaf emerges, plant the long thick root in a well-drained mix. Allow the plant to dry between watering's. Be patient. If you are an amazing grower, you may see a bloom 3 years after sowing the seed. In some cases, it could take 7 to 8 years to see a bloom. The plant needs to produce 13 leaves before it blooms. The faster you produce the required leaves, the faster the plant will bloom.

After the required 13 leaves have been produced, the plant needs a cool dry dormancy for at about 40 days. During the dormant period temperatures should be maintained below 50°F and above freezing. Plants should receive very little water during this time. If the proper dormancy is not administered, the flower stalks may not elongate properly, and remain hidden in the foliage. After the dormancy requirements have been met, water the plants and gradually raise the growing temperature to the mid-60s. Two months after breaking dormancy, the plants should bloom and brighten your spring.

