UC SANTA BARBARA
THE Current

July 22, 2013
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Rare Corpse Flower (Titan Arum) to Bloom at Biology Greenhouse

Sometime in the next week or so the UC Santa Barbara greenhouse will start smelling like a rotting corpse. But the campus police needn't worry; it's only the huge perennial herb Amorphophallus titanum, a member of the Araceae family and thus related to jack-in-the-pulpit and skunk cabbage.

Commonly known as the corpse flower and dubbed the Titan Arum by Sir David Attenborough during the filming of the Private Life of Plants series, this botanic giant can grow up to 10 feet tall and has the largest unbranched inflorescence in the world. An inflorescence is a floral structure composed of many smaller individual flowers.

The plant's rotting corpse smell becomes apparent as the spathe (the outer frilly skirt, actually a modified leaf) unfurls. The nauseating scent, which comes from two sulfur-producing chemicals similar to that responsible for rotten eggs, is designed to attract such pollinators as flesh flies and carrion beetles.

In addition to the foul odor, the spadix (the tall center part of the bloom) heats up to about human body temperature in order to spread the smell even farther and attract pollinators when the female flowers are most receptive in the first 12 hours of bloom. The male flowers only open on the second day, which helps to prevent self-pollination. After two days the inflorescence begins to collapse. Titans can take seven to 10 years to bloom.

Native to the rainforests of Sumatra, Indonesia, it is uncommon both in the wild and in cultivation and blooms only rarely. In fact, Titan Arums are listed as vulnerable by the International Union for Conservation of Nature.

There have only been about 175 blooms in cultivated species worldwide, the first of which occurred in 1889 in England's Kew Gardens. The same plant did not flower again until 1926. The first documented flowering in the U.S. was at the New York Botanical Gardens in 1937.

UCSB's corpse flower, dubbed Chanel, arrived on campus about five years ago. Chanel is the progeny of Tiny, which last bloomed at UCSB in 2002. Tiny was pollinated by a specimen at the Huntington Botanical Gardens, which makes Tiny Chanel's mother.

Growing Titan Arums from seed requires patience. Once the seed germinates and grows roots, a corm — much like a potato's tuber — forms and lies dormant for three to nine months before leafing out. After 12 to 18 months, the leaf dies back (just like tulips in summer) and the plant goes dormant for another three to six months. When a new bud appears, the emerging leaf is larger than the previous leaf and the corm below ground continues to grow.

This cycle repeats until the corm reaches the minimum size for flowering, about 35 pounds. On rare occasions, instead of a leaf emerging from the dormant corm, a bloom emerges instead. However, the flower cycle does not repeat immediately. The plant lies dormant as a corm and enters the leaf cycle at least once before flowering again.

Chanel is one of four Titan Arums at UCSB. "We have three more which are all in the vegetative stage," said greenhouse manager Danica Taber. "They go through periods of dormancy after producing a single leaf to gather energy by photosynthesis. The energy accumulates in the corm and is stored there after the leaf dies and it's time to sprout the next leaf. After several years of cycling through leaf and dormancy, it will, if conditions are right, flower."

The UCSB greenhouse will be open to the public when Chanel blooms. The plant is currently over four feet in height and growing rapidly.

Titan Arums tend to be afternoon bloomers. "Only the Titan Arum knows when it's going to do what it's going to do," said Taber.

Chanel represents one of several rare and unusual plant species in the teaching collection at the biology greenhouses. The greenhouses recently expanded with the addition of six world-class research bays and a state-of-the-art alpine greenhouse, which offer remotely programmable automated irrigation, supplemental lighting, and climate controls. The greenhouses were made possible by a National Science Foundation grant, generous support from the family of Environmental Science Emeritus Professor Barry Schuyler, and UC Santa Barbara's student-funded The Green Initiative Fund.

Admission is free. Titan Arum signs will direct visitors to Lot 18, where parking costs $5 for two hours. From there, Titan Arum signs will guide visitors from Lot 18 to the greenhouse.

Related Links

UCSB Greenhouse

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