

Introduction

Welcome to the blooming of our **Titan Arum!** It is also called **Corpse Flower** because the stench emitted from the mature inflorescence smells like the rotting body of a dead animal. Botanists know the plant as *Amorphophallus titanum*.

Where is it from?

It is native to the Jambi Province in the southern part of the island of Sumatra, Indonesia, which lies between Thailand and Australia. In 1878 an Italian botanist, Odoardo Beccari, discovered it.



How did CSUF get it?

Two tubers (like potatoes), were generously donated to the CSUF Biology Greenhouses by the late Richard Shelton on 12 October 1994. He was a long-time Fullerton resident and aficionado of all plants in the Arum Family (Araceae). He obtained seed from James Thrice and planted them on 11 June 1993. When we received them, the tubers were about 3 inches in diameter and were planted in one-gallon containers.

The Titan Arum plants are grown by Leo C. Song, Jr., Greenhouse Manager, Department of Biological Science, California State University, Fullerton.

How long until it blooms?

Depending on cultural methods and environment, the time from seedling to tuber to flowering size has ranged from 5 years (at the Fairchild Tropical Garden and Atlanta Botanical Garden) to ours at 7 years.

The tropical climate of Sumatra is uniformly warm and wet throughout the year. Most likely, these plants are either dormant, in leaf, flowering or setting seed during most of the year at the same time. Since California has a colder winter, the plant lays dormant in winter and will delay sprouting until the lengthening days and warmer temperatures of late spring.

What does it smell like?

To some, it smells like rotting fish. Natives in Sumatra locate the flower by smell from up to fifty yards away. Sometimes it is so strong that people cannot stand to be near it! The major constituents of the odor-producing chemicals are dimethyl disulphide and dimethyl trisulphide (which smell something like rotting eggs).

Why does it smell so bad?

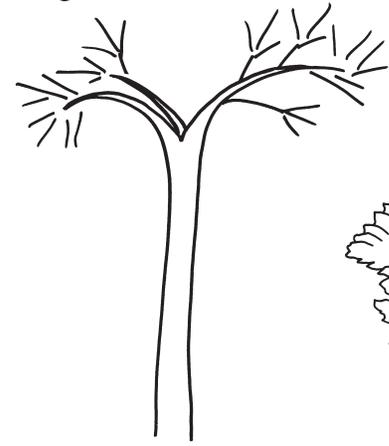
Presumably, to attract insects that normally feed on dead animals ("carrion"). Carrion-loving insects include many species of flies, carrion beetles, and wasps. While in the flower looking for dead animals, the insects accidentally carry pollen, thus fertilizing the flowers.

What is its life cycle?

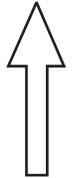
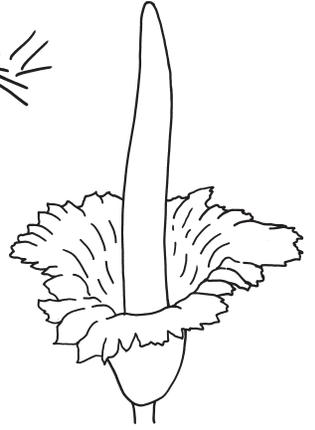
What you see in display is the flowering phase. This occurs after years of leaf production. Only a single leaf is produced; it may last nearly two years. The leaf is huge in mature specimens and can reach a height of eight feet with a spread of six feet. If the tuber has reached a minimum size, like this one, it can flower. Our tuber is about 12 inches in diameter. Reports have been varied, but a cycle of two to three years of leaf and flower/seed is possible. Imported bulbs such as the 120-pound tuber that first flowered in the USA in 1937 at the New York Botanical Garden have generally died after flowering.

See the illustration at right for leaf and flower growth forms.

Mature Leaf



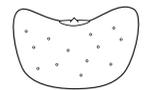
Mature Flower



Emerging Leaf



Emerging Flower



Tuber

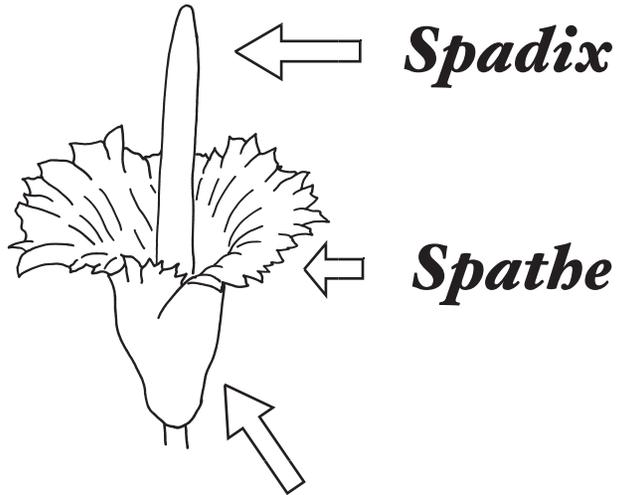
Which part is the flower?

The bloom looks like a big thick club with a leafy skirt. The big central club is called the *spadix* and the skirt is called the *spathe*. Since the structure is composed of multiple small flowers, the botanical term *inflorescence* is used when referring to the entire bloom.

The *spadix* can range from a lemon yellow to a dark maroon. The large upper portion emits a strong odor when the flower is ready for pollination. This attracts carrion-loving flies that land on the spadix and walk all over it in search of a dead animal, spreading pollen as they do so. The reproductive area is located within the bell-shaped base of the skirt. The female flowers (seed-producing) are at the very bottom with the male flowers (pollen-producing) right above them. Neither of these are visible until the skirt unfolds.

The *spathe* is a dark maroon color edged in yellow. It unfurls at peak bloom and simply falls away when the bloom is over.

Since ours is a young plant, the flower will not reach the maximum height (reported at nine feet). Also, since it is being displayed outdoors and not in the greenhouse (where it is warmer & more humid like its native habitat), its final height may not be as large.



The reproductive parts are at the base of the spadix, hidden by the spathe

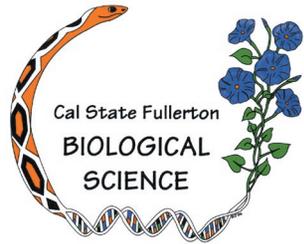
For more information...

Attenborough, David. 1995. *The Private Life of Plants*. Princeton University Press, Princeton, NJ.
Fullerton Arboretum, <http://arboretum.fullerton.edu/>
Biology Greenhouse, <http://biology.fullerton.edu/greenhouse/>
Titan Arum, <http://biology.fullerton.edu/titanarum/>

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Part of a continuing series of joint exhibits by the Fullerton Arboretum and the Department of Biological Science at CSUF. Text by Leo Song & Bob Allen. Brochure design, illustration, photographs, & layout by Bob Allen, Department of Biological Science, CSUF.



A Tropical Titan Flowers at CSUF & Fullerton Arboretum

Spring 2003



Taffy Titan at peak bloom 24 June 2001