Titan Arum

Amorphophallus titanum

Amorphophallus titanum (Titan arum, corpse plant) is native to the rainforests of Sumatra, Indonesia, where its habitat is threatened by deforestation. It has the largest unbranched flowering structure (inflorescence) of any plant. In cultivation, it generally takes 7-10 years for the first bloom.

What looks like a giant flower, green on the outside and deep red-purple on the inside, is actually a modified leaf, called a spathe. The column-like structure in the middle of the plant is the spadix. Groups of small male and female flowers are located at the base of the spadix, hidden by the spathe surrounding it. It takes about six weeks from the time the inflorescence first emerges until full flowering.

What's that smell?

When the flowers are ready for pollination, the spadix emits a powerful odor which smells like rotting flesh. Simultaneously the Titan arum generates heat, which helps to diffuse the odor, moving it upward and advertising the bloom to pollinators far and wide, such as carrion flies and beetles.

The female flowers open first, and are only able to be pollinated for one day. The male flowers open on day two and provide viable pollen also only for about one day. Titan arums cannot self-pollinate, so they rely on carrion flies and other insects to carry pollen from one plant to another. If pollination is successful, orange-red fruits develop. In the wild, these are eaten by giant Hornbill birds, which help to disperse the seeds.

Typically, after two days, the spathe will begin to wilt and the spadix to collapse. Sometime after all remnants of the flowering structure and fruits are gone the plant sends up a single, tree-sized compound leaf. This vegetative stage is followed by a 3-7 months long dormant stage. The plant may cycle through several vegetative stages before another flower bud emerges.

Cornell CALS
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Cornell's Titan Arum Story

In 2012 one of Cornell's two mature Titan arums – named 'Wee Stinky' by popular vote – famously bloomed for the first time. Just two years later, Wee Stinky shifted to a flowering state again, and really surprised us by blooming for a third time in 2016. With every bloom the flowering structure grew taller, reaching up to 87 inches.

In 2015, Wee Stinky's sibling Carolus was the second Titan arum in Cornell's Liberty Hyde Bailey Conservatory Collection to bloom. With another bloom imminent this summer (2017), Carolus seems to be following its sibling's extraordinary and ambitious pattern of pushing up an inflorescence every other year – at least for now. The massive bulb-like corm weighed more than 100 pounds, when transplanted in June.

This year, likely for the first time ever in the Northeast, a Titan arum will be blooming outside instead of in the confines of its usual climate controlled greenhouse environment. Carolus unfurling its inflorescence in Minns Garden on the Cornell campus, offers an opportunity to learn more about this fascinating, pungent plant and its pollinators, and provides a unique experience to visitors.

Both Titan arums were grown at Cornell from tiny seedlings with daily care by greenhouse growers from the Cornell University Agricultural Experiment Station.

Cornell's Titan arums are part of the Liberty Hyde Bailey Hortorium in the Plant Biology Section of the School of Integrative Plant Science (SIPS). The blooms offer researchers and students at SIPS a great opportunity to study the complex biology of this unique reproduction.

Learn more:
conservatory.cals.cornell.edu

Titan Arum Lifecycle

Amorphophallus titanum

The diagram below is from the July 2001 flowering at the University of Wisconsin-Madison. Cornell's Titan arums were grown from seeds from this flowering.