

The World's Stinkiest Flower Cluster

by TARA MCCLELLAN
MCANDREW

A visitor's face reflects
the odor of *Titan arum*
in full bloom.

PEE-YEW! What's that smell?

It must be a *Titan arum* — the world's largest and stinkiest flower cluster! The *Titan* is a rare plant from the hot, humid rain forests of Sumatra in Indonesia, near the equator. "Titan" means giant, and that's what this plant is! Its bloom can tower three meters tall (ten feet) and stretch 1.2 meters wide (four feet). But only the very lucky ever see one. Some *Titans* go decades without blooming.

The *Titan* was discovered in Sumatra by Italian botanist Dr. Odoardo Beccari in 1878. He sent some of its seeds back to Italy; later, some of these were sent to England's Royal Botanic Gardens in Kew. When the

Looking into the plant's fleshy
central column or *spadix*



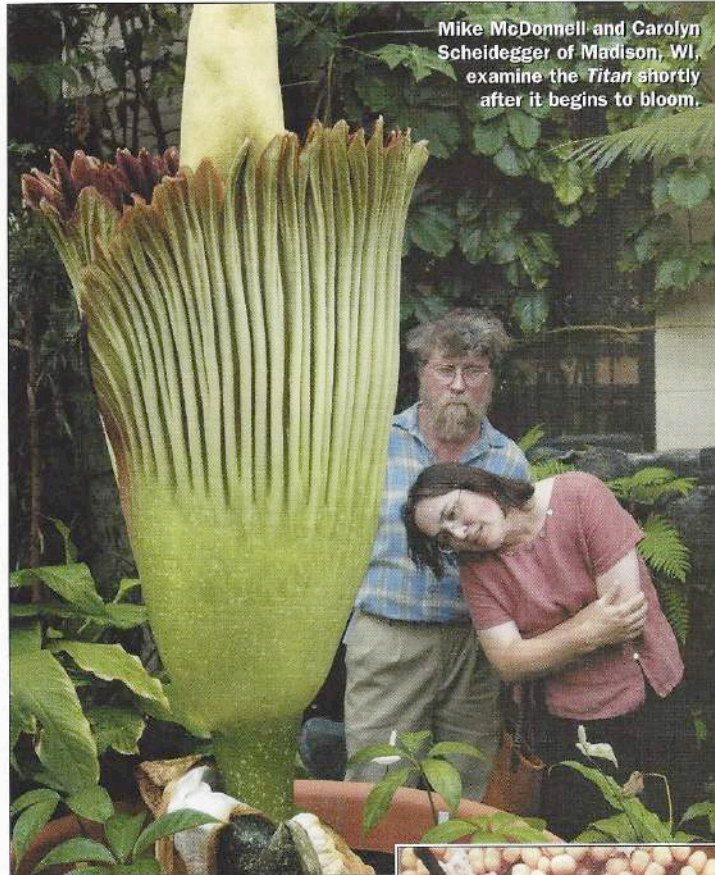
Garden's plant bloomed in 1889, proper Londoners were offended by its stench! But when the plant bloomed again in 1926, so many people came to see it (and smell it) that police had to direct the crowds.

The *Titan* first came to America shortly after that. Scientists now travel to Sumatra to obtain seeds for botanic gardens and universities. But growing *Titans* outside their natural habitat isn't easy. *Titans* have bloomed fewer than 25 times in the U.S.

The plant starts as a *tuber*, a fat stem that grows underground, like a potato. But even when it's small, the *Titan's* still a giant! A tuber can weigh more than 75 kilograms (170 pounds) and be 1.3 meters wide (4.5 feet)! Big tubers need big spaces, too. England's Kew Gardens planted theirs in one *ton* of dirt.

While a *Titan* tuber rarely blooms, it does usually produce what looks like a small tree. It's really a "Titan-size," branched leaf that can rise six meters high (20 feet) and extend 4.5 meters wide (15 feet), like a giant umbrella. After about a year, the leaf dies and the tuber rests for its next growth spurt. Then it produces another leaf or, occasionally, a bloom.

After a bud appears, the *Titan* grows really fast — up to 12 to 15 centimeters (five to six inches) a day. The *spadix*, a yellowish spike, grows the fastest and can shoot up to three meters high (ten feet). About the time the *spadix* reaches its full height, the *spathe* opens. The *spathe* looks like a big, meter-wide (three- to four-foot-wide),

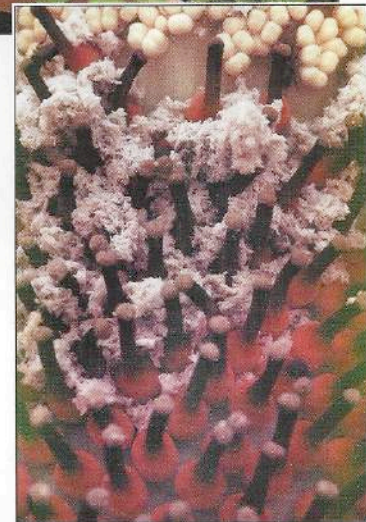


Mike McDonnell and Carolyn Scheidegger of Madison, WI, examine the *Titan* shortly after it begins to bloom.

frilly petal surrounding the *spadix*. It's yellowish-green on the outside and a beautiful deep maroon inside.

This showy display hides the *Titan's* real flowers. While the spike (*spadix*) and "skirt" (*spathe*) are reaching their gigantic proportions, thousands of small flowers are developing unseen, inside, at the bottom of the spike.

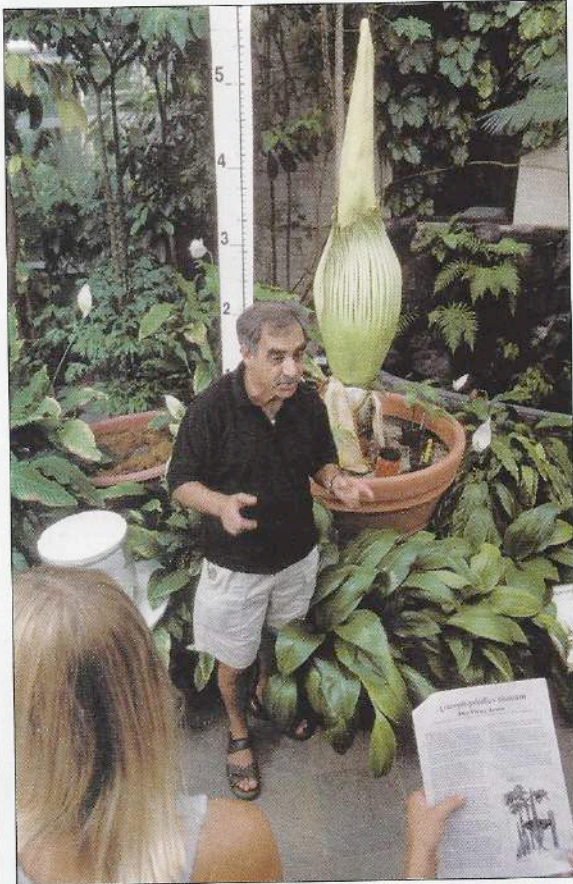
The *Titan* produces male and female flowers. Its maroon-colored female flowers are ready to receive pollen one day before the cream-colored male flowers release it. That helps ensure that a *Titan* "cross-pollinates," or receives pollen from another *Titan*. (A *Titan* can't make fruit,



This close-up shows the male flowers (at very top) and female flowers (dark-colored, stem-like features below the male flowers). The light-colored material between the female flowers is larvae left behind by flies that had been attracted by the strong odor of the plant.

PEOPLE TO DISCOVER

ODYSSEY spoke with **Dr. Mohammad Fayyaz**, director of the University of Wisconsin at Madison's Botany Greenhouses and Botanical Gardens. He has successfully grown *Titans* for the university since 1995.



and therefore seeds, unless it is cross-pollinated.) But since *Titans* often bloom miles apart from each other, cross-pollination is difficult — one reason they bloom so rarely!

When botanical gardens grow *Titans*, they pollinate them by hand so that the plant produces fruit. To do this, botanists use pollen donated from other botanical gardens' *Titans*. If the *Titan's* flowers are cross-pollinated,

they become deep-red berries.

In nature, *Titans* work hard to attract insects because the bugs bring them pollen from other *Titans*. Guess how they attract them? By being big and smelly! Their huge size makes sure bugs can see them, and their disgusting odor draws the creepy crawlies from miles around! Carrion beetles and sweat bees love the *Titans'* stink, which some people have described as the stench of rot-

ting meat or even excrement! (Thankfully, this flower will never be made into a perfume!) The *Titan's* odor is so strong, some people smell it from 50 meters (about 50 yards) away — that's half a football field!

So, while being big and stinky won't make you a success in the human world, it certainly will among the *Titans!* 🌿

Tara McClellan McAndrew is a writer in Springfield, IL, who enjoys learning and writing about unusual plants.

Why did you decide to grow a *Titan*?

For many reasons. Because it has the largest *inflorescence* [cluster of flowers] in the plant kingdom and is an interesting species to teach botany students about. None of the ten largest universities in the country had been able to make a *Titan* bloom. We were the first. Also, because it is a beast in the plant kingdom and attracts lots of people who want to see it in bloom. And finally the most important reason, because it is an endangered species and I'm trying to save the plant from extinction by sending many of our plants' seeds and seedlings to universities and botanical gardens all over the world.

What makes it hard to grow?

Its size, and the number of years (over seven) it takes to make it bloom.

How did you overcome those problems?

By keeping the plant in our very tall "high house" and by being patient.

How did you feel when your *Titan* finally bloomed?

I felt as good as when my children were born, or when I got my doctoral degree.

What do you think the *Titan's* flower smells like?

[Without hesitation] Rotten meat.

Can plants be as exciting as animals?

Yes! We had over 40,000 people come to see the *Titan arum* in less than a month. Other plants such as Venus flytraps or sundew are exciting, too.

T.M.M.