

## Botanic Garden awaits the flowering of the world's largest 'flower' with bated breath!



For the past few months the National Botanic Garden of Belgium in Meise has been keeping a close eye on two enormous flowerpots planted with tubers of the titan arum (*Amorphophallus titanum*). The tubers were donated by the Botanic Garden of Bonn and weighed-in at 18 kg and 9,7 kg respectively. Then, without announcement and contrary to expectation a flower bud made its appearance through the soil. "We thought that the plant would be ready to flower around 2010. I was completely amazed to see an emerging flower bud instead of the expected leaf," said Viviane Leyman, manager of the Plant Palace. Knowing that these plants flower sporadically in nature about every 3 years makes this event even more impressive. Everyone at the garden is nervously awaiting the bloom of this spectacular plant, as it has never been witnessed in Belgium before.

### Sumatra

This plant was discovered in 1878 by the Italian botanist Odoardo Beccari in the misty rainforests of Sumatra. The glasshouse, with its high humidity and a constant temperature of 24°C, is ideal for the growth of this species. During any particular growing season this plant produces either a leaf of 2-6 m long or a giant flower ranging 1.5-3 m tall. Botanically speaking this giant 'flower' is an inflorescence comprising many small flowers.

## What's that smell?

The inflorescence consists of a gigantic spadix or spike - *Amorphophallus titanum* literally means giant misshapen penis – surrounded by a dark burgundy red spathe or sheath. At the base of the spadix is a band of pinkish female flowers followed by a band of yellowish male flowers higher up. When the female flowers are ready to bloom the spadix increases its temperature and releases a foul odour. This smell may best be described as somewhere between a putrid corpse, rancid cheese and rotting fish. This is probably why Indonesians call this plant 'the corpse plant'. The function of the odour is to attract the plants pollinators, namely sweat bees. The insects enter the sheath of the inflorescence and make their way down to the base of the spike where they become trapped. In their attempt to free themselves they will pollinate the female flowers if they have any pollen on their body. Hours later the male flowers open. At this point the chamber, which holds the insects captive, slowly opens. The escaping insects will become coated with pollen as they pass the male flowers on their way out, ready to pollinate the next inflorescence. As these plants flower infrequently, for short periods and are dispersed over long distances, it is important that they have a strong smell to attract pollinators to maximise cross-pollination. The pollinated flowers grow into red berries that are eaten by birds, who indirectly disperse the seeds through their droppings.



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## Short Lived!

Flowering is short lived, only 3 days (72 hours). The titan arum is a show-stopper for botanical gardens around the world, from its first public appearance in Kew in 1889 where it attracted hordes of people. The London police were even called in for crowd control during its second appearance in 1926. After flowering has ended a single leaf the size of a small tree is formed and last for a single season. A new leaf is formed each year. Once the plant has built-up sufficient energy reserves in its tuber it becomes dormant for 4 months and is ready to flower again. However, the precise time of flowering is not predictable.