

Alikovo secondary school

# The largest flowers in the world

Pupils from 9b:

Yakovlev Artyom,

Ivanov Alexander

Teacher: Yakimova A.N.

# Plan:

- 1.The giant water lily *Victoria amazonica*
- 2.What is the largest Cactus in the world?
- 3.Corpse flower(*Rafflesia arnoldii*- the largest flower)
- 4.Titan arum
- 5.Reference

# Victoria amazonica

- There are a lot of flowers in the world but there are very few giant flowers. And I will speak about them. One of them is the water lily



*Victoria* (waterlily)



*Victoria*

### Scientific classification

Kingdom:	<u>Plantae</u>
Division:	<u>Magnoliophyta</u>
Class:	<u>Magnoliopsida</u>
Order:	<u>Nymphaeales</u>
Family:	<u>Nymphaeaceae</u>
Genus:	<i>Victoria</i> <u>Lindley</u>

### **Species**

*Victoria amazonica* (Poepp. (Poepp.)) Sowerby  
*Victoria cruziana* A. D. Orb

shallow waters of the Amazon River basin, such as oxbow lakes and bayous. It is depicted in the Guyanese coat of arms. The flowers are white the first night they are open and become pink the second night. They are up to 40 cm in diameter, and are pollinated by [scarab beetles](#).

Another species, [Victoria cruziana](#), in the Parana-Paraguay basin, is only slightly smaller, with the underside of the leaves purple rather than the red of *V. amazonica*, and covered with a peachlike fuzz lacking in *V. amazonica*. *V. cruziana* opens its flowers at dusk.

The first published description of the genus was by [John Lindley](#) The first published description of the genus was by John Lindley in 1837, based on specimens returned from [British Guiana](#) The first published description of the genus was by John Lindley in 1837, based on specimens returned from British Guiana by [Robert Schomburgk](#). Lindley named the

genus after the new Queen, Victoria, and the species *Victoria regia*. An earlier account of the species, *Euryale amazonica* [Poeppig](#), in 1832 described an affinity with *Euryale ferox*. A collection and description was also made by the French botanist [Aimé Bonpland](#). A collection and description was also made by the French botanist Aimé Bonpland in 1825. [1] A collection and description was also made by the French botanist Aimé Bonpland in 1825. [1] A collection and description was also made by the French botanist Aimé Bonpland in 1825. [1]

**Victoria is a genus of water lilies, in the plant family Nymphaeaceae, with very large leaves that float on the water's surface. Victoria amazonica has a leaf that is up to 3 m (9.8 ft) in diameter, on a stalk 7–8 m (22.9–26.2 ft) in length. The genus name was**

given in honour of [Queen Victoria](#) has a leaf that is up to 3 m (9.8 ft) in diameter, on a stalk 7–8 m (22.9–26.2 ft) in length. The genus name was given

Victoria of the [United Kingdom](#)



[Victoria amazonica](#) is native to the shallow waters of the [Amazon River](#) basin, such as oxbow lakes and bayous. It is depicted in the [Guyanese coat of arms](#) is native to the shallow waters of the Amazon River basin, such as oxbow lakes and bayous. It is depicted in the Guyanese [coat of arms](#) is native to the shallow waters of the Amazon River basin, such as oxbow lakes and bayous. It is depicted in the Guyanese coat of arms. The flowers are white the first night they are open and become pink the second night. They are up to 40 cm in diameter, and are pollinated by [scarab beetles](#).

Another species, [Victoria cruziana](#), in the Parana-Paraguay basin, is only slightly smaller, with the underside of the leaves purple rather than the red of *V. amazonica*, and covered with a peachlike fuzz lacking in *V. amazonica*. *V. cruziana* opens its flowers at dusk.

The first published description of the genus was by [John Lindley](#) The first published description of the genus was by John Lindley in 1837, based on specimens returned from [British Guiana](#) The first published description of the genus was by John Lindley in 1837, based on specimens returned from British Guiana by [Robert Schomburgk](#). Lindley named the genus after the new Queen, Victoria, and the species *Victoria regia*. An earlier account of the species, *Euryale amazonica* [Poeppig](#), in

1832 described an affinity with *Euryale ferox*. A collection and description was also made by the French botanist [Aimé Bonpland](#). A collection and description was also made by the French botanist Aimé Bonpland in 1825. [1] A collection and description was also made by the French botanist Aimé Bonpland in 1825. [1] A collection and description was also made by the French botanist Aimé Bonpland in 1825. [1]

- The leaf of *Victoria* is able to support quite a large weight due to the plant's structure, although the leaf itself is quite delicate: so much so that "a straw held 6 inches above and dropped perpendicularly upon it would readily pass through it".<sup>[3]</sup> To counter the fragile nature of the leaf, the weight needs to be distributed across the surface through mechanical means, such as a sheet of plywood. This allows the leaf to support up to 70 pounds



This aquatic p

e ornamental.



This aquatic plant grows as large as 6 feet in diameter. The leaves are ornamental.

The white flowers are the size of a soccer balls. They are always white and bloom at night. After a Lily is pollinated, it changes colours until it finally turns red. It then changes into a fruit that serves as food for the fish.





- The most interesting thing about this flower is the large leaves that it creates. The leaves can grow up to 46 centimeters in size and can hold up to 136 kilograms, the leaves are flat before ~~Several huge Victoria regia leaves in the Amazon rain forest~~ and stiff thanks to the strong bottom of the leaves. The bottoms are covered with spines to help support the ribs. The bottom of the leaf is maroon in colour. The Giant Water Lily does not grow year round in areas where it is not a native species, such as Great Britain; it only grows and reproduces in the summertime when the climate is warm. However, in its native Brazil and in the Amazon it grows all year long, due to the optimum conditions.



**Several huge Victoria regia leaves in the Amazon rain forest**



that they can support the weight of a human.

The leaves of *Victoria amazonica* are so strong that they can support the weight of a human.



A woman stands on the Missouri Botanical Garden's lily pond in front of the plant.



Linnaean House of the Missouri Botanical Garden to prevent damage to the plant.

A woman standing on a leaf of *Victoria cruziana* in the lily pond in front of the Linnaean House of the Missouri Botanical Garden. A wooden plank and a towel is placed on the pad to prevent damage to the plant.

The Giant Water

as bayous and

Another species  
underside of the

smaller, with the  
a peachlike fuzz



The Giant Water Lily grows in the shallow waters of the Amazon River basin, as well as bayous and specific lakes in Brazil. This species is native to Brazil.

Another species, [\*Victoria cruziana\*](#), in the Parana-Paraguay basin, is only slightly smaller, with the underside of the leaves purple rather than the red of *V. amazonica*, and covered with a peachlike fuzz lacking in *V. amazonica*.

*V. cruziana* opens its flowers at dusk.

The leaves of *Victoria cr*



The leaves of *Victoria cruziana*



Flower of *Victoria cruziana*



- The underside of the giant water lily is covered with sharp, inch-long spines which protect the pad from herbivorous fishes. The spines are apparently toxic, because being pricked by one is said to be extremely painful. Underwater parts (root and stem) and seed of the plant are edible. The pattern of ribs helps support the huge leaf.

## What Is the Largest Cactus in the World?



The largest cactus in the world is the cactus, scientific name *Carnegiea gigantea*, a species of the genus *Carnegiea*. It is indigenous to the Mexican plain as well as the Sonoran Desert in Arizona and a few other areas in the southern United States

### Facts about the Saguaro Cactus

The Saguaro cactus' roots grow as long as 30 meters underground. Stems reach up to 20 meters and spines are 2 meters long.

One variant, the Champion Saguaro, can be as tall as 45.3 feet or 13.8 meters.

The Saguaro can live for as long as 150-200 years, but it takes its time growing. For example, it can take up to a century for the cactus to grow to 8 meters tall. One branch or arm can take 75 years to reach full length. Spines, though, can grow up to a millimeter in a day. Although a cactus can survive with little water, the Saguaro grows faster when it receives more water.

The cactus' flowers bloom at nighttime from April to May. Its edible fruit comes into season in June. Saguaro seeds need pollinators such as fruit bats. Like other cactus plants, the Saguaro is designed to store as much water as possible when it comes. A single plant can hold water nine times its own weight

## **The Saguaro Cactus and Its Ecosystem**

This cactus is extremely useful to humans and animals living in the desert. Several species of birds including woodpeckers, owls, house finches and purple martins make their homes in the Sanguaro's thick stem.

Native Americans used the cactus' ribs in building their homes. Today the Sanguaro is a highly protected species. Arizona state law forbids damaging or taking down this cactus. Even road and house constructions need special permission from the local government if there is need to cut down a plant.

## **The Saguaro in Film and Advertising**

The Saguaro cactus with its broad, fork-like stems has become one of the most recognizable features of the American desert. It is recognized by a straight central branch flanked by several shorter arms. If there is one cactus everyone is familiar with, it is the Saguaro.

But the Saguaro is not as widespread as its over-exposure in the media would have people believe. The largest cactus in the world can be found only in very specific areas in the United States. Sanguaros are not native to Utah, New Mexico, Texas, Colorado and Nevada, and very few are found in California. It is not even seen in northern Arizona.



The saguaro flowers every year in May and June.



The saguaro flower is about a 3 inch wide cluster of creamy white petals around a dense group of yellow stamens on about a 4 inch long stem. The saguaro has more stamens per flower than any other cactus flower.

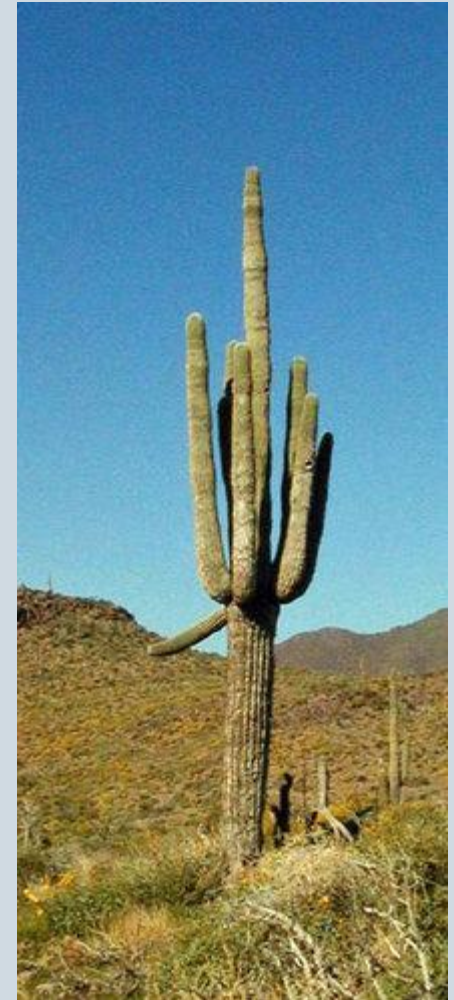
The saguaro has more stamens per flower than any other cactus flower.



Over a period of about a month a few of the flowers open each night. They secrete a very sweet nectar into the flower tubes. By about noon the following day the flower closes forever.



- The outside skin of the saguaro is smooth. Inside the full grown saguaro there are 2 inch spines that absorb water. The saguaro then expands like an accordion. It can hold about a ton of water in those spines.



The root system of a saguaro is very shallow. There is a tap root that is only about 3 feet long, and the rest of the roots are only about a foot long. You may wonder how these roots support such great weight. The roots anchor the saguaro by wrapping themselves around rocks.



The root system of a saguaro is very shallow. There is a tap root that is only about 3 feet long, and the rest of the roots are only about a foot long. You may wonder how these roots support such great weight. The roots anchor the saguaro by wrapping themselves around rocks.



ertilized by pollen from another cactus. The pollen attracts birds,  
o from saguaro to saguaro to enjoy the sweet nectar. If  
ce, a fruit will begin to form at the base of the flower.  
A saguaro can only be fertilized by pollen  
from another cactus. The pollen attracts  
birds, bats and insects which go from  
saguaro to saguaro to enjoy the sweet  
nectar. If fertilization has taken place, a fruit  
will begin to form at the base of the flower.



The ripe fruit is about 3 inches wide and eventually splits open. A single fruit can have thousands of seeds. All sorts of desert creatures feed on the fruit of the saguaro, and if any seeds survive, a new saguaro may be created.

Gila Woodpeckers and Gilded Flickers are common inhabitants of saguaros. Owls, martins, and finches may also visit from time to time. Hawks will sometimes nest in the saguaro from which they can easily see their prey below



Gila Woodpeckers and Gilded Flickers are common inhabitants of saguaros. Owls, martins, and finches may also visit from time to time. Hawks will sometimes nest in the saguaro from which they can easily see their prey below

The saguaro is threatened by several factors. Lightning and root rot during the rainy season can be deadly to a saguaro. Humans use them for target practice and urban sprawl continues to move them, and their pollinators, from their native habitat. Still, there is no evidence to suggest that saguaros are declining in number.



The saguaro is threatened by several factors. Lightning and root rot during the rainy season can be deadly to a saguaro. Humans use them for target practice and urban sprawl continues to move them, and their pollinators, from their native habitat. Still, there is no evidence to suggest that saguaros are declining in number.

- Corpse flower (*Rafflesia arnoldii*) - the largest flower
- Interesting facts about corpse flower (*Rafflesia arnoldii*) - the largest flower in the plant kingdom (diameter from 60 cm to 1 m with a weight of up to 11 kg).



was discovered in the Indonesian rain forest by an Indonesian guide working for Dr. Joseph Arnold in 1818, and named after Sir Thomas Stamford Raffles, the leader of the expedition. It contains approximately 27 species (including four incompletely characterized species as recognized by Meijer 1997), all found in southeastern Asia, on the Malay Peninsula, Borneo

From Wikipedia, the free encyclopedia

Rafflesia is a genus of parasitic flowering plants. It was discovered in the Indonesian rain forest by an Indonesian guide working for Dr. Joseph Arnold in 1818, and named after Sir Thomas Stamford Raffles, the leader of the expedition. It contains approximately 27 species (including four incompletely characterized species as recognized by Meijer 1997), all found in southeastern Asia, on the Malay Peninsula, Borneo



is a genus of parasitic flowering plants. It was discovered in the Indonesian rain forest by an Indonesian guide working for Dr. Joseph Arnold in 1818, and named after Sir Thomas Stamford Raffles, the leader of the expedition. It contains approximately 27 species (including four incompletely characterized species as recognized by Meijer 1997), all found in southeastern Asia, on the Malay Peninsula, Borneo



- The plant has no stems, leaves or true roots. It is an [endoparasite](#) of vines in the genus [Tetrastigma](#) ([Vitaceae](#) (Vitaceae)), spreading its root-like [haustoria](#) (Vitaceae), spreading its root-like haustoria inside the tissue of the vine. The only part of the plant that can be seen outside the host vine is the five-petaled [flower](#). In some species, such as [Rafflesia arnoldii](#), the flower may be over 100 centimetres (39 in) in diameter, and weigh up to 10 kilograms (22 lb). Even the smallest species, *R. manillana*, has 20 cm diameter flowers. The flowers look and smell like rotting [flesh](#), has 20 cm diameter flowers. The flowers look and smell like rotting flesh, hence its local names which translate to "corpse flower" or "meat flower" (but see below). The vile smell that the flower gives off attracts insects such as flies and [carrion](#), has 20 cm diameter flowers. The flowers look and smell like rotting flesh, hence its local names which translate to "corpse flower" or "meat flower" (but see below). The vile smell that the flower gives off attracts insects such as flies and carrion beetles, which transport pollen from male to female flowers. Little is known about seed dispersal. However, [tree shrews](#) and other forest mammals apparently eat the fruits and disperse the seeds. *Rafflesia* is an official state flower of [Indonesia](#) is an official state flower of Indonesia, also [Sabah](#) is an official state flower of Indonesia, also Sabah state in [Malaysia](#) is an official state flower of Indonesia, also Sabah state in Malaysia, as well as for the [Surat Thani Province](#) is an official state flower of Indonesia, also Sabah state in Malaysia, as well as for the Surat Thani Province, [Thailand](#).
- The name "corpse flower" applied to *Rafflesia* is confusing because this common name also refers to the [Titan Arum](#) (*Amorphophallus titanum*) of the family [Araceae](#). Moreover, because *Amorphophallus* has the world's largest unbranched [inflorescence](#), it is sometimes mistakenly credited as having the world's largest flower. Both *Rafflesia* and *Amorphophallus* are flowering plants, but they are still distantly related. [Rafflesia arnoldii](#) has the largest *single* flower of any flowering plant, at least when one judges this by weight. *Amorphophallus titanum* has the largest *unbranched* inflorescence, while the [Talipot palm](#) (*Corypha umbraculifera*) forms the largest *branched* inflorescence, containing thousands of flowers; this plant is monocarpic, meaning that individuals die after flowering.



distances, which lures carrion flies."

"Their size means they also become a very effective stop sign and visual cue to lure these flies in so that they pollinate the plant."

- The largest flowers in the world belong to Rafflesia genus, found in southeastern Asia (Malaya, Borneo, Sumatra, Philippines).

The biggest of all is that of *R. arnoldii*, from Borneo and Sumatra: 11 kg, 1 m (3 feet) wide. The flower is blood-red and spreads a rotten-flesh stink, which attracts carrion flies for pollination.

But since the discovery of these plants - less than two centuries ago - they posed an enigma. Rafflesia are parasitic plants with an unusual trait. As they live on the jungle floor, extracting food from the roots of a tropical vine (*Tetrastigma*), they lost all organs: stem, roots, leaves. As they do not make photosynthesis,

- Rafflesia do not need those organs. So, scientists found it very difficult to classify these species, creating a whole family only for them, Rafflesiaceae, and an order, Rafflesiales. "These plants are so strange - almost extra-terrestrial - wherever they were placed [within the family tree] there would be a lot of explaining to do", said Charles Davis, assistant professor of organismic and evolutionary biology at Harvard University. But in the DNA analysis era, this obstacle could be surpassed, and to their surprise, the bizarre plants were proven to belong to the Euphorbiaceae family. The big surprise was that all plants in these family bear tiny blooms.

The most economically important species in this family are the rubber tree, castor oil plant and the cassava shrub, but in the temperate zone the most known spontaneous species are the spurges. "The big shocker, of course, is that they fall in the middle of this group with minute flowers", added Davis.

DNA analysis showed that 46 million years ago, the plants' blooms began to evolve at an accelerated pace, increasing from a tiny 2mm (0.08in) up to their enormous size. "These plants occur exclusively in tropical rainforest under-storeys, which are very dimly lit, and they are restricted to the forest floor. They don't have an easy way of presenting their flowers to various insects for pollination", said Davis. "By maximising their surface area it is much easier to waft the funky smell further

distances, which lures carrion flies."

"Their size means they also become a very effective stop sign and visual cue to lure these flies in so that they pollinate the plant."

- The *Rafflesia arnoldii* is the world's largest flower. Photograph by Harry Wiriadinata and Suwito Alam from article in *Voice of Nature*, v. 84, August 1990, p. 14.
- File:Rafflesia arnoldii and buds.JPG



First Rafflesia  
botanist Jos  
He was awa  
known of its  
flower.



ford Raffles and the  
e plants and measured it.  
al residents have long  
which means lotus

First Rafflesia was found on the island of Sumatra. Officer Stamford Raffles and the botanist Joseph Arnold made the first scientific description of the plants and measured it. He was awarded the sonorous name - Rafflesia Arnoldi. But local residents have long known of its existence and called no less grandly - Bunga patma which means lotus flower.

- Another enormous flower found in Indonesia is the *Amorphophallus titanum*, or Titan arum. It is also known as the "corpse flower" for its unpleasant odor. Like the *Rafflesia*, the Titan emits the smell of rotting flesh to attract pollinators. Technically, the Titan arum is not a single flower. It is a cluster of many tiny flowers, called an inflorescence. The Titan arum has the largest unbranched inflorescence of all flowering plants. The plant can reach heights of 7 to 12 feet and weigh as much as 170 pounds



- This flower in Mexico only blooms once every 40 years for 4 days. How magnificent is God's creation!



- The largest flower in the world is blossoming in the mountainous region of Rio Blanco, Veracruz, Mexico . Two meters high, it has the peculiarity of blooming only during four days every 40 years.





However, while the image itself is genuine, the email is inaccurate in its description of the flower. The flower and only blooms once every forty years for four days.

Also known as the "Corpse Flower" because of its foul smell, *Amorphophallus titanum* is a prized addition to a number of well-known botanical gardens around the world, including London's [Kew Gardens](#) is a prized addition to a number of well-known botanical gardens around the world, including London's [Kew Gardens](#), California's [Huntington Botanical Gardens](#) is a prized addition to a number of well-known botanical gardens around the world, including London's [Kew Gardens](#), California's [Huntington Botanical Gardens](#) and Sydney's [Royal Botanic Gardens](#).

The plants have become quite famous and always attract large crowds when a particular specimen blooms at one of the above locations or at a number of others of the above locations or at a number of others gardens around the world. One such number of well-known botanical gardens around the world, including London's [Kew Gardens](#), California's [Huntington Botanical Gardens](#) and Sydney's [Royal Botanic Gardens](#).

The plants have become quite famous and always attract large crowds when a particular specimen blooms at one of the above locations or at a number of others gardens around the world. One such number of well-known botanical gardens around the world, including London's [Kew Gardens](#), California's [Huntington Botanical Gardens](#) and Sydney's [Royal Botanic Gardens](#).

Moreover, the photograph of the Titan Arum included in the message was not taken in Mexico. The photograph was actually taken at Stuttgart, Germany's [Wilhelma Botanical and Zoological Gardens](#) by Lothar Grünz in October 2005.

The same photograph along with details about where, when and by whom the picture was taken, is [available on](#) The same photograph along with details about where, when and by whom the picture was taken, is available on the Wikimedia Commons website. And, [another shot](#) published on the Wilhelma website clearly shows the same building in the background as that shown in the above photograph.



- While bloomings of the *Amorphophallus titanum* are certainly rare, and the flowers only last for two or three days, it is not true that they only bloom once every forty years as claimed in the message. The specimens kept in various botanical gardens often go for several years between blooms. However, the plants are not set to a forty year blooming cycle and many specimens have bloomed much more regularly. In "The Private Life Of Plants", David Attenborough suggests that *Amorphophallus titanum* in the wild bloom about once every 1000 days.

Thus, it seems clear that an unknown prankster has simply taken the picture of the Wilhelma Titan Arum and tacked on some fanciful information about Mexico and a fictitious forty year bloom cycle



- References

- **Где растет самый большой в мире цветок?**-<http://www.vokrugsveta.ru/quiz/419/>

- Самые большие цветы на планете –

- <http://greenword.ru/2008/09/biggest-flowers.html>

- Выяснено происхождение самого большого цветка

- <http://elementy.ru/news/430491>

- Трупная лилия (*Rafflesia arnoldii*) - самый большой цветок - интересные факты

- <http://www.flowerstoday.ru/articles/article01.html>

- **World's largest flower**

- <http://www.loc.gov/rr/scitech/mysteries/flower.html>

- **The Largest Flower in the World**

- <http://www.chevroncars.com/learn/wondrous-world/largest-flower-world>

- **Largest Flower Evolved From Family Of Much Tinier Blooms**

- [http://www.terradaily.com/reports/Largest Flower Evolved From Family Of Much Tinier Blooms 999.html](http://www.terradaily.com/reports/Largest_Flower_Evolved_From_Family_Of_Much_Tinier_Blooms_999.html)

- Mature *Rafflesia arnoldii* flower with buds

- <http://www.the-andaman-eye.net/Khaosok/Rafflesia.php>

- <http://www.kew.org/plants/titan/timelapse.html>

- <http://www.kew.org/plants/titan/>

- They belong to a family of tiny flowers!

- <http://news.softpedia.com/news/DNA-Analysis-Has-Showed-The-Biggest-Flowers-on-Earth-to-be-Related-With-Rubber-Tree-44250.shtml>

- <http://in.answers.yahoo.com/question/index?qid=20090119105529AAjeP2I>

- **Rafflesia**