

# Rafflesia holds title of world's largest flower

Delaware State University

Oh, the many wonders of the plant world! Intriguing curiosities include the superlatives — the tallest, oldest, smallest, and largest. The title of largest flower belongs unquestionably to *Rafflesia arnoldii*, sometimes called corpse flower, which measures a remarkable 3 feet in diameter, and weighs over 20 pounds. I would love to see this in the wild, which would require a trip to the tropical rainforests of Southeast Asia.

*Rafflesia arnoldii* is a parasitic plant with no leaves, stems or roots, so it consists only of a gigantic flower attached to its host plant by specialized structures called haustoria. The host plant, *Tetrastigma*, is a tropical vine in the grape family.

The rafflesia flower, with five really large petals, is either male or female. Inside the petals, also called “perigone lobes,” is a circular “diaphragm”. In the center of the flower is a curious-looking spiked disk,

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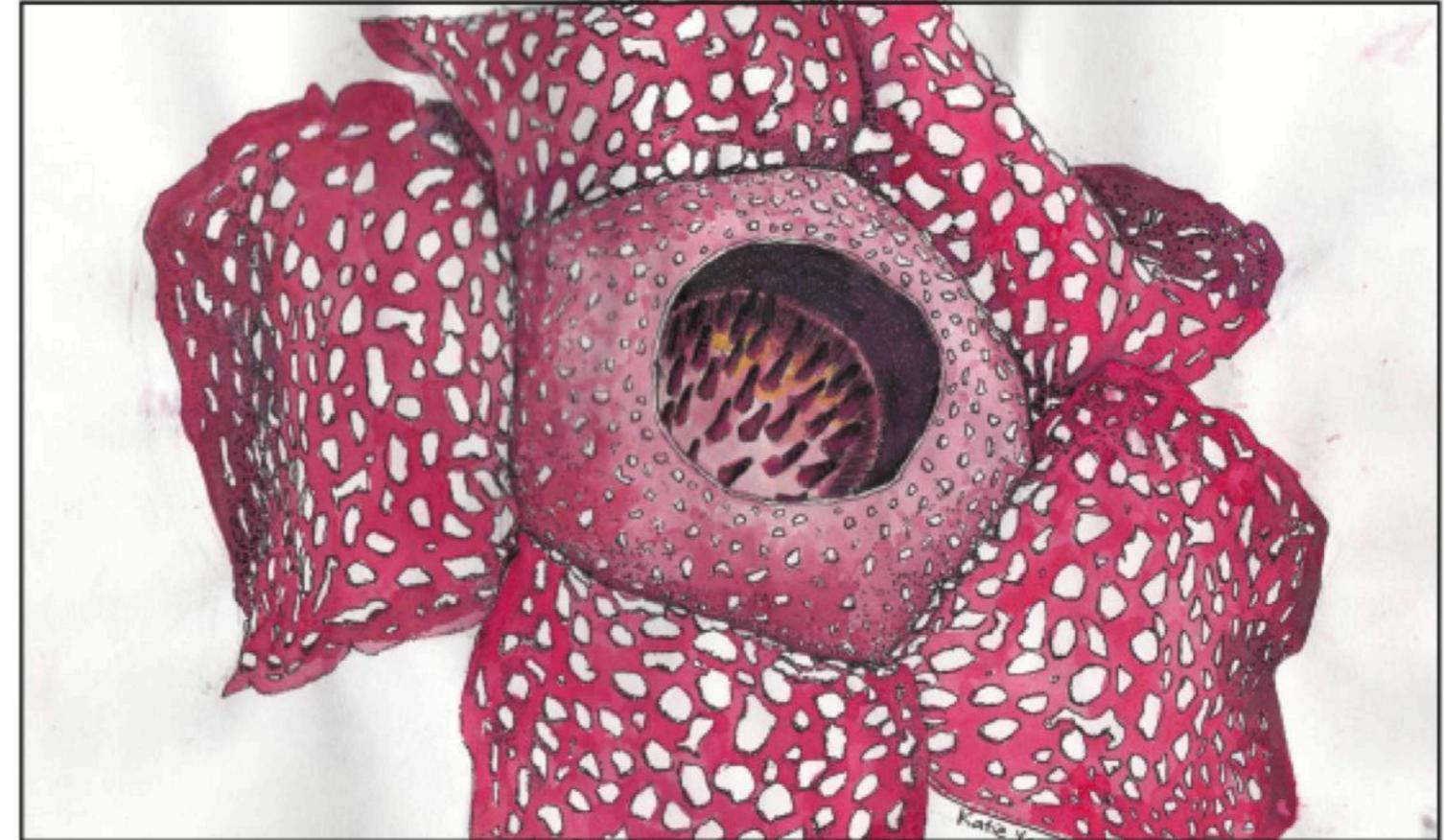
which is actually the expanded top of the style with stigmatal projections. Below this disk are located the reproductive parts — either male (stamens) or female (ovules).

The flower starts out as a small bud on the forest floor, attached to the roots or lower stems of its viney host, and this bud grows larger for about one year before opening. The flowers stay open for only approximately one week.

Another distinctive feature of rafflesia is the odor of rotting meat; hence the common name “corpse flower.” This, along with the reddish-brown color with white spots, serves to attract insects like carrion flies which pollinate the flowers.

The fruits contain thousands of tiny seeds, which are said to be dispersed by

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Watercolor sketch by Katie Yost  
The world's largest flower, *Rafflesia*, is a remarkable 3 feet in diameter, and grows in Southeast Asia.

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tree shrews and squirrels. In order for a new rafflesia to grow, the seed has to "find" a *Tetrastigma* host plant on which it will grow.

*Rafflesia* is now popular as an ecotourism attraction, and is sometimes called the "giant panda of the plant world." It's the state flower of Indonesia, as well as of a province of Thailand, and a state within Malaysia. Unfortunately, rafflesia is considered rare and threatened with extinction because of deforestation of its rainforest habitat.

The name *Rafflesia arnoldii* comes from the British botanist Joseph Arnold who collected it in 1818, along with Sir Thomas Raffles. Arnold died of a fever soon after this discovery.

There are approximately twenty species of *Rafflesia*, and the flowers of even the smallest one are 5 inches wide. The genus is native to Thailand, Malaysia, the Philippines, Borneo, Sumatra and Java.

Although *Rafflesia arnoldii* is the largest single individual flower, an unrelated species, *Amorphophallus titanum*, which is also commonly called corpse flower (this can really lead to confusion!), is the largest unbranched inflorescence. This inflorescence superficially resembles a single flower, but actually consists of a large petal-like modified leaf (spathe), surrounding clusters of small flowers (spadix).

Obviously, *Rafflesia* is not something

we can grow in our Delaware gardens (although imagine what a wonder that would be!). However, relatively large flowers that we can consider for planting include foot-wide rose mallows (*Hibiscus moscheutos*), and also angel-trumpet (*Brugmansia*), water lily (*Nymphaea*), and lotus (*Nelumbo*). Dinner-plate dahlias (with 8-10 inch blooms), flowering onion (*Allium*), and many sunflowers (*Helianthus*) are also dramatically large, but these are actually inflorescences (clusters of many small flowers) that look like single flowers. The natural world is full of surprises and wonders!

*On the campus of Delaware State University, the Claude E. Phillips Herbarium is Delaware's center for research, education, and outreach about plant identifications, locations, and uses. Call 857-6452 (Dr. Susan Yost, Herbarium Educator) to arrange a tour of the herbarium, or for more information about this article.*

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