

## Bloedel Plant Profile – The Swiss Cheese Plant



There are two ‘monsters’ creeping up the wall of the Conservatory. They cover many square metres and have huge split leaves. They loom behind Art, the Blue and Gold Macaw, and Carmen and Maria, the Green-Winged Macaws. Among many common names for them are ‘Swiss Cheese Plant’,<sup>1</sup> ‘Split-leaf Philodendron’,<sup>2,3</sup> and ‘Mexican Breadfruit’.<sup>4</sup> None describe the plant as well as their ‘official’ name, *Monstera Deliciosa*. Their Latin name means ‘delicious monster’, from the taste of their fruit and big leaves.<sup>5</sup> They make dramatic additions to a room when grown as house plants.<sup>6</sup> A big advantage they have is that they survive neglect well.

In cultivation outside the tropics they rarely produce fruit. As with other members of the Araceae (Arum) family they characteristically have a spike of tiny flowers surrounded by a modified leaf or spathe. Other members of this family with similar flowers in Bloedel Conservatory are the Peace Lily (*Spathiphyllum*), Taro (*Colocasia esculenta*) and, most spectacularly, the Titan Arum (*Amorphophallus titanum*) which bloomed in Bloedel in 2018. The *Monstera deliciosa* fruit looks like a maize cob.<sup>7</sup> Unripe fruit is poisonous. It contains calcium oxalate crystals which irritate the mouth. The fruit is edible only when it is fully ripe. It can take as long as a year to ripen.<sup>8</sup> Note, apart from the ripe fruit, all of the plant is poisonous to people and pets.<sup>9</sup>

Young and old *Monstera deliciosa* plants grow in different ways. Seedlings on the forest floor start to grow towards the shade<sup>10</sup> to reach a tree to grow on.<sup>11</sup> The first leaves to appear are

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<sup>1</sup> They are not from Switzerland and have nothing to do with cheese; they do have holes similar to some cheeses.

<sup>2</sup> They are not philodendrons, but both are in the Araceae (Arum) family - See:

<https://www.britannica.com/topic/list-of-plants-in-the-family-Araceae-2075376>

<sup>3</sup> “Split leaf philodendron” is also the name given to a true philodendron, *Philodendron bipinnatifidum* - See:

<https://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?taxonid=276569&isprofile=0&> and

the video: [https://www.youtube.com/watch?v=e7\\_8VQzuEpw](https://www.youtube.com/watch?v=e7_8VQzuEpw) “How to tell *Monstera deliciosa* from *Philodendron bipinnatifidum*”

<sup>4</sup> It is unrelated to breadfruit, which tastes like bread, see: <https://www.tourmaui.com/breadfruit/>

<sup>5</sup> See: <https://www.atlasobscura.com/foods/monstera-deliciosa-swiss-cheese-plant>

<sup>6</sup> See: <https://www.apartmenttherapy.com/monstera-deliciosa-growing-care-and-propagation-tips-235449>

<sup>7</sup> For video “*Monstera deliciosa* flowers and fruits” see: <https://www.youtube.com/watch?v=Kej6HDDMr5o>

<sup>8</sup> See: <https://www.mnn.com/food/healthy-eating/photos/15-fruits-youve-probably-never-heard-of/monstera-deliciosa>

<sup>9</sup> See: <https://lovelygreens.com/houseplants-toxic-to-cats/>

<sup>10</sup> Growing away from the light is called negative phototropism.

<sup>11</sup> See: <https://www.gardeningknowhow.com/houseplants/swiss-cheese-plant/monstera-deliciosa-propagation.htm>

whole, not holey! They are heart shaped and grow on the ends of long leaf stems, or petioles. Fenestrated (i.e., windowed) leaves, those with splits and holes, do not start to appear until the span of the plant is about 90 cm/3 feet. Wild plants reach up to 20 m/66 feet across. When on a tree, the plant grows upwards, towards the light in the canopy above. There are several theories to explain the holes and splits in the leaves.<sup>12</sup> One idea is that the leaf splits allow the plant to survive strong winds, giving the plant another common name of ‘hurricane plant’. Many other plants survive strong winds without splits or windows, so this is probably not the whole story.



*Monstera deliciosa*, showing aerial roots. These support the plant and help it climb trees. They may also root and take in nutrients.



Mature *Monstera deliciosa* leaf with holes and splits.

The current leading theory<sup>13</sup> is from Christopher Muir, at Indiana University who wrote “How Did the Swiss Cheese Plant Get its Holes?”<sup>14</sup> Muir suggests that *Monstera*s developed holes due to the low light conditions where they grow. From deep on the forest floor, they climb up trees to find more light. Understory plants survive by capturing sun-flecks, small beams of sunlight, that make it through the canopy. The dappled light beams move with the Sun. The holes and splits of the mature leaf allow the same area of leaf to capture light from a greater area. A few sun-flecks will go through the holes but the chance of catching a sun-fleck increases because there is more area covered.



Fruit<sup>13</sup>



Ripe Fruit<sup>8</sup>



Flower<sup>7</sup>

<sup>12</sup> See: <https://www.thesill.com/blogs/plants-101/why-swiss-cheese-plant-has-holes>

<sup>13</sup> See: <https://botanyphoto.botanicalgarden.ubc.ca/2015/08/monstera-deliciosa/>

<sup>14</sup> See: <https://www.ncbi.nlm.nih.gov/pubmed/23348781>