

## NIGHT-BLOOMING PLANTS – Samantha Sievertz, March 2017

(Note: Sam's presentation contained copyright-protected photographs so they have been omitted from this web version. She has offered us a number of websites where we can see the plants discussed.)

**Introduction** - Many of these plants have been, are, or could someday be in the garden. Most of our night-blooming plants are tender tropical seasonals that are planted out for the summer. Some are in our collection every year (such as *Brugmansia* and *Nicotiana*), but others may vary from year to year. September or August is a good time to see these flowers because the garden closes at 9 but the sun sets at around 8 PM, so the garden is open during twilight.

**Why bloom at night?** - Less competition for pollinators, fewer flower predators, able to keep flowers shut during day so less moisture loss.

**Nocturnal pollinators** – bats and moths, night flies and beetles. Bats mostly pollinate in tropical areas, but moths are all over – like to drink the nectar with their long proboscis. Sphinx moths (Sphingidae) are large nectar-loving moths found all over the world, but especially in the tropics. Some sphinx moths can hover like hummingbirds and drink nectar from long proboscis.

**Characteristics of night-blooming flowers** – Night-blooming flowers tend to be pale in colour to stand out in dim light, with a strong sweet scent to attract pollinators. Often open at twilight and close next morning or next afternoon.

### FEATURED PLANTS

**Evening primrose (*Oenothera* sp.)** – pale yellow, pollinated by moths and vespertine (active at dusk) bees. The pollen grains are held together loosely by viscin threads, so only certain insects are able to gather it. Flowers open shortly after twilight (takes about 30 minutes to open) and close before noon the next day. Will also open a bit on cloudy days. Blooms in summer.

Native to the Americas. Can be found in Fragrance Garden or Mediterranean Garden.

**Angel's trumpet (*Brugmansia suaveolens*)** - blooms at twilight and smells like licorice – pollinated by moths, but no seed distributor (likely extinct), so this plant is extinct in the wild.

**Moonflower (*Ipomoea alba*)** - related to morning glory, white flowers that open quickly in the evening and last throughout the night, close up in sunlight. Native to tropical Americas. Flowers twist up when they are shut.

**Night-blooming Cereus, Queen of the Night (*Epiphyllum oxypetalum*)** – cactus that grows on rocks and trees (epiphyte) and is native to Central and South America. White flowers look similar to water lilies and bloom for only one night. Pollinated by bats and moths. Popular houseplant.

<http://homeguides.sfgate.com/pollinates-night-blooming-cereus-59442.html>

***Yucca* sp.**

Native to dry parts of North America. Waxy white flowers droop during the day and lift towards the sky at night, releasing a sweet, soapy fragrance to attract the female yucca moth, which gathers pollen to fertilize the yucca flower she lays her eggs in.

[https://www.fs.fed.us/wildflowers/pollinators/pollinator-of-the-month/yucca\\_moths.shtml](https://www.fs.fed.us/wildflowers/pollinators/pollinator-of-the-month/yucca_moths.shtml) Found in yucca beds.

**Night phlox (*Zaluzianskya capensis*)** - endemic to Southern Africa, resembles like *Phlox* flowers but from different family. Fragrant at night, likely pollinated by long-tongued moths like night-flying hawk moths of the sphingidae family, and night-flies. Popular cultivar is 'Midnight Candy'. Flowers unfurl after sunset, smells sweet like candy or baking.

**Night gladiolus (*Gladiolus tristis*)** – emit almond fragrance after dusk. Not all are fragrant - the gene for fragrance is recessive in the population, so some forms have fragrance and some don't. The leaves are twisted and look like a pinwheel in cross-section. Native to marshy areas of Southern Africa. Has become a weed in Southern Australia.

**Tuberose (*Polianthes tuberosa*)** – Cultigen (domesticated, not found in the wild) dating back many centuries. Pollinated by hawkmoths. Called Omixochitl (oh me'zu che'tl) or bone flower by the Aztecs. Exported by Spanish to Philippines and later Europe, used for perfume and floral arrangements.

[http://www.whitelotusaromatics.com/newsletters/tuberose\\_of\\_grasse](http://www.whitelotusaromatics.com/newsletters/tuberose_of_grasse)

<http://tambela.com/blog/tuberose-flowers-moths-aztecs-and/>

**Night-scented stock (*Matthiola longipetala*)** – the flowers are a bit limp and unscented during the day, but perk up and smell sweet after twilight. Native to Portugal and Spain. Can be found in the Fragrance garden.

**Night-blooming daylily (*Hemerocallis citrina* and *H. lilioasphodelus*)** – Native to China. Blooms at twilight, all night and into next day – longer-lasting flowers than most daylilies, so used to try and breed longer-lasting daylily cultivars. Has a sweet, lemony fragrance.

**Flowering tobacco (*Nicotiana sylvestris*)** – Native to South America. Long, white tubular flowers limp during the day, perk up and smell sweet (similar to jasmine) at night. Pollinated by moths.

**Night-blooming jasmine (*Cestrum nocturnum*)** - native to West Indies, naturalized in South Asia. Evergreen woody shrub. Flowers slender, white with tubular corolla. Fairly famous night-blooming plant because of its stupendous fragrance. Related to *Brugmansia* and *Nicotiana* (Potato Family – Solanaceae). Scent is so powerful that people with respiratory sensitivities to perfume may have a reaction.

**Four O'clock Flower (*Mirabilis jalapa*)** - native to tropical Americas, bright coloured flowers that bloom and become fragrant at night. Different colours of flowers on the same plant (or even in the same flower). Cultivated by Aztecs for medicinal and ornamental purposes. Pollinated by sphinx moths. Same family as Bougainvillea. Can be yellow, pink, white or red.

**Fragrant hosta (*Hosta plantaginea*)** – the only night-blooming fragrant hosta, parent of all fragrant cultivars. Pollinated by moths. Native to Southern China.

**Italian woodbine (*Lonicera caprifolium*)** – Native to Europe, flowers fragrant at night. Vine, pollinated by hawkmoths.

**Waterlilies – *Nymphaea* and *Victoria* sp.**, pollinated by beetles. Beetle pollination – beetles have been around a lot longer than butterflies and bees, some some of the first pollinators of ancient flowering plants. *Victoria amazonica* night blooming and pollinated by beetles – has a fruity scent (like pineapple). Flowers close up during day, trapping beetles to ensure pollination, releasing them when the flower opens the next night.

<http://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:605776-1>

**White Garden, Night Garden** – White gardens look good at night – white flowers and white or silvery foliage stands out in the moonlight and night-fragrant flowers make it smell nice.