

Free essay on asimina obovata (willdenow) nash

[Science](#), [Biology](#)



**ASSIGN
BUSTER**

Habitat and occurrence

Asimina obovata (Willd.) Nash is also called as the big flower pawpaw. Its nativity status is L48, describing its native jurisdiction code as lower 48 states and N, referring to it being a native plant. It is endemic to Florida, found specifically in few counties such as Glades, St. Lucie, Manatee, Polk, Indian River, Hillsborough, Pasco, Levy, Flagler and few surrounding areas of central Florida (USDA).

Work Cited

United States Department of Agriculture and the Natural Resources

Conservation Service: The PLANTS database. *Asimina obovata* (Willdenow)

Nash. 2013. Web. 30 Sep 2013. < <http://plants.usda.gov>>

Phenology

A. obovata (Willd.) Nash belongs to the Annonaceae family and grows on coastal sand that is not susceptible to water logging (Kral, 233). It is a vascular, seed-bearing, dichotomous, flowering, perennial shrub that grows to a height of 3 to 9 feet (USDA) (Menges, 4). The flowers bloom between March and May. The flowers undergo basipetal maturation (Norman and Clayton, 18).

Work Cited

Kral, Robert. " A revision of *Asimina* and *Deeringothamnus* (Annonaceae)." *Brittonia* 12. 4 (1960): 233-278

Menges, Eric. S. " *Asimina obovata* Species Account". Archbold Biological Station, 2013. Web. 30 Sep 2013. < <http://www.archbold-station.org/>>

Norman, Eliane M., and David Clayton. " Reproductive biology of two Florida

<https://assignbuster.com/free-essay-on-asimina-obovata-willdenow-nash/>

pawpaws: *Asimina obovata* and *A. pygmaea* (Annonaceae)." Bulletin of the Torrey Botanical Club (1986): 16-22.

United States Department of Agriculture and the Natural Resources Conservation Service: The PLANTS database. *Asimina obovata* (Willdenow) Nash. 30 Jan 2013. Web. 30 Sep 2013. < <http://plants.usda.gov>>

Pollination and breeding

A. obovata changes sex from female to male and therefore, is protogynous. This makes it a sequential hermaphrodite. *A. obovata* transforms from a pistillate flower to a staminate flower with a 1-day gap between the phases, where the flower is completely non-receptive to the process of pollination. However, usually an overlap of both the phases is seen with other species of the *Asimina* genus (Saunders, 231). The pistillate phase is sexually receptive for 4 to 6 days before the staminate transformation commences (Gottsberger, 250). *A. obovata* is observed to be xenogamous, which explains the protogyny. Self-pollination experiments showed that only 0-4% of the self-pollinated flowers produced fruits when compared to cross-pollinated flowers (Saunders, 231).

Pollination in *A. obovata* is through entomophily. *Asimina* genus are divided into two types of pollination systems based on the smell they emit. *A. obovata* emits a pleasant fragrance and is often pollinated by large beetles. Flies and/or small beetles pollinate other foetid smell emitting *Asimina* species. The large beetles that initiate pollination feed on the petals and pollen tissues. They do not copulate or form their brood on the flower. Beetles such as *Notolomus basalis*, *Typocereus zebra*, *Trichiotinus rufobrunneus*, *T. lunulatus*, and *Euphoria sepulchralis* have been observed to

visit *A. obovata* during both pistillate and staminate phases. The staminate phase commences with anther dehiscence, releasing the pollens (Gottsberger, 250).

Work Cited

Gottsberger, Gerhard. "How diverse are Annonaceae with regard to pollination?." *Botanical Journal of the Linnean Society* 169. 1 (2012): 245-261

Menges, Eric. S. "Asimina obovata Species Account". Archbold Biological Station, 2013. Web. 30 Sep 2013. < <http://www.archbold-station.org/>>

Pollinators and effect of fire

Menges observed that *Euphoria sepulchralis* and *Notolomus basalis* carried pollen on their bodies after frequent visitation to *A. obovata* and thus, designated them as pollinators. The fruits of *A. obovata* are edible, but rarely found. This might be due to the limited number of pollinators, mortality rate or ingestion of fruits immediately after ripening. He also observed the effect of fire on the fecundity. It was noticed that after the fire, the rate of mortality had dipped and the number of flowers had increased, but the flowering rate had declined rather quickly compared to the pre-fire rate. The stems appeared less woody and more herbaceous and green (8).

Work Cited

Gottsberger, Gerhard. "How diverse are Annonaceae with regard to pollination?." *Botanical Journal of the Linnean Society* 169. 1 (2012): 245-261

Menges, Eric. S. "Asimina obovata Species Account". Archbold Biological Station, 2013. Web. 30 Sep 2013. < <http://www.archbold-station.org/>>

Saunders, Richard MK. " The diversity and evolution of pollination systems in Annonaceae." *Botanical Journal of the Linnean Society* 169. 1 (2012): 222-244.

Work Cited

Gottsberger, Gerhard. " How diverse are Annonaceae with regard to pollination?." *Botanical Journal of the Linnean Society* 169. 1 (2012): 245-261

Kral, Robert. " A revision of *Asimina* and *Deeringothamnus* (Annonaceae)." *Brittonia* 12. 4 (1960): 233-278

Menges, Eric. S. " *Asimina obovata* Species Account". Archbold Biological Station, 2013. Web. 30 Sep 2013. < <http://www.archbold-station.org/>>

Norman, Eliane M., and David Clayton. " Reproductive biology of two Florida pawpaws: *Asimina obovata* and *A. pygmaea* (Annonaceae)." *Bulletin of the Torrey Botanical Club* (1986): 16-22.

Saunders, Richard MK. " The diversity and evolution of pollination systems in Annonaceae." *Botanical Journal of the Linnean Society* 169. 1 (2012): 222-244.

United States Department of Agriculture and the Natural Resources

Conservation Service: The PLANTS database. *Asimina obovata* (Willdenow) Nash. 30 Jan 2013. Web. 30 Sep 2013. < <http://plants.usda.gov>>