



Hummingbird Hill Native Plant Nursery

January/February 2024 Newsletter

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Happy 2024! We are looking forward to this year and another growing season at the nursery! The nursery will be opening again in April, and we will announce the exact date closer to that time. We are excited to see everyone again this year! In the meantime, if you have questions about your property or a future planting site, please don't hesitate to reach out to us by email.



What's New At the Nursery

HABITAT CORRIDOR PLUG TRAYS

AVAILABLE FOR PRE-ORDERING!

How does this work? Simply visit the Habitat Corridor Plug Tray link on our website and fill out the requested info, which includes info about your site: sunlight and moisture levels, etc. Let us know how many trays you'd like, and we'll select a mixture of species that would naturally grow in your site: ones that grow well together and will combine to make a functioning habitat. When the plants are ready to be picked up and planted in April, we will reach out to you. Payment is made at the time of pickup.

Pricing: Our custom-designed habitat corridor plug trays include 50 plugs of 10-15 species native to your site for \$180 (\$3.60 per plug).



**50 plugs of 10-15
species, customized
for your site's
conditions**

Each plug tray consists of 50 plugs, like the ones pictured above and left.

SCHEDULE IN ADVANCE: SITE CONSULTATION

We will be offering site visits again to those in the local area around the beginning of April when vegetation has reemerged. It is not too soon to reach out to get on our spring schedule! Would you like to make your property a better ecosystem, but you aren't sure where to start? Our site visits help with identifying any naturally-occurring wild natives and non-native invasives on your property. They also provide insight on creating habitat corridors and what species to plant at your specific site. For more information, please send us an email!

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AT NIGHT

Above: A Pandorus Sphinx Moth visits the light colored blooms of Common Milkweed (*Asclepias syriaca*) at night.

The word pollinator brings to mind an image of butterflies and bees in the sunlight, flying among flowers. However, when the sun goes down, there is a whole new assortment of insects that take the night shift. In fact, a third of all plant families have pollinators that visit at night. These nocturnal pollinators include moths, beetles, flies, ants, some bees and crickets, and in warmer climates of the world, bats.

Many species of plants have flowers that are open during the day and at night. These are visited by both daytime and nighttime pollinators, and this method increases the plant's chances of producing

viable seeds. However, a variety of plants seek pollinators during a certain time period. While some species of native flowers close when the sunlight disappears in the evening, a characteristic called floral nyctinasty, other natives have evolved to specifically draw in nighttime visitors. Plants that seek nocturnal pollinators may open in the evening instead to lure in insects during the dark hours. Many night blooming flowers are also highly fragrant to encourage insects, some with a sweet perfumed scent or even a foul odor. Some specialized species of flowers are able to increase their fragrance at night to specifically draw in pollinators at that time. A large number of species have also adapted to have light-colored blossoms – colors like white, pale pink and purple, yellow, or cream. The moonlight reflects more easily on these colors, making them pop in the night and allowing them to be more likely seen by nocturnal pollinators. While the scent of the bloom can signal the insect to the flower from afar, the light color, glowing in the moonlight, aids the insect with determining its exact location.

Common Evening Primrose (*Oenothera biennis*)

This is one example of a species in Virginia that has adapted to attract the insects of the night. This suitably-named plant has scented yellow flowers that open at dusk and remain open throughout the night and into the morning. Among pollinators, moths make up a large portion of the insects that visit flowers at night, and moths are exactly what the Common Evening Primrose is hoping will visit its blooms.



The vast majority of pollinators are ectothermic, requiring warmth and sunlight to be active. This is why bees and butterflies are not typically out on cold and rainy days. Many moths, however, are able to produce their own heat by shivering, which allows them to be active during colder temperatures at night. Most moths are generalists when it comes to finding nectar and will seek out an assortment of blooms. Female moths have pheromones that they release in order to help attract a mate. The males use their antennae to track the scent of females, and this same method is applied when it comes to moths finding nectar sources. In a similar way, the moths are able to detect the strong perfume of night blooming flowers. Moths often visit plants that have nectar deep inside their flower. Their long mouth part, called a proboscis, is able to reach places that other pollinators, like bees, can't.



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Moths help to spread pollen farther than other insects, and they may be crucial to promoting genetic diversity between groups of plants.



Above: Nighttime flying moths visit the flowers of Virgin's Bower (*Clematis virginiana*).

Unlike bees, which may fly a few hundreds yards from their nesting areas, moths aren't restricted to foraging around a particular nest site and often travel long distances. While visiting flowers in one area, the pollen will cling to their hairy underbellies. After flying over a long stretch and visiting another location that contains the same plant species, the pollen is dispersed and the genes are passed from one plant community to another. Moths are also thought to make a large contribution to crop pollination, especially for tree fruit and berry species.

A variety of other insect species are also active at night. Some plants depend on native flies to pollinate them in

the darkness. Others critters, like crickets and carpenter ants, can also be on the move, searching for flowers late in the day. Carpenter ants are especially active from sunset until midnight in spring and summer and may journey across the length of a football field in search of nectar or honeydew from aphids. During these travels, they can unknowingly assist with the spread of pollen. Another surprising nocturnal pollinator is the mosquito. Though often thought of as blood sucking nuisances, mosquitoes' main source of food is flower nectar, and they often drink nectar at night. There are numerous types of mosquitoes, and many do not feed on human blood at all, instead using other animals. Males depend on flower nectar, and only female mosquitoes drink blood during their egg laying stage when they need the proteins. During other times, females also visit flowers and help with nocturnal pollination. Even some bees in the Andrenidae, Apidea, Colletidae, and Halictidae families have been known to venture out after dusk. Unlike most other insects that desire nectar, native beetles usually seek blooms to feed upon pollen and other flower parts. In their endeavors, their bodies collect pollen, which they inadvertently pass along to other flowers and pollinate.

MOTHS & BUTTERFLIES

Both moths and butterflies are in the insect order Lepidoptera. According to the Smithsonian Institute, there are around 160,000 moth species in the world (compared to 17,500 butterfly species). 11,000 species of these moths live within the United States. They have a huge range of diversity, with species that fly during the day and species that are active at night. Some are minute in size with drab colors, while others are large or have showy colors, like pink or red. There are types that visit flowers for nectar and some that don't feed at all during the phase as winged adults.



MOTHS

- antennae are diverse, from straight to feathery
- majority fly at night
- body is plump and hairy
- typically rest with wings spread horizontal



BUTTERFLIES

- clubbed antennae
- majority fly during the day
- body is slim and smooth
- typically rest with wings vertical

While night insects are far less studied than daytime pollinators and much research still needs to be conducted, there are several predictions on why insects have evolved to visit flowers at night. It may be to avoid potential predators and parasites that are active during the daylight hours. Nectar and pollen are also prolific during the morning and night, and this could be an adaptation for insects trying to find a time period with less competition for these rewards. As the night goes on, different species are out and about, visiting flowers at separate time periods. While one insect species may be most active right after dusk, another might not come out until after midnight. These shifts begin around an hour after sunset and continue until a little before sunrise.



Ants can be active at night and help to pollinate flowers. Here, an ant visits Bursting Heart.

Unfortunately, many types of pollinators, including nocturnal species are in decline. Like daytime insects, nocturnal pollinators encounter dangers such as pesticide use, habitat destruction, the spread of invasive exotic species, and the decline in native plant populations. Helping to create habitat corridors by converting unused sections of lawn to native plants can help make a huge difference for these insects. However, there is one threat that sets nocturnal pollinators apart from their daytime counterparts: light pollution.

Light pollution at night is disorienting to nocturnal pollinators and interrupts their life cycle in damaging ways. In areas with artificial lighting, moths can easily get confused and distracted. Lights can cause them to become easier prey to predators and interrupt them from finding mates and visiting flowers. This, in turn, can prohibit pollination and decrease seed production.



An up close look at two small moths getting nectar from Common Milkweed. Nocturnal pollinators face threats from light pollution and habitat loss.

In a study in Switzerland, researchers observed the effect of lights on nocturnal pollinators by assembling artificial lights in multiple meadows. In the artificially lit meadows, the researchers totaled 62% fewer insect visitors on the plants they were studying than in similar meadows that weren't lit. This resulted in less of the plants setting

seeds. Meanwhile, in the meadows that weren't lit, a diverse array of 300 species of insects visited the plants they were researching.

There are also studies which show that in the last 20 years, the amount of light, especially in residential areas, has increased by 70%. This is a huge amount and a big discouraging factor for nocturnal pollinators.

How can we make a difference? An important step is to incorporate native plants onto our properties in habitat corridors. Around these areas, as well as on other parts of the property, reducing outdoor light usage is essential. Listed below are some tips to help reduce light pollution to help make a healthier environment for nocturnal pollinators. Together, we can help create a supportive atmosphere for the moths and other night-flying insects on our properties.

TIPS FOR HELPING *NOCTURNAL INSECTS*

- Only install outdoor lighting where absolutely necessary
- Turn outdoor lights off when you are not using them and try not to have them near your habitat corridors.
- Use shielding around the light bulb to direct the light where you need it
- In areas that require lighting, utilize the lowest level of light needed
- Use lights that emit warm colors and avoid purple or blue lights
- Use motion activated lights and/or timers
- Have curtains or blinds on your windows to keep indoor lighting inside of the house at night

