

THE OUTSIDER

Illinois Extension Horticulture serving Henry, Mercer, Rock Island, and Stark



EARLY SPRING BLOOMS

Woodland spring ephemerals are the reward for enduring another Midwestern winter. In the earliest days of spring, small woodland plants emerge, filling a critical environmental niche. While overstory trees are still dormant, plants such as Dutchmen's Breeches (*Dicentra cucullaria*), Bellwort (*Uvularia grandiflora*), Jack in the Pulpit (*Arisaema triphyllum*), and Wild Ginger (*Asarum canadense*) are waking up. Many of these plants will have completed their lifecycle before any leaves emerge overhead.

WHAT ARE SPRING EPHEMERALS?

Spring ephemerals are a group of perennial plants that are characterized by their short above-ground lifecycle. Tolerant of cool soils, these plants are the first to emerge in the early spring while the woodland canopy has not yet broken dormancy and produced leaves. During these weeks, sunlight is still allowed to reach the forest floor. This early emerging adaptation allows the plants to produce leaves and flowers, become pollinated, and produce seeds to perpetuate the species before heavy shade consumes the forest floor.

GROWING VOCABULARY

Myrmecochory is seed dispersal by ants. Many seeds that rely on ants to move seeds have evolved so that seeds are produced with an external appendage called an elaiosome. Ants move these seeds (known as diaspores) because the elaiosome is a nutrient rich food source. Once the elaiosome is consumed, seeds are discarded.



ECOLOGICAL SIGNIFICANCE

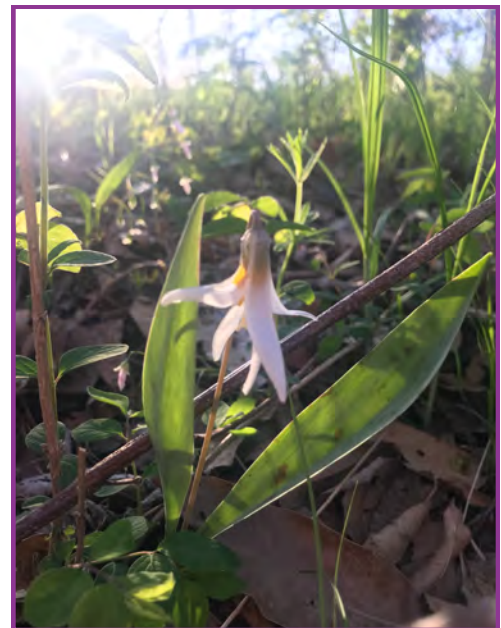
Although small in physical size, these early emerging plants play a significant role in a functioning ecosystem. In the earliest part of the spring season, as temperatures rise, overwintering insects begin to emerge. Spring ephemeral blooms provide an essential resource of nectar and pollen for these insects. Many of the bee species that rely on spring ephemerals have a specialized preference for these early-blooming flowers and are known as oligolectic bees. Examples include the bee *Andrena erythronii* that is specialized to Trout Lily (*Erythronium albidum*) and Spring Beauty has *Andrena erigeniae*. Specialized bee species have a preference for the pollen of a single plant genus. However, blooms of these plants are visited by additional insects which aid in pollination.

In addition to having an essential and unique relationship with early emerging insects, spring ephemerals have evolved strategies that employ ants for seed dispersal. This relationship is known as myrmecochory. The seeds of spring ephemerals that rely on ant dispersal are equipped with an appendage known as an elaiosome. These protein and lipid-rich sacks are an attractive food source so ants collect seeds, move them back to their nests, consume the elaiosome, and deposit the seed for germination.

Cohabiting with plants many thousands of times their size, spring ephemerals have shallow root systems that live in the soil profile above the root systems of trees. This allows them to access nutrients and moisture where it is most abundant. It is theorized that in addition to utilizing nutrients early in the spring before competition for those minerals heats up with the temperatures, spring ephemerals help lock up these critical nutrients until the soil-leaching snow melt and spring rains subside. Later in the season, once rain events have slowed, spring ephemerals have completed their seasonal cycle and decompose back into the ecosystem, releasing these nutrients for use by other plants. This theory is known as the vernal dam hypothesis, additional research is needed, but some studies are emerging that support this theory.



Spring Beauty
Claytonia virginica



White Trout Lily
Erythronium albidum



COMMON SPECIES



Bellwort
Uvularia grandiflora



Dutchman's Breeches
Dicentra cucullaria



Virginia Bluebells
Mertensia virginica



Bloodroot
Sanguinaria canadensis



Wild Ginger
Asarum canadense reflexum



Wild Geranium
Geranium maculatum

OUTSIDER ACTION

Try these activities to be more of an Outsider

- Make a plan to go for a woodland walk this spring.
- Watch this webinar to learn more about [Spring Ephemerals](#).

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