

The little details...

Confirmation of the Northern Broken Dash Skipper based on a specimen in the collection

In January of 2020, while working on updates to the Butterflies of Algonquin Provincial Park, former Park Naturalist, Colin Jones, now the Provincial Arthropod Zoologist with the Ontario Ministry of Natural Resources and Forestry had a hunch about a butterfly specimen in our collection.

He knew of the date and location, and even the collectors' names, so it made it easy to locate the specimen.

He was suspicious it might have been misidentified "A skipper (potentially identified as a Dun Skipper) collected by MVKB and BH in the panhandle of the park on July 18, 2006." He then made a strange request, asking for a very close-up picture of the specimen's middle leg. Dun and Northern Broken Dash Skipper females are very similar and careful scrutiny is required to tell them apart. Sure enough, there were spines on the middle leg, present in Northern Broken Dash but absent in Dun Skipper, and we had a newly verified record of the species for the Park, nearly 14 years after it was collected! Most Ontario records of Northern Broken Dash occur south of the Canadian Shield, and so this is likely an uncommon to rare species in Algonquin. This skipper typically lives in dry fields, and the caterpillars feed on grasses.



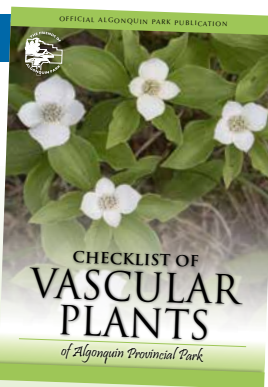
The spines on the middle leg of the specimen in question.

Park Publications

Available at the Algonquin Visitor Centre Bookstore & Nature Shop, West and East Gates, or online at algonquinpark.on.ca

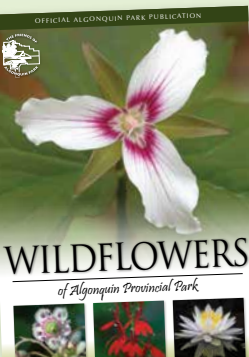
Checklist of Vascular Plants of Algonquin Park ONLY \$4.25

The definitive list of confirmed vascular plants found in Algonquin, which includes native and non-native species and a note on status, such as common, uncommon or rare, on both the east and west side of the Park. The diverse habitats and unique location of the park make it rather interesting for those fascinated by plants, it is where southern and northern vegetation communities meet in Ontario. This newly revised and updated list includes: species, hybrids and subspecies that are native in Algonquin Park. 40 pages. C. Sean Blaney, William J. Crins, Daniel F. Brunton, David LeGros. 2020.



Wildflowers of Algonquin Provincial Park ONLY \$6.95

Anyone who visits Algonquin Park during the spring and summer will see wildflowers. The Park has many different habitats within its borders and each area has its own distinct wildflowers. This new book is filled with colour photographs of the most common wildflowers in the Park, and will give you an idea of the incredible richness and beauty of the plant world and how important plants are to the ecology of Algonquin Park. 52 pages. Text and photography by Michael Runtz. 2020.



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By submitting your observations and photos to Citizen Science platforms like iNaturalist.ca, you can help park staff document biodiversity in the Park and even protect habitat. For more information join iNaturalist.ca, and check out Algonquin Provincial Park under projects.

iNaturalist Canada is run by the Canadian Wildlife Federation, the Royal Ontario Museum, and iNaturalist.org at the California Academy of Sciences.



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OntarioParks.com • algonquinpark.on.ca



Algonquin

The Raven

A Natural and Cultural History Digest

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Trillium Trials and Tribulations

by David LeGros

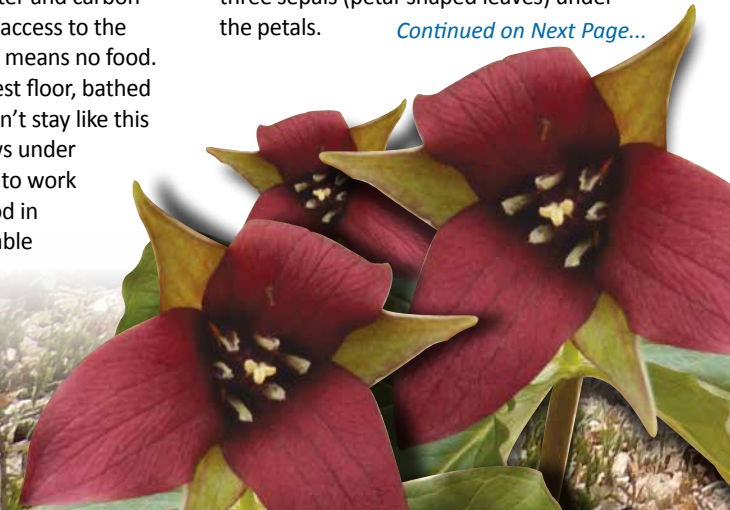
There really is an excitement in the forest during spring. The seasonal rituals begin, slowly at first, but with growing intensity as the snow melts. Migrating birds return and establish territories from which they sing vigorously to attract mates and to defend from rival males; the loud chorus of frogs fills wetlands; and green plants begin to emerge from the thawing soil.

South-facing slopes thaw out first as the sun shines on them longest. As you walk through the woods at this time of year, you can easily spot this—snow in one place and bare ground nearby. The transformation that will take place here in the next weeks is remarkable. From lifeless and brown to green and vibrant, the forest comes alive in a hurry. All green plants manufacture food by converting energy from the sun, along with water and carbon dioxide, into sugars. Getting access to the sun is critical for this; no sun means no food. However, the hardwood forest floor, bathed in sunlight during spring, won't stay like this for long. Any plant that grows under the forest canopy better get to work making a year's worth of food in a short while, or it must be able

to tolerate growing in the deep shade under Sugar Maple crowns.

A group of plants, collectively known as spring ephemerals, because they emerge, bloom, produce seeds and then disappear in this short season, have their literal moment in the sun in the month of May while the days are long. Some species are very small and inconspicuous, such as the Spring Beauty. Others are large and showy, like the delicately dissected leaves and strange flowers of Dutchman's Breeches. Perhaps none are more famous than trilliums. Algonquin is home to four species of trillium, ranging from large and eye-catching to uncommon and diminutive. All species share a few features: three spade-shaped leaves emerging from the same point on the stem and three-petaled flowers with three sepals (petal-shaped leaves) under the petals.

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The trillium most familiar to anyone spending time in southern or central Ontario is the White Trillium. It is large, showy and often occurs in big patches. From a distance, the ground may look like it still has snow on it. This species, however, is rare in Algonquin. Presumably the higher elevation (200 metres above the surrounding country) and cooler climate of Algonquin's west side, and the dry sandy soils of the east side, may prevent White Trillium from doing well here.

Western Algonquin's hardwood forests cover hillsides consisting of glacial till—boulders, rocks, sand and silt left here by the melting glaciers over 10 000 years ago. As the last glacier melted, it left big heaps of this unsorted rubble, which retains moisture, but is relatively well drained—a habitat ideal for hardwood forests and many spring ephemerals. In contrast, eastern Algonquin is flatter and sandier, a result of a large and ancient river depositing enormous quantities of sand where it flowed. Today, this river is just a trickle of its former self, the Petawawa River. These sandy areas are much better for pines but less good for some spring ephemerals.

While White Trillium is rare here, Algonquin is actually a great place to see two of Ontario's lesser-known trilliums, Painted Trillium and Red Trillium. Usually overshadowed by its relative elsewhere, the Red Trillium really shines in Algonquin. Sort of. In Sugar Maple and Hemlock forests, the Red Trillium does very well, but never makes dense carpets. The Red Trillium is named for its deep, wine-red petals; not a very creative name but simple and descriptive. Interestingly, the Red Trillium does go by other colourful names: Stinking Benjamin and Wake Robin. The former refers to the plant's scent which mimics carrion, and the latter references the flowering of Red Trillium and the return of the American Robin as signs of spring.

Red Trilliums have many interesting relationships with their neighbors in the forest.

The deep red flowers and the scent of carrion don't attract bees and moths to pollinate their flowers, but rather a number of carrion-feeding flies are tricked into landing on the flower, and get pollen on their bodies. Red Trilliums don't even have nectar on offer, so the flies get nothing for their troubles! Once they leave that flower, they get tricked again to land on another, exchanging pollen grains with the second trillium, fertilizing it so it may produce seeds. Deceiving flies is one thing, but trilliums put another type of insect to work, one that is much more organized. After the flower is pollinated by the flies, seeds begin to form. The fully developed seeds are encased inside a fleshy pod. On each seed, is an elaiosome, which is a small gelatinous cap, rich in fats and protein. Once fully ripened, the large red seed pod falls onto the forest floor and may break open revealing the seeds. Ants relish the elaiosomes and will carry the seed with cap back to their underground colony, sometimes many metres away. Once the cap has been consumed, the ants will discard what is not edible—the seed! Now, far away from the parent plant, the seed is dropped, where the new plant's lifecycle may begin. In our day-to-day lives, we might not appreciate this type of trickery, but it is essential for the trillium.

If the seed fell in a good spot, it will hopefully germinate. For most plants, even getting to the germination stage is a struggle. Many plants produce thousands of seeds in a season, and they end up everywhere, often in places completely unsuitable for germination. In comparison, trilliums only produce a small number of seeds each year. Their strategy relies on a few large seeds ending up in a good place. A tiny trillium seedling has a long road ahead of it. Individual plants take over 10 years to develop, and up to 17 or more to flower for the first time—that's a late bloomer!

It can take a very long time for a trillium to mature into a flowering plant, in part



The fleshy pod of the Red Trillium is a common sight in Algonquin's hardwood forests (Left). A trillium pod that has been opened to reveal the few yet relatively large seeds which will be carried away by ants (Right). Photos by David LeGros



A tiny trillium seedling has a long road ahead of it. Individual plants take over 10 years to develop, and up to 17 or more to flower for the first time!

because gaining the energy reserve necessary to even produce a flower is hard-won when they only have a brief time in the sun to collect it. So how can a trillium burst from the leaf litter, and soon be ready to bloom in early spring? Well, the trillium is using resources from the previous year. The leaves of the trillium conduct photosynthesis, and the resulting resources are stockpiled in its root, known as a rhizome. The rhizome is the permanent part of the trillium that stores starches, proteins and other nutrients, while the leaves are the temporary food factory, and the flowers are the very short-lived but attractive reproductive organs. Next year's shoots and flowering stem are produced on the end of the rhizome, and it will wait until the following spring to emerge. Typically, a Red Trillium will produce only one flowering stem a year, but some well-provisioned plants may produce two or three, and very rarely up to five!

In many parts of Ontario, woodlots and forest where trilliums grow are shrinking, so there are fewer places for trilliums to live. Many of these areas have a mix of urban, agricultural and forest habitats which are perfect for the ultimate

trillium predator—the White-tailed Deer. Deer numbers in many areas have ballooned due to a habitat that suits their needs, and a scarcity of predators. Some parts of Ontario have such heavy browse on spring ephemerals that they have become rare. This and non-native forest plants over-running the habitat are putting the squeeze on many native plants. Algonquin is fortunate in being a large area with intact forest and a balance of predators and prey.

The White Trillium is the provincial flower of Ontario, and it has been since 1937. There is a beneficial, but untrue, myth that it is illegal to pick trilliums in Ontario. It is not illegal, but you still shouldn't pick them, and you certainly are not allowed to pick plants in Provincial Parks, such as Algonquin. If you are ever tempted to pick a trillium, just think of everything that happened right up until you picked it—the deception of flies, the seed being hauled away by ants, the decade or more of slow growth in the spring sun, stocking up for next year's growth. All to be plucked for a moment of admiration? Admire it where it grows and visit it again next year.



White Trillium

(*Trillium grandiflorum*)
Rare in Algonquin. Typically found in hardwood forests.



Red Trillium

(*Trillium erectum*)
Common in hardwood forests.



Painted Trillium

(*Trillium undulatum*)
Uncommon in Hemlock forest edges.



Nodding Trillium

(*Trillium cernuum*)
Rare, found in flood plains near rivers.

