

FARM FIELD GUIDE

to species at
risk in Southern
Ontario

• **Woodlands** •

A WILDLIFE GUIDE FOR FARMERS

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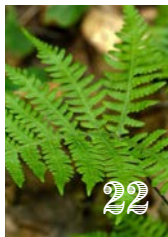
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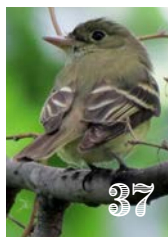
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AN IDENTIFICATION GUIDE FOR SPECIES AT RISK THAT USE WOODLANDS IN ONTARIO

Woodlands, or parcels of forest, are important natural features that provide ecological, economical and sociological benefits to farming communities across Ontario. Ecological benefits of woodlands include providing habitat for beneficial wildlife, maintaining tree diversity, and mitigating the negative impacts of climate change by removing carbon dioxide from the atmosphere. Economic benefits include supporting small-scale production of forest products such as lumber, firewood and maple syrup. Forests also provide sociological benefits through recreational opportunities including hiking, hunting and birdwatching. Historically, Southern Ontario was dominated by forests. However, due to increasing urban development, woodlands are some of the only remaining forests in this region today. As this trend continues, pressure is placed on the plants and animals that depend on these habitats for survival including the species featured in this guide. Each species is designated as a species at risk (SAR) provincially and/or federally and is facing population declines. This guide will help you identify SAR that you may find in woodlots on your farm.

Each SAR is assigned a status that reflects the level of risk it faces. The Ontario Ministry of the Environment, Conservation and Parks (MECP) defines four categories of SAR:

“SPECIAL CONCERN”

means the species lives in Ontario, is not endangered or threatened, but may become threatened or endangered due to a combination of biological characteristics and threats.

“THREATENED”

means the species lives in Ontario, is not endangered, but is likely to become endangered if threats are not addressed.

“ENDANGERED”

means the species lives in Ontario but is facing looming extinction or extirpation.

“EXTIRPATED”

means the species once lived in Ontario, but no longer does. Extirpated species are not extinct and live somewhere outside of Ontario. Extirpated species have not been included in this field guide.

HOW TO USE THIS GUIDE

This guide contains two types of species descriptions. Full species accounts are given for SAR that are relatively wide-ranging in Ontario woodlands. These accounts include a photograph, identification features, habitat needs, and threats. Partial species accounts are given for the SAR that have limited ranges in Ontario. These sections include a photograph of the species and a short description. The species listed in this guide are not a complete list; some other important woodland SAR are excluded from this guide because they have very restricted ranges and/or they require expert knowledge to identify and differentiate them from similar species.

Additional information on the species listed in this guide and other SAR in your area can be found at the Species at Risk in Ontario webpage, and the Environment and Climate Change Canada Species at Risk Public Registry.

Species at Risk in Ontario:
www.ontario.ca/page/species-risk

Species at Risk in Canada:
www.registrelep-sararegistry.gc.ca

WHAT ARE FORESTS AND HOW CAN THEY BENEFIT MY FARM?

Forests are areas of land dominated by trees with shrubs and herbaceous undergrowth. In Southern Ontario, there are three main types of forests: deciduous, coniferous, and mixed, all of which can be found on farms. Deciduous forests contain trees that change colour each fall, lose their leaves before winter, and reproduce through flowers. Coniferous forests, on the other hand, contain trees with needle-like leaves that do not change colour and are present year-round. Instead of reproducing through flowers, coniferous trees spread their seeds using cones, hence the name CON-iferous. Mixed forests contain both deciduous and coniferous trees.

Forests can be further characterized by age (young or mature), canopy cover (open or closed) and degree of wetness. For instance, forests with trees that are widely spaced with an open canopy are classified as savannas, and those with a high water-table are classified as swamps. Moderately wet forests often contain vernal pools—small, temporary ponds of water—that provide breeding and spawning habitat for amphibians.

Although there are many types of forests with varying characteristics, they all provide important ecological services that are beneficial to farmers, farmland and wildlife. Some of these services include:

- Purification of air and water
- Wind protection from forests that lessen soil erosion
- Livestock shade and shelter
- Recreation (e.g. birdwatching, hiking, hunting)
- Wood products (e.g. fuel, lumber)
- Maple syrup production
- Carbon sequestration
- Wildlife habitat

Ontario has four main forest regions, all of which are unique. Northern Ontario is dominated by the Hudson Bay Lowlands and the Boreal Forest. In Central and Southern Ontario lies the Great Lakes-St. Lawrence region and the Deciduous Forest (Carolinian) region. Forests in the Great Lakes-St. Lawrence region are dominated by hardwood and coniferous trees whereas the Carolinian forest is comprised of deciduous trees. The Carolinian region contains much of Ontario's farmland and urban centres. This area has largely been cleared of trees with only scattered woodlands remaining. Despite having the lowest proportion of forest, this region generally has the highest diversity of species. Unfortunately, many of these species are designated as at-risk.

STATE OF FORESTS AND HOW YOU CAN HELP

By the mid 1800s much of Ontario's landscape had been cleared for urban and agricultural development. Today, Southern Ontario contains approximately 25% forest cover. Much of what remains are fragmented patches of forests. In addition, invasive species such as European Buckthorn and Garlic Mustard threaten many remaining forest ecosystems. Some of Ontario's tree species have also been devastated by pests and disease including Dutch elm disease, emerald ash borer, butternut canker, and American chestnut blight. Forests provide important feeding, breeding, and overwintering habitat for a diversity of wildlife. As we continue to lose forests, animals that rely on these environments are jeopardized. Here's what you can do to help improve the state of forests in Ontario:

- Plant a wide diversity of native trees to restore forest areas that were cleared or have been devastated by pests and disease
- Plant hedgerows that connect woodlands with other natural habitat to provide wildlife with migration corridors
- Manage invasive species that negatively impact forests

YOUR OBSERVATIONS ARE IMPORTANT

Why Should I Report the Species I See?

Long-term monitoring is the best way to understand if species' populations are increasing, decreasing or stable. Monitoring SAR is especially important as it helps us understand what recovery actions are needed to stop population declines and if our actions are helping recover them. Reports from people living across the landscape are incredibly beneficial for long-term monitoring. This information is often called citizen science, and it can enhance the monitoring done by scientists in the field.

Reporting SAR observations can also benefit your farm. Stewardship programs and funding to support the protection and recovery of SAR and their habitat are often available. Restoring forest habitat will likely benefit many other species, bringing with them additional benefits for your farm.

What Should I Record?

When you are working on the farm, it can be useful to have a notebook on hand to record any species information. The species' name, date, number of individuals, behaviour, weather conditions, and location are all important details to include. If possible, take a photo of the species you are reporting.

Where Should I Report My Observations?

You can report your species (plant and animal) observations to the Natural Heritage Information Centre. Your observations will support biodiversity conservation efforts in Ontario!

Natural Heritage Information Centre:
www.ontario.ca/page/report-rare-species-animals-and-plants

Many thanks to Blazing Star Environmental for developing the content of this field guide. For more information on any of the species included in this guide, or to learn about other species at risk found in woodlands or on farms in Ontario, please visit www.ontario.ca/environment-and-energy/species-risk-ontario-list

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JEFFERSON SALAMANDER

Ambystoma jeffersonianum

Status in Ontario:

Endangered

Jefferson salamanders live in deciduous forests in Southwestern Ontario. These salamanders can be found amongst leaf litter, and under rocks and logs near their breeding habitat. Jefferson salamanders breed in temporary woodland ponds, also called vernal pools. In early spring, they lay their eggs in clusters attached to underwater vegetation. The eggs hatch approximately 3-4 weeks later. Once the larvae lose their gills in midsummer, they head into the surrounding forest. As adults, they spend most of their time underground in rodent burrows or under logs and rocks. Its diet consists mainly of insects and worms. Jefferson salamanders are threatened by habitat loss and degradation from urban development, resource extraction, wetland drainage and road mortality. Unfortunately, these salamanders are commonly killed on roads when migrating to their breeding ponds in early spring.

Size

Adults can reach up to 20 cm in length

Shape

- Heavy-bodied
- Limbs and snout are relatively long
- Tail is about half length of body

Colour

- Black-brown bodied
- Light underbelly
- Bluish-white flecks on sides of body (some individuals do not have this flecking)

Did you know
that Jefferson
salamanders can live
to be 30 years old?



EASTERN WOOD-PEWEE

Contopus virens

Status in Ontario:

Special Concern

The eastern wood-pewee lives in the mid-canopy layer of deciduous and mixed forests. It is found throughout Ontario and is most abundant in mature forest stands with little understory vegetation. The eastern wood-pewee can be found perched on dead branches at the edges of forest clearings searching for food or singing their distinctive song, “pee-ah-wee”. This species is a member of the flycatcher family and its diet consists mainly of flying insects such as flies, moths, bees, crickets, butterflies, and beetles. In the spring, females will lay between 2-4 white or cream-coloured eggs in a nest made of twigs, bark, leaves, mosses, pine needles, and roots. Threats to the eastern wood-pewee may include habitat loss and degradation, reductions in food availability (flying insects), and offspring mortality due to an increase in predators.

Size

- Medium-sized flycatcher
 - Can grow to 15 cm long from beak to tail
-

Shape

- Stand upright
- Short legs
- Crown on head, gives them triangular appearance

Colour

- Adults have greyish-olive upper parts
 - Pale underparts
 - Pale bars on wings
 - Males and females are similar in appearance
-

Listen for

A distinctive “pee-ah-wee” call, for which they are named.



Did you know that the eastern wood-pewee camouflages its nest so well that it often looks like a knot on a branch?

WOOD THRUSH

Hylocichla mustelina

Status in Ontario:

Special Concern

The wood thrush lives in mature deciduous and mixed forests across Southern Ontario. It prefers moist environments with developed undergrowth and tall trees for perching. The wood thrush can be found hopping through leaf litter on the forest floor in search of insects. During nesting season, females will lay 3-4 greenish-blue eggs. The offspring are cared for by both parents and are fed a diet of mostly insects. Adults feed primarily on insects such as caterpillars, ants, moths, and beetles during the breeding season, and berries year-round. Some major threats to the wood thrush include habitat loss and fragmentation, over-browsing of trees and plants by deer, and parasitic behaviour from brown-headed cowbirds who will lay their eggs in wood thrush nests.

Size

- Medium-sized songbird
- Up to 20 cm long from beak to tail

Shape


- Pot-bellied body
 - Short tail
 - Similar shape to Robin
-

Colour

- Rusty brown on upper parts
- White underparts with large black spots on breast and sides

Listen for

Their flute-like song “ee-oh-lay” contrasts their alarm call “bup-bup-bup” followed by “pit-pit-pit” which resembles the sound of a machine gun.



Did you know that wood thrushes may nest and raise young as many as three times per season?

EASTERN WHIP-POOR-WILL

Antrostomus vociferus

Status in Ontario:

Threatened

A medium-sized bird that is active at night and rests during the day, the eastern whip-poor-will is more commonly heard than seen. It lives in a mix of open and forested areas, such as savannahs. Its mottled grey and brown feathers help it blend in with the surrounding leaf litter in which it roosts and lays its eggs. The eastern whip-poor-will was commonly found in forested areas throughout the central Great Lakes region. However, due to habitat loss and fragmentation its range is now limited to small patches across the region.

Size

- Medium-sized
 - 22-26 cm long from beak to tail
-

Shape

- Large, rounded head
- Stout chest that tapers to long tail and wings
- Front-heavy appearance

Colour

- Mottled grey-brown
- Blackish throat with white bib
- Males have white corners to the tail

Listen for

On warm summer evenings, you can hear it calling for hours on end with its distinctive, repetitive, and energetic “whip-poor-will” song.



Did you know the eastern whip-poor-will lays its eggs in phase with the lunar cycle?

CERULEAN WARBLER

Setophaga cerulea | Status in Ontario: **Threatened**

This small songbird is easily recognized by its brilliant blue colour. The cerulean warbler feeds mainly on insects during the breeding season, and nectar during the non-breeding season. This bird nests high in the trees and their eggs are grayish-white with brown speckles. In the summer, it can be found in mature, deciduous forests with large, tall trees. Habitat loss is the main threat to this songbird. The cerulean warbler requires large forests for foraging and breeding, which are becoming increasingly less common in Southern Ontario due to urban development.

Size

- Small
 - 10-12 cm long from beak to tail
-

Shape

- Small, round bill
 - Short tail
-

Listen for

A buzzy song that ascends to a buzzy trill.

Colour

Male

- Sky blue
- 2 white wing bars
- Dark streaking on back
- Thin blue neck band
- Blue streaking on sides of white belly

Female

- Bluish-green on upper parts
- Yellowish on lower parts
- Whitish eyebrow
- 2 white wing bars
- Lack the streaking and neck bar that the males have



Did you know that it takes four months for the cerulean warbler to travel to its overwintering grounds in South America?

AMERICAN CHESTNUT

Castanea dentata | Status in Ontario: **Endangered**

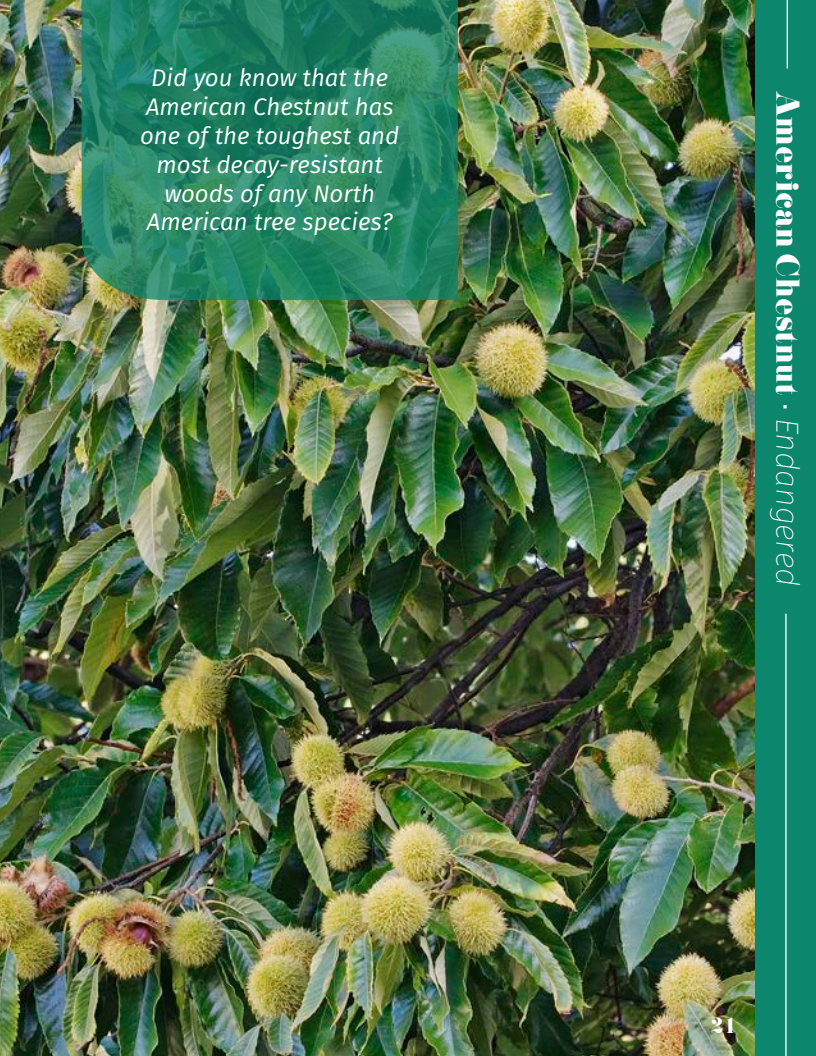
The American chestnut is a member of the Beech family. It produces long white flowers, and once pollinated, its fruit produces dense, spiny husks that contain edible nuts. Once common throughout Southwestern Ontario, the American chestnut has become a rare species due to a fungal disease called chestnut blight that was introduced from Asia in the early 1900s. Before the blight, this tree could grow up to 35 m tall. Now, surviving trees rarely grow taller than 10 m. Since the late 1980s, the Canadian Chestnut Council has been developing a breeding program and searching for surviving trees with the hopes of recovering this species.

Size

- Up to 10 m tall
 - Leaves are 15-28 cm long
-

Look for

A tree with dark gray-brown bark that has been furrowed into flat ridges and has narrow oblong shaped leaves with toothed edges. The leaves are shiny green on top, and pale green underneath.

A close-up photograph of an American Chestnut tree branch. The branch is covered with vibrant green, serrated leaves and numerous bright yellow-green, spiky burrs. The burrs are spherical and covered in sharp, radiating spines. The background is a soft-focus green, suggesting a dense canopy of leaves.

Did you know that the American Chestnut has one of the toughest and most decay-resistant woods of any North American tree species?

BROAD BEECH FERN

Phegopteris hexagonoptera

Status in Ontario:

Special Concern


The broad beech fern grows in deciduous forests dominated by maple and beech trees. Like most ferns, this species requires moist, rich soils in full shade. The broad beech fern is not a flowering plant and instead reproduces through spores. At the end of the summer, the casing around these spores burst, scattering them through the air where they will eventually germinate from the soil. Logging operations and the forest clearing is a probable reason for this fern's decline.

Size

- Fronds can grow from 25-75 cm long
- Leaf blades are 15-30 cm long

Look for

- Attractive green fern with delicate, triangular-shaped fronds
 - Fairly soft with short, scaly hairs on its leaf veins
-



*Did you know that
in Canada, the
broad beech fern
is only found in
Southern Ontario
and Southern
Quebec?*

BUTTERNUT

Juglans cinerea

| Status in Ontario: **Endangered**

A member of the walnut family, the butternut tree produces large edible nuts in the fall that are encased in a light green, sticky husk. It grows alone or in small groups along streams and in deciduous forests. The butternut tree requires moist soils in sunny open areas as it does not do well in shade. A devastating fungal disease called butternut canker is responsible for wiping out 1/3 of its Ontario population. This fungus spreads quickly and can kill a tree within a few years. However, some butternut trees have managed to survive for many years with the fungus, providing hope that this species is developing a resistance to the disease.

Size

- Medium-sized
- Grows to a height of 30 m
- Leaves are 9-15 cm long

Look for

A tree with ridged, grey bark and compound leaves made of 11-17 leaflets arranged in feather-like pattern.

Did you know that indigenous people use butternut to treat injuries, toothaches, and digestive problems?

DROOPING TRILLIUM

Trillium flexipes

Status in Ontario: **Endangered**

The drooping trillium is a flowering plant that grows in the moist soils of deciduous forests, often near a river or stream. There are only a few locations in which this plant still grows, all of which are in Southwestern Ontario. Habitat loss and degradation from urban development and recreational activities are the reason for its declining numbers. In addition, invasive garlic mustard and white-tailed deer (known to eat this flower) also pose threats to this species.

Size

- Grows to a height of 15-60 cm tall
-

Look for

A long stalk that ends in a single large, white three-petaled flower that droops to the side. The flower of the drooping trillium may also be a reddish colour, which is thought to be a result of hybridization between it and the red trillium.



Did you know that the drooping trillium may take as long as 10 years to produce flowers?

EASTERN SMALL-FOOTED BAT

Myotis leibii

Status in Ontario: **Endangered**

The eastern small-footed bat roosts in buildings, under bridges, and in hollows of trees during the day. At night, it hunts for flying insects such as mosquitos, moths, and flies. During the winter, this small bat will hibernate in dry caves and abandoned mines. Unfortunately, like many other bats in Ontario, the eastern small-footed bat is threatened by white-nose-syndrome. This fungus disrupts the bat's hibernation cycle, causing them to use up their fat supplies before spring. The syndrome also affects their water balance, triggering them to wake up before spring from thirst.

Size

- 8 cm long from head to tail
- 21-25 cm wingspan

Look for

A very small bat with light brown fur and a black mask across its face.



*Did you know the eastern
small-footed bat weighs only
about as much as a nickel?*

EASTERN HOG-NOSED SNAKE

Heterodon platirhinos

Status in Ontario:

Threatened

The eastern hog-nosed snake is named for its unique upturned snout that it uses to dig in sandy soil. This thick-bodied snake varies in colour and can be anywhere from grey-olive to yellowish with dark blotches down its back. This snake's favourite food is toads and as a result, is found in fields, forests, shrubland, and dune habitats where toads are found. The eastern hog-nosed snake is arguably the most charismatic snake in Ontario. When disturbed, this snake will put on a defensive display that involves raising its head and flaring out its neck while hissing and striking with a closed mouth. If this fails to deter its predator, the hog-nosed snake will flip itself over and play dead with its tongue hanging out of its mouth. Despite its dramatics, the eastern hog-nosed snake is non-venomous and harmless to humans. However, its display can be rather frightening to some people who choose to kill it out of fear. Habitat loss and fragmentation are also major threats to this species.

Size

- Just over 1 m in length
- Thick-bodied

Look for

A snake with an upturned snout and dark bands on either side of its head. Despite its pattern variation, all individuals have these distinctive markings.

*Did you know
that unlike other
snakes, the eastern
hog-nosed snake
hibernates alone?*

RED-HEADED WOODPECKER

Melanerpes erythrocephalus

Status in Ontario:

Special Concern

Easily recognized by its bright red head, this medium-sized bird inhabits open woodlands and is often found in parks and golf courses. This species digs holes in wood to find insects, and forages for nuts in the winter. Woodpeckers prefer to excavate in decaying or dead wood as it's much softer than live wood. So, leaving dead trees on your property is a great way to help this species.

Size

- 20 cm long from beak to tail

Colour

- Bright red head with black upper parts and white underparts.
-

Did you know that the red-headed woodpecker is known to store food in fence posts, under bark, and in cracks in wood?



RED MULBERRY

Morus rubra

Status in Ontario: **Endangered**

- The red mulberry is a relatively small tree that grows in moist-forested habitats within the Carolinian forest. It is often confused for the invasive white mulberry and hybrids of these two species.
- Size: 6-18 m in height
- Look for: A tree with grey, flaky bark and large heart-shaped leaves. It produces a small fruit that resembles a blackberry.



GRAY RATSNAKE

Pantherophis spiloides

Status in Ontario:

Endangered (*Carolinian pop.*)

Threatened (*Frontenac Axis pop.*)

- The gray ratsnake is Ontario's largest snake. This non-venomous species is mainly arboreal, spending most of its time in trees where it basks and hunts for small birds.
- Size: up to 2 m in length
- Colour: Shiny black body with a white chin and throat. Young snakes have dark blotching on their body and tail.



Photo: Brock Ogilvie

CUCUMBER TREE

Magnolia acuminata

Status in Ontario: **Endangered**

- The cucumber tree is named for its cucumber-shaped fruit that changes from green to red as it ripens. It grows in moist, upland deciduous and mixed forests. It can only be found in Niagara Region and Norfolk County.
- Size: up to 30 m tall
- Colour: Yellowish green flowers and scaly grayish-brown bark.



Photo: Derek Ramsey

WEST VIRGINIA WHITE

Pieris virginiensis

Status in Ontario: **Special Concern**

- This rare butterfly relies on a small forest plant called two-leaved toothwort, which is its only food source for larvae. It is one of the first butterflies to emerge in the spring and can be found in moist deciduous woodlands.
- Size: 3-4 cm wingspan
- Colour: dingy white, wings appear translucent



Photo: Cathie Bird

AMERICAN COLUMBO

Frasera caroliniensis

Status in Ontario: **Endangered**

- In Canada, the American columbo is only found in the Carolinian forest region of Ontario. This perennial herb can live for many years, however, it only flowers once before dying.
- Size: up to 2-3 m
- Look for: A tall plant with a circular arrangement of large leaves radiating from its stem. During its first and only blooming, flowers are yellowish green with dark spots.



EASTERN FLOWERING DOGWOOD *Cornus florida*

Status in Ontario: **Endangered**

- This small tree grows underneath taller trees in deciduous and mixed forests. Its red berries are poisonous to humans; however, they are eaten by many birds and small mammals.
- Size: 3-10 m in height
- Colour: Its tiny yellow flowers are surrounded by leaves that look like petals. Its bark resembles that of alligator skin and is brownish grey and separated into scales.



ACADIAN FLYCATCHER

Empidonax virescens

Status in Ontario: **Endangered**

- The Acadian flycatcher is a small insect-eating bird that is found in large forests in the Carolinian region. It remains relatively still while perched on branches. Males can be heard singing their short, explosive “pea soup!” or “ker-chip!” call.
- Look for: A sparrow-sized bird with olive-green upperparts and whitish underparts. It has a bold white ring around the eye and two distinctive white wing bars.



Photo: Nick Varvel

AMERICAN GINSENG

Panax quinquefolius

Status in Ontario: **Endangered**

- American ginseng is a very rare perennial herb that grows in Southern Ontario in mature forests.
- Look for: A single-stemmed plant that ends in a whorl of one to five leaves, with each leaf containing five leaflets at the end of the leaf stem. Mature plants will produce a cluster of 6-20 modest greenish-white flowers at the centre of the leaf whorl. Its fruit consists of bright red berries also arranged in a cluster.



Photo: Lori Owenby



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