Ohio Forests:
A Rich & Bountiful Land

There are more than 100 species of *deciduous* (*hardwood*) trees and 25 species of *coniferous* (*softwood*) trees that grow in Ohio. The most abundant tree species are oak varieties, red maple, sugar maple, yellow poplar and hickory varieties. Many species of plants, mammals, reptiles, amphibians, and fungi rely on Ohio forests for habitat. Several *endangered species* call Ohio forests home.

The health and stability of *forest ecosystems* are closely related to their *biodiversity*. Greater species diversity of plants facilitates healthier forests and higher quality soils. Maintaining a wide diversity of *native species* in Ohio's forests is necessary to preserve the *web of life* that sustains all living things.

This imagery shows an Ohio *oak-hickory* forest. The acorns and hickory nuts from these trees gathered on the tree stump are a main source of food for *wildlife* pictured: white-tailed deer, black bears, red fox, gray squirrel, chipmunks, cottontail rabbit, raccoon, wild turkey, and even wood ducks. The nuts that are not foraged and remain on the forest soil may *germinate* and grow into oak and hickory seedlings. This is how an Ohio *forest naturally regenerates* and continues to provide many benefits for *wildlife*, people, and the environment.

Try PLT Activities **Web of Life, Planet Diversity, Charting Diversity,** and **Dynamic Duos.**

Below is information about the native species shown in the **Oho Forests: A Rich & Bountiful Land** poster.

	**American beech *(Fagus grandifolia)*** This large tree can grow in shade but prefers partial to full sun. It is known for its very smooth bark. Beech nuts are nutritious for wildlife and the trunks are often partially hollow providing *habitat* as well. This tree is found throughout the state of Ohio.
	**American ginseng (*Panax quinquefolius)*** This *perennial* herb grows in mature *deciduous* forests. Its root is harvested and used for medicinal purposes. The plant has palmately *compound leaves* meaning the *leaflets* radiate from a single point. American ginseng is classified as a *threatened species* in several states so there may be restrictions on harvesting the plant. In Ohio, harvesting American Ginseng is protected on state lands or national park lands.
	**American lotus (*Nelumbo lutea*)** This aquatic plant has fragrant, pale yellow or white flowers. Its leaves are round with a stalk coming from the leaf's center. These grow on ponds and *marshes*, or slow-moving water often found in *wetland* areas. It can be found at Glenwood Gardens in Hamilton county, Cowan Lake State Park near Wilmington, OH, along inlets of Lake Erie, and Tappan Lake in northeast Ohio.

	**Ash *(Fraxinus spp.)*** There are many species of ash tree in Ohio, with white ash and green ash being the most common. These trees are struggling from the spread of the invasive beetle emerald ash borer. The trees have *compound leaves* with round entire *leaflets*. The bark has a diamond pattern and its strong, heavy wood has been used for baseball bats, tool handles, and furniture. These trees were once very common throughout the state but now many of the trees are dying.
	**Basswood *(Tilia Americana)*** Basswood trees can grow up to 80 feet tall and its lower limbs droop but sweep upwards at the ends. It is used to make crates and boxes to store food because its wood is lightweight and odorless. Its leaves are heart-shaped with *serrated edges*. This tree is also planted in urban settings and referred to as American Linden tree. Bees love American basswood because the nectar they extract from the flowers creates high-quality honey. This tree species is found in the northern and western portions of Ohio.
	**Boxelder *(Acer negunda)*** Found throughout Ohio, boxelder is part of the maple family but has *compound leaves*. It's a fast-growing tree and *adaptable* to varying soil conditions. In the past it was used to make wooden crates, pallets, and boxes which is how it got its name. These trees grow up to 30 feet tall. Its fast growth makes it useful for quick cover and *erosion* control.
	**Dryad's saddle (*Cerioporus squamosus)*** These mushrooms are flat on the top and are cream colored with dark brown flattened scales. They are round to kidney-shaped and can grow up to almost 12 inches across. It fruits on *hardwood* stumps, logs, or living trees typically in April and May. Dryad's saddle is very common in Ohio and across many areas of Canada and the United States. It is particularly common on living and dead silver maple (*Acer saccharinum*) and boxelder (*Acer negundo*) and dead American elm (*Ulmus americana*).
	**Eastern hemlock *(Tsuga canadensis)*** This conifer has short flat needles only about ½"-1" long. The needles have two parallel white stripes on the underside. Their small *cones* are only about ¾ inch long. This tree species is very *shade tolerant* which means it can grow underneath big trees without much sun. These trees grow on rocky cliffs and along streams creating a unique, cooler *microclimate*. These trees are under attack by an invasive species called *Hemlock wooly adelgid (HWA).* HWA is a tiny insect that attaches at the base of a hemlock needle and extracts the tree's *sap.* In the wild, hemlocks are only found in the eastern half of Ohio, primarily in Appalachia. However, hemlocks are also planted in urban settings throughout the state.

	**Eastern White Pine *(Pinus strobus)*** This is the only *native* pine in the eastern United States with 5 needles in a cluster. Its needles are 2”-4” long and flexible. Its *cones* are elongated and up to 6 inches long. Eastern white pine is one of the tallest and most important timber species in the Northeast, growing to a mature height of 80 feet. It is planted throughout Ohio but only naturally occurs in the northeast portion of the state.
	**Field thistle *(Cirsium discolor)*** This wildflower is in the same family as sunflowers, Asteraceae. These plants produce a head of flowers called a *capitulum*. The capitulum has flowers shaped into long tubes. Flowers are pink to purple, and sometimes white. It grows in open land, especially prairies, pastures, and old fields. Field thistle is found across most of the eastern United States and Canada.
	**Fly amanita (*Amanita muscaria*)** This *mushroom* has a yellow-orange or bright red cap with white cottony patches. It has a white stalk and the cap can vary in shape from an upside-down bowl shape to almost flat. It fruits on the ground in the woods and is poisonous. It is a common mushroom and can be found throughout the northern hemisphere, including the US and Canada. It is also called fly agaric.
	**Jack in the pulpit (*Arisaema triphylluum*)** This flower is found throughout Ohio in shaded *deciduous* woods and *floodplains*. It is a *perennial* flower *pollinated* by small flies. Its flower is striped with maroon and green color surrounding a *spadix* with many tiny flowers. It produces bright red berries with the consistency of a ripe tomato. Birds, especially thrushes, consume the berries. It can be found throughout eastern North America, from Canada down to the Gulf of Mexico.
	**Maidenhair fern (*Adiantum spp.*)** This *perennial fern* has *fronds* that grow 8 to 20 inches long. It is arranged in a near perfect circle with dark shiny stems and dark green leaves. It likes moist, cool, *deciduous* woods and will spread horizontally along the ground. It’s found throughout Ohio and much of eastern United states and Canada. These ferns provide shelter for toads and lizards.
	**Mayapple (*Podophylum spp.*)** A *perennial wildflower* of *deciduous* forests. Each plant has two big umbrella-like leaves. It has one white to rose colored flower with 6-9 petals. The fruit is a large lemon shaped berry. These wildflowers can densely cover the forest floor. The leaves, roots, and seeds are poisonous in large quantities, but the fruit is edible and can be used in jellies. It is found throughout the state of Ohio and throughout the eastern parts of the United States and Canada.

	**Morel (*Morchella spp.*)** These mushrooms have a spongey cap and are highly sought after as an wild *edible mushroom*. Many people forage for them because of their unique, delicious taste and texture as well as their nutritional value. Because morels tend to grow in rich soils, they are often full of vitamins and minerals. The cap has an imperfect honeycomb shape with many cavities or pits. Morels are hollow inside and connect to a white to cream colored stalk. They grow on the ground in woods in the Spring.
	**Northern Catalpa (*Catalpa speciosa*)** This tree has large heart shaped leaves that can be up to 12" in length. It also has long skinny *seed pods* that look like string beans. The seed pods are 8-20" long. It has white showy flowers. This is one of the few eastern trees with *whorled branching* which means three branches or leaves will radiate from a single point. This tree is found throughout Ohio and is primarily used as an *ornamental shade tree*. It was introduced to the state from its native range in the Mississippi Valley Basin because it was fast growing and its lightweight, *rot-resistant* wood was used for fenceposts.
	**Ohio Buckeye (*Aesculus glabra*)** This is Ohio's state tree! Its bitter seeds are actually *poisonous* to humans. Ohio buckeye is found primarily as a smaller *understory* tree in western Ohio, western Pennsylvania, south into Alabama, and west to Kansas and Nebraska. The tree has *palmate compound* leaves meaning the leaflets radiate from a single point. It has opposite branching and showy, yellow-green flowers in early spring. The nuts grow in a slightly spiky, golden-brown *husk*. Holding a buckeye nut in one's pocket is considered good luck!
	**Osage orange (*Maclura pomifera*)** This tree was introduced into Ohio in the 1800s for use as living fence rows or hedges. Osage orange trees produce a large softball sized fruit. It has very strong wood used for bows in archery. It grows in hot, dry conditions and even *poor soils*. It is found throughout Ohio but native to parts of Arkansas, Texas, and Oklahoma. Scientists think that its large, lime green ball fruit was dispersed by mammoths and ground sloths before they went extinct.
	**Pawpaw (*Asimina triloba*)** Ohio's *native fruit*! Pawpaw trees are typically smaller trees that grow in *clonal colonies* in the understory. They have large, tropical-looking leaves: dark green and *obovate* in shape. The somewhat banana-like fruit ripens in late summer and is round to curved 3"-5" long with a fruity custard flavor. Pawpaw is found throughout Ohio and most of the eastern Unites States except New England and Florida. It prefers to grow in moist, shady places such as ravines and along creeks.

	**Puffball (*Lycoperdon spp.*)** There are many types of puffball mushrooms found in North America, Europe, and Asia. They vary greatly in size from the more common smaller puffballs to less common giant puffballs (Calvatia gigantea). Giant puffballs can grow 4-27 inches wide and tall. Most puffballs are round to pear shaped. Smaller puffballs have spines on the caps and an opening called a pore at the top. These mushrooms are white to brown and grow in grassy clearings, *riparian* areas, and the forest. They can grow in clusters on rotting logs or stumps or individually. Puffballs produces *spores* on the inside and use wind, insects, or rain to disperse spores through their opening.
	**River birch (*Betula nigra*)** Usually found along bodies of water, it is a *riparian* tree! River birch is prized for its flaky, ornamental bark. It can therefore be found throughout Ohio where it has been planted in landscapes. However, it grows naturally in the south-central counties of Ohio and sparsely along Lake Erie. It is native to the east coast states. It grows quickly and often has multiple trunks. A river birch tree with a single trunk can grow up to 70 feet tall. Its leaves are *alternate*, doubly *serrated* and somewhat triangular.
	**Sassafras (*Sassafras albidum*)** This tree grows rapidly and is known as a *colonizer species*. It is found throughout Ohio in fence rows and fields. Its roots, leaves, twigs, and fruit have a pleasant smell. It has been used as a perfume in soaps and its roots are used in tea and root beer. Sassafras leaves can vary in shape from an entire leaf to mitten-shaped or with three lobes like a trident. The tree can be found throughout the eastern half of the United States.
	**Shagbark Hickory *(Carya ovata*)** Found throughout the state, its strong wood is used for handles, cabinets, and furniture. Its rough shaggy bark that peels in long, thick, vertical strips is the easiest way to identify it. Hickory nuts are *edible* for squirrels and people. These trees can grow up to 100 feet tall. They are found throughout Ohio, particularly in dry uplands or moist valleys with other hickories and oaks. It has large *pinnately compound* leaves, usually with five *leaflets*.
	**Shaggy mane (*Coprinus comatus)*** This edible mushroom has a bell-shaped cap and is cream colored with brown to black curved scales. The stalk is whitish and hollow. It grows in grass, or even rocky soils and is common at *disturbed sites*, like edges of dirt roads, driveways, and lawns. Shaggy mane grows in summer and fall often in large, *dense* groups that are visible from quite a distance away. This mushroom species is widely distributed across North America.

	**Skunk cabbage (*Symplocarpus foetidus*)** This unique *perennial* wildflower is one of the very first to appear at the end of winter. It can melt surrounding snow with a chemical process that heats the flower. The outside is a green-purple mottled leaf-like shell, enclosing a ball with small flowers on it called the spadix. The heat produced inside the flower attracts early pollinators to the spadix. Temperatures inside a skunk cabbage can reach 60-70 degrees, even if it is surrounded by snow. Its name comes from the skunky odor it produces which also helps attract pollinators. Skunk cabbage grows in swampy areas in eastern North America. Snails, slugs, and some moth caterpillars eat skunk cabbage leaves.
	**Sugar maple (*Acer Saccharum*)** A popular shade and *ornamental* tree because of its beautiful fall colors. It has *lobed* leaves and seeds called *samaras* that are dispersed by the wind. This tree is often tapped for maple syrup, but its hard, dense wood is also useful for things like flooring, furniture, and musical instruments. Its seeds are a food source for squirrels. Maples have an opposite branching pattern which if helpful for identification. Sugar maple is found throughout Ohio, but it does best in the cooler climates of northeastern Ohio and Appalachia. It is native to southern Canada, the Midwest, and the northeastern United States.
	**Swamp milkweed (*Asclepias incarnata)*** There are 13 native species of milkweed in Ohio, but this is the only *native* milkweed found in wetland areas. It is a *perennial* plant with opposite, long narrow leaves. Its flowers consist of dozens of small, bright pink flowers. This flower has value to *native bees*. It is found throughout the state of Ohio and is common in most of the United States, except for the west coast. It grows in wet places like swamps, floodplains, wet prairies, and roadside ditches.
	**Sweetgum (*Liquidambar styraciflua*)** This *deciduous* tree has star shaped leaves with 5 or 7 lobes. It is named for its *sap* which when hardened can be chewed. This tree's fruit is a spiky ball with a long stem. Some paint these and use them to decorate a Christmas tree. The tree grows in the lower two-thirds of the Eastern United States and parts of Mexico. In Ohio, it is only native to the southernmost counties but has been planted throughout the state as a shade tree. Sweetgum has brilliant fall colors, often turning yellow and orange and then red. This tree prefers wet soils and thus is found in floodplains, and moist woodlands but can also adapt well to dry soils in urban environments.

	**Sycamore (*Platinus occidentalis*)** This tall tree has distinctive *bark* that flakes off in large puzzle-like pieces moving up the tree. The bark at the top is bright yellowish or white and stands out, especially in the winter. Sycamores are common in *riparian* areas (along water edges). They are found all over Ohio and all of the eastern United States. Mature trees can reach 80 feet in height. It is also called American planetree. It is a pioneer species and thus will be one of the first species to grow at a site following a disturbance.
	**Trillium (*Trillium grandiflorum)*** Large white trillium is the official wildflower of Ohio. These *perennial* wildflowers have a *mutualistic relationship* with ants. Ants get nutrients from these flowers and then spread the plants seeds. Trilliums have white flowers with three petals. They grow in *deciduous* forests, especially those with beech and maple trees. The flower is a long-lived plant that can live for 25 years. It can be found in all of Ohio's counties and most of eastern North America from Canada in the north to Georgia and Alabama in the south.
	**Turkey tail (*Trametes versicolor)*** As its name indicates, this mushroom resembles a turkey tail with rings of brown, red, and tan with a white edge. The surface is slightly fuzzy, and the pores are on the underside. Turkey tail does not have a stem and typically grows in shelves. It is often found covering dead wood such as a rotting log. It is very common and found throughout all North America, Asia, and Europe. It has a tough texture so not often harvested, though it is edible and sometimes used in teas or soups. Turkey tail has medicinal properties and is said to boost the immune system.
	**White Oak (*Quercus alba)*** This large native tree's strong wood is used for many wood *products,* including beams, railroad ties, flowing, furniture, and barrels. Its acorns are a popular food source for wildlife. This tree is found throughout Ohio and the rest of the eastern half of the United States. Its leaves have 7-9 finger-like *lobes* and are white-green on the underside. It grows up to 70-80 feet tall.
	**Wild columbine (*Aquilegia canadensis)*** This *perennial* flower attracts hummingbirds, bees, butterflies and hawk moths. It is also used *ornamentally* because of its bright red, bell-like, drooping flowers. It flowers in April and may bloom through July. Its leaves have three lobed parts. It grows in partly shaded to shaded *woodlands*. It is *native* in the United States and Canada, east of the Rocky Mountains but is an uncommon species. It has been said that Native American men would rub the seeds on their hands as a love charm.

Glossary

Adaptable: able to adjust to the environment over time.

Bark: the tough exterior covering of a woody root or stem.

Biodiversity: or biological diversity: the variety of life on Earth, reflected in the variety of ecosystems and species, their processes and interactions, and the genetic diversity within and among species.

Capitulum: a type of flower made of many tiny florets (smaller flowers).

Clonal colonies: a group of plants with the same exact genetics. Usually the roots of one plant will grow up and sprout a new plant nearby and this continues creating a group, or colony that is all the same individual plant.

Compound leaf: a leaf that is subdivided into many leaflets. A leaf that is comprised of a single leaf blade is a SIMPLE LEAF.

Cone: a structure composed of many spirally arranged scales in which pollen ovules are produced.

Coniferous: a plant that bear its seeds in cones. Usually refers to Needle-leaf trees, although some needleleaf trees, such as the yew, do not bear cones.

Deciduous: describes a plant that periodically (typically in autumn) loses all its leaves. Most North American broadleaf trees are deciduous. A few conifers, such as the larch and cypress, are also deciduous.

Dense: having the components closely crowded together, a dense forest has lots of trees really close together.

Disturbed sites: Sites in which a disturbance has occurred, such as a fire, windstorm, flood, or a forest being cleared into a field. Disturbances can change the species that grow at a site.

Ecosystems: the interacting system of a biological community and its nonliving environment; also the place where these interactions occur.

Edible: able to be safely eaten

Endangered Species: a species that is in imminent danger of extinction

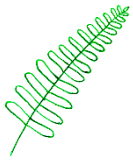
Erosion: the wearing away of the land surface by wind or water. Erosion occurs naturally from weather or runoff, but it is often intensified by some human practices.

Fern: a type of plant with compound leaves, commonly found along forest floors.

Floodplains: Areas of ground next to a body of water, commonly subject to flooding.

Forest: a large area of land primarily covered with trees as well as other organisms, soil, water, ad air associated with them.

Fronds: a large, divided leaf of a fern plant. They look like this:



Fungi: small, often microscopic, organisms that lack chlorophyll and cellulose in their cell walls. Fungi are important decomposers of organic wastes.

Germinate: when an organism grows from a seed or spore. For example, a seed sprouting to form a seedling.

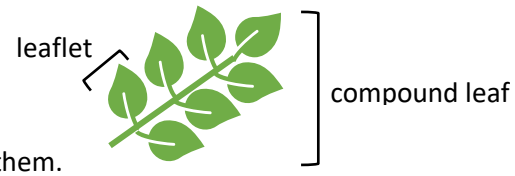
Habitat: an area that provides an animal or plant with adequate food, water, shelter, and living space in a suitable arrangement.

Hardwood: a deciduous or broad-leaf tree; also applies to the wood from such trees.

Husk: the outer covering of some fruits or seeds

Leaflets: a leaf-like subdivision of a compound leaf.

Lobes: lobed leaves have parts of the leaf blade with gaps in between them.



Marsh: a wetland without trees, and which often has standing water.

Microclimate: a "small climate." The environmental conditions within a restricted area.

Mutualistic relationship: Mutualism: A symbiotic relationship between organisms of two different species in which both benefit from the association.

Native bees: There are over 400 species of bees found in Ohio. Many nest in the ground while others nest in branches, stumps, and other crevices they can find. Bees play an important role in pollinating plants by moving pollen from one flower to another.

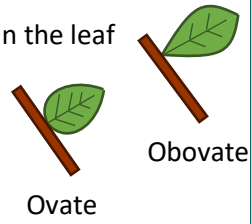
Native species: a species that occurs naturally in an area or habitat.

Natural regeneration: natural renewal of vegetation, new trees growing from seeds to seedlings and establishing a new generation of young trees

Oak-hickory: A forest ecosystem common in southeast Ohio and throughout much of the Eastern United States. It is dominated by oak and hickory trees which provide many benefits for wildlife including food and habitat. Oak trees produce acorns and hickory trees produce hickory nuts.

Obovate: A leaf shape in which the widest part is above the midpoint, closer to the leaf tip than the leaf base. The opposite of ovate leaves.

Ornamental: decorative plants in a landscape or garden chosen for aesthetic appearance.



Perennial: a plant that lives for several years and when mature usually produces seeds each year.

Poisonous: in mushrooms, various toxins that cause severe and often deadly effects when eaten.

Pollination: the transfer of pollen from the male part of the plant (anther) to the female portion of the plant (stigma).

Poor soils: soils lacking nutrients and structure beneficial to plants and other organisms.

Products (wood products): Items that can be made out of wood. Some examples include, lumber for construction, furniture, picture frames, and paper.

Riparian: forest areas next to and influenced by bodies of water (e.g. ponds, streams, rivers)

Rot-resistant: certain trees are less likely to rot and take longer to break down after the tree dies.

Sap: the fluid part of a vascular plant or, more specifically, the material transported via the xylem and phloem of a tree.

Serrated edges: leaves with jagged edges

Seed pods: the fruit or seed of a certain plants that is a pouch like shape with several seeds inside, like snap peas! Trees and plants with seed pods are in the legume family.

Shade tolerant: Tree or plant species that can grow even in shaded areas below an overstory. They can tolerate having little to no direct sun.

Shade tree: Trees planted for the purpose of creating shade. Typically trees with a large crown.

Spadix: a knob like structure in some plants on which tiny flowers grow

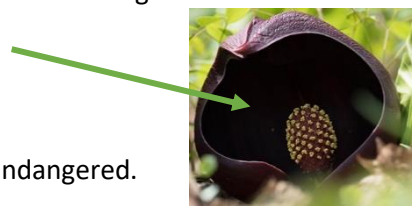


Photo retrieved from National Wildlife Federation

Swamp: a wetland dominated by trees.

Threatened species: a species that is declining in numbers, may become endangered.

Understory: the layer formed by the crowns of smaller trees in a forest.

Web of life: the concept that each species in an ecosystem is connected to other species creating a web of interactions that maintains a natural balance. Changes to one species affect the many other plants and animals in the ecosystem.

Wetland: an area that is regularly wet or flooded, and where the water table stands at or above the land surface for at least part of the year, and which has a plant community comprised of species which require wet soil.

Whorled branching: when at least 3 leaves, petals, or other plant parts grow in an arrangement that radiates from a single point.

Wildflower: A flower that grows in natural areas, not intentionally seeded or planted by humans.

Wildlife: non-domesticated animals, especially mammals, birds, and fish.

Woodlands: a wooded area in which the crowns of the trees do not form a closed canopy.

Sources

Barron, George. 2014. Mushrooms of Northeast North America: Midwest to New England. Edmonton, AB. Partners Publishing. 336 p.

Boggs, Joe. 2018. Lovely American Lotus. Buckeye Yard & Garden Online. Ohio State University Extension. Last Accessed March 20, 2020. Available from https://bygl.osu.edu/node/1089

Bronaugh, Whit. 2010. The Trees That Miss The Mammoths. American Forests Magazine. American Forests. Last accessed April 4, 2020. Available from https://www.americanforests.org/magazine/article/trees-that-miss-the-mammoths/

Edible Wild Food. 2020. Ediblewildfood.com. Last accessed April 7, 2020. Available from https://www.ediblewildfood.com/

Gibson, Andrew Lane. 2013. A Guide to the Milkweeds of Ohio. The Buckeye Botanist. Last accessed April 7, 2020. Available from http://floraofohio.blogspot.com/2013/06/a-guide-to-milkweeds-of-ohio.html

Kaufman, Kenn; Sayre, Jeff; & Kaufman, Kimberly. 2015. Field Guide to Nature of the Midwest. New York. Houghton Mifflin Harcourt. 416 p.

Lady Bird Johnson Wildflower Center. n.d. Native Plants Database. The University of Texas at Austin. Last accessed April 7, 2020. Available from https://www.wildflower.org/plants/

Mushroom-Collecting.com. 2010. Shaggy Mane. A New England and Eastern Canada Edible and Medicinal Mushroom Resource. Last accessed April 7, 2020. Available from http://mushroom-collecting.com/mushroomshaggy.html

Ohio Department of Natural Resources Division of Forestry. 2020. Common Ohio Trees. ODNR. Last accessed April 3, 2020. Available from http://forestry.ohiodnr.gov/trees

Ohio Department of Natural Resources Division of Natural Areas & Preserves. n.d. Large White Trillium- Trillium grandiflorum. ODNR DNAP. Last accessed April 7, 2020. Available from http://naturepreserves.ohiodnr.gov/natural-features-of-ohio/ohio-wildflowers/species-profiles/large-white-trillium

Ohio Department of Natural Resources Division of Wildlife. 2019. Trees of Ohio Field Guide. ODNR Division of Wildlife. Publication 5509. 76 p.

Ohio Department of Natural Resources Division of Wildlife. n.d. Ohio's Green Gold: American Ginseng. ODNR. Publication 5007 (0816). Last accessed April 7, 2020. Available from https://wildlife.ohiodnr.gov/portals/wildlife/pdfs/publications/laws%20&%20regs/pub007.pdf

Petrides, George A. and Wehr, Janet. 1988. A Field Guide to Eastern Trees: Eastern United States and Canada, Including the Midwest. Peterson Field Guides. New York. Houghton Mifflin Harcourt Publishing. 424 p.

Project Learning Tree. 2015. PreK-8 Environmental Education Activity Guide. Washington D.C. American Forest Foundation. 474 p.

Springsteen, Joel. 2013. Native Plant: Eastern Skunk Cabbage. Urban Ecology Center. Last Accessed April 7, 2020. Available from https://urbanecologycenter.org/blog/native-plant-eastern-skunk-cabbage.html

Stritch, Larry. 2019. Great White Trillium (Trillium grandiflorum). Plant of the Week. USDA Forest Service. Last Accessed March 7, 2020. Available from https://www.fs.fed.us/wildflowers/plant-of-the-week/trillium_grandiflorum.shtml

United States Department of Agriculture U. S. Forest Service. 2014. Hemlock Woolly Adelgid. Research & Development. Last Accessed April 10, 2020. Available from https://www.fs.fed.us/research/invasive-species/insects/hemlock-wooly-adelgid.php

Young, Curtis E. 2019. From Woodlots to Landscapes: The Impressive Dryad's Saddle Polypore Fungus. Buckeye Yard & Garden Online. Ohio State University Extension. Last accessed April 2, 2020. Available from https://bygl.osu.edu/node/1279