

TRAILBLAZER

Oregon Ridge Nature Center Council – Supporting Oregon Ridge Nature Center since 1982

WINTER 2021



Signs of the harsh winter can be found all around. The days have gotten shorter, morning dew has been replaced by frost, and wildlife has either entered hibernation or migrated for the winter. But what about plants? Without the ability to leave or burrow underground, how does resilient flora survive the harsh winter? The answer is through a variety of fascinating adaptations.

We can thank the most common plant adaptation for the beautiful fall foliage season. For *deciduous* plants like our native black walnut (*Juglans nigra*) or tulip poplar (*Liriodendron tulipifera*), the easiest way to survive the winter is by shedding their leaves, which would cause excessive water loss and deplete their resources if left attached year round. They are then able to go dormant through the winter, living off of their stored resources until warmer spring temperatures and rains arrive. The vibrant reds, yellows, and oranges are just a beautiful side effect of this process!

However, we all know that certain trees and plants will not lose their leaves even in the dead of winter. These *coniferous* plants, such as our Virginia pine (*Pinus virginiana*) or eastern hemlock (*Tsuga canadensis*) have one main trait in common; needles. By growing compact, thin needles instead of broad, flat leaves, coniferous plants are able to reduce water loss and continue to photosynthesize throughout the winter. They also grow a waxy cuticle to further protect them from the elements and prevent dehydration. Other conifers, such as the commonly planted blue spruce (*Picea pungens*), have adapted their entire shape for winter survival. Instead of branching upwards like most trees, these conifers have branches that slope downwards, allowing snow to easily slide off.

One of the most interesting examples of winter adaptations can be seen locally through our native skunk cabbage (*Symplocarpus foetidus*). Every year, without fail, skunk cabbage is the first of many spring ephemerals to show its beautiful foliage - often peeking through while there is still snow on the ground. This is no coincidence; skunk cabbage is a member of the *Araceae* family of plants, known for their ability to create their own heat through a process called thermogenesis. Through this process, skunk cabbage is able to act very similarly to a warm-blooded mammal by burning its energy stores to produce heat and maintain a constant temperature of about 70 degrees no matter how much snow may be on the ground. It is certainly a very effective trait, but it is also one that requires a massive amount of energy and cannot be maintained year round. Once the snow has melted and ambient temperatures begin to warm, the plant will return to normal respiration, once again building up energy stores for the next winter.

While these adaptations may be fairly well known, there are many others that are less apparent. One of these lesser known traits is marcescence, or the retention of dead leaves. In Maryland, this is most commonly seen in the American beech (*Fagus grandifolia*) and some oak species. Elsewhere, it is found in ferns, palms, and various other species across the planet. There are many theories as to why marcescent plants exist. Some believe it deters wildlife from browsing on next years buds; others suggest that by shedding the dead leaves in the spring, trees are able to benefit from extra nutrients at their base when they need them most. A third theory is that marcescent behaviors exist to allow plants to protect themselves in cold weather by providing insulation. The dead plant matter could also be useful in preventing water evaporation.

Rock Formations in Oregon Ridge

by Judy Breitenbach



During the winter months rock formations throughout Oregon Ridge are more obvious as you traverse the number of hiking trails throughout the park and around the nature center.

The park is part of the Piedmont Plateau Province - an area of land covered by rolling hills and valleys extending from Alabama to southern New York (from south to north) and resting between the Appalachian Mountains to the west and the Atlantic Coastal Plain to the east. In Maryland, the Piedmont extends from the western edge of the Coastal Plain spreading west to Catoclin Mountain in Frederick County, the "eastern boundary of the Blue Ridge Province." (Maryland Geological Survey/Maryland Department of Natural Resources <http://www.mgs.md.gov>.)

Rock formations in the Piedmont Province are composed of hard, crystalline igneous and metamorphic rocks. Igneous rock has been formed from the cooling and solidification of molten rock. In comparison, metamorphic rock has been transformed from the original igneous or sedimentary form after being exposed to high heat, high pressure, and/or hot mineral-rich fluids. The process of metamorphism transforms the rock into a more dense, compact particle.

There are two types of metamorphic rock formations - foliated and non-foliated. Foliated rock has parallel arrangements of mineral grains that provide a striped appearance. They also have a "platy or sheet-like structure." Some examples include gneiss, schist, slate, and phyllite. Non-foliated metamorphic rock does not have a platy or sheet-like appearance. Examples include quartzite, marble, amphibolite, and serpentinite. (<http://www.usgs.gov>)

The oldest type of rock in Oregon Ridge Park is gneiss. It was formed by the metamorphosis of granite or sedimentary rock. The word gneiss means "spark" which describes the way it glitters as a result of light bands of rock, like quartz, or dark bands, like graphite, running through it. The grain of the rock is coarse and crystals can be seen with the naked eye. It is usually rough to the touch and does not split along "planes of weakness" thus breaking apart in huge chunks.

Several of the trails at Oregon Ridge have been named for the various types of rock formations found in this area. Trail names include: Baltimore Gneiss, Loch Raven Schist, and the Marble Quarry Loop. While enjoying a peaceful stroll, look for rock formations jutting out of the earth. (www.oregonridgenaturecenter.org/trailmap.html)



December Highlights

by Judy Breitenbach

Despite the continued restrictions driven by the pandemic, Oregon Ridge Nature Center staff members were able to successfully provide winter community educational programs throughout the month of December, in keeping with our ideals and goals as a designated Maryland Green Center. This certification was obtained by ORNC through the Maryland Association for Environmental and Outdoor Education (MAEOE) in 2015. (www.oregonridgenaturecenter.org/natureprograms.html).

We started off the season with holiday wreath making. Friends and family members gathered in small groups to craft an evergreen holiday wreath made from pine branches, holly, and magnolia leaves. Wreaths were made by twisting and bending branches into a large ring and then embellishing them with different types of natural adornments. The word wreath is derived from "*writhen*" which is Old English for "*to writhe*" or "*to twist*." The custom of wreath making dates back to ancient Greece and Rome when wreaths were used as a symbol of victory. The tradition of bringing home a Christmas tree began in the 16th century among northern and eastern Europeans. The trees were trimmed to a symmetrical shape and the cut branches were then used to make what is now known as the Christmas wreath.

To celebrate the winter solstice, ORNC hosted an evening hike. According to The Old Farmer's Almanac, "the word *solstice* comes from Latin *sol* "sun" and *sistere* "to stand still." The winter solstice "marks the official beginning of the astronomical winter and only lasts a moment... the exact moment when a hemisphere is tilted as far away from the Sun as it can be." (<http://www.almanac.com/content/first-day-winter-winter-solstice>)

Natural ornament making and trim a tree for wildlife were two programs held by ORNC suited for little hands and wide open eyes. Families gathered to create whimsical holiday ornaments made from natural materials like sticks, seeds, pine cones, and more that they could take home and use to decorate their tree. Edible Christmas ornaments were made to help feed wildlife during the cold wintry months when food sources are limited. Families strung popcorn and dried cranberries along with pieces of fruit for wildlife nourishment. They also used suet to make seed balls to hang from the trees for our feathery friends who have high-energy needs when it gets cold. Suet is a good food source for birds in the winter because it is high in calories and does not melt in the cold.



An Insider's Perspective

by Corey Johns

When I was nine years old, Oregon Ridge Park -- this blissful and serene place with big trees, streams, a lake, frogs, turtles, birds, bats, and butterflies -- seemed like it was a world away from my home in east Baltimore County. But when I got older I was delighted to find out that this amazing place to enjoy nature was a short car ride away... no need to travel way out to the mountains in Western Maryland, or to the National Forests in Virginia or Pennsylvania.

I loved going to Oregon Ridge. I loved being in the woods, hearing the birds chirp and the toads bellow, and visiting the Nature Center, which always taught me something new. I never grew out of my love for nature, a love nurtured by my experiences at Oregon Ridge Park where I've been able to learn a lot about how our local ecosystems work.

Now, I am more than just a regular visitor and a life-time member of Oregon Ridge. In 2019, I received a phone call asking me if I was interested in serving as a volunteer member of the Baltimore County Board of Recreation and Parks.

Board membership has been a very fulfilling experience. I have met so many great people and as their advocate to the county I've helped facilitate meeting their needs. Additionally, I am their liaison with the county, making sure whatever concerns they have are recognized and addressed.

The Board of Recreation and Parks is a volunteer board that oversees the volunteer recreation and nature councils within the Baltimore County Department of Recreation and Parks. While the county oversees operations and staff members who work with individual councils, many of Oregon Ridge's programs are provided by their volunteers. Much of the trail maintenance and many of the benches you see, as well as the exhibits that have been put up, have been designed and financed by the nature council.

So not only is Oregon Ridge Park an amazing place for everyone, it is also a place brought to us by the people who care about it the most. If you want to make your mark, you can. Decisions about what Oregon Ridge offers aren't made exclusively by elected officials or major donors. As a volunteer, you can help ensure that Oregon Ridge continues to be a great place for all to love and enjoy.

ORNC Speaker Series

On May 17, 2021, Executive Director, Atiya Wells, BSN, RN will host a ZOOM presentation on Backyard Basecamp, Inc. - a non-profit she founded to "introduce, educate, and connect families in Baltimore to local outdoor spaces." (<http://www.backyardbasecamp.org>)

Join Atiya as she shares Backyard Basecamp's mission and programs that support educator training, village building, habitat discovery, gardening, and a special program working with adults called "Traverse with a Nurse - Core Routines of Nature Connection." Learn about "BLISS Meadows" - a 10-acre-land reclamation project that will eventually become a community farm and trail system within the newly established park.

Newsletter Committee: Judy Breitenbach and Bob Cooke

Contributors to this issue: Corey Johns, Elizabeth Kadow, Lindsay Caplan, Karen Jackson, Kathy Kadow, Jessica Jeannetta, Jeanne Pinto

The Newsletter Committee is always looking for additional members to join the team and individuals interested in contributing an article related to ORNC's mission and goals. If interested, please contact Judy at jembreiten@gmail.com. The newsletter committee reserves the right to edit all submissions.

It's Maple Sugar Season

by Judy Breitenbach

When late winter temperatures begin to rise, the starches stored in the roots of maple trees begin to convert to sugars that will flow in the tree's sap. The sap is used as nourishment for spring budding. The most important factor for this process to occur is warm days followed by freezing night temperatures.

You might think that maple sugar production can only happen in northern states and Canada. However, Oregon Ridge has many varieties of maple trees and just the right winter climate to afford the opportunity to experience what the indigenous people of North America discovered to be a sustainable food source.

Pure maple syrup is rich in several minerals. For example, one tablespoon contains "approximately 33% of your daily value of manganese which supports bone health" (<http://www.webmd.com/diet/maple-syrup-good-for-you#1>). Manganese is also important in energy production and antioxidant defenses (<http://www.berkshiresweetgold.com/nutrition.html>). The zinc found in maple syrup amounts to 18% of the recommended daily value and supports a healthy immune system. Other minerals include copper, calcium, iron, magnesium, and potassium. There are about 52 calories per tablespoon with an estimated glycemic load of 8.

Maple syrup's sugar content shouldn't deter you from learning about the process of harvesting the sap from trees, including the filtration and evaporation methods used to turn the sap into syrup. Its nutritional value is higher than honey, sugar, or agave. Starting mid-February the ORNC is hosting **Maple Sugaring 2021**. Here you can learn about the different types of maple trees, how to use the tapping tools, how native and early Americans made maple sugar, and much more.

At the same time don't forget to take home your own bottle of pure maple syrup made by a distributor in Pennsylvania. Maple syrup isn't just for pancakes. It can be used with meats, fish, and vegetables, in marinades and dressings, in baking, and even in teas and coffee. Here is an easy recipe to try from Berkshire Sweet Gold Maple Farm (<http://www.berkshiresweetgold.com>).

Roasted Apples and Brussel Sprouts - Combine 3 sliced Granny Smith apples with 2 cups halved Brussels Sprouts and 1 cup of finely chopped red onion. Toss with 1/4 to 1/2 cup olive oil and 1/4 cup maple syrup and roast until done (20 - 30 minutes) in a 400 degree oven.

Check out ORNC's social media pages to learn more about this scheduled event.



FUN FACTS

Did You Know?

by Bob Cooke



Those Big Nests Aren't for the Birds!

Now that leaves have fallen from many trees, it is easier to spot nests... but some of the biggest and easiest to see are actually *squirrel* nests. Woven from leafy twigs and lined with grass, leaves and moss, they provide protection for new squirrel "kittens" in the spring and summer and keep adults warm in the winter.

Some Bark, Not Just Leaves, Can Turn Light into Food!

Most of the trees at Oregon Ridge have rough bark for protection, so why do some trees, like beeches, have smooth bark? Because it's thin, this bark lets sunlight through to a green layer underneath, where it's used to make food for the tree even in winter after the leaves have dropped.



With Holly, It's Best to Look but Not Touch!

In winter, American Holly's deep green leaves and bright red berries make it a favorite for holiday decorating. But they have sharp little spines on those leaves to keep deer from eating them. The berries also taste bad and can make you very sick. Birds eat them in the winter *only* if they can't find other food.



Trees Know Which Way Is Up!

Sure, trees and other plants reach for the sun as they grow. But they can also sense gravity thanks to heavy grains of starch that sink to the bottom of their cells! That's why a tree growing on a slope still grows straight up and also why roots head in the opposite direction pushing down into the soil.



• • • • KID'S CORNER • • • •

Woodland Salt Dough Project

1. Mix 2 (two) cups **flour**, 1 (one) cup **salt**, and 1/2 cup **water** together (makes enough to cut into four equal pieces)
2. Knead the mixture with your hands, gradually adding extra water until the dough is smooth but firm. To add color to the dough, mix in food coloring to the water before you make the dough or knead it in once the dough is made - twisting the dough for a marbled effect
3. Knead the dough on a floured board for 10 minutes then let it rest for 20 minutes before shaping it
4. Roll the dough out flat to about 1/4 inch on a hard surface using extra flour to keep dough from sticking to surface
5. Use cookie cutters or other simple kitchen tools to cut out your shapes
6. Bake the dough in a 250 degree oven until completely hard all over (about 2 hours or so) or leave shapes to air dry, which may take several days
7. Paint the dough with watercolors after it has dried; if desired
8. After completely dried and painted apply several coats of varnish for protection against dust and dampness
9. A piece of magnet striping can be added to the back of the shape to be used as a magnet or poke a small hole in the top of the shape prior to baking. Once it is dried and painted use string to hang as a mobile or wall design. Your design options are unlimited!

THIS DOUGH IS NOT FOR EATING - FOR CRAFTING ONLY!!!

Retrieved From: Nature Crafts - "Salt Dough" by Gillian Souter (1996)





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stay in touch!

