



Friends of Thacher State Park

Emma T Thacher Nature Center • 87 Nature Center Way • Voorheesville, NY 12186
January—February 2021 • Vol. 25 No. 1

Winter Biology

To many people, this is the time of year to hunker down inside and binge watch TV programs. I can see doing that on an occasional afternoon but to make it a lifestyle for an entire season just isn't right to me. I prefer to get outside, at least for a while, even on those really frigid days. "There is no bad weather. You're just underdressed." I heard this recently and smiled. According to the person who told me, it's the attitude of many people who live in Scandinavia. I guess it would have to be living in those northern latitudes.

The cold weather gets me thinking about how our local wild life copes with winter. They have several strategies. The first is to live fast and die young. That is, don't live long enough to even know about winter. These organisms live out their entire life cycle within a few warm months, leaving seeds or eggs to withstand the winter. The second strategy is to migrate. Some birds, bats and insects pursue this. If you can't tolerate the cold head south and return in the spring. I know a few humans who do this. The third strategy is to hibernate. Find a place, settle down and don't emerge for several months. I know a few humans who do this too. The remaining strategy is to tough it out. Cope with whatever Old Man Winter throws at you. I'm a human who does this.

The strategy that I find very compelling is that of the Goldenrod Gall Fly (*Eurosta solidaginis*). Adult females will lay 10 – 30 eggs on the stems of goldenrod plants in June. When the eggs hatch a few days later, larvae will burrow into the center of the stem and cause the plant to form a gall (chamber) around it. A larva will spend the next 11 months within the gall. This works out to be over 90% of its life span. During this time, it

will eat the inside of the gall and go through 3 instars (stages). The third stage is large enough to survive the winter. During the autumn it will produce large amounts of glycerol and sorbitol in its tissues which act as cryoprotectants. The larva's tissues can freeze solid without being shredded by ice crystals when they defrost. Once the warm weather arrives, the larva will pupate within the gall and emerge as an adult in late spring. The adults are clumsy little flies (0.5cm). They usually get around by walking since they're not good fliers. You may not have ever noticed them, since the adult stage only lasts about 2 weeks in spring. They mate, lay eggs and die.



This time of year, the galls are easy to find. Just look wherever you enjoyed seeing goldenrod blooming late last summer. Look on the brown, woody stems and the gall looks like a small golf ball in the stem. Not every plant will have one but I have found plants with two or three galls. You might notice that some galls have holes in them. Chickadees and downy woodpeckers regularly peck into the galls in search of a winter meal. The birds make fairly large holes. You may see a small hole (less than 2 mm) in a gall. This is from the larva of a parasitoid wasp species. The wasp lays an egg on a gall during the summer. When it hatches, the wasp larva enters the gall and eats the fly larva.

If you find a gall without a hole, the larva may still be inside. Curious? Use a pair of pruning shears to cut a gall off the stem. Use the shears to cut open the gall perpendicular to the stem and you could find a roly-poly larva inside. Got kids? This will get their attention away from the screens for a little while. Take the kids

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out, bring a few galls home and put them in the freezer for a few hours (the galls, not the kids). Use the shears to cut the galls open to observe the frozen larvae. Leave them at room temperature and they'll begin to wriggle within a few minutes. Put the larvae back in the freezer for an hour or two. They'll freeze solid again. Remove them from the freezer and they will begin moving around again after a few minutes at room temperature.

I know a fair amount about these critters since I've been collecting them for a freeze tolerance lab I've done with my biology students for the last twenty years. I have several goals with this lab activity. One is to determine which is the most successful predator of the gall fly larvae. Another is to determine if there is an optimum gall

size to avoid predation. In your gall hunting, you'll notice that gall sizes vary from less than 1 cm to over 2 cm in diameter.



The Goldenrod Gall Fly isn't the only insect species that forms galls to complete its life cycle. It isn't even the only species that uses goldenrod. It's just one of the many species that have found a way to tough it out during winter. So, when you go out hunting for galls this winter, just think like a Scandinavian. The weather isn't bad, just don't underdress.

- by John Kilroy

<http://www.naturenorth.com/winter/gallfly/gallfly1.html>

Park News - 2020 in Review

2020 was a challenging season for everybody, but we managed to navigate it despite the record number of visitors and safety protocols that were put in place in order for us to welcome the public.

2020 saw well over a million visitors enjoying the outdoors on the escarpment. For comparison, the average annual number of park visitors is 600,000-700,000. Campgrounds re-opened after shut down with a limited number of campsites and enhanced cleaning protocols. Although only a limited number of Pavilions with capped capacity were rented out this season, they were very popular. Additional safety precautions had to be put in effect. Hand sanitizer stations were added at all of the comfort stations and at each end of the Indian Ladder Trail, and Park Staff sanitized the comfort stations more frequently. The Indian Ladder trail was modified to make it one-way to allow for social distancing capabilities. The Visitor Center closed on Tuesdays to allow a day for deep cleaning and a service window was kept open for the public. Park vehicles were also sanitized after each use to help keep staff safe. Traffic cones were added to every other parking space at the Overlook to allow distancing and reduced capacity.

Starting on 12/28, the Visitor Center is open Friday to Sunday, 9am - 3pm, and a customer service window is open Monday to Thursday, 9am - 4:30pm. The restroom at the Visitor Center can be accessed from the outside and is open daily 9am - 4:30pm (The Hop Field restroom is always

available as well). The Nature Center is open Friday to Sunday 9am - 3pm. As usual, please check the Thacher State Park Facebook site for updates or call 518-872-1237 (VC) or 518-872-0800 (NC) for more information.

The Thacher Park and Nature Center Staff wish you all a Happy, Healthy 2021 and we hope to see you back in the park!

- by Nola DalGallo



Photo by Michelle Johnston

Friends of Thacher Park Meeting Dates for 2021

Tentative Meeting dates are January 13, March 10, May 12, July 14, September 8, and November 10 at Thacher Visitor Center. Covid-precautions will be in place (masks required).

7:00 pm. Come join us!

Imbolc



Imbolc, is an ancient Celtic pagan holiday celebrated Feb. 1st through sundown on Feb. 2nd. It marks the halfway point between the Winter Solstice and the Spring Equinox and is one of the four major fire celebrations. It marks the recovery of the Goddess Brigid after giving birth to the God. The boy God's power is felt in the lengthening and warming of the days which reawakens the Goddess.

Brigid is the daughter of the god Dagda and is considered one of the most powerful of the Celtic gods. Some legends say she had two sisters by the same name, but others believe they represent different sides of the same Goddess. Brigid is considered to be a triple Goddess (the probable reason or thinking she had two sisters.) She is associated with Healing, Poetry, and Smithcraft.

As a Goddess of Healing, she governs childbirth and birthing time in the spring. A very important time to ancient peoples and highly celebrated. As a Goddess of Poetry, she governs not only inspiration of poetry but also Divination and Prophecy. She is also credited with the first Keening. A traditional wailing for the dead practiced by Irish and Scottish women.

And now the reason for it being one of the four major fire celebrations. As the Goddess of

Smithcraft she governs the Forge's Fire. She also became known as the Goddess of the Hearth Fire. The fire which heated the home and prepared the meals. Part of her strength come from having both the Mother and Fire associations. Her association with fire was considered so strong that a perpetual fire was lit in her honor in Kildare, Ireland and still burns there today.

We should all try to remember and honor the ancient Pagan Gods and Goddesses. Many were directly tied to nature. In closing I found this prayer to Brigid. I did make one minor change to it that some of you may find.



*Brigid, Exalted One,
Goddess of Fire and Light.
Patron of Poets, Smiths, and Healers.
Inspiration you bring when you are near.
You, whose fire lights the smithy
where our tools are forged
and our Hearthfire where we seek warmth.
By your light and radiance many are healed.
Daughter of Dagda,
lend us some of your light
and share with us your radiance.
Descend upon us.
Come and bless this organization.
Aid us and this world
as we journey on the healing path.
Goddess of the Hearthfire,
we bid you welcome.
Hail and blessed be.*

- from the porch, by Brian Horl



Check for updates at www.friendsofthacherpark.org

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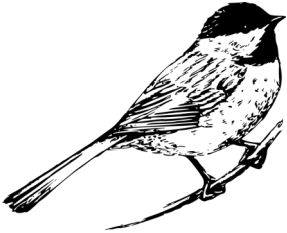
As always, call (518) 872-0800 or (518) 872-1237 to verify activity times and dates.

Please feel free to call board members with questions or suggestions.

Many thanks to John Kilroy, Brian Horl, Nola DalGallo, Sigrin Newell and Michelle Johnston for their contributions to this newsletter.

Want to contribute? Please email me at cgervasi@albany.edu. Christine Gervasi—Editor

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Wednesday, January 13, 2021

Next:

Board Meeting

7:00 pm at Thacher Visitor Center (socially distanced, masks required)

Experiencing Serendipity

The word 'serendipity' refers to the magical time when a person is in the right place, at the right moment to see something unexpected happen. One winter morning, I saw a field filled with about thirty huge snowballs that had been blown up by the wind. Apparently a wet snow had been followed by a strong crosswind that picked up twigs and started them tumbling and gathering the snow. The field looked like a factory of snowmen, waiting to be assembled. That's serendipity.

One spring, I had a class of school children on the Vlomankill Stream at Five Rivers Environmental Center. We watched as a dragonfly larva, a miniature monster, crawled out of the water and grabbed a grass stem. The exoskeleton began to split down the back. First the head came out. The many facets of the bulbous eyes reflected the children's wonder. Then the legs came out, fine as threads at first, and then hardening. Tiny, bunched up wings emerged, becoming increasingly transparent as the dragonfly pumped fluids into its wing veins. That day many larvae emerged. The children were able to watch all phases of the process gasping in awe as each dragonfly took its first flight.

The exciting thing about serendipity is that you never know when it will happen. But you have to be at the right place at the right moment. This is the reason for you to come to Thacher Park in all seasons of the year. And the reason it's important that school children come with their teachers. The love of nature, for kids and adults alike, begins with experiencing the surprising beauty of the Park and all wild lands.

- by Sigrin Newell



Photo by Michelle Johnston, showing the beauty of the Park

As always, you can find a color version of the newsletter at www.friendsofthacherpark.org