Friends of Thacher State Park

Emma T Thacher Nature Center ● 87 Nature Center Way ● Voorheesville, NY 12186
September—October 2019 ● Vol. 23 No. 5

A Not-so Itsy Bitsy Spider

This spider chose the outside of a window frame to anchor her web. You can see the lower half of the stabilimentum.

Every year around mid- to late August, I start noticing a new and exciting addition to our garden fauna: the black and yellow garden spider (*Argiope aurantia*). It is a beautiful spider: big (females can be up to an inch in body size, not counting legs), with striking black and yellow patches. As a member of the family of orb-weaving spiders, this Argiope makes an equally stunning web, usually in a sunny, windless patch of dense vegetation, though she may also use a convenient window frame as anchoring point as shown on the left. The scaffolding threads of the web can span up to 3 feet, and the center hub (the typical web-shape depicted in Halloween decorations) is often a foot or more in diameter. The webs of this Argiope species also have a very characteristic zigzag line in the center called Stabilimentum, whose purpose is not well understood. The web often stays in the same location for a while, but the center hub is consumed by the spider every night and rebuilt fresh with sparkly, sticky new thread.

Argiope aurantia is active during the day, so easy to observe. The adult spider usually sits in the middle of its zigzag line, head down, waiting for an unwary insect to get caught in its web. Although they sit mostly motionless, when they feel prey struggle in the web, these spiders turn into incredibly fast and efficient predators, paralyzing the hapless insect with a bite and then spinning it into a neat little spider silk parcel in seconds! Even wasps or hornets are not safe. The photo on the next page shows an Argiope with three insect meals wrapped and waiting in her web, including what looks like a big grasshopper!

Female spiders are a lot bigger than the males, and after mating they can produce several egg sacs with about 1,000 eggs inside. The egg sacs also are very easy to see; they are ¾ to 1 inch across, round with an opening on top and made of brownish spider silk. They often hang suspended from the spider's web where they have some protection from predation. In our area, adults die when the weather gets colder, while the young spiders hatch in autumn but overwinter in a dormant stage inside the egg sac. In the spring, these small spiderlings crawl out and start spider-life on their own. I know they are in our garden, because this year, 7 adults have popped up in their fantastic webs at the end of summer, but I have yet to see a smaller member of this species before then anywhere. They must live a life out of the spotlight and who can blame them? Small spiders are popular menu items for a number of birds, shrews, lizards and some wasps.

Female spider with egg sac.

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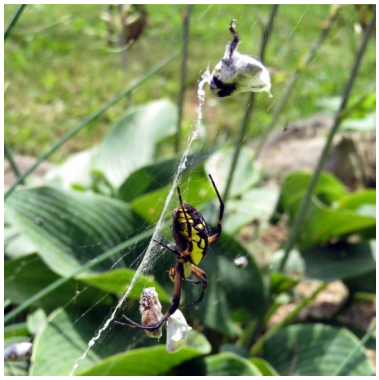
Both spider and web are gorgeous and I always enjoy seeing them in our yard. Spiders are "good guys" in the garden, eating a wide variety of insects including pests. These spiders can bite and have a venom that is equivalent to a bee sting, but they are not very aggressive. I should know since I regularly poke a camera lens within an inch of them, and they usually just tumble out of the web when I get too close. Still, like other wildlife, these creatures should be observed and enjoyed visually, but not handled. They are fairly common around here, so next time you are up at Thacher, look more closely at the tall grasses and flowers next to the paths for a web with a characteristic zigzag line.

- by Christine Gervasi



Microscopic Catapults

Anyone who has walked through a meadow at Thacher Park in late summer is familiar with the seeds that hitchhike a ride on your socks: stick-tights, beggar ticks, and the like. As summer ends, seeds and spores focus their energy on traveling far from the parent plant, perchance to find a good place to grow. Many dispersal mechanisms are visible; maple seeds spin, milkweed seeds fly. Choke cherry pits hitch a ride in a bird's belly.

Less visible, but equally intriguing are the dispersal mechanisms of spores. Ferns and mosses are more primitive than seed plants, but they too evolved sophisticated means for dispersing their genetic material. It takes a microscope to see what is happening when a fern releases its spores. Better yet, watch it on YouTube. Put "fern spore shooting" in your search engine then click on the videos.

Here is what is happening. Spores are typically located inside a capsule, or sporangium, on the underside of a fern frond. Water evaporates through the thin cell walls along the spine of the capsule. This shortens one side of the sporangium's wall, storing energy by ratcheting it back into a primed position. The stored energy is rapidly released when bubbles form inside the cells and pop the cell walls outward. This restores the arm to its original position, launching the spores.

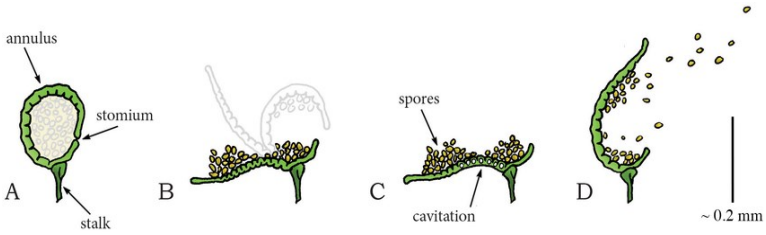


Diagram from Sakes, Aimee & van der Wiel, Marleen & Henselmans, Paul & Van Leeuwen, Johan L & Dodou, Dimitra & Breedveld, Paul. (2016). Shooting Mechanisms in Nature: A Systematic Review. PLOS ONE. 11. e0158277. 10.1371/journal.pone.0158277.

Once launched, the spores can be carried on the wind for great distances. Some will land on a habitat where they can germinate. In the wild, this is important because in areas like Thacher's Hop Field Trail, spores can't germinate because there are already so many ferns that there is no space for more.

Walk the Hop Field loop. As you go, enjoy the different species of ferns, and count how many different types of seed dispersal you encounter. You are likely to return with seeds on your socks. Possibly there will be spores there too, too tiny to see. You are certain to return with happy memories of a day at Thacher Park.

- by Sigrin Newell

Check for updates at www.friendsofthacherpark.org

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

Please feel free to call any board member with questions or suggestions.

Many thanks to Sigrin Newell and Nancy Engel for their contributions to this newsletter.

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

Friends of Thacher Park Member Form

Member benefits: Newsletter, Scheduled Events Calendar & 10% Discount at the Nature Center Gift Shop. Renewal date follows name on address label.

Name _____

Address _____

City _____ State _____ Zip _____

Phone_____ Cell _____ Email _____

☐ I'd like to become a member of the Friends of Thacher Park. Enclosed is my check for $ _____.

☐ I am renewing my membership. Enclosed is my check for $ _____.

☐ Individual $20 ☐ Supporter $40 ☐ Donation $_____

☐ Family $25 ☐ Corporate $100 ☐ Senior (62) $5

☐ Student $5 ☐ Benefactor $100

Please make checks payable to the **Friends of Thacher Park** and send to Bonnie Schaller, 6324 Hawes Rd, Altamont, NY 12009. For more info: bschaller@nycap.rr.com

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Thacher State Park Facebook Photo Contest

To those of you on facebook, Thacher Park is running a photo contest! Every two weeks, a theme will be announced, and you are encouraged to upload a photo in the comment section. The photo with the most positive reactions wins the contest and will be either profile or cover photo of the Thacher State Park facebook page for the next two weeks!

Here are the rules:

1. Photos must be taken within the boundaries of Thacher State Park (which includes Thompson's Lake and Nature Center).
2. In your comment section, you must state where in Thacher State Park the photo was taken.
3. Photos must be taken with a camera or mobile device.
4. You can only submit one photo per theme.
5. You must follow park rules when taking photos. Don't climb fences, walls or other barriers, be respectful of native flora and fauna, don't harass wildlife or trample vegetation, and be respectful of the privacy of other park visitors (beware of photobombs).

Of course, be careful when taking pictures! Some species of animals are venomous, and certain plant species such as poison ivy can cause allergic skin reactions.

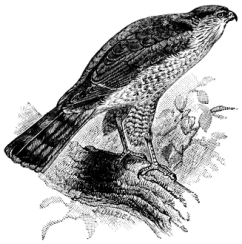
We already had some stunning photos of the Park and its fauna and flora, so next time you capture Thacher's beauty, consider sharing it with others on facebook! And even if you don't submit a photo, check out the site every once in a while and cast your vote for the most beautiful image! Next theme is "Insects", submission deadline September 9.

Winner of the latest contest (theme "flowers") was Melissa Jones with her shot of lily-pads at Thompson's Lake. Congratulations, Melissa!

Friends of Thacher Park Meeting Dates for 2019

Regular board meetings: September 11. Annual meeting, November 13 (all meetings are at *Thacher Visitor Center*).

Friends of Thacher Park
c/o Emma Treadwell Thacher Nature Center
87 Nature Center Way
Voorheesville, New York 12186-2601



Next:

Wednesday, September 11, 2019

Board Meeting

7:00 pm at Thacher Visitor Center

Hawk Watch at Thacher Overlook

Nights are getting cooler, the air is getting brisker, the sky is now a beautiful dark blue—fall is coming! Fall means migration time for many species of birds and even butterflies. The swallows and red-winged blackbirds have already left and soon geese, hummingbirds and hawks will hightail it south. Here in the Northeast, we are part of the so -called Atlantic flyway, a major migratory route that stretches from Greenland down the Atlantic coast of Canada and the United States to the Caribbean and South America.

Thacher Park is ideally situated to watch migrating hawks. The steep cliffs of the Helderberg escarpment are oriented north to south. When cross winds hit these cliffs an updraft is created that helps these birds stay aloft. When there are no winds, they use thermals. Thermals occur on warm sunny days when air heated by the sun rises up from the ground. Hawks are masters at catching these thermals. You probably have seen hawks or vultures soar in wide circles, rising higher and higher without much of a wing stroke. They have good reason to do so. Flying requires a lot of energy, and migration is exhausting. Some species, such as the broad-winged hawk, fly over 4,000 miles to their wintering sites in Central and South America, and they use every chance to conserve energy on their journey, catching as many thermals and updrafts as possible.

Hawks migrate from September to November, but the peak season is in September. Hawk-watching is a great way to spend a beautiful fall afternoon, so join hawk enthusiast Will Aubrey and other bird-lovers at **Thacher Overlook on September 7, 10am to 2pm, and Sunday, September 8** to watch these majestic birds on their journey south. Will has spent countless hours observing and counting hawks and sharing his experience with other bird enthusiasts, and will be available to answer questions. See live raptors up close and learn about their behavior from wildlife rehabilitator Richele Ford, who will be on site. Watch a "kettle" of broad-winged hawks soar overhead and look for other raptor species!

- by Christine Gervasi

Broad-winged hawk, photo by Vincent P. Lucas

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