

The Turk's Cap

Volume 22, Number 1

Spring 2019

The Newsletter of the Delaware Native Plant Society



Letter from the President

Join President Eric Wahl for discussions on plant ecosystem services to pollinators, people, and more



The Lahr Symposium

A letter from the Vice-President on caring about *Carex*



More than Milkweed

Efforts to promote multiple species and fill many niches in Delaware's native ecosystems with pollinator gardens



Continuing the Orchid Discussion

We talked orchids in the Winter DNPS Newsletter; Mt. Cuba Center's Orchid Q+A session on March 16th with Melissa McCormick provided more knowledge on the subject



Marching towards Ecosystem Sustainability

March 2019 events that kicked off spring with environmental awareness throughout Delaware



Upcoming Events

Get into the growing season with exciting activities



Become a DNPS Member

Lots to do across the state and the region

Flower photos courtesy of David G. Smith at www.delawarewildflowers.org and Mt. Cuba Center

DNPS Officers

President:
Eric Wahl
Vice-President:
Rick Mickowski
Treasurer:
Eric Zuelke
Secretary:
Alison Long

DNPS Mission Statement:

Founded in March 1998, we are a volunteer-based, publicly supported non-profit organization dedicated to the conservation of native plants and their natural habitats through education, science, advocacy, and land stewardship. Discover more at: <https://delawarenativeplants.org> 🌱



Cypripedium acaule (pink lady's slipper)
President Wahl's favorite native orchid

Letter from the President

Welcome Spring, finally! We hope your transition from winter to spring has been smooth. With April upon us, the chill in the air will become a mild breeze and a warmer afternoon, bringing with it the annual cycle of regeneration and rebirth.

Much is happening and we are anticipating a busy year ahead. Recently, DNPS joined efforts with the Lewes Beekeepers and Lewes In Bloom in an event held at the Lewes Public Library. The presentation was on the benefits of bees and other pollinators, and the native plants that attract them. I also spoke about converting backyard buffers into ecological corridors within communities. By joining efforts with your neighbors in a development that is lacking plantings in general, an ecological corridor can be created over time. This is beneficial for a host of reasons, one being important forage and habitat areas for our native pollinators.

The DNPS's efforts to rehabilitate the native plant garden at the University of Delaware's Lewes campus is ongoing. Soon, the grounds crew of the University will be installing a new walkway of crushed stone (funding for this stone walkway provided by DNPS), which will again provide for safe, public access to the garden (*Editors note: The stone walkway was installed on 4 April 2019 just before we published*). The DNPS will schedule a garden maintenance day in the future, so keep an eye out for this event.

Other events that the DNPS will play a role in are coming in April. On April 25th, I will be speaking at Camp Rehoboth in Rehoboth Beach on a subject that is a work in progress for me, The Sharing Garden. Here I will speak on designing outdoors spaces where one can entertain family and friends, while sharing in the abundance of the garden itself, even cooking with plants from the same garden.

Then, on the 27th I will be speaking at an Arbor Day celebration hosted by the City of Lewes. I'll be speaking on native trees and shrubs and their numerous benefits.

Check out the calendar of events too that DNPS provides throughout the year. You'll be sure to find something that fits your interests and maybe even something new to explore. 🌱

Happy Spring!

Eric W. Wahl

**The new stone walkway at the UD Lewes Campus
is looking lovely!
Photos courtesy of Rick Mickowski**





Claytonia virginica (spring beauty) In late March & early April they carpet the bases of trees. Pink guidelines on petals draw in pollinators.

The Lahr Symposium

Sedge information handout by Izel Plants
provided to Symposium lecture attendees

On Saturday, March 30th I had the opportunity to attend the Lahr Symposium at the U. S. National Arboretum. One of the presenters was Shannon Currey, Marketing Director for Hoffman Nursery. They are a wholesale grower of plant plugs. Her presentation was "The New Workhorses of the Garden: Grasses and Sedges". There are 400 native *Carex* species east of the Mississippi River. Between 2006 and 2018, sales of native plants from their company has quadrupled. In 2019, they are growing 36 species of *Carex* of which 20 are native to our region. Pennsylvania sedge is the most popular variety. I purchased 8 plugs to try a patch in a partially shaded area in my backyard. There were several vendors at the native plant sale held outside during the symposium. This was open to the public. Locally, to see many native sedges in one location, visit the trial garden at the Mt. Cuba Center. They are in the second year of a three-year trial of *Carex* species.

The DNPS booklet "Delaware Native Plants for Landscaping and Restoration"

lists bristly sedge (*Carex comosa*) tussock sedge (*Carex stricta*) and three-way sedge (*Dulichium arundinaceum*). Shannon also mentioned native grasses such as switchgrass (*Panicum virgatum* - cultivars 'Summer Sunrise', 'Shenandoah', and 'Northwind'); indiangrass (*Sorghastrum nutans*); little bluestem (*Schizachyrium scoparium* - 'Standing Ovation'); and purple lovegrass (*Eragrostis spectabilis*). So for a change of pace, try native *Carex* in your garden or as ground-cover or lawn replacement in shady to semi-shade locations. 🌱

Rick Mickowski, Vice-President

Is it a sedge?

Though sedges have long narrow leaves like grasses, they are in an entirely different genus. The difference is *Carex*'s triangular solid stems that can be felt when you roll the stem between your thumb and index finger. Remember: Sedges have edges.

Cultivation

Sedges can easily be transplanted. You may cut back dead leaves in the late winter or early spring to create a more tidy appearance. If you don't want the plant to seed, snip off the seed heads in early spring.



SEDGES



Over 60 sedge species available NOW on izelplants.com

Adaptability

Leading garden designers and horticulturists have discovered that sedges fulfill a number of key roles in the landscape and fix problems other plants struggle to solve. They work in dry shade or wet soil, they resist deer browsing, they don't need spraying, and they sustain wildlife and control erosion. You can even grow them in that most inhospitable of sites, amid the surface roots of old trees. But there is an even greater role for this humble genus: as a replacement for the oceans of mulch that have come to define so many gardens across the land.

Plant Plugs!

Some of the showier sedges can be used as accent plants, even in containers, but as ground covers and living mulches, they should be planted in numbers. This becomes more economical if you plant in small sizes and allow them to spread and grow together. They fill in after two or three years. - Adrian Higgins- The Washington Post



Carex and other native plants for sale at the Lahr Symposium



Article, photographs, and information provided
by Rick Mickowski, DNPS Vice-President



More than Milkweed

Milkweed is the name of the game right now. As the push to save the showy monarch butterfly has spread into public circles, many farmers have decided to leave plant species of the genus *Asclepias* in buffer zones along the edges of fields. Some farmers have switched gears entirely and are planting milkweed as a fiber crop for use in clothing while providing host plants for monarch butterflies. Tackling one issue as a large group is a good thing, but as many factors as possible must be considered to achieve the desired outcome. I am concerned that large monocultural milkweed fields will backfire by increasing disease prevalence and mortality in monarchs, just as creating backyard bee apartment boxes without variation in substrates, hole sizes, and hole positions can make many bees very sick very quickly. Harvesting plant fibers without consideration for the monarch's developmental cycle could cause detrimental shifts to monarch populations. Although not farmed for fiber, Lums Pond State Park in Bear, DE has had a small field primarily of milkweed. It would be interesting to monitor the health of this patch and its pollinators.

But, more than that, native plant and pollinator enthusiasts and professionals must remember that the battle is more than milkweed. If societies like ours hope to achieve our goals of rebalancing food webs and maintaining species diversity to steward ecosystem health, we have to make sure to plant more than just one type of native pollinator plant, and to understand all of its roles during each part of its life.

In the phenomenal book "Planting in a Post-Wild World," Claudia West and Thomas Rainer discuss many different groups of people can make a great impact; "scientists and engineers," and "gardeners, horticulturists, land managers, landscape architects, transportation department staff, elementary school teachers, and community association board members."

The statement above is illustrated clearly: right now we have the DNPS discussing native pollinator plants and restoring the UD Lewes Campus native plant garden as its current core project! UD's Newark Campus has been working on native pollinator garden upkeep through the apiology course adjacent to UD's bee colonies. Adults and college students are involved in these efforts. Younger audiences in Delaware are also committed to encouraging a variety of ecosystem services in the plants that they use. I am proud to highlight a particular garden that is close to my heart, and has been getting a lot of positive pollinator attention.

article continued on page 5

Recommended Articles for Delawareans who love native plants!

- **Removing Invasives:**
"Kill Those Beautiful Bradford Pear Trees Now" - Dr. Barton, UD, *The News Journal*, delawareonline.com, April 3, 2019.
- [The Beginning of a New Invasive Plant: A History of the Ornamental Callery Pear in the United States](#). *Bioscience* Vol 57, Issue 11.
- **Replacing Invasives with Natives:**
"Keep Invasives Out- Replace aggressive species with native plants that support your local wildlife"- Melinda Myers, *Birds & Blooms Magazine*, April-May 2019 p.18-19
- **Encouraging Ecosystem Services:**
"If native plants are altered, do bugs and birds suffer? Science weighs in"- Katie Bohri, Mt. Cuba Center, *The News Journal*, delawareonline.com



See the next page for more on the Springer Middle School Pollinator Garden, Photo Courtesy of Dave Brown



Delaware's Commitment to Environmental Education Grows Perennially!

In November 2017 Springer Middle School of Wilmington, DE created a pollinator garden. With the support of principal, Dr. Tracy Woodson, Springer science teacher Mr. Jonathan Sypher collaborated with the Xerces Society. Dr. Don Coats of the Xerces Society and Eastern Apiculture Society worked with Sypher to begin the garden and provide a mix of plants including plenty of golden *Rudbeckia hirta*, purple *Echinacea purpurea*, frosty white *Pycnanthemum*, and several other natives to encourage visitation from a wide variety of pollinators.

Students were active in the planting process, and this past year the 7th and 8th grade science, zoology, and environmental studies classes of Mr. Sypher, Mrs. Maureen Romeo, and Mr. David Brown made weekly observations during the buzzing autumn. They also kept an eye on monarchs in the native milkweed patch at the perimeter of the school's property. These spaces attracted butterflies, skippers, and many different bee species, and after the prolific blooms passed, seed heads provided winter nutrition for flocks of small birds. "Although the pollination period was over, the garden was still feeding," Brown recalls.

In starting the garden, they had to address with the school that students and staff would not be in danger from the garden, which is located near the bus parking lot. They also convinced the grounds management to make the pollinator garden and milkweed patch a no-mow space to maintain the habitat year-round. They are optimistic that there will be "a high rate of return of these perennials" this year. It has been such a success, Brown says "we'd encourage other schools and places with an available area, even a small one... to give [pollinators] options going from place to place" and reduce the distance between the "patchwork gardens" that pollinators have to travel in suburbia. This is reminiscent of something Dr. Doug Tallamy often says in his talks typically discussing the songbird studies in encouraging the re-connection of edge habitat spaces that exist between human developments to restore habitat for a greater variety of species that need a greater amount of space to live.

Springer Middle School is no stranger to being at the forefront of gardening initiatives. For nearly 15 years Mr. Brown's science classes have been part of the pilot program for Healthy Foods for Healthy Kids. For nearly 15 years the program has had students growing and harvesting vegetables in raised garden beds, teaching cooperation, sustainability, pride in hard work, and of course, how to grow healthy food. Led by Dr. Thianda Manzara since its inception, HFHK has expanded to many other Delaware schools in the years since, and has been a perennial success – that is- year after year. 🌱

Emma Brown, Editor

See our Upcoming Events page to learn more about
Springer Middle School's "Energy Event"
Symposium on May 23rd, focusing on energy
conservation, solar power, water quality, biodiversity,
and sustainability.



Platanthera ciliaris (yellow fringed orchid)
One of Delaware's 23 native orchids. Photo and
information courtesy of Mt. Cuba Center

Continuing the Orchid Discussion

What is an orchid's role in the ecosystem?

Orchids have many roles in the ecosystem. They support specific insects, for example, but importantly they work as an indicator species, both above and below ground. The comparison that's often made is that they're a canary in a coal mine. They're very sensitive to the quality of the environment and they often show changes in the environment before any other species are going to be affected.

Why are orchids difficult to conserve?

The main reason is they rely very closely on other species like specific pollinators and specific fungi. In our area our orchids are growing in the soil because it's too cold to grow on trees. They're sensitive to the fungi in the soil and the pollinators above ground. That means if you're going to conserve orchids you have to keep the environment in very, very good shape. A little improvement isn't going to cut it. We also don't know everything about what they need to grow, so if we're going to reintroduce orchids, and the environment is slightly not right for the fungi they need, it might not be successful. Because they're so difficult to grow, they're often not available in the nursery trade and that can lead to folks digging them up in the wild, and that leads them to die very quickly. It creates a high demand for these very pretty species because we cannot grow them in the industry, and puts pressure on their wild populations.

What does a successful and thriving orchid population look like?

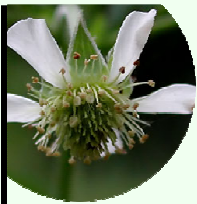
It's going to be different for different species. Some species can have large populations and some are regularly rare. For a rare species a few plants that come back every year and even bloom can mean that population is thriving. Some orchids occur very abundantly. Generally, you want something that emerges from the ground every year and at least a handful that flower and set seed every year. To find those populations we're looking for pretty intact—that is, not disturbed—environments. When you get to a forest and see a nice diversity of plant species, not a lot of disturbance, not a lot of invaders—we can see that this might be a place for orchids. We can't say that a disturbed environment would never be good for orchids, but it's a different kind of species in those environments.

Is there anything the general public can do to help conserve native orchids?

First, obviously, don't dig up orchids in the wild and don't buy orchids that you suspect were wild collected. We don't want to encourage that! The best thing you can do is protect the environment that they need. This can mean control for invaders—both plants and animals—and not planting them in your garden. This can also mean when development takes place, take account for the water flow and how it affects the nearby environment. The deer are horrendous. I'm not saying go out and kill them all, but to the extent that we can support effective deer management can be tremendously important to our native environment.

There are a number of local and national organizations that support our orchids. We have founded the [North American Orchid Conservation Center](https://naoc.org/) and we are looking to find out what do these orchids need and what can we do to conserve them and how can we propagate them. For most people one of the biggest deals is the invasive plants that come in and cover an area, change the soil dynamic, change what fungi are available and that changes the habitat of the orchids. Not planting invaders is good, but also removing them where they are is helpful. For example, garlic mustard produces anti-fungal compounds which destroy the fungi that the orchids need. 🌱

Excerpt from Q+A: Orchid Mysteries March 12, 2019 at <https://mtcubacenter.org/orchid-mysteries>



Geum canadense (white avens)
A rosaceous early and mid-summer bloomer

Marching Towards Ecosystem Sustainability

Throughout Delaware and the surrounding region there are many organizations and events that connect individuals with similar goals in improving ecological sustainability through informative and active education. It is my goal to describe as many of these activities as possible so that impassioned environmentalists can fill niches in the journey to an improved future. I feel that if we are all on the same page, accomplishing our collective goals becomes a more direct task.

February 25th through March 3rd of this year was National Invasive Species Awareness week. The Delaware Invasive Species Council website posted information each day on different invasive species, including *Cenchrus purpurascens* (formerly *Pennisetum alopecuroides*), and *Ampelopsis brevipedunculata*. Keep updated at www.delawareinvasives.net.

On March 2nd, the Delaware Science Olympiad Competition was held in Dover, DE at the High School Level and included events "Designer Genes," "Dynamic Planet," "Geologic Mapping," "Herpetology," and "Water Quality," giving high school students an extracurricular edge on applied biological and earth sciences.

March 16th was the Middle School Division Competition, also containing "Dynamic Planet," "Fossils," "Heredity," "Herpetology," "Meteorology," and "Water Quality" as several of the events that encouraged students to think about abiotic and biotic factors in the natural environment. Learn more at www.delawarescienceolympiad.com.

March 6th and 7th marked the Ecological Landscape Alliance Plant Conference, held at the UMass Amherst campus. Although not in Delaware, this regional conference brought together like-minded entities such as North Creek Nurseries of Landenberg, PA, to discuss sustainable landscape design. Next year's conference is projected to be March 4th and 5th, 2020. Discover more at www.ecolandscaping.org.

On March 13th the Delaware Center for Horticulture presented the Community Landscapes Symposium in Smyrna, DE. The DCH, Delaware Forest Service's Urban and Community Forestry coordinators, and the Smyrna Shade Tree Commission came together to instruct Delaware professionals on proper tree canopy care, zoning information, recordkeeping, and other aspects of managing trees in public spaces.

March 28th, a 115-year old dam near Washington Street bridge in Wilmington, DE was removed to improve infrastructure and to begin to return shad fish migration to its former pattern. Read more at <https://why.org/articles/115-year-old-brandywine-river-dam-removed-to-upgrade-water-pipes-restore-fish-migration>.

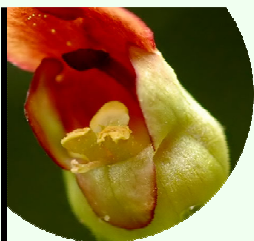
March 25th through April 12th is the Great Schools, Clean Streams 2019 Campaign. Schools in New Castle County have students and their families pledge to dispose of kitchen grease and oil to reduce water pollution. Find out more at www.greatschools-cleanstreams.org.

March 29th was the deadline for the Delaware Schools poster contest for grades K-5. Classes were encouraged to design a poster based on the concept of urban forestry. Registration was March 15th, judging will take place on April 10th, the winning design will be announced around April 17th. Check back here for the winning design: <https://delawaretrees.com/arbor-day/arbor-day-poster-contest/2019-poster-contest>

On April 11th the Delaware Envirothon Competition will be held in Smyrna, DE. Much like Science Olympiad, students are tested on practical skills and knowledge about the world around them. Event categories are "Aquatic Ecology, Forestry," an "Oral Presentation, Soil/Land Use, Wildlife," a "Current Environmental Issue," and "Air Quality." These events are geared specifically towards teaching, reinforcing, and applying environmental concepts and are part of a truly great program. Plus, DNPS' Rick Mickowski is Envirothon Chair!

There are so many proactive groups covering so many topics that relate to environmental awareness and provide opportunities to participate as ecologically responsible citizens. The DNPS plays a key role in spreading awareness about the importance of native plants in their native and restored ecosystems in Delaware and can inform all of these groups about ideal plant selections and practices and participate in some pretty fun events! 🌱

Emma Brown, Editor

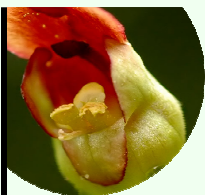


Scrophularia marilandica (figwort)
A petite and bright summer native

Upcoming Events

Many events are free
and open to the public!

- **Saturday, April 6**
Delaware Center for the Inland Bays Tree Planting Event, Sussex County Landfill Buffer #2 12:30PM
<http://cleanwaterdelaware.org/> VOLUNTEER
DNREC with Partnership for the Delaware Estuary Christina River Watershed Cleanup 9AM-12PM
www.ChristinaRiverCleanup.org VOLUNTEER
Middle Run Natural Area Tree Planting 9AM-12PM
<https://www.delawarenaturesociety.org/activities/events/> VOLUNTEER and **For DNS Events**
South Jersey Scrub with Partnership for the Delaware Estuary April 6-14 www.sjscrub.org VOLUNTEER
- **Sunday, April 7**
Mt. Cuba Center “Developing Curb Appeal” 1PM-3PM \$27
<https://mtcubacenter.org/programs/> **For Mt. Cuba Center Events and to Register For Courses**
- **Tuesday, April 9**
Delaware Beekeepers Association Kent County Meeting 7-8:30 PM 69 Transportation Cir, Dover
<http://www.delawarebeekeepers.com> **For DBA Meetings and Events** FREE
- **Thursday, April 11**
Mt. Cuba Center “Native Plants Of Spring” April 11- 16 Thursdays 10AM-12PM \$190
- **Friday, April 12**
Delaware Museum of Natural History Earth Day Celebration 9:30AM-12PM
<http://www.delmnh.org/event/earth-day-celebration/>
- **Saturday, April 13**
DNPS Trip to Bowman’s Hill Wildflower Preserve (BHWP) 10AM-6PM \$8 (\$6 for seniors)
<https://delawarenativeplants.org/wp-content/uploads/2019/03/Bowmans-Hill-Trip-Flyer.pdf>
BHWP Native Plant Nursery opens for the spring season <https://bhwp.org>
Blackbird State Forest Tree Planting Day 1 9AM-4PM <https://news.delaware.gov/2019/03/26/planting-volunteers-blackbird-april-2019/> VOLUNTEER
- **Sunday, April 14**
Mt. Cuba Center “Right Plant Right Place” 1PM-3PM \$30
Blackbird State Forest Tree Planting Day 2 9AM-4PM VOLUNTEER
- **Tuesday, April 16**
Kent County Master Gardeners “Little Things Mean A Lot” Lecture 1-2PM FREE
<http://extension.udel.edu/lawngarden/mg/kent-county-master-gardeners/kent-county-master-gardener-workshops/>
For Kent County Master Gardener Events
Sussex County Master Gardeners “Gardening in Squares and Circles” Lecture 6:30PM
<http://extension.udel.edu/lawngarden/mg/sussex-county/workshops/>
For Sussex County Master Gardener Events
- **Wednesday, April 17**
DNREC Native Species Commission Public Meeting 9AM Kent County Administration Building
<https://publicmeetings.delaware.gov> **For Native Species Commission Meetings**
Mt. Cuba Center “Fool Proof Plants” 10AM-11:30AM or 5:30-7:30PM \$25
Wilmington Earth and Arbor Day Celebration, Partnership for the Delaware Estuary 11AM-2PM Rodney Square
<http://www.delawareestuary.org/calendar-of-events-and-workshops/wilmington-earth-day-celebration/>
New Castle County Master Gardeners “Grow Your Own Berries” Lecture 6:30-8:30PM \$15
<http://extension.udel.edu/lawngarden/mg/ncc/>

**For New Castle County Master Gardener Events**

University of Delaware Botanic Garden Lecture "I Didn't Know That" 7-8:30PM, \$10M/\$15NM

<https://canr.udel.edu/udbg/events/> **For UDBG Events**

- **Saturday, April 20**

SCA Earth Day Celebration John Heinz National Wildlife Refuge at Tinicum 9AM-12PM FREE

<https://www.eventbrite.com/e/sca-earth-day-celebration-at-john-heinz-national-wildlife-refuge-registration-58451019573?aff=ebdssbdestsearch>

Earth Day Celebration: Brandywine Zoo Party for the Planet

<https://brandywinezoo.org/event/party-planet-earth-day-celebration/>

- **Monday, April 22**

Earth Day!

Principles for Responsible Management Education Earth Day Event Rowan University 8:30AM-3PM \$40

Dr. Doug Tallamy presents "Creating Living Landscapes," Arden, DE Gild Hall 7pm \$10(suggested)

- **Wednesday, April 24**

Delaware Beekeepers Association New Castle County Meeting 7-9 PM 100 Lagrange Ave, Newark, DE

- **Thursday, April 25**

DNPS President Eric Wahl: "The Sharing Garden" Workshop, 6:30-7:30PM FREE, Rehoboth Beach

- **Friday, April 26**

Arbor Day!

- **Saturday, April 27**

Ag Day at the UD College of Agriculture and Natural Resources 10AM-4PM and UDBG PLANT SALE

<https://canr.udel.edu/ag-day/>

Delaware Center For Horticulture April Crop Mob at H.G. Haskell's Farm 8:30AM-12PM FREE

BHWP Spring Wildflower Gala 5-10PM \$250

- **Sunday, April 28**

Mt. Cuba Center Wildflower Celebration 10AM-4PM FREE

- **Tuesday, April 30**

Delaware National Guard 2nd Annual Earth Day Expo, New Castle, DE 11AM-1PM RSVP by 4/12

Sussex County Master Gardeners "New To Delaware" Discussion 1PM

- **Wednesday, May 1**

Mt. Cuba Center "Terrific Trilliums" 10AM-12PM \$29

- **Thursday, May 2**

Delaware Nature Society Native PLANT SALE

May 2- May 4 Coverdale Farm Preserve

www.delawarenaturesociety.org **For DNS Events**

- **Saturday, May 4**

Creek Fest at White Clay Creek State Park 12PM-4PM Newark, DE <http://whiteclay.org/creek-fest-1>

Center for the Inland Bays Native PLANT SALE 10AM-2PM Ocean View, DE www.inlandbays.org

Loving Our Earth Expo with Mike McGrath of "You Bet Your Garden" 10:30AM-3:30PM FREE

- **Sunday, May 5**

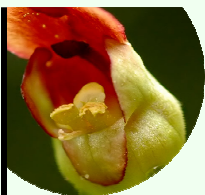
Women in Horticulture Linwood Park VOLUNTEER Day 9AM-12PM Ardmore, PA

<https://www.womeninhorticulture.com/volunteer-day-linwood-park> **For Women in Hort Events**

- **Tuesday, May 7**

New Castle County Master Gardeners Integrated Pest Management Walk and Talk 6-7PM FREE

Delaware Beekeepers Association Sussex County Meeting 7-8PM 16684 County Seat Hwy, Georgetown



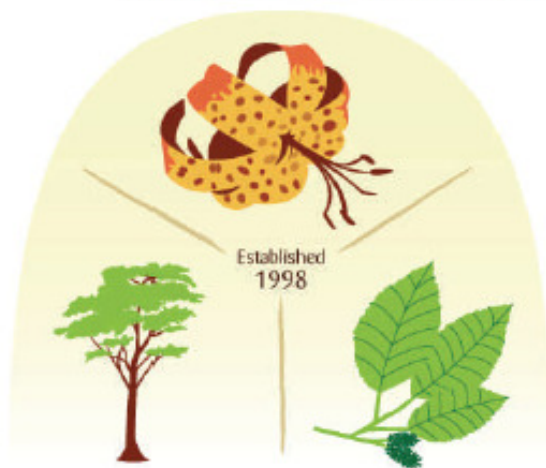
Have an event you would like to share or an article to submit?
Contact DNPS Editor Emma Brown at erbrown@udel.edu !

- **Thursday, May 9**
Wilmington Flower Market PLANT SALE May 9—May 11
- **Friday, May 10**
Mt. Cuba Center “Workshop: Habitat Restoration” 10AM-12:30PM \$59 Part 1: May 10, Part 2: October 16
- **Monday, May 13**
Kent County Master Gardeners Ask A Master Gardener Open Advice Panel 1-2:30PM FREE
- **Tuesday, May 14**
Sussex County Master Gardeners “Succulents for the Laid Back Gardener” 1PM
UDBG “Adding Pizzaz To Humdrum Landscapes” Lecture 7-8PM M-Free/NM\$15
Delaware Beekeepers Association Kent County Meeting 7-8:30 PM 69 Transportation Cir, Dover, DE
- **Wednesday, May 15**
National Public Gardens Week at Mt. Cuba Center May 15-19, FREE admission Saturday May 18
- **Thursday, May 16**
New Castle County Master Gardeners “Containia Mania” 6:30-8:30PM \$25
Mt. Cuba Center “Transform Your Yard from Basic to Beautiful” 5:30-7PM \$29
- **Sunday, May 19**
Delaware Nature Society Pups for Clean Water Hike Bucktoe Creek Preserve, Avondale, PA 3-4PM
Mt. Cuba Center “Native Plants, Traditional Medicine” 1-3PM \$29
- **Tuesday, May 21**
Sussex County Master Gardeners “Bluebirds and Songbirds of the Delmarva” 6:30PM
- **Thursday, May 23**
Springer Middle School “Energy Evening” Symposium 5:30-7:30PM FREE Wilmington, DE
<https://www.brandywineschools.org/Page/2#calendar1/20190504/month>
For more information and to register by May 20th email: kevin.brown@bsd.k12.de.us
- **Wednesday, May 29**
Mt. Cuba Center “Grow a Living Bird Feeder” 10AM-12PM \$29
- **Tuesday, June 4**
Delaware Beekeepers Association Sussex County Meeting 7-8PM 16684 County Seat Hwy, Georgetown
- **Wednesday, June 5**
Native Plants in the Landscape Conference at Millersville University June 5– June 9
<http://www.millersvillenativeplants.org/>
Mt. Cuba Center Certificate Course “Native Plants of Summer” June 5– July 17 \$190
- **Tuesday, June 11**
Delaware Beekeepers Association Kent County Meeting 7-8:30 PM 69 Transportation Cir, Dover
- **Wednesday, June 12**
Sussex County Master Gardeners “Establishing a Meadow, the Good, the Bad, and the Beautiful” 6:30PM
DCH & NCC Master Gardeners “Power of Plants: Insects, Critters, and Your Plants” 6:30-8PM M\$20/NM\$30
- **Wednesday, June 19**
DNREC Native Species Commission Public Meeting 9AM Kent County Administration Building
- **Thursday, June 27**
DCH “Learning from Great Gardens: Barley Mill House” 5:30-7:30PM M\$25/NM\$35 Greenville
<https://www.thedch.org/> **For DCH Events** 🌱



Lilium superbum (Turk's cap lily)
Our summer- blooming native lily that
represents the DNPS

MEMBERSHIP APPLICATION



DELAWARE
Native Plant Society

Membership is for 12-months, after which we
send you a renewal notice.

- ☐ Full-time Student \$10.00
- ☐ Individual \$15.00
- ☐ Family \$18.00
- ☐ Contributing \$50.00
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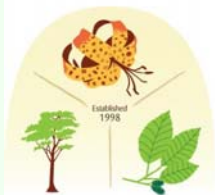
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The Turk's Cap

Volume 22, Number 2

Summer 2019

The Newsletter of the Delaware Native Plant Society



Letter from the President by DNPS President Eric Wahl
Highlighting the UD Lewes Campus native plant garden and the upcoming DNPS Annual Symposium in October



Delaware's Orchid Scouts by Pamela Crowe of MCC
A continuation of Mt. Cuba Center's native orchid discussion from our Spring 2019 Newsletter; a close look at Mt. Cuba Center's citizen science orchid project



The Work of the Ecological Extinction Task Force and the Delaware Native Species Commission
by State Senator Stephanie Hansen and DNPS VP Rick Mickowski
A deeper look at the conservation efforts by the Delaware state legislature introduced in the DNPS Winter '18-'19 Newsletter



Plant Family Highlight: The Cashew Family (Anacardiaceae) in Delaware by State Botanist Bill McAvoy
For anyone itching to learn about this far-reaching family!



Plant Highlight: Honewort - *Cryptotaenia canadensis*
by Alex Zorach
Overlooked and endemic of eastern woods, if you don't already know it I guarantee you'll exclaim "Oh! That's what that is!"



Remove and They Return by Elaine Schmerling
Efforts in Ardentown, Delaware to remove invasives often restores natives right from the seed bank. Surprised? Read on!



Past, Present, and Future
Hot events and good reads for a fruitful Zone 7 Delaware Summer! Plus, a review of the DNPS trip to BHWP by our VP!

Flower photos courtesy of David G. Smith at www.delawarewildflowers.org

DNPS Officers

President:
Eric Wahl
Vice-President:
Rick Mickowski
Treasurer:
Eric Zuelke
Secretary:
Alison Long

DNPS Mission Statement:

Founded in March 1998, we are a volunteer-based, publicly supported non-profit organization dedicated to the conservation of native plants and their natural habitats through education, science, advocacy, and land stewardship.

Discover more at: <https://delawarenativeplants.org> 



Letter from the President

Summer is here and everything is abuzz, especially at the native plant garden in Lewes. As many of you are aware, a new gravel path has been placed within the native plant garden at the University of Delaware's campus in Lewes, Delaware. Much thanks to the grounds crew of the University for their time and energy installing the walkway. With DNPS contributions funding the materials, the University was gracious enough to donate the labor. We are so very grateful.

Speaking of being abuzz, two beehives have been installed near the garden courtesy of the Lewes Beekeepers. These hives will be monitored and serve as an educational tool for data gathering, research, and public outreach. The native garden will be a main forage area for the bees. If you visit the garden, they are somewhat hidden from view by an enclosure. This is needed as a windbreak and protection for the hives. If you are curious about them, please contact the Lewes Beekeepers and they can answer all your questions.

DNPS will be organizing future volunteer days to help clean-up the garden and touch-up the edging of the new walkway. Keep an eye out for emails and on our social media page for upcoming times and events.

Our **Annual Symposium** this year will be in October and we are proud to have scheduled David Mizejewski of the National Wildlife Federation to be our featured speaker. DNPS will have further information and registration requirements later this summer. The Annual Symposium is always a highlight of the year, and we look forward to hearing from David and the NWF.

Stay tuned for more information on these items and on additional events down the road. As always, thanks to all our members, and especially to those that volunteer their time and effort to make our organization a continued success. 

Eric W. Wahl



The DNPS Spring visit to Bowman's Hill Wildflower Preserve
More about the trip on Page 15...

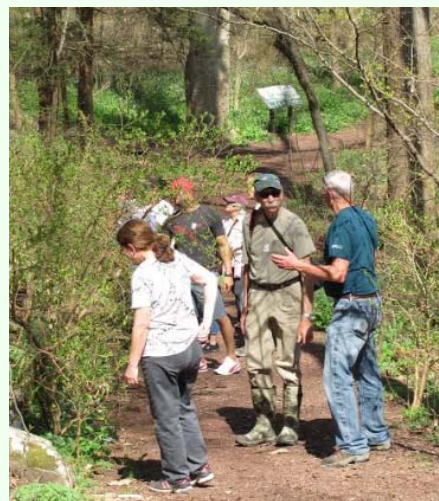
Left:

Mertensia virginica
Virginia bluebells

Right:

DNPS members take a guided tour on April 13, 2019

Photographs by Rick Mickowski





Delaware's Orchid Scouts by Pamela Crowe

Mount Cuba Center (MCC) in 2016 initiated *The Native Orchids of Delaware Project* to learn the condition of Delaware's orchids. Historically, Delaware boasted 38 native terrestrial orchid species, but only 25 are thought to still exist in the state, and about half of those are considered extremely rare.

To assist with the project, MCC recruited and trained a group of volunteer, citizen-scientist orchid scouts for the fieldwork. The scouts are surveying the documented orchid sites in Delaware—and finding new sites. The data the 22 scouts are collecting will help MCC create an orchid conservation plan.

The volunteers also help with habitat management projects, such as invasive species removal and deer enclosure fences, says Adrienne Bozic, Mount Cuba Center Orchid Research Fellow, who directs the orchid scouts.

Using the knowledge and dedication of citizen scientists toward native plant conservation and being able to share her love and concern for native plants with the orchid scouts rewards Bozic. “We have so much fun!” she says.

The scouts share Bozic's passion for orchids. In their own words:

“Orchids are an important part of our (natural) history. Are they still around, healthy?” Things are changing due to man, says Duane Erdmann. “Roads are built; houses are built.”

“Orchids are endangered and so beautiful. It's important to identify and monitor those that exist so they don't keep disappearing,” says Mary Lou Gantzer.

Orchid scouts see first-hand some of the threats to orchids, threats that may have decimated populations that once existed. The threats include invasive plants that overrun and outcompete orchids, deer that eat them, lack of orchid pollinators, land development that disrupts their habitat—and poachers who dig them up for profit. But orchid poaching is a losing proposition.

Orchids are finicky about where they live; transplanted orchids typically die. In addition to specific light, moisture and temperature requirements, each species needs specific soil fungi for growth. Dust-like orchid seeds contain no food for a developing embryo. Germinated seeds depend on soil fungi to supply them with food. If the seeds fall on soil that lacks the required fungi, the orchids will not grow.

Because orchids are so highly specialized and so finely tuned to environmental conditions, they act as indicators of ecosystem health. By their presence, they indicate a stable, healthy environment. By the absence or decline of a known population, they warn of environmental changes.

“It's important for our ecological system to find and preserve our native orchids so they can survive into the future for a healthy environment,” says orchid scout, Sheila Mensch.

Continued on next page...



Above:
Liparis liliifolia
Purple twayblade orchid

Below:
Goodyera pubescens
Downy rattlesnake plantain



Below:
Goodyera pubescens
Downy rattlesnake
plantain orchid
inflorescence



Above:
Platanthera lacera
Green-fringed orchid

Below:
Cypripedium acaule
Pink lady's slipper orchid





Working in pairs, the scouts, over the past three years, have been visiting the known, documented orchid sites in Delaware. Before venturing into the field, the scouts must obtain permission to survey. Then, armed with smartphones, a GPS and a lot of other gear, the volunteers navigate into woods, meadows and wetlands to the coordinates where orchids had been found, in some cases decades ago.

On the site, the orchid hunt begins. Excitement, if they are found. Disappointment, if they are not found. Before leaving, the scouts complete and send a smartphone survey of 28 data sections including, in addition to orchids, habitat type, site quality, and a checklist of invasive plants.

Orchid scouts also find unexpected, undocumented orchids while in the field. According to Bozic, they have documented over 200 new orchid sites in the state. And they would like to find more.

Bozic encourages people who have orchids or quality orchid habitat on their properties to notify Mount Cuba Center. By granting permission to survey, landowners will have the opportunity to participate in a valuable research study and contribute to our understanding of Delaware's native orchids, she says.

"Private landowner names and property locations/orchid locations are strictly confidential. None of our findings (even if rare orchids are found) have any impact on how the landowners manage their properties," says Bozic.

Mensch and another scout, Janet Jacoby, recently visited three people in Sussex County, each with pink lady slipper orchids on their properties. "They were so excited about their orchids and asked all kinds of questions about how to take care of them. We got to be ambassadors for orchids!" says Mensch.

"They are the friendliest people on earth and would do anything to preserve these beauties," says Jacoby. "It's so rewarding, finding like-minded people who have just learned about orchids. They wanted to know how to take care of their orchids. Don't move them. Protect them and leave them alone."

Erdmann says the people he's met, who have orchids, are fascinated by their rarity. "If we can influence people who have them on their property to further preserve them, it's wonderful, and other people can enjoy them too."

"Native orchids deserve our respect and conservation. They are beautiful and people should know about them. We are stewards of the plants on earth, and it's up to us to find and preserve them," says Jacoby. 🌱

For more information on Delaware's Orchid Scouts Program, contact Pamela at pamelcrowe@verizon.net

Pamela Crowe
Mt. Cuba Center



The Work of the Ecological Extinction Task Force and the Delaware Native Species Commission by Senator Hansen

At a public meeting held by the Delaware Department of Natural Resources and Environmental Control a few years ago, a powerful presentation by University of Delaware professor, Dr. Douglas Tallamy, on the precipitous and widespread decline of our native species in Delaware struck me as alarming. As an environmental attorney in Delaware for almost two decades, *I thought* I was fairly environmentally aware, but I was shocked by the number of species that we have lost across a large portion of our food web from plants, insects, birds, amphibians/reptiles, to freshwater/marine life. Dr. Tallamy's research here in Delaware with his students over the past decade, illustrated the connection between our loss of species and our actions *in our own backyards*, and brought this issue home to me.

Shortly after being elected into the Senate, I contacted Dr. Tallamy and asked he would serve on a task force to further investigate this issue, bringing various interest groups and stakeholders to the table, and providing recommendations growing forward. Fortunately for all of us in Delaware, he agreed. The task force was large (19 members) and balanced with members representing (1) government and academia ; (2) environmental organizations; (3) commercial and business interests; and (4) legislators from both major political parties in the Delaware House and Senate.

The object behind the composition of the task force was to encourage discussion and debate among a diverse group of interests with the ultimate goal of putting forth recommendations that would have widespread support and the best chance of implementation. From July through December of 2017, nine meetings were held (some of them lasting more than four hours in length) and at those meetings, the Task Force members heard numerous presentations from organizations knowledgeable about the issues, some from Task Force members themselves. They spent hours drafting and presenting their own ideas and proposed recommendations for implementation, and then they worked through the sometimes difficult process of discussion and compromise

The Task Force identified over 80 recommendations within seven subcategories and developed findings and recommendations under each subcategory. The final report as well as all of the meeting minutes of the Task Force can be found at:

<http://legis.delaware.gov/TaskForceDetail?taskForceId=385>

One overarching recommendation was the creation of the Delaware Native Species Commission in order to implement the recommendations of the Task Force. The Commission would reflect a balance of interests between environmental professionals, government, and other stakeholders; meet on a regular basis, and report back to the General Assembly on their results every year. Focusing on accountability, the Commission will sunset ten (10) years after enactment unless it is reauthorized by the General Assembly.

Under my sponsorship, legislation creating the Commission was passed in 2018 and the Commission has begun its meetings and implementation of the recommendations of the Task Force. The website for the Commission with information on upcoming meetings and past Commission minutes can be found at: <https://dnrec.alpha.delaware.gov/delaware-native-species-commission/>

Continued on next page...



The Ecological Extinction Task Force in 2017
Photograph by Jennifer Parrish, for Delaware State Democrats

So what did the Task Force recommend?

Without listing each recommendation, the highlights were:

1. Education

The concept that the public, through the collective action of private landowners, has an important role to play in the prevention of extinction of local species, and also in the resurgence of local species, is a relatively new concept. Education is the key to understanding. A comprehensive, educational effort will be required in order to change the way we, as individual property owners, view our effect on the decline of local species. When we understand the way that our choices drive the decline of local species, we will make different choices in how we manage our property. Of critical importance is the education of property owners, our children, and those who play a role in the development of property including state and local land use officials, engineers, landscape design professionals, professional builders, and landscape contractors, as well as those who have responsibility to manage private property including homeowner associations and property management companies. Educational material should be developed targeting each specific audience explaining the benefit of native species as well as the effect of non-native and invasive species proliferation and their contribution to the decline of our local species. The educational material should address the management of open spaces within communities, on private property, and on public property. It should be distributed to homeowner associations and property management associations, as well as to professional organizations having responsibility in property development such as engineers, landscape design professionals, landscape contractors, and professional builders, and it should be incorporated into the continuing education material required in obtaining or maintaining professional licensing. A curriculum should be developed to bring the educational material into our children's classrooms and various outreach programs. Education through public presentations, various media outlets and through demonstration projects by local governments, business owners, non-profits and others should be encouraged and properly recognized.

2. Incentivizing private landowners

Incentives should be created to (a) encourage the planting, restoration, and management of native species

Continued on next page...



and their habitat; (b) encourage the removal of invasive species and their replacement with native species; and (c) replace non-native species with native species. Incentivizing can take many forms and may include such things as monetary incentives, public recognition, and ease of permitting, density bonuses for environmentally sensitive landscape design practices, or other governmental approvals.

3. Government leads by example

A critical part of demonstrating to the public the importance of native species to our local ecosystems is by our government taking the lead and providing native species landscape and management on our public property. All Delaware state facilities and departments should set the example, reducing lawn and replacing it with native plants or pollinator gardens, and revising land management practices to be more pollinator friendly. This includes reduced mowing by DelDOT on highway medians, roadsides, cloverleaves, and secondary roads to twice a year (once in the Spring and once in the Fall). Model legislation or policy should be developed to make it easier for State or local government to make changes requiring native species on or around new government buildings and parks. Demonstration projects should be pursued on public land illustrating sustainable landscape practices including reduced lawn, the use of native plants, and reduced mulch.

4. Legislation affecting development

In order to improve and protect our ecosystems, policy changes at the state and/or local levels may be necessary. Policy changes may include such things as a bill or resolution passed by the General Assembly, an ordinance or resolution passed by a local government, a change in the regulations administered by the state or local government, or a change in state or local government policy. The Task Force encouraged the drafting of legislation for use by local governments that would provide exemptions for common areas, buffer zones, and open space areas from tall weeds/grass property code violations, when maintained in accordance with an approved plan. The Task Force also recommended reviewing existing regulations to determine their effectiveness in protecting state-endangered species, encourage protection of Delaware's rarest plant communities, and look for linkages to connect native habitats in existing and new development in subdivision site plans.

5. Fund the Open Space Program at the statutory level

Utilization of the Open Space Program is an effective tool in stemming the loss of our native species, but that funding has been eliminated. The Task Force recommended that the funding be restored to that required under the statute and that funds should be used for purchasing high quality habitats with native plants and trees, especially those habitats required for species of special concern, and those that connect existing protected lands. We are happy to report that the funding was restored in 2018.

6. Legislation prohibiting the sale of invasive species

Most of the plants for sale in retail and wholesale outlets in Delaware and around our region are non-native and some are invasive. This is having a huge impact on what we are planting in our yards, on what is being proposed and planted by builders and developers for new communities, and what is being selected by government to be planted on public property. We need to change this. The first step is addressing the sale of invasive species. The sale of invasive plant species is an important factor contributing to the loss of native species in Delaware. The Task Force recommended making the sale of invasive plants illegal in Delaware, allowing an appropriate phase out period. Species considered invasive would be those listed on the Delaware Invasive Species Council plant list, as such list is periodically reviewed and amended.

Continued on next page...



7. Deer management

The proliferation of deer is an important factor contributing to the loss of native plant species in Delaware. The Task Force recommends the review of County code or local ordinances that may be inhibiting adequate deer harvest, and encouraging landowners and land managers to increase deer harvest as necessary to reduce impacts to key habitats. The Task Force also voted to support the Recovering America's Wildlife Act by supporting the efforts of the Blue Ribbon Panel to identify an adequate and sustainable source of money dedicated to the conservation of species in greatest conservation need in an effort to prevent further population declines in some species of wildlife thus reducing the risk of more species becoming endangered.

Conclusion

One of the most striking conclusions of this work has been the realization that each of us has an important role to play in not only conserving, but in bringing back our native species, and it starts with what we plant in our own backyard. Do not buy or plant invasive species and, when possible, remove them. Give preference to native plant species. Recognize that most of the plants being sold are non-native, and non-native plants do not fully contribute to our ecosystem here in Delaware. The difference between planting an oak tree (native) or a ginkgo tree (non-native) is the difference between a healthy, home-cooked meal and a candy bar to our native species of insects, birds, and other fauna. Yes, the difference is that stark and it is having a devastating effect when all of our individual actions are taken together. This is an important conclusion of the work of the task force and we must all take this to heart. Now we know that the keys are in our hands. 

Article by Delaware State Senator Stephanie Hansen and Excerpts from Ecological Extinction Task Force Final Report

Delaware Native Species Commission Update

Rick Mickowski, DNPS Vice-President

Delaware, Naturally is the newly adopted branding tagline for the Commission. The Education Subcommittee is looking for someone to spearhead the planning of an Environmental Symposium to be held this winter season. Legislation has been introduced to add three additional members to the Commission expanding membership to 19. The Commission has developed a budget which Senator Hanson has introduced for approval by the legislature. The Commission is creating a list of public gardens that are native species centric such as government buildings, libraries, schools, and universities. The native plant garden that DNPS is renovating in Lewes is on that list. The Delaware Invasive Species Council (DISC) is developing an updated list of invasive plants using the NatureServe protocol using expert reviewers. Bill McAvoy, a DNPS member, is involved in this effort.

The Commission is working through a "Top Ten" list.

This list includes the following items which have been abbreviated:

- Distribute a list of native plants and trees that are easy to grow in our area.
- Make the sale of invasive plants illegal in Delaware, allowing an appropriate phase-out period using the newly developed DISC list.
- Develop educational materials.
- Encourage the preservation of remaining intact forest habitat (large tracts to receive the highest priority).
- All Delaware state facilities and departments should set the example by reducing lawn and replacing with native plants or pollinator gardens and revising land management practices to be more pollinator friendly.
- Encourage municipalities to adopt native landscaping in their codes.
- Encourage new public facilities to use native plants in landscaping.
- Encourage protection of Delaware's rarest plant communities.
- Encourage all counties to adopt environmental design standards to protect key wildlife habitats and species of greatest conservation need.
- Fund the Delaware Open Space Program at the level required by statute.



The Cashew Family (Anacardiaceae) in Delaware by Bill McAvoy

The Cashew Family, the Anacardiaceae consists of about 80 or more genera and about 800 or more species and varieties worldwide. The family is classified as having trees, shrubs, vines and rarely herbaceous plants. The family name Anacardiaceae comes from the Greek word Anacardium and refers to the nut, or the core or heart of the fruit. The nut is outwardly located and *ana* means "upward" and *cardium* means "heart". Members of the Cashew Family are more common in warm climates, such as tropical America, Africa and India. Here in Delaware, the family includes the genera *Toxicodendron* (poison ivy's) and *Rhus* (sumac's). The genus *Toxicodendron* is represented in the state by two species and one variety: *Toxicodendron pubescens* (poison oak), *T. vernix* (poison sumac) and *T. radicans* var. *radicans* (poison ivy). The genus *Rhus* is represented in Delaware by three species: *R. copallinum* (winged sumac), *R. glabra* (smooth sumac), and *R. typhina* (hairy sumac).

The genus *Toxicodendron*

The generic name *Toxicodendron* means "poison tree." Species in this genus are well-known for causing urushiol-induced contact dermatitis, which is an itchy, uncomfortable rash that develops in most people who might touch the leaves of these plants. The rash is caused by the liquid compound urushiol that is found in the plant's sap.

Toxicodendron pubescens, poison oak: Poison oak is a deciduous shrub that flowers in Delaware in the summer and grows from 1 to 2 feet tall. The species is rare to uncommon in the state and is only found in Sussex Co. where it grows on dry, sandy soils along woodland edges and in canopy gaps of oak and pine woodlands. The fruit of poison oak is a food source for migratory and wintering songbirds such as the Yellow-rumped Warbler. The leaves of poison oak are lobed similar to an oak leaf. The specific name *pubescens* refers to the downy, short hairs on the leaf surface.

Toxicodendron vernix, poison sumac: Poison sumac is a deciduous, small tree that flowers in summer and grows to about 20 feet. The species is uncommon in Delaware and is found in all three counties in the state where it grows in swampy wetlands and marshes. The fruit of poison sumac is also a food source for wintering songbirds and the flowers are an important nectar and pollen source for bees. The leaves of poison sumac are compound (a leaf consisting of many smaller leaflets joined to a single stem), as are the leaves of the sumac's, hence its common name. The specific name *vernix* means a "varnish" or "coating," referring to its shiny leaves.

Toxicodendron radicans var. *radicans*, poison ivy: Poison ivy is a woody vine that is ubiquitous throughout the state and is found in a wide range of habitats and situations. It is this species that most people are familiar with and do their best to avoid. Despite its unpopularity, the fruit of the plant does provide a winter food source for songbirds. There are two other varieties associated with this species – variety *negundo* and *pubens* that occur west of the Appalachian Mountains. The specific name *radicans* means that the plant is capable of rooting along its stem.

The genus *Rhus*

The generic name *Rhus* is the Greek word for "sumac." The three species of *Rhus* in Delaware are all classified as deciduous shrubs.

Rhus copallinum, winged sumac: The common name for winged sumac refers to the leafy wings on the main axis of its compound leaf. Winged sumac is the most common of our *Rhus* species and is found throughout the state growing in thickets, old-fields and edges. The fruit of winged sumac is consumed by migratory

Continued on next page...



**Members of the
Anacardiaceae Native to Delaware**

Right:

Toxicodendron pubescens
Poison oak

Below:

Rhus copallinum
Winged sumac

Photographs by Bill McAvoy



**Non-Native Member of the Family
Giving the Family its Name**

Right:

Anacardium occidentale
Cashew tree

“Ripe Cashew Apples”

See Editor’s Note on Page 17



songbirds, quail and turkey. The specific name, *copallinum* means “gummy” or “resinous,” which refers to the plants’ sticky fruit.

Rhus glabra, smooth sumac: The leaves of smooth sumac lack hairs, hence the common name. The species is frequently found in both the Piedmont and Coastal Plain provinces of New Castle Co., but is rare farther south. The species grows in old-fields, along edges and in thickets, and the fruit is also a source of food for songbirds, quail and turkey. The specific name, *glabra* means “smooth” or “without hairs.”

Rhus typhina, hairy sumac: The leaves of hairy sumac are, you guessed it, hairy. The leaves of smooth sumac and hairy sumac are similar in structure, but can easily be separated by the presence or lack of hairs on the leaves, leaf petioles and twigs. The fruit of hairy sumac provides nourishment for migratory songbirds, quail and turkey, and the species is also the host plant for *Calycopis cecrops* (Red-Banded Hairstreak Butterfly) and *Celastrina argiolus* (Spring Azure Butterfly). Hairy sumac is frequently found in both the Piedmont and Coastal Plain provinces of New Castle Co., but is rare farther south where it grows in thickets, old-fields and edges. The specific name, *typhina* means “smoky” or “dull” and refers to the pale appearance of the underside of the leaf.



Article and photographs by William McAvoy



Plant Highlight: Honewort - *Cryptotaenia canadensis* by Alex Zorach

Summary

Honewort is a perennial plant native to North America.

Description

Honewort is characterized by trifoliate compound leaves that are irregularly doubly serrated, and often deeply cut. Different individual plants or even leaves on the same plant can look quite different.

Habitat

Prefers medium to light shade, moist to mesic conditions, and rich, loamy soil. Also often grows in silty soils. Found in woodlands, especially in floodplains and moist areas. Also found in moist, shaded parts of gardens and suburban areas. Found both in intact natural areas and anthropogenic habitats. Often grows directly adjacent to water.

Life Cycle

Honewort is an herbaceous perennial. Plants survive as perennials by reproducing vegetatively at the base, and the older plant then dying after setting seed. Especially in shade, first-year plants rarely flower and may only grow an inch or a few inches tall. Under more favorable conditions, first-year plants can flower and produce seed, but usually not as profusely as established plants.

Second-year plants grow substantially taller.

Seeds are heavy and typically fall close to the parent plant. This, coupled with this plant's preference for low-lying, flat areas can cause it to form dense colonies. After cold stratification, germinate opportunistically, usually more in spring, but possibly later depending on conditions.

In mild winters, the basal leaves will sometimes persist through winter, especially on sheltered sites.

In dry conditions, the leaves will wither and often all

Below:

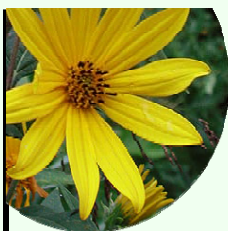
Cryptotaenia canadensis

Honewort

Photographs © Alex Zorach



Continued on next page...



A Focus on Ecology

There are abundant websites with articles on individual plant species, including both those that focus on horticulture, and others focusing on wild plants. We seek to differentiate ourselves from existing websites and references through a greater focus on ecology, including a plant's habitat, life cycle, and faunal associations. We also want to bridge the gap between the horticultural sphere and the wild, educating people on the ways gardening and landscaping plants interact with wild plant populations, and tracking this through our reporting of observations.

*Excerpt from the About page at
bplant.org*

To learn more, visit:

<https://bplant.org/>

**Sign up for the interest list
to become a future database
contributor or sponsor!**

above-ground parts of the plant will die. Plants will sometimes resprout in the same season after the end of a short but intense drought, or will be replaced with seedlings if the plants are killed after a more prolonged drought.

Although this plant usually blooms early-to-mid-summer, it is somewhat opportunistic and will bloom later under certain conditions.

Faunal Associations

The small flowers attract a variety of small bees, wasps, flies, and beetles.

Uses

All parts of this plant are edible; however, plants of this family can be hard to identify, and this family contains some very poisonous plants, so exercise caution. Western society does not utilize this plant as a food, although some inspiration can be taken from the Japanese use of the closely related *Cryptotaenia japonica*, whose spring-harvested leaves are often added to soups.

This plant is visually similar to *Aegopodium podagraria* (Bishop's weed or Goutweed), a plant that is widely planted as a groundcover, but is considered invasive in North America. As Honewort grows well in similar conditions, it can be used as a native substitute for that groundcover.

Related Plants

Cryptotaenia japonica, known in Japanese as mitsuba, is a close relative, and is cultivated as a food plant in Japanese and Korean cultures. It has been introduced to North America both as a food plant, and an ornamental (a red-leafed cultivar.) The red-leaf cultivar is sometimes found in the wild. *C. japonica* can be distinguished from its larger flowers, and smaller number of flowers per flowerhead. 🌿

Excerpt sourced from bplant.org

An interactive plant identification database

Founded and designed by Alex Zorach,

Plant Enthusiast and Plant Ecology Hobbyist

Article entry and photographs contributed by Alex Zorach



Remove and They Return by Elaine Schmerling

If “plant and they will come” summarizes the native plant movement (plant natives and the pollinators find them), then “remove and they return” should be the slogan for the removal of invasive plants. In removing invasives, we both free the natives from smothering and allow native seeds a place to sprout.

I am in my 20th year in my quest to remove invasive plants to save our woodlands—starting with my land adjacent to the Ardentown Woods and expanding my effort to include 50 acres owned by the Village of Ardentown. Ardentown, combined with the Villages of Arden and Ardencroft, have approximately 100 acres of preserved woodlands, much of it along Naaman’s Creek. The Ardentown areas along the creek are the more pristine natural sections which we prioritize in Ardentown’s efforts.

Sadly, invasives threaten the whole area. We have had different volunteer and professional efforts over the three decades I have been in the Ardens. We tackle groundcover such as English ivy and shrub layers of multiflora rose, Asian bush honeysuckle, privet, burning bush, and more. We are always alert for the next invasive species and have tree of heaven taking over waste areas between I-95 and the CSX lines (and with it the spotted lanternfly) and knotweed which we are trying to nip in the bud.

Nevertheless, there is hope. When I work with people (paid or volunteer) on invasive removal, we are always uncovering native plants including oaks, hickories, as well as partridgeberry and *Euonymus americanus*. Pulling 5-leaf akebia last fall I pulled a strand that must have spread 50’ into the beautiful pristine areas off the creek path. I reached the end and found *Anemone Americana* (round-lobed hepatica). Through the years Janet Ebert has conducted six different plant surveys, mostly in the Arden woods, but also 2 in Ardentown areas, and this plant had not been documented here. Since then I have returned to clear invasive plants at this location and have also found *Obolaria virginica* (Virginia pennywort), *Thalictrum thalictroides* (rue anemone) and *Tipularia discolor* (crane fly orchid)—also not previously recorded, as well as wildflowers like bloodroot and dwarf ginseng that we were already aware of. In my own yard, when I have removed thick mats of English ivy and periwinkle, the trout lily, spring beauties, and jack-in-the-pulpit return. Whether natives were hiding under the ivy all along, or their seeds were dormant and are now released – it is worth the effort to remove, and keep removing, invasive plants. 🌱

Article by Volunteer Natural Lands Steward of the Village of Ardentown, Elaine Schmerling

To assist in removal and restoration efforts, contact Elaine Schmerling at elaineschmerling@gmail.com



Events: DNPS Trip to Bowman's Hill Wildflower Preserve by Rick Mickowski

On Saturday, April 13th, six DNPS members visited Bowman's Hill Wildflower Preserve in PA. It was opening day for their native plant nursery, so all of us took the opportunity to purchase one or more plants. I purchased a Serviceberry tree to plant in my backyard. We also participated in a guided tour of one of the trails in the Preserve. A number of spring native ephemerals were in bloom. We highly recommend you visit on your own and explore the grounds. There was much more we did not have time to see while we were there.

Article and Photographs by DNPS Vice-President, Rick Mickowski



Above:
Trillium erectum
Red trillium

Below:
Spring plant sale at BHWP's native
plant nursery





Events and Reading Recommendations

Sites to check out for activities all summer long:

- **Mt. Cuba Center Events and Courses** <https://mtcubacenter.org/programs/ProfessionalCredit/ProfessionalDevelopmentEligibility>
- **Women in Horticulture Events** <https://www.womeninhorticulture.com/>
- **Bowman's Hill Wildflower Preserve Events** <https://bhwp.org/>
- **Delaware Master Gardeners Events and Classes**
New Castle County: <http://extension.udel.edu/lawnngarden/mg/ncc/>
Kent County: <http://extension.udel.edu/lawnngarden/mg/kent-county-master-gardeners/>
Sussex County: <http://extension.udel.edu/lawnngarden/mg/sussex-county/>
- **July 13 DNPS Lewes Campus Garden Volunteer Maintenance Day**
Come help with our native plant garden! Keep an eye out for more emails on dates and times and details on our website.
- **July 19 Woody Plant Conference at the Scott Arboretum of Swarthmore College**
<https://www.woodyplantconference.org/>
- **July 28 - August 2 Perennial Plant Association National Symposium**
Chicago, IL
<https://perennialplant.org/page/NationalSymposium>
- **August 7 Delaware Nursery and Landscape Association Summer Turf & Nursery Expo**
University of Delaware, Newark, DE
<https://www.dnlaonline.org/2019-summer-turn-nursery-expo-registration-now-open-2>
- **August 21 DNREC Native Species Commission Meeting**
Kent County Administration Building, 555 Bay Rd, Dover, DE 19901 10AM
The next DNREC Division of Fish and Wildlife and DNREC Natural Resources and Environmental Control Native Species Commission meeting to implement the recommendations of the Statewide Ecological Extinction Task Force to preserve endangered species. Regular meetings are open to the public.
<https://dnrec.alpha.delaware.gov/delaware-native-species-commission/>
- **September 14 DNREC Delaware Coastal Cleanup**
<https://dnrec.alpha.delaware.gov/coastal-cleanup/>

Great reads this summer- *Brief Book Reviews by DNPS Newsletter Editor Emma Brown*

- **"The Triumph of Seeds: How Grains, Nuts, Kernels, Pulses, and Pips Conquered the Plant Kingdom and Shaped Human History"** by Thor Hanson, 2016.
A thoroughly enjoyable read. Just like Pamela Crowe's and Elaine Schmerling's articles in this volume of our newsletter, it brings up orchid reproduction and seed bank dormancy among many examples of strategies of seeds to sprout successfully and proliferate plant species. It's not just any botany text. It's compelling, relatable, and the stories of Hanson and his young son's passion for seeds and gardening are downright delightful.
- **"Wetland Plants of New England: A Guide to Trees, Shrubs, and Lianas with Summer & Winter Keys"** by Donald J. Padgett, 2016.
Summer and winter keys! Now that's versatility. A very helpful guide with a lot of east coast overlap with our Delaware native plants, it's another great guide to follow while botanizing in the region.



Events and Article Notes

Events that were smash hits this spring:

- The DNPS Trip to Bowman's Hill of course!
- Energy Evening Symposium at Springer Middle School in Wilmington, DE - Lots of attendees, a great team of volunteers of all ages, many scientific subjects, professionals in ecological fields, and Delaware legislators involved in policymaking to improve environmental well-being in Delaware connected with middle school students and the public!
- The 28th Annual Millersville Native Plants in the Landscape Conference
- The Eastern Apiculture Society's 2019 Conference in Greenville, SC- over 50 different speakers discussing beekeeping and native bee topics- important subjects for anyone interested in native plants. The 2017 conference was held in Newark, DE at the University of Delaware.

Ecology news to discover more about:

- June 5, Delaware Legislative Hall held voting on a bill to protect native pollinators.
- You'll notice more and more native wildflowers and native plants along the roadsides. This has been accomplished through Livable Delaware's "Enhancing Delaware Highways" project, a partnership between DELDOT, UD, The DCH, and Rick Darke Consulting. <https://deldot.gov/Programs/edh/index.shtml>

On Page 1 from top to bottom:

- *Asclepias tuberosa*
- *Vernonia noveboracensis*
- *Impatiens capensis*
- *Hypericum virginicum*,
- *Helianthus helianthoides*
- *Silene virginica*
- *Cephalanthus occidentalis*

Photographs by David G. Smith at www.delawarewildflowers.org

From Page 11:

"Ripe Cashew Apples"

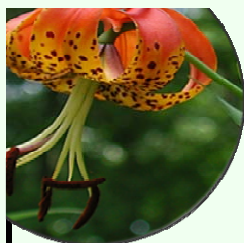
Photograph by J. Abhishek

Source: Wikimedia Commons

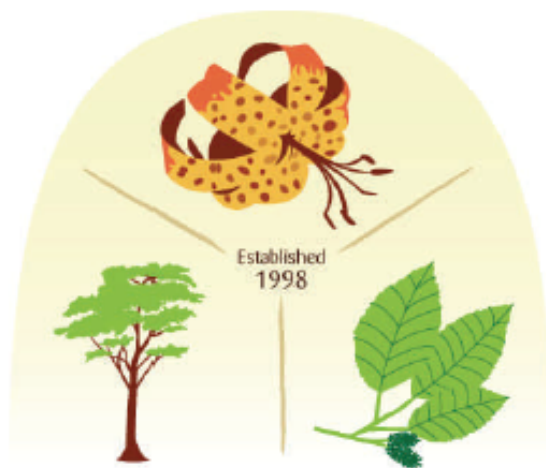
Creative Commons, Cropped Photo:

https://commons.wikimedia.org/w/index.php?search=cashew+apple&title=Special:Search&go=Go&ns0=1&ns6=1&ns12=1&ns14=1&ns100=1&ns106=1&searchToken=eci3s3le4cr4dq1h81ydzlez8%2Fmedia%2FFile%3ACashew_apples.jpg

The cashew is fascinating. The seed of the cashew is surrounded by a thin coat containing caustic oils that must be carefully removed. The large seed is what is eaten by consumers worldwide. The swollen receptacle attached to the fruit is brightly colored, fleshy and showy. It is an "accessory fruit," it is and is not part of the true fruit and contains no seeds. This "cashew apple" is soft and because it is difficult to preserve and ship very far, most people outside of tropical areas are unaware of the cashew apple. But, the oils that make cashews difficult to harvest are found throughout the Anacardiaceae family, and most people are aware of many of the plants, such as poison ivy, that are found in temperate places like little ol' Delaware. - DNPS Editor's Note



MEMBERSHIP APPLICATION



DELAWARE
Native Plant Society

Membership is for 12-months, after which we send you a renewal notice.

- ☐ Full-time Student \$10.00
- ☐ Individual \$15.00
- ☐ Family \$18.00
- ☐ Contributing \$50.00
- ☐ Business \$100.00
- ☐ Lifetime \$500.00

Donations are also welcome _____

Membership benefits include:



- Our quarterly newsletter-*The Turk's Cap*, and website resources
- Tips and tricks on gardening and landscaping with native plants
- Annual workshop, symposium, and project work days

Member Information

Name: _____

Organization: _____

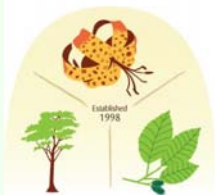
Full Mailing Address: _____

Phone Number: _____

Email: _____

Please make checks payable to:

Delaware Native Plant Society
P.O. Box 369
Dover, DE 19903



The Turk's Cap

Volume 22, Number 3

Autumn 2019

The Newsletter of the Delaware Native Plant Society



Letter from the President by DNPS President Eric Wahl
Summer summaries of DNPS demonstrations and approaching autumn's spectacular symposium.



Mission Pawpawsible: Cooking Up and Snacking on Delaware's Largest Native Fruit
Excerpts from the North American Pawpaw Grower's Association Publication on *Asimina triloba*



Plant Identification Technology by Emma Brown
A review of online resources that aid in plant identification.



Lawn to Life Consort of Pollinator Gardens
by Dr. Don Coats, Xerces Society
Citizen science projects to encourage Delaware pollinators of native plants!



Comparer and ContrAster Letter from the Editor
by Emma Brown
What it's like to study native plants outside of one's native home.



Autumnal Activities
A "plantitude" of things to do this fall. Remember to check out the index of photos for this issue and the ever-popular membership form!

DNPS Officers

President:
Eric Wahl
Vice-President:
Rick Mickowski
Treasurer:
Eric Zuelke
Secretary:
Alison Long

DNPS Mission Statement:

Founded in March 1998, we are a volunteer-based, publicly supported non-profit organization dedicated to the conservation of native plants and their natural habitats through education, science, advocacy, and land stewardship.

Discover more at: <https://delawarenativeplants.org>



Letter from the President

This year flew by and autumn is now upon us. Even though I love the growing season as it provides an abundance of color, texture, fragrance, and food, autumn is perhaps my favorite season. The mild days and cooler nights are just as abundant as spring and summer, and with just as much color.

DNPS held a volunteer day over the summer at the native plant demonstration garden located at the University of Delaware's Lewes campus. We had a beautiful day to clean up the garden and get it that much closer to its original splendor. A noticeable improvement besides the recently installed gravel pathway, is a small extended area that was consistently wet lawn. DNPS simply cornered off this area about two years ago and let nature take its course. That area is now thriving with Marsh Mallow (see picture below.)

We look forward to more volunteer days at this garden. Stay tuned for future dates. The more members we have show up, the more progress we make. We are hoping to start planting a meadow type area as part of our next phase, in places where trees were previously removed and is now mostly barren.

DNPS is also very excited for our Annual Fall Symposium scheduled in the beginning of October. Our symposium is always popular, and this year is no exception. The event booked to capacity soon after it was posted. Watch our newsletter and social media pages for pictures and updates.

In looking ahead to next year, we are hoping to have representatives from the Lewes Beekeepers at our spring workshop to talk all about bees and other pollinators. They recently installed hives near the native plant demonstration garden. It's sure to be the buzz of the town.

Thanks to all our members and a special thank you to those that help us at our volunteer days, we couldn't do it without you. Happy Gardening! 🌱

Eric W. Wahl



The DNPS Native Plant Demonstration Garden

Left photo: *Hibiscus moscheutos* (Rose mallow)

Right photo: *Danaus plexippus* on *Asclepias incarnata*
(Monarch butterfly on swamp milkweed)

**Photographs Courtesy of
Eric Wahl and Rick Mickowski**



Mission Pawpawsible: Cooking Up and Snacking On Delaware's Largest Native Fruit

Locally Grown ~ North American Pawpaw

Core Facts

- North American Pawpaws have higher mineral content than apples, bananas, and oranges, including: calcium, phosphorus, magnesium, iron, zinc, copper, and manganese.
- N.A. Pawpaws are high in potassium with three times as much as apples and twice as much as oranges.
- N.A. Pawpaws have three times as much vitamin C as apples, and twice as much as bananas.
- N.A. Pawpaws have fourteen times as much niacin as apples, four times as much as oranges, and twice as much as bananas.
- N.A. Pawpaws have approximately the same dietary fiber as apples, bananas, and oranges.
- N.A. Pawpaws are higher in protein than apples, oranges, and bananas.
- N.A. Pawpaw is the only fruit whose protein contains all the essential amino acids.
- Fatty acids in N.A. pawpaws are preferable to that of banana, with 68 percent as mono and polyunsaturated fats.
- N.A. Pawpaws are high in antioxidants.

Nutrient composition of 100 grams of North American pawpaw pulp and skin

Protein	1.2 grams
Total fat	1.2 grams
Carbohydrates	18.8 grams
Dietary fiber	2.6 grams
Calories	80

Minerals

Potassium	345 milligrams
Calcium	63 milligrams
Phosphorus	47 milligrams
Iron	7 milligrams
Zinc	.09 milligrams

Vitamins

Vitamin C	18.3 milligrams
Niacin	1.2 milligrams

Cooking with Pawpaws, Kentucky State University

North American Pawpaw uses

North American pawpaws can be eaten fresh or processed into desserts like ice cream and baked goods. To eat the fresh fruit, cut the N.A. pawpaw in half and scoop out the flesh with a spoon, removing the large seeds or just squeeze the N.A. pawpaw pulp into your mouth and spit out the seeds. Larger fruit is easier to process because of the higher pulp to seed ratio.

Asimina triloba, the pawpaw, is a very cool plant. It is a colony-forming understory tree. Its dark red April flowers are beetle-pollinated, and the plant is the host plant for zebra swallowtail butterfly caterpillars. I have to say, my favorite flavors are the new cultivars of 'Shenandoah' and 'Susquehanna' which taste almost exactly like mango, rather than the banana-mango flavor of straight-species pawpaws. It is in the Annonaceae family along with soursop and cherimoya. It's easy to paintbrush-pollinate and enjoy! - Editor's Note

North American Pawpaw Recipes

North American Pawpaw Paradise

By Derek Morris

- 1 large ripe N.A. pawpaw
- 1/2 cup milk
- 1 cup dark rum
- 1 cup crushed ice
- 2 Tbsp sugar
- Mint sprig for garnish

Peel and seed N.A. pawpaw
Blend pulp and liquids together
Add everything else except mint and blend till smooth
Garnish with mint leaves

North American Pawpaw Strawberry Jam

By Laurie Henley

- 3 cups N.A. pawpaw pulp
- 2 cups crushed strawberries
- 6 cups sugar
- 1 Tbsp lemon juice
- 2 Tbsp orange juice
- 1 Tbsp butter
- 1 Package Sure-Jell

Soak N.A. pawpaw pulp in orange juice and lemon juice for about an hour in refrigerator.
In a large sauce pan add N.A. pawpaw pulp, strawberries, butter, Sure-Jell
Bring to a boil until bubbles won't stir down
Add sugar
Boil, stirring constantly for 2 minutes
Remove from the stove and fill jars
Be careful since the jam is very hot
Place jars and seal lids in hot water
Jars must be hot to fill with jam
Fill hot jars with hot jam
Put seals and lids on finger tight.
Boil jam filled jars for 10 minutes.
Remove from water and let sit.
Jars should seal within 24 hours.

Storing & Preserving

North American pawpaws are green when unripe with a bluish-green blush and very hard. As the N.A. pawpaws ripen, the blush disappears and the fruit remains green and begins to soften (a "North American Pawpaw Ripening Chart" and a handout on "Pick'n Perfect N.A. Pawpaws" may be found at Ohiopawpaw.com)

The pulp is easily frozen when you have too much fresh fruit to eat or bake. Freeze in amounts of one or two cups since this is the amount that is called for in most recipes. Canning N.A. pawpaw pulp is not recommended due to the low acidity of the N.A. pawpaw pulp.

North American Pawpaw Bread

By Jim Nottke

- 1 tsp lemon, lime or orange zest, if available
- 8 ounces skim milk
- 1/2 cup N.A. pawpaw pulp
- 2 cups bread flour
- 1 cup whole wheat flour
- 1 tsp salt
- 1 Tbsp sugar
- 1.5 tsp yeast
- 1 cup dried blueberries

Add the blueberries to the mix after the initial blending of ingredients
Bake according to bread machine instructions
Jim uses an "old West Bend bread machine on its standard basic setting."

North American Pawpaw Fudge

By Terry Powell

- 2 cups white sugar
- 1 cup packed light brown sugar
- 3/4 cup (1 1/2 sticks) butter or margarine
- 2/3 cup (5 ounce can) evaporated milk
- 1/2 cup N.A. pawpaw puree
- 2 cups (12 ounce package) white chocolate morsels
- 1 jar marshmallow crème (7 ounce)
- 1 cup chopped pecans
- 1 1/2 tsp vanilla

Line 13 x 9 inch pan with foil
Combine sugars, butter, evaporated milk, N.A. pawpaw puree in medium heavy-duty sauce pan
Bring to a full, rolling boil over medium heat, stirring constantly for 10–12 minutes, or until candy thermometer reaches, soft ball stage (234–240 degrees)
Quickly stir in chocolate morsels, marshmallow crème, nuts and vanilla
Stir vigorously for 1 minute or until chocolate morsels are melted
Pour into prepared pan and let cool

North American Pawpaws are native to the eastern U.S. and were the largest edible fruit. N.A. pawpaws were enjoyed by Native Americans and early colonists.



The fruit has flesh that is creamy and custard-like. The complex flavor tastes like a combination of banana, mango and melon.



Plant Identification Technology by Emma Brown

For botanists and plant enthusiasts who spend a lot of time botanizing, the up-and-coming plant identification technologies are making a big difference in how quickly it takes to be sure of a plant's identity.

Delaware Wildflowers, the source of most of our flower photographs for the DNPS newsletters, is a fantastic photo resource. Searching for plants on this site yields the clearest image short of the plant itself.

I spend a lot of time on the USDA Plant Search website's state search function to make sure that it's even possible to see the plant I think I am looking at in whichever state I visit.

The web resource of the Integrated Taxonomic Information System (ITIS) has an incredible database where common and Latin names can be searched. ITIS lists all synonymous names and provides the status of the currently accepted official scientific names for plants that have had name changes over the years. This is very important for anyone writing about plants.

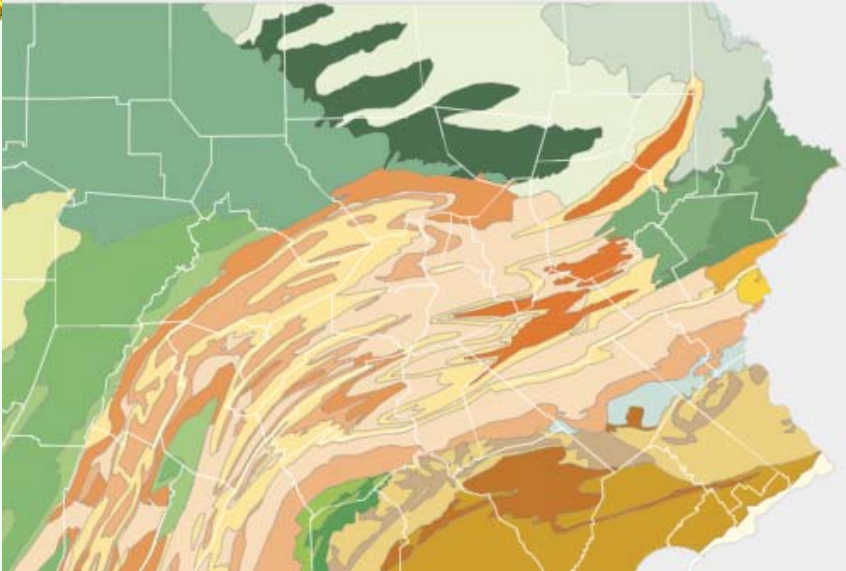
GoBotany by the New England Plant Trust has an online ID key. A dichotomous key is a system used in plant identification guides. Dichotomous means two-branched, and key denotes a reference guide. By observing the characteristics of the plant and answering a series of questions, you are led down a path of choices until you reach a description that includes all of the qualities of the plant that you are identifying. By choosing one of two options at each question, you exclude options that don't make sense. The more detailed a key gets, the more technical the terms are. However, GoBotany offers a Simple Key, a Full Key, a Dichotomous Key for family characteristics, and a help section. It also offers "PlantShare"- the opportunity to participate in a citizen science project of uploading plant photos and locations. While this guide is for New England Plants, this is a fantastic program and there is a lot of overlap between the plant species in the Mid-Atlantic states.

Citizen science projects work only as well as the citizen scientists. Missouri Botanical Garden's PlantFinder search page has an immense knowledge to draw from for ornamental plants, many of which are native U.S. species. The unrelated Plant Finder phone app on the other hand has a very different setup and is nowhere near as skilled. It's one of the early applications where snapping a picture through the app is supposed to yield a correct ID. I often found myself far more accurate than the app which used general shapes and colors for identification.

The even more sophisticated citizen science site of iNaturalist.org of the California Academy of Sciences and National Geographic is an incredible resource. It is a massive and growing citizen science participation project. People take photographs and add them to the site through an app with information about the location, species descriptions, and more. This program is not limited to the teaching of plants. It is used in natural science teaching, as students can take photos and submit them, learning from and reporting on the information submitted by the iNaturalist community as a whole. "Projects" can be started to collect data on populations of particular species in certain locations, such as bird population studies, or in our case rare plant surveys and invasive plant watches.

This involvement has become so influential that iNaturalist published a related app called Seek. Seek is the much, much more accurate counterpart to the Plant Finder app. Seek builds upon and reflects back to the breadth of the iNaturalist database. Simply install the app, take a photo, and you will have an identification that is likely to be extremely accurate. For observing plants, fungi,

Continued on next page...



bPlant Eco-Region Maps: A portion of PA and all of DE illustrated by eco-region from bplant.org/regions.php

insects, and more, Seek appears to be the most effective application of its kind to date.

Former DNPS President and State Botanist, William McAvoy, in conjunction with the University of Delaware created the Flora of Delaware Online Database. This database is searchable and contains every plant currently known to the state of Delaware, and is regularly updated. One of the best features of this site is the field that lists whether a plant is native or not. This is invaluable to anyone creating a native plant garden in their yard. The database also contains photos to accompany the data on each species.

bPlant.org was founded by the author of our last issue's Plant Highlight: "Honestwort, *Cryptotaenia canadensis*", Alex Zorach, a Delaware local. The Plant Highlight was actually an excerpt from the site that was offered for the DNPS newsletter to use. Since then, the website has been gaining momentum. bPlant has added new access to eco-region maps. I tested it for fun and navigated on the map to Bombay Hook in Smyrna, DE to find that it is within the Delaware River Terraces and Uplands within the Middle Atlantic Coastal Plain in the Mississippi Alluvial and Southeast USA Coastal Plains region. Selecting an eco-region type brings up a full page to learn more about each one! bPlant's small work team has published 13 complete articles on plant descriptions but over 6,000 in the works. By searching the common or scientific name of a plant you will find information on the plants you're looking for even from those "hidden" articles. Plant descriptions are a compilation of the most current and up-to-date sources, often cross-referenced with many other resources.

There are other natural resources sites, such as FirstMap, an ArcGIS database of maps that the Delaware Department of Agriculture and DNREC use to record forest and coastal zone areas. While they are not plant identification guides, they are important to know about when looking at Delaware ecology.

List of Resources to Discover (In order of appearance)

Delaware Wildflowers: <http://delawarewildflowers.org/>

USDA Plant Search and State Search: <https://www.plants.usda.gov/java/stateSearch>

ITIS- Integrated Taxonomic Information System: <https://itis.gov/>

GoBotany: <https://gobotany.nativeplanttrust.org/>

Missouri Botanical Garden PlantFinder:

<http://www.missouribotanicalgarden.org/plantfinder/plantfindersearch.aspx>

iNaturalist: <https://www.inaturalist.org/>

Seek by iNaturalist: https://www.inaturalist.org/pages/seek_app

Flora of Delaware Online Database: <http://www.wrc.udel.edu/de-flora>

bPlant: <http://bplant.org/>





Lawn to Life Consort of Pollinator Gardens: Planting for both visual and conservation goals

Article and Photos by Dr. Don Coats

Three public pollinator gardens near Centreville, DE, have been created as outreach to homeowners, conveying how to convert part of their lawn to pollinator garden for personal enrichment and for reducing our debt to Nature.

At issue is our cultural devotion to expansive lawn as a message of aesthetics and personal pride that has deprived Nature of home habitat for countless creatures, little creatures– as Dr. Douglas Tallamy of the University of Delaware says– “that make the world go.”

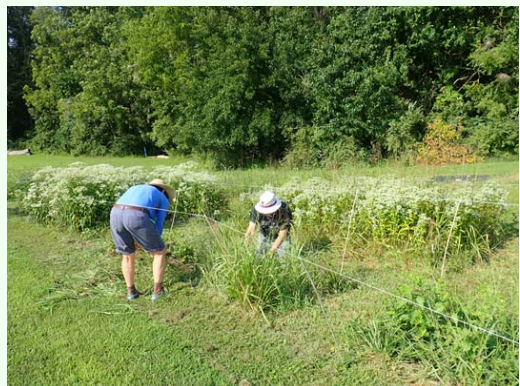
“Man is the most insane species. He worships an invisible God and destroys a visible Nature, unaware that this Nature he’s destroying is this God he’s worshipping.”

–Hubert Reeves

The core theme of these gardens revolves around planting native plants for native pollinators. This simple theme has profound value in that we should replace lawn space and popular ornamental plants, (many of which are invasive), with plants that have evolved with the insect/pollinator populations that forage on them as they have done over millennia. This nurturing connection goes beyond insects to bird food, also mammals and even the well-being of human life.

Three primary gardens are involved in this project and each has an attentive maintenance/monitor group and an internal dialogue plan. Our goals of landscape appeal and aesthetics are matched with citizen science and data records of butterflies, bees, caterpillars and even birds as dividends of our work and devotion. We extend an open invitation to volunteers and advisors in this project. We are not experts but rather students of shared learning.

For more information and to get involved contact:
doncoats@verizon.net



Photos From Top To Bottom:

Brandywine Creek State Park, Brandywine Creek State Park,
Lower Brandywine Presbyterian Church,
Kennett Township Barkingfield Park



Comparer and ContrAster (A *Symphyo-tricky pun to make*) by Emma Brown

New England asters in the top corner of the page, huh? This letter from the Editor feels different than before. My roots are still in Delaware, but this little plant has found herself in Rhode Island for graduate school. I intend to stay involved in DNPS as I pursue this opportunity which has me looking close-up and working hands-on with native plants of Rhode Island. I'll be doing things with the RIWPS ([Rhode Island Wild Plant Society](#)) and have found that these circles overlap, and will continue to do so! Studying plants and their ecosystem interactions in a plant's native habitat is something that can be done from anywhere. Here, I learn new plants, new perspectives, and draw similarities and differences between the flora of the two smallest United States.

A reflection on my first three weeks:

- There are few big trees. Trees that are large are preserved on old estates or on college campuses because they are stately and historical. It's a little disconcerting. I soon discovered why:
- There are many small and medium-sized trees. The land was deforested in colonial times and the ecosystem has since re-grown. But there are no old-growth forests in the state of Rhode Island. Locals think that their canopy trees are "big," but they are simply tall. Many are fast-growing due to a lack of competition when they were younger and filling the void left by the removal of the previous generations of trees.
- The canopy cover is still beautiful! The suburbs are secluded because the quantity of plant life is abundant. Even people who are not over-excitable plant enthusiasts have a subliminal appreciation for nature, native plants, pollinators, and pride in the state's green spaces. While there are farms and fields, it is likely that the proportion of fragmentation, edge habitat, and lawn in Rhode Island is much lower than Delaware's relative to the size of the state. I have yet to confirm it but maps from the RI GIS database may do just that.
- Despite this innate appreciation of nature, the politicians seem less interested in protecting it. Though everyone seems to know everyone (a nice small-state aspect of living here) Delaware comparatively excels in active communication in the direction of changing ordinances, bills, and laws to reflect the interests of the people in order to preserve and conserve the ecosystems we love.
- I am living in the coastal plain in southern Rhode Island. This portion of RI is largely a barrens ecosystem, one of the northernmost reaches. Delaware has patches of ideal habitats for lady slipper orchids, sundews, mountain laurel, blueberries and majority-oak deciduous canopy. New Jersey has the next nearest large patches. Much of the ecosystem here greatly resembles the NJ Pine Barrens. But where I am, there have been fewer pines.
- I am far enough north that the majority populations of plants are noticeably different. There are black oaks everywhere! There are no willow oaks, small or large. It seems most trees here are oaks. There are still red maples, but far fewer hickories and tulip poplars, replaced by true poplars and lindens. In terms of non-native ornamentals, there are no crepe myrtles, everyone uses rose of Sharon. For natives, some species are common here that are rare in Delaware and vice-versa. It's going to take some getting used to for sure! I become excited and relieved whenever I see plants that I consider "old friends." Everyone still plants honey locust as street trees, poor things. I know I have more to discover and I look forward to making these comparisons– they're absolutely wild! 



Autumnal Events

- Garden tour of the New Delaware Botanic Gardens
Wednesday September 25, 10:30AM-12:30PM, Delaware Botanic Gardens at Pepper Creek,
30220 Piney Neck Road, Dagsboro DE 19939
\$35, or \$25 for Association of Professional Landscape Designers (APLD) members
Go to eventbrite.com and search “Garden” to find info& registration.
- Growing Native Plants: Seed Collection with Jason Ksepka
Saturday September 28, 10AM-12PM at Bowman’s Hill Wildflower Preserve (BHWP)
\$25, or \$20 for BHWP Members
Visit <https://bhwp.org/visit/things-to-see-and-do/calendar/> for this event and many more!
If you missed Master Gardener Judy Pfister’s “Harvesting and Storing Native Seeds” workshop on September 17, you’ve got another opportunity to learn about seed collection, cleaning, storage, and propagation of regional native plants!
- DNPS& Friends of Bombay Hook host the DNPS 2019 Annual Symposium featuring guest speaker naturalist David Mizejewski
Saturday October 5, 10AM at Bombay Hook, Smyrna, DE *Registration has closed*
- University of Delaware Botanic Gardens (UDBG)
The Autumn Garden: Selecting Trees& Shrubs with Late Season Appeal
Tuesday October 8, 7-8:30PM in the Townsend Hall Commons, the University of Delaware, Newark DE
\$15, or Free for UDBG members Info and registration at: <http://canr.udel.edu/udbg/events/>
- Winterthur Garden Tour & Geo-Inquiry Workshop
Tuesday October 15, 4:30-6:30PM Winterthur Visitor’s Center,
5105 Kennett Pike, Wilmington DE 19735
\$25, or Free for Delaware Association for Environmental Education (DAEE) members
Go to eventbrite.com and search “Garden” to find info& registration.
- DNREC, Delaware General Assembly’s Delaware Native Species Commission
Wednesday October 16, 10AM-12PM Room 221, Kent County Administration Building,
555 Bay Rd, Dover DE 19901
Free and Open to the Public
Regular meetings to implement the recommendations of the Statewide Ecological Extinction Task Force
<https://publicmeetings.delaware.gov/Meeting/62229>
- Perennial Plant Conference at Scott Arboretum of Swarthmore College
Friday October 18, 8AM-5PM at Lang Performing Arts Center, Swarthmore College
\$149 Info and registration at: <https://www.perennialplantconference.org/>
- Delaware Invasive Species Council (DINC) 2019 Annual Meeting
Tuesday October 29, 8AM at 447 Westville Road, Marydel, DE 19964
Space is limited. Registrations in advance only.
Go to eventbrite.com and search “Delaware Invasive Species” to find info& registration.
\$45 for Adults, (registration includes DINC membership), \$25 for Students

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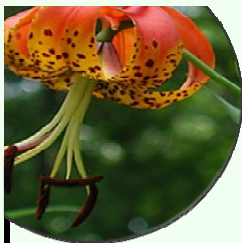
- Longwood Gardens
Attend Continuing Education workshops and courses all season long including Fall Pest Identification and IPM, Sustainable Landscape and Design Theory, Champion Tree Tour (Trees of Bucks County), Identifying Invasives and more!
<https://longwoodgardens.org/events-performances/classes-lectures>
- Mt. Cuba Center
Programs throughout autumn including Amazing Asters, Tree Festival, Autumn Groundcovers, Goldenrods: Fall's Final Feast, Ethnobotany and Folklore of Native Trees, Managing Invasive Plants, Plan Install & Maintain a Meadow, Trees in Autumn and so much more:
<https://mtcubacenter.org/programs/>
- Old-Growth Forest Network's calendar of upcoming events on the "Get Involved" section of the website includes a Sierra Club webinar, a film screening, a forest dedication, and more.
<https://www.oldgrowthforest.net/>
The main page also lists the 101 old growth forests, and you can find Delaware's– one per county– here: <https://www.oldgrowthforest.net/delaware>
- Women in Horticulture has many upcoming events. All genders welcome!
<https://www.womeninhorticulture.com/>

Photography Index

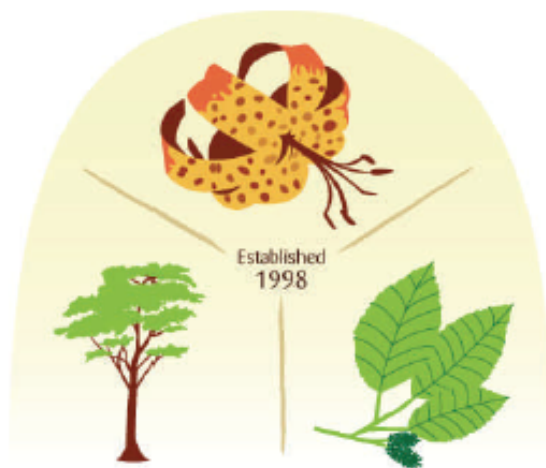
On Page 1 from top to bottom:

- *Oenothera biennis* - evening primrose
- *Conoclinium coelestinum* -blue mist flower
- *Solidago sempervirens* var. *sempervirens* - salt-marsh goldenrod
- *Spiranthes cernua* - lady's tresses orchid
- *Symphotrichum novae-angliae* - New England aster
- *Lilium superbum* - Turk's cap lily, Logo and poster-plant of the DNPS

Photographs courtesy of David G. Smith at www.delawarewildflowers.org



MEMBERSHIP APPLICATION



DELAWARE
Native Plant Society

Membership is for 12-months, after which we send you a renewal notice.

- ☐ Full-time Student \$10.00
- ☐ Individual \$15.00
- ☐ Family \$18.00
- ☐ Contributing \$50.00
- ☐ Business \$100.00
- ☐ Lifetime \$500.00

Donations are also welcome _____

Membership benefits include:



- Our quarterly newsletter-*The Turk's Cap*, and website resources
- Tips and tricks on gardening and landscaping with native plants
- Annual workshop, symposium, and project work days

Member Information

Name: _____

Organization: _____

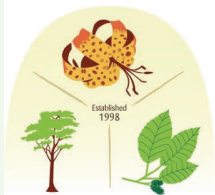
Full Mailing Address: _____

Phone Number: _____

Email: _____

Please make checks payable to:

Delaware Native Plant Society
P.O. Box 369
Dover, DE 19903



The Turk's Cap

Volume 22, Number 4

Winter 2019-20

The Newsletter of the Delaware Native Plant Society



Letter from the President
Welcoming the new year

by Eric Wahl



DNPS Event Highlight
The UD native plant demonstration garden continues to evolve

by Eric Zuelke



Plant Highlight: *Yucca filamentosa* by Bill McAvoy
A native plant of sandy places at home throughout Delaware is brought into focus



Adventuring at MANTS
Checking out the largest trade show in the region to scope out the presence of native plants

by Emma Brown



Warm Reading Recommendations
Cozy reads on super seeds



“Winteresting” Activities
To welcome the start of 2020

DNPS Officers

President:
Eric Wahl
Vice-President:
Rick Mickowski
Treasurer:
Eric Zuelke
Secretary:
Alison Long

DNPS Mission Statement:

Founded in March 1998, we are a volunteer-based, publicly supported non-profit organization dedicated to the conservation of native plants and their natural habitats through education, science, advocacy, and land stewardship.

Discover more at: <https://delawarenativeplants.org> 



Letter from the President by Eric W. Wahl

Happy New Year! 2020 is here and our calendar is filling up fast. We are anxiously awaiting spring and hoping for an abundant amount of new, native wildflowers and grasses to emerge from the native plant demonstration garden located at the University of Delaware Sharp campus in Lewes, Delaware. Our last volunteer day in 2019 was well attended and we were able to prepare and distribute a large amount of native seed in an open portion of the garden. Images of this event can be found in this newsletter. We will schedule another day in the garden in spring or early summer to see how we did.

Our spring workshop is scheduled for Saturday, March 28th, at the St. Jones Reserve just south of Dover. This year we will hear from the Lewes Beekeepers talk about the importance of pollinators and show us how the newly installed hives are doing near the native plant garden in Lewes. We are excited for this partnership and look forward to hearing from them.

In addition to our spring workshop, we are preparing an informative symposium to be held in March at the Lewes Public Library. This symposium will be all about buffers and their beneficial impacts to our local ecosystems and the ecosystem services that they provide. Better design and planting with a focus on native species will help connect many of our open spaces in our region, and possibly be a model for other communities to emulate. Stay tuned for more information on this endeavor.

Thanks to all our members and a special thank you to those that help us at our volunteer days, we couldn't do it without you. **Happy Gardening!**

Eric W. Wahl 



Time for a Flashback:

**DNPS Fall Symposium
Photos courtesy of Rick
Mickowski**





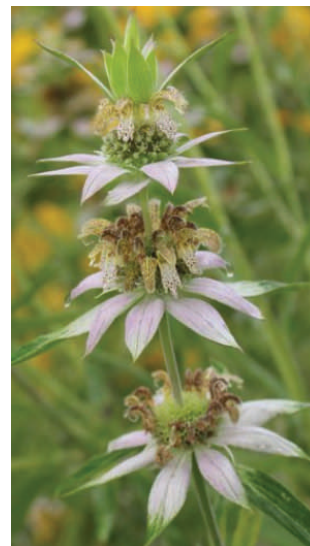
DNPS Event Highlight

by Eric Zuelke

On 28 October 2017 the DNPS embarked on a long-term project to renovate and rehabilitate the native plant demonstration garden on the north side of the Cannon Marine Studies Library/Laboratory at the University of Delaware College of Earth, Ocean, and Environment Hugh R. Sharp Campus in Lewes located off 700 Pilottown Rd (on College Dr). Working in cooperation with the campus maintenance crew, we have had a number of volunteer days. Thus far we have pulled out a lot of non-native plants, pulled out some trash and debris, cut back overgrown branches on some of the trees over the entire site, and planted a lot of new plants.

Our most recent volunteer day was on 9 November 2019 when we began the renovation of the northern half of the site with a high profile volunteer workday. Press releases were submitted to ten newspapers around Delaware, and a reporter from the Cape Gazette was on-site taking photos and later wrote up an [article about the event](#). The Delaware Beekeepers Association also advertised the event and came out to help. In all, we had 18 volunteers helping out this day. During the last half of October, I purchased the seeds of 15 species of native herbaceous wildflowers and one grass from Ohio Prairie Nursery and Prairie Moon Nursery in Minnesota. The following is a list of what was seeded that day:

<i>Asclepias syriaca</i>	common milkweed
<i>Asclepias tuberosa</i>	butterfly milkweed
<i>Baptisia tinctoria</i>	yellow wild indigo
<i>Chamaecrista fasciculata</i>	partridge pea
<i>Helenium autumnale</i>	autumn sneezeweed
<i>Helenium flexuosum</i>	purple-headed sneezeweed
<i>Monarda punctata</i>	spotted beebalm
<i>Penstemon digitalis</i>	tall white beardtongue
<i>Pycnanthemum tenuifolium</i>	slender mountain-mint
<i>Rudbeckia laciniata</i>	green-head coneflower
<i>Schizachyrium scoparium</i>	little bluestem
<i>Senna hebecarpa</i>	wild senna
<i>Solidago juncea</i>	early goldenrod
<i>Solidago odora</i>	sweet goldenrod
<i>Symphotrichum novae-angliae</i>	New England aster



Monarda punctata image from
Prairie Moon Nursery

The soil was tilled by hand using stiff-tined rakes, a handful of unhealthy & dead vegetation, and small trees that were now out of place were removed, and the site was hand-sown with the seeds mixed into a filler of rice hulls, then covered with pine needles. The *Schizachyrium scoparium* was not mixed into the overall mix, but sown separately in 10 distinct patches to keep the grass from being widely dispersed. We wanted the grass to remain in its own small bunches. It was a very successful day and we can't wait to see what pops up in the spring. 🌱

Continued on next page...



1. Before seeding

2. Gathering to discuss the plan



3. Marking rows



4. Preparing the soil



Continued on next page...



5. A wheelbarrow full of the seed mix!



6. Broadcasting the seeds by hand

7. Continuing to surface-sow seeds



8. Finished! Now we wait until spring to watch the space sprout and flourish.

Photos courtesy of Denise Bridgens,
Lewes Beekeeping Club President



Plant Highlight: *Yucca filamentosa*

by William McAvoy, Delaware State Botanist

Yucca filamentosa, commonly known as yucca, is a perennial, evergreen subshrub in the Agavaceae, the Agave Family.

This subshrub is a woody plant with ground-hugging stems and low height. In Delaware, yucca is found growing on sandy dunes along the southern Delaware Bay and Atlantic coast-lines in Kent and Sussex Counties. The natural distribution of *Yucca filamentosa* ranges from southeast Texas to Florida, and north to Delaware and southern New Jersey.

The botanical generic name, *Yucca*, is the Caribbean name for manihot, also called cassava or yuca. The botanical specific name, *filamentosa* refers to the white, fibrous filaments along the leaf margins.

In Delaware, yucca typically flowers in June to July and sends up a stalk that can be as tall as 10 feet, and bears masses of cream colored, bell shaped flowers.

The flowers are pollinated by the yucca moth *Tegeticula yuccasella*, and when the seeds mature, they become food for the moth larvae. Other moth species also use the yucca as a host plant to lay their eggs. In addition, hummingbirds will also visit the flowers.

Yucca is easily grown in well-drained soils in full sun, and they are tolerant of poor, sandy soils, heat, drought, and salt spray. 🌱



Tegeticula yuccasella drawing on *Yucca* from the archived page at the Species at Risk Public Registry website of the Government of Canada

<https://www.registrelep-sararegistry.gc.ca/default.asp?lang=En&n=89908F79-1>

Continued on next page...



All *Yucca filamentosa* photos courtesy of Bill McAvoy, at Fenwick Island in Delaware, 2014



The yucca moth carrying pollen granules in its mouth, beneath its curled proboscis.

- Editor's Note



Tegeticula yuccasella, yucca moth photos © Mississippi Entomological Museum at Mississippi State University, courtesy of Dr. Richard Brown, Director
<http://mothphotographersgroup.msstate.edu/species.php?hodges=198>

The basal rosette of yucca leaves is ever-green in winter, and can be seen year – round. The old flower stalks with seed heads become dry, tan, and hollow and can be held on the plant through the winter.
 - Editor's Note



Native Plants at MANTS by Emma Brown

The representation of native landscapes in the industry has certainly grown over the years. There are several leaders in the industry producing native plants and making their use trendy and accessible to the public. That being said, it is difficult to judge how widespread our movement towards ecologically-conscious action has become without surveying the people who lead it. The Mid-Atlantic Nursery Trade Show in Baltimore, Maryland occurred January 8th to 10th at the Baltimore Convention Center. The lineup included a few businesses and individuals determined to continue to make the utilization of native plants more prevalent, such as American Native Plants (MD), Delmarva Native Plants, LLC (MD), Environmental Concern, Inc. (MD), Mid Atlantic Native Plant Farm (VA), New Moon Nursery, LLC. (NJ), North Creek Nurseries in (PA), Octoraro Native Plant Nursery (PA), Pinelands Nursery (NJ), and Wicklein's Water Gardens and Native Plants (MD).

It is always important to remember that native plants are relative to location. I like to think about it as rain droplets landing in a pond. The ripples of nearby droplets are likely to overlap one another. The pond represents a map, and the raindrops signify any given point that a person could stand atop and ask "what plants are native here?" So in the Mid-Atlantic Nursery Trade Conference, I expected to find nurseries based in Delaware, Pennsylvania, New Jersey, New York, Maryland, D.C., Virginia, and West Virginia, with overlapping native plant palettes. East Coast Nurseries Inc. (NY), The Perennial Farm (MD), Pikes Peak Nurseries (PA), Ray Bracken Nursery (SC), Saunders Brothers, Inc. (VA), Southeastern Growers, Inc. (GA) carry cultivars of natives, and Baker Environmental Nursery (GA), Carolina Native Nursery (NC) carry native plants that overlap with our zone.

Talking to nursery growers, I was told that they "buy in", or bring in many plants that were started from cuttings and seed in the Pacific northwest. I discovered more specifically, in Oregon. The quantity of plants that begin at those nurseries is immense, as "liners"- small sized plugs or plants that are shipped to other nurseries to grow on -as well as medium-sized shrubs and trees, make their way across the country to the east coast to be raised and sold. The odd aspect of this, is that many of the plants were originally transported from our region to those enterprises out west, and include eastern-specific "nativars," or native cultivated varieties, that live part of their lives in Oregon before returning to their home region.

Why in Oregon? The weather in the Pacific northwest is particularly amenable to growing plants almost year-round inside and in covered nursery houses with minimized expenditure on watering, lighting, heating, and cooling compared to nurseries established in our region. It is a way for the nursery industry to cheat the system and produce a greater quantity of healthy plants per year.

That being said, I expect there are repercussions. Individual plants that survive in nurseries

Continued on next page...



in Oregon may not be as well-equipped to handle adapting to fluctuating east-coast conditions when they arrive. There are many studies that show plants sticking to the schedules of their ancestral locations in terms of when to flower, drop leaves, and sprout new growth. That is built into the genetics of a lot of woody plants, and is visible year after year. For instance, there is a beautiful sugar maple in Wilmington, Delaware that I am certain is of New England origin because every year it is the first tree around to change to its striking, brilliant orange color, and the first in fall to drop its leaves.

However, in the time it takes to grow one tree, multiple generations of many herbaceous perennials can be produced in a nursery setting. Plants that fail will die, and those that survive may be bred to carry their genetic code on to the next generation. After several generations in a new place so far away, straight species nursery stock may have a different tolerance of weather conditions and seasonal light pattern response than a few generations before. Plus, for those varieties taken year after year by cuttings, there may only ever have been a few original source plants, and the population being returned to landscapes in the east has, as a result, gone through a forced bottleneck, resulting in low genetic diversity and a reduced possibility for exchange of healthy genes in native populations.

There are a select few nurseries who start all of their plants from local stock, but that list is few and far between. In addition, most nurseries that carry natives focus on developed cultivars rather than selling straight species. This can be great, in the case of hardiness and disease-resistance and flashy floral coloration, or it can be detrimental to pollinators who are hoping for some nectar but are disheartened to find only puffy sterile petals where *Echinacea* cones should be. In short, the MANTS conference has given me a lot to think about. I hope you enjoy thinking about it too.

There's more: My favorite experience of the convention was meeting Dr. Allan Armitage in person, within the first fifteen minutes of my arrival. He's known as a plant guru, and I had the pleasure of reading two of his books, "Herbaceous Perennial Plants" and "Armitage's Manual of Annuals, Biennials, and Half-Hardy Perennials." Learning about plants is an innately fun experience for me, and I was compelled by the way he included commentary, interesting facts, stories, and a genuinely funny sense of humor in the books. I was delighted to find that he's just as funny and personable in real life as he is on paper. He also wrote a book titled "Armitage's Native Plants for North American Gardens" and a few others that can answer questions about where plants in the horticulture industry originate from with stories behind each one. I attended "Story Time with Dr. A.!" where he talked of his role in introducing ornamental sweet potato vines into the horticulture industry, 'Homestead Purple' *Verbena*, and why people still think carrots are better for vision than any other vegetable. It was a lovely experience to meet this horticultural celebrity, and I plan on reading his book, "Legends in the Garden: Who in the World is Nellie Stevens?" co-written with Linda Copeland. I expect to discover answers about the provenance, or true regional origins, of many of the cultivars that we see in gardens today. With luck, I hope many that he describes will be native to our region. 🌱



Warm Reading Recommendations

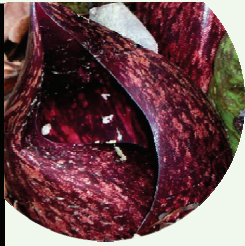
- “Armitage’s Native Plants for North American Gardens”
by Allan M. Armitage
Informing your plant selection in your native plant gardens.
Recommended by Emma Brown
- “Legends in the Garden: Who in the World is Nellie Stevens?”
by Allan M. Armitage and Linda L. Copeland
Learn where cultivars– cultivated varieties– originate!
Recommended by Emma Brown
- “Mini Meadows”
by Mike Lizotte, Photographs by Rob Cardillo
Practical meadow gardening for different sites, explained and shown.
Recommended by Rick Mickowski
- “The Pollinator Victory Garden”
by Kim Eierman
Pollinators, how they pollinate, and how to help them do it!
Recommended by Rick Mickowski

Photography Index– Plants with Winter Interest

On Page 1 from top to bottom:

- *Dendrolycopodium obscurum* (tree clubmoss)
- *Juglans nigra* (black walnut)
- *Yucca filamentosa* (yucca seed pod)
- *Hamamelis virginiana* (witch hazel)
- *Liquidambar styraciflua* (sweetgum seed pod)
- *Symplocarpus foetidus* (skunk cabbage)

Photographs courtesy of David G. Smith at www.delawarewildflowers.org

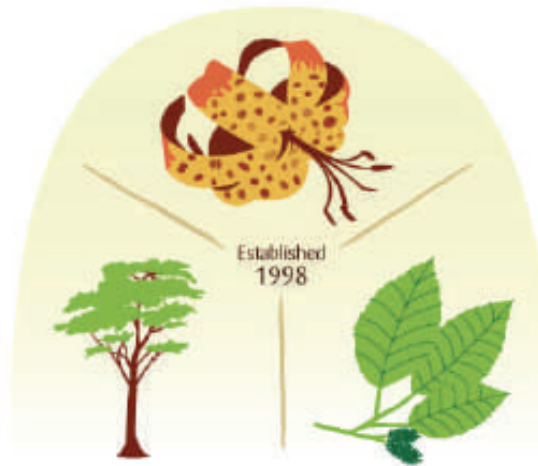


“Winteresting” Activities

- University of Delaware Botanic Gardens (UDBG)
 Native Plants of Eastern North America: Identification, Ecology, Landscape Qualities & Care with Rick Darke, Continuing Education Units (CEU) course credits available.
 Tuesdays: Jan. 21, Feb. 4, Feb. 18, Mar. 3, Mar. 17, 6:30-8:30 PM in the Townsend Hall Commons at the University of Delaware, Newark DE
 Per class: \$45, or \$35 for UDBG members Info and registration at: <http://canr.udel.edu/udbg/events/>
- University of Delaware Botanic Gardens (UDBG) Let's Talk About the Birds and the Bees
 Bees with Dr. Delaney : Tues. Jan. 28, Birds with Dr. Tallamy: Feb. 11, 6:30-8:30 PM
 in the Townsend Hall Commons at the University of Delaware, Newark DE
 Per class: \$25, or \$20 for UDBG members Info and registration at: <http://canr.udel.edu/udbg/events/>
- Growing Native Plants from Seed Workshop
 Saturday February 1, at Bowman's Hill Wildflower Preserve, 1635 River Rd, New Hope, PA
 \$25, or \$20 for BHWP Members <https://bhwp.org/item/growing-native-plants-from-seed/#tab-description>
- Dr. Doug Tallamy presents: Nature's Best Hope, Hosted by the Delaware Nature Society
 Tuesday February 4, 7- 8:30 PM at Ashland Nature Center, Hockessin, DE
 \$15, or \$10 for DNS Members
<https://14360.blackbaudhosting.com/14360/Dr-Doug-Tallamy-presents-Natures-Best-Hope--Ashland-Nature-Center>
- Green Matters Symposium: Solutions for Ecologically Sustainable Landscapes 2020
 Friday February 21, 8 AM- 4 PM at Silver Spring Civic Bldg, 1 Veterans Place, Silver Spring MD
 \$110, Hosted by Brookside Gardens, CEU Credits Available
<https://www.montgomeryparks.org/parks-and-trails/brookside-gardens/green-matters-symposium/>
- Habitat Steward Volunteer Training with the Delaware Nature Society
 Tuesdays March 10, 17, 24, 31 10 AM- 3 PM
 For 4 Total Classes: \$125, or \$85 for DNS Members
<https://14360.blackbaudhosting.com/14360/Habitat-Steward-Volunteer-Training--Abbotts-Mill-Nature-Center-10Mar2020>
- Creative Approaches for Ecological Landscaping: 20th Annual Land Ethics Symposium
 Thursday March 12, 8 AM- 4 PM at Delaware Valley University, Doylestown, PA
 Hosted by Bowman's Hill Wildflower Preserve
<https://bhwp.org/item/20th-annual-land-ethics-symposium/#tab-description>
- DNPS Spring Symposium 2020 at St. Jones Reserve (DNERR)
 Saturday March 28 10 AM- 12 PM 818 Kitts Hummock Rd, Dover DE
<https://delawarenativeplants.org/2019/01/08/upcoming-events/>
- Becoming “Nature's Best Hope” Hosted by the Delaware Nature Society
 Tuesdays March 31, April 14, April 28 5:30- 8:30 PM and Sunday May 17 9 AM- 3 PM
 For 4 Total Classes: \$250, or \$225 for DNS Members
<https://14360.blackbaudhosting.com/14360/Becoming-Natures-Best-Hope--Ashland-Nature-Center>



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Member Information

Name: _____

Organization: _____

Full Mailing Address: _____

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