

The Turk's Cap

Volume 18, Number 1

Spring 2015

The Newsletter Of The Delaware Native Plant Society

Spring Flowers in Delaware



Top, Small Jack in the Pulpit and Virginia Bluebells. Bottom, Lady Slipper shoot and Cutleaf toothwort. All photos taken April 2015 in Delaware by Ed Crawford.

Spring Flowers

Spring has finally arrived in Delaware and the native flowers are blooming or pushing up shoots. At last!

In the classic children's story, "Uncle Wiggly and the May Flowers", author Howard R. Garis gives his Jack in the Pulpit an important role in the wild flower world, "Jack preaches sermons to other flowers telling them how to be beautiful and make sweet perfume."

There are two common subspecies of Jack in the Pulpit (*Arisaema triphyllum*) in Delaware.

Small Jack in the Pulpit (*Arisaema triphyllum* subsp. *pusillum*), can be identified by a solid green or purple spathe hood. If you want to see this subspecies, walk the trail at Thompson Island Preserve in Rehoboth Beach.

The Swamp Jack in the Pulpit (*Arisaema triphyllum* subsp. *triphyllum*) has a green or green striped with purple spathe hood and its leaves are glaucous.

Deer normally will not eat Jack in the Pulpits.

The Cutleaf toothwort (*Cardamine concatenate*) is one of the earliest blooming native flowers and is an important early season food source for pollinators. They can also be seen along the trail at Thompson Island Preserve.

This week, my wife and I were thrilled when we saw that our Lady Slipper plants we had saved from a local construction project had sprouted.

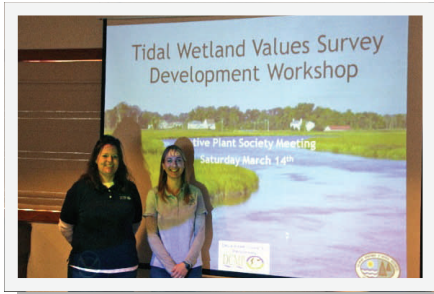
Native plant is a term to describe plants endemic (indigenous) or naturalized to a given area in geologic time.

This includes plants that have developed, occur naturally, or existed for many years in an area (e.g. trees, flowers, grasses, and other plants). In North America a plant is often deemed native if it was present before colonization.

Some native plants have adapted to a very limited, unusual environments or very harsh climates or exceptional soil conditions. Although some types of plants for these reasons exist only within a very limited range (endemism), others can live in diverse areas or by adaptation to different surroundings (indigenous plant).



Violet priceana Photo by Donna Hoyt



Winter/Spring Project Workshop Landscape Design and Conservation Landscaping

The workshop held at the St. Jones Preserve on March 14, 2015, was a great success with 30 enthusiasts in attendance. President Eric Wahl gave a presentation on landscape design and Vice-President Rick Mickowski presented on Conservation Landscaping. More information on Rick's presentation can be found on page 4 of this issue.

The three presenters for the Tidal Wetlands Values Survey Project were Amanda Santoni, NOAA Fellow, Bonnie Arvay, Environmental Scientist at DNREC, and Molly Ellwood, Environmental Scientist at DNREC Coastal Programs. They reviewed the benefits of the tidal wetlands, including water quality, commercial fishing, ecological, recreation, carbon storage, coastal protection, visual appeal, and education. The ensuing discussions helped the Delaware Department of Natural Resources and its Coastal Programs develop a survey in order to - determine the benefits and value of tidal wetlands.

Photos above by Pteri Iris.

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The Benefits of Conservation

Landscaping

By Rick Mickowski

What are the principles of conservation landscaping? One publication "[Conservation Landscaping Guidelines: The Eight Essential Elements of Conservation Landscaping](#)" by the Chesapeake Conservation Landscaping Council gives an overview on this topic. So what is conservation landscaping?

- ◆ Avoid the use of and remove and replace invasive plants.
- ◆ Use regionally native plants.
- ◆ Place plants in their appropriate growing conditions.
- ◆ Minimize the use of supplemental watering.
- ◆ Minimize the amount of lawn.
- ◆ Reduce or eliminate the use of chemical fertilizers and pesticides.
- ◆ Compost to reduce yard waste and to use as a soil amendment.
- ◆ Reduce the use of power landscape equipment.
- ◆ Utilize native trees to reduce heating and cooling needs.
- ◆ Purify the air and water by planting native trees, shrubs, and perennials.
- ◆ Reduce the amount of impervious surface and install rain gardens to recharge groundwater and reduce runoff.
- ◆ Reduce runoff and soil erosion and stabilize slopes by planting trees, shrubs, and perennial groundcovers and in severe cases, stabilize with rock or bio-engineering techniques.

- ◆ Provide for wildlife habitat.
- ◆ Mulch to conserve water, suppress weeds, improve soil structure, and to lessen erosion.
- ◆ Learn to appreciate nature and tolerate some imperfection in the garden.
- ◆ Protect existing natural areas and the watershed's "sense of place".
- ◆ Maintain native plant gardens and plan for the long term.

Some selected resources on this topic are:

Conservation landscaping guidelines at www.chesapeakelandscap.org.

Demonstration conservation house and landscape at www.delafleur.com.

Livable Delaware booklets at www.extension.udel.edu/lawngarden/commercial-horticulture/landscape/

Landscape for Life at www.landscapeforlife.org.

Audubon at Home at www.audubonathome.org.

Partnership for the Delaware Estuary Program fact sheets at www.delawareestuary.org. There is a very informative booklet "A Homeowner's Guide to Storm water Management".

Ecological Landscaping Association at www.ecolandscaping.org.

[Alliance for the Bay](#)

[Livable Delaware Booklet](#)

Message from the President:

Happy spring to all our members. After much longing for warmer weather, it appears that mother nature has finally sprung into action. Maybe our winter/spring event on March 14th helped her along. Our recent event attracted a vibrant and diverse audience with approximately 30 people attending. This year's theme was landscape design and conservation landscaping. Speakers, Eric Wahl and Rick Mickowski, talked extensively about design elements and the native plants that are suited to our home landscape. In addition, representatives from DNREC were also there to help foster discussion on the benefits of tidal wetlands. The data they collected will help to form a public survey that will be distributed to Delaware residents regarding tidal wetlands.

The Delaware Native Plant Society has been active in a number of charitable ways. DNPS recently donated \$ 1,500 in support to the Meadow Project (<http://themeadowproject.com>). This project promotes the principles of conservation landscaping throughout the Chesapeake Bay region, and will result in a 90 minute educational documentary focused on showing how native plants are crucial to local ecosystems. Our donation will help their cause and when complete, DNPS will host a viewing of this documentary at one of our quarterly events.

In addition, DNPS recently assisted the Nanticoke River Watershed Conservancy in conceptualizing a new parcel of land near Seaford. This parcel will eventually include trails, new native plantings, access to Chapel Creek, public parking, gathering areas, and possibly a living amphitheater. Check out the concept on page 8. . The Delmarva Restoration Branch of the American Chestnut Foundation has also planted American Chestnut seedlings on this parcel.

Thank you to all our members that continue to support and actively engage with DNPS and our planned activities. Stay tuned for additional meetings and events throughout the year. As with all similar organizations like ours, DNPS is only as strong as our membership. Please consider renewing yours today and spreading our mission to your friends and colleagues.

Happy Spring!

Eric W. Wahl



Calendar of Events

Delaware Native Plant Society Native Plant Sale on May 2-3:

www.delawarenaturesociety.org/nativeplantsale

Delaware Center for the Inland Bays Native Plant Sale at the James Farm Ecological Preserve on May 2: www.inlandbays.org/events/native-plant/

Tyler Arboretum Native Plant Sale in Media, Pa on May 2:

www.tylerarboretum.org/2015-plant-sale/

Brandywine Conservancy native wildflower, plants, and seed sale on May 9-10:

www.brandywinemuseum.org/gardens.html/#sale

Bowman's Hill Wildflower Preserve Native Plant Sale on May 9: www.bhwp.org

Millersville 2015 Native Plants in the Landscape Conference June 4-6:

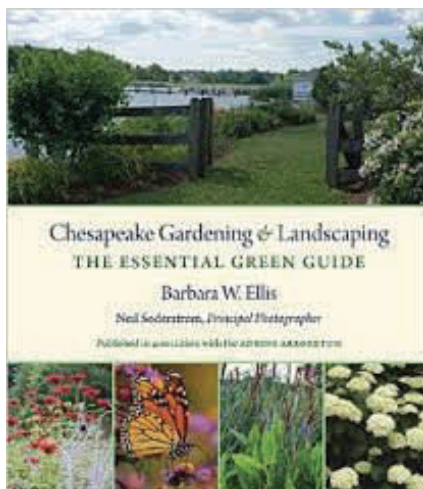
www.millersvillenativeplants.org

DNPS June member's event as part of National Trails Day and annual meeting on June 6. More details to come.

Looking Ahead

"Turning A New Leaf" conference in Townson, Maryland on November 13th. Learn how to create landscapes that work with our natural resources. Information can be found at

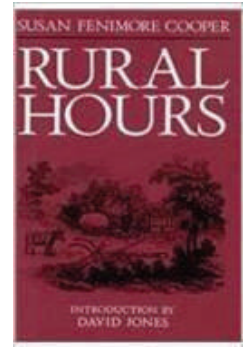
www.chesapeakelandscape.org/ourprograms/turning-a-new-leaf-conference/



Check out this new book by Barbara W. Ellis entitled "Chesapeake Gardening and Landscaping: The Essential Green Guide". The book covers important information about conservation landscaping practices and techniques

Classic Book Review

The classic book, *Rural Hours*, by Susan Fenimore Cooper is a personal journal that contemporaneously describes her life in Cooperstown, New York and surrounding Oswego County in the mid-1800, which only 50 years earlier was the edge of the American frontier. By the time Miss Cooper lived there, the area was rapidly changing as settlers moved Westward.



First published in 1850 when she was 37, and updated and condensed in 1887, it is a sophisticated narrative concerning the native plants, birds, and other wildlife that she encounters on her almost daily peregrinations, and the changing face of the land. She laments the rapid and wasteful clearing of the old first growth trees and sets forth an elegant argument for saving stands of old growth timber that is practical, inspirational, and timeless.

Although she touches on many subjects, it is clear that her true love and inspiration were the wildflowers, and her beautiful writing style and passion made her an instant commercial success, despite the initial doubts of her famous father, James Fenimore Cooper, who did not see the public demand for anything other than frontier action stories.

In the following passage she describes why wild flowers are superior to garden flowers:

"How beautiful is this exquisite native grace of the flowers, seen in all their habits and positions! They know nothing of vanity, its trivial toils and triumphs! In unconscious, spontaneous beauty, they live their joy-giving lives, and yet how all but impossible for man to add to their perfection in a single point!"

Her sense of humor and wide ranging knowledge shine through in her objection to the recently embraced practice of creating plant names using Latinized science, instead of the colorful and descriptive appellations created by country people. She asks, "Why should a strange tongue sputter its uncouth, compound syllables upon the simple weeds by the wayside?" She follows with an interesting and amusing history, explanation, and defense of the old way of naming flowers such as bachelor's buttons, cowslip, monkshood, and morning glory, to name a few.

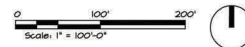
Rural Hours is highly recommended to anyone with a an interest in ecological history, social history, and the flora and fauna of the vast Eastern wilderness that once dominated our landscape.

Rural Hours is available as a book from University of Syracuse Press, and free of charge through the following link: [Rural Hours](#)

Ed Crawford coastalcoaster@gmail.com



NANTICOKE RIVER WATERSHED CONSERVANCY
CHAPEL BRANCH NATURE AREA
CONCEPTUAL TRAIL AND GATHERING AREA

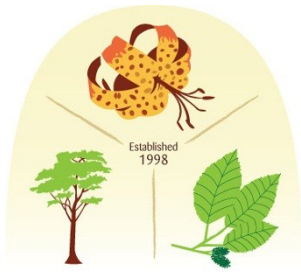


The Nanticoke River Watershed Conservancy is a citizen-based land conservation organization dedicated to preserving the natural qualities of the Nanticoke River watershed. The Chapel Branch Nature Preserve is its latest acquisition. For more info, contact President Marlene Mervine at mhmervine@aol.com. Concept above by Eric W. Whal.

Membership Information

Please join the Delaware Native Plants Society by mailing a check, payable to DE Native Plant Society, to Delaware Native Plant Society, P.O. Box 369, Dover, Delaware 19903.

- Full-time student-\$10.00
- Individual-\$15.00
- Family or Household-\$18.00
- Business-\$100.00
- Lifetime-\$500.00



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Summer 2015

The Newsletter Of The Delaware Native Plant Society

www.delawarenativeplants.org

Dolly Sods in West Virginia by Rick Mickowski



From left to right: Sundew, Fireweed, Oceanorus, Cottongrass (sedge), Serviceberry, and Velvetleaf Blueberry.

Referenced from "Dolly Sods" by Norma Jean Venable through WVU Extension Service, 2013



On August 2nd, I enjoyed a tour of the Dolly Sods area in West Virginia which is located in Monongahela National Forest. It is situated at a high elevation on the Alleghany Plateau. The chilly weather and rugged mountain topography produce distinctive features, including high mountain bogs that resemble northern muskegs, heath-like areas covered in blueberry bushes, and boulder-strewn meadows. There are many types of ferns, wildflowers, trees and shrubs to explore and identify. Altitude varies from 3,200 feet to over 4,000 feet. Because of the high altitude and cold climate, Dolly Sods is similar to place 1600 miles further north.

Message from the President

I hope all our members are enjoying the growing season. After a rather wet June, July, and now August are on tap to being one of the hottest summers yet. Native plants, best acclimated to our local conditions, should weather these months well. Speaking of native plants, DNPS is exhibiting a small display at the Lewes Public Library from August 10th through August 24th.. If you are in the area, please stop by to take a peek.

Two events are fast approaching in September and both will occur on the same day, Saturday, September 26th. We hope you can attend one of them. At the annual symposium co-hosted with the Bombay Hook Garden Keepers, we will hear from our very own DNPS member Flavia Rutkosky regarding native pollinators, and Greg Tepper will be the keynote speaker on the topic of the "Sensory Appeal of Native Plants". This event takes place in the visitor center meeting room at Bombay Hook National Wildlife Refuge east of Smyrna.

Also on September 26th, the native plant sale will be coordinated with the popular Arts in the Estuary event at the St. Jones Reserve in Dover. The vendor will be Inland Bays Garden Center which is located in Frankford, DE.

Thanks to all of our members, especially those who volunteer their time and efforts to make our organization a continued success. Happy summer!

Eric W. Wahl

Native plant is a term to describe plants endemic (indigenous) or naturalized to a given area in geologic time.

This includes plants that have developed, occur naturally, or existed for many years in an area (e.g. trees, flowers, grasses, and other plants). In North America a plant is often deemed native if it was present before colonization.

Some native plants have adapted to a very limited, unusual environments or very harsh climates or exceptional soil conditions. Although some types of plants for these reasons exist only within a very limited range (endemism), others can live in diverse areas or by adaptation to different surroundings (indigenous plant).

Questions or comments please contact Rick Mickowski, newsletter editor at rick.mickowski@state.de.us or at 302-832-3100 ext. 113. Member submissions encouraged!



DNPS display at the Lewes Public Library



Eric Wahl giving an update about DNPS activities



DNPS Officer Team 2014-2016 from left to right: Eric Wahl - President, Rick Mickowski - Vice President, Eric Zuelke - Treasurer, and Alison Long - Secretary

2015 Annual Meeting at Silver Lake Park

The officers and four DNPS members met at Silver Lake Park in Dover on July 16th for the annual meeting. Everyone brought some delicious finger foods to enjoy before getting an update on Society activities from President Eric Wahl. Some of the upcoming and on-going efforts are:

- ♦ A display at the Lewes Public Library prepared by Eric Wahl
- ♦ A presentation to the Weed and Seed Garden Club in Newark on September 17th by Rick Mickowski
- ♦ The Arts in the Estuary/Native Plant Sale on September 26th
- ♦ The Native Plant Symposium at Bombay Hook National Wildlife Refuge on September 26th
- ♦ Support for the Meadow Project video, coming out this fall
- ♦ The need for a newsletter editor to replace Ed Crawford. Thanks to Ed for handling this duty for the past year.
- ♦ The Delmarva Chestnut Restoration Branch
- ♦ Blackbird Creek Fall Festival exhibit on October 17th
- ♦ Presentation at the "Becoming an Outdoor Woman" event by Eric Zuelke



The Delmarva Chestnut Restoration Branch has made some progress since the October 2014 event. We have planted 12 *Castanea dentate* seeds at Abbott's Mill, 12 at the Chapel Branch site of the Pocomoke River Watershed

Conservancy, and 50 seeds were provided to DNREC for planting at Blackbird Creek Preserve in Townsend. I have talked with Bob Collins of the Center for the Inland Bays and they may support an effort to plant American Chestnuts at the James Farm Preserve. The original chestnut orchard at Abbott's Mill Nature Center has been kept weeded and the five trees that died will be replaced. I have 11 Restoration 1.0 seedlings at my home garden and 10 pure Americans ready for planting out. More activities are being planned for 2016.

*** by Ed Crawford, Delmarva Chestnut Restoration Branch

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NATIVE PLANT HIGHLIGHT



Photographs by Rick Mickowski

A BRIEF INTRODUCTION TO BRYOPHYTES

Let's begin by answering the questions, what is a moss and how are they different from the higher vascular seed plants? Mosses are small, green herbaceous plants that contain chlorophyll and are photosynthetic. Mosses do not have true flowers, and do not produce seeds, they reproduce by spores. Most mosses have no internal means for transporting water and nutrients (non-vascular), they absorb water and nutrients directly into the cells of their stems and leaves. Mosses do not have true roots, but they do have root-like structures called rhizoids, which primarily serve for attachment to the substrate. Mosses are extremely dependent upon water for their survival and reproduction, and are therefore typically found in cool, moist, humid areas like in swamps, marshes, along creeks, and in forests. Most mosses usually grow closely packed together in mats or cushions, and are found growing on rotting logs and stumps, rocks, soil, or on the bases and trunks of trees.

Mosses are distinguished from the higher vascular seed plants by two distinct traits. The first trait is the lack of a true vascular system, the xylem and phloem, the water-conducting tissue that is found in all vascular plants. The second trait concerns their life cycle, or mode of reproduction. As stated, mosses do not have true flowers and do not produce seeds, but reproduce by spores. The moss life-cycle is comprised of two separate

generations: the gametophyte generation, which is the leafy green plant we associate as a "moss", and the sporophyte generation, which consists of a smaller spore-producing plant called a sporophyte.

The gametophyte is the dominant generation in the life cycle of the mosses and is perennial. The sporophyte is an annual, and consists of an unbranched stalk, or seta, and a single, terminal spore capsule, or sporangium. The sporophyte is always attached to the top of the gametophyte by a foot, which penetrates the gametophyte tissue. The sporophyte is dependent on the gametophyte for water and nutrients. The gametophyte of mosses can also reproduce asexually by vegetative means. They can shed fragments of leaves or other parts of the plant body, that can regenerate into new plants.

A moss begins its life cycle when spores land on a moist substrate and begin to germinate. After germination, the spore, which contains one set of chromosomes (haploid) develops into a long, highly branched filament known as a protonema. After several weeks, buds form on the protonema. These buds develop into the gametophyte, the leafy green moss plant. The plant develops leaves arranged spirally and begins to grow taller, and near the base of the plant rhizoids develop to anchor the moss to its substrate. When mature, the leafy gametophyte produces sex organs at the tips of stems or on short branches. The female reproductive structure, the archegonium, encloses a single egg at its base. The male structure, the antheridium, encloses a mass of sperm. As the sperm mature, the antheridium swells and bursts open, releasing the sperm. A continual path of water (rain drops or dew) is needed for the sperm to swim to the archegonium and fertilize the egg. After fertilization of the egg, an embryo develops, which now contains two sets of chromosomes (diploid) that will become the sporophyte generation. A foot develops that anchors the sporophyte to the gametophyte and a capsule develops where spores are formed. The seta then elevates the capsule away from the gametophyte for greater dispersal of spores. A cap, or calyptra

Continued on page 5

and as the mature capsule swells with developing spores, the calyptra falls away, which allows the capsule to dry and break open. The opening to the spore case is surrounded by teeth-like appendages called the peristome. These teeth are hygroscopic, meaning that they are very sensitive to changes in humidity. They move outward when the humidity is low, flinging the spores into the air, and as the humidity increases, the teeth move inward and close the mouth of the capsule until more favorable conditions for spore dispersal exist. Dispersed spores deposited on a suitable substrate will germinate and complete the life cycle of the moss. Moss spores can travel great distances on the winds and some spores can remain viable for up to 40 years due to a protective coating around the spore.

Mosses can be found almost anywhere on the planet, in fact in the Arctic and in Antarctica, they are the most common land plants, and mosses can even be found in deserts. Mosses may be small in size, but they are one of the largest groups of land plants in the world with about 25,000 species. By comparison, there are about 350,000 species of flowering plants in the world, and about 10,000 species of ferns and fern allies. Here in Delaware there are 211 species and varieties known to occur.

Mosses are generally classified into three distinct divisions, which indicates three separate evolutionary lines: the Bryophyta (true mosses), Marchantiophyta (liverworts) and Anthocerotophyta (hornworts). Collectively, these 3 divisions are known as bryophytes. Members within these divisions are very different in appearance from division to division, and perhaps are only distantly related to one another, but what they all have in common is their similar reproductive structures and life cycle. Of the three divisions, the greatest species diversity is found in the Bryophyta, with up to 15,000 species recognized. In Delaware, there are 167 species and varieties of true mosses known to occur. The true origin and evolutionary lineage of bryophytes is still uncertain since the fossil record is rather poor. But what is known is that bryophytes appeared about 400 to 500 million years ago in the Paleozoic era about the same time as the vascular plants.

Mosses comprise a significant part of the biodiversity of our natural areas and most mosses can be seen throughout the year because they stay green all year. The best time to look for mosses is after a rain, at that time the plants are most vigorous and bright green in color. During times of drought, mosses tend to lighten in color and shrivel up due to water stress.

The ecological roles of mosses are many. They provide seed beds for the larger seed plants, they capture and recycle nutrients that are washed down with rainwater from the canopy, they help to bind the soil to keep it from eroding, and they help soil to retain moisture.

Mosses are good ecological indicator species because they tend to be highly specific for particular microenvironments and respond to factors such as temperature, light, water availability, and substrate texture and chemistry.

Perhaps more than any other plant, mosses can handle extremes in environmental conditions, but are sensitive to air pollution, especially sulfur dioxide, which breaks-down chlorophyll, so mosses are good indicators of local air quality.

◊◊◊◊ William McAvoy

DNPS Past-President

Moss covered rock
in Pennsylvania



Moss growing at the base of tree located in a wooded
area south of the C & D Canal in New Castle County

Photo by Rick Mickowski



Calendar of Events

September 19

Help keep our native coastal habitat free of trash by registering to volunteer for the 29th annual Delaware Coastal Clean-up to be held from 9 a.m. to noon. Pre-register by September 9th at www.dnrec.delaware.gov/CoastalCleanup.

September 18-19

UD Botanic Garden Fall Sale in Newark. Several varieties of native plants will be among the offerings including butterfly weed, asters, ferns, cardinal flower, and several others.

September 24

Walking the Seasons at Flintwoods Preserve—Late Summer with land managers Mike Weaver and Jared Judy. The September meadow will be in full swing with asters, goldenrods, and grasses. Cost is \$20 for non-member of DCH. Go to www.theDCH.org for more information and to register.

September 26

DNPS 11th Annual Symposium at Bombay Hook National Wildlife Refuge at 10:00 a.m. featuring Gregg Tepper on the Sensory Appeal of Native Plants and Flavia Rutkosky on the importance of pollinators. To register contact Leslie or Larry Cook at 302-514-9371 or at delveggie@gmail.com. Event is free but register as space is limited. A free healthy lunch will be provided. Event ends around 2 p.m.

September 26

DNPS native plant sale at the Arts in the Estuary event held at the St. Jones Reserve from 10:00—4 p.m. Our plant vendor will be the Inland Bays Garden Center.

September 28

Lecture: "The Living Landscape: An Evening with Rick Darke and Doug Tallamy" from 6:30-9:00 p.m. in Townsend Hall Commons. Cost is \$25 for non-members of UDBG. Go to <http://ag.udel.edu/udbg> for more details on how to register.

On-Going, Check out the Mt. Cuba Center Fall-Winter 2015-2016 Program Guide for all their upcoming classes and activities. Visit them at www.mtcubacenter.org or call 302-239-4244.

Looking Ahead

"Turning A New Leaf" conference in Townson, Maryland on November 13th. Learn how to create landscapes that work with our natural resources. Information can be found at www.chesapeakelandscape.org/ourprograms/turning-a-new-leaf-conference/

Beautiful Plants for Rain Gardens and Damp Spots by Lori Athey, Backyard Habitat Coordinator at DNS



Cardinal Flower

Do you have a spot in your garden that stays wet for 3 to 36 hours after a rainstorm? Maybe you have a rain garden, designed to capture and purify water runoff, or perhaps you live along a stream or floodplain. Lucky you! You can grow a host of native plants that the rest of us would need to pamper. Due to Delaware's location along the coastal plain of the eastern seaboard, we are blessed with many different types of wetlands and many excellent plants from which to choose. Here are just a few: You may already know about the River Birch (*Betula nigra*), with its peeling salmon colored bark, or the Red Maple's, (*Acer rubrum*), stunning fall color. But have you considered Blackgum, (*Nyssa sylvatica*), which produces berries



Urban rain garden in Wilmington

for early migrating birds and rivals the Red Maple with its reddish-purple fall color? For those with less space, try the Sweetbay Magnolia or the Pawpaw. Sweetbay Magnolia, (*Magnolia virginiana*), grows 15 to 25 feet tall and displays fragrant white flowers during May and June. The immature fruit looks like a small pickle, gradually turns pink, then splits to reveal red seeds relished by the birds. Plant this small tree near an open window or patio where you can enjoy its fragrance. The Pawpaw, (*Asimina triloba*), is the primary larval food source of the rare Zebra Swallowtail butterfly. It grows 15 to 20 feet tall in full sun, but may become a shrub in shady locations. It has large, tropical-looking leaves and its fruit, eaten by people and wildlife, tastes a bit like banana. Popular shrubs for wet spots include Winterberry, (*Ilex verticillata*), Inkberry, (*Ilex glabra*), and Buttonbush (*Cephalanthus occidentalis*). Also consider Swamp Azalea, (*Rhododendron viscosum*), Virginia Sweetspire, (*Itea virginica*), and Possumhaw, (*Viburnum nudum*). Swamp Azalea grows approximately 7 feet tall by 5 feet wide, with fragrant white flowers in June. Virginia Sweetspire grows about 5 feet tall, is adaptable to almost any location, and is ornamental in 3 seasons. After the blood-red fall foliage drops, the exposed deep maroon twigs provide winter interest. In the spring this small plant is covered with frothy white flowers on weeping racemes. Possumhaw grows to about 8 feet in height. It has lustrous deep green leaves turning a nice burgundy color in fall. With a nearby pollinator, the lacy white spring flowers transform into pink berries during the summer, eventually becoming blue then black before the birds eat them. Good herbaceous plants for damp spots include Blue Flag Iris, (*Iris versicolor*), Swamp Rose Mallow, (*Hibiscus moscheutos*), and Cardinal Flower, (*Lobelia cardinalis*). Other perennials include the Joe-Pye Weeds, (*Eutrochium*) sp., Turtleheads, (*Chelone*) sp., and Marsh Ladies Tresses, (*Spiranthes odorata*). The different species of Joe-Pye Weed grow from between 2-7 feet tall with pink/mauve flowers from mid-July through mid-September. Preferring full sun, they attract many species of butterflies including swallowtails and monarchs. The two species of Turtlehead have pink or white flowers from mid-August to mid-October with deep green foliage. Marsh Ladies Tresses is a hardy orchid and happiest in shade. Plant this where you can see its delicate white spires in September and October, which rise above glossy green basal leaves. Finally, don't forget the fern family. Several that will reward you include the Ostrich Fern, (*Matteuccia struthiopteris*), Royal Fern, (*Osmunda regalis*), and Cinnamon Fern, (*Osmundastrum cinnamomea*). The plants described in this article thrive with plenty of water. One way to easily ensure proper watering is to collect it from your roof into a rain barrel and attach a hose that leads into your garden. Using rain barrels also helps to ensure plenty of available water during drought seasons, helps the environment by reducing storm water runoff, and saves money over time. Rain barrels are especially effective when funneling into a rain garden or low area that collects and absorbs water slowly.



Pollinators need plenty of nectar and host plants to survive. For more information on how you can attract pollinators to your property, visit the Xerces Society website at www.xerces.org.



Sweet Pepperbush growing along a ditch in New Castle County

www.raingardensforthebays.org www.raingardensforthebays.org.

Membership Application

Delaware native Plant Society

Member Information

Name:

Business Name or Organization:

Address:

City and Zip Code:

Telephone (home/work):

☐ Full-time Student \$10.00

☐ Individual \$15.00

☐ Family or Household \$18.00

☐ Contributing \$50.00

☐ Business \$100.00

☐ Lifetime \$500.00

☐ Donations are also welcome \$_____

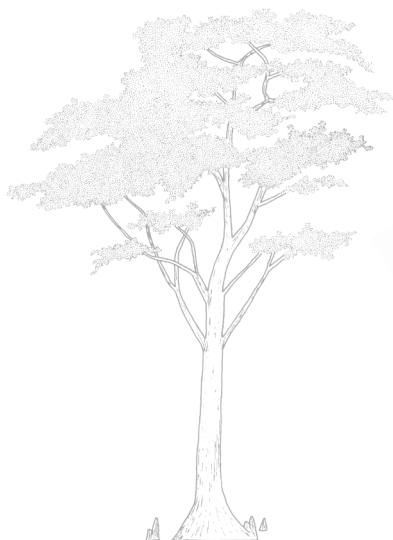
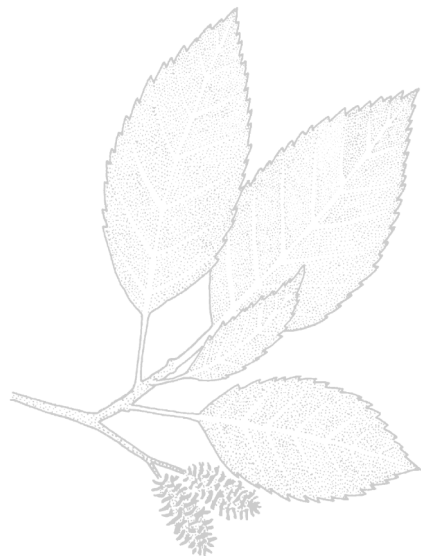
Membership benefits include:

Total Amount Enclosed: \$

Make check payable to:

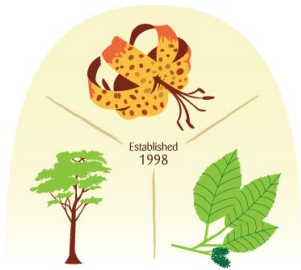
DE Native Plant Society

DELAWARE NATIVE PLANT SOCIETY**P.O. Box 369****DOVER, DELAWARE 19903**





This issue was never produced and is included in the Winter 2015 issue.



The Turk's Cap

News Flash: Hold March 12th
for the DNPS spring workshop!

The Newsletter Of The Delaware Native Plant Society

www.delawarenativeplants.org

Peacefully Co-Existing with Bees and Other Pollinators by Lori Athey, Habitat Outreach Coordinator for DNS



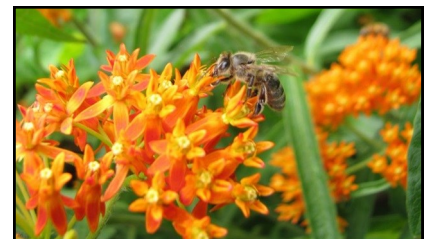
Bumblebee and Tiger
Swallowtail on Blue Lobelia

Our bees and butterflies are all struggling to survive – have you heard about the crashing Monarch populations or colony collapse disorder? Without pollinators our food supply would be in serious danger. The good news is that you can make a difference by planting native plants. But I know what you are thinking – I don't want to get stung! However getting stung is a lot harder than it looks. In all my years of gardening, I have only been stung because of my own stupidity. I have stepped on bees while walking barefoot, I have accidentally grabbed a bee while reaching for a flower, and once I even sat on a bee. Ouch! But you can learn from my mistakes:

Bees and Wasps 101 Just like a starving boy at an all-you-can-eat buffet, when bees and wasps are collecting pollen, food is the only thing on their mind. They only sting in self-defense, so stay out of their way and avoid touching them and they won't bother you. Honey bees really don't want to sting you, because the act of stinging rips out their abdomen, killing them. Bigger bees and wasps may look scary (looking scary is their primary defense) but they are not likely to sting unless forced to. Many smaller bees are actually flies, which cannot sting at all. Only Yellow Jackets and Hornets tend to be aggressive and quick to sting if you get in their way – and if you know what they look like, you can easily avoid them.

Working and playing in the garden The crawling and flying visitors to your garden are looking for food, not a fight, but will retaliate if stepped on. Wear closed-toe shoes and gloves, or pay careful attention to where you put your bare hands and feet. One way to avoid bees is to garden in the morning or late afternoon when bees are less likely to be present. Wear a hat, avoid fragrances, and avoid brightly colored clothing. Avoid drinking sugary drinks from open cups or cans, and cover outdoor garbage cans with tightly fitting lids. If a bee or

The “**Todays Horticulture**” symposium at Longwood Gardens on February 5, 2016 will feature “The Natural History of Spring Wildflowers” with Carol Gracie; “Planting for Native Pollinators and Beneficial Insects” with Kelly Gill; and “The Return of the American Chestnut” with William A. Powell. Cost is \$95 for this all day symposium with early registration deadline of January 7th. [Go to www.longwoodgardens.org](http://www.longwoodgardens.org) and click on February 5th on the calendar to access the brochure and registration.



European honeybee on Butterflyweed

Message from the President

Hello Friends:

It's never been more popular to be a native plant than right now, especially with many institutions and respected authors highlighting the benefits of native species. Over the course of these last few years, native plants and their pollinators have been taking center stage in the fight against climate change, helping to address coastal resiliency, and mitigation of our ecosystem services. This is much more than a trend, and the use of native plants will most likely become the standard recommendation for solving many of our environmental problems.

Our annual symposium this year was a great success. We had the privilege to hear from two spectacular individuals, Gregg Tepper and Flavia Rutkosky. Gregg, the horticultural director at the newly established Delaware Botanic Gardens, spoke on the sensory appeal of native plants and beautifully highlighted through images and words the abundant benefits of our native flora. Flavia, a wildlife biologist with the U.S. Fish and Wildlife Service, discussed the importance of our native pollinators and their impact on our world through the ecosystem services that they provide. Much thanks goes to our speakers as well as the Bombay Hook Garden Keepers/Friends of Bombay Hook which hosted and coordinated the event. Special thanks to Larry and Leslie Cook; the event would not have happened without their help and support.

I'd like to leave you with a quote from an architect that inspired my design philosophy and approach to landscape architecture. His work influenced many in the field by working with nature and incorporating it into the overall setting:

"Study nature, love nature, stay close to nature. It will never fail you." ~ Frank Lloyd Wright

Native plant is a term to describe plants endemic (indigenous) or naturalized to a given area in geologic time.

This includes plants that have developed, occur naturally, or existed for many years in an area (e.g. trees, flowers, grasses, and other plants). In North America a plant is often deemed native if it was present before colonization.

Some native plants have adapted to a very limited, unusual environments or very harsh climates or exceptional soil conditions. Although some types of plants for these reasons exist only within a very limited range (endemism), others can live in diverse areas or by adaptation to different surroundings (indigenous plant).

Questions or comments please contact Rick Mickowski, newsletter editor at rick.mickowski@state.de.us or at 302-832-3100 ext. 113. Member submissions encouraged!



DNPS Officer Team 2014-2016 from left to right: Eric Wahl - President, Rick Mickowski - Vice President, Eric Zuelke - Treasurer, and Alison Long - Secretary

wasp approaches you, STAY STILL, do not scream or wave your arms around, as these actions make them think you are a threat. Gently blow or brush them away or wait for them to leave on their own. They are seeking food, so unless you are holding a sugary drink, they will lose interest quickly.

Garden Design Suggestions Avoid placing pollinator-attracting plants near high-contact areas such as beside walks, doors, sitting areas, play areas and driveways. Instead, edge these areas with grasses, ferns, conifers and other foliage plants that are not as attractive to bees. Flowers for bees and butterflies can be safely planted a few feet away from the edge of high-contact areas without a problem. If you want to support the pollinators but keep them out of reach, plant pollinator-attracting plants in the middle or back of your beds or try some of the taller flowers such as *Eutrochium* (Joe-Pye), *Veronicastrum virginicum* (Culver's Root) and *Helianthus* (Perennial Sunflowers). Also shrubs and trees such as *Cephalanthus* (Button Bush), *Aesculus parviflora* (Bottlebrush Buckeye), *Sambucus nigra* (Elderberry), *Clethra alnifolia* (Summersweet, not dwarf selections), *Magnolia virginiana* (Sweetbay), and *Tilia americana* (American Basswood) all have beautiful flowers that are attractive to pollinators, but well out of reach of careless fingers. You can find these plants and more at the Delaware Nature Society's annual Native Plant Sale.

Taking care of the bees and butterflies HOLD THE BUG SPRAY and unplug your UV mosquito-zapper; 98 percent of the insects they kill are good guys! These beneficial insects will keep pest bugs under control and are also food for many birds, bats, toads and other wildlife. Poisons kill ALL the insects they touch not just the problem bugs, and pesticide residues can remain on plants for weeks or even months. If a particular plant is overeaten, consider planting more of that plant so that both you and the insects can enjoy it. We need the bees to pollinate our fruits and veggies, while the birds depend on caterpillars and other insects to feed their young.

If you get stung If you are stung by a bee or wasp, don't panic. Immediate pain, followed by itching, redness or a raised welt are all perfectly normal. Only about 3 percent of adults and 0.5 percent of children experience full-blown allergies leading to anaphylaxis, which can be life-threatening, and require emergency treatment. The first step following a bee sting is to remove the stinger as soon as possible. Using a fingernail and without squeezing it, carefully scrape it out. Once removed, pain and swelling can be reduced with a cold compress. Topical antihistamine creams can also provide much relief.



Hornet on Summersweet - *Clethra Alnifolia*

That is all there is to it. Now that you know what to do, call a truce with your pollinators and peacefully enjoy your garden. You can find lots of native plants to support a wide variety of pollinators at the Delaware Nature Society's annual Native Plant Sale located at their Coverdale Farm Preserve, 543 Way Road. Coming up April 30 through May 1, 2016, you can find information and the catalog of available plants (coming soon) at www.DelNature.org/

Visit us on Facebook

[Delaware Native Plant Society](http://www.DelNature.org/)

NATIVE PLANT HIGHLIGHT

SKUNK CABBAGE

When these cold winter days have you confined to the indoors and cabin fever begins to set-in, don't despair and pine for spring, go in search of the malodorous skunk cabbage to raise your spirits and enlighten your senses.

Skunk cabbage, *Symplocarpus foetidus* (L.) Salisb. ex Nutt. is a perennial monocot of the Araceae, the Arum family. Skunk cabbage is a monotypic genus, meaning that *Symplocarpus* is a genus with only one species.

Skunk cabbage is named for its smell, which is quite obvious when the plant is bruised or crushed and smells a bit like burning rubber. Insects, such as carrion flies, are attracted to such foul odors and thus help to pollinate the flowers. The specific epithet *foetidus* means fetid, or to stink.

Skunk cabbage is considered a wetland plant and is common throughout Delaware. It is typically found growing in the shade, on poorly drained soils in swamps and in seepy floodplains. The overall natural distribution of skunk cabbage in North America is from Quebec and Nova Scotia, south to North Carolina, and west to Minnesota and Iowa. Skunk cabbage is also found growing in east Asia.

In Delaware, skunk cabbage often flowers in February even if the ground is snow covered!

The combination of the plants dark color, which absorbs heat from the sun, and the rapid growth of the flower-bud produces enough heat to actually melt snow immediately around the plant. Studies have shown that the plant starts to produce heat once the temperature is



Image: Rick Mickowski

above freezing and can keep itself at a fairly constant temperature of slightly over 70 degrees Fahrenheit.

The leaves of skunk cabbage are ovate in shape and can be quite large, about 2-3 feet long and about 1-2 feet wide. The leaves contain calcium oxide crystals that cause a burning sensation when eaten and may protect the leaves from some predators. The leaves die back in the fall, but in late summer, a flower-bud and leaf-bud have already been produced underneath the leaves and this is how the plant will over winter.

In winter, skunk cabbage can be seen as two types of buds: a flower-bud that is enveloped by a hood-like covering (technically called a spathe), and immediately next to the flower-bud is a leaf-bud, which is a pointed cone with next seasons leaves tightly coiled inside. Both flower and leaf-buds are about 6-8 inches tall. The spathe is composed of a spongy material and is green in color and is usually mottled with dark brown or purple coloration. The leaf-bud is light green in color. As mentioned, the spathe encloses the flower-bud (technically called a spadix). The spadix is defined as a club-like stalk, or spike composed of small flowers crowded together on a thickened axis.

The roots of skunk cabbage slightly contract each growing season, which pulls the plant down into the earth just a fraction of an inch each year. In this way, the leaves and buds always stay low to the ground.

Flowers bloom before the leaves emerge and during flowering, one side of the spathe begins to open and you can see the spadix inside. The flowers are buried in the spadix and each flower is perfect, meaning they have both male and female parts. It may take up to 7 or more years for a single plant to be strong enough to produce flowers. The seeds mature inside the spadix and are grouped together into what is called a compound fruit. Consider the genus name, *Symplocarpus*, *symploce* means "connection," and *carpus* refers to fruit, taken together, *Symplocarpus* means a binding together of the fruits. Seeds are dispersed in late summer and they are usually about the size of marbles.

William McAvoy DNPS Past President



Drawing: Craig Holdrege

2015 Fall Symposium Featured the Sensory Appeal of Native Plants



Images: Eric Wahl



Gregg Tepper at left and Flavia Rutkosky, above were the featured speakers at the fall symposium

When you talk about the sensory appeal of native plants you are dealing with sight, touch, smell, taste, and sound. Plants offer us endless shades of color and texture. You should focus on drifts of color versus concentrated color. Leaf color and texture add multiple contrasts. Flowers, leaves, berries and bark are all things to consider in the landscape. Look at the fluorescence of pollen and berries. Remember the bones of the winter garden and the visual appeal of plants covered in snow and ice.

When you consider touching plants think of how a blind child might “see” the garden. Think of fuzzy, leathery, furry, soft, puffy, and smooth.

Smell is an important component. Some plants are “fragrant” and some are “odiferous” which means they don’t smell so good. Both flowers and foliage can offer fragrance. Some fragrant plants to consider are *Rhododendron arborescens* (Sweet Azalea), *Calycanthus floridus* (Carolina allspice), *Trillium luteum* (Yellow Trillium) and *Clethra alnifolia* (Summersweet or Pepperbush).

Many plants provide a tasty experience. Some notable plants so consider are *Vaccinium corymbosum* (Blueberry); *Gaultheria procumbens* (Wintergreen); *Acer saccharum* (Sugar Maple); *Vaccinium macrocarpon* (Cranberry); *Allium tricoccum* (ramps); *Cunila organoides* (American Dittany); and *Claytonia virginica* (Spring Beauty).

Sound is also a key element in the garden. The sound of water adds a soothing element. There are different sounds present in each season depending on the plant foliage and weather such as wind. Think of the wind rustling through the leaves in the trees or the rustling of the tall grasses in the garden.

Finally, some plants tell a story. Look at plant history, culture, and even humor.

Pollinators and Native Plants

Flavia spoke about the importance of native plants for our pollinators. For more great information about pollinators go to www.xerces.org.

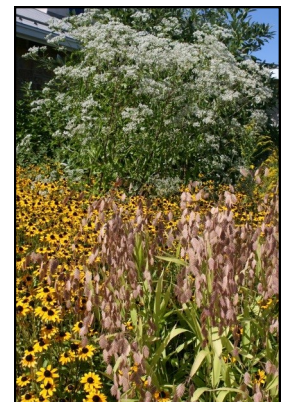


Image: Rick Mickowski

Calendar of Events

January 2016

Winter Tree Identification at Mt. Cuba Center on January 13, 20, and 27. Website at www.mtcubacenter.org.

27th Annual Landscape Design Symposium on "Zooming In/Zooming Out: Native Design from the Intricate to the Expansive". January 14th-15th at Montgomery County Community College in Blue Bell, PA. http://www.business-services.upenn.edu/arboretum/ed_conferences_LDS.shtml

UD Botanic Garden Lecture and Lab Series on "Regional Native Trees and Shrubs" with Dr. John Frett. Classes and labs 6:30-8:30 p.m. on January 13th, 20th, and 27th. Register at botanicgardens@udel.edu or call 302-831-2531.

February 2016

Environmental Landscape Design on Thursdays in February and March at Mt. Cuba Center.

Native Evergreens on February 17 and 24 at Mt. Cuba Center.

Landscape for Life on 5 Saturdays February 20—March 19 at Mt. Cuba Center.

March 2016

The New Front Yard on March 2 at Mt. Cuba Center.

Best Native Plants for Pollinators on March 18 at Mt. Cuba Center.

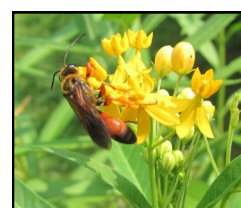
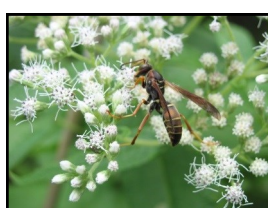
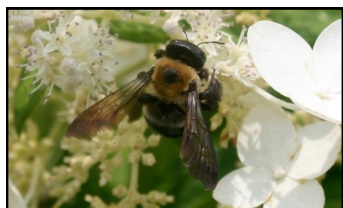
16th Annual Land Ethics Symposium on "Creative Approaches for Ecological Landscaping" on March 10th at Delaware Valley University in Doylestown, PA. Website at www.bhwp.org and click on the Land Ethics Symposium tab.

March 12th - DNPS spring workshop held at the St. Jones Reserve in Dover. More information to follow via email to members. Please hold the date!

April 2016

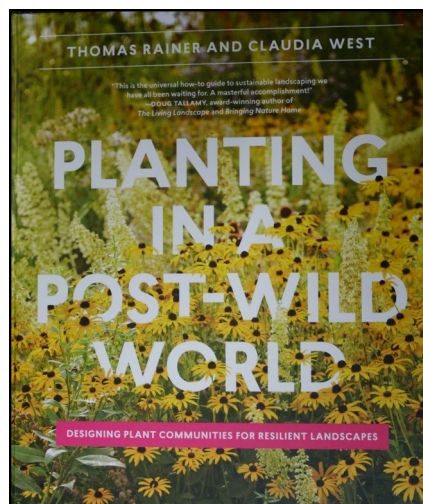
Lahr Native Plant Symposium and Sale at the U.S. National Arboretum on April 2, 2016. More information posted after February 1st at www.usna.usda.gov.

Copeland Native Plant Seminar on "The Evolving Garden" sponsored by Delaware Nature Society and Mt. Cuba Center. Speakers include Ken Druse on "The New Shade Garden: Creating a Lush Oasis in the Age of Climate Change" and land managers Jim White and Nate Shampine on "How Technology Informs Land Manager Decisions" and "Managing for Biodiversity: A Holistic Approach to Land Management". Held on April 2nd at Ashland Nature Center. More information at www.mtcubacenter.org.



Images: Rick Mickowski

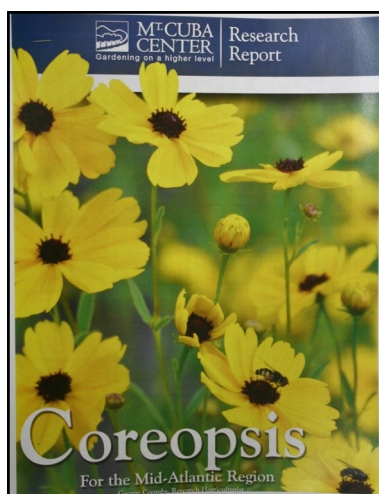
Recommended Resources by Rick Mickowski



Thomas Rainer and Claudia West have written an excellent overview of how we need to be planting our landscapes with plant communities for more resilient landscapes. I was able to hear Claudia give her lecture at two separate events the past two months and one thing she always ended with was plant more plants. To mimic natural eco-systems, we need to plant in layers and plant thickly to fill in the space. This book can be purchased at Timber Press or other on-line retailers like Amazon.

Cooking with Native Pawpaw from Kentucky Cooperative Extension

The pawpaw is the largest edible fruit that is native to the United States. Pawpaws are indigenous to 26 states in the U.S., in a range extending from northern Florida to southern Ontario and as far west as eastern Nebraska. They have provided delicious and nutritious food for Native Americans, European explorers and settlers, and wild animals. They are still being enjoyed in modern America, chiefly in rural areas. There are 27 varieties currently available from more than 50 commercial nurseries in the U.S. Most enthusiasts agree that the best way to enjoy pawpaws is to eat them raw, outdoors, picked from the tree when they are perfectly ripe. But there are also numerous ways to use them in the kitchen and extend the enjoyment of their tropical flavor beyond the end of the harvest season. The unique flavor of the fruit resembles a blend of various tropical flavors, including banana, pineapple, and mango. The flavor and custard-like texture make pawpaws a good substitute for bananas in almost any recipe. The common names, 'poor man's banana,' 'American custard apple,' and 'Kentucky banana' reflect these qualities.



The results of a 3-year study about Coreopsis has just been released on the Mt. Cuba Center website.

Spiced Pawpaw Fruit Cake ⁱ

3 1/2 c. flour
4 tsp. baking powder
1 tsp. salt
1/2 tsp. baking soda
2 tsp. cinnamon
2 tsp. ginger
1 tsp. nutmeg
1 1/3 c. shortening
1 1/3 c. sugar
4 eggs
2 c. pawpaw puree
1 c. raisins
1 1/2 c. chopped nuts
3 c. candied fruits

Sift flour with baking powder, salt, baking soda, and spices. Cream shortening and gradually blend in sugar, beat until light and fluffy. Beat in eggs, one at a time. Add flour mixture alternately with pawpaw puree. Mix raisins, nuts, and fruit, and stir into batter. Turn into 2 greased and floured 9x5x3-inch loaf pans. Bake in a slow oven (300°F) for about 2 hours. Keep a shallow pan of hot water underneath cake throughout baking time. Store cooled cakes in a tightly closed container. Makes about 5 1/2 pounds of fruit cake.

Marilyn Kluger, from *The Wild Flavor*, published by Jeremy P. Tarcher, Los Angeles, and distributed by Houghton Mifflin, New York, 1973*

Membership Application

Delaware native Plant Society

Member Information

Name:

Business Name or Organization:

Address:

City and Zip Code:

Telephone (home/work):

☐ Full-time Student \$10.00

☐ Individual \$15.00

☐ Family or Household \$18.00

☐ Contributing \$50.00

☐ Business \$100.00

☐ Lifetime \$500.00

☐ Donations are also welcome \$_____

Membership benefits include:

Total Amount Enclosed: \$

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