

The Turk's Cap

THE NEWSLETTER OF THE DELAWARE NATIVE PLANT SOCIETY SPRING 2005

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HOW CAN I GET INVOLVED?

The Delaware Native Plant Society is open to everyone ranging from the novice gardener to the professional botanist. One of the primary goals of the society is to involve as many individuals as possible.

The DNPS is working on some significant projects at this time. We are undertaking reforestation projects at Prime Hook National Wildlife Refuge, at Blackbird Creek in New Castle County and Cedar Creek in Sussex County where we have installed tree tubes around newly sprouted seedlings. Help is also needed at our native plant nursery at the St. Jones Reserve with the monitoring and watering of plants along with many other nursery activities.

For more information, E-mail us at dnps@delawarenativeplants.org. Or visit our website at www.delawarenativeplants.org. Our website will have all of the past issues of *The Turk's Cap* along with a large section on native plants, as well as links to other environmental and plant related organizations.

A CALL FOR ARTICLES

If you would like to write an article for The Turk's Cap, we would love to print it. With like minded individuals as an audience, The Turk's Cap is a great venue for plant or habitat oriented writings.

We'll take just about anything from gardening tips to book reviews to poetry. Of course, it has to be about native plants, or issues related to native plants; just a minor constraint. Your imagination is the real key.

Contact Eric Zuelke (ezuelke@juno.com), or Bill McAvoy at 302.376.5416 for more information.

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A SWEET SUGAR MAPLE SAP WELCOME TO OUR NEWEST MEMBERS

January through March

Eleanor Swink & Will Fox
 Frances & James Bazzoli

Mel & Nancy Brown

Joseph Dennan

Chris Edginton

John Harrod

Elizabeth & John Kramarck

Michael & Lisa Lasher

S. Joseph Lesley

Jim McClemets

Robert Robinson

Deb Schultz

Gloria Walls

Ashley Ward

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LETTER FROM THE PRESIDENT

The winter months are usually slow for the DNPS, but we did have some productive business meetings and we purchased a laptop computer for DNPS business and labeling in the nursery.

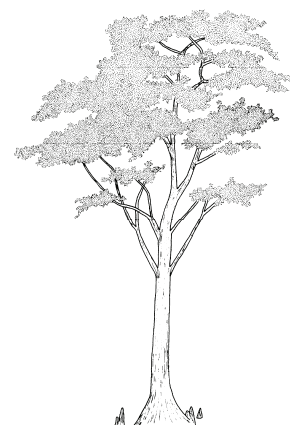
Now that spring has arrived, the DNPS is gearing up for a full season of activities. We have our annual meeting on May 7, which should be a fun day of field trips, presentations, and an opportunity to meet members. We also have several other events and field trips scheduled which are listed here in the newsletter.

We will be continuing our work in the nursery where our efforts are in preparation for our

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The DNPS Vision

The purpose of the Delaware Native Plant Society (DNPS) is to participate in and encourage the preservation, conservation, restoration, and propagation of Delaware's native plants and plant communities. The Society provides information to government officials, business people, educators, and the general public on the protection, management, and restoration of native plant ecosystems. The DNPS encourages the use of native plants in the landscape by homeowners, businesses, and local and state governments through an on-going distribution of information and knowledge by various means that includes periodic publications, symposia, conferences, workshops, field trips, and a growing statewide membership organized by the DNPS.



LETTER FROM THE EDITOR**LOOK UP, THERE'S LIFE IN THEM THERE HILLS!**

Exciting things are happening outside right now! The spring peepers, chorus frogs, and pine warblers are singing, the spring ephemerals are poking their heads out of the ground, and the sugar maple sap is flowing. There's also exciting things happening with the DNPS. One of the most exciting is the appointment of two interns in our nursery for the spring and summer. Angel Babb and Lauren Lyles, two students in the FFA Supervised Agricultural Experience program at Polytech High School, will be working in the nursery this season. They will be assuredly working through April, but we hope to have them all summer. They'll be taking on tasks like planting seeds and hardwood cuttings, repotting seedlings from community pots, helping with the design and installation of a watering system and another shade house, and compiling a propagation guide for the greenhouse. Another exciting thing that happened was the success of our frost blanket winter protection system. We had a workday on March 12th and we uncovered the plants from their winter sleep only to find them in great shape. Many of the plants were still moist and green, but I'm hopeful for the few that looked dead and dry. This may not seem like a big deal, but in comparison to the dismal losses we've had in previous winters, I'm very happy with this system!

I'm also very happy with this issue of our newsletter. As usual, we have our great columns on native plants and plant propagation, plus an analysis on why to go native, and a terrific review on a very interesting book by member Sandra Dennison-James. There is also a review on a new book of the native plants of the Northeast U.S. And speaking of new books, the DNPS is working on a Second Edition of our booklet!

Well, if you're anything like me, you're itching to get outside and start designing new flower beds, fixing up rock borders, and laying down a fresh layer of mulch. Have a great spring and happy gardening! 🌱

°°°° Eric Zuelke, Editor

NATIVE PLANT TREKS**LUMS POND STATE PARK**

Hiking, camping, horseback riding, canoeing, and fishing are just a handful of the activities that you can immerse yourself into at Lums Pond State Park (LPSP). This 1790-acre park was established in 1963 in New Castle County, just north of the Chesapeake-Delaware Canal. The pond was created in the early 1800's when St. Georges Creek was dammed during the construction the canal, and is now the largest freshwater pond in the state.

One of the highlights of this park is the camping. The park boasts four horse camping sites in which riders do not have to trailer their horses, two yurts, and a total of 68 family sites.

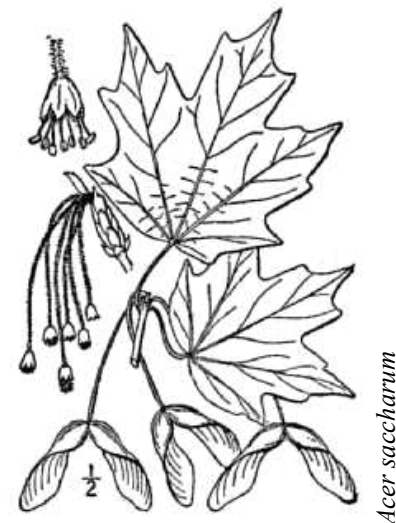
Then of course, there is the hiking. With a trail that extends around the entire circumference of the 200-acre pond, you can spend a good part of a day exploring on foot. And while you're exploring you may run across a few very interesting plants.

Though there are no populations of rare plants in LPSP, you will see some very nice stands of oak-hickory forest

along the shores of the pond, as well as maple/oak/tuliptree forest. It's been a long time since any extensive logging activity has occurred in the area where the park is, so the forests have had time to grow and mature over the years. If you're looking for a good place to find some spring ephemerals, this park has nice habitats for them. If aquatic vegetation is your game, there are some nice marshy areas along the edges of the pond in areas where humans don't traverse very often and the diversity of submerged, and semi-aquatic vegetation is surprising.

If you're looking for a peaceful, quiet camping experience with some easy hiking trails, then LPSP should be one of your destinations. For more information, go to <http://www.destateparks.com/lpsp/> 🌱 lpsp.asp.

°°°° Eric Zuelke, Editor



Britton, N.L., and A. Brown. 1913. *Illustrated flora of the northern states and Canada*. Vol. 2: 37. Courtesy of Kentucky Native Plant Society, and the USDA Plants Database.

LETTER FROM THE PRESIDENT

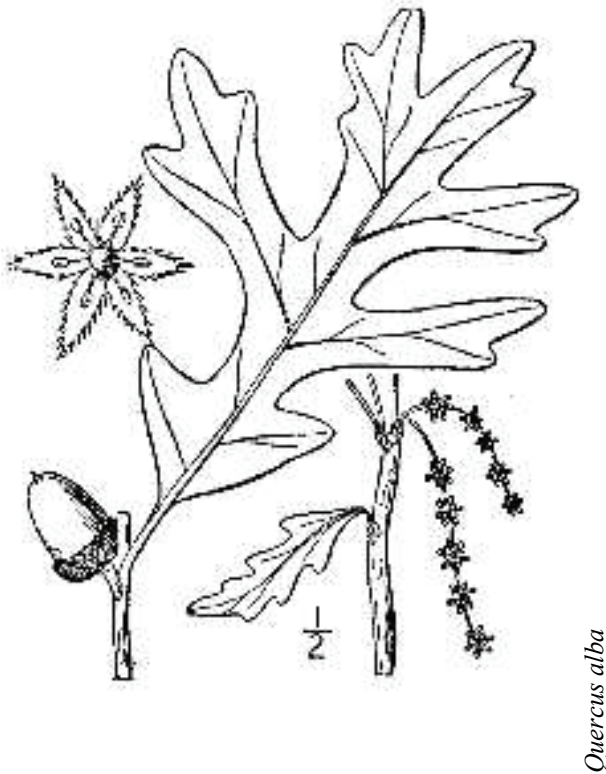
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fall plant sale. Our new nursery manager has prepared an outline of proposed activities for the 2005 growing season, and they are really going to help the nursery reach the kind of productivity that we have been hoping for.

We are also excited to announce a new partnership with Polytech High School in Kent Co., in the creation of an internship for students to work and gain experience in our native plant nursery. The students are part of the Supervised Agricultural Experience program, and their "school-to-career" training will be invaluable for them. This opportunity for young students should help to instill an appreciation for Delaware's native flora. Many thanks to Eric Zuelke for all his efforts in coordinating and supervising this internship.

Enjoy the spring and coming summer and I hope to see you at our annual meeting on May 7, and at some of our nursery workdays. Your help is invaluable, and greatly appreciated. 🌱

Sincerely,
William McAvoy



Britton, N.L., and A. Brown. 1913. *Illustrated flora of the northern states and Canada*. Vol. 2: 37. Courtesy of Kentucky Native Plant Society, and the USDA Plants Database.

EVENT HIGHLIGHT

PROPAGATING NATIVE PLANTS FROM SEED WORKSHOP

On 12 March 2005 our own Quentin Schlieder hosted this seed propagation workshop at the St. Jones Reserve. With 18 people in attendance, we had plenty of dirty hands by the end of the day. And that was the point, to give everyone a bucket of dirt, some styrofoam cups, Tupperware containers, a bunch of seeds, and let them have fun. But it wasn't all fun and games. Quentin offered detailed explanations about how to successfully germinate the seeds of many different species of plants through stratification, scarification, proper soil mixes, proper lighting, and proper watering techniques. We learned that there are many different requirements just within the realm of temperature stratification alone! Mother nature knows best, but in our human oriented desire to speed things up a little, we also learned about all the different ways to scarify hard coated seeds and how to remove fleshy coverings to make the natural processes happen a little quicker. Which isn't necessarily a bad thing; who wants to wait 2 years for a seed to germinate? A sense of accomplishment and satisfaction is sometimes the key to successfully germinating seeds. Growing plants from seeds is an extremely rewarding endeavor and can even rouse feelings of parental wonder as you watch all your little "children" grow from seedlings to fully grown adults. ☘

NATURAL QUOTES

"Forget not that the earth delights to feel your bare feet and the winds long to play with your hair."

Kahlil Gibran

FEATURE ARTICLE

PONDERINGS ON NATIVE PLANTS

There are a lot of people who do not think there is much difference between native and non-native plants and their use in home landscapes, or worse yet, they just don't have any concern for the potential harm non-natives can bring about. The differences are as clear as night and day, and we all should be concerned about the use of non-natives.

What is a native?

The first point to ponder is what exactly is a native plant? Native species are those that evolve over geologic time in response to physical and biotic processes characteristic of a region: the climate, soils, timing of rainfall, drought, and frost; and interactions with the other species inhabiting the local community. Thus native plants possess certain traits that make them uniquely adapted to local conditions, providing a practical and ecologically valuable alternative to non-natives and they can match the finest cultivated plants in beauty, while often surpassing non-natives in ruggedness and resistance to drought, insects and disease.

In North America, plant species are generally described as native if they occurred here prior to European settlement. This distinction is made because of the large-scale changes that have occurred since the arrival of the European settlers, and this is the definition that the DE Native Plant Society (DNPS) has adopted. All plants are native to some region and it is only when a species is "out of place" that we become concerned.

But even more importantly, there is also the concept of regional nativity. These are plants that are adapted to the climate, soils, and climatic features of specific regions of the country. For example, green ash (*Fraxinus pennsylvanica*) is a native deciduous tree in North America, but a green ash in Minnesota will have different growing requirements than one on the piedmont of Delaware.

The problems with non-natives

Due to a lack of natural controls such as insect pests and competitors, some non-native plants can easily become established in new areas. Once established, non-native plant species can out-compete and displace the native plant species, disrupting ecological processes and significantly degrading entire plant communities. Such plants are said to be invasive. Many invasive plants spread quickly and grow so densely that other species cannot get established in areas infested by these non-native plant species. A good example of this is the interaction of the non-native species of *Phragmites* in Delaware's wetland

communities. There are two different species of *Phragmites* growing in Delaware, a native and a non-native. The native species is smaller and will tend to restrict its growing habits to small areas, whereas its European counterpart will overcome an entire marsh if allowed, and will grow into such a dense monoculture, that no other species will have the chance to grow. Common native plants can also be crowded out, or their populations threatened due to hybridization with escaped ornamentals. Endangered species may be driven from their last habitats by invasive non-native plant species. Aquatic invasive species can clog waterways, disrupt groundwater flows, degrade water quality, and lead to dramatic changes in plant and animal communities.

Other non-native plants are unable to thrive without extra effort such as additional watering and fertilizer. Also, the natural defenses plants evolve in their original habitats may not protect them in a new environment, requiring the application of pesticides to aid their growth.

Regional non-nativity is also a factor with non-natives. Although the majority of non-native species come from other countries, they may also be introduced from a different region of the same country.

The benefits of natives

The benefit of growing plants within the region they evolved is they are more likely to thrive under the local conditions while being less likely to invade new habitats. Native plants are well adapted to local environmental conditions, maintain or improve soil fertility, reduce erosion, and often require less fertilizer and pesticides than many non-native plants. These characteristics save time and money and reduce the amount of harmful run-off that could threaten the aquatic resources of our streams, rivers, and estuaries. Most native plants are perennial and have extensive root systems that hold soil and slow runoff. Persistent stems, leaves, and flower parts remain throughout the winter which can also reduce runoff, especially in the spring. In addition, functionally healthy and established natural communities are better able to resist invasions by non-native plant species. So the use of native plants can help prevent the spread of non-native species already present in a region and help avert future introductions.

Native plants are self-sustaining and provide familiar sources of food and shelter for wildlife, such as beneficial insects, mammals, and native birds. As natural habitats are replaced by urban and suburban development, the use of native plants in landscaping can provide essential shelter for displaced wildlife. Land managers can use native plants to maintain and restore wildlife habitat. Native wildlife species comprise a majority of the game and non-game animals we manage habitat for, and they evolved with native plant species. Although non-native species are often promoted for their value as wildlife food plants, there is no evidence that non-native plant materials are superior to native plants. For instance, on land managed for upland game animals, native warm season grasses (big and little bluestem, switch grass, Indian grass, coastal panic grass, gama grass, etc.), and other native forbs (butterfly weed, ironweed, Joe Pye weed, etc.) offer good sources of nutrition without the ecological threats associated with non-native forage plants. Dramatic increases in nesting success of both game birds and songbirds have been observed in fields planted with native grasses, which also offer superior winter cover.

contributes to the overall health of natural communities. Disturbances of intact ecosystems that open and fragment habitat, such as land clearing activities, increase the potential of invasion by alien species. Native plants provide important alternatives to alien species for conservation and restoration projects in these disturbed areas. They can fill many land management needs currently occupied by nonnative species, and often with lower costs and maintenance requirements.

As you go about designing your backyard landscape, and other natural area plantings, make a concerted effort to seek out native alternatives to the typical non-natives that so many people just accept as the norm. The difference will be worth the effort and you will rest comfortably in your backyard habitat knowing that your choices will benefit not only you, your backyard wildlife, but the earth as a whole. 🌿

◦◦◦◦ Eric Zuelke, Editor

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GARDENING WITH NATIVE PLANTS

SHADBUSH (AMELANCHIER ARBOREA)

NATURAL HISTORY

It's spring and as winter tries to hold its icy grip there are subtle hints that the forest is again coming alive. Long before the bright green leaves of most woodland shrubs and trees signal the beginning of another growing season, the showy flowers of the shadbush unfold at the edge and in the understory of Delaware's forests. The shadbush inhabits moist soils of hardwood forest east from the Mississippi River basin and south from southern Canada to northwest Florida. The flowers of the shadbush are pure white, fragrant, and borne in 2-4" long pendulous racemes in mid to late April. These extremely showy 1 inch flowers last only 4 to 7 days, but are an important source of nectar for the earliest small bees of spring, which serve as the primary pollinator. But the true wonder of this woodland native is in its fruit. Often overlooked, the reddish-purple fruit is a 1/4" - 1/3" edible pome that emerges in June. Edible berries resemble blueberries in size and color and are often used in jams, jellies and pies, but don't delay in harvesting this woodland delight for at least 22-bird species relish the sweet nourishing fruit. Prominent feeders include veeries, hermit thrushes, gray catbirds, cedar waxwings and northern orioles, and if that's not enough there are 11 or more mammal species that feed on the fruit bark and twigs of this natural pantry. The shadbush is a small tree often 15 to 25 feet tall with a trunk 4 to 6 inches in diameter, but may reach heights of 40 feet. Its brilliant fall colors of orange to yellow to red are but one of many reasons to make space in your landscape for this wondrous shrub or small tree.

WHERE TO GROW

In general, the flowers and fall color of the shadbush show best against dark backgrounds or in dark corners. This species is ideal for naturalization, on building corners, or in small groves when space is plentiful. Shadbush appears to do best in sunny and dry sites, but will persist as the forest grows in around them. They are also found in smaller numbers in a wide variety of habitats, including wetter sites. Shadbush is easily grown in average, medium wet, well-drained soil in full sun to part shade and is tolerant of a somewhat wide range of soils. Shadbush may be pruned to maintain a single trunk for a specimen tree or

allowed to bush out for a lower growing shrub. Root suckers are common, and if not removed, will result in a shrubby growth habit, which may be suitable for naturalizing along edges.

PROPAGATION AND CARE

Propagation of shadbush may be accomplished either by seed or rooted cuttings although difficulty in rooting cuttings has been noted. To propagate from seed, the seeds should be harvested as soon as the fruit is ripe in mid-summer. A cold stratification of 4 months at 40 degrees Fahrenheit is required for germination. Once seeds sprout in the spring, they should be kept evenly moist and protected from full sun by either a shade cloth or growing in a lightly shaded area. Once 4 leaves have developed, seedlings should be transplanted into individual pots and grown on for another year before planting in the landscape. Care should be taken to keep the seedlings well watered during the growing season until well established. They will continue to benefit from occasional watering during periods of drought.

LORE

Few plants have the variety of common names as *Amelanchier arborea* has. The name shadbush, or shadblow, was given because the blossoms appear about the time when the first shad begin their spawning runs up the rivers of the east Coast. The name serviceberry stems from a time when the ground was so frozen that corpses were held unburied until the ground thawed sufficiently for digging. That was about the time when the shadbush blossoms appeared, and then the service could be held – hence the name serviceberry. Finally the name Juneberry denotes the time of year the berries appear on the plant. Regardless of the name *Amelanchier arborea*, is a great choice for your landscape! 🌱

◊◊◊◊ Bob Edelen, DNPS Member

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NATIVE PLANT HIGHLIGHT

CLAYTONIA VIRGINICA (SPRING BEAUTY)

I know spring has arrived when I see *Claytonia virginica*, the spring beauty in flower. This is one of our first native wildflowers to bloom in the spring, usually in late March and early April. Spring beauty is in the Purslane Family (Portulacaceae) and is a perennial herb that inhabits moist woodland soils of both the Piedmont and Coastal Plain regions of Delaware. The habitat preference is dappled sunlight during the spring, moist to slightly dry conditions, and a rich loamy soil with abundant organic matter. This plant will adapt to semi-shaded areas of lawns if mowing is delayed during the spring. Habitats include moist to dry deciduous woodlands, savannas, thinly wooded bluffs, city parks, old cemeteries, and lawns (particularly near trees). Each flower is up to ½" across when fully open, consisting of 5 petals, 2 green sepals, 5 stamens with pink anthers, and a pistil with a tripartite style. The petals are white with fine pink stripes; these stripes vary from pale pink to bright pink. The flowers open up on warm sunny days, and close during cloudy weather or at night. They are more or less erect while open, but nod downward while closed. The long, narrow leaves are grass-like with a single central vein along the length of the leaf, and the flowers of this spring ephemeral bloom for about two weeks and then soon disappear.

The root system consists of a small round corm and secondary roots, and this species is also known as fairy-spuds, referring to the species underground edible tuber's, which resemble miniature potatoes. The name *Claytonia* is in honor of John Clayton (1693-1779), an early colonial botanist from Virginia. The specific name, *virginica*, refers to the Colony of Virginia. Spring beauty is native to the eastern U.S. and parts of Canada. 🌱

◊◊◊◊ William McAvoy, Acting President



Britton, N.L., and A. Brown. 1913. *Illustrated flora of the northern states and Canada*. Vol. 2: 37. Courtesy of Kentucky Native Plant Society, and the USDA Plants Database.

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RESOURCES AND REVIEWS

AMERICAN AZALEAS, BY L. CLARENCE TOWE

Reading *American Azaleas* is like joining a plant-hunting expedition with the author, a retired teacher known for introducing new forms of these increasingly popular species. Meander with him as he tells tales of his collecting adventures in the Appalachians and offers tips for growing – and propagating – native azaleas yourself.

Towe points out natives in the wild and in a few gardens by way of a generous selection of photos, many apparently taken by the author himself. He juxtaposes photos of natural variants of the same species and of crosses that emphasize the range of possibilities.

While Towe does address the basics of gardening with native azaleas, this is not a book aimed at people with no knowledge of native plants or at least of azaleas, native or non-native. He gives a cursory review to azalea pests and diseases but leaves his readers to find solutions on their own (and no discussion of my own biggest pests, rabbits and deer!). He reviews possible companion plants, many of which are familiar to native plant fans (and unfortunately from my point of view, he doesn't discuss which plants he has spotted growing with azaleas in the wild).

The most useful sections of the book for me were the detailed descriptions of the 15 native species and their available cultivars, along with recommendations for landscaping with them. His meticulous planting and growing instructions will help assure success with these shrubs so needy of airy, acid soil (particularly useful information to those of us in clay-bound northern Delaware). For those involved in rescuing plants from

sites about to be developed – and for those, like me, who have a bad habit of moving plants around like furniture – he gives careful directions for transplanting. He even suggests how much to thin trees on a wooded site to accommodate azaleas in the understory. I was dismayed to learn that *liriodendron tulipifera* (tulip poplar) and *fagus grandifolia* (American beech) trees have invasive roots (oh great, and I was trying to foster the *liriodendron* seedlings from a neighbor's trees to augment or eventually replace the choking red maples already in my yard).

Towe closes with instructions for propagating azaleas, either from cuttings or seedlings, including through hand pollination. Like some other portions of the book, this section is clear enough for a novice to follow but probably of most interest to azalea or propagating aficionados.

American Azaleas is particularly enjoyable for enthusiasts and well worth consulting by those fairly new to the pleasures of this group.

oooo Sandra Dennison-James, DNPS Member

AMERICAN AZALEAS, BY DONALD J. LEOPOLD

No other single volume on native plants has such comprehensive horticultural coverage. Nearly seven hundred species of native trees, shrubs, vines, ferns, grasses, and wildflowers from the northeastern quarter of the United States and all of eastern Canada are included. Of course, the natural ranges of many of the plants extend beyond this area, and the book is an essential resource for everyone interested in gardening with native plants of all kinds, as well as those who need the information provided here for habitat restoration and enhancement of biodiversity for the sake of conservation. Natural plant communities of eastern North America are described, providing a foundation for the choice of plants for different areas and climates---or a variety of sites in the garden---as well as for restoration of native plant habitats. Illustrated throughout with color photographs, the encyclopedic portion of the book includes practical advice on cultivation and propagation in addition to descriptions, ranges, and information on hardiness. An appendix recommends particular plants for difficult situations and for attracting butterflies, hummingbirds, and other wildlife. Written from the unique perspective of an author who has professional credentials in horticulture, botany, forestry, and ecology as well as hands-on practical experience, this book is the most trustworthy single source for all who wish to cultivate native plants.

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THOUGHTS FROM THE EDGE OF THE GARDEN DNPS NURSERY UPDATE

The nursery is looking good right now. We have hundreds of plants germinating from seed in the greenhouse and we are trying something new this year. We have never done hardwood cuttings, so one of our interns and the nursery manager went and collected some cutting of southern arrowwood (*Viburnum dentatum*), and we're hoping they will root. We will be having a volunteer work day later this month at the nursery where we will be installing a watering/misting system on two beds, and doing some more repotting. We will also be working on a big project to organize all the pots and tree tubes we have. We hope to see you all there! ☘

UPCOMING EVENT

2005 Annual Meeting

DELAWARE NATIVE PLANT SOCIETY'S 7TH ANNUAL MEETING:

HYDROGEOLOGY OF THE DELAWARE COASTAL PLAIN: FLAT IS A RELATIVE TERM

Where: Bombay Hook National Wildlife Refuge, 2591 Whitehall Neck Road, Smyrna, DE. For more information about this wildlife refuge, go to: <http://www.fws.gov/northeast/bombayhook>.

When: Saturday, 07 May 2005, 10 AM to 2 PM (with optional field trips at 2:30).

Schedule:

10:00: Opening remarks, Bill McAvoy, President, Delaware Native Plant Society

10:15-11:00: Lecture & Keynote Speaker: "Hydrogeology of the Delaware Coastal Plain: Flat is a relative term." Presented by Judy Denver, USGS State Representative.

11:15 to Noon: "Beauty, Birds and Butterflies" by Society member Bob Edelen

Noon to 1: Lunch

1 PM to 1:30: Informational meeting of current Society endeavors and events

1:30 to 2:30: The Bombay Hook Garden Keepers and the Native Plant Garden lecture

2:30 p.m. - Optional Auto Tour on your own to experience the natural beauty of Bombay Hook National Wildlife Refuge, or a field trip to the "Woodland Beach Rich Wood." 10 minutes north of the Refuge, a unique coastal plain habitat supporting a diverse flora that is typically found in the piedmont region of DE, many spring wildflowers can be observed here.

For more information and to register: email us at dnps@delawarenativeplants.org, or ezuelke@juno.com.



UPCOMING EVENTS

SATURDAY, 16 APRIL 2005 – FIELD TRIP TO DOVER AREA SITES OF BOTANICAL INTEREST. THIS FIELD TRIP WILL VISIT THREE SITES. 1) THE GARDEN OF DR. JAMES McCLEMENTS, 2) CLAUDE E. PHILLIPS HERBARIUM AT DE STATE UNIVERSITY, AND 3) DE STATE UNIVERSITY'S WOODLAND TRAIL. THIS TRIP OFFERS SOMETHING FOR EVERYONE FROM A BEAUTIFUL AND DIVERSE PRIVATE GARDEN TO ONE OF THE NATION'S GREATEST HERBARIUMS. DIRECTIONS AND ADDITIONAL INFORMATION WILL BE SENT ON REQUEST BY E-MAIL AT QCSJR@COMCAST.NET OR BY PHONE AT 302.653.6449.

SATURDAY, 23 APRIL 2005 – ANNUAL CHRISTIANA RIVER CLEANUP DAY. FROM 8 AM TO NOON. CONTACT THOMAS MORAN AT 302.836.2555 FOR MORE INFORMATION.

SATURDAY, 30 APRIL 2005 – FIELD TRIP TO KNIGHTS ISLAND. DNPS MEMBERS JACK HOLT AND JANET EBERT INVITE MEMBERS TO JOIN THEM AND MEMBERS OF THE PHILADELPHIA BOTANICAL CLUB ON A FIELD TRIP TO KNIGHTS ISLAND, CECIL Co., MD. KNIGHTS ISLAND IS ACTUALLY A NARROW MOSTLY-WOODED PENINSULA ON THE SASSAFRAS RIVER IN EXTREME SOUTHEAST CECIL COUNTY. WE WILL BE SEEING MOSTLY SPRING EPHEMERALS, BUT THERE ARE ALSO STEEP DRY BLUFFS, SANDY SHORES, AND FRESHWATER MARSHES WE WILL BE EXPLORING. PARTICIPATION IS LIMITED AND BY RESERVATION ONLY! IF YOU WISH TO PARTICIPATE PLEASE CONTACT JACK HOLT BY EMAIL AT JACK@MOBILELIFTS.COM.

SATURDAY, 20 MAY 2005 – CREATING NATIVE LANDSCAPES BY DESIGN GARDEN SYMPOSIUM. TO BE HELD FROM 8:30 AM TO 3 PM AT THE CHESAPEAKE COLLEGE TODD PERFORMING ARTS CENTER IN WYE MILLS AND AT ADKINS ARBORETUM, AND HOSTED BY ADKINS ARBORETUM. CALL 410.634.2847, OR ON THE WEB AT WWW.ADKINSARBORETUM.ORG FOR MORE INFORMATION.

SATURDAY, 28 MAY 2005 – SECOND ANNUAL HORSESHOE CRAB AND SHOREBIRD FESTIVAL FROM 10 AM TO 4 PM. THE FESTIVAL WILL BE HELD AT THE MILTON MEMORIAL PARK IN THE TOWN OF MILTON, AND AT PRIME HOOK NATIONAL WILDLIFE REFUGE. ACTIVITIES INCLUDE BOOTHS, FILMS, AND FOOD IN MILTON, AND CANOE TRIPS AND BIRD WALKS IN THE REFUGE. CALL 302.684.8419 FOR MORE INFORMATION.

TUESDAY, 19 JULY 2005 – A GUIDED TOUR OF THE ST. JONES NATIONAL ESTUARINE RESEARCH RESERVE. YOU'VE BEEN THERE MANY TIMES, BUT JUST HOW MUCH DO YOU KNOW ABOUT THE ST. JONES RESERVE? JOIN US TO DISCOVER ALL THE SURPRISES AT THIS WONDERFUL EDUCATIONAL FACILITY. WE'LL BE GIVING YOU THE HISTORY OF THE RESEARCH RESERVE, EXPLAINING HOW ENVIRONMENTALLY RESPONSIBLE THE BUILDINGS ARE, AND GIVING A TOUR OF THE DNPS NURSERY. THIS TOUR WILL BE THE PROGRAM FOR THIS BI-MONTHLY DNPS MEETING. AFTER THE TOUR, WE WILL HAVE A SHORT INFORMATIONAL MEETING ABOUT CURRENT SOCIETY ENDEAVORS.

2-4 JUNE 2005 – NATIVE PLANT CONFERENCE AT MILLERSVILLE UNIVERSITY. CALL 717.872.3030, OR ON THE WEB AT WWW.MILLERSVILLENATIVEPLANTS.ORG FOR MORE INFORMATION.

DNPS BI-MONTHLY MEETINGS FOR 2005 – ARE CURRENTLY SCHEDULED THE 3RD TUESDAY OF EVERY OTHER MONTH. OUR NEXT MEETINGS WILL BE: ANNUAL MEETING ON 7 MAY, 19 JULY, 20 SEPTEMBER, AND 15 NOVEMBER. MEETINGS WILL TAKE PLACE (UNLESS OTHERWISE NOTIFIED) AT 7 PM AT THE ST. JONES RESERVE, 818 KITTS HUMMOCK RD. ABOUT 1 MILE EAST OF THE RT. 9/113/KITTS HUMMOCK ROAD INTERCHANGE JUST AT THE SOUTHERN EDGE OF DOVER AIR FORCE BASE. WE PLAN TO HAVE GUEST SPEAKERS AT EACH MEETING (SPEAKERS AND THEIR TOPICS WILL BE ANNOUNCED AT LATER DATES). CHECK OUR WEBSITE FOR ADDITIONAL DETAILS, OR EMAIL US AT DNPS@DELAWARENATIVEPLANTS.ORG.

Membership Application

DELAWARE NATIVE PLANT SOCIETY

Member Information

Name: _____

Business Name or Organization: _____

Address: _____

City and Zip Code: _____

Telephone (home/work): _____

E-mail address: _____

- ☐ 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 \$ _____

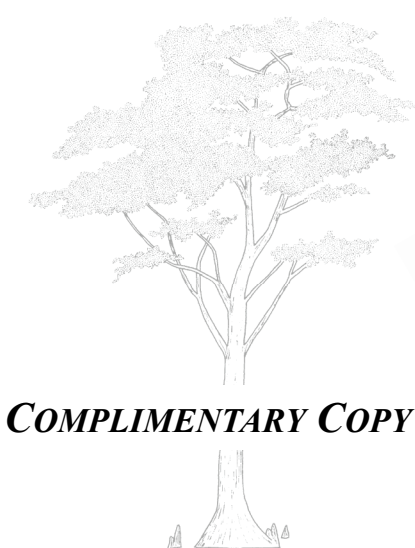
Membership benefits include:

- * The DNPS quarterly newsletter, *The Turk's Cap*
- * Native plant gardening and landscaping information
- * Speakers, field trips, native plant nursery and sales

Total Amount Enclosed: \$ _____

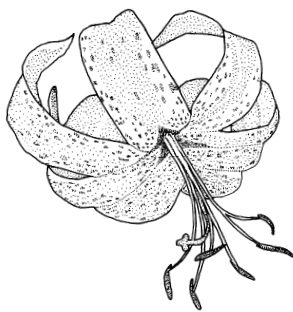
**Make check payable to:
DE Native Plant Society
P.O. Box 369, Dover, DE 19903**

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



COMPLIMENTARY COPY





The Turk's Cap

THE NEWSLETTER OF THE DELAWARE NATIVE PLANT SOCIETY SUMMER 2005

IN THIS ISSUE

- Page 1** ○ A Call for Articles
○ New Members
○ Event Highlight
- Page 2** ○ Letter From the Editor
○ Native Plant Treks
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- Page 5** ○ Gardening With Native Plants cont.
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○ Thoughts from the edge...
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HOW CAN I GET INVOLVED?

The Delaware Native Plant Society is open to everyone ranging from the novice gardener to the professional botanist. One of the primary goals of the society is to involve as many individuals as possible.

The DNPS is working on some significant projects at this time. We are undertaking reforestation projects at Prime Hook National Wildlife Refuge, at Blackbird Creek in New Castle County and Cedar Creek in Sussex County where we have installed tree tubes around newly sprouted seedlings. Help is also needed at our native plant nursery at the St. Jones Reserve with the monitoring and watering of plants along with many other nursery activities.

For more information, E-mail us at dnps@delawarenativeplants.org. Or visit our website at www.delawarenativeplants.org. Our website will have all of the past issues of *The Turk's Cap* along with a large section on native plants, as well as links to other environmental and plant related organizations.

A CALL FOR ARTICLES

If you would like to write an article for The Turk's Cap, we would love to print it. With like minded individuals as an audience, The Turk's Cap is a great venue for plant or habitat oriented writings.

We'll take just about anything from gardening tips to book reviews. Of course, it has to be about native plants, or issues related to native plants; just a minor constraint. Your imagination is the real key.

Contact Eric Zuelke (ezuelke@juno.com), or Bill McAvoy at 302.376.5416 for more information.

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A COOL GRASS ON YOUR TOES WELCOME TO OUR NEWEST MEMBERS

April through June

Rose Ann Battista
Katharine Boyd

Alton Dahl & Beverly Barnett (*this pair have been members of the Society for years already, but they just recently became life members and we wanted to acknowledge their support. Thank you!*)

○ ○ ○ ○ ○ ○ ○

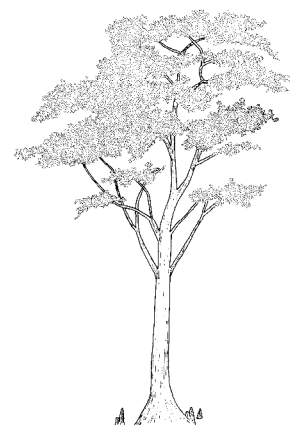
EVENT HIGHLIGHT KNIGHTS ISLAND

On 30 April 2005 we had a great field trip to Knights Island in Cecil County, MD. Knights Island is actually a narrow peninsula on the Sassafras River in extreme southeast Cecil County, MD. It is mostly forested, but also has steep dry bluffs, sandy shores and freshwater marshes. The area is a preserve that is owned and managed by the North American Land Trust who holds an easement on the property. At approximately 300 acres, it has plenty of room to roam around on and botanize. Thirteen people from the DE Native Plant Society, the Philadelphia Botanical Society, and the

Continued on page 2

The DNPS Vision

The purpose of the Delaware Native Plant Society (DNPS) is to participate in and encourage the preservation, conservation, restoration, and propagation of Delaware's native plants and plant communities. The Society provides information to government officials, business people, educators, and the general public on the protection, management, and restoration of native plant ecosystems. The DNPS encourages the use of native plants in the landscape by homeowners, businesses, and local and state governments through an on-going distribution of information and knowledge by various means that includes periodic publications, symposia, conferences, workshops, field trips, and a growing statewide membership organized by the DNPS.



LETTER FROM THE EDITOR**LOOKING FOR INPUT ON POSSIBLE CHANGES**

I have been editor of our esteemed newsletter now for more than 6 years, and this issue will be my 26th issue I've put together. To be quite honest, it's beginning to get a little difficult to find topics to write about and even more difficult to find the time to write articles. I feel that it's time for a change in the newsletter and I brought this topic up to the group in attendance at the last annual meeting in May, but I'd like to get more opinions and input from our whole membership. What I proposed at the annual meeting are the following changes:

- 1) reduce the size of the newsletter to 6 pages
- 2) remove the Letter from the editor, Letter from the president, Native plant highlight, and Native plant treks columns
- 3) have the remaining columns stay the same but expand the Thoughts from the edge of the garden column to touch on all current events of the Society
- 4) do a great number of reprints of previous articles because our membership has changed quite a bit over the years, and new members now will have not seen past articles in this newsletter
- 5) and finally, sending out a broadcast email to the membership asking for article submissions and ideas each time a newsletter is going to be written (4 time a year)

So, with that said, I'm looking for some feedback on these ideas. A newsletter this size and with this type of educational content written four time per year may not seem like a lot of work, but more goes into it than meets the eye, and lots of things in life are pulling my time away from this newsletter. Doing the above ideas would allow me to continue putting this newsletter together, but would make it easier on me at the same time. Of course, none of this is set in stone and these are just ideas. I can keep the newsletter at 8 pages, but things will have to change a little.

I've had quite a few people contribute columns to me over the years, and I appreciate your efforts and you were really the only reason the newsletter has stayed the size it is. I am very thankful for those regular contributors, but maintaining that high level of productivity is tough and requires a lot of work.

I'm sure what I'm proposing here may be controversial to some of our membership, but the hard part of this for me is that I just can't please everyone. I wish I could, but as things change for me (especially with me growing career), I have to shift other things around to accommodate that.

So, please get back to me with your thoughts on this. Write to ezuelke@juno.com with your thoughts and opinions. Thanks. 🌿

Eric Zuelke, Editor

NATIVE PLANT TREKS**WHITE CLAY CREEK STATE PARK**

White Clay Creek State Park (WCCSP) is beautiful, scenic state park in northern Delaware. Located at the border of Delaware and Pennsylvania, it has one main trail that shares its scenery with both states. The park was created in 1968 when the state purchased 24 acres of land. The park has since grown to 3384 scenic acres in the continuing effort to preserve and

protect the natural resources of the White Clay Creek valley. WCCSP is made up of 4 parcels of land that have been purchased over the years. These parcels are the Carpenter Recreation Area, Possum Hill, White Clay Creek Preserve, and Judge Morris Estate. Some of the many activities that are allowed are fishing, hunting, mountain bike riding, a life-course fitness trail, and of course hiking.

This park is primarily composed of forests and meadows, and the flora of the park is quite diverse and is one of its greatest treasures. For the novice botanist all the way to the professional, WCCSP has some very interesting plants to find if you know where to look. Of course, timing is important with herbaceous plants and for those who love the spring ephemerals, the downy yellow violet (*Viola pubescens* var. *pubescens*), and cutleaf toothwort (*Cardamine concatenata*) are frequently found. If you like being near the water, then watch for the pale jewel-weed (*Impatiens pallida*), and eastern waterleaf (*Hydrophyllum virginianum*) in the floodplain areas and banks of the many streams that course they way down the slopes to White Clay Creek. Of the many fern species that make WCCSP their home, one in particular, the interrupted fern (*Osmunda claytoniana*) is really special. And if you happen to be wandering around at the edge of the forests in a field or thicket, be on the look out for the Carolina elephant-foot (*Elephantopus carolinianus*) which is in the aster family and blooms during the summer. Because WCCSP lies in the piedmont section of Delaware, there are many rock outcroppings which can hold many botanical surprises also, such as the rock fern (*Polypodium virginianum*).

WCCSP has so many botanical wonders in store for you, that I could not list them all here. But go hike around for yourself and see what you can find.

Please visit <http://www.destateparks.com/wccsp/index.asp> if you would like more information about 🌿 this park.

Eric Zuelke, Editor

EVENT HIGHLIGHT

Continued from page 1

Muhlenberg Botanical Society took advantage of the chance to explore this recently protected area. We saw many great species of plants. Some highlights were yellow oak (*Quercus muhlenbergii*), dutchman's breeches (*Dicentra cucullaria*), redbud (*Cercis canadensis*), sandbar willow (*Salix exigua*), and several spring ephemeral wildflowers.

LOCAL SITES OF BOTANICAL INTEREST

On Saturday April 16, 2005 we visited the garden of Jim McClements Garden, The Claude E. Phillips Herbarium and the DSU Woodland Trail. After the tour, Dr. Susan Yost made arrangements for us to eat lunches at the DE State University. The garden tour and herbarium were all very interesting and we saw some great plants. All of the sites were reminders that everyone should create their own backyard refuge full of native plants to escape the world whenever you want to!

Continued on page 6

RESOURCES AND REVIEWS

NATIVE PLANTS OF THE NORTHEAST: A GUIDE FOR GARDENING AND CONSERVATION, BY DONALD J. LEOPOLD

Editors note: I mistakenly gave the wrong title to the book by this author in the last newsletter, so I'm showing the review again with the correct title.

No other single volume on native plants has such comprehensive horticultural coverage. Nearly seven hundred species of native trees, shrubs, vines, ferns, grasses, and wildflowers from the northeastern quarter of the United States and all of eastern Canada are included. Of course, the natural ranges of many of the plants extend beyond this area, and the book is an essential resource for everyone interested in gardening with native plants of all kinds, as well as those who need the information provided here for habitat restoration and enhancement of biodiversity for the sake of conservation. Natural plant communities of eastern North America are described, providing a foundation for the choice of plants for different areas and climates---or a variety of sites in the garden---as well as for restoration of native plant habitats. Illustrated throughout with color photographs, the encyclopedic portion of the book includes practical advice on cultivation and propagation in addition to descriptions, ranges, and information on hardiness. An appendix recommends particular plants for difficult situations and for attracting butterflies, hummingbirds, and other wildlife. Written from the unique perspective of an author who has professional credentials in horticulture, botany, forestry, and ecology as well as hands-on practical experience, this book is the most trustworthy single source for all who wish to cultivate native plants

NATURAL LANDSCAPING: DESIGNING WITH NATIVE PLANT COMMUNITIES, BY JOHN DIEKELMANN & ROBERT SCHUSTER

John Diekelmann is a licensed architect and a graduate landscape architect. Among his most notable projects are the architectural plans for plans for the Adler Planetarium Extension in Chicago and the landscape master plans for the Wisconsin chapter of the Nature Conservancy. Robert Schuster is a writer and educator who has participated in many projects restoring natural plant communities. He is director of the Simonds Center for Instruction and Research in Nursing at the University of Wisconsin-Madison.

NATIVE PLANTS JOURNAL MAGAZINE

Eclectic forum for dispensing practical information about planting and growing native plants for conservation, restoration, reforestation, landscaping, highway corridors, and so on. The journal publishes papers useful to and understandable by growers and planters of North American native plants. Technical and practical information on the growing and planting of North American native plants. More information on the web at <http://nativeplants.for.uidaho.edu>. 🌿



Pinus serotina
USDA Plants Database

NATURAL QUOTES

"When one tugs at a single thing in nature, he finds it attached to the rest of the world."

John Muir

FEATURE ARTICLE**SNAGS AND LOGS**

Vigorous, living trees provide wildlife with food and shelter, but what about dead or dying trees-or even logs? Just as they did when they were healthy and living, dead and dying trees are critical elements of habitat for many animals. Trees are like any living thing-they have an infancy, youth, maturity, old age, and death. And, as a tree ages and eventually dies, changes in its bark, wood, and other parts create habitat for animals suited to each stage in the life and death of the tree. Dead, standing trees are called snags, and when snags fall to the ground they are then called logs. Biologists are increasingly calling standing dead or dying trees "wildlife trees" in recognition of their enormous value to birds and other creatures.

How Do Snags Help Wildlife?

Animals find shelter in snags. Cavities that have formed in the heart of a tree from disease or from the loss of limbs provides a place to nest for woodpeckers, nuthatches, chickadees, bluebirds, some owls, wrens, tree swallows, and many other birds as well as raccoons and squirrels. Snakes use tree cavities to shed their skin. Inside a tree, the snake is well hidden during this very vulnerable time. Existing cavities can form at any time during the maturity of a tree but woodpeckers can actively excavate a nesting cavity much easier in the soft wood of a dead tree. When they move out of their hole other animals can enlarge the entrance hole and move in. Bats may also roost in tree cavities. Some bat species prefer to roost under the loose bark of a dead tree. The brown creeper, a small forest bird, will nest under loose bark. Ospreys, some hawks, and great horned owls will nest or use nests built on the tops of very tall snags. Cavities and loose bark can also serve a safe place to hibernate or metamorphose in the case of moths or butterflies.

Snags are very attractive to insects that help to decompose the various parts of trees. Birds, reptiles, and mammals eagerly seek these insects. Animals also eat the fungus that grows on dying trees. Besides using snags to find food, some animals use cavities and loose bark to store food. Snags, with their stripped and bare branches, also serve as great lookout perches for hawks, eagles, vultures, and other carnivorous birds that are large enough to find it awkward to perch on leafy branches.

How Do Logs Help Wildlife?

When a snag falls down and becomes a log, a completely new ecosystem is created. Tiny soil organisms, which add to soil nutrients through their metabolism, begin to decompose the log, only to be preyed upon by other organisms and insects, which also eat the bacteria and fungi that add to the decomposition process. These insects in turn provide food for

all kinds of animals. Pileated woodpeckers, for example, can sometimes be found hammering a log apart with a powerful beak that has evolved for this purpose. Within the log, the woodpecker could find ants, beetles, and termites. What the pileated leaves behind in the gap it has made in the log, other birds can now easily reach the inner sanctum of the tree. Holes in logs can become traps for rain water which can become a place to drink or bathe. The rotting wood itself is wet because of chemical changes. This wetness in turn attracts salamanders and tree frogs. Logs can even become nurseries for the seeds of other trees, providing all the moisture and nutrients to nurture a seed into a healthy, new tree. Ferns and other forest plants also grow on rotting logs. Logs that have fallen in rivers and ponds provide resting areas for birds and turtles and safe havens for fish.

Snags and Logs in Your Backyard

If you are lucky enough to have a small woodlot, locate the snags or dying trees that are there, as well as the logs and other fallen woody debris. Diseased or dying trees or trees with hollow insides may have bracket fungi clinging to the bark. Noticeable populations of beetles can also indicate a dying tree. Trees that are dying begin to lose their leaves, then the small branches that support the leaves, then the larger branches and so on until there is only a single trunk left. This will then eventually fall to the ground. Trees may fall before this point because of lightning, storm breakage, fire, disease, insects, or a variety of other factors and begin the cycle of a log earlier in the decaying process.

In fact, you can never have too many snags or logs to suit your wildlife neighbors. However, you will need to decide which to keep and which to remove based on their height and their distance from your home. If a snag is likely to fall and hit your home, your neighbors' homes, or any other personal property of value, remove it. But save all snags that are not potentially dangerous. Try to also save as much fallen woody debris, including logs, as possible. This serves as important habitat for ground-dwelling birds, mammals, and reptiles. "Cleaning" up the forest floor actually removes a whole layer of habitat, which in turn causes local extinction of all the animals that depend on it. Cleaning up the forest floor should be limited to small dry branches if it is done at all. Try to always keep the larger logs and branches where they have fallen.

If you do not have a forested property, it is possible to bring small logs in as part of your landscape. Logs placed in a backyard are especially useful if they are shaded most of the time and are positioned perpendicular to the line of a slope so that the soil moving down the slope is trapped against the log. The soil that accumulates next to the log will begin to foster soil organisms that will break down the log, and help make it more useful to larger animals.

Snags and logs can be improved for wildlife by encouraging vines to grow on them. Virginia creeper, greenbrier, and trumpet vine can be used as food and shelter for the animals using your snags and logs.

If you have a pond, a log partially submerged will help make the water more accessible to small animals and can serve as a resting area for turtles, frogs, and birds.

It is possible to create a fallen tree or log by cutting a living tree about 3/4 through the trunk and pushing it over. Called a hinge tree, this can provide food and shelter for ground-dwelling animals. It is also possible to create a snag by "girdling" the tree. Girdling involves cutting a band between

one and six inches wide through the bark and completely around the tree. This prevents water and nutrients from moving up the bark from the ground to the leaves and eventually kills the tree.

A standing dead tree can remain in place for many years. Smaller trees come down sooner than large ones, but even they can last for several decades. This should be borne in mind by anyone considering the safety aspects of snags.

Beware of termites that can be brought into your house when you bring decaying logs into your yard. Keep decaying logs far away from your house and exclude them altogether from small yards. Check with your community association or local government about the legalities of having decaying logs in your backyard.

Not everyone views dead trees the same way and if your neighbors complain about your snag, tell them what you are doing and why; you might change their way of looking at standing dead trees. It is only by changing how we view the land around us that we can begin to help restore and nourish both it and its wildlife. 🌿

◊◊◊◊ Eric Zuelke, Editor

GARDENING WITH NATIVE PLANTS

BUTTERFLY WEED (*ASCLEPIAS TUBEROSA*)

NATURAL HISTORY

The long hot muggy days of summer are now upon us and all along the roadways and uncultivated fields of Delaware it's time to look for the bright orange and yellow flowers of *Asclepias tuberosa*, more commonly known as butterfly weed. These beautiful flowered members of the milkweed family are common throughout most of the eastern United States and Canada, and occasionally west to Colorado and Minnesota. The Butterfly weed is the only 'milkless milkweed' and exudes a watery sap, not the sticky, milky juice characteristic of most *Asclepias* species. It is an important nectar plant to numerous bees and a myriad of butterflies including swallowtails, sulphurs, hair-streaks, fritillaries, and skippers that flock in great numbers to the showy 2 to 4 inch clusters of flowers. Perhaps most importantly, the butterfly weed and other members of the milkweed family are a host plant to the Monarch Butterfly. Not only do the Monarchs frequent the flowers for their rich nectar, they also lay their eggs on the underside of the leaves, where once hatched, the emergent caterpillars gorge themselves on the leaves, ingesting a poison that makes them and the resulting butterflies unattractive to potential predators. This strategy is so effective, that several other butterflies mimic the colors of the Monarch to help avoid predators. The butterfly weed is a perennial attaining a height of 1 to 2 feet. Mature plants will boast numerous stalks terminating in flower clusters that open somewhat sequentially, making for a prolonged summer blooming season.

WHERE TO GROW

The butterfly weed grows naturally in a wide variety of soils and light conditions. It will tolerate partial shade and moderately moist soils, but for best results full sun and a light sandy loam are recommended. It has a long fibrous taproot that act as a water storage tank, providing drought resistance and making it well suited for naturalizing in wildflower gardens, un-mowed

fields, bright woodland borders and other undisturbed areas. For planting in the perennial flower garden, plants should be clustered approximately one foot apart providing a blanket of mid-summer color.

PROPAGATION AND CARE

Propagation of butterfly weed is by seed and is quite easy to accomplish. In a natural environment the seedpods split in the fall. Each seed is attached to a number of feathery silk-like hairs that carry the seed long distances on the wind. When collecting seeds, wait until the pod is ripe and just beginning to open. Pry open the pod until you can grasp the feathery silk-like hairs, then gently remove a cluster of seeds and hairs from the pod and scrape the seeds into an porous envelope for storage. Store the seeds in cool dry place over the winter until ready to plant. In early spring, plant the seeds ¼ inch deep in a mixture of equal parts of sand, sphagnum peat moss, and well-rotted compost – keep evenly moist but not soggy. After the young seedlings emerge and develop 2 sets of true leaves, transplant into individual pots and grow them until fall before setting out into the garden. Your plants should flower in their second year and be fully mature after 4 years. Once the plant is fully mature, you may prolong blooming by cutting off the inflorescence to keep seed pods from forming. This will prompt a second blooming and provide you with flowers for up to two months of summer beauty. Never try to dig up a plant that is living in the wild. Its long taproot is easily broken making transplanting seldom successful. And remember, when you see those pesky caterpillars munching away on the leaves of your prized butterfly weed, let them be – they will reward you with glorious butterflies and the plant will die back in the fall no worse for the wear!

LORE

The butterfly weed should be enjoyed for it's beauty and for it's significant contribution to butterflies, bees and other insects that thrive on its nectar and foliage. To humans and other mammals the butterfly weed contains toxic cardiac glycosides rendering it poisonous, and it should never be ingested. In the past, native americans and pioneers used butterfly weed by creating a paste from the roots to spread on sores. Both settlers and native americans brewed a tea from the roots to induce perspiration and expectoration in severe respiratory ailments including pleurisy, whooping cough and pneumonia, hence another common name, pleurisy root. 🌿

◊◊◊◊ Bob Edelen, DNPS Member



Asclepias tuberosa
USDA Plants Database

NATIVE PLANT HIGHLIGHT **FERNS OF DELAWARE**

There are 65 species and varieties of ferns known to occur in the state of Delaware. Many species are quite common and occur in all three counties of the state in both the Piedmont and Coastal Plain physiographic provinces. Some species are very rare and are known from only a single, or a few localities in the state. Furthermore, one species is historical (not seen or collected for 15 or more years) in Delaware, and 6 species are thought to be extirpated (known no longer exists) in the state.

Ferns are found growing in a variety of different habitat types, from upland forests, to marshes and swamps, on rocks, and attached to trees, but ferns are primarily forest dwellers preferring the shady moist soils of the forest floor. Ferns are non-flowering plants and reproduce by spores and have a very different life cycle compared to the flowering plants that reproduce by seed.

The following are some of the more common species of ferns and fern allies that are found in Delaware. 🌿

<i>Asplenium platyneuron</i>	ebony spleenwort
<i>Athyrium filix-femina</i>	lady fern
<i>Botrychium dissectum</i>	dissected grapefern
<i>Botrychium virginianum</i>	rattlesnake fern
<i>Dennstaedtia punctilobula</i>	hay-scented fern
<i>Deparia acrostichoides</i>	silvery spleenwort
<i>Diplazium digitatum</i>	Southern running pine
<i>Dryopteris carthusiana</i>	spinulose woodfern
<i>Dryopteris cristata</i>	crested woodfern
<i>Dryopteris intermedia</i>	evergreen woodfern
<i>Dryopteris marginalis</i>	marginal woodfern
<i>Equisetum arvense</i>	common horsetail
<i>Huperzia lucidula</i>	shining clubmoss
<i>Isoetes engelmannii</i>	Engelmann's quillwort
<i>Lycopodium obscurum</i>	flat-branched clubmoss
<i>Onoclea sensibilis</i>	sensitive fern
<i>Osmunda cinnamomea</i>	cinnamon fern
<i>Osmunda regalis</i>	royal fern
<i>Phegopteris hexagonoptera</i>	broad beechfern
<i>Polystichum acrostichoides</i>	Christmas fern
<i>Pteridium aquilinum</i>	bracken fern
<i>Thelypteris noveboracensis</i>	New York fern
<i>Thelypteris palustris</i>	marsh fern
<i>Woodwardia areolata</i>	netted-chain fern
<i>Woodwardia virginica</i>	Virginia-chain fern

◊◊◊◊ William McAvoy, President



Osmunda cinnamomea
USDA Plants Database

EVENT HIGHLIGHT*Continued from page 2***ANNUAL MEETING**

Our seventh annual meeting was held on 7 May 2005 and was a great time. It was held at the Bombay Hook National Wildlife Refuge. Our keynote presenter was Judy Denver from the USGS and talked about the hydrogeology of the Delaware Coastal Plain. It was a very interesting lecture and we learned quite a bit about the how the geology of the coastal plain affects runoff and the destiny of pollutants. Next, we had a great slide show presentation from Society member Bob Edelen on native plants and their wildlife values to birds and butterflies. Lunch was catered by a friend of member Quentin Schlieder and was sandwiches, chips, and fruit. After lunch we had a presentation by the Bombay Hook Garden Keepers and a tour of the native plant garden near the refuge office. Finally, we had two optional tours. One was an auto tour of the refuge and the other was a field trip to the "Woodland Beach Rich Wood," 10 minutes north of the Refuge. The auto tour is a self guided tour by car through the refuge on it's gravel road system. It passes by most of the aquatic habitats of the refuge and offers great opportunities for birdwatching. The Woodland Beach Rich Woods is a unique coastal plain habitat supporting a diverse flora, including many spring wildflowers that are typically found in the piedmont region of DE. Some of the highlights were golden ragwort (*Senecio aureus*), Canada lily (*Lilium canadense*), waxleaf meadow-rue (*Thalictrum revolutum*), pennywort (*Obolaria virginica*), downy yellow violet (*Viola pubescens*), and broad beech fern (*Phegopteris hexagonoptera*). Our annual meeting was quite fun and educational and we hope everyone can make it out next year. 🌿

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THOUGHTS FROM THE EDGE OF THE GARDEN**DNPS NURSERY UPDATE**

The nursery is looking fantastic right now and here's a summary of what has gone on in the nursery for the last year.

During the summer and fall of 2004, volunteers and the nursery manager worked on activities that included watering plants, weeding inside the pots, mowing the lawn, transplanting seedlings from what we are calling community pots and flats to individual pots. Additionally, several members undertook related activities on their own properties, such as potting up native plants from their properties, or transplanting plants grown from seed in community flats to larger individual pots. All these plants were donated to the native plant nursery.

One technique of weed control that we began using was to put hardwood mulch inside of the pots. We finally realized that we all spent a great deal of time and effort weeding inside the pots, and we began to talk about how to minimize this problem. We purchased some bags of shredded hardwood mulch and came up with a protocol that included making sure the mulch was pulled away from the base of the plant, only putting mulch in pots that had plants taller than 4-5 inches, and only depositing approximately 0.5 to 1.0 inches of mulch depending on plant and pot size. We were pleasantly surprised with this technique as we quickly found the amount of weeding had been significantly reduced.

We purchased a large 50 gallon plastic barrel that we intended to use as a rain barrel for water storage. We bought some hardware (a spigot, screws, O-rings, marine quality sealant, and screening to cover the top). The barrel was not designed to be used as rain barrel, so it had to be retrofitted. We first drilled a hole near the lower edge for a spigot, screwed it in place, and sealed it with sealant. Then the top was reworked with large openings for water to be poured into the top of the barrel through a fine mesh screen to filter out particulates (the rain water is initially collected in large pots then poured out of those into the rain barrel). Once completed, the barrel held enough water for the entire inventory to be watered for two weeks.

Even though we had this rain barrel, it was still not enough to meet our watering demands and we still needed to pull our long length of garden hose up to the main building, so to make life easier for all of us we purchased a hose wagon (Ames Estate Hose Wagon) from the online vendor gardenandpool.com. The wagon is green, has large pneumatic wheels, rolls very easily with a large handle for gripping, and holds 400 feet of hose. We can now wheel the hose to the edge of the nursery fence and roll out the entire length and roll it back up again much more easily. The wagon also solved the unsightly problem of having loops of hose lying on the ground.

A tremendous amount of work was dedicated to preparing for the annual sale. The hard work that members performed resulted in a very successful sale that was highlighted in the winter 2004 newsletter.

During the first half of 2005 we streamlined and modernized activities in the nursery, by purchasing a used laptop computer to use in the nursery for inventory and label printing. We are also very happy with the labels we use from Gardenware.com. They handle extreme weather conditions quite well and by the printing of this newsletter, the labels printed in September 2004 were still in great shape.

In the spring we installed ¼" x 36" hardware cloth around the perimeter fence of the nursery to keep rabbits and mice out of the plants. We also uncovered the plants from the frost blankets that we used after the sale in November. We were pleasantly surprised by how well the frost blankets worked. Many of the pots were still moist and many of the plants were still green and appeared to be in good shape.

We continued the process of making watering in the nursery easier. The plan was to have an irrigation/misting system in each bed that we could hook the garden hose off the hose wagon up to and let it water for 20 minutes or so while we multi-tasked on other projects. Each bed has a different system; some have sprinklers hooked up to regular garden hose, some are a mix of poly vinyl rubber tubing with sprinkler heads, microsprinklers, jet sprayers, and 360° spinners, and one bed has an oscillating lawn sprinkler. Though each bed has a different system, they all have a uniquely designed attachment system which consists of a stake in the ground with various components to make it snap connect to the primary length of garden hose that is moved from bed to bed. These systems have worked great so far.

We have also gotten rid of some lawn by creating mulched walkways between the beds and have worked hard to rid the edges of the bed of grass and weeds by using natural, organic herbicides whenever possible. 🌿

UPCOMING EVENTS

SATURDAY, 20 AUGUST 2005 – 14TH ANNUAL NATIVE PLANT SEMINAR AT THE IRVINE NATURE CENTER. WILL FEATURES SPEAKERS, 3 WORKSHOPS, AND A NATIVE PLANT SALE. CONTACT IRVINE NATURE CENTER AT 410.484.2413, OR ON THE WEB AT WWW.EXPLORENATURE.ORG FOR MORE INFORMATION AND REGISTRATION.

SATURDAY, 10 SEPTEMBER 2005 – THE ANNUAL FALL NATIVE PLANT SALE AT ADKINS ARBORETUM FROM 9 AM TO 1 PM. ADKINS ARBORETUM HOLDS TWO MAJOR PLANT SALES EACH YEAR, THE SECOND SATURDAY IN MAY AND THE SECOND SATURDAY IN SEPTEMBER. THE SALES FEATURE A WIDE RANGE OF TREES, SHRUBS, GRASSES, AND PERENNIAL HERBACEOUS PLANTS, MOSTLY NATIVE TO THE CHESAPEAKE BAY WATERSHED. FOR MORE INFORMATION CONTACT THE ARBORETUM AT 410-634-2847 OR ON THE WEB AT WWW.ADKINSARBORETUM.ORG.

SEPTEMBER 2005 – BOWMANS HILL WILDFLOWER PRESERVE FALL PLANT SALE. SAT. SEPT. 10 & SUN. SEPT. 11 THROUGH SAT. SEPT. 17 & SUN. SEPT. 18 10 AM - 4 PM EACH DAY. MORE THAN 200 SPECIES OF HIGH-QUALITY NATIVE WILDFLOWERS, TREES, SHRUBS, VINES AND FERNS NATIVE TO PENNSYLVANIA AND THE SURROUNDING REGION ARE OFFERED FOR SALE. FOR MORE INFORMATION CALL 215.862.0685, OR ON THE WEB AT [HTTP://WWW.BHWP.ORG/SEED_CATALOG/PLANTSALE.HTM](http://WWW.BHWP.ORG/SEED_CATALOG/PLANTSALE.HTM).

SATURDAY, 17 SEPTEMBER 2005 – 10TH ANNUAL TREE SPREE FAIR AND PIKE CREEK COMMUNITY DAY. THE NEW CASTLE COUNTY GOVERNMENT AND DCH INVITE THE WHOLE FAMILY TO CELEBRATE THE BENEFITS OF TREES AT THE 10TH ANNUAL TREE SPREE FAIR, HELD AT CAROUSEL PARK ON LIMESTONE ROAD IN NORTHERN NEW CASTLE COUNTY. THE FAIR WILL FEATURE HANDS-ON TREE PLANTINGS, FREE NATIVE TREE SEEDLINGS, NATURE HIKES, LIVE DEMONSTRATIONS AND EXHIBITS, CHILDREN'S ACTIVITIES, HAYRIDES, AND A CEREMONIAL TREE PLANTING ATTENDED BY GOVERNOR RUTH ANN MINNER. CELEBRATION WILL BE HELD RAIN OR SHINE. FOR MORE INFORMATION, CONTACT VIKRAM KRISHNAMURTHY, TREE PROGRAM MANAGER, AT 302.658.6262 , OR ON THE WEB AT [HTTP://WWW.DEHORT.ORG/EVENTS/TREESPREEFAIR/INDEX.HTM](http://WWW.DEHORT.ORG/EVENTS/TREESPREEFAIR/INDEX.HTM)

SEPTEMBER AND OCTOBER 2005 – DELAWARE MUSEUM OF NATURAL HISTORY PRESENTS A FOUR-WEEK LECTURE SERIES. SMALL SCALE ORGANIC GARDENING MADE EASY. FOUR WEDNESDAY MORNINGS THIS FALL, 10 TO 11:30 AM EACH DAY. LEARN HOW TO GROW TWICE AS MUCH IN HALF THE SPACE. SMALL PLOT? NO PROBLEM! ONLY HAVE CONTAINERS? YOU'RE ALL SET! IF YOU'VE ALWAYS WANTED GREEN FINGERS, THIS RELAXED, INFORMAL LECTURE SERIES SHOWS YOU HOW TO GET THEM! IN FOUR, HALF-DAY SESSIONS YOU'LL DISCOVER SECRETS TO MAKE YOUR SMALL PLOT THE ENVY OF ALL YOUR NEIGHBORS, AND YOU'LL ENJOY EXPERT GUIDANCE FROM THE REGIONS LEADING GARDENERS. CALL 302.658.9111, OR ON THE WEB AT [HTTP://WWW.DELMNH.ORG/?PAGE=256](http://WWW.DELMNH.ORG/?PAGE=256) FOR MORE INFORMATION.

SATURDAY, 1 OCTOBER 2005 – MARYLAND NATIVE PLANT SOCIETY 2005 ANNUAL CONFERENCE IN BALTIMORE COUNTY AT THE OREGON RIDGE NATURE CENTER, COCKEYSVILLE, MARYLAND. FOR MORE INFORMATION OR TO VOLUNTEER, CONTACT ANN LUNDY, APLUNDY@ATTGLOBAL.NET OR 410.366.9365, OR ON THE WEB AT [HTTP://WWW.MDFLORA.ORG/EVENTS/FALL2005CONFERENCE.HTML](http://WWW.MDFLORA.ORG/EVENTS/FALL2005CONFERENCE.HTML).

DNPS BI-MONTHLY MEETINGS FOR 2005 – ARE CURRENTLY SCHEDULED THE 3RD TUESDAY OF EVERY OTHER MONTH. OUR NEXT MEETINGS WILL BE: 20 SEPTEMBER, AND 15 NOVEMBER. MEETINGS WILL TAKE PLACE (UNLESS OTHERWISE NOTIFIED) AT 7 PM AT THE ST. JONES RESERVE, 818 KITTS HUMMOCK RD. ABOUT 1 MILE EAST OF THE RT. 9/113/KITTS HUMMOCK ROAD INTERCHANGE JUST AT THE SOUTHERN EDGE OF DOVER AIR FORCE BASE. WE PLAN TO HAVE GUEST SPEAKERS AT EACH MEETING (SPEAKERS AND THEIR TOPICS WILL BE ANNOUNCED AT LATER DATES). CHECK OUR WEBSITE FOR ADDITIONAL DETAILS, OR EMAIL US AT DNPS@DELAWARENATIVEPLANTS.ORG.

Membership Application

DELAWARE NATIVE PLANT SOCIETY

Member Information

Name: _____

Business Name or Organization: _____

Address: _____

City and Zip Code: _____

Telephone (home/work): _____

E-mail address: _____

- ☐ 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 \$ _____

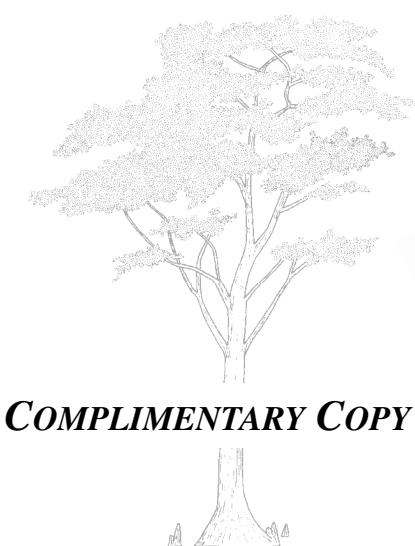
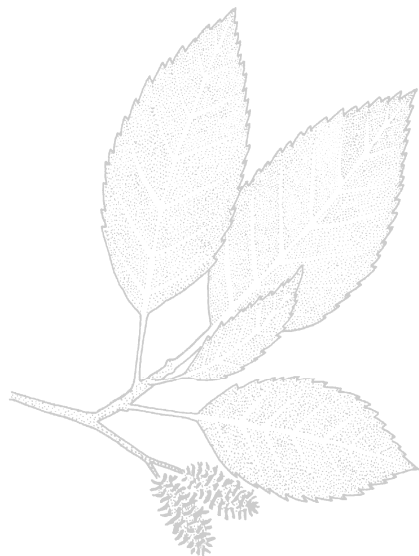
Membership benefits include:

- * The DNPS quarterly newsletter, The Turk's Cap
- * Native plant gardening and landscaping information
- * Speakers, field trips, native plant nursery and sales

Total Amount Enclosed: \$ _____

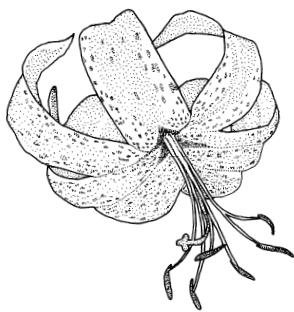
**Make check payable to:
DE Native Plant Society
P.O. Box 369, Dover, DE 19903**

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



COMPLIMENTARY COPY





THE TURK'S CAP

THE NEWSLETTER OF THE DELAWARE NATIVE PLANT SOCIETY AUTUMN 2005

IN THIS ISSUE

- Page 1** ■ *Natural Quotes*
■ *New Members*
■ *DNPS Vision*
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■ *Resources and reviews*
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HOW CAN I GET INVOLVED?

The Delaware Native Plant Society is open to everyone ranging from the novice gardener to the professional botanist. One of the primary goals of the society is to involve as many individuals as possible.

The DNPS is working on some significant projects at this time. We are undertaking reforestation projects at Prime Hook National Wildlife Refuge, at Blackbird Creek in New Castle County and Cedar Creek in Sussex County where we have installed tree tubes around newly sprouted seedlings. Help is also needed at our native plant nursery at the St. Jones Reserve with the monitoring and watering of plants along with many other nursery activities.

For more information, E-mail us at dnps@delawarenativeplants.org. Or visit our website at www.delawarenativeplants.org. Our website will have all of the past issues of *The Turk's Cap* along with a large section on native plants, as well as links to other environmental and plant related organizations.

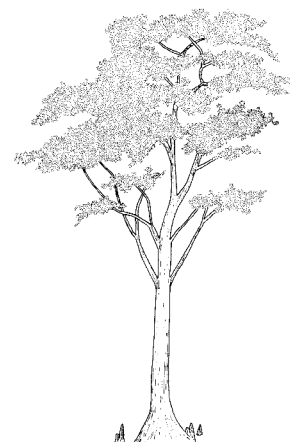
The DNPS Vision

The purpose of the Delaware Native Plant Society (DNPS) is to participate in and encourage the preservation, conservation, restoration, and propagation of Delaware's native plants and plant communities. The Society provides information to government officials, business people, educators, and the general public on the protection, management, and restoration of native plant ecosystems. The DNPS encourages the use of native plants in the landscape by homeowners, businesses, and local and state governments through an on-going distribution of information and knowledge by various means that includes periodic publications, symposia, conferences, workshops, field trips, and a growing statewide membership organized by the DNPS.

A SPICY APPLE PIE WELCOME TO OUR NEWEST MEMBERS

July through September

Lisa Ginder
April & Bruce Hubbard
Herb & Kate Meire
Theresa Plummer
David Vineberg



THOUGHTS FROM THE EDGE OF THE GARDEN ***A NEW LOOK FOR THE TURK'S CAP***

In the last issue of The Turk's Cap, there were some proposed changes to the newsletter. A handful of responses were received and they helped quite a bit in deciding what changes to make. As a result of those comments and some rumination on the topic, this is the result. The newsletter will be kept at 8 pages, with some formatting changed around, removal of some columns, and changed fonts. In upcoming issues there will also be reprinting of past articles.

NURSERY UPDATE

The nursery is looking really good right now. A lot of the plants look very healthy and grew quite a bit this growing season. We did have some die off from the lack of natural rainfall and heat over the past couple of months, but the loss rate was much lower than previous years.

We want to remind all of our members, that if you purchase some plants from the plant sale to remember to protect them with some chicken wire, or other type of wire mesh to keep the deer and rabbits away from your new plants. Many people buy some great native plants at sales, then lose them to the critters. Chicken wire and wire stakes are a great thing for the first two or three years of a saplings life.

Also, I have had numerous people ask about what we use to protect our plants in the winter. These are frost blankets, which are poly woven fabric type materials that insulate the plants from the cold temperatures. If you do a search on the Internet for "frost blankets", you'll find numerous vendors. They are easy to install and will even hold moisture in during those periods of dry, cold winter winds.

PLANT RESCUE UPDATE

The DNPS is actively working on entering into an agreement with state, county, and local authorities to be able to obtain permission to enter plots of land that are going to be developed. This plan would involve language in environmental reviews that would encourage agencies to contact the DNPS prior to bulldozing to give us the opportunity to come out to dig out plants and rescue them. The plants would eventually make their way back to the nursery to add to the inventory for future sales. This is a great way to enhance the nursery inventory because we get plants that might otherwise be difficult to obtain seed from, and we are preserving some of these species from destruction. We are very excited about this plan, and hope it works out. Our president, William McAvoy, is currently drafting a letter to send to the state, county, and local officials with all the details of the proposal. Hopefully we will be able to begin this next year.

REFORESTATION PROJECTS

The DNPS is also actively working on four reforestation sites. Three sites are in Sussex county and one is in New Castle County. The sites were all visited this summer and all of them are doing just fine. We removed tree tubes from the first site we did at Prime Hook Wildlife Area to give the plants some more room to grow. We also planted 20 additional seedlings into the Blackbird Creek site. During the summer of 2006, we'll be doing some non-native and invasive species removal as part of the ongoing management of the sites. Stay tuned for workday announcement about that next year.

Resources & Reviews

Wild Flowers of North Carolina

The Second Edition of this very popular book was published in May 2005 and is authored by William S. Justice, C. Ritchie Bell, and Anne H. Lindsey. It contains 376 pages, 553 color photos, 6 tables, 1 chart, bibliography and appendix. A generation has passed since the original edition of the book and this second edition includes 100 additional species, as well as expanded information on each species. It is a guide to propagation, an aid in plant identification, a bounty of knowledge about conservation, and a beautiful collection of photos. More information at www.uncpress.unc.edu/books.

Resources & Reviews

Botany in a Day: The Patterns Method of Plant Identification

Authored by Thomas J. Elpel. Instead of trying to identify plants one-at-a-time, *Botany in a Day* gives you a way to learn them by the hundreds, based on the principle that related plants have similar patterns for identification, and they often have similar uses. The one-day tutorial included in the text teaches you seven key patterns to recognize more than 45,000 species of plants worldwide. Most plant books cover only one or two hundred species. *Botany in a Day* includes more than 100 plant families and over 700 genera--applicable to many thousands of species. By the end of the day you will have a functional knowledge of botany.

FEATURE ARTICLE

UNUSUAL USES OF PLANTS

The most common use of plants is that of ornamental use in backyard gardens, in native, natural looking plantings, or for medical or cooking use. But many plants have numerous unusual uses that can be quite astounding and interesting.

The use of plants in the medical treatment of disease is very common, but some of these medical treatments are quite unusual, such as the use of *Adiantum capillus* (maidenhair fern) as a treatment for hard tumors in the spleen, liver and other viscera, *Anacardium occidentale* (cashewnut) as a prevention for scurvy, *Asclepias curassavica* (Curassavian swallow-wort) to expell or destroy parasitic worms of the intestines, *Chenopodium ambrosioides* (Mexican tea) to treat amoebic dysentery, *Citrus aurantifolia* (lime) root bark to reduce fever, and *Jatropha gossypifolia* (bellyache bush) roots to treat leprosy, and as the common name implies, bellyaches.

Most candles are made from bees wax, but there are numerous species of plants that yield a wax or an oil that can be formed directly into candles, some yield an oil that can be burnt, and others can be used as wicks. Wax-bearing plants, such as bayberry and wax myrtle (*Myrica* spp.) have a quantity of wax deposited upon their fruits, leaves and catkins. The wax is obtained by boiling the plant (usually only the fruit, which tends to have the greatest quantity of wax), allowing the liquid to cool and then removing the wax as it solidifies. The wax can then be re-heated and formed into candles. Some plants in the cashew family (such as *Rhus* spp.) have an oil that solidifies. The oil, extracted from the fruits and seeds, assumes the consistency of tallow if allowed to stand, so it can be formed into candles. Many plants produce seeds that are rich in oil, and this oil

can be extracted under pressure and burnt. Some examples of these plants are *Brassica napus* (rape), *Cannabis sativa* (hemp), *Carthamnus tinctoria* (safflower), and *Helianthus annuus* (sunflower). There are two species of plants, *Eriophorum angustifolium* (cotton grass), and *Verbascum thapsus* (Aaron's rod) have tissue that can be made into wicks for candles.

People have been using plant fibers for thousands of years in order to make clothing, rope, paper etc. While all land plants contain fibers, they are usually too short or too weak to be used for anything other than paper-making, but there are well over 100 species suitable for growing in temperate climates that produce long and relatively strong fibers. These fibers vary greatly in their physical properties and can supply cloths ranging from fine and silky to coarse sackcloth, or ropes strong enough to berth large ships. Some examples of plants that are used to make fibers are *Urtica dioica* (stinging nettle) used for cloth, *Spartium junceum* (Spanish broom) used for coarse fabrics, cordage paper, and basketry, and *Apocynum cannabinum* (Indian hemp) used for sails, twine and garden nets.

Commercially produced soaps are made by mixing an alkali (wood ashes or the ashes of other plants can be used) with an oil (usually palm oil) and then often adding substances such as herbal extracts or essential oils to give it a scent. Many plants contain substances called saponins which are toxic glycosides and can be found, usually in low concentrations in many different parts of a plant. Fortunately, the saponins are poorly absorbed by the human body and are harmless. One of their unique properties is to form a lather in water that is a gentle but effective cleaner. A number of plants such as *Saponaria officinalis* (soapwort), *Pteridium aquilinum* (bracken), *Aesculus hippocastanum* (horse chestnut), and *Chlorogalum pomeridianum* (soap lily) contain

quite high concentrations of saponins and have been used as an alternative soap.

Ethnobotany is a discipline that examines the cultural uses of plants. Ethnobotanists have discovered a vast array of unusual uses of plants by many cultures. Some of the more interesting ones are the use of the Bodhi tree as a place of enlightenment, the use of various plants by Atharveda and Rgveda healers in conjunction with mantras to enter a trance-like state to battle disease-causing demons, the use of dried leaves of *Azadirachta indica* (nim or neem tree) to preserve books and clothes, and the use of neem tree twigs as toothbrushes.

And then of course, there is *Humulus lupulus* (hops) that is used to flavor one of the worlds favorite beverages; beer!

The next time you use a common household product or medicine, think about where it came from because the origin might be surprisingly botanical.

 Eric Zuelke, Editor

GARDENING WITH NATIVE PLANTS

BLACK GUM (NYSSA SYLVATICA)

NATURAL HISTORY

It's early fall and from the forests and forest edges throughout Delaware the sounds of woodpeckers, robins, catbirds, mockingbirds, and many others signal the ripening of the dark black fruits of *Nyssa sylvatica*, or commonly known as black gum. This member of the black gum family (*Nyssaceae*) is found in forests throughout the Eastern United States from southern Ontario and Maine south to Florida and west to Texas. Black gum is certainly one of the most handsome and desirable trees for any landscape! It's rich dark green shiny leaves of summer,

excellent form, moderate height, spectacular fall color, attractive fruits, textured bark, and relatively carefree nature combine to make it the perfect year around tree for even the smallest of yards. The generic name refers to the beautiful Greek water nymph Nyssa, while the specific epithet, *sylvatica*, means of the woods. The common name of tupelo is said to derive from the Creek language, meaning tree of the swamp. However, black gum is very adaptable and can be found growing in most any soil and light condition. Black gum is a relatively slow growing tree typically reaching heights of 30 to 50 feet and has a rounded pyramidal crown making it an excellent shade tree. The flowers of the Black gum are relatively small but are very attractive to bees and other insects for their rich nectar. In the early fall as the fruits ripen, they are quickly taken by birds and small mammals for their fat rich pulp. It is in the early fall that the black gum is perhaps most spectacular. It is among the first of trees to develop its fall color as the deep shiny green leaves of summer give way to a brilliant shiny crimson color. Interestingly, most gardeners do not recognize black gum. The larger oaks, pines, maples, poplars and other trees of the forest, often dwarf it. But given a chance, it will win a spot of prominence in any landscape!

WHERE TO GROW

Although often a native of lowland places, black gum is very adaptable and will grow well in most any soil and light conditions. One of the reasons the black gum looks good in many seasons is its resistance to serious insect and disease problems. The foliage often looks as good in early fall as it did soon after emerging in the spring. The site requirements for black gum are quite simple; it prefers sun to partial shade, moist, well-drained soil but tolerates wet soil and clay very well. Its long taproot makes it particularly resistant to drought. Other than supplying it

Resources & Reviews

The Plant-Book : A Portable Dictionary of the Vascular Plants

Authored by D. J. Mabberley. Internationally accepted as an essential reference text for anyone studying, growing, or writing about plants. Includes over 20,000 entries and provides information on every family and genus of seed-bearing plant. A new edition of one of the most practical and authoritative botanical dictionaries available.

Resources & Reviews

The Book of Swamp and Bog: Trees, Shrubs, and Wildflowers of the Eastern Freshwater Wetlands

Authored by John Eastman. The author's love of nature and years of experience clearly show in this unique field guide. Most books have an encyclopedic and repetitive approach. In contrast, this book looks at the individual plants and how they fit into the entire ecosystem ranging from companion plants, and dependent bird, mammal, and insect species.

with slightly acidic or neutral and moist soils, it is a very undemanding woody plant. Black gum is primarily dioecious (separate male and female trees), but each tree often has some perfect flowers. This means that some trees will bear numerous fruits while others will have only a few or none. To ensure best fruiting we recommend planting at least one male and one female tree in relative close proximity. For larger landscapes a single male and several female trees planted in a grove will provide excellent fruiting and a great display of fall color.

PROPAGATION AND CARE

Black gum is difficult to propagate from stem cuttings; therefore most plants are produced from seed. Seeds should be collected soon after ripening otherwise wildlife will surely beat you to them. As soon as collected, separate the seed from the pulp by maceration and rinse several times in fresh water. Most seeds will float to the surface where they can be skimmed off. Place the seeds in a plastic bag with moist sand and refrigerate for a minimum of 30 days cold stratification. In the spring plant the seeds in community pots in a mixture of sand and peat and place in a warm moist environment to germinate and grow. Once the seedlings have developed 2 pairs of leaves, they may be repotted into individual pots. Keep the seedlings protected, warm and moist until fall, and then bury the pots in the ground in a protected spot and cover with a layer of leaves for over wintering. In the spring, plant the seedlings in their desired space, provide protection from grazing by deer and rabbits, and continue to provide water until well established. Large well established saplings should not be disturbed. Their deep taproot makes transplanting nearly impossible. If purchasing plants, avoid container-grown specimens with large circling roots that develop if plants are left in the containers for too long. Young trees require irrigation until well established but will tolerate average

dry conditions thereafter. Black gum is quite hardy and may be transplanted in fall or spring with good success.

LORE

The black gum is also known as sour gum, which relates to its edible but displeasing tasting fruit, therefore the primary historic value of the tree lies in its wood. The wood of the black gum is very difficult to split, resulting in its use as durable handles for hand tools and was historically used in veneers, plywood, barrel staves, railroad ties and furniture. 

 Bob Edelen, DNPS Member

5th Annual Native Plant Sale

When: Saturday, 5 November 2005, 10:00 AM – 3:00 PM

Where: DE Native Plant Society's native plant nursery.

Directions: The nursery is located at 818 Kitts Hummock Road, at the St. Jones Research Reserve in Dover. Take Route 113 to the Dover Air Force Base. Kitts Hummock Road is directly at the southern border of the air base at the three way intersection of 113, Route 9, and Kitts Hummock Road. Kitts Hummocks Rd. only goes east, and if you go almost one mile you'll see a large sign for the St. Jones Reserve. Turn right onto the gravel road and the nursery is all the way in the back to the left of the parking lot.

What's for sale: Hundreds of trees, shrubs, herbaceous species, ferns, vines and grasses will be available at very reasonable prices.

Here's a sample of what's available (not a complete list):

fringe tree	sweet pepperbush
pawpaw	ink-berry and teaberry
hickories	winterberry holly
American holly	spicebush
tulip tree	butterfly milkweed
many species of oaks	cardinal flower
azaleas	coneflowers
red chokeberry	ferns

Come early, some quantities are limited!

For more information: Call 302.735.8918, email wmcavoy@delawarenativeplants.org, or on the web at www.delawarenativeplants.org.

We had a great sale last year and hope to have an equally great sale this year.

So come out and join the fun!

Upcoming Events

SATURDAY, 15 OCTOBER 2005—AUTUMN AT ABBOTT'S MILL FESTIVAL. EVENTS INCLUDE ENCOUNTER NATURE, DEMONSTRATIONS & EXHIBITS, CHILDREN'S ACTIVITIES, SALES, GUIDED TOURS, GUIDED WALKS, CANOE RIDES, REFRESHMENTS AND FOOD. FOR MORE INFORMATION CALL 302.239.2334, OR ON THE WEB AT [HTTP://WWW.DELAWARENATURESOCIETY.ORG/INDEX.HTML](http://WWW.DELAWARENATURESOCIETY.ORG/INDEX.HTML)

24-27 OCTOBER 2005—EIGHTH ANNUAL WETLAND & WATERSHEDS WORKSHOP AT THE HOLIDAY INN, ATLANTIC CITY, NJ. THIS WORKSHOP, HOSTED BY THE WETLANDS WORK GROUP, FOCUSES ON WETLANDS SCIENCE AND POLICY. THERE WILL BE NUMEROUS PRESENTERS IN SESSIONS, POSTER PRESENTATIONS, AND A FIELD TRIP ALONG WITH ALL THE MEALS AND SOCIAL HOURS. REGISTRATION IS REQUIRED AND INFORMATION CAN BE OBTAINED BY CALLING FRANK REILLY AT 540.286.0072. ALSO ON THE WEB AT [HTTP://WWW.WETLANDSWORKGROUP.ORG/WETLANDS_WORKSHOPS.HTM](http://WWW.WETLANDSWORKGROUP.ORG/WETLANDS_WORKSHOPS.HTM)

SATURDAY, 5 NOVEMBER 2005—BEACH TO BAY TOUR AT ASSATEAGUE ISLAND NATIONAL SEASHORE AT 1:45 PM. A NATURALIST FROM THE NATIONAL PARK SERVICE WILL LEAD A SPECIAL 2-HOUR INTERPRETIVE PROGRAM CALLED "BEACH TO BAY". A HIKE THROUGH DIVERSE BARRIER ISLAND HABITATS WILL HIGHLIGHT VARIOUS LIVING ORGANISMS AND THEIR INTERACTIONS, WITH AN EMPHASIS ON PLANTS. FOR MORE INFORMATION CONTACT: HUNTERL@DMB.COM (PREFERRED) OR CALL 410.463.2890, OR ON THE WEB AT [HTTP://WWW.MDFLORA.ORG/](http://WWW.MDFLORA.ORG/)

SATURDAY, 12 NOVEMBER 2005—KNOWING NATIVE PLANTS: WINTER BOTANY WORKSHOP. ALTHOUGH PLANTS LOOK DORMANT NOW, THERE IS STILL A LOT HAPPENING UNDER THE SURFACE. SEE WHAT'S GOING ON WITH SEED STRUCTURE AND DISPERSAL. DISCOVER THE FASCINATING WAYS PLANTS PREPARE FOR, AND SURVIVE, WINTER. ALSO LEARN HOW TO RECOGNIZE WOODY PLANTS AFTER THEY SHED THEIR LEAVES. SLIDES/DISCUSSION FOLLOWED BY AN OUTDOOR TOUR. PRE-REGISTRATION SUGGESTED; CALL 215.862.2924 FOR MORE INFORMATION, OR ON THE WEB AT [HTTP://WWW.BHWP.ORG/CALENDAR.HTM](http://WWW.BHWP.ORG/CALENDAR.HTM).

SATURDAY, 12 NOVEMBER 2004 – FALL FAMILY FESTIVAL AT ADKINS ARBORETUM. ACTIVITIES INCLUDE HAYRIDES, WALKS THROUGH THE ARBORETUM WOODS, MUSIC, AND AN ARRAY OF LUNCHTIME TREATS. PARTICIPANTS CAN ALSO PLACE ORDERS FOR HOLIDAY WREATHS MADE FROM FRESHLY CUT LOCAL GREENS THAT WILL BE DELIVERED AT THE ARBORETUM'S HOLIDAY GREENS SALE. CALL 410.634.2847 FOR MORE INFORMATION, OR TO REGISTER BY PHONE, OR ON THE WEB AT [HTTP://WWW.ADKINSARBORETUM.ORG](http://WWW.ADKINSARBORETUM.ORG).

SATURDAY, 19 NOVEMBER 2005—WILDFLOWER FARM TOURS, ANNE ARUNDEL COUNTY AT 3 PM. SPEND AN HOUR TOURING THE WILDFLOWER FARM AND ASKING QUESTIONS ABOUT INCORPORATING NATIVES INTO YOUR OWN YARD. OVER 100 SPECIES OF FLOWERS, GRASSES, GROUNDCOVERS, AND SHRUBS IN CULTIVATION. COME SEE THE PLANTS THAT ARE FLOWERING THIS MONTH, AND LEARN ABOUT THE BIRDS, BUTTERFLIES AND CATERPILLARS THAT DEPEND ON THEM! DIRECTIONS: WE ARE LOCATED ON AISQUITH FARM ROAD IN DAVIDSONVILLE, MD. ONCE YOU ARE ON AISQUITH FARM ROAD, FOLLOW THE SIGNS FOR CHESAPEAKE NATIVES AND THE LARGE RED ARROWS ABOUT A HALF MILE TO THE FAR SIDE OF THE TOBACCO BARN. A MAP AND DETAILED DIRECTIONS MAY BE OBTAINED AT WWW.CHAPEAKE NATIVES.ORG. FOR MORE INFORMATION CALL 301.580.6237.

DNPS BI-MONTHLY MEETINGS FOR 2005—ARE CURRENTLY SCHEDULED THE 3RD TUESDAY OF EVERY OTHER MONTH. OUR NEXT MEETINGS WILL BE: 15 NOVEMBER. MEETINGS WILL TAKE PLACE (UNLESS OTHERWISE NOTIFIED) AT 7 PM AT THE ST. JONES RESERVE, 818 KITTS HUMMOCK RD. ABOUT 1 MILE EAST OF THE RT. 9/113/ KITTS HUMMOCK ROAD INTERCHANGE JUST AT THE SOUTHERN EDGE OF DOVER AIR FORCE BASE. WE PLAN TO HAVE GUEST SPEAKERS AT EACH MEETING (SPEAKERS AND THEIR TOPICS WILL BE ANNOUNCED AT LATER DATES). CHECK OUR WEBSITE FOR ADDITIONAL DETAILS, OR EMAIL US AT DNPS@DELAWARENATIVEPLANTS.ORG.

Membership Application

DELAWARE NATIVE PLANT SOCIETY

Member Information

Name:

Business Name or Organization:

Address:

City and Zip Code:

Telephone (home/work):

E-mail address:

- ☐ 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 \$ _____

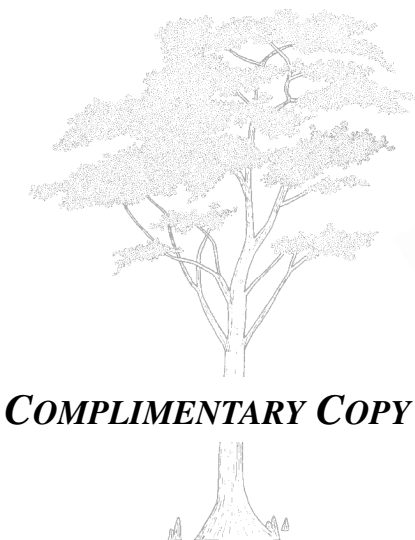
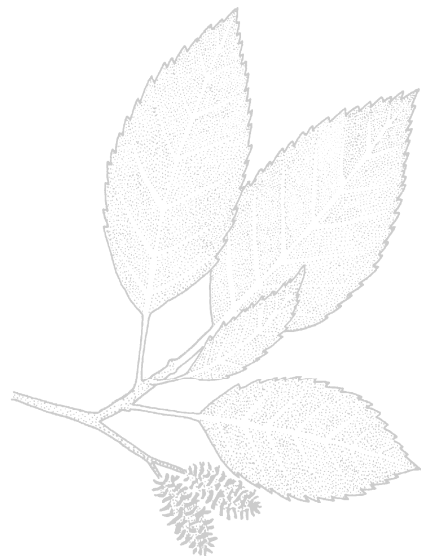
Membership benefits include:

- * The DNPS quarterly newsletter, The Turk's Cap
- * Native plant gardening and landscaping information
- * Speakers, field trips, native plant nursery and sales

Total Amount Enclosed: \$

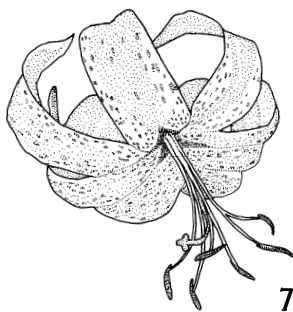
**Make check payable to:
DE Native Plant Society
P.O. Box 369, Dover, DE 19903**

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



COMPLIMENTARY COPY





THE TURK'S CAP

THE NEWSLETTER OF THE DELAWARE NATIVE PLANT SOCIETY WINTER 2005/06

IN THIS ISSUE

- Page 1** ■ *Natural Quotes*
■ *New Members*
■ *DNPS Vision*
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■ *Resources and Reviews*
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■ *Resources and Reviews*
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■ *Event Highlight*
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- Page 6** ■ *Feature Article continued*
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- Page 7** ■ *Upcoming Events*

NATURAL QUOTES

"The wonder is that we can see these trees and not wonder more."

Ralph Waldo Emerson

The DNPS Vision

The purpose of the Delaware Native Plant Society (DNPS) is to participate in and encourage the preservation, conservation, restoration, and propagation of Delaware's native plants and plant communities. The Society provides information to government officials, business people, educators, and the general public on the protection, management, and restoration of native plant ecosystems. The DNPS encourages the use of native plants in the landscape by homeowners, businesses, and local and state governments through an on-going distribution of information and knowledge by various means that includes periodic publications, symposia, conferences, workshops, field trips, and a growing statewide membership organized by the DNPS.

A FROSTY WHITE WELCOME TO OUR NEWEST MEMBERS

October through December

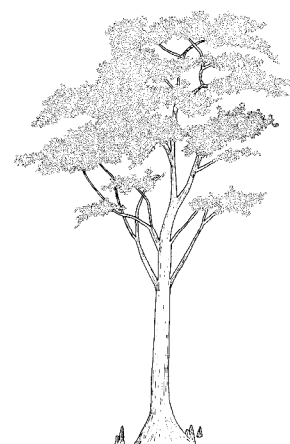
Robert Coxe
Nancy Davis
Mike & Laura Kelly
Richard & Marilyn Okeson
Patricia Roy
Robert, Virginia, & Nathan Sanders
Anne & Guy Veach
Carla Young

HOW CAN I GET INVOLVED?

The Delaware Native Plant Society is open to everyone ranging from the novice gardener to the professional botanist. One of the primary goals of the society is to involve as many individuals as possible.

The DNPS is working on some significant projects at this time. We are undertaking reforestation projects at Prime Hook National Wildlife Refuge, at Blackbird Creek in New Castle County and Cedar Creek in Sussex County where we have installed tree tubes around newly sprouted seedlings. Help is also needed at our native plant nursery at the St. Jones Reserve with the monitoring and watering of plants along with many other nursery activities.

For more information, E-mail us at dnps@delawarenativeplants.org. Or visit our website at www.delawarenativeplants.org. Our website will have all of the past issues of *The Turk's Cap* along with a large section on native plants, as well as links to other environmental and plant related organizations.



THOUGHTS FROM THE EDGE OF THE GARDEN ERRORS AND APOLOGIES

We wanted to apologize for the scheduling mix-up we had for the November bi-monthly meeting. A barrage of emails went around on the day before, and the day of the meeting. The meeting was accidentally scheduled for the wrong day, then some miscommunications happened, then the meeting was rescheduled to another day, and things got confusing quickly! We hope we didn't inconvenience anyone and we will make sure that this doesn't happen again.

At our plant sale in November, there were some plants that were mislabeled:

- red cedar was mislabeled as *Juniperus communis* (the plants were actually *Juniperus virginiana*)
- flattened pipewort were mislabeled as *Salvia lyrata* (the plants were actually *Eriocaulon compressum*), but the lyre-leaf sage were correctly labeled as *Salvia lyrata*

If you happened to have purchased any of these plants, we're sorry for the mistakes, and don't forget to change your labels.

NURSERY UPDATE

The nursery is slumbering peacefully in its winter hibernation right now. All the plants are under the frost blankets, the overwintering seeds are under burlap covers, and the greenhouse is empty (and fortunately still intact despite the recent windy weather). We will be coaxing them all back to life in late March or early April and there will be plenty of volunteer opportunities if anyone is interested, so stay tuned.

LEARNING AND RESEARCH OPPORTUNITIES FOR STUDENTS

Adkins Arboretum offers summer internships in environmental science and horticulture. Interns work with staff on garden maintenance, plant propagation, invasive plant control, research projects, trail maintenance and special events, and they can do their own independent projects. This is a great opportunity to learn about native plant propagation and conservation and to learn about the operation of a small non-profit. Field trips to other local parks and botanic gardens will be offered.

Adkins Arboretum is also offering awards of up to \$2000 for research projects contributing to the understanding, conservation, or restoration of the coastal plain's native flora, including connections with wildlife. Priority will be given to research within the Delmarva Peninsula, but research in botany, ecology, forestry, horticulture, landscape architecture, geology or geography will be considered. Advanced undergraduate, graduate and postdoctoral applicants will be considered.

Applications for internships and stipends are due in March. For more information and application instructions, please visit www.adkinsarboretum.org under Resources and Research or contact Sylvan Kaufman, skaufman@adkinsarboretum.org, 410.643.2847 ext 24.

NATIVE PLANT BOOKLET

We are in the process of creating a second edition of our booklet: "Delaware Native Plants for Landscaping and Restoration." We have added quite a few new species to it, and added a whole new category of plants. We are currently seeking funding to help pay for it. Stay tuned for more details later. 

Resources & Reviews

Noah's Garden: Restoring the Ecology of Our Own Backyards

Authored by Sara Stein. This book deals with the unwitting destruction of the suburban environment caused by traditional landscaping practices. The author uses her own property and gardens as the focus for ecological landscaping and her fight with invasive exotics while trying to reclaim space for native meadows and woodlands.

Resources & Reviews

Planting Noah's Garden: Further Adventures in Backyard Ecology

Authored by Sara Stein. In this book, the author travels beyond her own garden to report on the many and diverse ways in which people in all parts of the country are working to undo the damage and help restore their backyard ecosystems. The book is both inspirational and practical. Of particular interest is chapter 4 called "Ellen's Lot" devoted to restoring a typical new suburban lot in New Jersey into the kind of natural landscape that existed before the bulldozers of suburban sprawl erased everything in their path. May be found in the bookstore at the Brandywine River Museum.

FEATURE ARTICLE

THE SOUL OF SOIL

(Editor's note: This is a condensed version of an article, reprinted with permission, from the Sep/Oct 1999 issue of *Countryside Magazine* taken from the 1909 book *Elements of Agriculture* by G. F. Warren).

Most people see soil as "dirt." They almost invariably think of it as a dead thing. But in reality, soil is teeming with life, and is full of activities of the most complex and interesting kinds.

The almost universal idea is that soil consists of small particles of rock that have been made fine by the process of weathering. But no crop could grow on a soil composed entirely of rock particles. An agricultural soil also needs water, air, decaying organic matter, and living organisms in order to be productive. (Organic matter is defined as any material that is, or once was, an organism or living thing, such as wood, straw, manure, etc.).

Rock particles

Rock particles are 65 to 95 percent of the weight in most soils. (One exception is muck soils, where nearly all the solid matter is made up of organic materials. These are some of the most fertile soils on the planet.) Organic matter usually constitutes 2 to 5 percent... Most of the remaining weight is water.

The finest soil particles are called clay, the next smallest silt. The larger particles are different grades of sand and gravel.

How soils are named

The soils that contain a large proportion of the finest particles are called clay. At the other extreme we have sands and gravels. Soils that are intermediate in texture are called loams. Those with a large proportion of silt particles and not too much clay are called silt-loams.

Then these words are joined together to describe intermediate types. There are gravelly loams, sandy loams, fine sandy loams, clay loams, etc.

Soils are also named in many other ways. Glacial soils are those formed as a result of glaciation. Arid soils are those that do not receive enough rain to produce regular crops without irrigation. Humid soils are those that receive sufficient rainfall to produce crops.

The importance of the size of soil particles

The size of the soil particles influences the water-holding power of the soil, the amount of food that can be dissolved for plant use, the ease of movement of water and air, the growth of organisms in the soil, and the crop-producing power.

The rock particles of the soil can hold water on their

surfaces only. Therefore the water-holding power of the soil increases when the surface area of the particles is decreased.

The finest soil particles are extremely small - less than four hundred-thousandths of an inch in diameter... Such fine particles do not always act as individuals in holding water: some of the particles usually stick together.

The water capacity of a soil is the amount of water it will hold when all the free water is allowed to drain out. Some clay soils will retain about 40 percent of water. A cubic foot of clay weighs about 80 pounds and could, therefore, hold about 32 pounds of water... Sandy soils might have a water capacity as low as five percent...

Air

About half the volume of a dry soil is air; that is, a cubic foot of such soil contains about half a cubic foot of air. The small particles of which a clay soil is composed do not pack so closely as do the larger sand particles, because they are lighter. Therefore, there is more pore space in clay than in sand. But the spaces in a sandy soil are larger, so the air moves more freely, making such a soil better aerated.

Temperature

The temperature of a soil is influenced by its color, topography, humus content, and several other factors. But the chief factor is water capacity.

It requires about 20 heat units to raise the temperature of 100 pounds of dry soil 1 degree F. To raise the temperature of the same weight of water 1 degree requires 100 heat units. This is why gardeners often speak of "wet" and "cold" soils in the same breath.

But the effect of water is most striking when it evaporates. To evaporate 100 pounds of water requires 966.6 heat units. This explains why wet soils are always cold soils. Clay soils are cold chiefly because of the large amount of water that evaporates from them.

Few crops begin growth until the soil is 45-50 degrees...

Sandy and other well-drained soils are not only easier to till, but the number of days on which they can be worked is much greater. They can be tilled earlier in the spring, and more quickly after rains.

Flocculation

When a silt or clay soil is in good condition, many of the particles are united into compound particles. Such a soil is "flocculated." Good management of such a soil consists very largely in maintaining this granulated condition...

The relative fineness of the soil is called its texture,

Continued on page 6

GARDENING WITH NATIVE PLANTS**AMERICAN HOLLY (*ILEX OPACA*)****NATURAL HISTORY**

It's mid-winter and a stroll through the low-forested woodlands of Delaware will most certainly reveal the bright shiny leaves and red berries of the American Holly. The only North American holly to reach tree size, the American Holly can be found in moist mixed hardwood forests from Massachusetts south to Florida and west to south-central Texas. The ever-green nature and persistent red fruits make the American Holly a valuable resource for wildlife. Its thick lush foliage makes it a favorite place for nesting birds and a refuge for birds and small mammals throughout the harsh winter season. Because of their relatively low fat content the bright red berries are not readily consumed and persist well into the winter months contributing the year round beauty of this popular tree. But as winter takes its toll on more favored fruits, the berries of American Holly become a critical mainstay for numerous small mammals and birds that rely on them. Over 20 species of birds including bluebirds, robins, thrushes, mockingbirds, catbirds, cedar waxwings, sparrows, grouse, dove and woodpeckers feast on American Holly berries throughout the late winter months. Mammals such as raccoons and mice also consume the fruits and white tailed deer often browse on the young tender new growth before the prickly leaves have time to stiffen. In May and June, the numerous tiny flowers of American Holly are a boon to numerous bees, bumblebees, small butterflies and other insects that seek them out for their rich nectar and pollen. The state tree of Delaware, the American Holly makes a beautiful specimen in any landscape, typically reaching heights of 40 to 50 Feet. In deep woods when competing for light, the American holly may occasionally reach heights approaching 100 feet.

WHERE TO GROW

Ilex opaca or American Holly makes an outstanding addition to any landscape. Its popularity is evident in the hundreds of cultivars registered for this spectacular tree. Though the American Holly is primarily a tree of moist woodlands, it will thrive under most soil and light conditions. It can be planted in a forest understory, at the edge of a woodland and along stream banks. It can be regularly trimmed to maintain a lush, impenetrable hedge. For the best fruiting, thickest foliage and most attractive shape and display, grow your American Holly in an open landscape with ample light. Since the fruits are only produced on the female trees, both male and female specimens are required to produce fruit. One male tree is suitable for pollinating up to 3 female trees. One common problem of the American Holly is its tendency for suckering. An adult tree will often produce offshoots that may need to be pruned to achieve the desired affect.

PROPAGATION AND CARE

Propagation of the American Holly can either be accomplished from seed or by taking cuttings. Holly can be produced from semi-hardwood cuttings taken in late summer/early fall. Cuttings should be taken from the current seasons ripened wood and placed in a peat moss, soil and sand mixture. Keep the soil evenly moist and grow in a humid environment. Growing American Hollies from seed can be successfully accomplished, but the seeds need an extended stratification period to break dormancy. Collect berries in late fall and macerate to separate the seeds. Plant the seeds in a mix of peat moss, sand and soil ¼ inch deep and put in a cold frame outside in a shady place. Keep the mixture evenly moist. Seeds will germinate in 2 to 3 years. After seed germinate and develop several leaves, transplant into individual containers and continue growing in the cold frame for one year before setting out in the land

Resources & Reviews***Butterfly Gardening: Creating Summer Magic in Your Garden***

Authored by the Xerces Society Staff. Sierra Club Books. This book gives you comprehensive advice on starting and appreciating a butterfly garden with beautiful photos, and good design advice. The Xerces Society was established in 1971 as a non-profit organization dedicated to the prevention of human-caused extinction of rare invertebrate populations and their habitats. The Society's efforts include the Monarch Project and publication of Wings, a magazine devoted to the natural history and conservation of butterflies and other invertebrates.

Resources & Reviews

Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder

Authored by Richard Louv. Today's kids are increasingly disconnected from the natural world, and in this book, Louv talks with parents, children, teachers, scientists, religious leaders, child-development researchers, and environmentalists who recognize the threat and offer solutions. Louv shows us an alternative future, one in which parents help their kids experience the natural world more deeply — and find the joy of family connectedness in the process.

scape. American Hollies form an extensive root system and are very difficult to transplant once established, therefore, your plants should only come from your own plants or nursery grown stock.

LORE

Hardly anyone does not know the value of American Holly for its use in holiday decorations. Delaware and particularly the town of Milton was once a thriving hub for harvesting and shipping holly cuttings throughout the east. Native Americans dried the berries of the American Holly to be used in the manufacture of jewelry and as a valued trade item. The fruits of the American Holly are toxic to humans and were once used to induce vomiting and expel worms. The wood of American Holly is tough and hard but not strong. It is one of the whitest woods known, with white sapwood and ivory-white heartwood. The wood is used for veneer and to a limited extent as pulpwood and lumber. Greatest use of the wood is for specialty items such as fancy cabinet inlays, handles, novelties and carvings. 🍂

Bob Edelen, DNPS Member

EVENT HIGHLIGHT

5TH ANNUAL NATIVE PLANT SALE, SATURDAY, NOVEMBER 5

The plant sale this year was a huge success; our best yet! We had excellent weather and some terrific food. I want to thank all of you who brought the spiced apple cider, doughnuts, and banana bread.

We did \$2344.00 in sales, sold 976 plants (from an inventory of 2000 plants of 77 species), and had 125 customers. That's more money than we've ever made, and more species than we've ever had! Our record inventory would not have been possible without the generous donations of plants and effort from two regional nurseries, and from all our volunteers. Thanks! Your work is greatly appreciated!

Below is a table of data to show how our

plant sales have grown from year to year for those of you who get a kick out of tables, and data analysis, and that kinda stuff. 🍂

# of \ Year	2003	2004	2005
Species available	64	69	77
Plants available	1562	1700	2000
Plants sold	817	1081	976
Customers	120	96	125
Booklets sold	9	1	24
Checklists sold	1	3	0



Photos by DNPS member Bob Edelen

FEATURE ARTICLE*Continued from page 3*

just as the word is used when speaking of the texture of cloth. If the soil is composed of very small particles that are flocculated, it can still be of a coarse texture.

Structure refers to the arrangement of soil particles. If small particles are united, it is possible to have a soil of fine texture and coarse structure.

Soil water

Soil water is very different from rain water. It contains all the plant foods in solution. The solution is very dilute, but plants use a large amount of it.

Water also evaporates within the soil, into the soil air. There is a constant movement of this air in and out of the soil, and this aids in drying a soil. If there is not an abundance of rainfall, it is desirable to stop this movement of water to the surface where it evaporates. Any loose mulch, like straw, on the surface of the soil will accomplish this purpose.

Amount of water

Optimum water content is 50 to 60 percent of the soil's capacity... The most serious result of too much water in the soil is the exclusion of air, which is essential for plant growth and for the activities of soil organisms. It also prevents roots from growing deeply into the soil, makes the soil cold...

One of the first effects of too-wet soil is yellowing of leaves. This is due to the lack of nitrogen. Not only does the fixation of nitrogen cease when air is excluded from the soil, but under these conditions the organisms that break down nitrogen compounds are very active, so that the nitrogen that was fixed previously is being lost.

Organic matter

All productive soils contain decaying roots, leaves and animal life. This partly decayed organic matter is called humus. It is humus that gives soils their dark color.

Humus...increases the water-holding power of soils.... It loosens heavy soil and promotes aeration.... It furnishes food for bacteria. These, acting on the humus, change nitrogen to nitric acid so that it is ready for plant food.

Another extremely important function of humus is that it encourages the growth of bacteria that fix free nitrogen from the soil air, making it available as plant food.

...If a soil is saturated with water, the oxidation practically stops and organic matter accumulates. This is the way that peat and muck are formed...

Life in the soil

As we have seen, soil is not a dead thing. It is much more than a collection of rock particles. It is teeming with life.

Earthworms serve a useful purpose in the soil by helping to break down the organic matter. They also do much good by making the soil porous. A soil that is full of earthworms is nearly always fertile.

The molds help in breaking down the organic matter, particularly the woody matter. But the most important forms of life in the soil are the microscopic organisms, yeasts and bacteria.

Soil bacteria

...bacteria are present in all soils, ranging from less than 28,000,000 per ounce of soil (and far fewer than that in many soils today) to many times that number. In fertile soils like gardens there are many billions per ounce. There is usually a relationship between the number and kinds of soil bacteria and fertility. The different chemical changes produced by soil bacteria are quite numerous...

Materials used as fertilizers

Naturally fertile soils were made that way over thousands, and sometimes tens of thousands of years, by a combination of the basic rock, plant growth and the return to the Earth of the plants, as well as the animals that fed on them, and their waste products, all worked upon by the activity of soil biology.

Barnyard manure and wood ashes are among the oldest fertilizers used by humans to maintain or restore natural fertility. The Indians taught European settlers in America how to grow corn and use fish as fertilizer.

Nitrogen

All nitrogen comes from the air. There is no nitrogen in stone. Nearly four-fifths of the air is nitrogen... No plants except legumes are able to use atmospheric nitrogen. Nitrogen from the air can be "fixed" by bacteria on legumes.

Note that the legumes themselves do not fix nitrogen. This is done by the nitrogen-fixing bacteria that live in the root nodules of the plants. If the right kind of bacteria are not in the soil, a legume cannot produce nitrogen, for itself or for subsequent crops.

Grasses don't have the power to obtain nitrogen from the air, but when land is left in sod there is usually a considerable gain in nitrogen... This is partly due to the humus added by the decaying roots... Probably the humus has much to do with the nitrogen fixation.

Manure management

There are other organisms in the soil which accomplish the opposite results. They act on nitrogen compounds and break them up so that the nitrogen escapes into the air as free nitrogen. This is called denitrification. Composting manure is the best way to retain the nitrogen in it.

**Resources & Reviews*****Greenhouse Gardener's Companion: Growing Food and Flowers in Your Greenhouse or Sunspace***

Authored by Shane Smith, and Marjorie C. Leggitt (Editor). An environmentally friendly sourcebook that is actually two books in one, providing everything the gardener needs to know about setting up a healthy growing environment within a sunspace, plus a complete guide to growing flowers, vegetables and herbs in the greenhouse. Veteran greenhouse gardener Shane Smith is the author of *The Bountiful Solar Greenhouse*. Two color; line illustrations.

Upcoming Events

SATURDAYS, 7 JANUARY, 21 JANUARY, 18 FEBRUARY FROM 9 AM - 12 NOON, AND SATURDAY 4 FEBRUARY 2006 FROM 1 PM TO 4 PM—GET OUTDOORS THIS WINTER WITH THE DELAWARE DIVISION OF FISH AND WILDLIFE "RESTORATION SATURDAYS." A UNIQUE "RICH WOODS" POCKET NEAR SMYRNA HOSTS PLANTS THAT ARE TYPICAL IN THE PIEDMONT REGION BUT RARE TO THE COASTAL PLAIN SUCH AS CANADA LILLY, WAXLEAF MEADOW RUE, WILD COLUMBINE AND BLOODROOT. IN ORDER TO GIVE THE WILDFLOWERS MORE ROOM TO GROW AND THRIVE, VOLUNTEERS WILL WORK WITH THE DELAWARE NATURAL HERITAGE PROGRAM TO HAND-REMOVE INVASIVE WINEBERRY. ONCE ENOUGH IS REMOVED, EFFORTS WILL FOCUS ON ADDING STEPPING STONES AND AN INTERPRETIVE TRAIL! THIS WILL BE AN EXCITING, ON-GOING PROJECT FOR VOLUNTEERS OF ALL AGES. MEET AT THE WOODLAND BEACH BOAT LAUNCH. CONTACT ANNIE JACOBS AT 302.653.2880 OR AN-NIE.JACOBS@STATE.DE.US.

THURSDAY, 6 FEBRUARY 2006—6TH ANNUAL LAND ETHICS SYMPOSIUM – "CREATIVE APPROACHES FOR ECOLOGICAL LANDSCAPING" AT THE BOWMAN'S HILL WILDFLOWER PRESERVE NEAR NEW HOPE, PA. GO TO WWW.BHWP.ORG FOR MORE INFORMATION. SESSIONS INCLUDE "SUCCESSFUL NATIVE GROUNDCOVERS" AND "NATIVE PLANTS FOR DIFFICULT SITES".

SATURDAY, 25 FEBRUARY 2006—WINTER LECTURE "NATIVE PLANTS ON DISPLAY, THE FERN VALLEY NATIVE PLANT COLLECTION." THE EASTERN SHORE CHAPTER OF THE MARYLAND NATIVE PLANT SOCIETY IS SPONSORING A LECTURE BY JOAN FEELY, CURATOR OF THE NATIVE PLANT COLLECTION AT THE U.S. NATIONAL ARBORETUM, AT 2 PM AT THE TALBOT HISTORICAL SOCIETY AUDITORIUM IN EASTON (25 SOUTH HARRISON STREET). JOIN US ON THIS WINTER DAY TO HEAR ABOUT THE NATIVE PLANT GARDEN AT THE NATIONAL ARBORETUM. FERN VALLEY IS A NATURALISTIC LANDSCAPE THAT INCLUDES FIVE ACRES OF WOODLAND, TWO ACRES OF MEADOW, AND A SPECTACULAR HEDGEROW-LIKE PLANTING STRAIGHT OUT OF THE COASTAL PLAIN OF THE DEEP SOUTH. HER PRESENTATION WILL REVIEW A YEAR IN THE GARDEN, DETAILING THE INTERESTING AND BEAUTIFUL NATIVE PLANTS THAT FLOURISH IN THIS REMARKABLE URBAN OASIS.

10-11 MARCH 2006—DELAWARE NATURE SOCIETY'S "NATIVE PLANT SYMPOSIUM" WILL BE HELD AT THE ASHLAND NATURE CENTER. FOR MORE INFORMATION CALL HELEN FISCHER AT 302.239.2443 EXT. 114 OR ON THE WEB AT WWW.DELAWARENATURESOCIETY.ORG.

SATURDAY, 11 MARCH 2006—COPELAND NATIVE PLANT SEMINAR FROM 9 AM TO 4 PM AT THE ASHLAND NATURE CENTER, HOCKESSIN, DE. FOR MORE INFORMATION, CALL 302.239.2334 OR ON THE WEB AT WWW.DELAWARENATURESOCIETY.ORG

6-26 APRIL 2006—DELAWARE COOPERATIVE EXTENSION ORNAMENTALS SHORT COURSE SERIES 2006. ECOLOGICAL LANDSCAPE SERIES AT THE NEW CASTLE COUNTY EXTENSION OFFICE IN NEWARK. \$5.00 EACH SESSION OR ALL FOUR SESSIONS FOR \$15.00.

- HORTICULTURAL ECOSYSTEMS – 6 APRIL FROM 7 TO 9 PM LANDSCAPING FROM AN ECOLOGICAL PERSPECTIVE.
- ECOSYSTEM DIVERSITY FROM AN ANIMAL PERSPECTIVE – 13 APRIL FROM 7 TO 9 PM DIVERSIFYING THE LANDSCAPE TO PROMOTE SPECIES DIVERSITY AND AESTHETIC APPEAL.
- ECOSYSTEM DIVERSITY FROM A PLANT PERSPECTIVE – 20 APRIL FROM 7 TO 9 PM INVASIVE PLANT CONTROL AND REESTABLISHING DESIRABLE SPECIES.
- MANAGING WATER IN THE LANDSCAPE: WETLAND CREATION AND RAIN GARDENS – 26 APRIL FROM 7 TO 9 PM STORMWATER MANAGEMENT, RESTORATION, WETLAND CREATION AND RAIN GARDEN TECHNOLOGY.

DNPS BI-MONTHLY MEETINGS FOR 2006—ARE CURRENTLY SCHEDULED FOR 17 JANUARY, 21 MARCH, 6 MAY (ANNUAL MEETING), 18 JULY, 19 SEPTEMBER, 4 NOVEMBER (ANNUAL PLANT SALE). ALL MEETINGS ARE ON THE THIRD TUESDAY OF EVERY OTHER MONTH AT THE ST. JONES RESERVE AT 7 PM, UNLESS OTHERWISE NOTED.

Membership Application

DELAWARE NATIVE PLANT SOCIETY

Member Information

Name:

Business Name or Organization:

Address:

City and Zip Code:

Telephone (home/work):

E-mail address:

- ☐ 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 \$ _____

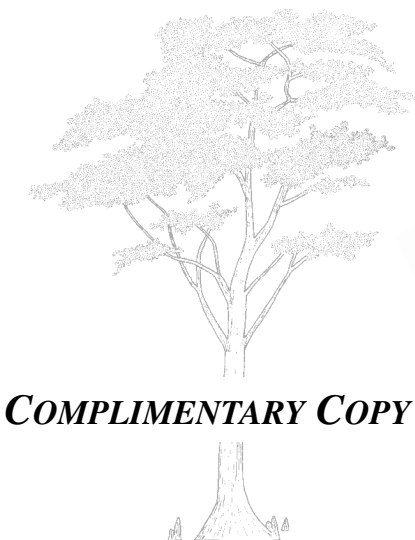
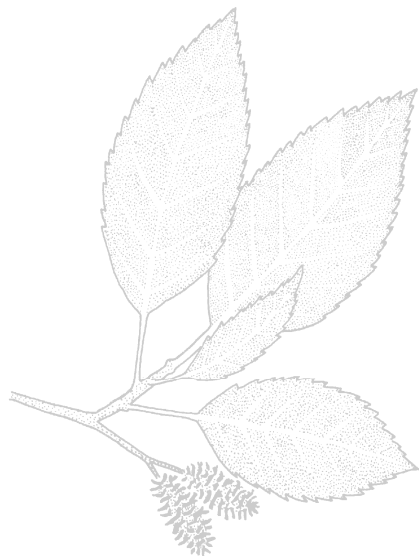
Membership benefits include:

- * The DNPS quarterly newsletter, The Turk's Cap
- * Native plant gardening and landscaping information
- * Speakers, field trips, native plant nursery and sales

Total Amount Enclosed: \$

**Make check payable to:
DE Native Plant Society
P.O. Box 369, Dover, DE 19903**

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



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