



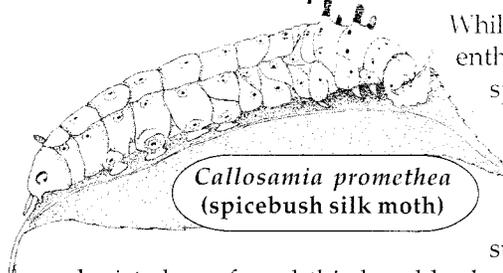
Bulletin

A publication of the VIRGINIA NATIVE PLANT SOCIETY

www.vnps.org

Conserving wild flowers and wild places

WOY '06: Spicebush provides a salad bar to some caterpillars



Callosamia promethea
(spicebush silk moth)

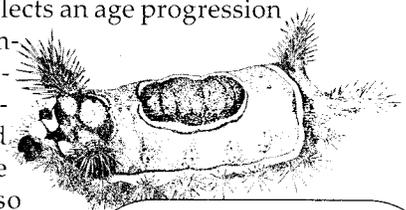
While many wildflower enthusiasts appreciate spicebush (*Lindera benzoin*), the 2006 Virginia Wild-flower of the Year, for its subtle beauty, plant

ecologists have found this humble shrub to be a fruitful subject for scientific inquiry. The notes that follow relay just a few of the interesting nuggets that can be gleaned from a cursory study of the scientific literature about this plant.

Herbivory, moths: In a study of the impact of light regime and herbivory on spicebush growth conducted in southeastern Pennsylvania, various lepidopteran larvae

were found to be important consumers of spicebush leaves. The three most abundant species found on spicebush in the study were all moth larvae. These include: 1) the saddle back caterpillar (*Acharya stimulea*), famous for the painful sting that it can inflict from its bristles; woolly bears (*Pyrrharctia isabella*), whose balance of brown and black bands merely reflects an age progression

and not a forecast of impending winter's severity as commonly alleged in folklore; and the caterpillar of the promethea moth (also known as the spicebush (See *Caterpillars*, page 6)



Acharya stimulea
(saddle back caterpillar)

Conservation means always being ready to work

Philip Shabecoff, of the *New York Times Magazine*, once said that "So bleak is the picture...that the bulldozer and not the atomic bomb may turn out to be the most destructive invention of the 20th century." The difficulty in maintaining the delicate balance between the need to provide for our human comforts and the need to conserve and protect our natural resources serves as a challenge to some, a discouragement to others, and an irritant to still others who choose to ignore conservation in favor of other interests. Many of us live in areas where the bulldozer is king and development consists

of reducing large natural areas to level, bare land so that as many dwellings as possible can be built on the site. I see this almost everywhere I travel in the state — not just



high-density population areas where you most expect to see it.

As development is completed at many of these sites, its residents are left with a habitat that has been traumatized, or so fragmented that all native plants—flowers, trees, shrubs, grasses—that lived in their natural setting are no more than a memory, and a rapidly fading one at that. A gloomy picture? Yes. Something the conservation-minded individual can stop? I don't think there are many of us who believe that development can be halted, consumption curbed, resources renewed and habitat, including air and (See *Conservation*, page 2)

From the president

Resolve to be aware and involved in conservation issues in 2006

The holidays are behind us and spring is ahead. It is a nice time to step out into the woods on a nice day and look at orchid leaves, mosses, tree buds or patches of forest floor where you know you'll see something beautiful pretty soon. It is also time for our annual workshop, and I hope to see you there. Education Chair Shirley Gay has pulled together a group of speakers and a topic that are sure to be interesting—see the enclosed flyer and information in this newsletter.

On those icy days, it's better to stay in and curl up with a hot beverage and a book. I recently finished reading VNPS Director-at-Large Stan Shetler's chapter in **Plant Conservation: A Natural History Approach** (Krupnick and Kress, eds., University of Chicago Press, 2005). One of its themes—conservation as an activity that takes place on a local scale— dovetails with the article in this issue by our new Conservation Chair, Leo Stoltz, which includes a summary of some chapter con-

servation activities. Opportunities for conservation projects abound, and I urge you to become familiar with the Virginia Conservation Network and to write letters to our senators and representatives supporting natural resources funding, the Clean Smokestacks Bill and the Virginia Ridge and Valley Act for new wilderness and scenic areas, in addition to the work so many of you do in your locality.

This is also the issue where we introduce spicebush **Lindera benzoin**, our Wildflower of the Year for 2006. I hope you will enjoy the new brochure, and it will be the perfect choice for those of you who prefer instant gratification, since the spicebush flowers will be opening shortly after the arrival of your brochure. As you will see though, there is a lot more to this plant than yellow spring flowers.

With all of this to keep us busy, it will be spring before you know it!

Your President, Sally Anderson

• Conservation

(Continued from page 1)

water quality, totally restored to the "good old days" (whenever that was!). In fact, unless you are an ivory-billed woodpecker, extinction is just that—gone forever, no longer renewable, a thing of the past—we cannot go back.

My personal feeling is that the initial efforts of the conservation-minded individual should always be preservation, but that there should be a back-up plan in case all-out preservation efforts are unsuccessful. If we cannot stop development that encroaches on natural habitat, we must stand ready to influence others in such a way as to promote smart, responsible, and thoughtful approaches to development. In other words, development that provides for human needs with as little negative impact on the environment as possible.

But, what level of impact, if any, is acceptable? What, if anything, will we give up in the interests of conservation? That seems to be the point at which everyone starts to disagree. Some will give up nothing, others, everything. Will commuters in Norfolk, Richmond or Northern Virginia sacrifice a wooded stream bottom filled with bluebells, or an expanse of wetland habitat to ease traffic congestion? Some will. Some won't. And where is VNPS in all of this?

Perhaps that is an unfair question. It could imply, somehow, that VNPS is out there, all alone. We are not. Since becoming VNPS Conservation Chair last October, I have met and begun working with many other individuals and organizations which are, and have been for some time, very active in furthering the cause of conservation in Virginia. While Conservation Chair, I hope to make your statewide organization more involved at the legislative level in Richmond, play a larger role in the Virginia Conservation Network and enhance the support that our VNPS state organization gives you at the chapter level. But, whatever activities any of us support at the statewide level or chapter level, the goal should be the same—conservation and preservation of the native plants of Virginia.

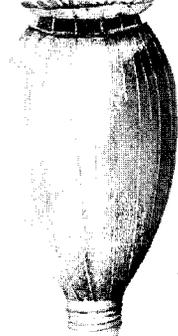
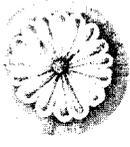
One of the best ways for me to support individual chapter conservation initiatives is to share their ideas and activities with you in the *Bulletin*. Recently, I conducted an informal survey of the various chapters to get a feel for what they did in 2005. I learned that there are many ongoing conservation related activities. VNPS at both the state and chapter levels continues its strong support, both financial and otherwise, for the Flora of Virginia Project. Many chapters support the preservation of native plants through

their plant sales. South Hampton Roads has made native plant donations to the Norfolk Botanical Garden, Virginia Beach Agricultural Research Center, Elizabeth River Project, Chesapeake Arboretum and Weyanoke Sanctuary. The chapter has also distributed seashore mallow (*Kosteletzkya virginica*) seeds free of charge and made cash donations for purchase of native plants, preservation of habitat and maintenance of native gardens.

Shenandoah Chapter continues to support Wildwood Park in Bridgewater, Blue Ridge Community College's arboretum and meadow, and James Madison University's Edith Carrier Arboretum and shale barren garden. Shenandoah's conservation efforts include control of garlic mustard and cleanup activities at the Deep Run Ponds Preserve. The chapter also helps with removal of invasives and collection of native grass seeds for planting at the Cowbane Prairie (A Virginia Department of Conservation and Recreation--Division of Natural Heritage Area Preserve). Chapter members are active in invasive control in George Washington National Forest. Activities there include road monitoring to reduce the impact of roadside herbicide applications on natives and identification of no-spray zones. The
(See Chapter efforts, page 8)

Experience early spring at Flower Camp!

Botanical Art with Lara Call Gastinger



If you enjoy the beauty of Virginia's countryside, art, and plants then Flower Camp is the place for you from March 24 to March 26 in Howardsville. The weekend botanical art class is led by Lara Call Gastinger, illustrator of *The Flora of Virginia*. This spring, for the first time, Lara will be teaching sepia watercolor painting as students learn to depict seed pods, resting buds, and emerging leaves. Lara, who is a trained botanist as well as an accomplished artist, will lead students through a series of exercises designed to teach both new artistic techniques and improved observation. Guided walks and innovative activities (like "Botany Bingo") will help participants see and depict plants more accurately. Tuition of \$325 includes five meals (dinner Friday through brunch Sunday), two nights' lodging, and instruction. Enrollment is limited to 15. Participants with some drawing and/or painting experience benefit most from this workshop. Ten percent of each tuition will be donated to the Flora of Virginia Project. A \$50 deposit should be sent to Flower Camp, c/o Nancy R. Hugo, Director, 11208 Gwathmey Church Road, Ashland, VA 23005. The balance of \$275 is due March 15. For more information, visit www.flowercamp.org or contact Nancy Ross Hugo at nancy@flowercamp.org or 804-798-6364.

Charlottesville addresses invasives problem in parks

Any native plant enthusiast who has visited wild areas within Charlottesville has to be alarmed by the spread of alien invasive plants. Although non-native invasives are not a new problem, in recent years more aggressive species have devastated native plant communities more rapidly and extensively than witnessed before. As recently as 10 years ago a diverse mix of native edge and under story plants still thrived. Lately these areas have become dominated by Oriental bittersweet, garlic mustard, Japanese stilt grass, and kudzu in addition to earlier invaders such as Japanese honeysuckle, tree-of-heaven, multiflora rose, and English ivy. It is not just displaced native plants that are of concern, we subsequently stand to lose the many other life forms that evolved with and are dependent on the native flora.

Pressure from neighborhood activists on Meadowbrook Road with VNPS support played a part in motivating the Charlottesville Parks and Recreation Department to reevaluate its management of threatening non-native invasive species. In May of 2005 a meeting

at the Meadow Creek Natural Area site had concerned neighbors, Extension Agent Peter Warren, and VNPS members. They pleaded with city parks director Mike Svez and two city council members to address removal of invasive vines imperiling the desirable mature trees on the site. Not having budgeted for such an expense, the city was only willing to assist a volunteer effort.

In June and again in October, volunteer workdays were organized by neighbor Dena Imlay and VNPS members Ellora Young and Phil Stokes assisted by Charlottesville Parks Volunteer Coordinator Susan Pleiss (also a VNPS member) and Ruth Douglas, the coordinator of VNPS invasive plant issues. The small turnout of invited neighbors and VNPS members was discouraging. It became apparent that recruiting volunteers for this type of effort wasn't the solution. Importantly too, volunteer labor is less efficient because of the lack of powered mechanical equipment and foliar spraying capabilities utilized by professional crews.

After experiencing such an apathetic response from both community volunteers and city administrators,

my mood changed to elation when I received word from parks department employee Susan Pleiss that Charlottesville Parks and Recreation was having the invasive problem evaluated by an outside consultant. Not just Meadow Creek Natural Area, but all 17 sites that parks maintains would have a plan developed with the goals of "the removal of invasive species and the restoration of natives, and the management, or containment of invasive plants." The consultant's plan "will identify phasing for zero to five years out and estimated cost. Priorities will be outlined. Priority of work areas or items may depend on threat to tree cover, property, or native systems."

The detail specified for these plans is remarkable. It's apparent that this consultant has considerable experience in dealing with invasive species control and the laudable goal of maintaining a native flora. We can only hope that there will be the funds and commitment by the city to implement these plans. Then I will again find it pleasurable to visit the city's natural areas.

Phil Stokes, Jefferson Chapter

Have you been to *THE BRUCE*?

Have you been to the Bruce? If you can't answer "yes," your native plant education lacks an outstanding experience that intrigued such famous past figures as naturalist John Muir and Harvard botanist M. L. Fernald, author of the last edition (8th, 1950) of *Gray's Manual of Botany*.

Where is "The Bruce," this famous and mysterious place? Picture the Great Lakes region. "The Bruce" is the Bruce Peninsula, the tiny finger of land that juts north between Lake Huron and the Georgian Bay in southwestern Ontario, Canada. The lake and the bay are connected north of the peninsula.

What's so special? The Bruce Peninsula is a large block of dolomite—limestone with magnesium added, much of it the hard, resistant form of limestone known as dolostone. It is part of the up-lifted arc of the limestone Niagara Escarpment, formed in the depths of an ancient inland sea. The escarpment begins in western New York and ends in Door County, Wisconsin, but is most obvious and accessible at Niagara Falls, where every Bruce-tripper should make a stop. The peninsula tilts downward to the west from high, sheer scarp on the Georgian Bay side, with caves in the walls and stunted northern white-cedars (*Thuja occidentalis*) as old as 1,300 years clinging to the cliffs, to lake-level rocky or sandy beaches along Lake Huron. The general trend of surface and sub-surface water is to flow from east to west. The many large areas with more or less standing water provide a range of wetland habitats from wet woods and bogs to open fens.

During the ice age, the peninsula was covered by glaciers as much as a mile deep. Later the ice cap gave way to a vast glacial lake, and today's landscape was largely shaped by glaciation. This history has left a rich legacy of habitats that in turn make the Bruce a rich floristic treasure and crossroads of northern, southern, eastern, and western elements. Typical eastern deciduous forests, as at Kemble, intermingle with typical boreal forests, as around Wildwood Lodge, the rustic camp on the shores of Lake Huron

where VNPS tours stay. The abundance of limestone supports an unusual diversity of ferns and orchids—about 50 species of each.

Nothing characterizes the roadside wildflower landscape in season more than two species of lady's-slipper and the Indian-paintbrush. First comes the yellow lady's-slipper (*Cypripedium calceolus*) in early June along with the paintbrush, which has flaming orange-red leafy bracts surrounding its otherwise inconspicuous yellow flowers. At peak bloom the lady's-slippers dot some roadsides with such profusion and exuberance as to appear almost weedy. Everywhere they are highlighted by the scarlet Indian-paintbrushes. In late June, pockets of the large, jewel-like, queen or showy lady's-slipper (*Cypripedium reginae*) burst into bloom all around you and give the land a Midas touch. In some years, when the weather conditions have been just right, the two lady's-slippers overlap in mid-June, and you can experience the beauty of the loud, saucy, yellow one with the reserved, pastel, pink-and-white one at the same time. Fortunately for us in this year's VNPS trip, 2005 was one of those years.

Our trip in 2005 assembled for dinner at Wildwood Lodge Sunday evening, June 12, after which I introduced the group to the Bruce Peninsula with a slide talk. After five days in the field, the trip ended Saturday morning with breakfast and the daily ritual of packing our own lunches for the road. We had 15 in our intrepid band of native plant explorers, which included, in addition to the leaders, Owen and Pat Brodie, Don Buma, Tom and Marguerite Dierauf, Ben and Arlene Fitzgerald, Alma Kasulaitis, Gaylan and Jan Meyer, Madeline Mowery, and Helen Walter. My co-leaders were veteran VNPS and Bruce warrior Nicky Staunton, and my wife, Elaine. Ted and Caroline Scott, also VNPS and Bruce veterans, were at Wildwood for the same week for their own field trips with a group of friends and relatives, and we were delighted by the coincidence and the opportunity for interaction at meal times.

As usual, we saw a long list of plants in the course of the week, and I

can hit only a few of the highlights here. Our week began with a visit to Flower Pot Island, a fortuitously named, storied island off the northern tip of the peninsula about a 45-minute boat ride on the Blue Heron from the little town of Tobermory. Named for its towering, flowerpot-like stone pillars, standing as lonely sentinels on the rocky beach, long since isolated by thousands of years of swirling waters from the island mass, this island is, in fact, a veritable flower garden and is perhaps the favorite Bruce destination of VNPS groups.

Topping the list of finds this day were the hot-pink fringed polygala or gay-wings (*Polygala paucifolia*) setting mossy polsters (stumps) aglow, the dainty bird's-eye primrose (*Primula mistassinica*) parading across a wet rock ledge, and three woodland orchids, the exquisite little fairy-slipper (*Calypso bulbosa*) and the fascinating striped and early coralroots (*Corallorhiza striata* and *C. trifida*, respectively). The coralroots are root parasites or saprophytes. Among the notable ferns were three delicate, hard-to-find species: wall rue (*Asplenium ruta-muraria*), green spleenwort (*Asplenium viride*), and slender cliffbrake (*Cryptogramma stelleri*). Some may remember this botanically fulfilling day especially for having sat on boulders near the marl pond during a gentle rain to eat our lunches! Many of us capped this day off with a large cone of our favorite ice cream in Tobermory, and this unmasked a voracious group appetite for ice cream that had to be sated elsewhere a few more times during the week. Back at camp, we were welcomed to Wildwood Lodge by our hosts with a wine-and-cheese reception before dinner.

Tuesday's field trip began at Kemble Forest, a sugar maple woods over limestone karst on an escarpment with a striking view from the cliffs of farmland below and the Georgian Bay in the distance. The ground flora was typical of the ground layer in late spring in an eastern deciduous forest but with additions such as herb-Robert (*Geranium robertianum*). Grabbing most of our attention were the many ferns, including, (See *Continuous adventure*, page 5)

Continuous adventure filled the hours at The Bruce

(Continued from page 4)

notably, such relative rarities as the hart's-tongue fern (*Phyllitis scolopendrium*), male fern (*Dryopteris filix-mas*), and Braun's holly fern (*Polystichum braunii*) growing among the karst boulders and crevices.

In the afternoon we visited Bruce Caves south of Colpoys Bay, odd grottoes in the escarpment of an ancient sea. We added to our list more deciduous forest species and the curious walking fern (*Asplenium rhizophyllum*). Over lunch under a picnic pavilion everyone had a chance to see and hear an uncharacteristically obliging mourning warbler, a life-list bird for me as well as others in the group.

Day Three began with a photo op at "Jan's Patch," a royal stand of 20 showy lady's-slippers along Old Red Bay Road near Wildwood that Jan Meyer had spotted when the group made a quick stop there on the way back to camp on Tuesday. Our main target of the day was Dorcas Bay on Lake Huron, known locally as "Singing Sands." Here along shore we saw several carnivorous plants—common pitcher-plant (*Sarracenia purpurea*), slender-leaved sundew (*Drosera linearis*), butterwort (*Pinguicula vulgaris*), and lesser bladderwort (*Utricularia minor*). These amazing plants trap insects and other small invertebrates by various mechanisms and "digest" them for nitrogen compounds. Sundews and butterworts are "belly plants." You have to get down on your belly to see them! The secretion from the butterwort was once used by the Laplanders to curdle milk in making butter. Another belly plant here was the fern ally, meadow spike-moss (*Selaginella apoda*). But doubtless the most memorable sighting for all were the two small Massasauga rattlesnakes on shore!

Returning to camp, we made two stops en route at Crane River, to see slender cliffbrake again on the "fern wall," ostrich fern (*Matteuccia struthiopteris*), and nodding trillium (*Trillium cernuum*). The second stop was at Dyer's Bay Crossroads, to see purple cliffbrake (*Pellaea atropurpurea*) and the rare limestone or Robert's oak fern, each growing in only one of the many

crevices (grykes) in the limestone pavement (alvar).

Thursday took us to Halfway Log Dump Road and a spectacular view of the Georgian Bay. Three of our target shoreline species were the striking orange-yellow lakeside daisy (*Hymenoxys herbacea*), restricted largely to the Great Lakes region, the wide-ranging shore violet (*Viola nephrophylla*), and the Ontario goldenrod (*Solidago simplex* var. *gilmanii*). The first two were in late-flowering condition, while the third had just begun to flower.

After lunch on shore, we headed south to Oliphant Fen. Fens are open, prairie-like, alkaline wetlands with water flowing through them slowly. For the photographers particularly, this was a feast. Oliphant was alive with hundreds of grass-pink (*Calopogon tuberosa*) and rose-pogonia (*Pogonia ophioglossoides*) orchids coming into bloom, punctuated here and there by the pure white spires of bog-candles (*Platanthera dilatata*), a northern rein orchid also just starting to bloom. With everybody's orchid search-image skills now highly honed, someone's careful eyes picked up on a tussock two plants of the tiny white Loesel's twayblade (*Liparis loeselii*). Our VNPS trips have often been a little too early to catch these orchids in bloom, so for the leaders this was a red-letter year at Oliphant. To top off the day, Owen played his bagpipe after dinner in the dining hall for our

group and Ted Scott's. This added a new first to the annals of VNPS tours!

Our final day began at Walker Woods, a bona fide acid bog, where we saw such classic bog plants as bogbean (*Menyanthes trifoliata*), bog-rosemary (*Andromeda glaucophylla*), tiny creeping goldthread (*Coptis trifolia*), Labrador-tea (*Ledum groenlandicum*), leatherleaf (*Chamaedaphne calyculata*), common pitcher-plant, small cranberry (*Vaccinium oxycoccus*), and round-leaved sundew (*Drosera rotundifolia*). After lunch at Sauble Falls, where a group of the small, pale yellowish-white shining ladies'-tresses (*Spiranthes lucida*) were blooming on the bank of the Sauble River, we headed for Petrel Point, another fen and our last stop. Here, too, the bog-candles, grass-pinks, and rose-pogonias were beginning to bloom, and we added, among others, dark-scale cottongrass (*Eriophorum viridicarinatum*) and creeping snowberry (*Gaultheria hispida*).

You have now been to the Bruce, at least in your arm chair! To have the pure John Muir experience for real, pack up your hiking boots, field guides, and magnifying glass and come with us the next time. And don't forget your binoculars. We always do some early morning birding at Isaac Lake and on the field trips, and you just might add to your life list. (Note: There will be no trip to the Bruce in 2006. Should one be scheduled for 2007, it will be announced in a future *Bulletin*.)

Stanwyn G. Shetler, VNPS Director-at-Large

John Clayton Chapter sponsors three graduate students

The John Clayton Chapter donated one third of the funds necessary to underwrite three \$250 Delzie Demaree Travel Awards aiding graduate student attendance at the 52nd Annual Plant Systematics Symposium held at the Missouri Botanical Garden last year. One of the awardees, Pedro Fiaschi, is a graduate student at Virginia Commonwealth University. The other two recipients were Lina Juswara of Ohio State and Mario Blanco of the University of Florida. Helping graduate students attend the symposium contributes toward the education of young plant systematists and raises awareness for the Virginia Native Plant Society and the John Clayton Chapter. Delzie Demaree was a colorful character and a prodigious plant collector, perhaps the last of the old-style field botanists. He was a marine in WWI and later received degrees from the University of Arkansas (B.S.), University of Chicago (M.A.), and Stanford (Ph.D.). He was on the faculty of universities in Arkansas, and later devoted himself to helping graduate students however he could. Williamsburg was on the itinerary of his annual bus trip throughout eastern North America to make field trips with a host of fellow botanists. He contributed many of his plant specimens to the William and Mary herbarium.

Caterpillars rely on spicebush

(Continued from page 1)

silk moth, *Callosamia promethea*, among the largest and most beautiful of North American moths. These moth caterpillars are all generalist feeders, being able to thrive on a wide variety of host plant species. This study found that herbivorous caterpillar abundance per spicebush plant does not differ by sex or by habitat of the shrub, i.e., caterpillar abundance is essentially similar on staminate (male) and pistillate (female) individuals whether in the sun or shade. However, herbivore damage, expressed as a percentage of total leaf area eaten was somewhat greater in shady habitats,



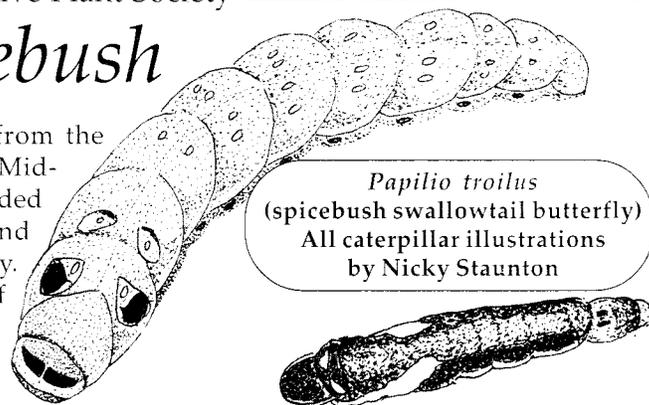
Pyrrharctia isabella
(woolly bear)

possibly a consequence of the fewer leaf layers found in the shade compared with the denser leaf canopy of sun-exposed plants. (R. A. Niesenbaum, "The effects of light environment on herbivory and growth in the dioecious shrub *Lindera benzoin* (Lauraceae)," *American Midland Naturalist* 1992, 128: 270-275.)

Herbivory, spicebush swallowtail butterfly (*Papilio troilus*): In contrast to the moth larvae mentioned above, caterpillars of the spicebush swallowtail are much more specialized in their food requirements. As implied by its name, spicebush is one important larval food plant and sassafras (*Sassafras albidum*), a related plant, is another. Interestingly, the butterfly ranges into peninsular Florida, where neither spicebush nor sassafras occurs. Here, the caterpillars eat leaves of redbay (*Persea borbonia*), also a member of Lauraceae. In a thorough, comparative study, it was found that Florida caterpillars survived better on redbay

than did caterpillars from the Midwest. Conversely, Midwest caterpillars succeeded better on spicebush and sassafras than on redbay. Also, total duration of the larval stage was greater for caterpillars reared on redbay than on spicebush/sassafras, and this result held for larvae from the Midwest, from Florida, and for hybrid larvae resulting from crosses between individuals from these two regions. The scientists suggest that redbay contains a toxic compound absent in spicebush/sassafras and that the two caterpillar populations tested differ in their ability to detoxify it. (J. K. Nitao et al., "Larval adaptation to Lauraceous hosts: geographic divergence in the spicebush swallowtail butterfly," *Ecology* 1991, 72: 1428-1435.)

Frugivory, cedar waxwings and American robins: Seed dispersal by birds is, conceptually, a simple matter: plant makes fruit with seed(s) consumed by bird that drops undigested seed in a distant location. In detail, however, dispersal by fruit-eating birds has myriad variations, both on the plant and bird sides of the equation. Two recent studies examined the differing strategies employed by cedar waxwings and thrushes (including robins) in the dispersal of several species of trees and shrubs of eastern North America. Relative to other common fleshy-fruited plants tested, spicebush fruits are notable in containing low levels of sugar but high levels of protein and lipid (fats, but also aromatic terpenes). Another important factor is that spicebush seeds are relatively large. Waxwings quickly digest and absorb sugars, but their assimilation of lipids is much slower. Also, waxwings swallow and, eventually, defecate all fruit seeds consumed in their diet. Sugar-rich fruits with small seeds (like honeysuckles and wild grapes) work well for waxwings. On the other



Papilio troilus
(spicebush swallowtail butterfly)
All caterpillar illustrations
by Nicky Staunton

hand, spicebush presents problems for hungry waxwings: the lipid-rich pulp digests slowly and the large inedible seeds contribute much weight and bulk with no nutritional return. In nature, waxwings seldom consume spicebush seeds. Thrushes, including the American robin, operate differently. These birds digest lipid-rich fruits relatively efficiently and they also tend to regurgitate the inedible seeds, thus improving the nutritional quality of the food volume entering their digestive system. Robins and other thrushes thus serve as dispersal agents for spicebush, albeit the distances involved usually amount to the span between the point of ingestion and the next convenient perch where seed regurgitation occurs. As a general rule, seeds adapted for through-passage and defecation by birds are protected by thick seed coats whereas those adapted for dispersal by seed-regurgitating birds have thin seed coats. Spicebush seeds, with their thin seed coat, fit this general pattern. Also, experimental evidence shows that removal of the lipid-rich fruit pulp by fruit-eating birds is essential for germination of spicebush seeds and this hint from nature should be followed by gardeners wishing to propagate spicebush from seed. (G. A. Meyer & M. C. Witmer, "Influence of seed processing by frugivorous birds on germination success of three North American shrubs," *American Midland Naturalist* 1998, 140: 129-139 and M. C. Witmer & P. J. Van Soest, "Contrasting digestive strategies of fruit-eating birds," *Functional Ecology* 1998, 12: 728-741.)

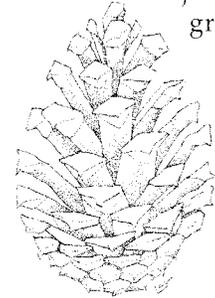
W. John Hayden (University of Richmond) VNPS Botany Chair

Fundraising campaign off to great start

Our VNPS fundraising campaign for FY2006 is an effort to raise money for the Flora of Virginia

Project, and it is off to a great start. Less than

two months into the campaign, we have received donations from almost 120 of our members. Many thanks to those of



you who have responded!

So far, nine members have given the \$1,000 donation that will give them a first edition copy of the *Flora of Virginia* with their names included on the subscription list. We would love to hear from more of you though, either individually or through your chapter. Thanks to a generous patron, any donation up to \$25,000 will be matched, thus making your contribution even more significant.

Meanwhile, the Flora of Virginia Project is progressing. A contract with University of Virginia Press to publish the book is near completion. Please don't miss your chance to donate to this important project!

Virginia Native Plant Society Workshop

"Planting the Wild-Links between Cultivation and Conservation"

March 11 10 a.m. - 3:30 p.m.
University of Richmond

Featuring: William (Bill) Brumback, Conservation Director, New England Wildflower Society; Stanwyn G. Shetler, Ph.D., Curator of Botany Emeritus Botany, Smithsonian Institution; Deborah Barber, Director of Land Management and Volunteer Programs, The Nature Conservancy, MD/DC Chapter; and Rick Myers, Ph.D., Stewardship Manager, The Virginia Natural Heritage Program.

Commemorate Jamestown with America's Anniversary Garden

In the fall, I was alerted by a board member that Virginia Tech is promoting a garden program to commemorate the 400th anniversary of the Jamestown settlement. Called America's Anniversary Garden, it promotes the planting of gardens featuring red, white and blue flowers. Immediately I began to hear from people about celebrating by planting gardens that feature native plants of Virginia, and I had an inquiry from a teacher who wanted to teach her students about plants that the colonists

would have found when they reached these shores. A list of native species for the Tidewater area that have red, white or blue flowers or fruits, or red fall color, is under development by members of the John Clayton chapter, with hopes that it will be used for a planting at York River State Park. We hope to adapt this list for the Piedmont and Mountain regions of the state. For more information on America's Anniversary Garden, go to www.ext.vt.edu/americasgarden.

Sally Anderson, VNPS President

See the address label for your membership expiration date

VNPS Membership/Renewal Form

Name(s) _____

Address _____

City _____ State _____ Zip _____

Individual \$30 Student \$15

Family \$40 Associate (groups) \$40*

Patron \$50 Sustaining \$100

Life \$500

*Please designate one person as delegate for Associate membership

To give a gift membership or join additional chapters: Enclose dues, name, address, and chapter (non-voting memberships in any other than your primary chapter are \$5)

I wish to make an additional contribution to ___ VNPS or _____ Chapter in the amount of ___\$10___\$25___\$50___\$100___\$(Other)_____

___Check if you do not wish your name to be listed to be exchanged with similar organizations in a chapter directory

Make check payable to VNPS and mail to:

VNPS Membership Chair, Blandy Experimental Farm, 400 Blandy Farm Lane, Unit 2, Boyce, VA 22620

Membership dues are tax deductible in the amount they exceed \$5. Contributions are tax deductible in accordance with IRS regulations.

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Sally Anderson, President
Nancy Sorrells, Editor

Original material contained in the *Bulletin* may be reprinted, provided credit is given to VNPS and the author, if named. Readers are invited to send letters, news items, or original articles for the editor's consideration. Items should be typed, on disk in Microsoft Word or e-mailed to: Editor, 3419 Cold Springs Rd., Greenville, VA 24440, or lotswife@adelphia.net. The deadline for the next issue is **Feb. 15**.

•Chapter efforts

(Continued from page 2)

Shenandoah Chapter plans to continue working with the forest service to control the spread of invasives.

Northern Neck reported that, even before they were officially a VNPS chapter, their members were involved in successful efforts to save Hickory Hollow Nature Preserve and its mini-wetland, Cabin Swamp. Northern Neck members are also very active in providing various levels of support for Dameron Marsh and Hughlett Point Natural Area Preserves.

Meanwhile, the Jefferson Chapter has been working with the City of Charlottesville to control invasive alien plants in their area. The city has engaged a consultant to conduct a study of invasives on all city park lands and make recommendations on their control. The Jefferson Chapter expects to remain actively involved in this undertaking.

Members of the Fredericksburg Chapter have been active in efforts to save Crow's Nest Peninsula from developers. Fredericksburg members were busy with other conservation efforts, including developing a labeled native plant walk at Loriella Park, management of *Ailanthus* at Ferry Farm, invasive rip-outs at Mabe's Trail on the Rappahannock, and educational seminars and walks.

Members of the Prince William Wildflower Society helped successfully oppose plans for a Tri-County Parkway through Bull Run Park and also participated in efforts to purchase and preserve Merrimac Farm. Chapter members participated in educational programs for the Lifelong Learning Institute and several other conservation initiatives.

Obviously, there were many important conservation related activities in 2005, and I am sure there were many others that did not come to my attention while I was writing this article. Recognizing the accomplishments of the previous year should give us impetus to do more. Here are some ideas for the coming year:

1. Work to protect wild habitats: volunteer your time and expertise to work in a park or other protected area; get involved in or organize clean-up activities where our native plants need some help.
2. Provide financial support for like-minded organizations: Make a cash donation to VNPS, Flora of Virginia Project and other organizations that support conservation of native plants.
3. Let your voice be heard: Stay in touch with your representatives and tell them what you expect; encourage everyone you come in contact with to support conservation activities in your community; write an article or

letter to the editor of your local newspaper in support of local conservation issues; go to a city council or county supervisor meeting and voice opposition to development that has a negative impact on native plants and habitat. Advocate smart, responsible development.

4. Engage in and encourage responsible native plant gardening: Volunteer to help out in a native garden area at a local park or college; plant native plants and talk them up to your friends. Encourage local nurseries to carry native plants that have been responsibly propagated; donate native plants to other organizations that need them, don't plant invasive species and encourage local nurseries to avoid selling invasive species.

5. Represent VNPS: Take the VNPS conservation message to other clubs (civic, garden, etc.) by volunteering to be a speaker at one of their meetings.

I encourage you to share your conservation related activities with me (stoltzleo@aol.com) so that I, in turn, can share your ideas, successes and learning experiences with others, both within and outside VNPS. In the meantime, be active in your local VNPS chapter — if your chapter needs a conservation chair or help with conservation related activities, step forward!

Leo Stoltz, VNPS Conservation Chair

Time Sensitive Material!

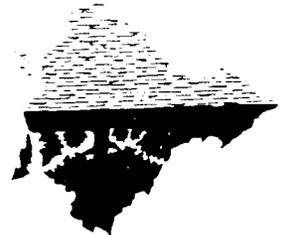
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Virginia Native Plant Society
Annual Workshop

Planting the Wild Links between Cultivation and Conservation

March 11, 2006
Gottwald Science Center
University of Richmond

We who love native plants are often active both in conserving them in the wild and in cultivating them, sometimes with the goal of imitating nature or restoring native habitats. On our own and through groups such as VNPS, we work to meet the challenges of protecting native habitats and rare species. At the same time we garden with natives and encourage their use in public plantings, collect and plant seeds, attempt to control invasive species. At this workshop, we'll look closely at some activities that link cultivation to habitat conservation and attempt to gain a broader understanding of their effects on the wild or natural world.

PROGRAM

9:00 Registration and coffee

10:00 Welcome and introductions

10:15 "What is the Wild"

Stanwyn Shetler

Is "The Wild" nature unadulterated? Is a wild area the same as a natural area? What makes a natural area "natural"? What is a "wild" plant? How can the wild or the natural be adulterated and compromised? Can you take the wild out of wildflower? These are some of the questions Dr. Shetler will explore in the contexts of gardening and natural plant distribution (dispersal and migration, colonization, establishment).

11:15 Refreshment Break

11:30 "Virginia's Natural Area Preserves and Their Management"

Rick Myers

Dr. Myers will provide an overview of our state's system of natural area preserves: the history of the program; preserve names, locations, and resources protected; and how the preserves are managed. Without going into great detail about the 46 preserves and 41,000 acres currently in the system, he will provide a representative overview of this unique and important array of protected conservation lands.

12:30 Lunch

1:30 "Restoring Red Spruce to Appalachian Plateau Natural Areas."

Deborah Barber

Red spruce (*Picea rubens*) was once a dominant tree in the mountain valleys of western Maryland and nearby West Virginia, but logging in the late 19th century reduced forests there by 99 percent, leaving only a few hundred acres intact. In recent years the Maryland Chapter of the Nature Conservancy has reintroduced more than twenty thousand red spruce to their historic habitat in Maryland. This work helps restore tree cover that maintains the cool climate essential to the health of the region's open bog peatlands and conifer swamp forest.

2:30 "Evolution of a Conservationist: A Propagator's Journey,"

William (Bill) Brumback

As Bill Brumback's career has moved from his first post as propagator for a wholesale perennial nursery to his present position as Conservation Director of the New England Wild Flower Society, horticulture and conservation have been complimentary but sometimes conflicting themes. He will give his perspectives on the role of horticulture in plant conservation, and will also discuss the conservation programs of the NEWFS.

Speaker Profiles

Deborah Barber, Director of Land Management and Volunteer Programs, The Nature Conservancy, MD/DC Chapter, has managed the volunteer program of the Nature Conservancy of Maryland since 1993 and has recently taken on responsibility for managing the Chapter's 30 preserves. Volunteers play an essential role in stewardship of the Conservancy's lands by monitoring for weed infestations, trespass and vandalism, and also in ecological management including exotic control, tree planting, and habitat restoration.

William (Bill) Brumback, M.S., Conservation Director, New England Wildflower Society, initiated the New England Plant Conservation Program (NEPCoP), a regional voluntary collaborative of representatives from over 60 organizations. NEPCoP's goal is to protect the region's rare and endangered plants from extirpation and to promote their recovery in the wild. In 1997, with other authors, he published *Flora Conservanda: New England*, the NEPCoP list of plants in need of conservation. He is involved in the development of a new flora of New England and supervises the work of several hundred volunteers.

Rick Myers, Ph. D., Natural Areas Stewardship Program Manager, Virginia DCR-Division of Natural Heritage, worked at Clemson and Purdue Universities as a Research Forester before coming to Virginia in 1998. Among his strong interests are rare species conservation, forestry, fire ecology, geology and gardening.

Stanwyn (Stan) Shetler, Ph. D., Curator of Botany Emeritus, Smithsonian Institution, worked more than thirty-three years as a scientist in the National Museum of Natural History's Department of Botany, the last five of those as deputy director of the museum. Stan's research interests have been the bellflowers (genus *Campanula*), arctic plants, Russian botanical history, and, recently, the local flora. A VNPS Board member, Stan has published several books and about 150 scientific, technical and popular papers.

LUNCH is not included with the registration fee. Please bring your lunch as there are no facilities on the University of Richmond Campus where you can purchase lunch.

DIRECTIONS: <http://www.richmond.edu/about/directions/>. If you do not have internet, please request written directions with your registration. As usual, Dr. Hayden will have signs once you reach the campus.

Registration

(due by Monday, March 6)

_____ \$35 _____ \$5 Fulltime student (include copy of ID)

Name(s) _____ Affiliation _____

Address _____ City _____ State/zip _____

E-mail _____ Phone (_____) _____

_____ Please mail directions.

Please make check payable to VNPS. Please mail your registration form and payment to: VNPS ANNUAL WORKSHOP, 400 Blandly Farm Lane, Boyce VA, 22620

Thanks to the University of Richmond for hosting this event.





A publication of the VIRGINIA NATIVE PLANT SOCIETY
Conserving wild flowers and wild places

www.vnps.org

Doug Coleman: Annual meeting speaker weighs in on conservation

Preserving our 'ancient natural gardens' essential

After 30 years of conservation work trying to keep Wintergreen from destroying the very essence of what attracted its original developers, I have often felt that good conservation efforts are so subtle they can't be seen by most people. I sometimes banter with the resorts' marketing department by telling them "if you can't see it we've done it right."

The following are some truths that, like everyone else, I probably knew years ago, but have been confirmed again and again over the years as I have worked with development sites and conservation efforts.

It is always the best investment choice to identify and preserve 4,000-year-old gardens intact rather than to disturb them and then try to reconstruct what was there.

Even if the cost seems high to change the building spot of a home, building or ski slope, the current value of the extra funds spent to preserve an adjacent site goes down with time and the intrinsic value of the site goes up. Thirty years later, (at a three percent inflation rate) one tends to realize the enhanced value of the investment. A more relevant example might be comparing the cost of preserving our national parks in the Roosevelt era versus trying to do that today. It probably wouldn't happen.

Accomplishment of good conservation efforts is almost always based on strategic thinking, diligence, and good timing.

Mission related thinking and good strategic planning efforts give us the peripheral vision to recognize when the time is right to save sites. If a site is identified with high conservation priority, skillful diplomacy and promotion of

the site needs to happen regularly with owners or managers long before a blueprint or management plan is in place. My experience is that if that doesn't happen, failure may become acceptable behavior. I wonder if the Spring Pond story in Augusta County several years ago would have had a different conclusion if this had been done. Clearly many of us knew what was happening before we lost the 400-500 *Helonias* plants among other rare species. The only ones who kept the problem front and center were central and western Virginia VNPS chapter members Mo Stevens, Tom Dierauf, Jay Shaner and a few other local chapter members. (See November 2002 *Bulletin*.)

Landscaping with native plants has exciting ecosystem restoration potential as we learn to unlock the germination secrets of plants that inhabit our ancient natural gardens.

We must on the other hand accept the fact that in any ecosystem we create the species will not likely interact like the time-tested associations that occurred over thousands of years. Consider here the human body's interaction with a transplanted organ.

For those who may be searching for the point of this article and lost track three paragraphs back, I would offer the following. Know that the mountain coves full of wildflower bloom seen at the G.R. Thompson WMA in Northern Virginia or at Wintergreen at the May Wildflower Symposium, or the hundreds of *Helonias* blossoms formerly seen fringing the bog at Spring Pond are likely products of thou-

(See Prehistoric treasures, page 7)

SAVE THIS WEEKEND: September 23-24

The Shenandoah Chapter is hosting the annual VNPS meeting this fall. The weekend event offers full-day and half-day field trips on Saturday, an annual meeting with Doug Coleman as the dinner speaker Saturday evening; and half-day field trips on Sunday. Watch for more information in the coming months and on the VNPS website.

From the president

Do something positive for Virginia's native plants

Twice this winter I encountered garden programs on television on the topic of poison ivy. In both cases incorrect information was being given. The first time, a picture of Virginia creeper was shown. On the next one, the poison ivy berries were said to be red. Well, no wonder people get so annoyed about poison ivy. If you cannot identify it, how can you avoid it? I wonder how many rashes these mistakes will account for and how much Virginia creeper will be pulled down? Poison ivy, an often disparaged native plant, has leaf parts in threes (not fives like Virginia creeper) and small, white berries. Although it can be the cause of serious rashes, it is said to be planted in some places for its nice fall color, and the berries are eaten by birds. Like many plants, it thrives on sunny edges, and it spreads by underground runners so it is difficult to master. Like many of you, I try to keep it in control at home, but as part of our native flora, it has its place. We just need to help others learn to recognize it and appreciate it. And remember where it is come spring.

Several chapters had winter walks that focused on tree and shrub identification recently. Our chapter's walk fell on a typically chilly winter day, but the sun was out and there were things to see. (Dormant poison ivy is one of the plants I have learned to spot.) It has been a long task for me to learn tree buds, but I'm getting there. And I found a new place to look at them – the ski lift! It whisks me within a few feet of the crowns of several species of maple, birch, cherry and beech. It is no place to learn because you can't stop or use a hand lens, but once you know them it is like seeing old friends waving as you ride by.

I received a postcard this week that announced Virginia's three new state parks. One of these is the Seven Bends along the Shenandoah River. An article on the Trust for Public Land website noted that the

bond used to purchase park land did not include operating funds, and that a master plan would be prepared before the park can be opened. A quote from Joseph H. Maroon of the Department of Conservation and Recreation was included in the article: "We are all anxious to get this park opened. However, first we need to develop a master plan using a very public process. We need to have the people of this area and the state give us their ideas regarding what they want to see in their new state park."

The Seven Bends master planning process will begin in 2006, and members can get involved. Natural topics for us would include educational outreach on invasive plant control and protecting special habitats and plants.

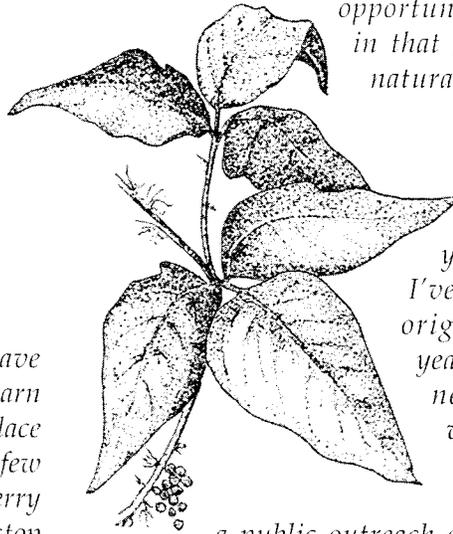
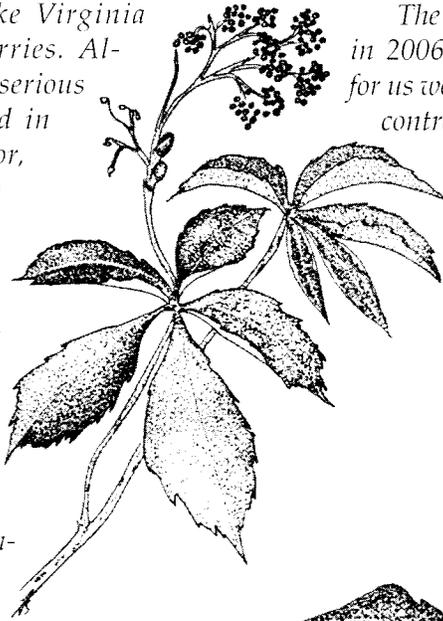
The other two parks on my postcard are on Widewater Peninsula in Stafford County and Middle Peninsula near Gloucester.

Widewater Peninsula is over 1,000 acres on the Potomac River and Aquia Creek, and at one time was to be developed as residences and a conference center. Middle Peninsula is nearly 500 acres that includes half a mile of frontage on the York River. I assume these parks will also go through a master planning process, and that there would be opportunities to become involved in that process for the benefit of natural plant communities.

These are just a few of the many opportunities for you to have a positive influence on your state and its flora. I've nearly given up on my original resolution for this year, but I think I'll make a new one, and I hope you will too. Do one extra thing for native plant protection. Volunteer for

a public outreach opportunity such as a local festival, join an invasive plant workday, see if a park or natural area near you could use your help, teach someone about a plant or habitat you like. It's easy to find projects, hard to find time, but I think it is worth doing. And thank you all for what you are doing!

Your President,
Sally Anderson



Virginia creeper (top)
& poison ivy
Illustrations by
Nicky Staunton

Head to Wintergreen for Wildflower Symposium

The Wintergreen Nature Foundation's location in the Blue Ridge Mountains makes it an ideal place to enjoy the beauty the spring has to offer. In the early spring before the trees are full, the hillsides are warmed by the sun and the wildflowers are in full bloom. This special time can be celebrated at the 23rd Annual Spring Wildflower Symposium, May 19-21. Instructors include well-known botanists, authors, and artists, each prepared with a full weekend of activities and lectures located within the mountain and valley. Learn the art of designing attractive native gardens and enjoy the beauty that surrounds Wintergreen.

With over 20 instructors joining this year's lineup ranging from ornithologists to botanists to landscape designers, the symposium will truly give you a sense of what's in your backyard and how to take advantage of the space you're in. Cost for full registration is \$115/person, for a one day registration \$75/person; discounts for educators. For more information or a full schedule of events call The Wintergreen Nature Foundation at 434-325-7473 or visit www.twnf.org. The Wintergreen Nature Foundation is a non-profit organization dedicated to environmental education and research in the Blue Ridge Mountains. The foundation sponsors several annual events as well as weekly guided hikes and explorations, all of which are open to the public.

Explore the Rappahannock ravines with Northern Neck VNPS members

Join the members of the Northern Neck Chapter and guide Sandy Spencer for a visit into the ravines at the Rappahannock River National Wildlife Refuge on Thursday, April 20, at 9 a.m. Spencer is a biologist for the refuge and has explored many of the ravines within the area's boundary.

One feature that sets the western side of the Virginia Coastal Plain apart is its deceptive topography. While it may look flat when you're driving from inland toward the Chesapeake Bay, the far edges of the farm fields terminate at the brinks of steep ravines. The tidal creeks that feed into the Rappahannock from the Middle Peninsula and Northern Neck typically originate in a labyrinthic network of ravines. Some are so narrow one can stand in the bottom and touch both sides with outstretched hands. Some are broad bottomed, like little valleys with braided streams running through them. They all eventually connect to the river.

Because of the steep slopes, these ravines were not easily logged and not suitable for pine plantations and thus have a mixed hardwood forest natural for this area. The well-drained slopes are often covered with heath vegetation like mountain laurel, rhododendron, highbush and lowbush blueberry, species more commonly associated with the state's ridge and valley, or mountain physiographic regions. Because they tend to be moist and shady, they differ from the surrounding uplands and are their own little microcosms.

The April foray will take participants to some seldom-seen ravines in search of moss-covered stone outcroppings, lady-slippers, perfoliated bellwort, and wild ginger beneath a canopy of giant hardwoods. Because this is at the onset of spring migration for birds, bird lovers will have an additional treat. This will be off an off-the-beaten-path, back-country hike, so wear appropriate clothing and footwear.

Wildflower video sales to benefit Flora of Virginia

A video created by Marion Lobstein, associate professor of biology at Northern Virginia Community College, has been airing on Arlington's cable station. *Spring Wildflowers of the Mid-Atlantic Region* includes information on nearly 100 species of spring wildflowers and features slides that provide details for identification as well as enjoyment of the beauty of wildflowers.

Lobstein produced the award-winning video along with two former students in 1998. If you would like to purchase a copy, all proceeds are donated to the Flora of Virginia Project. DVD and VHS copies are available for \$20 plus \$3 for shipping and handling. To order, contact Lobstein at mlobstein@nvcc.edu or 703-257-6643.

Visit 'treeless desert' on Konza Prairie

Between the Missouri River and the Rocky Mountains, there once was an ecosystem of grasslands so extensive that it was referred to by some early settlers as a treeless desert and an obstacle to progress for those who tried to cross it. Obviously North America's tall grass prairie once covered millions of acres, but today only isolated remnants exist. Many of the relict prairie ecosystems that remain can be found in eastern Kansas and Missouri. One of the best studied is the Konza Prairie.

The Wintergreen Nature Foundation is planning a trip for June 6-14 to the Konza Prairie. This would be co-led by Dr. John Zimmerman, retired researcher on the Konza Prairie (Kansas) and Doug Coleman, Executive Director of The Wintergreen Nature Foundation and botanist. Zimmerman is a birder first and will focus on the ecosystems found in the grasslands, while Coleman will focus on the botany of the area.

Join The Wintergreen Nature Foundation for this special program. For reservations or more information call The Wintergreen Nature Foundation at 434-325-8169.

Clematis program

"Clematis Connections: The Evolution of a Garden Legend," is the subject of a program at Green Spring Garden in Alexandria on May 19 from 8:30 a.m. to 3 p.m. Four talks are featured during the day: East Meets West: The Worldwide Legacy and Twining it all Together: Growing and Designing with Clematis by Maurice Horn; Wild Clematis: A Natural History of Native Species by Chris Ludwig; and West Meets East: The Legacy of Kazushige Ozawa by Mikiyoshi and Tomoko Chiduma.

The cost for the program is \$89 which includes lunch. Registration deadline is May 12. For more information contact Green Spring Gardens, 4603 Green Spring Rd., Alexandria, VA 22312 or 703-642-5173 or www.greenspring.org.

Virginia Wildflower Celebration 2006

The 12 chapters of the Virginia Native Plant Society celebrate the rich diversity of the native flora of the Commonwealth each spring. Society members will share their enthusiasm for wild plants and wild places on field trips and wildflower walks, and during garden tours, plant sales, and a variety of other programs throughout the state.

You are cordially invited to any of the activities listed below; they are all open to the public. As some events require reservations, fees or additional instructions, use the contact information provided to obtain further information. Plants propagated by members will be available at chapter plant sales.

As you travel about the state, watch for the 2006 VNPS Wildflower of the Year, spicebush (*Lindera benzoin*). It is a stalwart plant of the wetlands with intricate minute flowers and enchanting fragrance. The yellow haze of spicebush is a certain harbinger of spring. It flowers in the early spring well before emergence of its leaves. Spicebush is usually found in areas of moist soil, along streams, flood plains, and swamp forests, but it sometimes occurs on dry soil. In nature, it often forms dense thickets that provide excellent small mammal cover. *Lindera benzoin* is found in every county in Virginia.

Wildflower Calendar of Events

Fredericksburg Area Chapter Plant Sale – April 1, 9 a.m.-noon. In conjunction with the Tri-County Soil and Water Conservation District's annual seedling sale, which features many native trees and shrubs. Two locations, Alum Spring Park in Fredericksburg and the County Site at Harrison and Leavel Rds.

The Microscopic Structures Of Wildflowers – Tuesday April 4, 7-9 p.m. Workshop using dissecting scopes to examine microscopic flower features which will be dissected and observed, limit 15, Dr. Norlyn Bodkin, James Madison University in Harrisonburg, fee, see Carrier Arboretum www.jmu.edu/arboretum/main.html for information.

Hickory Hollow/Cabin Swamp Walk – Saturday April 15, 2 p.m. Early spring ephemerals in bloom, Northern Neck Chapter.

Wildflower Walk at Roaring Run – Saturday April 15, 9:30 a.m., Daleville Park & Ride to carpool to Roaring Run, Cindy Burks, leader, Blue Ridge Wildflower Society.

Balls Bluff Northern Virginia Regional Park Wildflower Walk – Saturday April 15, 9:30 a.m.-noon and 1-3:30 p.m., Smithsonian Resident Associates event, www.residentassociates.org/rap.

Great Falls Park Wildflower Walk – Sunday April 16, 10 a.m.-12:30 p.m., led by Marion Lobstein, 703-257-6643.

Balls Bluff, Northern Virginia Regional Park Wildflower Walk – Sunday April 16, 2:30-4:30 p.m. Led for VNPS by Marion Lobstein, 703-257-6643.

Rappahannock River Ravines – Thursday April 20, 9 a.m., Northern Neck Chapter, led by Sandy C. Spencer, wildlife biologist, U. S. Fish and Wildlife Service.

Wildflower Walk at Buffalo Creek Nature Center in Evington – Saturday April 22, meet at 2 p.m. in visitor parking lot of Nature Center, Sandra Elder, leader, Blue Ridge Wildflower Society.

Woods Creek Restoration Day – Saturday April 22, Lexington, visit www.boxerwood.com for more details.

Calmes Neck Wildflower Walk – Sunday, April 23, 10 a.m., led by Gary Fleming, Vegetation Ecologist, Va. Dept of Conservation and Recreation, Division of Natural Heritage, see bluebells, twinleaf, blue cohosh, Dutchman's breeches, delphinium, trout lily, columbine, sign-up required, contact Blanca Vandervoort, cvanderv@nelsoncable.com.

Blue Ridge Wildflower Society Meeting/Walk – Monday April 24, 6 p.m., Roanoke River Overlook/Blue Ridge Parkway.

Wildflower Walk/Carrier Arboretum – Wednesday, April 26, 7 p.m., one hour walk, free, see Carrier Arboretum www.jmu.edu/arboretum/main.html for more information.

Little Totuskey Creek Kayak – Thursday April 27, 9 a.m., explore riparian habitats (Northern Neck Chapter).

Wildflower Walk/Malcolm Black Home at Bent Mountain – Saturday April 29, meet at 11 a.m. at Bent Mountain Elementary School, bring lunch, Blue Ridge Wildflower Society.

Thompson Wildlife Management Area Walk for VNPS Flora of Virginia Project – Saturday April 29, 10 a.m.-2 p.m. Led for VNPS by Marion Lobstein, 703-257-6643.

Shenandoah Chapter Plant Sale at Riverfest – Saturday April 29, 9 a.m.-3 p.m. in downtown Waynesboro, contact Mary Shoemaker 540-949-7738, www.river-spirit.org or riverfest@ntelos.net.

Native Plant Sale at Carrier Arboretum – Saturday April 29, 9 a.m.-4 p.m. see Carrier Arboretum www.jmu.edu/arboretum/main.html for more information.

Jefferson Chapter Annual Native Plant Sale – Sunday April 30, 1-3 p.m., Ivy Creek Natural Area's Education Bldg., Charlottesville. In conjunction with Natural

History Day event where environmental groups provide displays. Spring ephemerals including bluebells, trilliums, May apple, ferns, shrubs, and select trees. Located on Earlysville Rd. just south of Woodlands Rd. intersection north side of Charlottesville.

National Arboretum Visit – Sunday April 30, 9:30 a.m.-2:30 p.m., Smithsonian Resident Associates. www.residentassociates.org/rap.

U.S. Botanic Garden Presentation about Flora of Virginia Project – Friday May 5, noon-1 p.m., www.usbg.gov.

U.S. Botanic Garden Tour-Bartholdi Park – Friday May 5, 1:30-2:30 p.m., medicinal use of native plants, www.usbg.gov.

Blue Ridge Wildflower Society Spring Plant Sale – Saturday May 6, 9 a.m.-noon, Virginia Western Community College Arboretum.

Chilton Woods State Forest – Saturday May 6, 2 p.m., discover showy orchis in bloom (Northern Neck Chapter).

Shenandoah Chapter Plant Sale at Folk Arts Festival – Saturday May 6 (10 a.m. - 5 p.m.) & Sunday May 7 (noon-5 p.m.), Blue Ridge Community College, Weyers Cave (I-81 exit 235, 11 south 0.5 miles).

John Clayton Chapter Plant Sale – Saturdays May 6 & 13, 9 a.m.-3 p.m., and Sundays May 7 & 14, noon-3 p.m., Virginia Living Museum (524 J. Clyde Morris Blvd, Newport News), Denise Greene, sassafrasfarm@verizon.net or 804-642-0923.

Wildflower Walk/Carrier Arboretum -- Sunday May 7, 4 p.m., one hour walk, free, see Carrier Arboretum www.jmu.edu/arboretum/main.html.

Wildflower Walk/G.R. Thompson WMA – Sunday May 7, for more information, Michael Calley mcalley@msn.com or 540-687-4257 (Piedmont Chapter).

Ailanthus Control Work Day – Thursday May 11, 9 a.m. at the Rappahannock River NWR (Northern Neck Chapter).

Wildflower Calendar of Events

The Upper James River Chapter Plant Sale – Saturday May 13, 8 a.m.-noon, with Rockbridge Area Master Gardeners, Waddell School in Lexington.

Wildflower Walk/Caravan Blue Ridge Parkway South – Saturday May 13, time tba, Rich Crites or Butch Kelly, leader, Blue Ridge Wildflower Society.

Garden Fair-Blandy Experimental Farm/State Arboretum of Virginia – Saturday May 13 & Sunday May 14, call Tim Farmer, 540-837-1758 or www.virginia.edu/blandy/.

Wildflower Walk/Carrier Arboretum – Sunday May 14, 4 p.m., one hour walk, free, see Carrier Arboretum www.jmu.edu/arboretum/main.html for information.

Potomack Chapter Plant Sale – May 20, 9 a.m.-3 p.m., Green Spring Gardens (4603 Green Spring Rd., Alexandria), ferns, perennials and woody plants available.

Wildflower Walk and Wildflower gardening demonstration – Saturday May 20, 11 a.m., meet at James River Visitor Center on Blue Ridge Parkway for lunch (bring your own picnic lunch or eat at Otter Creek Restaurant), at 1 p.m. car

pool to the Cowins farm for demonstration, Paul and Lucille Cowins, leaders, Blue Ridge Wildflower Society.

Twin Oaks Pond – Saturday May 20, 2 p.m., find lady-slipper orchids in bloom (Northern Neck Chapter).

Great Falls Park Wildflower Walk – Sunday May 21, 10 a.m.-12:30 p.m., led by Marion Lobstein, 703-257-6643.

Olsen Native Plant Garden – Saturday May 27, 2 p.m. (Northern Neck Chapter).

Carrier Arboretum Fifth Annual Herb & Garden Festival sponsored – Saturday May 27, see Carrier Arboretum www.jmu.edu/arboretum/main.html for information.

Hickory Hollow/Cabin Swamp – Saturday June 3, 2 p.m., Discover yellow lady-slipper orchids in bloom (Northern Neck Chapter).

Wildflower Walk/Caravan Blue Ridge Parkway North – Saturday June 3, meet at 8 a.m. at the Peaks of Otter Lodge for breakfast before the walk, or at 10 a.m. at the Peaks of Otter Visitor Center, Rich Crites, leader, Blue Ridge Wildflower Society.

Wildflower Walk at Rosebay Rhododendron Community VNPS Registry – Saturday June 17, 2 p.m. in the parking lot of Ross Laboratories in Altavista, discover rosebay rhododendron, Sandra Elder, leader, Blue Ridge Wildflower Society.

Water stewardship celebrated at Riverfest

Come celebrate the watershed stewardship of the headwaters of the Shenandoah South Fork at Riverfest in downtown Waynesboro on Saturday April 29 from 9 a.m. to 4 p.m. The South River is one of three rivers arising in Augusta County that flow together to form the South Fork of the Shenandoah River at Port Republic in Rockingham County.

Included in the day's events will be a native plant sale by the Shenandoah Chapter of VNPS; a road and river relay for runners, paddlers, and bicyclers; a stream safari that offers an opportunity to look at the mysteries of life in the South River; canoe rides provided by the Chesapeake Bay Foundation; and a Fish 'n Fun Rodeo for children to test their casting skills on dry land and win prizes.

Other events include two presentations of Reptile World, a program designed to promote the understanding of some of nature's most exciting and awesome creatures; the Riverfest Pageant, which is an educational play presented by local elementary students about the ecology of rivers and ponds; a stream electro-fishing demonstration conducted by the Virginia Department of Game and Inland Fisheries biologists in order to teach people about the many species of fish in the river; and the Annual Great South River Duck Race. Throughout the day there will be a children's art table, music, nature exhibits, face painting, food and art exhibits.

Admission is free. For more information contact Mary Shoemaker 540-949-7738, www.river-spirit.org or riverfest@ntelos.net.

Field botany classes being taught at Blandy

Marion Lobstein will be teaching two field botany courses at Blandy Experimental Farm & State Arboretum of Virginia. The first (EVSC 600), through the University of Northern Virginia Center (www.scps.virginia.edu/northern) is April 22 and May 6, 9 a.m. to 5 p.m.

The second class runs June 26-29, July 3-6, and July 10-13 from 9 a.m. to 4 p.m. The class (EVEC 493/793) will be worth three graduate or undergraduate credits through the University of Virginia.

These courses will cover basic principles of botany with emphasis on the classification, identification, and evolution of flowering plants. They will integrate lecture and laboratory with an emphasis on fieldtrip experience concentrating on identification and ecology of flowering plants of the Mid-Atlantic region. For teachers taking the second course, emphasis will be on relating information and course experiences to SOLs.

These exciting field-based courses will cover the basic principles of botany with emphasis on the classification, identification and evolution of flowering plants. Lectures and laboratories

will cover the evolution and life cycles of major groups of plants, structure and function of plant vegetative (stems, roots, and leaves) and reproductive organs, characteristics of common flowering plant families of the Mid-Atlantic region, ecology of plants communities, and history of botanical exploration in colonial Virginia to modern day. Most of this information will be available on a CD-ROM that Lobstein is developing for this year's classes.

Fieldwork will focus on the use of plant dichotomous (identification) keys and other aids to identify species of flowering plants and on field recognition of flowering plant family characteristics. This year students will focus on field testing dichotomous keys that are projected to be used in a new *Flora of Virginia*, an identification manual for native and naturalized plants that occur in Virginia. The *Flora of West Virginia* will also be used in plant identification.

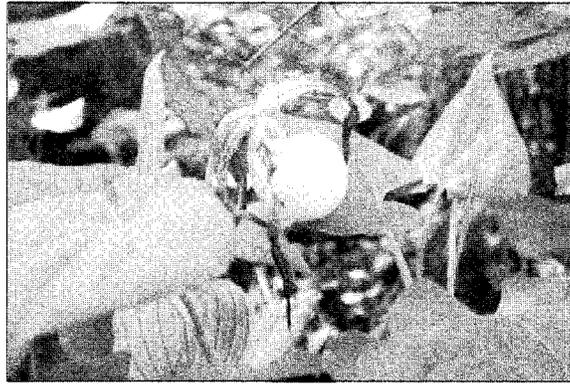
For information contact Lobstein at 703-536-7150, mblobstein@earthlink.net, www.mblobstein.com or www.virginia.edu/~blandy.

Rare lady-slipper benefits from VNPS funds

In 2004-05, VNPS sponsored a rare plant with the Center for Plant Conservation (CPC). The plant we chose to throw our support behind was harperella (*Ptilimnium nodosum*). We were able to raise the \$10,000 sponsorship amount, and when we were done, we had just over \$800 more that we turned over to CPC. They chose to apply that amount to one of our rare plants that had no sponsorship, the southern or Kentucky lady-slipper (*Cypripedium kentuckiense*). The information about this plant, from the CPC website, makes up the remainder of this article. The plant is found in the Northern Neck Chapter area and was chosen as their logo flower, along with the pink lady-slipper (*Cypripedium acaule*).

The southern lady-slipper orchid is a tall, stately perennial herb with the largest flowers of any lady-slipper (i.e., *Cypripedium*). Once seen in flower it is never forgotten. The stems are erect, about 35 centimeters to a meter tall with 2-9 ovate leaves up to 15 centimeters wide by 24 centimeters long with 9-14 conspicuous parallel veins. Underground rhizomes allow the plant to undergo periods of dormancy. *Cypripedium kentuckiense* may bloom from April to June and capsules develop through the summer. One or two flowers are terminal with a large, cream-colored (rarely white or yellow) lip, sepals and petals yellow-green, heavily striped with partially to entirely maroon (maroon pigment lacking in some members of at least one Arkansas population).

The lip is 30-52 millimeters deep by 41-65 millimeters long and with a dorsal opening that is large and round (sometimes contracted and narrow in some Arkansas populations) and usually about two-thirds the size of the total lip circumference. Dorsal sepals are 24-65 millimeters wide by 61-126 millimeters long. Synsepals are 12-40 millimeters wide by 55-103 millimeters long. Lateral petals are 0.7-1.5 millimeters wide by 84-156 millimeters long. Staminode more or less ovate, 10-18 millimeters wide by 17-24 millimeters



Kentucky lady-slipper (*Cypripedium kentuckiense*)

Photo by Nicky Staunton

long, yellow, often with a few irregularly scattered maroon spots.

There are usually some irregular teeth on the rim of the opening into the lip and often some evaginated angular bumps on the vein on the lower part of the lip. There are maroon lines on the veins inside the lip (an exception shown in one Arkansas population). The lip (pouch of the flower) is always very deep in relation to length and does not extend shoe-like beyond the lip opening as it does in the various other yellow lady-slippers species. The orifice takes up most of the top of the lip. The dorsal sepal hangs over the lip like a canopy rather than erect as in *C. parviflorum* and *C. pubescens* and the pedicel is very long (12.7-20.3 centimeters) compared to the shorter pedicelled *C. parviflorum* and *C. pubescens*. Basal leaves are usually very broad-ovate. Fresh plants have a raspberry odor for several days, then become musty-smoky in odor and eventually odorless. The elliptical fruit is a capsule about 3 to 6 centimeters long and can produce thousands of minute seeds.

The plant is listed as G3, meaning that on a global scale it is vulnerable, or at moderate risk of extinction. Federally, the plant is listed as a SOC (Species of Concern), meaning it merits special concern. The states where it occurs also rank the plant, and in Virginia the plant is S1, or critically imperiled, at very high risk of extirpation due to rarity (often five or fewer populations), being in very steep decline or because of other factors.

In Kentucky and Tennessee *C.*

kentuckiense occurs in mesic forests on stream floodplains that are annually inundated by high water. In the southwestern center (Alabama, Arkansas, Louisiana, Mississippi, Oklahoma and Texas) of its range, the habitat is more variable and *C. kentuckiense* may occur on mesic to dry-mesic forests on floodplains, ravine slopes, acid seep forests (Arkansas) and rarely in slash pine flats (Louisiana). In most of the range where *C. kentuckiense* and *C. pubescens* are sympatric, the former will be found in flood-

plains while the latter will be found in slope forests. In Arkansas *C. kentuckiense* can also be found in slope forests. Populations in Georgia occur on forested springhead seeps in sandy soils.

This species seems to have two centers of abundance, one in the Appalachian Plateaus of Kentucky and extreme northern Tennessee, and one in the Coastal Plain, Interior Low Plateaus and Interior Highlands of Alabama, Arkansas, Louisiana, Mississippi, Oklahoma and Texas. Most of the historical populations are located in the western center of the latter range. Most of the still extant populations in the western center are in Arkansas (most of the Louisiana, Oklahoma, and Texas and many Arkansas populations are extirpated).

Estimates of 57 sites in seven states with a known total of 2,683 plants have been reported. Certain populations are reported presumed exterminated because those populations have not been visible during field surveys. However, because populations of various terrestrial orchids fluctuate greatly from year to year to the point of not appearing at all some years, repeated surveys to confirm presence or absence are required. The rhizomes of some terrestrial orchids have the ability to remain dormant underground for up to four years. Dormancy is broken in response to more favorable conditions, possibly for example, from formation of gaps by fallen trees. Also, *C. kentuckiense* may be a colonizing plant because it appears to respond positively in some situations of

(See *Kentucky lady-slipper*, page 7)

• Kentucky lady-slipper

(Continued from page 6)

low levels of disturbance. Dormancy is thought to occur in response to flowering in some terrestrial orchids. However, those populations that experience direct or indirect habitat destruction, alteration of erosion and hydrology of sites such as from certain timber cutting practices and development, are no doubt extirpated.

Bees attracted by the scent result in the cross-pollination of *Cypripedium* orchids. Viability of *Cypripedium* seeds is variable and dispersal is by water

or air. Seed germination in orchids requires the early association of the germinating seed with specific soil fungi. The successful growth of orchids requires this continuous association with specific soil fungi.

C. kentuckiense is adversely affected by direct or indirect habitat destruction, erosion and alteration of hydrology of sites, such as from certain timber cutting practices, agriculture and development. Over collection by plant enthusiasts or collectors of traditional medicines is re-

• Prehistoric treasures

(Continued from page 1)

sands of years of natural selection and interaction with associated organisms. (You may prefer to think of this as having had a caretaker for 4,000 years.) If small ecosystems are razed, greatly disturbed or fragmented, their intricacies are likely lost, indeed, to any feeble effort we might make at restoration.

As one attempts to propagate from seed, spores, or root division, one will realize that individual plants in these ecosystems (both woody and herbaceous) in many cases must be hundreds of years old. There is no better way to understand this than to propagate some of our rarest native plants and those who attempt to do so some-

times seem to attain a higher level of understanding of the antiquity of natural communities.

To Ted Scott, Mary Painter, Tim Williams, The Wintergreen Nature Foundation volunteers, Blandy Farm staff and all the rest of you in the Commonwealth who unlock the germination secrets of native plants and understand these wonderful mysteries, your knowledge sends a powerful conservation message within our commonwealth. Preservation of our 400-year-old-cultural treasure is no more important than our 4,000-5,000-year-old prehistoric one.

Doug Coleman is Executive Director of The Wintergreen Nature Foundation and will be an instructor at the Spring Wildflower Symposium.

sponsible for the loss of populations.

The horticultural industry is exploring propagation methods by means of tissue culture and division of rhizomes for this species and other members of the genus. Researchers at the Seed Conservation Department, Royal Botanic Gardens, Kew, UK and others are investigating methods of long-term storage of terrestrial orchid seed with their fungal symbionts and other cryopreservatives. Studies concerning the reproductive biology and ecology for the genus are documented.

Management studies for other species in the genus can be applied to management of *C. kentuckiense*. Management includes protection of forest habitat, avoidance of clear-cutting, practicing controlled burning and regulation of livestock grazing. Surveys for existing and new populations are necessary.

Cypripedium kentuckiense is found in Virginia at the Hickory Hollow Natural Area Preserve. The part of the preserve called Cabin Swamp where the orchid is found is an exceptional quality wetland community that supports a very high diversity including several mountain disjuncts.

For more information and for a complete reference list, go to the Center for Plant Conservation's website at http://www.centerforplantconservation.org/ASP/CPC_ViewProfile.asp?CPCNum=1235.

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Sally Anderson, President

Nancy Sorrells, Editor

Original material contained in the *Bulletin* may be reprinted, provided credit is given to VNPS and the author, if named. Readers are invited to send letters, news items, or original articles for the editor's consideration. Items should be typed, on disk in Microsoft Word or e-mailed to: Editor, 3419 Cold Springs Rd., Greenville, VA 24440, or lotswife@adelphia.net
 The deadline for the next issue is **May 1**.

Participants needed for Potomac Gorge BioBlitz

Want to get together with other dedicated field biologists in one of the most diverse and unique biological regions located near a major metropolitan area? If the answer is yes, then become a team leader or survey volunteer at the Potomac Gorge BioBlitz on June 24-25.

The BioBlitz is a joint venture between the National Park Service (NPS) and The Nature Conservancy to document fungi, non-flowering plants, and invertebrates on NPS lands along the Potomac River in Virginia, Maryland, and the District of Columbia. Sites include Great Falls National Park, Turkey Run Park, and the Chesapeake & Ohio Canal National Park. The BioBlitz is a 30-hour field survey that will begin at 9 a.m. on Saturday, June 24 and end at 3 p.m. on Sunday, June 25. The base camp will be located at the historic Glen Echo Park in Glen Echo, Maryland. Survey teams can spend Friday and Saturday nights at the park; facilities there will also be available for specimen preparation and identification labs. Meals (Friday dinner through Sunday lunch) will be provided to all participants.

The group organizers are seeking qualified persons to lead survey teams

for the following taxonomic groups: Bacteria (Kingdom: Prokaryotae); Mosses and Liverworts (Phylum Bryophyta); Gastrotricha; Rotifers (Phylum: Rotifera); Nematodes (Phylum: Nematoda); Snails Segmented Worms (Phylum: Annelida); Spiders, Mites, Ticks (Subclass: Arachnida); Centipedes (Class: Chilopoda); Millipedes (Class: Diplopoda); Proturans (Order: Protura); Diplurans (Order: Diplura); Silverfish (Order: Thysanura); Bristletails (Order: Microcoryphia); Springtails (Order: Collembola); Mayflies (Order: Ephemeroptera); Cockroaches (Order Blattodea); Termites (Order: Isoptera); Mantids (Order: Mantodea); Earwigs (Order: Dermaptera); Grasshoppers, Katydid, Crickets (Order: Orthoptera); Stick Insects (Order: Phasmida); Stoneflies (Order: Plecoptera); Webspinners (Order: Embioptera); Zorapterans (Order: Zoraptera); Barklice (Order: Psocoptera); Chewing and Sucking Lice (Order: Phthiraptera); True Bugs and Hoppers (Order: Hemiptera); Thrips (Order: Thysanoptera); Dobsonflies, Fishflies, and Alderflies (Order Megaloptera); Lacewings, Antlions, and Owlflies (Order: Neuroptera);

Scorpionflies (Order: Mecoptera); Fleas (Order: Siphonaptera); Caddisflies (Order: Trichoptera).

In addition to the above taxa, enthusiastic volunteers are needed to help survey the following groups: Algae, Slime Molds (Kingdom: Protista); Fungi (including lichens) (Kingdom: Fungi); Phylum Platyhelminthes, Class: Turbellaria); Phylum Gastrotricha; Snails (Phylum: Mollusca, Class: Gastropoda); Mussels (Phylum: Mollusca, Class: Bivalvia); Crayfish, Wood Lice, Copepods, Amphipods, Isopods, Water Fleas, etc. (Subphylum: Crustacea); Dragonflies and Damselflies (Order: Odonata); Beetles (Order: Coleoptera); Butterflies and Moths (Order: Lepidoptera); True flies (Order: Diptera).

If you or someone you know would like to take part in the Potomac Gorge BioBlitz as a team leader or survey volunteer, visit <http://fwie.fw.vt.edu/vnhs/bioblitz.htm> or contact the BioBlitz Coordinator, Dr. Art Evans at arthurevans@verizon.net. The 2006 Potomac Gorge BioBlitz is sponsored by The Nature Conservancy, National Park Service, Washington Biologists Field Club, Virginia Herpetological Society, and the Virginia Natural History Society.

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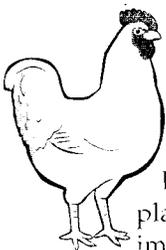
Bulletin

A publication of the VIRGINIA NATIVE PLANT SOCIETY
Conserving wild flowers and wild places

www.vnps.org

Be creative when controlling invasive plant species

We are often told that every cloud has a silver lining, but when it comes to invasive exotic species, it seems that the proverbial silver lining is vanishingly thin. Invasives like kudzu, Japanese honeysuckle, tree-of-heaven, and oh-so-many others, seem ubiquitous, crowding out native plants and altering all manner of ecological interactions.



Like a rock tossed in a placid pond, the negative impact of an exotic species can ripple throughout the entire ecological community. Further, populations of invasive plants can be so large and so extensive across the countryside that complete eradication is simply out of the question. The genie is truly out of the bottle. What to do?

I have pondered this question for quite a few years and I have reached a few conclusions. One is that despite the magnitude of the challenge, we who cherish native plants should

never concede victory to the exotics. But we also must realize that complete restoration of totally natural vegetation is not at all likely, either. The footprint of our own species is just too great for that to happen. But I believe we can, with perseverance and hard work, make significant improvements to pieces of the world that matter to us most, places like our own backyards, or, with proper permission, places like parks and natural areas open to the public. Unfortunately, the zealous idealism required to defeat such a tough and resilient foe can wear thin before the natural regenerative powers of the invasive plant are exhausted. It surely would help if there were additional motivations to spur us on and to continue hacking away at the resilient exotic horde.

Wouldn't it be great, for example, if one could find an actual use for the biomass of exotic species forcibly removed from the landscape? I'm reminded of the aphorism that a weed is

(See Honeysuckle, page 5)

VNPS loses valued friend

We are deeply saddened at the tragic loss of our friend and colleague, Carol Gardner. Carol was lost to us April 30, 2006. As she and her husband drove down their local road, repeated firings of an assault rifle claimed Carol and gravely injured her husband, Bill. Although Bill is recovering, he and their two sons Matt and Ben, face a very changed world.

Carol was at a very happy place in her life. She was looking forward to her youngest son's graduation from Virginia Tech in mid-May. She had successfully completed the first of a series of hikes planned to cover the Appalachian Trail with her husband and some good friends. It was spring, she was busy planting gardens and growing plants.

Carol touched many lives in a positive way. She was a strong

(See Friend, page 2)

SAVE THIS WEEKEND: September 23-24

The Shenandoah Chapter is hosting the annual VNPS meeting this fall. The weekend event offers full-day and half-day field trips on Saturday, an annual meeting with Doug Coleman as the dinner speaker Saturday evening, and half-day field trips on Sunday. Watch for more information in the coming months and on the VNPS website.

From the president

Sad news for our society

As our newsletter deadline approached and I was trying to sit down and write, I learned of the sad and senseless death of Carol Gardner and the injury to her husband Bill. She was part of the backbone of VNPS and we will miss her. My heart goes out to Bill and their family. Please see the memorial by Shenandoah Chapter president Chris Bowlen in this newsletter. Gifts to the memorial fund established for Carol by the Shenandoah Chapter may be sent to the VNPS office. Please mark the memo line of the check.

It's that time of the year when we are thinking ahead to the annual meeting on the weekend of September 23 and 24. We are looking for potential board members to nominate for election at the meeting. If you have time and interest, please get in touch with me about the positions we have open.

This is our first year to receive donations through the Combined Federal Campaign and the Combined Virginia Campaign. Several of the donations we received were anonymous, so if one of them was you. I'm thanking you here because it's the only way I can do so.

I hope you are all enjoying your chapter walks and plant sales. I know the chapter boards work hard to get the events together, and we have many special places to visit.

Your President, *Sally Anderson*

Reintroducing native plants: solution or problem?

On a warm, late spring morning a volunteer botanist is searching a northern New England woodland for a rare orchid. Soon after arriving at the site he happens upon a different plant not previously thought to occur in the area, golden seal (*Hydrastis canadensis*). Knowing this to be a listed species in New England, he prepares a field survey form before resuming his search for the orchid. He also wonders if the golden seal was planted at the site by an amateur propagator interested in preserving the region's supply of medicinal plants.

On another day, while inventorying aquatic plants in southeastern Connecticut, a different botanist discovers a previously unknown population of a sedge called square-stemmed spikerush (*Eleocharis quadrangulata*). In New England it is found only in Connecticut where it is listed as state endangered. Subsequent searches uncover more populations in the vicinity which raise questions regarding the true status of the species. It is eventually determined that the plants had been grown by a local nursery for use in wetland mitigation, then used in the field without the knowledge of state natural heritage personnel. These are true stories that have been widely discussed within the plant conservation community because they illustrate an increasing dilemma regarding the reintroduction

into the wild of rare plant species.

Biologists agree that for some endangered species establishing new populations may be critical to their survival, but there is a need for guidelines to prevent doing more harm than good. This issue is important to the Rhode Island Wild Plant Society since we promote the propagation and use of native plants. Many rare plant species are offered at the RIWPS annual plant sales, including at least one species, northern blazing star (*Liatris borealis*) which has been propagated using seed collected from the wild Block Island populations. These sales have worthy purposes, raising funds and promoting the use of native plants in backyard landscaping, and the plants are sold with the belief that the buyers are not using the material to create new "wild" populations. There are groups, however, that actually promote questionable uses of nursery-grown native plants. United States Plant Savers is an organization dedicated to preserving native medicinal plants through a wide range of activities, which includes encouraging members to "replant threatened species in their natural habitats." Target species include American ginseng (*Panax quinquefolius*) and blue cohosh (*Caulophyllum thalictroides*), both endangered in Rhode Island. Also, with growing interest in habitat restoration and mitigation, many nurs-

• Friend

(Continued from page 1)

voice for the Native Plant Society, serving as president of the Shenandoah Chapter 2000-2003 and then on the VNPS State Board. As a Master Gardner, she leaves many unique and interesting gardens in her hometown of Bridgewater and among her family and friends. Carol urged people to make a positive difference in the world and in doing so, made a positive difference herself. Called away under incredible circumstances, she leaves us better for having known her. She was my friend and I will always miss her. I dearly hope her family will be able to find comfort and eventually the peace they truly deserve.

Chris Bowlen, President, Shenandoah Chapter

eries are beginning to specialize in propagating a wide variety of native species.

There are reasons to be concerned. First, inappropriate plant introductions can degrade the integrity of natural heritage data because endangered species lists are based on naturally occurring populations. In the case of the square-stemmed spikerush cited above, the discovery of the nursery plantings could have legally removed the species from the state endangered list. A second and potentially more important issue concerns disrupting the genetic identity of local native populations by introducing plants from other regions. Every species exhibits variation, i.e. different genotypes, throughout its geographic distribution. Individuals in one part of the range may vary considerably from those in another part because of characteristics acquired in response to local environmental conditions. These variations may only be evident genetically; that is, plants from all parts of the range may look alike. However, if these disparate plants are mixed, the genetic makeup of one may overwhelm the other, contaminate the native stock and lead to inbreeding and loss of vigor in the native populations. Other possible problems such as the spread of diseases and pest organisms and mismatching pollinators or dispersing

(See *Reintroduction*, page 8)

VNPS Chapter News

Lobstein delights garden show listeners for a good cause

A cold and rainy January day was made brighter when Marion Lobstein, a botanist with an infectious enthusiasm for her field, spoke about spring ephemerals at the annual Virginia Flower and Garden Show in Virginia Beach. The show's overall theme was "Magical Gardens" and Marion reveled in sharing the science that sometimes seems like magic when wildflowers appear in early spring for short bits of show. For close to an hour, she kept a room full of gardeners rapt as she talked and showed slides, many taken shortly before her presentation to reveal some of this year's earliest hints of ephemerals.

What struck me as I listened to Marion was her ability to make the complexities of botany readily and easily understood. For me, an English major who gave sciences like botany a very wide berth in college many years ago, Marion made the subject easy to grasp. Two new words I now know, thanks to Marion, are elaiosome and myrmecochory. If you're not familiar with these words,

elaiosomes are fleshy, fat-filled structures that are found on the surface of some flower seeds and are tasty to ants, and myrmecochory is the phenomenon of seed collection and dispersal by ants. Both of these words come up when studying the botany of spring ephemerals.

The South Hampton Roads Chapter of VNPS sponsored Marion's lecture. In appreciation, the chapter donated \$1,000 to the Flora of Virginia Project, whose mission it is to prepare and publish a comprehensive manual and web site of Virginia's more than 3,700 native and naturalized plants. Marion currently serves on the board of directors for the Flora of Virginia Project.

Our local chapter has offered to sponsor Marion as a speaker again next year at the Virginia Flower and Garden Show, and she has accepted. The theme of the 2007 show will be Dream Gardens. You won't want to miss meeting and hearing Marion speak.

Rebecca Burcher Jones, South Hampton Roads Chapter

South Hampton earns blue ribbon

The South Hampton Roads Chapter of VNPS earned a first-place blue ribbon for best educational booth at the annual Virginia Flower and Garden Show held January in Virginia Beach. The booth featured live native plants, photographs, artistic renderings, numerous brochures, and several pamphlets, plus a means to submit questions about native plants that those on hand couldn't answer.

These things impressed the booth judges, and the chapter was rewarded for its efforts with a showy blue ribbon. Earning a blue ribbon is indeed an honor, particularly considering the VNPS local chapter has a much smaller membership than many of the other local gardening societies.

Red, white, and blue native garden designed at state park

John Clayton's Denise Greene has designed a lovely garden to be installed at York River State Park. All plants are native. There is a woodland area, a bog garden, a wildflower meadow, and a gravel path under an arbor—all in a space no more than 300 feet square. The area is just outside the visitor center, near the picnic tables, and overlooks the river.

York River is the first state park in Virginia to install red, white, and blue native plantings—it will be a prototype for all Virginia state parks. The initiative is driven by the America's Anniversary Garden developed by Virginia Tech. Charlene Talcott (now working at York River State Park) initially suggested the installation of red, white, and blue natives at the Jamestown 4-H site. From that suggestion, VNPS was contacted to provide a list of such plants.

The list was initially developed by Denise, modified by other John Clayton members, and published in the America's Anniversary Garden brochure, along with a PowerPoint program. Denise has recently revisited the list and made some adjustments to allow for continual blooms across the seasons. The new list and her design will be published in a revised brochure, which should be available soon.

The site is highly visible to visitors on their way to kayaking and hiking, eating lunch, strolling and playing outside the visitor center. The purpose of this garden is to focus on the possibilities of home gardening with red, white, and blue natives.

PWWS hosts 21st tour

The Prince William Wildflower Society held its 21st annual Garden Tour on Sunday April 29. Three gardens, Fran and Ken Bass' bird habitat garden, Nancy Arrington's woodland garden, and Frances and Phil Lowry's garden at the foot of Bull Run Mountain, were showcased. The free tours are offered so that the public can see successful use of native plants in home landscapes and gardens. Nancy Verhrs organized the tour that was made possible through the volunteer time of many chapter members.

Blue Ridge presents three scholarships

Each year the Blue Ridge Wildflower Society uses proceeds from its spring and fall wildflower sales to present scholarships to botany, biology, and horticulture students. This year three scholarships were presented to Sheryl Hall, Donna Fleshman, and Kerri Huffman.

Hall will graduate this spring from Virginia Western Community College with an AAS degree in horticulture technology with specializations in landscaping and floral design. Fleshman is pursuing an AAS degree at Virginia Western Community College with a specialty in landscaping. Huffman graduated from Virginia Western Community College and then received a bachelor's from Virginia Tech. She is currently working on a master's degree in plant taxonomy at Virginia Tech.

Severn Run

Southern Maryland hike offers variety of habitats

With the recent onset of a few 80-degree days, I was ready for my first hike of the year. I decided upon a Sunday, April 9 hike with some folks from the other side of the river; members of the Maryland Native Plant Society. It was a beautiful, blue sky kind of Sunday afternoon.

The hike was along the Sewell Spring Branch in the Severn Run Natural Environmental area in Millersville (Anne Arundel County), Maryland. Our leader, Eileen O'Brien, led us from our parked vehicles on LaRue Road, (where it's strongly suggested that you park) to the trailhead on Indian Landing Road (across from mailbox #1013).

Our hike started out in the upland part of the natural area where Virginia, *Pinus virginiana*, and pitch, *P. rigida*, pines were abundant. According to a Severn River Commission hand-out Eileen provided at the beginning of the hike, two pitch pines located in the area were on Maryland's Big Tree Inventory; one



The Adkins Arboretum visitors center (photos by Kelly Wilson).

of them with a height of 70 feet and a spread of 58 feet, the other 63 feet tall with a spread of 39 feet. Eileen also pointed out a rather large black gum, *Nyssa sylvatica*, with partridge berry skirting its base.

American hollies, *Ilex opaca*, and mountain laurels, *Kalmia latifolia*, also covered the sandy hillside. All along the trail sassafras' fat, yellow buds and fresh, green stalks screamed out for attention. And it seemed like everyone bowed down and breathed in the gardenia like scent of a patch of trailing arbutus, *Epigaea repans*, tucked in between even larger patches of moss.

Several people noticed a belted king fisher flying over a pair of white swans, while the rest of us were eyeing old flower stalks from summersweet clettra, *Clettra alnifolia*, and brightly lit serviceberries, more than likely *Amelanchier arborea*, along the shoreline.



The glorious *Rhododendron periclymenoides*, pinxterbloom azalea, in bloom in the floodplain forest

The limey colored leaves of skunk cabbage, *Symplocarpus foetidus*, greeted us as we continued to a swampy woodland section. Red maples, *Acer rubrum*, sweetbay magnolia, *Magnolia virginiana*, and some very tall swamp azaleas, *Rhododendron viscosum*, filled in around the skunk cabbage.

The last leg of the hike led us to the tidal marsh part of the trail where several in the group asked the best way to haul a kayak to the area (Eileen pointed out a fork in the trail on the way back and suggested that was the best route). Iris and elderberry, *Sambucus* (my personal favorite), are just a few of the wetland species yet to flower.

For more information about the Maryland Native Plant Society, visit www.mdflora.org.

Directions: From I-695 south of Baltimore: Take I-97 South to Exit 10A, Benfield Blvd. East (Severna Park). Loop back over I-97. Right at light onto Veterans Hwy. South. Continue for 2.2 miles (through two lights). Left onto Generals Hwy. South (MD Rt. 178) for 1 mile. Left at light onto Indian Landing Road for 1.3 miles. Best to park on LaRue Rd. (on right). Meet at DNR trailhead on left side of Indian Landing Rd. (across from black mailbox #1013).

Kelly Wilson, a member of the Potomack Chapter, works as a full-time gardener at the former home of Marjorie Merriweather Post in northwest Washington, D.C.

Northern Neck Chapter receives garden grant

The Garden Club of the Northern Neck has awarded \$500 to the Northern Neck Chapter to help cover the costs of the small demonstration garden of native plants that it is planning to establish at the Old Courthouse in the center of "downtown" Heathsville, Northumberland's county seat. The contribution will allow the group to purchase a variety of native trees and shrubs later this year.

A number of chapter members gave their time and ideas in the initial design and preparation of the grant proposal, including Judy Burgess and Sandy Blackwell, Anne Olsen and Sue Lindsey, Mary Kier, Peg Federhart, and Audrey Brainard, Jane Peterson and Sandra Ehlert. Get on the "Old Courthouse Garden" email list by contacting Judith Lang and Lynton Land at JandL@rivnet.net.

Native plant bibliography updated by student

Nena Chandler, a graduate student at Texas Graduate School of Information and Lady Bird Johnson Wildflower Center volunteer, is updating the Lady Bird Johnson Wildflower Center's Native Plant Bibliography. The list (<http://www.wildflower2.org/NPIN/Bibliography/Bibliography.html>) contains over 950 books about North American native plants and can be searched by region, author name, keyword or subject.

• Honeysuckle chicken salad?

(Continued from page 1)

nothing but a plant whose virtues (uses) are yet to be appreciated. If we had a reason to crop the exotics we might stick with the task, return to it frequently, and ultimately have a significant impact. In this article, the first of a short series, I will share a few ideas about how I use invasive species in ways that work against the continued existence of these pests on my property. Most of the strategies that I will share involve my flock of chickens and my vegetable garden. So, clearly, not every reader will be prepared or inclined to follow suit. But some may. And, perhaps, the strategies presented here will inspire other clever ideas to put these pests to good use as they are removed from the environment.

Japanese honeysuckle as chicken salad

By all accounts, Japanese honeysuckle is one of the worst invasive exotics in eastern North America. No need here to expound on its domination of the forest understory, its propensity to twine upon and strangle the trunks of sapling trees, and its smothering impact on leafy canopies of trees and shrubs alike. Simply put, it is a genuine pest. And much to my dismay, upon purchasing a few acres in rural Powhatan County a few years ago, I found myself proprietor of a major infestation of the stuff.

It just so happened that shortly after moving to Powhatan, we decided to raise a few chickens. As the little chicks grew, it became clear that, while the commercial feed preparations are sold as "complete" diets, the birds truly relished snacking on insects and fresh vegetation. Soon, I fell into the habit of tossing all manner of greenery into the chicken yards, weeds from my vegetables and flower borders, crabgrass, chickweed, bittercress pulled from my lawn, and extra vegetables, etc.

The chickens are like little garbage disposals. I've been told that chickens know enough to leave poisonous plants alone, but just to be safe, I toss obvious toxic things (like jimson weed) directly in the compost pile. Eventually winter approached and green leafy garden

scraps became scarce, and I began to look around for a winter source of greens for the chickens. I did not have to look far. As mentioned above, my yard is infested with Japanese honeysuckle and, since this species is at least semi-evergreen in my area, there was plenty of it right at hand. I had discovered a new motivation to hack away at this nasty invasive exotic.

I generally harvest Japanese honeysuckle from around Thanksgiving to sometime in late March. I use a pair of hand pruners (clippers) and snip the vines into manageable pieces from six to 24 or so inches long. Something between one-half to one full hour's effort yields a heaping wheelbarrow of fresh salad for the birds. I grab everything, leaves, twigs, viney stems up to a half inch in diameter and, most important of all, the runner-like stems that grow at the soil-to-leaf-litter interface. I also try to pull up as many roots as I can, too. I don't bother sorting out extraneous dead leaves and pine needles.

Everything gets clipped and tossed into the chicken yards. The chickens consume the leaves, frequently stripping the stems and twigs bare in just a few hours. I've also seen them eat tender root tips, shoot tips, and sprouting lateral buds, all tender meristem tissues. Inedible material simply becomes part of the bedding.

I use the honeysuckle mostly as a winter season supplement. Birds seem disinterested in honeysuckle during the growing season when they are also offered a wide variety of other species. But in the dead of winter, when there are few other sources of greenery, they attack the honeysuckle with gusto.

Pulling honeysuckle out of the canopy and ripping up its roots and runner stems in summer is dirty, hot, sweaty work; it is much more pleasant in winter when any excuse to get outside and breathe some fresh air is welcome. Finally, ticks and chiggers are seldom encountered pulling honeysuckle in winter time. I try to be as fastidious as possible, removing every last scrap of honeysuckle biomass from an area before moving on to the next patch. Nevertheless, I always miss quite a bit on my first assault. But that's not a big problem. The first year's effort in pulling honeysuckle

results in a marked impact on the infestation. Next year's efforts in that same spot go quickly and an ever greater fraction of the original biomass is removed in subsequent years. I'm not fixing the problem in any global sense, but I do believe that I am improving my own little corner of the world.

I'm convinced that wintertime honeysuckle salad is good for my birds. I can find no references to toxic compounds in this species, and my birds eat honeysuckle every few days throughout every winter to no obvious ill-effect. I suspect that the quality of our eggs is a valid measure of our bird's health while consuming Japanese honeysuckle. Our bird's plump and bright orange egg yolks put the flaccid yellow yolks of store-bought eggs to shame.

Of course, there is much indigestible matter in a honeysuckle leaf and this material passes through the bird, eventually mixing with the bedding. Every week or so, I clean up the chicken yards and the spent bedding, the bird's droppings, and miscellaneous twigs and vine segments of honeysuckle are tossed on the compost pile. Eventually, nutrients and organic matter that once resided in honeysuckle biomass becomes fertilizer for my vegetable and flower gardens.

To summarize, using Japanese honeysuckle as chicken salad has numerous benefits: Local biomass of a nasty exotic species is diminished. Pulling and clipping is good wintertime exercise in the fresh air. Chickens get a beneficial dietary supplement along with increments of extra bedding (twigs and vines). The nutritional value of the chicken eggs is enhanced. Composting of indigestible honeysuckle tissues contributes to the compost pile and, eventually, the quality and quantity of my vegetables. With all those positive outcomes, how can I not make time to pull Japanese honeysuckle in winter? Maybe there always is a silver lining, it's just a matter of looking at the cloud, i.e., looking at the problem, the right way.

Future installments will focus on exotic green mulch, frozen beetle treats, and garden poles.
W. John Hayden, University of Richmond
VNPS Botany Chair

New & Reviewed

Nature-friendly gardening book 'sweetly subversive'

Nature-Friendly Garden: Creating a Backyard Haven for Plants, Wildlife, and People by Marlene A. Condon Stackpole Books, 2006. \$19.95

The urgency of spring usually drives me to the far wilds in search of the latest birds and blooms, but sometimes I'm happy just to stay home and see what spring is doing in my yard and gardens. I don't mean to imply that I am any kind of gardener. I never do the things the garden books and columns tell us to do. So I was happy to read *Nature-Friendly Garden* and learn that my failure to follow accepted garden practice is the accepted garden practice for creating my own backyard sanctuary.

Nature-Friendly Garden is part manifesto, part how-to book, offering personal observations and sage ad-

vice on everything from planning your home landscape to what type of bird seed to put out. Some chapters, though, may go against the conventional grain. Marlene Condon's approach to invasive exotic plants, for example, may not set well with some VNPSers. Instead of railing against the satanic invaders, she opens the door to the possibility that some non-native plants may have a place in the nature garden. She notes that invasives often become invasive when offered opportunities by our soil disturbing activities and that non-natives may help to restore eroded or compacted soils and prepare the way for more acceptable plants.

In her chapter titled "Limit the Lawn," Condon offers alternatives to the paradigm that an expansive, expensive lawn is the standard of beauty in home

landscaping. What she's really selling here is a gardening style that replaces micromanagement with a more laid-back style: plant things that are adapted to your immediate environment, lay off the chemicals, leave spent flowers and stalks for wildlife food and cover, adopt a policy of watchful acceptance of non-native plants, pick your battles. Let the garden work for you.

Nature-Friendly Garden is a sweetly subversive little book. It's not going to put a dent in lawnmower sales, but if it gets into the right hands, it could change a few minds. Put a copy in your library. Give one to your neighbor. Make the world a better place, one yard at a time.

Mark Gatewood. Shenandoah Chapter

VNPS' Wiggins publishes native plant field guide

Hal Wiggins, biologist with the U.S. Army Corps of Engineers' Fredericksburg field office, spends a lot of his time in fields and forests. In the 15 years he's been doing the legwork for federal permits involving wetlands boundaries, he's seen his share of native plants. So many, in fact, that he's written a book about them. *Virginia Native Plants* (\$20, Black Cat Press, King George), at 90 pages, has the feel of a field guide, with photos taken by Wiggins and basics about plant biology and taxonomy. And it includes such nuggets as a section in the back listing plants used as food and medicine by American Indians.

His focus is dominant flowering plants in the Fredericksburg area. "I would say 99.9 percent of the population would like to know more about plants" growing wild in their fields and woods, says Wiggins, whether it be common skunk cabbage, or the endangered small whorled pogonia, an orchid.

"Why native plants? I work in a field where I have to investigate wetlands, which have quite a range of di-

versity and plant life, when you compare them to upland areas," he said. He's a plant aficionado, and anyone who has ever accompanied Wiggins in the field gets a short course with detailed descriptions and lots of Latin names.

Take the lowly skunk cabbage, *Symplocarpus foetidus*, for example. It's rather plain looking and it stinks, as the name implies. It's pollinated by flies that seek out the rotting-flesh smell. But Wiggins thinks it's beautiful in its own way. It blooms in late fall and early spring and "has a fantastic flower that actually generates heat." Don't try to eat it, or even touch the sap in torn leaves, which contain calcium oxalate crystals, and can cause chemical burns.

A couple of his other personal favorites: swamp bay and bloodroot. "Swamp bay is a beautiful shrub in the magnolia family that grows in saturated soils with an incredibly fragrant white flower that blooms in early spring," he said. "We chose that plant to represent the local chapter of the Virginia Native Plant Society."

Wiggins did the book with the chapter in mind. Bloodroot, in the poppy

family, has green, leathery leaves. It blooms for only a few hours in the early spring, with a tuber that is blood red, hence the name. Area Indian tribes called it "puccoon," and used it as a medicine and pesticide.

To date, most of Wiggins' writing has been scientific papers. For example, he wrote a short piece on the discovery of an endangered plant in Stafford County's Aquia Creek by Allen Belden of the Virginia Department of Conservation and Recreation. Harperella is a slender plant with a smooth stem and hollow, quill-like leaves.

Wiggins is a graduate of Old Dominion University and his book is dedicated to Lytton Musselman, his professor of botany at the Tidewater school. Wiggins, 52, joined the corps in 1991 after working as a wetlands consultant. He is a scientist with the agency's environmental regulatory program and is a co-founder of the Fredericksburg Chapter of the Virginia Native Plant Society. *This article, by Rusty Dennen, was originally published in The Free Lance-Star in Fredericksburg.*

Progress occurring on all fronts with flora project

A manual of the *Flora of Virginia* has significant importance to conserving Virginia's wild flora. VNPS members recognizing this set a record in response to the annual fund raising letter to benefit the Flora of Virginia Project (FOVP). Gifts of over \$20,000 have affirmed the VNPS support of the project. These gifts more than met the Challenge Gift of \$25,000 when joined with those from a separate fund-raising letter by the Flora board to non-VNPS donors. Thank you for your donations and especially the 10 donors who subscribed to the project at the \$1,000 level. Their names will appear in the first edition of the *Flora of Virginia*. Gifts may still be sent.

Progress report on the FOVP:

- FOVP Assistant Michael Terry is working closely with Chris Ludwig, Executive Director. Website updating and improvement is underway.
- FOVP website will offer photographs of Virginia flora; educational links; Atlas of the Virginia Flora is already on the web at http://www.biol.vt.edu/digital_atlas/.
- Johnny Townsend has joined the board of the FOVP and is writing descriptions of species.
- The comparison of Virginia specimens in herbaria across Virginia has

started and has been followed by the second stage of writing descriptions.

- Grant writing is underway by Lavetta McCune, of Richmond. An experienced grant writer, she will open this channel of fund raising for the project.
- Alan Weakley has written nearly half of the descriptions and Lara Gastinger, project artist, has approximately a

third of the illustrations completed.

- University of Virginia Press contract is approaching final stages for a publication in 2011.
- Publicity through *Southern Living*, May 2006 issue for the Mid-Atlantic, highlights the continued efforts by Marion Lobstein, a botanist at Northern Virginia Community College, Manassas, to assure Virginians have their own flora.

Wetland Ecology Day

Mark your calendars for Wetland Ecology Day on July 8 in Ruther Glen, Virginia, from 11 a.m. to 5 p.m. This is a unique wetland habit of several natural eco-types. The pond system is beaver created and is, in large part, responsible for the physiological layout and makeup of the entire system. A simple boardwalk encompasses much of the six-acre wetland. If you take the walk strictly around the pond area, sandals are sufficient, but the entire walk (lengthy) through the shrub bog region requires boots. Insect repellent is highly recommended! Host John Hummer will be providing drinks. Visitors are welcome to bring picnic food (please call about what you will bring 804-448-5258). The address is: 23500 Old C.C. Rd., Ruther Glen, Va. 22546. Park along the side of C.C. Rd. below entrance drive. For directions, call or use the internet.

The sixth anniversary for the FOVP is in August 2006. Publication of the flora in 2011 will be here quickly. Continued fund raising by grant applications and by personal donations is essential.

Nicky Staunton, 2nd VP & FOVP board member

John Clayton Chapter to walk along Piankitank

The John Clayton Chapter will host a Native Plant Walk on Saturday, June 24, at 10 a.m. Sandy Pait will lead a walk in the diverse habitats of the John Clayton Office site on the Piankitank River in Gloucester County. The event is free and open to the public. Bring water and lunch. Call Sandy at 804-725-1721 (or email at spait@wildblue.net) to register and get directions.

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 The deadline for the next issue is **July 1**.

• Reintroduction

(Continued from page 2)

agents, may cause a loss of reproductive output in new populations. Also worrisome are the potentially harmful activities beginning to occur under the right-sounding term of "compensatory mitigation." These projects are often driven by development pressures and seek to reduce impacts to threatened native populations by either moving them to "safe" sites, or establishing replacement populations in nearby areas. This may occur in response to regulatory requirements, or simply to lessen guilt over destroying the original population. Whatever the motivation, they are too often accomplished without sufficient knowledge of the long term habitat needs of the species in question. Unfortunately, many of these projects produce a false sense of accomplishment when initial establishment of plants is successful, but proper monitoring and follow-up is not done to validate reintroduction.

Considering all of these problems, the New England Plant Conservation Program (NEPCoP) is attempting to define guidelines for plant reintroduction. The issue needs thorough deliberation soon because a few highly touted successes have led to a dangerous perception that natural populations are easy to

recreate—and therefore are expendable. But, even if clearly defined, plant reintroduction guidelines are nearly impossible to enforce and projects are fraught with uncertainty. Several basic principles for introducing plants into the wild can be identified. First, this should be a technique of last resort, with the intent always to preserve plants only as they occur in their natural habitats. Second, reintroduction efforts should be directed to those species which are truly imperiled, i.e. in danger of extinction at the regional, national, or global levels. This would establish new populations to offset the risk that one catastrophic event could extirpate the species. Third, reintroductions should be performed only when the target site provides all the known habitat requirements, including soils, hydrology, and other special needs such as pollinators and associated species. Finally, long term management requirements, and a plan to monitor the target populations must be fulfilled.

Given the challenges of reintroduction, there have been success stories. A recent one is the recovery of Robbin's cinquefoil (*Potentilla robbinsiana*), an alpine species known only from the peak of Mount Washington, New Hampshire. Using seed collected from the few surviving plants, new seedlings were

propagated at the New England Wild Flower Society and transported to the mountaintop to augment the existing population. Remarkably, the new plants have taken and the species has been downgraded from its former federally endangered status. In Rhode Island a second population of the federally endangered sandplain gerardia (*Agalinis acuta*) has been successfully established. With only one known population in the state, located on private property, the intent was to establish a second population at a secure site with similar habitat traits—an Audubon Society of RI refuge. Using seed collected locally the project has been successful, though many years of monitoring and micro management will be needed. These successes should not be considered poster children for other such projects. Reintroduction is a time-consuming, resource-gobbling technique which must only be attempted as a last resort by those with the required specialized qualifications to do it in a way that optimizes success, and with minimum risk to the existing plant community.

Article by Rick Enser reprinted from the Rhode Island Wild Plant Society's Newsletter: *WildfloraRI*, v. 13, n. 2. RIWPS is a non-profit conservation organization dedicated to the preservation and protection of Rhode Island's native plants and their habitats. Information about the RI Wild Plant Society at wildflowers.org.

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Valley's Frontier Museum site of Annual Meeting

The Shenandoah Valley and western Virginia's Appalachian Mountains are the locations for this year's annual VNPS meeting. The large tracts of forest that comprise the Shenandoah National Park and the George Washington National Forest provide incredible opportunities to learn about the flora of the area and appreciate the species of late summer.

Field trips in the GW National Forest give a good idea of the variety of ecosystems to be found. Ramsey's Draft Wilderness Area is an example of one of the few old growth areas left in the mid-Appalachian region. This area has never been farmed or logged.

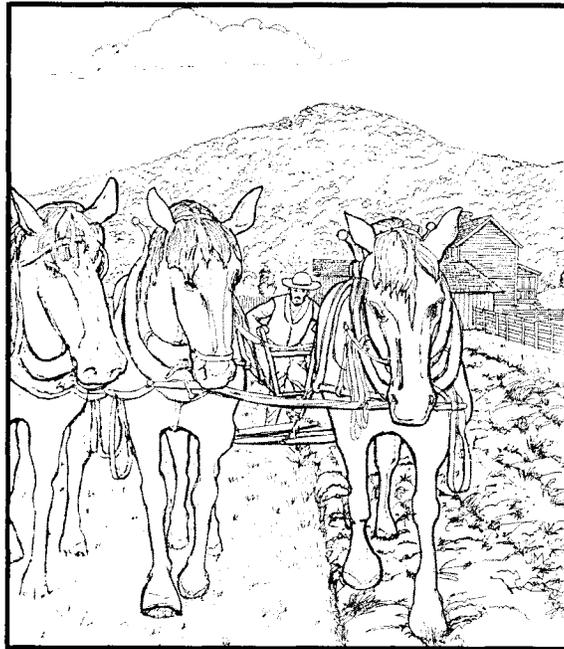
The Little River Watershed trip covers the largest roadless tract of national forest land in this region. The Forest Revision Plan for the GW National Forest will be open for public comment this fall. The plan will determine the

public forest use for years to come. Visiting two of the pristine areas of this forest underscores the need for more balanced national forest management. Bog or fen systems as well

as sinkhole ponds are featured in other field trips.

Local history has always had an impact on the flora of a region. Our host for this meeting is the Frontier Culture Museum in Staunton. The museum currently features six permanent, outdoor exhibits comprised of original farm buildings from England, Germany, Ireland, and Virginia. These buildings have been carefully documented, dismantled, transported to Virginia, and restored. The museum's exhibits serve as the setting for interpretive and educational programs designed to increase public knowledge of the diverse Old World origins of early immigrants to America, of how these immigrants lived in their homelands, how they came to America, and how the way of life they created together on the American frontier has shaped the success of the United States.

(See Annual Meeting, page 5)



Hidden jewel on Delmarva Peninsula worth a visit

It's hard to believe that the Adkins Arboretum, a 400-acre preserve devoted to Delmarva Peninsula native plants is turning 25 years old! I'm embarrassed to say that I just returned from my *first visit* to this hidden jewel just 25 miles east of the Chesapeake Bay.

The group I was traveling with was greeted by the tranquility of the preserve, the croaking of bull frogs, and lastly upon entering the visitor's center, an enthusiastic Erica Weick, the preserve's coordinator of 250 volunteers and 35 docents.

After equipping our group with the recently available audio tours we ventured out toward the woods, passing a huge meadow filled with *Andropogon gerardii* (big bluestem), and *Panicum virgatum* (switchgrass) and imagined the goldenrods and asters that would later dot the summer meadow. The staff recently started burning the meadow every February along with some occasional mow-

(See Adkins Arboretum, page 4)

From the president

Have you had some interesting plant experiences?

In June, VNPS was one of the sponsors of the Potomac Gorge Bioblitz. In brief, in a 30-hour spree, more than 1,000 species were found in the gorge. The total is expected to rise as more of the specimens collected are identified, and a list is available on the website. The emphasis was on invertebrates and non-vascular plants, which had received much less study. Some of you will remember that Gary Fleming of the Division of Natural Heritage was one of the speakers at our annual workshop a couple of years ago, and that much study of plants and plant communities had been done. Still, two montane plants that had not been found since 1880 (black birch and crinkled or wavy hairgrass) were discovered during the event! Reports and articles about it can be seen on the Nature Conservancy website (<http://www.nature.org/wherewework/northamerica/states/maryland/news/news1981.html>).

Many of you have probably also heard about the discovery of a rare ancient bald cypress-tupelo swamp

on the Nottaway River in southeastern Virginia. We are planning to have more information from the Division of Natural Heritage in our next newsletter.

Here's hoping all of you have had some beautiful native plant experiences this spring and summer. Here are a couple of mine. During the middle of June, I hiked with friends to see pinxter bloom and flame azalea in Canaan Valley, which their diary indicated should be in bloom. We were treated to at least an acre of fragrant, pink blooms in just one area. From a hill-top where pink and orange blooms mixed, we had a great vantage point to see the large area of pink flowers. Later that day I explored a swampy part of Canaan Valley State Park in search of showy ladyslippers. We found one bloom just opening and perhaps 20 to 30 stems of plants.

Another trip was to a remote cabin in south-central Colorado. At 10,000 feet, there was heavy frost most nights and several afternoon hailstorms. In spite of that, the days

were warm and there were many plants to see. The moist forest plants often reminded me of Canada's Bruce Peninsula, although some woods were drier. Perfect calypso orchids and a hillside of fragrant native roses were two of the best finds.

I also spent a great day on Skyline Drive in early July. There was still a lot to see on Stony Man and nearby. The fly poison was still blooming but beginning to go to seed. This plant was used by the mountain people in their window sills to kill flies. Ninebark was in seed, and the seeds of plants on the outcrop are a nice red color. Also on the outcrop and in bloom was Michaux's saxifrage. Along the road we found the greater purple fringed orchid, and miles of milkweeds were covered in butterflies.

I'm hoping I'll see a lot of you this fall at our Annual Meeting. The Shenandoah Chapter is planning a great weekend, and they've got lots of good field trips to choose from. Please come!

Your President, Sally Anderson

Virginia's Natural Heritage Program among world's best

In recognition of the outstanding work done every day by the Virginia Natural Heritage Program's botanists, zoologists, project review specialists, ecologists, administrative staff, natural area and karst protection specialists, information managers, and natural area stewards, Virginia was recently named by NatureServe as the top natural heritage program in the Western Hemisphere. The Virginia Department of Conservation and Recreation's Natural Heritage Program was singled out among the 75 similar programs that cover the Canadian Provinces, the

United States, and 13 Latin American countries. The selection was made by NatureServe staff and representatives from the natural heritage programs.

NatureServe, the international conservation group that coordinates the network, recognized the Virginia Natural Heritage Program (VANHP) for its exceptional efforts over the past decade to conserve Virginia's native plants, animals and natural habitats. "I am impressed by the commitment of the Virginia Natural Heritage Program's staff to conservation

and leadership," said Mary Klein, acting president for NatureServe. "Virginia's program is recognized around the country as the best in the business, and Tom Smith and his colleagues are national leaders who set an example to be followed."

"Virginia's Natural Heritage Program plays an important role in preserving the rich biodiversity of our Commonwealth," Virginia Gov. Timothy M. Kaine said. "This work also is a great help to local governments, conservation groups, and businesses

(See International award, page 7)

Frozen beetle treats are environmentally friendly



As native *plant* enthusiasts, when we think about invasive exotics, we tend to think about invasive exotic plants. Of course, animals mount invasions, too, and exotic animals contribute to the skewed nature of habitats altered by the impact of human beings. Pigeons, starlings, house sparrows, and urban rats come readily to mind. In addition, many insect pests have come to us from other hemispheres.

At my rural household, the most vexatious insect pest has got to be the ubiquitous Japanese beetle. Native to Japan, these pests have infested most of eastern North America, with isolated infestations appearing in some western states. One reason that Japanese beetles are so bad is that they deliver a double-whammy: the larvae (grubs) consume roots and are particularly destructive of turf and pasture grasses while the adults consume leaves and flowers of a wide variety of plants, leaving behind skeletonized versions of the plant parts consumed.

A USDA-APHIS website (http://www.pueblo.gsa.gov/cic_text/housing/japanese-beetle/jbeetle.html) estimates the annual economic impact of Japanese beetle adults at \$460 million per year, with the grubs being responsible for an additional \$234 million each and every year. In my yard, I find particularly heavy infestations on raspberries, roses, oriental persimmon, okra, and our native evening primrose (*Oenothera biennis*). To a lesser extent, I also find these beetles on corn silks and tassels. Other readers, no doubt, will have their own list of favored but susceptible species, both native and cultivated.

Left alone, the beetles can be devastating to these plants. The USDA-APHIS web site outlines various insecticide-based and biological control strategies for managing Japanese beetle infestations. The information found therein strikes me as reasonably sound. However, the USDA site is silent on poultry-based approaches. The remainder of this installment relates how I have recruited

my chickens into the good fight against the Japanese beetle menace.

It does not take a very acute observer to notice that chickens relish bugs, and by "bug" I am using a vernacular meaning, loosely definable as any invertebrate small enough to fit inside a chicken's beak. It did not take me long to determine by experiment that chickens find Japanese beetles eminently palatable. As mentioned above, there is no shortage of Japanese beetles in my yard during their season, pretty much late June and most of July. The challenge becomes how to get the beetles from the garden plants that they so voraciously devour to the chickens who are eager to do the same to the beetles.

I suppose most gardeners are familiar with the challenges of hand picking Japanese beetles from plants. One can accumulate only a few live beetles in a tightly closed fist before the beetles begin crawling around in a most unsettling manner, eventually forcing their way between one's fingers, or having been warmed to human body temperature, quickly escaping and taking flight as the gardener tries to add just one more beetle to the handful. And then, if the urge to let go of the handful of squirming, scratchy, beetle-legs has been resisted, what to do with them? If tossed in the chicken yard, most will escape before the chickens can get them. Of course, one could improve the odds in favor of the chickens by manually crushing the beetles, but this is not a strategy for the squeamish. Further, the beetles are so abundant and so widespread across my property that it quickly becomes very tedious to ferry them to chicken yards one handful at a time. There has to be a better way.

One better way occurred to me while noticing some aspects of Japanese beetle flight behavior, observations that, again, will be familiar to any gardener who has attempted manual capture of these critters. When temperatures are warm, as it usually is around midday during beetle season, the slightest disturbance sends the beetles rapidly into flight. However,

when it is cool, as in the early morning or near dusk, the beetles are sluggish. They are much easier to capture when it is cool. Further, if the quarry is missed, rather than taking off by wing, cool beetles drop like stones, and once on the ground, they seek shelter under leaves or in the nooks and crannies of the soil.

This range in behavior is easily explained as a consequence of the beetle's cold-blooded nature. When ambient temperatures are warm, the beetles are warm and they are capable of rapid movements, including wing beats fast enough for flight and when it is cold the beetles are cold and they can't do anything quickly at all. So, technically, they are poikilothermic, but let's not be too esoteric about catching bugs . . . or coleopterans for that matter. One day while pondering the cold-blooded nature of Japanese beetles, I made a cold-blooded calculation of my own: I could use ice cubes to temporarily cold-trap the beetles and thus overcome the problem of flight risk while gathering beetles to feed them to chickens.

To summarize, my preferred method of managing Japanese beetle infestations is as follows. First, I work in the cool of the morning or evening near dusk which, of course, are already favorite times for a stroll through the yard. Before starting my rounds, I put about two inches of ice cubes in any convenient wide-mouthed container. Something with a 10-inch opening is about right, large enough to provide a good target for falling beetles and small enough to manipulate and position around plant stems.

As I approach my beetle-susceptible plants, I hold the ice-bucket below aggregations of beetles, which are then gently coaxed to take a nose-dive into the ice. Once they hit the ice, the beetles burrow downward just as they would if they had dropped to the soil. But, among the ice cubes, they quickly become icy cold and immobile. I find that I can work leisurely from plant to

(See *Frozen treats*, page 8)



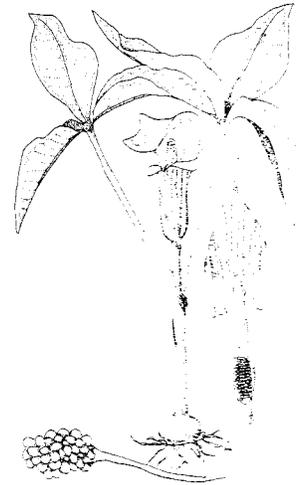
Love can be gender bender for Jack-in-the-pulpit

Another prom season has come and gone. It is estimated that the average high school boy spent \$400 on his tuxedo, haircut, corsage, and other prom peripherals; and the average high school girl drained \$675 from her piggy bank to cover the cost of her dress, hair, make-up, and other such necessities. I'm not sure that the amount of time spent making the decisions about what to wear would go very far toward explaining why our young people are falling behind the rest of the world in science and math. But imagine, if you would, how much more difficult it would be if these students had to decide first whether they were going to the big affair as male or female! As complicated as human courtship rituals are, at least the most basic decision – gender – has been decided for us. In many plants, however, this is a decision they make many times during their lives.

The Virginia forests have also just come through their big prom season.

Beneath the trees, spring wildflowers carpeted the forest floor dressed in their finest attire to dance romantically for a few weeks and make seeds to carry on their kind. Amid the diversity of floral revellers, anyone can quickly learn to recognize the distinctive shape of Jack-in-the-pulpit (*Arisaema triphyllum*). This tall perennial herb is a member of the largely tropical family Araceae, and a pair of lush three-parted leaves gives it a very tropical look. Like all members of its family, its tiny flowers are enclosed in a specialized, cup-like leaf called a spathe (the "pulpit") and are arranged in large numbers on a structure at the center of the spathe called the spadix ("Jack" himself).

Within any given spring, individual Jacks-in-the-pulpit are usually either strictly male (making only pollen) or female (making only ovules that when fertilized will mature into seeds), but over the course of their lifetimes they can switch genders many



times. On what basis do they make their decision? The answer seems to be resources. As in the prom example described earlier, it is more expensive to go to the dance as a female (a "Jill"-in-the-pulpit?) than it is as a male. Jacks, of course, don't have bank accounts (or the ability to borrow from
(See *Jack-in-the-pulpit*, page 5)

• Adkins Arboretum

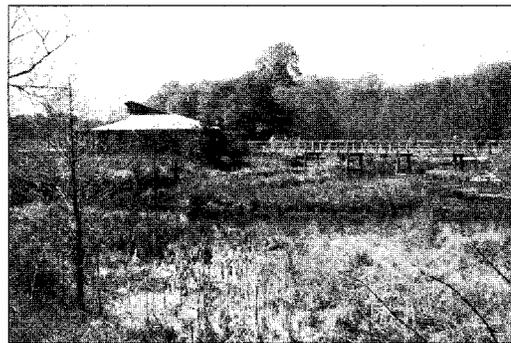
(Continued from page 1)

ing to keep shrubs and trees from dominating the area.

On our first stop along the preserve's four-mile walking trail, *Asimina triloba* (pawpaw) flowers hung overhead while skunk cabbage, golden ragwort and ironwood hugged the creek bed. A zebra swallowtail appeared, as if orchestrated, just as the audio tape was explaining how pawpaw served as the primary food source for the zebra swallowtail larvae.

After we investigated a patch of *Tipularia discolor* (cranefly orchid), Erica pointed out a research plot where the conservation curator was researching how lady slippers spread. Later down the path we saw the leaves of *Cypripedium acaule*, one of five kinds of lady slippers on the preserve.

As we walked through a 30-year-old pine forest with Erica, we learned how the area would eventually be



The Adkins Arboretum visitors center
(photo by Kelly Wilson).

taken over by hardwoods. Our helpful audio tour informed us how oaks, maples and beeches will elbow their way in and elbow out the pines. "Virginia pines start to deteriorate after 20 years" the audio tells us.

We ended our tour back at the visitor's center conference room, just in time for our brown bag lunch. In between watching a film about the preserve and dawdling in the small, quaint gift area, many of us collected some of the free brochures, including

"Native Trees of Adkins Arboretum" and "Gardening with Delmarva's Native Grasses" (just a few of the handouts available for visitors).

I promised myself I would be a return visitor, especially in the fall. On September 9, from 9 a.m. – 1 p.m., Adkins will hold its annual fall plant sale. Master gardeners will be available to help with plant identification and plant diagnostic questions. A fall family festival will take place November 11. Be sure to check the website for detailed information. Enjoy!

The non-profit arboretum, run by Friends of Adkins Arboretum is located at 12610 Eveland Road, Ridgely, Maryland. Contact staff at www.adkinsarboretum.org and 410-634-2847.

Kelly Wilson, a member of the Potowmack Chapter, works as a full-time gardener at the former home of Marjorie Merriweather Post in northwest Washington, D.C. [Editor's note: Sincere apologies to the author for running the photo of Adkins Arboretum in the last issue of the Bulletin. Readers get to see it again in this issue in its proper place.]

• Annual Meeting

(Continued from page 1)

Admission to the museum is included with cost of weekend registration.

The music early settlers brought to the region changed with times and evolved into a unique style of Appalachian mountain music. A local band will be playing this old-time music during the Saturday evening social hour. Although a contra dance would most likely follow dinner in the distant past, our annual meeting will continue with our guest speaker, Douglas Coleman, a noted botanist and executive director of the Wintergreen Nature Foundation at Virginia's Wintergreen Resort. Coleman's presentation, "Pre-history and Wildflowers of the Blue Ridge," will look at the changes the forest has undergone since the last ice age 20,000 years ago. Identifying unique areas containing a wide variety of flora and conserving those areas in the face of human pressures is extremely challenging.

Staunton has a long history and was an important city in the development of the Valley. The city has undergone a renaissance of the downtown area. A Saturday morning field trip looks at the historic areas and gardens of Staunton.

The Civil War had a large impact on the Valley. The shale barrens trip looks at the special plants found only on shale barrens as well as some Civil

War history. Stops at the Confederate Breastworks in the national forest and the museum in McDowell trace part of Stonewall Jackson's famous 1862 Valley Campaign.

Agriculture has a rich presence in the Shenandoah Valley. The McCormick Farm trip provides an insight into farming challenges past and present. Cyrus McCormick's invention of the reaper in the 1830s revolutionized farming. The Valley at that time was the breadbasket for the growing United States. Changes in lifestyle and global economies are driving today's agricultural changes. The McCormick Farm, now managed by Virginia Tech, is trying to address future needs through sustainable agriculture including cattle grazing programs and ram breeding. To show that native buffers are compatible with agriculture, the Marl Creek Interpretive Trail acts as an outdoor classroom. Local students learned about the issues then provided the labor to remove invasive plants and re-introduce local natives. The afternoon portion of the field trip will travel to nearby Buffalo Springs Herb Farm Nature Trail. This trail provides a good example of current forest ecosystems just as the growing season heads into autumn.

Come and visit the Shenandoah Valley. Help our chapter celebrate the western mountains and valleys of Virginia September 23-24.

Chris Bowlen, Shenandoah Chapter President

Garden writing workshop offered

The North Carolina Botanical Garden will host a four-day writers' workshop September 19-22 at the Totten Center in Chapel Hill for those interested in cultivating a knack for creative writing. "Cultivating the Written Word: Creative Garden Writing from Production to Publication" is perfect for the aspiring garden writer or anyone who wants to know more about the business of writing. Accomplished authors C. Colston Burrell and Lucy Hardiman will walk participants through the steps from finding your own writing voice to getting published. Though their focus is on gardening and nature, their presentation applies to all genres.

Burrell is a garden designer, photographer, naturalist, and award-winning writer. His best-selling books include *Perennial Combinations*, and Rodale's *All New Illustrated Encyclopedia of Perennials*. Burrell serves as contributing editor to *Horticulture* magazine, and writes regularly for *Fine Gardening*, *Landscape Architecture*, and *American Gardener*. Ms. Hardiman is a popular garden writer, teacher and lecturer. She is a contributing editor for *Horticulture* magazine, pens a column for *Northwest Garden News* and writes for *Fine Gardening*, and *Pacific Horticulture*.

Visit www.ncbg.unc.edu or call 919-962-0522 for more information.

• Jack-in-the-pulpit

(Continued from page 4)

mom and dad). Their resources are primarily in the form of carbohydrates stored from previous growing seasons in tuber-like roots called corms. For example, plants that enjoyed lots of sunlight and water last year were likely able to stash away large starchy reserves (Native Americans considered the cooked corms a delicacy, providing the alternative common name of "Indian turnip" for this species). These "wealthy" plants can afford to flower as females. Plants with fewer reserves tend to flower as males, and the poorest plants may not be able to join in the festivities at all.

The expense of being a female comes largely from the cost of producing the bright scarlet clusters of fruits characteristic of this species. Birds feed on these fruits and disperse the seeds throughout the forest. There are big advantages to flowering as a female, however. Almost all the females in the population get enough pollen to mature all of their seeds, so although the investment in their reproductive effort is steep, payoff is almost assured. Many plants that flower as male, however, never get their pollen to females, so although this is the cheap way into the dance, a male is likely to go home alone.

The Araceae includes a few other Virginia natives including the familiar skunk cabbage (*Symplocarpus foetidus*), which uses its large store of carbohydrates to warm its flowers as they emerge from the ground even before the winter snows melt.

Perhaps the most famous member of the family is the Indonesian titan arum (*Amorphophallus titanum*), whose enormous spathe can measure more than five feet high, giving it unchallenged claim to the title of largest inflorescence in the plant kingdom! The titan arum has the aroma of a rotting corpse, however, perhaps not its best feature to emulate on prom night.

Dave Carr is Curator and Acting Director at Blandy Experimental Farm, the State Arboretum of Virginia

Virginia Native Plant Society Slate of Candidates

The following slate of candidates is proposed by the 2006 VNPS Nominating Committee to replace officers, standing committee chairs, directors-at-large, and members-at-large of the Nominating Committee, and to fill existing vacancies in other classes.

PRESIDENT (2009) - Sally Anderson is completing her first term as President, and previously served as Second Vice-President and Recording Secretary. She is the Volunteer Coordinator for the Native Plant Trail at the State Arboretum of Virginia and serves on the Piedmont Chapter Board.

BOTANY CHAIR (2009) - John Hayden is Professor of Biology at the University of Richmond. In addition to teaching and conducting research, he is herbarium curator and cares for the biology greenhouses. He has hosted the VNPS winter workshops at UR and has been the VNPS Botany Chair since 2003.

FUND RAISING CHAIR (2009) - Martha Slover has recently been Vice-President of the Prince William Wildflower Society and Chapter Representative to the VNPS Board. She has a degree in Geosciences from Virginia Tech and is employed at Hemlock Overlook Center for Outdoor Education, jointly operated by George Mason University and the Northern Virginia Regional Park Authority.

DIRECTOR-AT-LARGE (2009) - Stan Shetler is a member of the Potowmack Chapter, served as the VNPS Botany Chair from 1996 to 2003. He helped initiate and guide the VNPS website and wrote the text for seven Wildflower of the Year brochures. He helped organize the VNPS annual workshops while on the board and spoke at sev-

eral of them. Stan is Curator of Botany Emeritus in the Smithsonian Institution's National Museum of Natural History and co-authored the *Annotated Check list of the Vascular Plants of the Washington-Baltimore Area*.

DIRECTOR-AT-LARGE (2009) - Mary Ann Lawler has been an active member of the society since 1999. She has been Secretary of the Potowmack Chapter and is currently its newsletter editor. She is on the Board of the Mid-Atlantic Exotic Pest Plant Council and is involved in many environmental issues in Arlington County. Mary Ann retired in 1998 after 34 years with the U.S. Department of the Interior, the last five as Director of Budget. This is her second term as DAL.

FIRST VICE-PRESIDENT (2007) - Open

HORTICULTURE CHAIR (2009) - Open

MEMBERSHIP CHAIR (2007) - Open

PUBLICATIONS CHAIR (2009) - Open

PUBLICITY CHAIR (2009) - Open

DIRECTOR-AT-LARGE (2008) - Open

2007 NOMINATING COMMITTEE - Open

PROXY, 2006 VNPS ANNUAL MEETING

I hereby authorize the Secretary to cast my vote for the slate of candidates proposed by the Nominating Committee

Signed _____
Address _____

E-mail or mail by September 18 to:
VNPS

Blandy Experimental Farm
400 Blandy Farm Lane, Unit 2
Boyce, VA 22620

or e-mail: vnpsofc@shentel.net

PROXY, 2006 VNPS ANNUAL MEETING

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or e-mail: vnpsofc@shentel.net

Your vote by e-mail or regular mail helps us reach our quorum for the Annual Meeting.

•International award recognizes top-rate program

(Continued from page 2)

in protecting significant habitats and landscapes across the state."

The award recognizes a long list of exceptional achievements including:

- Development of a comprehensive database of Virginia's rarest plants and animals that guides conservation action and timely land use decisions by federal, state and local agencies and conservation organizations;
- Development of the State Natural Area Preserve System, one of the best state preserve systems in the nation, with 46 preserves spanning 41,000 acres that protect habitat for more than 300 different at-risk plant and animal species and special natural communities;
- Extensive field surveys that in over 20 years have led to the discovery of 23 species new to science and about 200 species never before known in Virginia;
- Working with local governments and educating school children about Virginia's 4,100 documented caves that support 110 globally imperiled species, and provide 75 percent of the drinking water supply to 27 counties in western Virginia;
- Promoting prescribed fire management, invasive species control, and wetland restoration across the Commonwealth;
- Developing the Virginia Conservation

Lands Needs Assessment, which uses geographic information systems (GIS) to model and map land conservation priorities and actions in Virginia.

"This award is a reflection of the dedication of DCR's Natural Heritage staff," said Tom Smith, Director of the VANHP. "We're extremely proud of the recognition we receive from NatureServe and our partners for our efforts in conserving Virginia's rich natural heritage."

The natural heritage program's work was also acclaimed by the Virginia Secretary of Natural Resources, L. Preston Bryant, Jr. "The Commonwealth of Virginia has among the most historic natural resources in the nation," said Bryant. "From our Chesapeake Bay to our famed Blue Ridge Mountains, ours is truly an environment rich in biodiversity, and our professional staff is single-minded in its mission to protect and promote the natural resources that make Virginia the place people around the world love to visit."

"On behalf of the Commonwealth of Virginia, we are very pleased to receive this award from NatureServe. The award recognizes the excellent job our Virginia Natural Heritage Program staff has been doing for

many years," said Joseph H. Maroon, Director of the Virginia Department of Conservation and Recreation. "We appreciate being recognized for leadership efforts that benefit Virginians and can serve to further natural resource protection nationally and internationally."

This is the second time that the VANHP has been selected as outstanding natural heritage program in the Western Hemisphere, having received a similar award in 1994 from The Nature Conservancy. "The Virginia Natural Heritage Program is a valued partner of ours that continues to excel in conserving Virginia's biodiversity," said Michael Lipford, vice president and Virginia Director at The Nature Conservancy. "We've known it all along, but it's great to see people around the country recognize it as well."

Note: NatureServe (www.natureserve.org) is a non-profit conservation group dedicated to providing the scientific information, technology, and services needed to guide effective conservation action. Representing a network of 75 natural heritage programs and conservation data centers in the United States, Canada, and Latin America, NatureServe is a leading source for detailed scientific information about threatened plants, animals, and ecosystems.

See the address label for your membership expiration date
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Name(s) _____

Address _____

City _____ State _____ Zip _____

___ Individual \$30

___ Student \$15

___ Family \$40

___ Associate (groups) \$40*

___ Patron \$50

___ Sustaining \$100

___ Life \$500

*Please designate one person as delegate for Associate membership

To give a gift membership or join additional chapters: Enclose dues, name, address, and chapter (non-voting memberships in any other than your primary chapter are \$5)

I wish to make an additional contribution to ___ VNPS or _____ Chapter in the amount of ___ \$10 ___ \$25 ___ \$50 ___ \$100 ___ \$(Other) _____

_____ Check if you do not wish your name to be listed to be exchanged with similar organizations in a chapter directory

Make check payable to VNPS and mail to:

VNPS Membership Chair, Blandy Experimental Farm, 400 Blandy Farm Lane, Unit 2, Boyce, VA 22620

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 Nancy Sorrells, Editor

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•Frozen treats

(Continued from page 3)

plant, accumulating beetles as I go with very few escapes. Some, of course, miss the mouth of my container, but once through the orifice, their doom is sealed. I often collect a few hundred beetles this way before exhausting the readily available supply. I then dump the ice cubes and beetles in the chicken yard where they are consumed in short order.

What can I say? It is obvious that the chickens love their frozen beetle treats; for them I suppose it is much the same as ice cream for people on a warm summer night. But seriously, each beetle represents a little protein pill, highly nutritious for the chickens, and available at almost no cost, just the electricity to make a few ice cubes, and the time to gather the frozen treats while inspecting the garden. And, of course, a portion of everything fed to the chickens finds its way to the compost pile and then back to my gardens. So, rather than rapaciously devouring my plants, many Japanese beetles in my yard end up contributing to the health and vigor of both my chickens and my vegetables.

As the USDA-APHIS web site indicates, Japanese beetles are here to stay. Eradication is not feasible. And the same is true for many invasive exotic species, both plant and animal. For any pest, exotic or native, it is always advisable to find control measures that minimize environmental damage. For me and the Japanese beetles that infest my yard, the control method of choice is frozen beetle treats. Damage to my beetle-susceptible plants is lessened, and my chickens grow plump, outcomes that both my chickens and I find acceptable.

Future installments will focus on exotic green mulch and garden poles. Japanese beetle drawings from ohioline.osu.edu/hyg-fact/2000/2504.html. W. John Hayden, University of Richmond and VNPS Botany Chair

New garlic mustard threat discovered

Recently a friend sent me an article, "Garlic Mustard Casts a Pall on Forest," by Rex Springston from the May 18, 2006, *Richmond Times Dispatch*. It describes an additional serious threat to our deciduous forest. Many of you are familiar with the aggressive and invincible garlic mustard (*Alliaria petiolata* or *A. officinalis*) that has displaced much of the native ground cover, including our native wildflowers. It is an alien species from Europe, having been introduced in the United States around 1868. The *Atlas of Virginia* has the dubious honor of listing this member of the Brassicaceae (mustard family) first. It occurs in nearly all counties in Virginia, except for a few in the southwest.

You may have tried to eradicate this biennial pest in some of the infected areas, but in many cases this is not effective if seeds of the current year or past years have already fallen. Since these seeds may live for several years in the soil, it is necessary to repeat the task each year until no more seeds are left to germinate.

Species of the mustard family do not require an association with mycorrhizal (root) fungi but, instead, have anti-fungal properties. These fungi have not had time to adapt to garlic mustard that is a relative newcomer to the scene. Instead, the garlic mustard is killing these fungi which, in turn, cause the hardwood seedlings to grow much more slowly in areas infested with garlic mustard, as evidenced in laboratory experiments in Harvard. It would appear that over time this effect on the canopy tree seedlings may change the composition of the trees in the mixed deciduous forest that require the association with mycorrhizal fungi.

Article by Dorothy C. Bliss first appeared in the *Blue Ridge Wildflower Society newsletter*.

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Virginia Native Plant Society
Annual Meeting, September 23-24, 2006
Celebrating the Western Mountains and Valleys of Virginia
The Shenandoah Chapter invites you to
Celebrate the Western Mountains of Virginia
Our Host location for the 2006 Annual Meeting is the
Frontier Culture Museum, Staunton, Va.

Weekend Schedule of Events

Saturday, September 23

All meals included

7:30-9:00 a.m.	Registration and Breakfast at the Frontier Culture Museum
9:00 a.m.-4:30 p.m.	Field Trips
5:00-6:30 p.m.	Social Hour BYOB, music provided by Highlanders String Band (an old time five-piece band featuring music of the 1850s)
6:30-7:30 p.m.	Buffet Dinner (casual)
7:30-8:30 p.m.	Annual business meeting
8:30 p.m.	Evening Program: Douglas Coleman from the Trillium House, Wintergreen, Va. "Pre-History and Wildflowers of the Blue Ridge Forest"

Sunday, September 24

Breakfast included, lunch on your own

8:30-9:30 a.m.	Breakfast at the Frontier Culture Museum
9:30 a.m.	Quarterly board meeting
9:30-Noon	Field Trips

Directions: I-81 Exit 222. Head west on U.S. Rt. 250. The Frontier Culture Museum is 1/2 mile on the left. Proceed to the visitor's parking lot. Continue through the parking lot and turn to the left of the flag poles at the main museum entrance along a road that will take you to the Dairy Barn where meals and meetings will be held and field trips will assemble. Look for a VNPS sign.

Accommodations: The Best Western is on U.S. 250 east as soon as you get off of I-81; within 1/2 mile of the Frontier Museum; indoor pool; 540-885-1112; A block of rooms has been reserved for the Annual Meeting for the special price of \$69.95 + tax/night. To receive the discount be sure to mention the meeting.

Other Hotels in the Staunton Area: Comfort Inn 540-886-5000; Microtel 888-771-7171; Quality Inn 540-248-5111; EconoLodge 540-885-5158; GuestHouse Inn 540-885-3117; Howard Johnson 540-886-5330; Hampton Inn 540-886-7000; Sleep Inn 540-887-6500; Holiday Inn Golf & Conference Center 540-248-6020

Registration packet will include information about local campgrounds as well as points of interest and area restaurants

About our Guest Speaker

Douglas Coleman is the executive director of the Wintergreen Nature Foundation at Virginia's Wintergreen Resort. Coleman is a noted botanist who has co-authored several research publications and his work has been featured in *Southern Living*, *Blue Ridge Country*, and *Albemarle magazines*. He has shaped Wintergreen's natural sciences programs since 1975, created three area preserves and a 30-mile interpretive hiking trail system. His work has been the recipient of the National Environmental Achievement Award for Resort Communities and the Phoenix Award: National Environment Award from the American Association of Travel Writers. Among his publications within the botany field are: *Rare Plant Management Manual for the Blue Ridge Parkway* (Coleman and Pittillo, 1985) and "The Vascular Flora of the James River Gorge" (Ramsey, Coleman, et. al, Castanea, *The Journal of the Southern Appalachian Botanical Society*, Vol 58, 1993).

FIELD TRIPS

SATURDAY FULL DAY (Depart 9 a.m., return by 4:30 p.m.)

1. **Ramseys Draft Wilderness Area.** Strenuous. This is an eight-mile circuit hike through spectacular old growth forest. Although the hemlock has died out, yellow birch, poplar, white pine and oaks are still there. Hike will include stream crossings that may be difficult depending on water levels. Trailhead is about 35 minutes from Staunton. Group size limited to 10.
2. **Little River Watershed of Shenandoah Mountain.** Strenuous. This is a five-mile out-and-back hike in the largest roadless area in the Mid-Atlantic region. Will involve a steep ascent from the trailhead and possibly difficult stream crossings. Trailhead is about 45 minutes from Staunton.
3. **Shenandoah National Park Skyline Drive-Rockfish Gap to Calf Mountain.** Moderate. Drive 15 miles to Rockfish Gap and enter SNP. Continue nine miles north on the Skyline Drive to see the efforts to restore the bald at Calf Mountain stopping at various spots along the way. Spectacular overlooks. Trip includes a steep one-and-half mile round-trip walk up Calf Mountain. Carpooling will be an asset as participants may be asked to share the \$15 per car entry fee. Cars will be coordinated during breakfast.
4. **Highland County Shale Barrens.** Easy. This is mainly a car trip along Rt. 250 west from Staunton. We will visit the shale barrens at Headwaters about 25 miles west of Staunton stopping at the Confederate Breastworks at Shenandoah Mountain on the way. Then on to a wet meadow near Monterey in Highland County a further 15 miles to the west. If there is time, we will visit the history museum in McDowell.
5. **McCormick Farm and Buffalo Springs Herb Farm Nature Trail.** Easy to Moderate. Visit the farm of Cyrus McCormick, inventor of the mechanical reaper in the 1830s. Farm is part of Virginia Tech today and is actively experimenting with new techniques of sustainable farming and livestock grazing. Walk Marl Creek Interpretive Trail featuring local native plants in an area reclaimed from invasives. Reclamation is being done by local school groups. Learn from the coordinator about the challenges of this project. After lunch, travel five miles to the nature trail at the Buffalo Springs Herb farm for a moderate two-mile hike (some steps). About 25 miles from Staunton
6. **Mt. Joy Pond and Cowbane Prairie Natural Area Preserves.** Easy. Mount Joy Pond supports one of the world's largest populations of the globally rare Virginia sneezeweed. This and several other rare plants are associated with the large, globally rare sinkhole pond, which is the centerpiece of the preserve. Cowbane Prairie is an outstanding example of a wet prairie, which was once a more common natural community in the area. Preserves are about 25 miles from Staunton. Visit one preserve in the morning; travel to the other in the afternoon, return by 4:30.

SATURDAY MORNING HALF DAY (Depart 9 a.m., return noon)

7. **Reddish Knob Aster Trip.** Moderate. This is a drive up the steep windy SR 934 to Reddish Knob in the George Washington National Forest to view asters. Among the asters we hope to see are: *linarifolius*, *cordifolius*, *acuminatus*, *divaricatus*, *macrophyllus*, *simplex*, *pilosus*, and *lateriflorus*.
8. **Historical Walk in Staunton.** Easy. Walking tour of the churches, mansions, schools and gardens of the historic Newtown District of Staunton.

SATURDAY AFTERNOON HALF DAY (Depart 1 p.m., return 4:30)

9. **Chessie Nature Trail.** Easy. Walk an hour in and out of a riverine ecosystem along an old canal towpath and railroad bed converted into a walking trail that has been monitored for native plants over the past four years. You will see fall forms of flowers, seeds, leaves, and possibly bovines. Also included will be a delightful array of invasive aliens. Lists of plant materials will be handed out, and you can assist in a fall monitoring event. Near Lexington and 45 minutes from the Frontier Culture Museum.
10. **Mueller's Fen.** Easy to moderate. Visit this botanically rich small wetland located on private property a few miles outside of Staunton. Bring boots because it may be muddy and wet.
11. **James Madison University Edith Carrier Arboretum.** Easy. This arboretum provides an ideal combination of botanical gardens and natural forest characteristic of the mid-Appalachian region, each complementing the other and serving the purpose of research, teaching and demonstration. Led by the arboretum director. Location: Harrisonburg, 30 minutes from Staunton.

SUNDAY MORNING (Depart 9 a.m.)

12. **Madison Run.** Moderate. Walk along a fire road entering the Shenandoah National Park near Port Republic about 25 miles from Staunton. Enter the park from the Valley floor. Notice changes in flora as elevation increases gradually while following the stream.
13. **Augusta Springs Wetland & Conservation Area.** Easy. Handicap accessible. One-mile loop trail through a wetland area in the George Washington National Forest about 30 miles from Staunton. Excellent birding opportunities. View butterflies and many wetland plants, possibly including bottle gentian.

VNPS REGISTRATION FORM

Annual Meeting

September 23-24, 2006

Name _____ Name(2nd person) _____

Signature** _____ (required) Signature(2nd)** _____ (required)

Address _____

_____ Chapter(s) _____

City _____ State _____ Zip _____

Telephone () _____

Email _____

All events take place at the Frontier Culture Museum Dairy Barn in Staunton, Va.

Registration Fees

	<u>Fee</u>	<u>Amount</u>
<u>Full Annual Meeting</u> (Includes Saturday breakfast, Saturday box lunch, Saturday evening banquet, breakfast Sunday a.m., all field trips and museum admission. Vegetarian choices at all meals.)	\$65 (X number of registrants)	_____
<u>Total Amount Enclosed</u>		_____

Saturday Box Lunch Choice: Meat _____ Vegetarian _____

Field Trip Choices for each registrant (attach additional sheet if necessary)

Full Day: 1st Choice _____ 2nd Choice _____

Half Day Morning: 1st Choice _____ 2nd Choice _____

Half Day Afternoon: 1st Choice _____ 2nd Choice _____

Sunday Field Trip (check one): Yes I will participate _____ No I will not participate _____

Sunday Field Trip: 1st Choice _____ 2nd Choice _____

**Signature required on all registrations. By signing this form the above registrant(s) shall hold harmless the staff and volunteers of the Virginia Native Plant Society and those designated to serve as their providers.

Mail this form with check payable to VNPS to: VNPS Annual Meeting
400 Blandy Farm Lane, Unit 2
Boyce, VA 22620

For information, please contact Karen York, VNPS Office Manager, at 540-837-1600 or vnpsofc@shentel.net (For more than two registrants, photocopy this form or handwrite the additional information, making sure to include a signature.)

*You are invited to visit the
Shenandoah Valley & western
Virginia's Appalachian
Mountains at the Virginia
Native Plant Society's Annual
Meeting September 23-24.*



Affix 39c
stamp here

VNPS
Blandy Experimental Farm
400 Blandy Farm Lane, Unit 2
Boyce, VA 22620



Bulletin

A publication of the VIRGINIA NATIVE PLANT SOCIETY
Conserving wild flowers and wild places

www.vnps.org

Ancient trees discovered in swamp forest

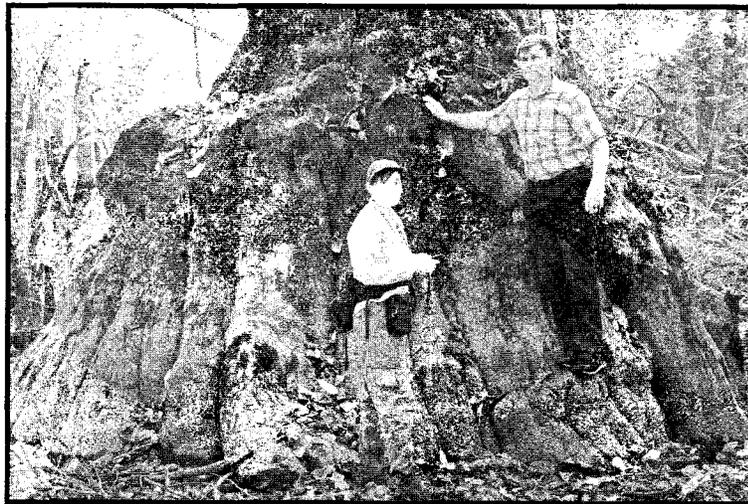
In late September of 2005, Virginia Natural Heritage Program (VNHP) ecologist Gary Fleming and retired Suffolk science teacher Byron Carmean were walking alongside a flooded slough that diverges from the Nottoway River near Courtland, Virginia. They had stopped at the now-defunct Cypress Bridge, one of M.L. Fernald's favorite collecting sites during the 1930s and 1940s as he worked on updating *Gray's Manual of Botany* to its eighth edition. As they walked up the slough eyeing the opposite shore, Carmean, a veteran big-tree hunter, spotted a massive water tupelo (*Nyssa aquatica*) that he thought would challenge the existing state champion. In fact, all of the tupelos and bald cypress (*Taxodium distichum*) lining both sides of the slough appeared to be quite old and relatively large. Unfortunately, it did not appear possible to cross the deep slough by foot, so the exploration ended quickly.

A few days later, Carmean returned with a canoe and discovered that old trees were not restricted to narrow bands along the slough, but covered an area of many acres. Moreover, the stand contained many trees of exceptional, even record, size and strange growth forms indicative of very old age. With the permission of the land owner, International Paper Corporation, Carmean and VNHP ecologists returned to the site several times to document the forest. The extent of the old forest was determined by walking the perimeter

of the stand and collecting spatial location data at key points with a Global Positioning System (GPS) unit. The interior of the stand was explored on foot and documented with field notes and GPS data. Complete quantitative structural, floristic, and environmental data were collected from a quarter-acre plot that was compositionally representative of the entire stand. In addition, circumference, height, and average crown spread were measured for the largest specimens of five tree species following protocols of the American Forests National Register of Big Trees (www.americanforests.org/resources/bigtrees/).

Based on these studies, it was determined that the old-age forest occupies a wide depression in the floodplain, covering approximately 37 acres. It is dominated by large water tupelo and more scattered large bald cypress, all with huge buttressed bases. Rising from the forest floor are thousands of bald cypress "knees," the largest of which exceed 10 feet in height. Throughout the stand,

Carolina ash (*Fraxinus caroliniana*) is the dominant understory tree, while medium-age overcup oak (*Quercus lyrata*), red maple (*Acer rubrum*), and American elm (*Ulmus americana*) are rooted on the tops of the tupelo and bald cypress buttresses, six to eight feet above the ground. Since these trees are not as flood tolerant as tupelo and bald cypress, the elevated perches allow them to survive by keeping much of their root mass above mean water level. Watermarks on
(See Record-breaking, page 6)



Byron Carmean and Karen Patterson stand at the base of a national champion water tupelo at Cypress Bridge in Southampton County.

From the president

Meetings and anniversaries mark calendar

The 2006 Annual Meeting came and went, and we were pleased with a large turnout, reasonably good weather, a fun band and a lively meeting. The Frontier Culture Museum was a good location to gather, and I thank the staff for the hospitality to us. I also enjoyed a trip through the outdoor museum before the car ride home.

As announced on page four in the events section, the 2007 meeting will be hosted by the John Clayton Chapter in mid-September, and will be part of a year of activities commemorating European settlement of Virginia. This seems like an important date for us because it is the approximate date we use in deciding what plants are native to Virginia. Of course, this anniversary likely marks the beginning of the era of invasive plants and other organisms, although it took quite a while to become the onslaught it is today. We will also be trying to arrange our March 3 Annual Workshop around such themes as past ecosystems in the state and plant exchanges between continents.

Our organization turns 25 years old this year, and I hope to mark that anniversary as well. If you have information about VWPS or VNPS history tucked away, it is time to bring that to light. And remember, it is your society, and I like to hear your ideas about what we can do in the future to preserve and protect our native plants and habitat, and tell others about what we find so special.

Meanwhile, in the upcoming year, we are arranging a trip to the Bruce Peninsula, and perhaps a few other outings. Look for more information in future **Bulletin** issues, contact the office for updates, or sign up for our list serve to get information on our activities.

Your President, *Sally Anderson*

Workshop slated for March 3

Set aside time in your botanical schedule for the Virginia Native Plant Society's Annual Workshop. This year's event will be held on Saturday, March 3 at the Gottwald Science Center on the University of Richmond campus. The workshop will run from about 9 a.m. until 3 p.m. Details and registration information will be available in the next newsletter and will appear on the VNPS website at www.vnps.org. Over the years, the VNPS workshop has gained a reputation as an informative and educational day spent with fellow plant lovers. You won't want to miss this event.

Progress continues on Flora Project

Good news continues to roll in on the Flora of Virginia Project. Perhaps the most exciting is the announcement by Jerry McCarthy of the Virginia Environmental Endowment (VEE) of a grant of \$80,000 for the project. The VEE mission is to improve the quality of the environment by using its capital to encourage all sectors to work together to prevent pollution, conserve natural resources, and promote environmental literacy.

Joining co-authors Alan Weakley and Chris Ludwig as an author for the flora will be Johnny Townsend, a biologist for the Virginia Department of Conservation and Recreation and a VNPS Director-at-large.

Also, a memorandum of agreement has been drafted by the Flora of Virginia Project with Lewis Ginter Botanical Garden to formalize the relationship and the use of the herbarium located there.

Work continues on all fronts. The project is on track for a completed manuscript to be delivered to the University of Virginia Press in January of 2009.

VNPS Financial Statement Nov. 04 - Oct. 05

Income

Dues, membership	28,956.00
Donations	1,675.00
Fund Raising	12,243.83
Sponsored Events net	5,756.88
Sales, Merchandise	2,933.00
Interest income	575.28
Total income	52,139.99

Expenses

Newsletter	10,384.87
Botany	2,164.00
Publicity	66.14
Conservation	607.32
Fund Raising Letter	1,886.21
Insurance	1,702.00
Taxes/License	30.53
Dues/memberships	200.00
Administration	28,321.13
Net Income	-87.47

Total Assests	29,228.99
Current Liabilities	789.10

Caledon receives long-awaited VNPS registry listing

Caledon Natural Area, part of the Virginia Department of Conservation and Recreation's excellent system of state parks and natural area preserves, has been appreciated by fans of the bald eagle for some time. But Martha Shelkey, a VNPS member who lives near Caledon, appreciates it because of its many native plants and plant habitats. In fact, Martha learned to appreciate Caledon's plants so much that she nominated it as a VNPS Registry Site, preparing the proposal for registry with much supporting information and a collage of her color photos of Caledon flowers as the proposal cover. Martha based the proposal on her own knowledge of the native plants and plant habitats, aided in great measure by the floristic survey of Caledon done in 1984 by eminent field botanist Dr. Donna Ware of the College of William and Mary.

Martha completed the proposal in 1999. Then came the delays. The Registry Program lost its way for a while due to the unfortunate death of Bo Dale, the program's registry chair. There were other delays, including that of fall of 2005, when an award date was set but postponed due to an outbreak of influenza among participants.

But here is the good news. On Friday, September 15, 2006, at a brief but delightful ceremony on the lawn in front of the visitors center at Caledon, VNPS President Sally Anderson and Martha Shelkey pre-

sented the registry site plaque to Park Manager Nina Cox and Chief Ranger Sammy Zambon. The ceremony was one of many events of Caledon's annual Home School Day, a fair for those families interested in home schooling.

A number of the attendees watched the ceremony with interest. Chief Ranger Sammy Zambon explained that not only had Martha Shelkey prepared the proposal for the site registry, but had assisted Caledon as a volunteer, accumulating over 1,000 hours of service to the park. One of her accomplishments is the preparation of an impressive set of looseleaf notebooks on the flora of Caledon. These notebooks include Martha's color photos of each plant, with a written description of the plant and the area in which it is found. These notebooks are an invaluable resource for park staff and visitors when plant identity or location questions arise. Ask for and enjoy these notebooks when you visit Caledon.

President Sally Anderson then gave a description of the VNPS registry program, including the potential benefits to the sites that are registered. At Sally's invitation, Martha Shelkey spoke of her adventures at Caledon and her joy that the award was being made. Nina Cox expressed appreciation to VNPS and to Martha for the award, stating that the plaque would be prominently displayed in the Smoot House, which is the visitors center at Caledon.

Other attendees included

Anita Tuttle of the Virginia Division of Natural Heritage, who was formerly the chief ranger at Caledon; Ann Gorrell, membership chair at the VNPS Fredericksburg Area Chapter; Potowmack Chapter member John Dodge, also co-chair of the VNPS Registry Program; Kim Boshela, Caledon Park naturalist, who along with Sammy Zambon, helped with the arrangements for the ceremony; and last but certainly not least, Dave Shelkey, Martha's husband, who also has provided Caledon with over 1,000 volunteer hours.

John E. Dodge, co-chair VNPS Registry Program



VNPS President Sally Anderson, right, reads the Caledon registry plaque while, left to right, Nina Cox, Caledon park manager; Sammy Zambon, Caledon chief ranger; and Martha Shelkey, the VNPS member who prepared the site registry proposal, watch.

Annual meeting took VNPSers to a Virginia prairie

The Shenandoah Chapter lined up so many good field trips at the Annual Meeting that I am sure more than a few of us were wishing somehow to clone ourselves. I wanted to see some of the habitats in my backyard so I signed up for Chris Ludwig's field trips. Who better to tell us what we were seeing than this botanist for the Virginia Department

of Conservation and Recreation who is also the person in charge of the Virginia Flora Project?

Chris took us first to the Cowbane Prairie, near the South River (a headwater tributary of the Shenandoah). This prairie, he explained, helps take us back in time several centuries. The first settlers into the Shenandoah Valley described a place

of forests interspersed with tall grassland prairies. Yes, that's right, prairies right in the Shenandoah Valley. For thousands of years those grasslands had been kept open by grazing animals such as elk and buffalo and through periodic burning by the Native Americans.

Today only a few remnants of
(See Cowbane, page 8)

Mark your calendars

2007 Annual Meeting

The 2007 VNPS Annual Meeting will be hosted by the John Clayton Chapter on Friday and Saturday September 14-15. The VNPS board meeting will be on Sunday September 16.

Lobstein to speak

Make sure that you save the date of Saturday, February 17 if you want to hear Marion Lobstein talk about our plant friends. She is a featured speaker at the Mid-Atlantic Home and Flower Show being held at the Virginia Beach Convention Center. The theme for this year's show is "Dream Gardens." The convention center is located at 1000 19th Street in Virginia Beach. Visit www.vnps.org under South Hampton Roads Chapter for updates and look in the January chapter newsletter for detailed information.

Don't miss the 'Return to the Bruce'

From June 16 to 23, VNPS will take another trip to the Bruce Peninsula, a rich botanical area and United Nations Biosphere Reserve, located between Lake Huron and the beautiful Georgian Bay in Ontario, Canada. Our leader, botanist (and expert birder) Dr. Stanwyn Shetler, will receive assistance from Elaine Shetler and Sally Anderson. The trip includes a full week's stay at Wildwood Lodge on the lakeshore, where a daily breakfast, picnic lunch, and dinner are included. Guided, plant oriented trips are provided each day.

Participants should arrive on June 16 for dinner and a preview of the trip. We will carpool each day to see bogs and fens, rich woods, alvars (natural limestone pavements) and rocky lakeside habitats. A boat trip to Flowerpot Island, named after a rock formation on the shore, is included. The northern flora is rich in ferns, orchids and species of northern forests, as well as occasional western species. Birds are also plentiful. The walks are mostly short and easy, often on boardwalks, although a few longer walks are available. There is time for photography, and there are opportunities to explore in the vicinity of the lodge. The lodge also has a pool, games and puzzles, and a gift shop. Several small potteries are found in the area, and may be visited on your own.

For more information, contact Sally Anderson at 540-722-3072 or rccsca@visuallink.com. The cost will be \$875, which includes a \$50 donation to VNPS. Reservations and a deposit of \$200 are needed by January 10, 2007. Maps, plant lists and information will be provided at that time. Each person must provide his or her own transportation to the lodge, about one-and-a-half-days' drive. The trip may be cancelled if there are fewer than 12 reservations.

Native plant focus in the horticulture world part of course

Horticulture in our region with emphasis on a number of special focus topics is all part of the schedule at the 2007 Mid-Atlantic Horticulture Short Course to be held January 28 through February 2 at the Oceanfront Ramada Plaza Resort in Virginia Beach. This course is of particular interest to VNPSers because of the special one-day track for non-professionals, "Go Native," that will be held on February 1 at the Holiday Inn Sunspree Resort at Virginia Beach from 9 a.m. to 4 p.m. The entire symposium offers one to five-day programs featuring national and regional experts in the horticulture industry.

Tracks are broken down by green industry topics such as arboriculture, plant production, business, Spanish language and culture for landscape professionals, landscape architecture and design, landscape maintenance, hor-

ticulture (basic and advanced) and landscape crew manager programs.

Helping organize the native plant portion of the course on February 1 are members from VNPS's South Hampton Roads Chapter. The keynote speaker for the "Go Native" program will be Allan Armitage with a presentation called "Natives are for Mid-Atlantic Gardeners." He will also be available for a book signing. Other speakers and topics include Bonnie Appleton on native plants for the America's Anniversary Garden project; Nancy Hugo on Virginia's Remarkable Tree Project; Mike Andruczyk on native plants for rain gardens; Carol Heiser on wildlife gardens for your backyard; and top 20 native trees and shrubs by Norman Grose and Ed Bradley who authored the *Best Plants for Hampton Roads*.

Daily fees are \$65, and early bird discounts are offered prior to

January 14. For an additional \$15 fee, participants are invited to attend a hurricane preparedness program sponsored by the Hampton Roads Tree Care Association, in conjunction with Virginia Dominion Power. This program, "Remember Isabel - Don't Get Caught with Your Trees Down," will be held at the Oceanfront Ramada Plaza Resort on February 2, from 9 a.m. - 1 p.m.

Full program details and registration are available online at www.mahsc.org or by calling 757-523-4734.

The Mid-Atlantic Horticulture Short Course is produced by the Virginia Horticultural Foundation, a nonprofit organization that provides educational programs to assist and inform the general public and professionals in effective and efficient horticultural pursuits, landscaping, environmental concerns and general gardening activities.

Gaia conference

Warnings sounded for Planet Earth

The Virginia Native Plant Society and the Prince William Wildflower Society, along with George Mason University, Arlington County, numerous environmental organizations, companies involved in green infrastructure, and public open space entities, sponsored a two-day conference taking a look at the state of Planet Earth. The central theme of the conference was the "Gaia Theory," which posits that the organic and inorganic components of Planet Earth have evolved together as a single living, self-regulating system that maintains conditions suitable for its own survival. (The theory is named after the Greek goddess Gaia.)

The symposium's chief sponsor, the Northern Virginia Regional Park Authority, along with its principal organizer, Martin Ogle, managed to entice over 20 nationally-known leading scientists, environmental managers, and educators knowledgeable about the state of our biosphere and who are working on solutions to some of our most pressing problems.

Many of them presented graphic evidence of how our biosphere works and why it is rapidly changing as a re-

sult of human activity. Almost all of them focused on global warming as the most dire threat to the living earth.

Dr. Tyler Volk, who directs the Earth and Environmental Science program at New York University explained why the earth is not in chemical equilibrium. Plant life and the vast oceans absorb carbon dioxide and cool the planet, keeping it from becoming like Mars and Venus. However, human activity is causing the CO₂ to be out of balance.

Dr. Tom Lovejoy, president of the Heinz Center for Science, Economics and the Environment, stated that diversity is the single best measure of the health of our environment and that climate change is the ultimate distortion of a biological cycle. He said the increasing monthly carbon dioxide concentrations measured since 1958 from the Mauna Loa Observatory may become the most famous environmental graph in human history. He said the changes from these increases may not be linear or gradual: Glaciers are melting—all tropical glaciers will be gone in 10 to 15 years; plant bloom dates are earlier; birds are nesting earlier; wildfires are increasing; butterfly ranges are shifting northward and up slope;

coral reefs are declining; polar bears and other species are declining.

Dr. Robert Correll, of the American Meteorological Society and Senior Research Fellow at Harvard, said that 1,500 scientists over a period of five years have formed a consensus on global warming and he presented graphic and dire findings of major changes taking place in Greenland, the Arctic, and the oceans and its fisheries. For example, oceans have become 30 percent more acidic making it harder for corals, plankton and tiny marine snails [called pteropods] to form body parts.

Dr. Lynn Margulis of the University of Massachusetts at Amherst, who along with James Lovelock was an original proponent of the Gaia Theory, spoke about the earth as a "system of organisms" which are tightly entangled and that extinctions weaken the structure. A video from Lovelock to the conference said that the evidence is that the earth is ill with a "morbid fever" that could take 200,000 years to correct.

Dr. Donald Aitken, an expert on renewable energy, was the final speaker, who summed up the decline in bioproductivity and the warnings

(See *Gaia*, page 7)

Participants challenged to take action

The Virginia Native Plant Society and Prince William Wildflower Society were two of the many sponsors for the recent conference "The Gaia Theory: Model and Metaphor for the 21st Century." The conference was held October 14 and 15 at the George Mason University Law Campus in Arlington. Participants from VNPS included Mary Ann Lawlor, Shirley and Cliff Gay, Martha Slover and myself.

The gathering featured many prominent scientists, scholars and activists (see related article). Most importantly it accomplished two things: it educated people about what the Gaia Theory posits and it emphasized the need to take action soon to counter the effects of hu-

man-influenced climate change and other environmental problems.

James Lovelock, the originator of the Gaia Theory was a scientist in NASA's space program in the early 1960s working on methods of detecting life on other planets. Through the analysis of new data on the climates of Mars and Venus and discussions with peers, Lovelock came to realize that the atmosphere of the Earth could not be explained through abiotic processes. Lovelock was a devoted evolutionist. However he saw what Darwin could not 100 years earlier due to the state of scientific knowledge at the time: organisms are not simply shaped by their environment, but actually change their environment through

biological processes to make it more favorable for life.

In the early 1970s Lovelock met microbiologist Lynn Margulis. It was Margulis' computations of microbial activity that allowed Lovelock to back up his hypothesis with data – Gaia was becoming a theory. Margulis was able to demonstrate that the bioproducts and levels of microbial activity created the modern atmosphere of Earth. Over time Lovelock, Margulis and other scientists have been able to show that it is the complex metabolic processes of organisms acting on a large scale that regulate the Earth's biosphere – particularly the atmosphere and oceans.

(See *Challenge*, page 7)

Record-breaking trees found in Cypress Bridge

(Continued from page 1)

the buttresses indicate that most of the habitat is flooded to an average depth of about four feet for part of the year.

The density of very large individual trees at this site is striking; diameters-at-breast-height (DBH) exceeding five feet are common throughout. At least 12 individual swamp tupelos, and six individual bald cypress exceeding eight feet in diameter were measured. The largest individuals are between 10 and 12 feet in diameter. All of the large trees are hollow, which appears to be one of the principal reasons this forest has never been cut. Many large snags and fallen logs, as well as grotesque deformities in the buttresses and crowns of the overstory trees, suggest that the stand is very old. Although logistics precluded increment coring of the dominants, between 500 and 600 annual growth rings were counted on two three-foot diameter bald cypress logs in an adjacent, cut-over stand. This suggests that the larger trees at Cypress Bridge are much older, possibly exceeding 1,000 years in age. During surveys of the

site, six new national and state champion were documented (Table 1), an extraordinary number for such a small area.

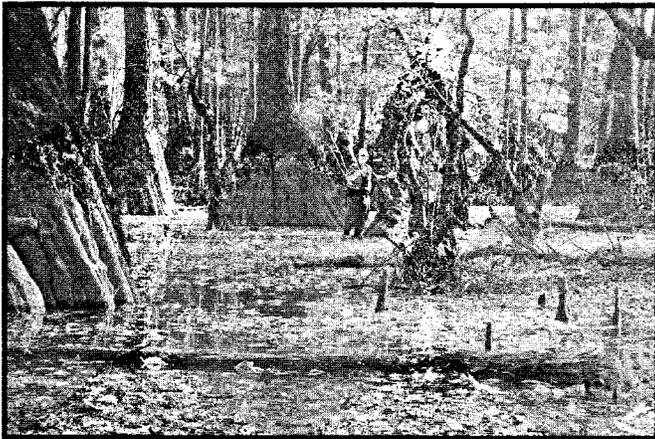
The study team was fortunate that in October 2005, the habitat was almost completely drawn down after a very dry summer. An herbaceous flora dominated by annuals and fast-growing, short-lived perennials was well developed in patches of drier soil. The most numerous of these over the entire site were false pimpnel (*Lindernia dubia* var. *dubia*), Virginia cutgrass (*Leersia virginica*), horse-tail paspalum (*Paspalum fluitans*), and marsh fleabane (*Pluchea camphorata*). Species in this group are well adapted to habitats that are submerged for significant portions of the year, producing seed banks or water tolerant rootstocks that sprout and grow rapidly to maturity during favorable periods of soil exposure. A somewhat different aggregation of annuals and perennials, including false nettle (*Boehmeria cylindrica*), greenfruit clearweed (*Pilea pumila*), Walter's St. Johns-wort (*Triadenum walteri*), swamp beggar-ticks (*Bidens discoidea*), and starved aster (*Symphyotrichum lateriflorum* var.



lateriflorum), were commonly rooted in moss on fallen logs and the sides of tupelo buttresses. However, the most abundant herbaceous vascular plant at the site was the epiphytic resurrection fern (*Pleopeltis polypodioides* ssp. *michauxiana*), which covers many of the high trunks and branches of the overstory trees. The only exotic plant found, albeit rarely, in this forest was Indian heliotrope (*Heliotropium indicum*).

Although similar bald cypress-tupelo swamps originally covered more than 40 million acres in the southeastern United States, only about 12,000 uncut acres remain today (Stahle et al. 2006). While the Cypress Bridge Forest is small in comparison to several other tracts of virgin swamp forest in the southeast, it is nonetheless significant, both for its concentration of champion trees and its potential for further study. The Virginia Department of Conservation and Recreation is currently negotiating to purchase the old-age forest and surrounding acreage for a new state natural area preserve. If this effort

(See *Swamp*, page 8)



of annuals and perennials, including false nettle (*Boehmeria cylindrica*), greenfruit clearweed (*Pilea pumila*), Walter's St. Johns-wort (*Triadenum walteri*), swamp beggar-ticks (*Bidens discoidea*), and starved aster (*Symphyotrichum lateriflorum* var.

Species	Circum.	DBH	Height	Avg.	Crown Spread	Points	Status
Bald Cypress	35 ft 6 in	11 ft 4 in	123 ft		64 ft	565	State Champion
Water Tupelo	31 ft 10 in	10 ft 2 in	85 ft		65 ft	483	Co-National Champion Co-State Champion
Water Tupelo	32 ft 2 in	10 ft 3 in	82 ft		43 ft	479	Co-National Champion Co-State Champion
Overcup Oak Swamp	19 ft 8 in	6 ft 3 in	101 ft		89 ft	358	Co-State Champion
Cottonwood	10 ft 9 in	3 ft 5 in	115 ft		33 ft	251	State Champion
Carolina Ash	5 ft 3 in	1 ft 8 in	80 ft		31 ft	151	National & State Champion

Table 1. National and state champion and co-champion trees documented in the Cypress Bridge Forest. Note that the water tupelo champions were bettered in 2006 by another Virginia tree located by Byron Carmean.

•Gaia

(Continued from page 5)

by the previous speakers. He discussed how humans can understand, adapt, and reverse the trends with the use of renewable energy resources, such as solar and wind power and biofuels. Germany is the leader in the use of solar energy; Japan subsidizes the development of solar technologies. We need to be on the forefront.

While there is no "silver bullet," to reverse the course of global warming and to protect Gaia, the Planet Earth, we

do need "silver buckshot" to use Dr. Lovejoy's rhetoric. The admonitions and recommendations of the presenters include the following. Our goals should be to embrace and practice sound science; form a global environmental ethic that includes all organisms; develop a new energy and climate agenda; revise our conservation strategies; limit greenhouse gases; increase natural connectivity to allow species to move as the climate changes; consume wisely and live sustainably by converting to the use of alternative forms of energy and the use

of renewable resources; foster a sense of wonder in our children in the presence of nature; promote legislative action and use of first amendment rights to speak up; re-examine our value system that has allowed us to change the balance of Earth's systems; engage people with value systems that focus on a holistic relationship with the natural world; and develop food production and land use practices that mimic natural systems, use fewer resources and re-connect consumers with producers.

Mary Ann Lawler, VNPS Director-at-large

•Challenge

(Continued from page 5)

During the recent Gaia conference, it was scientists such as Tyler Volk, Thomas Lovejoy and Robert Correll who brought home the point that human activities have significantly influenced or altered these biosphere regulating processes helping to bring about climate change and other effects.

It was a discussion during a session led by Dr. Eileen Crist of Virginia Tech that hit home to me one of the most important lessons. Participants were talking about the need for people to digest both the science pointing to Gaian theory and climate change and the implications. Dr. Crist said that in her ex-

perience the students are able to digest and understand the science and facts about human impacts and climate change in general. However, when faced with the effects of climate change, what impacts humans are having and what it might mean for the future, students shut down or tune out, and are not able to cope with those issues.

In hearing this I was reminded of the statement by author Bill McKibben in his book *The End of Nature*. McKibben said that we humans are able to ignore the impacts we have on the environment around us by simply avoiding the ugly parts and focusing on those that remain beautiful and natural. He said that the concept of wilderness unspoiled by hu-

mans, even if it is very limited or barely exists, is such a powerful concept in our minds and culture that we can become indifferent to the damage we cause.

I think McKibben's idea about our imbedded concept of the inexhaustible wilderness may be the same as Dr. Crist's description of students not being able to conceive of our impacts on the natural world and what that means for the future. It reminds me that we must digest the impersonal data about what is going on, but that to make changes in ourselves and the world around us, we must make a personal connection to nature and acknowledge our role and our interdependence.

Charles Smith, PWWS Chapter President

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•Cowbane

(Continued from page 3)

those prairies remain. They are special pockets of unique habitat, often containing plants and animals rare to Virginia, and often found in unlikely places. Luckily one such prairie is now permanently protected in Augusta County. It is found in a most unlikely spot – off of Rt. 340 next to several large industrial plants.

Once in the preserve you have several distinct habitats to explore within a 63-acre tract that was mostly a cornfield until a decade ago. The largest expanse of the property sweeps out in front and is a mixture of native grasses, sedges, and other plants such as goldenrod and mountain mint. If you go in September like our VNPS group did, you will see a yellow expanse of waist-high golden rod interspersed with big bluestem, little bluestem, and Indian grass, much of which is over your head. With the help of periodic burning from the staff at DCR, the land has quickly reverted to a landscape that would have been familiar to Augusta's first settlers.

As you enter the preserve, if you hike to the left for a quarter mile or so you will find a half-acre fen that is the real reason why the state wanted

to acquire and protect this land. This prairie fen, or marsh, provides the perfect habitat for a number of rare plant species, the rarest of which is queen-of-the-prairie. This tiny marsh is one of only six places in Virginia known to have this July blooming plant with its spray of pink flowers. It is not found at all in any neighboring states, although it is more common in the Midwest.

Further beyond this small fen is a larger wetland that has deeper water and also boasts several rare plants. Both marshes are high in calcium and pH because of the limestone underlying the area.

A visit to the Cowbane Prairie Natural Area Preserve is special no matter what time of year because it offers a glimpse into the past ecology of the Valley. Remember to protect and

learn from such pockets of special habitat that can be anywhere, even in places surrounded by industrial development such as this.

The Cowbane Prairie Natural Area Preserve is open to hikers during the daylight hours. The gates are locked to vehicles, so park along Rt. 909. Then at the gates marked with a Department of Conservation and Recreation sign, walk a few yards beyond and turn right through the small graveled lot. The half-mile access trail is easily discernible beside a farm field and hedgerow. When visiting Cowbane, take plenty of bug spray and if you travel beyond the grassland prairie expect to get your feet and legs wet. Step carefully to protect the precious flora and fauna of this special place.

Nancy Sorrells
VNPS Bulletin editor

•Swamp

(Continued from page 6)

succeeds, it will protect a rare and enchanting remnant of undisturbed swamp, essentially unchanged in character since before European settlement.

Gary P. Fleming & Karen D. Patton
VDCR, Division of Natural Heritage

References: Stahl, D.W., M.K. Cleaveland, R.D. Griffin, M.D. Spong, F.K. Eys, R.B. Culpepper, and D. Patton. 2006. "Decadal drought effects on endangered woodpecker habitat." *EOS: EOS, transactions, American Geophysical Union* Vol. 87, No. 12: 121-125.

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