Spring 2012

Vol. 31, No. 2
ISSN 1085-9632

Bulletin

A publication of the VIRGINIA NATIVE PLANT SOCIETY

http://www.vnps.org

Conserving wild flowers and wild places

Explore the James River at Annual Meeting

The James is a flashy river, rising rapidly after upstream rains. Just as quickly its level falls, discharging slugs of fresh water downstream toward the Chesapeake Bay. Plants and plant communities in this watershed have adapted to these rapid changes—dry to wet to dry—over thousands of years. Hard as we have tried to tame the James, success eludes us, but the plants persist. Such habitat disturbance, natural and man-made, also encourages the spread of non-native plant species. Nowhere is this as evident as it is along the James at Richmond.

Then and Now Along the James:
Changing Landscapes, Changing Plants
VNPS Annual Meeting
September 14-16, 2012

The VNPS Annual Meeting will provide opportunities to visit floodplain and riverside areas to learn how they have changed over the years due to human influence, and what is being done to protect or restore native plants and check the spread of invasives. Come walk trails in James River Park led by Ralph White, park naturalist, and trails in Dutch Gap Conservation Area led by Dr. John Hayden, VNPS Botany Chair and professor of biology at the University of Richmond. These two areas are very different communities with interesting histories.

As I look upriver on this spring-in-February day, bluebells shyly nod between the tree trunks, and river birch catkins stretch in the sun where buttonbush and sunflowers will bloom in September. Rushing rapids of spring will be replaced by burbling runs through willow bushes. Patches of water-willow will wave in slower pools among the rocks at the head of the fall line.

Below the seven-mile stretch of rocky river that forms the fall line through Richmond, the James is tidal. At Dutch Gap this day there were green shoots visible in the marsh where last fall we saw swamp mallow, fuzzy-seeded clematis, golden wingstem and red-berried deciduous holly.

Come explore the wild rice marsh at Point of Rocks at the mouth of the Appomattox, where granite was quarried for construction in Richmond. Stand where Native Americans have stood for thousands of years and look over acres of wild rice in bloom. Among the rice and other grasses in September will be pink gerardia, ladies-thumb, partridge pea, button snakeroot, late-blooming pickerel weed and, if we are lucky, creamy white ladies tresses will greet you at the end of the trail.

Visit Virginia Commonwealth University's Rice Center to learn about progress in restoring the native plant communities in and around Kimages Creek. An added treat will be a tour of the LEED-certified research and teaching facility. You may even be greeted by the bald eagles that are sentinels over the building on the point.

(See Annual Meeting, page 8)

VNPS Wildflower of the Year brochure inside
Featuring *Mitchella repens*, partridge berry

From the president . . . . . .

Thinking about spring and VNPS service

Ahh, it's springtime, and hikes with green and blooming plants are beginning. Can you catch our Wildflower of the Year in bloom? As always, I hope to visit your chapter sometime for a hike, but I just can't seem to be everywhere. Getting to know so many people who share similar feelings about the outdoors, and who like to dawdle along a trail looking at our beautiful plants has been one of the most enjoyable aspects of state board service.

Besides our new partridge berry brochure, there are a couple of announcements to look for in this issue: our receipt of generous bequests, our memorial for NatureServe botanist and VNPS charter member Larry Morse, and some of your chapter's spring and summer events. Don't forget the May 6-12 Southwest Virginia trip. And please save the date for our 30th Annual Meeting in Richmond, September 14-16. The great James River will be a focus and we are sure to have a fine time exploring the changing plants and landscapes of the James.

As always, we will be electing new board members at the Annual Meeting. Have you ever thought you'd be interested in board service? If you would like to know more about it, I'd be glad to talk to you about the subject, and without holding your feet to the fire. Anyone is welcome to observe our board meetings to see what we do there. We go to different places around the state to meet.

I'd also like to draw your attention to the updated reprints of the popular native plant lists from the Virginia Department of Conservation and Recreation (DCR). These lists include our Piedmont, Coastal Plain and Mountain physiographic provinces, plus Riparian Buffers and Grasslands. They can be seen online at http://www.dcr.virginia.gov natural_heritage/nativeplants.shtml. Paper copies are available from several sources and most chapter presidents and board members have the opportunity to pick them up at our board meetings to save shipping costs, but they can also be ordered from our state office or from DCR. Your chapters have helped pay for the redesign and new printing, and they make great giveaway items at events. I'd also like call attention to a 2010 publication from Virginia Tech, The Guide to Threatened and Endangered Species on Private Lands in Virginia, *which details federal and state endangered species laws. If you have ever wondered or have fielded questions about these laws this is a great resource. It can be found online at http://pubs.ext.vt.edu/420/420-039/420-039.htm.*

Finally, THANK YOU for sponsoring shale-barren rock cress (Arabis serotina). *We successfully raised the sponsorship money, and handed a check personally to Kathryn Kennedy, director of the Center for Plant Conservation. VNPS is a generous group, and we are working to make a difference!*

Your President, Sally Anderson

Flora Project: Species 3,164 and not counting

Another milestone for the *Flora of Virginia* came just as a long February was drawing to a close. The final tally of species (and subspecific taxa, i.e., varieties and subspecies) that will be described in the *Flora* is 3,164. And species number 3,164, which just squeaked by, has an interesting story.

It goes back to a single specimen in the D.C. Herbarium at the Smithsonian Institution: *Centunculus minimus*, collected by a W. Hunter on June 25, 1886, at a place called Woodlawn, in Fairfax. Mark Strong, a botanist with the Smithsonian Institution, examined the specimen to ensure that it had been correctly identified, "because it could have been confused with some other small things," said Johnny Townsend, a co-author of the *Flora* and staff botanist with the Virginia Natural Heritage Program of the Department of Conservation and Recreation.

Strong verified that the plant had been correctly identified. Like so many plants, though, its name has been changed, to *Anagallis minima*. Trading as chaffweed, it's a nearly cosmopolitan annual in the Myrsiniaceae and a congener of the scarlet pimpernel, *A. arvensis*.

Rod Simmons is trying to pinpoint the site of the collection, because there are at least three places in Virginia called Woodlawn, Townsend said. "There was a Woodlawn plantation or farm in Fairfax where some of the botanists in the area collected," he said. "It's near Dogue Creek, which may have been the place."

People who have been following the Flora Project closely may remember that, when it began, the expected number of species was quite a bit larger. Why the drop? It's not because of extinctions.

"We have set a very high bar for

(See **Flora,** *page 7)*

Wildflower Calendar of Events

Shenandoah Chapter Plant Sale (in conjunction with Riverfest), Saturday, April 28, in Waynesboro at the Farmers' Market. For more information contact Chris Bowlen at bowlenchris@comcast.net or 540-289-6801.

Jefferson Chapter Annual Plant Sale, Sunday, April 29 1 p.m., Ivy Creek Natural Area, Charlottesville. Contact Mary Lee Epps at mse5e@virginia.edu for more information.

Madison Run Invasive Inventory (Shenandoah Chapter), Thursday, April 26. Meet at the entrance of Madison Run Fire Road at 9 a.m. This is a favorite wildflower viewing spot with an invasive plant problem. We will be doing an inventory to provide information for the National Park Service. Contact Anneli Tattersall annelitatt@yahoo.com for more information.

Neighborhood Streams Tour (Prince William Wildflower Society), Saturday, April 28, 10 a.m.-noon. Cliff Fairweather will lead a program in Cloverdale Park in Dale City. See alliance@pwconserve.org for more information on the Community Stream Stewards project.

Prince William Wildflower Society Annual Spring Garden Tour, Sunday, April 29, noon-5 p.m. For more information contact Nancy Vehrs at nvehrs1@yahoo.com or 703-368-2898.

Tour of Casey Trees Nursery (Piedmont Chapter), Sunday, April 29, 1-3 p.m. Join members of the Piedmont Chapter on this tour in Berryville, Clarke County, and hear nursery manager Brian Mayell talk about Casey Trees' interesting tree production methods. Nursery address is 2498 Briggs Rd., Route 617 on the Shenandoah River. For more details about the tour contact Carrie Blair at horseblanketcb@yahoo.com or 540-364-1232.

Marjorie Arundel Trillium Trail Walk (Piedmont Chapter), Tuesday, May 1, 10 a.m.-noon. Retired professor of biology Marion Lobstein will lead a walk at the VNPS Registry Site in the G. Richard Thompson Wildlife Management Area to see the trilliums and other wildflowers. Meet at the Trillium Parking Lot on Va. Rt. 638 north of Linden. To RSVP and for more details, contact Carrie Blair at 540-364-1232 or horseblanketcb@yahoo.com.

Blandy Experimental Farm trip with Marion Lobstein, Thursday, May 3, 9 a.m.-12:30 p.m. Take a trip to the G. Richard Thompson WMA, featuring a sea of trillums. Meet in the Blandy library and carpool to the site. Friends of the State Arboretum $8, nonmembers $10.

James Madison University Arboretum Walk (Shenandoah Chapter), Saturday, May 5. Contact: Chris Bowlen bowlenchris@comcast.net or 540-289-6801.

Wildflower Weekend at Shenandoah National Park (Piedmont Chapter assisting), Saturday-Sunday, May 5 and 6. More than 850 species of flowering plants are found in Shenandoah National Park (SNP). About 70 percent of them are native. Information and a program schedule of the walks can be found at www.nps.gov/shen/planyourvisitupload2012_WildflowerWeekend_Schedule.pdf.

Prince William Wildflower Society Annual Plant Sale, Saturday, May 12, 9 a.m.-noon. Held on the grounds of Bethel Lutheran Church, 8712 Plantation Lane, Manassas. For more information contact Nancy Vehrs at nvehrs1@yahoo.com or 703-368-2898.

Reddish Knob Wildflower Excursion (Shenandoah Chapter), Saturday, May 12. Meet at Hone Quarry, then carpool. Bring a lunch. Contact Joe Sharrer joes41@comcast.net or 540-434-8494.

Trip to Mt. Cuba Center (Prince William Wildflower Society), Friday-Saturday, May 17 -18. Join us for this special guided tour of the Mt. Cuba Center (www.mtcubacenter.org) in Delaware. This horticultural center is renowned for its woodland wildflower gardens and its work with native plants of the Piedmont. For more information contact Nancy Vehrs at nvehrs1@yahoo.com or 703-368-2898.

Annual Shenandoah Chapter Picnic/Walk, Shenandoah National Park South River Picnic Area, Sunday, June 10, 1 p.m. Bring a dish to share. Chapter will provide plates, utensils, cups, napkins. For more information contact Chris Bowlen at bowlenchris@comcast.net or 540-289-6801.

VNPS charter member remembered

A recent message brought the sad news that Larry Morse passed away February 8, 2012. Larry was a charter member of the Virginia Native Plant Society (originally the Virginia Wildflower Preservation Society) and served on the board during the first 10 years of the society's existence until he joined NatureServe as chief botanist.

Larry was active in establishing the VNPS Registry Program, which continues to acknowledge special plant communities around the state. As recently as 2008, Larry led a field trip to Chain Bridge Flats for our annual meeting in Northern Virginia. Past president Nicky Staunton remembers him as "an inspiring botanist on field trips, a quiet, observant, kind man with a sense of humor."

VNPS suggests that members and friends consider a memorial for Larry by donating to the Flora of Virginia Project with the designation "Larry Morse Memorial." Donations can be sent directly to the Flora of Virginia Project, P.O. Box 512, Richmond, VA 23218-0512. If memorial gifts reach the $1,000 level (Virginia Bluebell), Larry's name would be listed in the first edition of the new *Flora of Virginia* coming out in November 2012. The deadline for inclusion is April 30. If that level is reached, a complimentary copy of the new *Flora of Virginia* would be delivered to Larry's sister.

Sally Anderson, VNPS President

Long-time friends remember VNPS

VNPS received two bequests from members in the past year. Is there a greater compliment to our mission and the dedication of our members than to be acknowledged in this way? We are truly grateful for these gifts. **Anne C. Williams** and **Marjorie A. Pitts** both were longtime VNPS members, Anne with the Prince William Wildflower Society and Marjorie with the Potowmack Chapter. They were two of our many members who, in recent years, rarely attended events, but faithfully read our newsletters and supported us with their membership dues. While the gifts are unrestricted, Ms. Pitts especially wants us to use some of the money to develop native plant programs for people with physical or mental challenges. The VNPS Board of Directors has begun the process of deciding how best to make use of these gifts to support the VNPS mission now and in the future.

Light management important factor for partridge berry

Spotlight on partridge berry

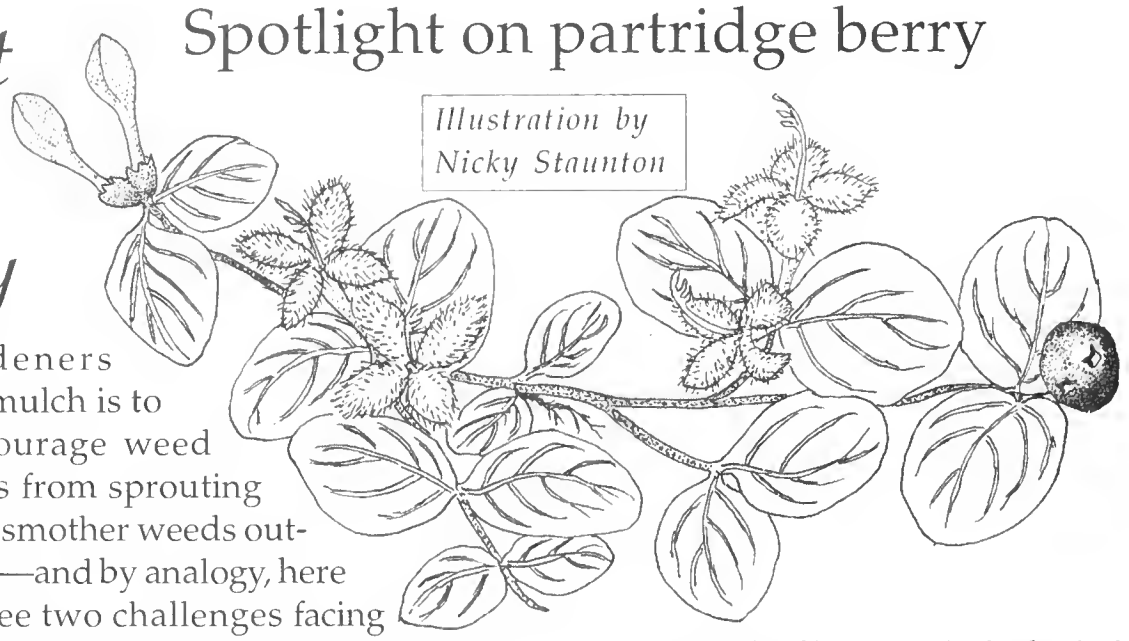


Illustration by Nicky Staunton

Factors essential for plant life include adequate levels of light, moisture, mineral nutrients, and temperature; though the list is small, each is crucial for survival. This article is a contemplation of how one of these critical factors, light, impacts the biology of our 2012 Wildflower of the Year, *Mitchella repens*, partridge berry. Aside from issues of reproductive biology, ecological literature on partridge berry is meager. Consequently most of what follows is derived from general works on woodland ecology, perusal of which provides sufficient insight about the biology of *Mitchella* to inspire ideas worthy of further study.

Partridge berry plants are creeping evergreen perennials that inhabit the forest floor. They are among the smallest botanical components of their habitat, closer in size and scale to woodland mosses than to most other herbaceous perennials of the eastern deciduous forest. Relative to the trees that dominate, and thereby create, their habitat, partridge berry plants are miniscule. Each aspect of the photobiology of partridge berry discussed here is linked in one way or another to the size differential between it and the giants that loom above the forest floor.

Leaf litter and light. One fact of life on the forest floor is that tree leaves fall. Whereas leaf fall in a tropical rainforest might be likened to a steady drizzle, in temperate deciduous forests it is more like a hard, steady, rain that lasts for a few weeks every autumn. Loosely packed, crinkly, dry leaves of broad-leaved trees can accumulate to depths of several inches. Leaf fall is important to forest ecology. Leaf litter is gradually broken down, contributing organic matter and minerals to forest soils. And just like mulch in a garden, a layer of leaf litter insulates forest soil against rapid temperature fluctuations and it helps retain soil moisture. But, of course, another reason that gardeners use mulch is to discourage weed seeds from sprouting or to smother weeds outright—and by analogy, here we see two challenges facing small woodland herbs: How do little seedlings get established under a layer of natural leaf litter? And how do mature plants keep their leaves above the annual autumnal avalanche of tree leaves? Of course, these challenges are not unique to partridge berry. Seedlings of all woodland herbs face the same problem as do adults of similar species with perennial leaves held near ground level; for example, rattlesnake orchids (*Goodyera*), snakeroot (*Sanicula*), and pipsissewa (*Chimaphila*) face the same challenge.

Several ecological studies have examined the smothering effects of leaf litter on forest herbs. Sydes and Grime (1981) found that shoot biomass of herbaceous perennials decreases with increasing depth of leaf litter in English woodlands; further, they found that topography matters: small hollows in the forest floor contain the greatest depths of leaf litter and are nearly devoid of herbaceous vegetation. An experiment conducted in central New York (Beatty and Sholes 1988) explored the dynamics of litter in pits formed by root masses lifted during treefalls. Leaf litter was removed from experimental pits and wire cages were installed to exclude incoming new leaf fall; after three years, litter-excluded pits showed enhanced germination and establishment of herbaceous perennials. A 16-year study was conducted in a Polish forest (Dzwonko and Gawronski 2002); 5- X 5-meter plots were raked clear of leaves every fall and compared with adjacent controls. As might be expected, litter removal greatly enhanced seedling establishment and species diversity of herbaceous plants. There was, however, a downside to regular removal of leaf litter: soil of raked plots showed significantly lower levels of mineral nutrients than naturally mulched plots.

A somewhat cursory search of the literature yielded no published studies linking partridge berry, leaf litter, and seedling establishment. One can infer with some confidence, however, that partridge berry seedlings must become established preferentially in forest locations with minimal amounts of leaf litter. Seldom is the forest floor a monotonously uniform habitat. Much like snow drifts in winter, the redistribution of fallen leaves must be influenced by slope aspect relative to prevailing wind direction, micro-relief of pits and mounds, and the swirls and eddies formed as wind encounters standing large trees, fallen logs, and large rocks, to mention just a few possibilities. It seems reasonable to hypothesize that partridge berry plants will be found only in forest floor microhabitats with shallow or minimal leaf litter—here, seedlings can become established and adults can avoid death by smothering. Testing this hypothesis should be straightforward.

Photosynthesis. For plants, of course, smothering with leaf litter is really a matter of light deprivation. When light levels are so dim that photosynthesis cannot make enough organic matter to support the metabolic demands of living cells, the plant declines. The same leaves that drop from forest trees in the fall also cast shade during the summer growing season, making the forest floor a relatively dark environment and imposing severe limitations for plant life.

(See Leaf litter, page 5)

• Leaf litter

(Continued from 4)

It is perhaps not surprising, therefore, that woodland herbs exhibit a variety of adaptations to the challenge of dim light in shady forests. Some plants are simply shade-adapted; they grow slowly by eking out a slim margin of photosynthetic gain above and beyond levels necessary to maintain ongoing life processes. Two categories of plants opt to go dormant when the forest canopy is fully developed: wintergreen species like crane fly (*Tipularia*) and putty root (*Aplectrum*) orchids are leafy and photosynthetic through the relatively unshaded winter season, forming their flowers and fruits in summer; and spring ephemerals, like bloodroot (*Sanguinaria*), spring beauty (*Claytonia*), compress all active growth and reproduction into the few short weeks between late winter and mid-spring spring canopy closure. In contrast, partridge berry and some other familiar woodland herbs, like rattlesnake plantain (*Goodyera*) and pipsissewa (*Chimaphila*), are evergreen. The biochemistry and physiology of evergreen leaves must be exquisitely versatile and adaptable in order to maintain living biomass during the dim but warm days of summer and the bright but cold days of winter.

Partridge berry leaves, stem, and a berry struggle to rise above the leaf litter on the forest floor. (Photo by Richard Moss)

Summer shade and sunflecks. Plant ecologists point out that, in most forests, the herb layer is not uniformly shady during summer—sunflecks, bright spots of sunshine, usually penetrate the canopy. Sunflecks on the forest floor are highly variable both spatially and temporally because the sun's angle changes continually through the day, because canopy branches jostle about in response to wind, because trees grow larger every year, and because, periodically, storms bring down some branches and, sometimes, whole trees. The forest canopy is a dynamic place. In terms of duration, sunflecks can range from a few seconds to an hour or more; in terms of size, they range from centimeters to pools of light a few meters in diameter; and the time interval between successive sunflecks at a given spot can be on the order of seconds to hours (Chazdon and Pearcy 1991). It should also be noted that the light of sunflecks is quantitatively and qualitatively different from the ambient light of forest floor shade. The light of sunflecks can be equivalent to full sunlight in terms of intensity (photon flux density) and spectral composition (wavelengths or colors of light). Forest shade is not only dimmer than full sunlight but, having passed through canopy foliage, the balance of wavelengths that make up the biologically active light spectrum is also altered. Although all wavelengths are affected, forest shade light is characterized as having a decreased ratio of red to far-red wavelengths, which is significant because red wavelengths are absorbed by chlorophyll and far-red wavelengths are not. Photosynthetic responses to ambient shade versus sunfleck light have been studied for only a few forest floor plants, but some intriguing differences have been noted. For example, there is a time lag (induction period) between the start of a sunfleck and attainment of maximum photosynthetic rate; the duration of this induction period varies from species to species and is also affected by amount of time since the occurrence of the previous bright light episode. It has been shown that sunfleck-driven photosynthesis can be responsible for 35 to 65 percent of the plant's total daily carbon gain (Chazdon and Pearcy 1991). The dynamics of sunflecks and photosynthesis in partridge berry is completely unstudied. Who knows what further insights wait to be discovered?

Winter season photosynthesis. In deciduous woodlands, the forest floor is not always a dark environment. Between leaf fall in autumn and canopy closure in spring, inhabitants of the forest floor experience full, direct, sunshine, but this favorable light regime comes with seasonally cool to downright cold temperatures. On mild days of late fall and early spring, photosynthesis is likely to be optimum for evergreen plants like partridge berry. But what about winter? As it turns out, summer and winter photosynthesis for a few populations of *Mitchella* growing in Maine has been studied in some detail (Burkle and Logan 2003). Remarkably, in a deciduous forest, full-sun winter photosynthesis on a very cold day (-11 C at midday) was reported at roughly one-third the rate measured on a balmy summer day (24 C at midday) in the shade of broadleaf trees. (Presumably, leaf temperature at ground level must have been above the freezing point!) Perhaps even more remarkable, in a population growing in the per-

(See Partridge berry, page 7)

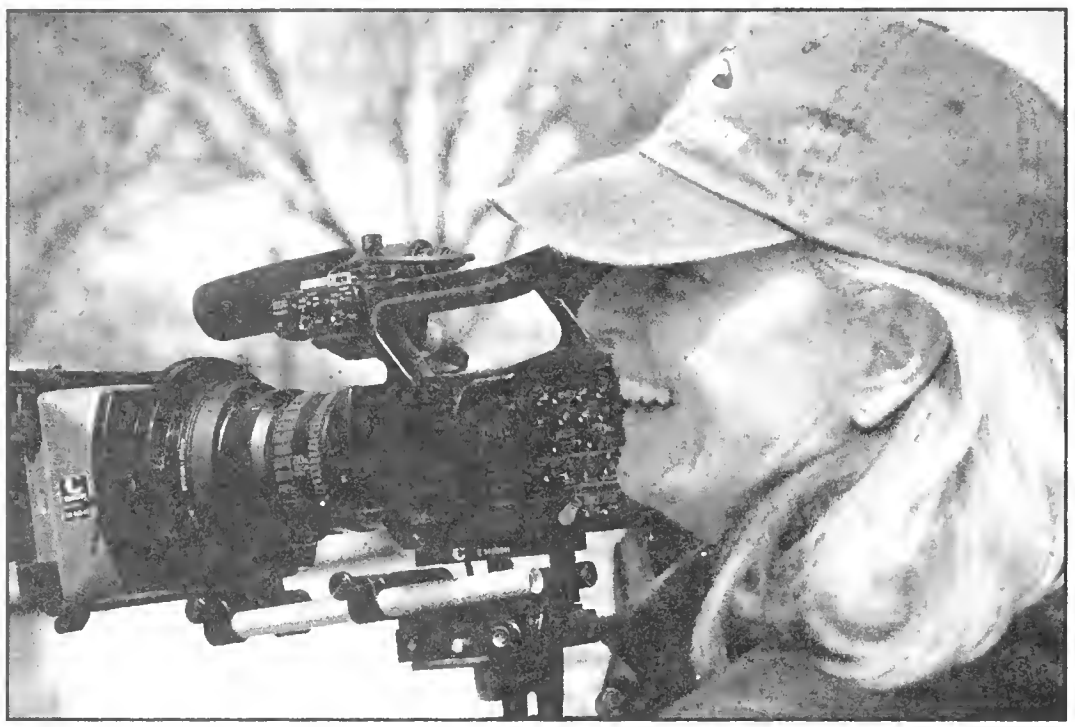
The Meadow Project

Support moves sustainable-landscape film forward

I am told that a deer will not leap a barrier that blocks the view of what lies beyond. This instinctive behavior has probably saved the deer a time or two from disaster, but this temerity also serves to prevent connecting with some delicious, deer delight just beyond the obstruction. Quite a dilemma…

I often think about these unknowns. There are tons of adventures I'm too timid to attempt. But, on occasion, I go and surprise myself. Just two months ago I had one of those surprising events. I launched a Kickstarter campaign! You may ask what and why? I'll start with the why.

I'm a sustainable-landscape designer, author, filmmaker and neighbor, just over the Potomac River, in Maryland. In 2010 I published *Urban & Suburban Meadows: Bringing Meadowscaping to Big and Small Spaces*. The idea behind this book was to give homeowners, schools and communities a guide to help create pesticide free, self-sustaining meadowscapes, a native landscape alternative to monoculture lawns. The book has been very well received and I have been busy spreading the word that we have healthy alternatives to the 48 millions acres of unsustainable lawn in this country.



Catherine Zimmerman behind the camera on her Meadow Project

Here was my dilemma. The companion film to the book had been stalled for two years, due to lack of funding. The film brings to life just what we can do to say "No!" to those thirsty, pesticide-ridden, energy-consuming lawns. The video will explain why meadow and prairie habitats are so beneficial to the environment and will feature experts demonstrating meadow creation and maintenance.

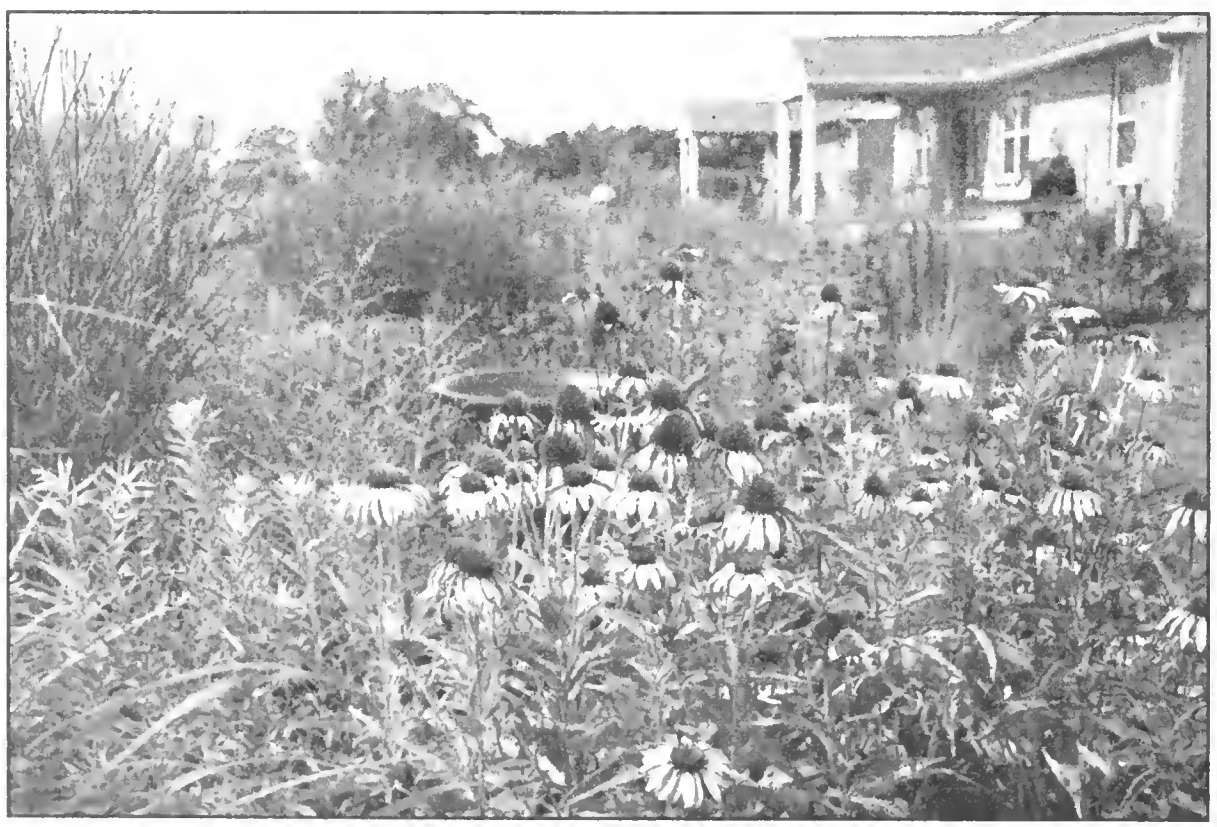
To finish the film, I needed to raise $20,000, well beyond my personal means! This brings me to the "what." I realized I needed to go out to other like-minded folks to produce this project. Enter Kickstarter.

Kickstarter is a web-based, fund-raising forum, that helps people, like me, raise money to create and finish projects. I just wrote about this amazing journey in my monthly post for Native Plants and Wildlife Gardens, a blog devoted to bringing people into the native plant lover family. Please read for the full story of how many voices can make a difference at http://nativeplantwildlifegarden.com/voices-matter.

Virginia Native Plant Society members raised their voices and helped make this a success story by spreading the word about The Meadow Project Kickstarter and by contributing their dollars! All of this, and your supportive messages, enabled me to keep going for the six weeks it took to raise the amount specified in the goal!

Many thanks to all my old *and* new friends for sharing a vision of what lies beyond the conventional landscape. Here's to native plants and VNPS!

Catherine Zimmerman
The Meadow Project
(www.themeadowproject.com)



• Partridge berry

(Continued from page 5)

petual shade of evergreen trees, the same cold day photosynthetic rate exceeded the warm summer rate! Although the investigators did not report measurements of light levels impinging on the plants in their study, they attributed these remarkably high rates of winter photosynthesis to the high albedo (reflectance) of snow cover flooding the plants with light.

Clearly, the evergreen habit and winter photosynthesis must confer an advantage for partridge berry in terms of maintaining a positive carbon balance necessary for growth and reproduction. However, the photosynthetic machinery of evergreen plants carries a liability. Cold temperatures generally slow down enzyme-driven biochemical reactions, of which there are many that take place in photosynthesis. However, the physics of light absorption by pigment molecules is largely unaffected by temperature. Thus, evergreen plants can absorb light energy far in excess of their ability to use it in the enzymatic reactions of photosynthesis. This can be dangerous; excess highly energized pigment molecules can wreak havoc on other components of the chloroplast. There is, however, a safety valve; several different xanthophyll molecules exist in the chloroplast and function to dissipate this unused energy as heat. In the same study cited previously, Burkle and Logan (2003) also studied xanthophylls, noting significant increases in total xanthophyll pools of partridge berry in winter relative to summer. Thus, by adjusting the pigment complement of its chloroplasts, partridge berry is able to take advantage of winter sunshine for photosynthesis without suffering the ill effects of too much light on bright winter days.

The take-home lesson is clear. As is often the case, success in life is a combination of luck and inner strengths. For partridge berries, tiny jewel-like herbs living at the feet of towering forest trees, eking out a life depends on the luck of

(See Lessons, page 8)

• Flora

(Continued from page 2)

inclusion in the *Flora*, and those that cannot pole-vault over this bar are relegated to the pile of excluded taxa," said Townsend, whose work has included this very relegation. One criterion for inclusion is that a species be self-perpetuating in the wild. Another is that a plant's presence be verified with a bona fide herbarium specimen. Thus the importance of Strong's confirmation of the 126-year-old chaffweed.

Waifs are out, species of "doubtful establishment, not naturalizing," said Townsend, who offered a colorful and familiar example: cosmos planted on highway medians. The plants might reseed to a certain extent, but after a year or two they die out. "These are things that are not going to stay, not going to seed in, not going to form a naturalized population over the long term," Townsend said.

The authors have been ruthless in ensuring that specimens exist before a species is included. An example is the orchid *Habenaria repens*. "There were two reports of that," Townsend said, but we tracked them down and neither could be substantiated by specimens." So it's outta here.

Well, not entirely. The "pile of excluded taxa" will be listed in the *Flora's* appendix, with an explanation for each of why it was excluded. So there really will be about 3,300 species. But only 3,165—the persistent, the true—will be described. You'll see.

Bland Crowder, assistant director
Flora of Virginia Project

See the address label for your membership expiration date

VNPS Membership/Renewal Form

Name(s)_____
Address_____
City_____State_____Zip_____

___Individual $30
___Family $40
___Patron $50
___Student $15
___Associate (groups) $40*
___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 exchanged with similar organizations
_____Check if you do not wish your name to be listed in a chapter directory

Which chapter do you wish to join? (See www.vnps.org)_____
Paying by credit card? ___MC ___Visa ___Discover Exp. date_____
Card #_____Security code_____ Signature_____

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.

The ***Bulletin***
ISSN 1085-9632
is published five times a year
(Feb., April, June, August, Nov.)
by the

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Sally Anderson, President
Nancy Sorrells, Editor

• Annual Meeting

(Continued from page 1)

Three private properties offer special opportunities. Come see how one homeowner has single-handedly converted a traditionally landscaped neighborhood yard entirely to native flowers and shrubs. Tour a suburban home professionally landscaped with native plants specifically to attract butterflies. Visit the park-like Upper Coastal Plain mesic hardwoods undisturbed for more than 100 years on a newly designated conservation easement property in Hanover County. Formal gardens abound that offer changing landscapes and new ideas about using native plants. Both Maymont and Lewis Ginter Botanical Garden will be our hosts.

Virginia is presently commemorating anniversaries of events that occurred during the Civil War. In September, we'll be walking over terrain and through plant communities used and abused during and since that period. These are now at various stages of restoration, naturally or by design. From the small garden of native plants at our meeting base at Wyndham, which overlooks the site of the Battle of Yellow Tavern, to the "big ditch" cut-off attempted at Dutch Gap to the Battlefield at Cold Harbor, the experiences of the war period will be echoing around us. Victorian pastimes will be recalled in Maymont's Japanese Garden and Forest Hill Park with its restored lake and ongoing restoration efforts.

The James River, the longest river east of the Mississippi wholly within one state, is the commonwealth's most disturbed watershed. There are few natural area preserves in this watershed or plants of special concern around Richmond. Introduced plants, not all invasives, and native plant communities reflect long occupation by Native Americans and Europeans alike. Come and see both the gardens and wild areas. Learn what we mean by "Changing Landscapes, Changing Plants."

Catharine Tucker
President, Pocahontas Chapter
and Chair of the Annual Meeting
Planning Committee

• Lessons

(Continued from page 7)

sprouting in a relatively litter-free spot and the versatility of being able to deal with extreme variability of the amount, quality, and timing of light, one of the indisputably essential factors for plant life.

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