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Bulletin

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

Proposed bill threatens Division of Natural Heritage

By the time this *Bulletin* reaches you, it will probably be old news that Virginia's Secretary of Natural Resources, The Honorable Becky Norton Dunlop, has (or will have) submitted a bill to the General Assembly that will, if passed, effectively dissolve the Virginia Department of Conservation and Recreation (DCR).

As we understand it, this will be accomplished by transferring some parts of DCR, primarily Soil and Water Conservation, to the Department of Agriculture and Consumer Services. The Division of Natural Heritage and DCR's 10,000-acre Natural Area Preserves system will be relocated to the Department of Game and Inland Fisheries. (There is also talk of state parks being privatized). This is devastating

news as far as we are concerned!

The proposal will also eliminate from the state budget \$600,000 for the operation of the Division of Natural Heritage, leaving it to the Department of Game and Inland Fisheries to provide the necessary funding from its own sources (fees or licenses). This part of the plan is ill-conceived, because it has been only two years since Game and Inland Fisheries sought desperately to get general funds from the state budget **without success**.

It has, for a number of years, appeared to the writer, as well as others, that Game and Inland Fisheries has been hampered by the lack of funds. That department has been operating a non-game program and an environmental education program at a level much below the

department's goal because of the lack of funds. It has made several unsuccessful efforts to obtain additional state funding. So what happens when a \$600,000 division is added to the department without the funding? It seems obvious that the inevitable result will be the demise of the Division of Natural Heritage.

Furthermore, we understand that Game and Inland Fisheries plans to try minimizing the cost of absorbing Natural Heritage by relocating individual members of that staff to various regional operating centers across the state. Such an operating plan will de- (See DCR, page 7)

— The Division of Natural Heritage —

Created through the 1989 Natural Areas Preserve Act to:

- Inventory the rarest plants, animals and natural communities in the state
- Maintain a permanent data base and atlas of these occurrences
- Protect and restore these occurrences and communities as essential elements of Virginia's natural heritage, thereby sustaining the health of our ecological systems and preserving their intrinsic values.

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From the President

A New Year's reminder of who we are...

I hope each of you has had a joyous holiday season. As we move into the new year, let us rededicate ourselves to the original program goals of the Virginia Native Plant Society and remind ourselves of who we are and why we are here.

The Virginia Native Plant Society is an organization of amateurs and professionals who share an interest in Virginia's wild plants and habitats and a concern for their protection. Throughout the Commonwealth, the Society and its chapters seek to further the appreciation and conservation of this heritage.

The VNPS supports a variety of programs which include:

-working for measures to protect endangered species and to preserve habitats and plant communities of special interest

-learning and teaching about wildflowers and their needs

-encouraging the appropriate use of nursery-propagated native wildflowers, shrubs and trees in public landscapes and private gardens

The work of the Society is carried out by volunteers, supported mainly by membership dues and contributions. To further its goals, the VNPS cooperates in statewide and chapter programs with government agencies, developers and other groups with interests in common.

Our mission is primarily one of education. It is very important for each member to be informed and aware of any proposed legislation at either the state or national level that will affect native habitat and flora. It is the responsibility of each of us to express our ideas and concerns to the appropriate legislators or governmental bodies.

I would like to thank all of you who contributed to our year-end appeal. If you have not yet responded, please do so soon. We have a member who will make a substantial matching donation once your donations reach a certain level. Please help us meet this challenge.

Finally, circle the weekend of September 20-22 on your calendar. The Shenandoah Chapter has already been busy planning our annual meeting which will be held in Staunton at the picturesque Ingleside Hotel.

Your president, Frank Coffey

VNPS WINTER WORKSHOP

When: Saturday, March 9; 10 a.m. to 4 p.m.

Where: University of Richmond, Room CB-01

Topic: Native Plant Propagation with a review of previous workshop material and a presentation of new information

Contact: Effie Fox at 540-347-4090 (h)

540-347-2788 (w)

VNPS wildflower shirts to be available soon

Virginia Wildflower of the Year 1996 T-shirts will soon be available. This year's shirt will feature the large flowered trillium, *Trillium grandiflorum*, and should be available for the same price as last year's shirt.

Chapters will soon receive complete information and order forms. Each chapter will order shirts directly from High Peak which is the supplier.

Watch for a special VNPS mailing with further details and registration information.

When is a plant a native?

Interest in the horticultural use of native plants has grown considerably in recent years. Evidence for this includes numerous articles in gardening publications about natives and their uses, seminars organized by botanic gardens that feature principles of garden design using natives, and the increasing availability of native plants or their seeds in catalogs and specialty nurseries.

The question of "When is a plant considered native?" is a question that has arisen on more than one occasion in discussions among the staff at the State Arboretum of Virginia at Blandy Experimental Farm. At the grandest scale, a plant might be considered a North American native if it was present in the native flora when Europeans colonized the New World. Red maple, *Acer rubrum*, is an example.

Plants that were introduced, deliberately or accidentally, coincident with and following European settlement that are now found to freely reproduce in disturbed and natural environments in North America are considered exotic or alien species. Japanese honeysuckle, *Lonicera japonicum*, is an example of an exotic species. Terms such as "escaped" or "naturalized" refer to their ability to grow and spread without cultivation.

When a gardener commits to the principle of designing a garden that includes native plants, is it sufficient to use any plant that was found in North America prior to European settlement? It would be unwise for a Virginia gardener to include many North American species that are native to the other climate zones, since these plants have evolved under conditions that could not be easily replicated, if at all, in a Virginia garden.

At a much finer scale than that of the continent, one might

refine the definition of native to only include plants that were found to naturally occur in a particular region or climatic zone. Perhaps less reasoned is the idea of linking the definition to a particular political region like a state.

A Virginia native is a plant that was once part of the pre-settlement flora. However, virtually all Virginia native plants are components of the floras of wider geographic regions such as southeastern or northeastern North America. And then, prior to the Civil War, a "Virginia" native included plants from West Virginia!

In acquiring a Virginia native plant or a garden, one might find that the plant was grown from seeds selected from sources originating outside of Virginia. Will the use of plants originating in other parts of the natural range of that species cause detrimental effects in native populations? At present, it is unclear what the effects of hybridization of Virginia plants with non-Virginia plants of the same species might be for the local populations in terms of hardiness and pest resistance. These issues are being investigated in research being conducted at Blandy.

In most cases, when cultivars, i.e. named cultivated varieties of native plants that are selected for a particular trait, are available they are unlikely to have been derived from a Virginia source plant. Strictly speaking, the species is native to Virginia but the cultivar is not native because it is not derived from a Virginia source.

In resolving where to choose species or cultivars for their gardens, Virginia gardeners need to weigh the interest in having fine and beautiful gardens against active consideration of why they have chosen to include natives in the first place.

Chris Sacchi
Botany chair

Wintergreen's Spring Wildflower Symposium offers variety of topics

For the 13th year in a row, Wintergreen is hosting a Spring Wildflower Symposium, presented by The Wintergreen Nature Foundation. This weekend event, to be held May 10-12 near Charlottesville in the heart of the Blue Ridge Mountains, is a treat for any wildflower enthusiast, whether a beginner or a botanical scholar.

Instructors from such sources as the Smithsonian Institution, U.S. National Arboretum, University of Virginia, and the Virginia Native Plant Society offer a wide range of topics and events. By choosing from a variety of workshops, hikes, slide shows and projects, participants can enjoy--and learn to identify--many of the Blue Ridge wildflowers in the field. Visitors can also become familiar with the ecology and propagation needs, and even learn the edible and medicinal values of these plants.

Some examples of topics in past years have been "Early Spring on the Rockfaces," "A Meal from Nature," "Native Plants: Medicinal and Historical Perspectives," "Wildflower Propagation for Gardeners," "Sketching Wildflowers in the Mountain Meadows," "Wildflower Ecology: The Root of the Matter," and "A Beginner's Look at Mosses of the Blue Ridge."

The program for 1996 will include workshops with Kevin Adams and Martha Casstevens, authors of the newly released book *Wildflowers of the Southern Appalachians*, beginning and advanced wildflower photography with Hal Horwitz and the propagation of wildflowers with Don Humphrey of Green Spring Park. Several extended hikes will be led to unique wildflower sites. There will also be shorter, gentle walks through the natural woodland wildflower gardens.

For more information, write: The Wintergreen Nature Foundation, P.O. Box 468, Wintergreen, VA 22958 or call 804-325-8172.

Virginia's rarest plants excite Natural Heritage botanists

Editor's note: J. Christopher Ludwig is a staff biologist for Virginia's Department of Conservation and Recreation's Division of Natural Heritage. Ludwig was the featured speaker at VNPS's annual meeting in September. His talk, "Exciting Botanical Finds in Virginia," is offered here in condensed form.

One of the primary functions of the Division of Natural Heritage is to inventory Virginia's rare species and significant natural communities. As a staff botanist within the division, I am responsible for the inventory of our flora and it is my job to gather information on its composition and status. I accomplish this by conducting field work, working with our two talented field botanists, Allen Belden and Nancy Van Alstine, and gathering information from botanists and wildflower enthusiasts outside of our department. Many members of the Virginia Native Plant Society provide us with helpful information on the status of our flora and some of its rarest components.

Over the last few years, exciting botanical finds in Virginia have occurred fast and furiously. Some of the most interesting discoveries have come, quite literally, out of our own back yards. Perhaps the biggest discovery which can be made is to find a species new to science; a group of reproductively-isolated organisms which has never been named or recognized as a species, like *Trifolium calcaricum*, running glade clover. Virginia's most recent species new to science was named by Leo Collins and Tom Wieboldt in the journal *Castanea* in 1992. It may not be the last new species to come out of Virginia.

On September 7, 1991, our department visited Bald Knob in Franklin County. This piedmont hill is a rocky outcrop of metabasalt which rises above the town of Rocky Mount. The natural community is beautiful, there are few weedy species and little sign of human disturbance. Interesting species abound, including, *Paronychia argyrocoma*, silverling, a mountain plant which rarely reaches into the

piedmont, and *Hexalectris spicata*, crested coralroot. Quite atypically however, amidst the interesting plants and striking natural community, no extremely state rare plants could be found. Or so we thought...

Around midday, the delicate pink flowers of fameflower unfolded and brightened the slopes. Festooning over many outcrops, it put on a beautiful display. We assumed this to be our well-known fameflower, *Talinum teretifolium*. Before leaving, we collected a specimen and departed, happy to have seen such a beautiful natural community, but a little disappointed not to have found any rare species.

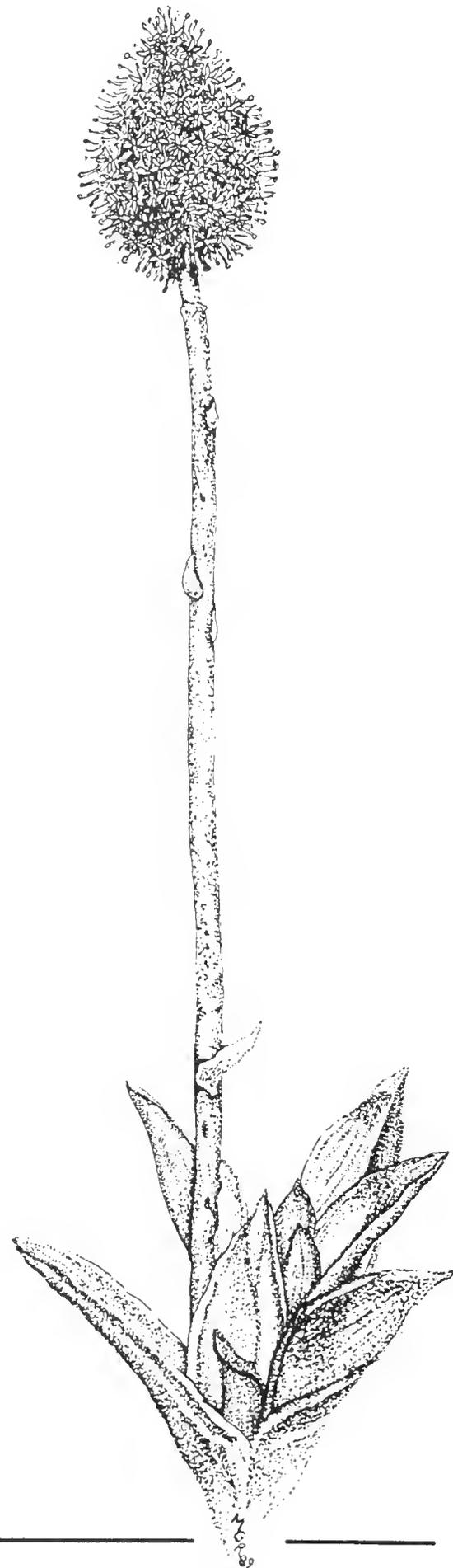
If we had known more about fameflowers, we might have been less disappointed. Two years later, while verifying the identification of some of our program specimens, I came upon the fameflower we had collected. The number of stamens and the long pistil very clearly indicated that it did not represent *Talinum teretifolium*. I still do not know what name to assign to this taxon. It is more closely related to a southern species called *Talinum mengesii*, but doesn't really match that species either.

In 1993, the staff botanist for the North Carolina Natural Heritage Program, noted that they also had the same perplexing fameflowers in the North Carolina piedmont. Stamen counts and pistil length were similar and the habitat nearly matched the Virginia site. It now appeared that there were two locations for this new taxon. After an examination of geologic maps and aerial photographs, all magnesium-rich outcrops in Franklin County were visited in the summer of 1994 and three additional fameflower sites were found bringing the total global populations for this mysterious, and as yet unnamed, fameflower to five.

It certainly does not require a new species to make for a rewarding and significant field day. It can be as simple as finding another site for a rare species, especially when the species is the

small whorled pogonia, *Isotria medeoloides*. A number of VNPS members provided us with exciting news on the discovery of additional sites for this Federally-listed species. There are now more than 20 known extant Virginia populations.

(See *Habitat*, page 5)



Habitat surveys often the key to new finds

(Continued from page 4)

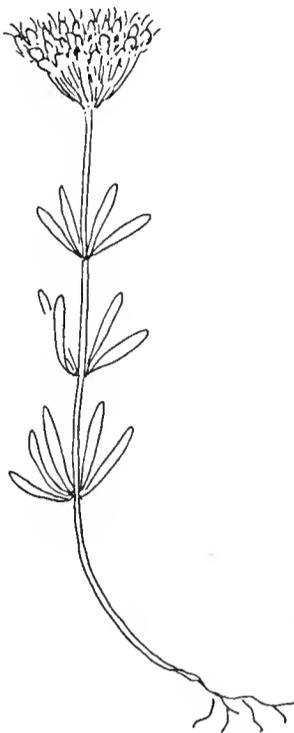
Many new Virginia populations have been discovered for another species of federal concern, the shale barren rockcress, *Arabis serotina*. This plant grows primarily on Devonian shale outcrops of the ridge and valley province. In 1994, our division initiated a systematic inventory of shale barrens and their rare species on the George Washington and Jefferson National Forests. Thus far, 16 new occurrences have been found, increasing the known world locations to above 50.

Habitat surveys which key on a rock type often produce exciting results. A systematic habitat survey for barrens and woodlands over Elbrook Dolomite in Rockbridge, Botetourt, Roanoke and Montgomery Counties turned up some of our most significant natural areas. These habitats yielded over 15 sites for Virginia's only native purple coneflower, *Echinacea laevigata*, smooth coneflower.

One of the great joys of botanizing is found in the discovery of the unknown. Sometimes you explore a site where nothing new is found (the figurative strikeout), but at other times an area is teeming with rare species waiting to be discovered (the home run). In April 1994, I visited Dry Creek, in Lee County where aerial photographs indicated potentially significant limestone woodlands and glades. When all was said and done, nine rare plants, four significant natural community types and a Midwestern species of mallow new to Virginia were all found.

A portion of our division's work is also directed toward U.S. Department of Defense facilities which are mandated to protect federally listed species on their lands. In 1993, Michaux's sumac, *Rhus michauxxi*, a federally-endangered species, was found at Fort Pickett in the southern piedmont. By keying in on a particular habitat type, our survey recorded at least 30,000 culms of the shrub over 10,000 acres, more plants than are known in all of the populations in the rest of the world put together!

Examining specific habitats can produce interesting botanical finds, like those in the sea-level fens. While investigating the tidal wetlands in Accomack County, several interesting vegetation types were found along



*Sclerolepis
uniflora*
Bog buttons
Illustration by
Barbara Stewart

Mutton Hunk Branch. Although the area looks like a typical brackish marsh, we found *Eriocaulon decangulare*, the ten-angled pipewort, more typical of bogs and pocosins. However, next to the pipewort was marsh rattlesnake-master, *Eryngium aquaticum*, typical of fresh to brackish marshes.

Further investigation revealed that this wetland is maintained when upland groundwater seepage springs forth at the edge of the tidal marsh creating a bog, or fen-like wetland at sea level. Seven rare plants were recorded here including a species of rush, *Juncus pelocarpus*. As we searched other sea-level fens, we found many other interesting species, including *Sclerolepis uniflora*, bog buttons, and beakrush, *Rhynchospora oligantha*. Currently less than eight acres of this wetland type are known.

Some of the home-run days in botanizing involve finding plants thought to have disappeared from the Commonwealth. Merritt Lyndon Fernald was a famous Harvard botanist and author of *Gray's Manual of Botany*, 8th edition. From 1933 to 1945, Fernald focused much of his legendary botanical talent on deciphering the relatively little-known flora of southeastern Virginia.

During his travels, he stumbled across many species which have not been seen in Virginia since that time. For example, *Calapogon pallidus*, the pale grass pink, is a beautiful southern orchid which used to make its most northern home near Franklin.

However, I am glad to report that not all of Fernald's species are still missing. In the last few years, a number of his most interesting and attractive species have been relocated. The southern red lily, *Lilium catesbii*, was found in a Southampton County powerline right-of-way. Prior to this, the species had not been found in Virginia since Fernald found it in 1943.

During Fernald's visits, fires were probably still fairly frequent and open-canopy boggy wetlands were maintained. Now, only powerline areas which are periodically mowed can support many of Fernald's lost bog species. Because of this, the division is working with Virginia Power on a systematic survey of powerline right-of-ways in southeastern Virginia. Our hope is to relocate more of Fernald's rarities in the open powerline corridors. For instance, *Cliestes divaricata*, the spreading pogonia, is a very rare species in the state found in only three powerline wetlands.

Now the reader might be thinking that this is all very interesting, but so what? I can tell you that many conservation organizations, Natural Heritage and the Virginia Native Plant Society among them, take the knowledge we have gained, our exciting botanical discoveries, and incorporate them into conservation action.

Buffalo Mountain in Floyd County is one such example. This mountain encompasses one of our most outstanding natural areas and rare plant concentrations. The Division of Natural Heritage is working very steadily in concert with The Nature Conservancy to protect this area and we expect the entire mountain to become a part of our Natural Areas Preserve system in the not-so-distant future. New, significant botanical finds on National Forest land often lead to conservation action.

There is a long list of conservation actions driven by the finds of Virginia's botanical community. Our discoveries are directly steering much of the conservation of biodiversity in Virginia. There is much left to do and no contribution is too small, so get out and enjoy our rich botanical heritage.

Expect a few rainy days in your botanizing adventures, but remember that you just might be the next one to hit a home run.

North Landing River

Canoeing offers unique way to see native plants

On a recent canoe outing along a North Landing River tributary, I was reminded of how fortunate we are to have such a unique waterway flowing through the city of Virginia Beach. Paddling these quiet, pristine waters makes the busy city seem far away. Surrounding us were the freshwater tidal marshes, forested swamps, and pocosins that



characterize the North Landing River ecosystem and which also make it unique.

The fluctuating water levels are the result of wind tides rather than lunar tides and support a large number of plant species, many which are found nowhere else in the Commonwealth of Virginia. The North Landing River is a part of the Intracoastal Waterway and is where north meets south. Providing a corridor to the south, it allows southern species of plants to reach their northernmost limits along these waterways. Sawgrass, *Cladium jamaicense*, is a southern plant that is normally associated with the Florida Everglades, and yet communities of it can be found along the North Landing River.

A number of plants that are considered rare in the state are found in the pocosin community, one of the rarest communities in Virginia. Pocosins are mounds of peat that have formed from decaying plant material and other debris that have built up over time. "Po-

cosin" is an Algonquin word that means "swamp on a hill." These mounds of peat support a great diversity of plants and form a dense understory of shrubs and vines.

One of my favorite times for canoeing these waterways is in the spring and summer. Beginning in March and continuing through the summer and into the fall, there is always something blooming. In the forested swamps, serviceberry, *Amelanchier canadensis*, opens up the season by displaying patches of white among the trees before the leaves have developed. These are quickly followed by the flowering shrubs of members of the Heath family, Ericaceae, including the highbush blueberry, *Vaccinium corymbosum*, and fetterbush, *Leucothoe axillaris*. But the real treat comes in May when the large blue flag, *Iris versicolor*, several species of sundrops, *Oenothera spp.*, and the swamp rose, *Rosa palustris*, begin to bloom. Every bend in the river offers an excellent photo opportunity with bluish-purple, yellow and pink flowers being displayed. As the season advances, the brilliant red flowers of cardinal flower, *Lobelia cardinalis*, further enhance the swamp's beauty.

The freshwater marshes reach their peak flowering period during the summer months. This is when the pink and white flowers of the mallows, *Hibiscus moscheutos* and *Kosteletzkya virginica*, begin to bloom. Patches of pickerelweed, *Pontederia cordata*, grow along the edges of the marsh and produce purple flower spikes all summer and into the fall. Several species of *Sagittaria*, often referred to as duck potatoes, also grow here. The name refers to their use as food by the ducks who come here during the winter months.

One of the greatest thrills comes upon finding that rare or endangered plant species. I consider them to be treasures worthy of great respect and have had the pleasure of encountering several of them at different times, always by chance. The elongated lobelia, *Lobelia elongata*, is one of the rare plants that grows in the marshes and produces bright blue flowers at the end of the summer. Also rare and blooming in late summer is the obedient plant, *Physostegia leptophylla*. The common name refers to the flowers which, when bent, tend to stay in that position for a while. Other rare plants include the spreading pogonia, *Cleistes divaricata*; Elliot's aster, *Aster elliotii*; and the red milkweed, *Asclepias lanceolata*.

The North Landing River has been designated as a state scenic waterway and provides excellent canoeing opportunities. Several launch sites can be accessed via Blackwater and Pungo Ferry Roads. The Department of Conservation and Recreation's Division of Natural Heritage and The Nature Conservancy are working together to protect this unique ecosystem by acquiring land along this waterway and constructing an access road that is scheduled to open this spring.

If you're headed for Virginia Beach this year, don't just stop at the beach. Bring some sort of non-mechanized watercraft and head south for the waterways that flow into the North Landing River. It's an experience you don't want to miss.

Vickie Shufer is a VNPS member and the editor of The Wild Foods Forum. She may be reached at P.O. Box 61413, Virginia Beach, VA 23466-1413. 804-421-3929.

•DCR could be dissolved

(Continued from page 1)

stroy much of the effectiveness of Natural Heritage by disrupting the interaction of its centrally located 28-member staff of scientists and their assistants.

This part of the plan alone demonstrates convincingly either the naivete of the planners, both in the Secretary's office and in the Department of Game and Inland Fisheries, or the outright intention of totally eliminating the Division of Natural Heritage. It is a political plan--NOT a plan to achieve more effective management of our natural resources. The plan cannot succeed as a management plan. As has already been so unfortunately demonstrated in a number of states where Natural Heritage was or is organized under their respective game departments.

Game personnel are trained for entirely different work and have neither the professional training nor the experience required for the work of the Division of Natural Heritage. We say this while still admiring the work that our Department of Game and Inland Fisheries does. We have worked both

with members of the game and non-game program and have developed considerable admiration for their work in these fields. But this does not qualify them to plan or direct the work of Natural Heritage, a very different type of work.

The work of the Natural Heritage program is a massive program being carried out by all 50 of our states and 13 Latin American countries. It is essential work if we are to prevent the loss of potentially invaluable resources. This can best be illustrated by the fact that 25 percent of modern prescription drugs contain one or more compounds now or once derived from plants. Furthermore, fewer than 10 percent of the compounds gotten from plants can be synthesized economically.

To be effective, the work of the Division of Natural Heritage requires highly skilled botanists, zoologists and ecologists working as multidisciplinary teams. This explains why the division was established in the first place as an entity separate from Game and Inland Fisheries. Only someone with a poor knowledge of the essence of

the Division of Natural Heritage's work would suggest combining it with that department.

Two in-depth studies of this proposal have previously been made. A study made in 1993 by the Virginia Department of Planning and Budget stated: "it is critical Natural Heritage remain in DCR." It went on to say "therefore, transfer of similar threatened and endangered species protection programs to DCR is the preferred option." In 1994, Governor George Allen's Blue Ribbon Strike Force final draft report recommended that "The State's programs and activities relative to threatened and endangered species of fauna and flora should be consolidated in one agency...It is suggested that these activities be consolidated into the Department of Conservation and Recreation." Furthermore, that same Blue Ribbon Strike Force (Governor's Commission on Government Reform) recommended that Game and Inland Fisheries should continue to be primarily user-funded and that its functions should be limited to those consis- (See *Natural Heritage*, page 8)

See the address label for your membership's expiration date.

VNPS Membership/Renewal Form

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Address _____

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Individual \$15 Family \$25 Student \$10

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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 _____ Chapter

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Check here if you do not wish to be listed in a chapter directory.

Make check payable to VNPS and mail to:

VNPS Membership Chair, 3924 Cobbler Mtn. Rd., Delaplane, VA 22025

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•Natural Heritage

(Continued from page 7)

tent with its current mission statement. As though validating those two studies, the Virginia Division of Natural Heritage was selected as the "Outstanding Natural Heritage Program" in the western hemisphere in 1994. It continues to be recognized as a model for the International Natural Heritage Network.

As you can see, this proposal has been twice studied in the last two years, so Secretary Dunlop's bill is not a new idea. It is reappearing as the result of some strong lobbying by interests close to the Department of Game and Inland Fisheries. The Virginia Wildlife Federation has been pushing the change and the Farm Bureau has voted to support it, although it is not clear to this writer whether the Farm Bureau representatives know at this time all that the vote entails. The Secretary, by submitting her bill, is ignoring the recommendations resulting from both of the above studies as well as the highest level of professional respect earned by our Natural Heritage division. The citizens

of our Commonwealth are seriously threatened with the loss of irreplaceable natural resources.

We recognize that this article is a very "broad brush" description of the problem before us. There are many important details omitted simply for the lack of space; but hopefully what you have read will make you want to do something about the problem. What can you do? By all means contact your delegate and state senator in the General Assembly. The Assembly is where the question will be decided so get as many people as possible to contact their representatives. Numbers count. We are not often called on to be activists and participate in something seemingly so far removed from the benign enjoyment of our native wild flowers; but this threat behooves us to protect the natural resources involved by becoming activists *pro tem*. We hope you will take part in this effort as soon as you receive your *Bulletin*.

Ted Scott
Conservation Chair

ENPA promotes native plant conservation

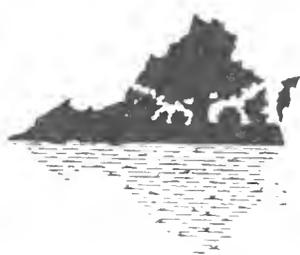
The Eastern Native Plant Alliance is an association of organizations which promote and demonstrate native plant conservation in the eastern United States and southeastern Canada. Its purpose is to provide a network for exchanging ideas and defining issues, and to facilitate cooperative action. Membership is open to organizations and individuals committed to serving as liaisons.

The decision to form such an association in 1988 grew out of shared concern for the conservation of native plants, intensified by mounting public interest in their landscape use.

The ENPA network fosters communication and interaction among diverse organizations, helping each to strengthen and refresh its own approach to plant conservation. Through its constituents, ENPA furthers public education concerning native plants and their conservation.

ENPA also seeks to be a catalyst for action by constituents and encourages increased understanding of indigenous species and their ecological relationships; protection of the integrity and genetic diversity of native plant communities; preservation of existing natural areas; and responsible, sustainable uses of native plants.

For information: Eastern Native Plant Alliance, P.O. Box 147, Hillsboro, MD 21641 or call 410-634-2847.



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Bulletin

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

VNPS co-sponsoring water and wetlands conference

The Virginia Native Plant Society is among 16 conservation organizations co-sponsoring Virginia's Clean Water and Wetlands Conference to be held in Richmond on Saturday, March 30 at Virginia Commonwealth University's Academic Building.

Participants in the day-long conference will learn more about the Clean Water Act and the Virginia resources it protects and enhances. Informational sessions include legislation, effective communication with media and law makers, and networking with other Virginia conservationists.

By any measure, the Clean Water Act is one of the most successful federal programs ever, yet in Richmond and Washington, D.C. the principles of the act are under attack.

This workshop will make the link between the law and the resources, and will give participants (See Conference, page 10)

The focus is on fringe tree

Our beautiful Virginia native plants are beginning to stir a bit under the snow which blankets them. Spring is on the way and we will all eagerly be searching for our first blooms. To help members focus upon our 1997 Virginia Wildflower of the Year, VNPS has established the Virginia Wildflower of the Year Photo Contest.

The subject is the VNPS 1997 Wildflower of the Year, fringe tree (*Chionanthus virginicus*). There are three categories in which photos taken this year may be submitted: 1. **Location** to be specified on the submitted photograph as either in the wild (natural habitat) or in the garden (horticultural habitat); 2. **Entire plant**; and 3. **Floral portrait**. The scope of this year's contest is narrow, but may be widen in both subject and categories next year if response to this year's competition warrants change.



Fringe tree, *Chionanthus virginicus*
 Illustration by Nicky Staunton

The contest begins with this announcement and all entries must be postmarked by July 31, 1996.

The contest is for VNPS members and will be judged by carefully selected photographers who are oriented toward botanical photography. There will be prizes and recognition (See Contest, page 2)

Tips for photographing fringe tree and other natives as well

A member of the Olive family, fringe tree is a tall shrub or short tree which grows in rich, moist soil along steams or dry woods or rock outcrops. It has been found in all but 12 counties of Virginia from the shore to the mountains. Sometimes called "Old Man's beard," another common name, snowflower, is the derivation from the botanical name (*chion* meaning snow and *anthos*

meaning flower).

Fringe tree blooms in April and May near the North Carolina border and May through June in the northern and mountainous areas of Virginia. Fruit ripens July through September. It is a native often used for landscaping.

Additional information on the fringe tree can be found in *Trees and Shrubs of Virginia* by Oscar Gupton

and Fred Swope, *Manual of the Trees of North America* by Charles Sprague Sargent, *Flora of West Virginia* by P.D. Strasbaugh and Earl Core, and *Manual of the Vascular Flora of the Carolinas* by Albert Radford, Harry Ahles and C. Ritchie Bell.

There are a few points for beginners who wish to photograph (See Tips, page 2)

From the President

We have had enough winter to last for quite some time. After enduring Blizzard '96, several other snows and severe cold, it is time to say farewell to our stark winter landscape and welcome a profusion of spring ephemerals. Let's hope that the large amount of moisture recently received will contribute to record floral beauty this spring.

While the season and weather have not favored wildflowering, the work of the Society has moved on. Our Conservation Chair, Ted Scott, has been very busy participating in conferences and spreading the message about the dangers of invasive alien plants.

Thanks to Education Chair Effie Fox, and Horticulture Chair Nancy Arrington, our Winter Workshop should be a big success. A special thanks to Tim Williams and Ted Scott for agreeing to make special presentations and to Dr. John Hayden and the University of Richmond for facilities and arrangements.

VNPS will cosponsor a Virginia Clean Water and Wetlands Conference with the National Wildlife Federation on March 30. This conference will be held at Virginia Commonwealth University in Richmond. VNPS will be an affiliate for the Native Plants in the Landscape conference being held at Millersville University in Millersville, Pennsylvania June 13-15. The goal of this year's conference is to enhance the knowledge, cultivation and use of native plants with intent to provide insight into how the use of natives will nurture our environment. The conference will focus mainly on the Mid-Atlantic and Northeast regions of the United States.

I hope all members of the Society will participate in the many chapter sponsored wildflower walks and events scheduled during the '96 season. Make a special effort to see our Virginia Wildflower of the Year, *Trillium grandiflorum*, in all of its splendor!

Your President, Frank Coffey

• Tips

(Continued from page 1)

native plants. Always study your subject to select the plant's best perspective. Choose the best time of day for the most effective lighting on the subject. Noon sunlight is harsh and not as effective as morning or evening light. Compose your photo to exclude visual clutter. Use a tripod and try to capture the "spirit" of the plant to reflect fragility or toughness.

Those who want to learn more about flower photography might check out books by John Shaw and Craig and Nadine Blacklock. *Virginia Wildlife Magazine*, published by the Virginia Department of Game and Inland Fisheries, publishes a column by author-photographer Lynda Richardson. Another magazine with excellent instructional articles is *Outdoor Photography*. There are also many

other excellent sources of general photographic information available.

When photographing native plants, keep a few conservation guidelines in mind as well. Never destroy the plant or any part of it in the process of photography. Do not destroy or harm neighboring vegetation in an effort to create your best photograph—pruning or rearranging the plant or neighboring plants in the wild is not acceptable. Be a plant sensitive shutterbug and have fun, but watch where you put your feet!

• Contest

(Continued from page 1)

for competitors. Photography contest committee members are Pat Baldwin, Reba Greer and Nicky Staunton.

A complete copy of the rules can be obtained by writing: VNPS Photo Contest, P.O. Box 844, Annandale, VA 22033 or by calling 703-368-9803.

Wildflower of the Year quilt to be offered at Annual Meeting

Plans for the 1996 Virginia Native Plant Society Annual Meeting are well under way. Under the care of the Shenandoah Chapter, the planning committee is chaired by Betty Rosson, who promises all sorts of pleasant surprises for attendees.

One exciting new item on the agenda is a raffle of a quilted wall hanging featuring past, present and future VNPS wildflowers of the year. This raffle will replace the live auction featured at meetings in previous years. The quilted wall hanging measures 38 inches square. Handcrafted by a highly respected Shenandoah Valley quilter, Lorene Edmunds, the quilt consists of nine squares, each containing a featured VNPS Wildflower of the Year. The center square will contain our 1997 selection, fringe tree, *Chionanthus virginicus*.

Tickets for the quilt raffle will be made available to all chapters. The expected price is \$5 for a block of six. It is hoped that all the chapters will get behind this new fundraiser and support it. A photograph of the hanging will be made available to each chapter as soon as it has been completed.

Landscape conference

"Native Plants in the Landscape" is the theme for a June 13-15 conference in Millersville, Pa. The Virginia Native Plant Society is a conference affiliate. Sessions focus on the Mid-Atlantic and Northeast regions in order to enhance the knowledge, cultivation and use of native plants in our environment. The conference is aimed toward amateur and professional gardeners as well as educators, and landscape designers.

Conference registration is \$140/double occupancy or \$150/single and includes food and lodging at Millersville University. For information, contact: Continuing Education, P.O. Box 1002, Millersville University, Millersville, PA 17551-0302 or call 717-872-3030 or fax 717-871-2022.

Spring offers opportunity for wild food feast

Every spring when the lawn starts turning green and the leaf buds start swelling, I head for the outdoors with my tote bag in hand and thoughts of food plants in my mind. I don't have to go far. Foraging opportunities are abundant, and the images of gourmet dishes spring to my mind. The plants I am looking for are mostly native. Some have escaped from cultivation and have become naturalized. Many of the plants growing wild around us are edible, and when prepared properly, can turn an ordinary meal into a gourmet feast.

Many of the spring wildflowers that we look so forward to seeing at the end of the winter can be used to make a colorful, edible dish. I like to collect as many different colors as I can find and then arrange them on top of a cake or pie. The flowers of all violets (*Viola spp.*) are edible, but the tastiest one is the field pansy (*V. kitaibeliana*), especially when the top leaves are included. The taste is similar to wintergreen, adding flavor and color.

Contrasting with the violets are the bright yellow flowers of the wood sorrel (*Oxalis spp.*). They add a tart

flavor to dishes. Most members of the mustard family (*Brassicaceae*) have either yellow or white flowers and are spicy, sometimes peppery, in taste.

Flowers of some trees and shrubs are also edible. Sassafras (*Sassafras albidum*) is one of the earliest flowering shrubs and has yellow edible flowers that appear before the leaves. The taste is completely different from the root beer flavor of the roots and can be added to cooked vegetables or rice dishes. As the young leaves develop they can be picked and used as

thickener in soups or sauces.

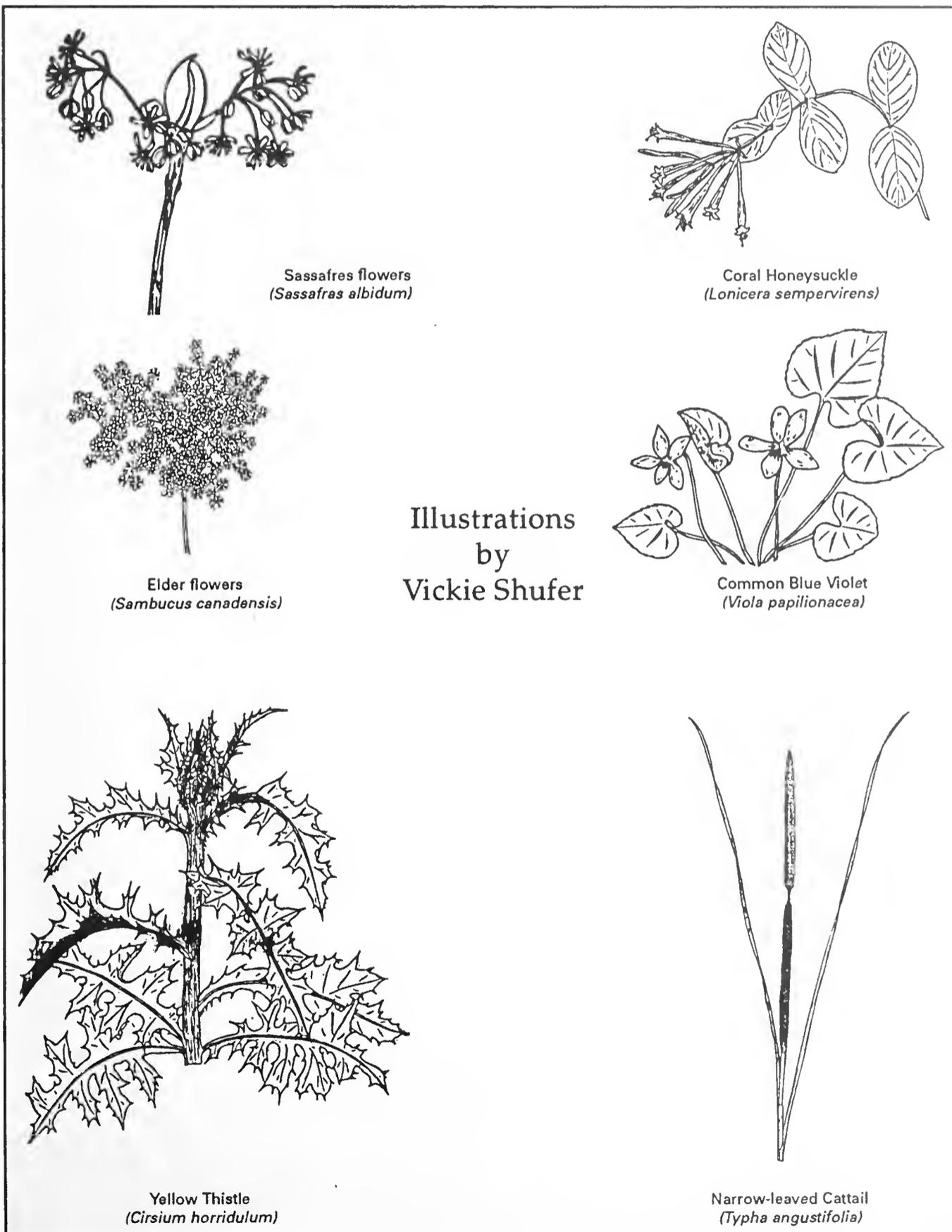
Redbuds (*Cercis canadensis*) are among my favorite spring flowering trees. The fuchsia-colored flowers are not only beautiful to look at but they taste good too. They can add a colorful garnish to lots of dishes. The young pods that develop afterward are also edible and can be stir-fried like snow peas.

Many people grow roses because of fragrant flowers. There are several native species in Virginia, all of which are edible. The flower petals can be re-

moved and made into drinks, jelly or even candied.

A plant that is disliked by many because of its sharp thorns and aggressive growth is the greenbrier (*Smilax spp.*). but in the spring, when the young tips are just coming out, I'm glad to have greenbriers around. The young tips, including stem and tendrils, can be broken off and eaten raw or added to salads. As the plant matures, the leaves and stems become tough and less sweet.

Thistles (*Cirsium spp.*) also have a bad reputation because of their long, sharp thorns. But (See Food, pg. 9)



For Wildflower Gardeners

Natives add cheer to winter gardens

Diminutive evergreen natives, hardly noticed in May and June, are a welcome sight in the garden during January and February. I spotted three familiar species on a recent walk (between snow storms!) through my woodland garden.

Spotted wintergreen (*Chimaphila maculata*) grows naturally in my woods and I treasure it wherever it appears. It's about six inches tall with narrow, deeply toothed two- to three-inch long leaves that have a light gray-green pattern along the mid-rib.

Though it looks fragile, partridgeberry (*Mitchella repens*) is a tough little creeper that makes a good groundcover in shady gardens. Tiny, leathery half-inch leaves actually shine in the weak winter sun. Red berries persisting through winter add to this cheerful picture.

Named for the fragrance of its leaves and berries, wintergreen (*Gaultheria procumbens*) is also a delightful groundcover for the shade garden. Unlike partridgeberry, which spreads by above-ground runners, this species spreads by underground stems, sending up clusters of two- to

three-inch oval leathery evergreen leaves. Bright red berries add color through winter. All three of these species flower during the summer.

Not normally considered evergreen and grown primarily for its spring flowers in shades of white, pink and lavender, creeping phlox (*Phlox stolonifera*) has ground-hugging foliage that stays attractive through most winters. It grows naturally only in Virginia's western mountainous counties while the three evergreen species are native throughout the state.

Although it's native to moist woods only in the Carolinas, oconee bells (*Shortia galacifolia*) is a wonderful groundcover for cooler areas in Virginia. Shiny, rounded, evergreen leaves, only about an inch-and-a-half across, turn shades of red and bronze in the fall. Plants spread very slowly into good sized clumps over the years. Beautiful, fringed, pinkish-white flowers appear in very early spring.

Another plant that is growing well in my northern Virginia garden is a selection of green and gold (*Chrysogonum virginianum*). Intrigued by the named 'Eco Lac-

quered Spider, I ordered three plants from a Georgia nursery. The name describes shiny leaves similar to those of the species but more likely to be evergreen. In just three years my plants have spread by long runners into an impressive patch.

In addition to these native groundcovers in the shade garden, I like to look for evergreen rosettes of natives in other parts of the garden. Clumps of bright green leaves with purple undersides of golden ragwort (*Senecio aureus*) brighten the border all winter. Cardinal flower (*Lobelia cardinalis*) and white beardtongue (*Penstemon digitalis*), both growing in damp areas, have good foliage through the winter. A mulch of finely chopped leaves can be tucked around these perennials, but they may be smothered if covered by a thick layer of leaves.

These and other natives that are attractive through the winter can be planted near frequently used paths or walks where they will be seen often. Or plant them throughout the garden so you will be lured outside for long walks to discover bits of winter cheer. Perhaps the best plan is to group them into a "winter garden" that can be enjoyed from the warm side of a window.

Nancy Arrington
Horticulture Chair

Wintergreen symposium

The Spring Wildflower Symposium presented by The Wintergreen Nature Foundation continues its tradition of providing something for every wildflower enthusiast from beginner to botany scholar. The instructors are the finest experts available in their fields and provide participants with a wealth of information on native flora.

This year's symposium will be held May 10-12. For more information, call Rosalind Rowe at 804-325-8172 or Eva Lowe at 804-325-8169.

FREE REGISTRATION FOR TWO (\$150 VALUE)

(Coupon for drawing)

The Spring Wildflower Symposium

sponsored by

The Wintergreen Nature Foundation

May 10-12, 1996

Name _____
Address _____
Phone Number _____

Mail coupon with a \$5 donation to: **Virginia Native Plant Society**
P.O. Box 844, Dept. W
Annandale, VA 22003

The winner will receive registration for two to The Spring Wildflower Symposium. All entries must be postmarked by April 15 and a \$5 donation must be included for each entry. Enter as many times as you like. The winner will be contacted by phone. This coupon may be photocopied.

Virginia Wildflower Celebration 1996

The nine chapters of the Virginia Native Plant Society celebrate the rich diversity of the native flora of the Commonwealth each year in April and May. For the next two months, 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 telephone numbers provided to obtain further information. Propagated plants will be available at chapter plant sales.

The 1996 Virginia Wildflower of the Year, large-flowered trillium, will enhance the celebration this year with its striking spring displays. *Trillium grandiflorum* leaves an indelible impression on all who are fortunate to encounter this plant in its native environment. It most commonly grows in wooded sites with rich moist soils in relatively undisturbed woods and coves.

Calendar of Events

March 18, Monday. 7:30 p.m. **Designing Wildlife Habitats** by Gina Yurkonis. Bethel Lutheran Church in Manassas. Helen Walter (Prince William) 703-754-8806.

March 23, Saturday. 10 a.m. **Woodpecker Ridge Nature Center work day and field trip.** Troutville. Frank Coffey (Blue Ridge) 804-332-5757.

March 24, Sunday. 3 p.m. **Flights of Fancy** with Joyce Russell. Slide presentation on butterfly gardens. Lee Moomaw (South Hampton Roads) 804-422-6470.

March 25, Monday. 7 p.m. **Invasive Plant lecture** by Ted Scott. Center in the Square, Roanoke. Frank Coffey (Blue Ridge) 804-332-5757

March 30, Saturday. 11 a.m.-4 p.m. **South Hampton Roads Chapter plant sale.** Francis Land House, Virginia Beach. Lee Moomaw (South Hampton Roads) 804-422-6470.

March 30, Saturday. 10 a.m. **Spring ephemerals field trip to**

Acadia. Frank Coffey (Blue Ridge) 804-332-5757.

April 6, Saturday. 1 p.m. **Dry Run Branch field trip** in Catawba. Bring footwear for wet areas. Supper at local restaurant after trip. Frank Coffey (Blue Ridge) 804-332-5757.

April 13, Saturday. 10 a.m. **Botanizing Green Hill Park** in Salem. Frank Coffey (Blue Ridge) 804-332-5757.

April 14, Sunday. 10 a.m. **Piedmont Chapter field trip** to Margie White's in Sperryville,

April 14, Sunday, 2 p.m. **Randolph-Macon Woman's College Botanic Garden Open House and walk along Alpine Trail** in Rivermont Park, Lynchburg. Frank Coffey (Blue Ridge) 804-332-5757.

April 18, Monday. 7:30 p.m. **"Folklore and Wildflowers."** Lecture at the Ida Lee Recreation Center, just north of old town Leesburg. Ida Lee at (703) 777-1368 or Lloyd Henry (Piedmont) at (703) 777-2535.

April 20, Saturday. 10 a.m. **Buffalo Creek field trip,** Evington. VNPS Registry site. Frank Coffey (Blue Ridge) 804-332-5757.

April 21, Sunday. 10 a.m.-12:30 p.m. **Great Falls wildflower walk.** Marion Lobstein (Prince William) 703-536-7150.

April 21, Sunday. 2:30-4:30 p.m. **Balls Bluff wildflower walk.** Marion Lobstein (Prince William) 703-536-7150.

April 21, Sunday. 1 p.m. **Bull Run/Fairfax Regional Park Bluebell Walk.** (Potowmack and Prince William Chapters assisting) Nicky Staunton 703-368-9803.

April 26-28, Friday, Saturday & Sunday. The 27th Annual **Wildflower Pilgrimage** by the Science Museum of Western Virginia. Co-sponsored by Blue Ridge Wildflower Society. Frank Coffey (Blue Ridge) 804-332-5757.

(Continued on page 6)

Piedmont Chapter offering info on trillium viewing at Thompson Refuge

As part of the 1996 Wildflower Celebration, the Piedmont Chapter is offering in-depth information about the Department of Game and Inland Fisheries' G. Richard Thompson Wildlife Management Area near Linden. Included in the invitation is information on how to visit and view the VNPS 1996 Wildflower of the Year. This population of large-flowered trillium is

one of the largest in the eastern U.S. The peak viewing time occurs at the end of April and the first 10 days of May. Piedmont members are avail-

able to lead walks during this time. If you plan to visit this Registry area, (which was the first VNPS registry site) in the spring to witness the amaz-

ing display of trillium, send a self-addressed, stamped (55 cents postage) business-size envelope to: Jocelyn Sladen, 6712 Blantyre Road, Warrenton, VA 22186. For more information, call Carrie Blair at 540-364-1232.



Calendar of Events

(Continued from page 5)

April 27-28, Saturday & Sunday. 10 a.m.-5 p.m. & 1-5 p.m. **Garden tour** featuring the gardens of Nancy Arrington, Nancy Vehrs/Warren Ryder & Tiana Camfiord. Helen Walter (Prince William) 703-754-8806.

April 27-28, Saturday & Sunday. Overnight field trip to view *Trillium grandiflorum* at **Thompson Wildlife Management Area**. Lee Moomaw (South Hampton Roads) 804-422-6470.

May 4, Saturday. **Shale Barrens field trip**. Frank Coffey (Blue Ridge) 804-332-5757.

May 11, Sunday. 9 a.m.-Noon. **Prince William plant sale** at Bethel Lutheran Church, Manassas. Helen Walter (Prince William) 703-754-8806.

May 11, Saturday. 9 a.m.-2 p.m. **12th Annual Plant Sale**. Virginia Western Community College Arboretum on the campus of Virginia Western. Frank Coffey (Blue Ridge) 804-332-5757.

Wildflower ID classes

Space may still be available in the spring wildflower identification class taught by Marion Lobstein in the home of a VNPS member near Marshall, Virginia. The classes run April 12, 19, 26 and May 3 and include lectures and field trips. Tuition is \$75 for VNPS members. The textbook used is *Flora of West Virginia* and copies are available from Lobstein at a reduced price of \$35.50. For further information or reservations, call Connie or John Fry at (540) 364-3046

Directions to North Landing River canoeing

For those readers whose sense of adventure was sparked by Vickie Shufer's article "Canoeing offers unique way to see native plants," in the January issue of the VNPS *Bulletin*, here is a more detailed set of directions to launch sites: From the Virginia Beach Resort area, go south on Pacific Avenue over Rudee Inlet and continue on General Booth Boulevard to the Municipal Center. Bear left onto N. Landing Road at the Municipal Center and continue south about 6 miles and past the N.

May 11-12, Saturday & Sunday. 9 a.m.-3 p.m. & Noon-3 p.m. **John Clayton Chapter plant sale**. Virginia Living Museum, Newport News.

May 18, Saturday. **Weyanoke Sanctuary fern walk**. Lee Moomaw (South Hampton Roads) 804-422-6470.

May 18-19, Saturday & Sunday. 9 a.m.-3 p.m. & Noon-3 p.m. **John Clayton Chapter plant sale**. Virginia Living Museum, Newport News.

May 19, Sunday. 10 a.m.-12:30 p.m. **Great Falls Park wildflower walk**. Marion Lobstein (Prince William) 703-536-7150.

May 20, Monday. 7:30 p.m. **Wildflowers of Piscataway Park**, lecture by Brent Steury. Bethel Lutheran Church in Manassas. Helen Walter (Prince William) 703-754-8806.

June 8, Saturday. 8 a.m. for breakfast; 10 a.m. for field trip. **Rhododendron Day** on the Blue Ridge Parkway. Frank Coffey (Blue Ridge) 804-332-5757.

Leesburg garden show

On April 27 and 28, four city blocks of Historic Downtown Leesburg will be transformed into a botanical garden at the Sixth annual Leesburg Flower & Garden Show.

Vendors will display a variety of gardening equipment, supplies, plants and flowers in addition to landscaped gardens. Gardening workshops and entertainment for all ages are also scheduled throughout the weekend.

The show is sponsored by Leesburg's Department of Parks and Recreation. For more information, call 703-777-1262.

Landing Drawbridge. Look for the sign that says Fentress Airfield Road/Blackwater Road and turn left onto Fentress Airfield Road. It is the first road past the drawbridge. Go one block and turn left onto Blackwater Road. About 3 miles south on Blackwater Road is Pocatoy River with limited parking. About 5 miles farther south is Blackwater River. There is a general store where people can park and launch canoes. This is probably the best launching site.

West Virginia weekend offers wildflower bonanza

For the 34th year, the Webster Springs Garden Club will sponsor a Spring Wildflower Weekend in Webster Springs, West Virginia.

A spring weekend (May 3-5) in Webster Springs will enrich your wildflower enjoyment and provide a taste of the simple life. The "bedding" is in dorm-style cabins (with showers) at a small 4-H camp. The "board" offers plentiful and delicious food.

Painted trillium are located in camp. Near the lake, some special ferns and *Goodyera repens* can be located. The Saturday dayhikes are geared to a variety of stamina levels and take you past wild larkspur, dwarf ginseng, yellowroot and a rich assortment of other native plants. If extended hiking is a problem, car botanizing is a possible alternative, with short walks at choice sites.

The \$55 cost per person includes housing and food. The weekend begins with a program by VNPS wildflower expert Jay Shaner (Shenandoah Chapter) on Friday night. There is a gathering around the campfire Saturday evening to share the day's adventures and to listen to music from the Blue Grass Express. To receive information on the weekend, write: Webster County Nature Tour, P.O. Box 43, Webster Springs, WV 26288 or call Stella Riffle at 304-847-2735.

Pamunkey canoe trip

Enjoy the beauty of spring from the vantage of a canoe. Come join us on our annual spring sojourn along a remote section of the scenic Pamunkey River where dogwoods, redbuds, spring beauties, mayapples and more are likely to be seen.

The trip is planned for April 20 at a cost of \$25 per person. Canoes, paddles, life jackets and some basic canoe instruction will be provided. Deadline to sign up for the trip is April 12. Contact Garrie Rouse at 804-769-1449 for trip details or to make reservations.

Winter wildflower guide offers different look at plants

A Guide to Wildflowers in Winter by Carol Levine. 1995. Yale University Press, New Haven, CT. Paperback. \$20.00.

A Guide to Wildflowers in Winter offers a means of identifying the winter remnants of herbaceous plants in the northeastern United States. It has complete descriptive entries on 391 species along with brief mention of an additional 191 species. The guide features a key to winter plants based on their remnant stems, seeds or seed-bearing structures and basal rosettes. The key is not extremely technical, but new users will have to spend some practice time on known plants to learn its ins and outs. Good introductory material on the classification of seeds and fruits and a concise, illustrated glos-

sary help with terminology.

I found the illustrations to be of rather uneven quality. Many are crisp and clear, on a par with any field guide illustrations I've seen. Others lack detail and have too much stippling and shading, further masking fine structural detail. Most disconcerting was finding captions switched for New York ironweed and common sow-thistle on page 219. That's a pretty gross error for a book in this price range.

This book goes beyond consideration of "wildflowers" and covers ferns and fern allies, sedges, rushes and grasses. The grasses are covered by a separate key, accompanied by illustrations of structural terms. I was further pleasantly surprised to find consideration of several types of goldenrod galls with discussion of the insects responsible for making them.

I field-tested *A Guide to Wildflowers in Winter* through a week of day hikes in early January to see how the book handled life outdoors. The covers have a slick, apparently waterproof finish which fended off mud and moisture. They are a bit thin for protracted field use; mine are now bent and dog-eared from being pulled in and out of my pack. Someday the publishers of field guides will give us books with rounded corners, like on trail and hiking guides, to slip easily in and out of packs and pockets. The author doesn't mention this, but I think a good 10X lens is a necessary companion to this book, not only to assist in keying specimens but to enhance your appreciation of some of

the remnant structures you'll be looking at.

On balance, *A Guide to Wildflowers in Winter* is a useful and interesting book, acting as a wake-up call to get out in the winter and see what exquisite remains our familiar plants have left behind. Birders may find it useful for identifying food plants. Makers of dried arrangements will find this a source of material for their creations. I see this book as a useful reference and as an introduction to the study of seeds and seed-bearing structures. I won't call it a "must have," but I enjoyed getting to know this book and would consider it a useful complement to my library.

Mark Gatewood
Publications Chair

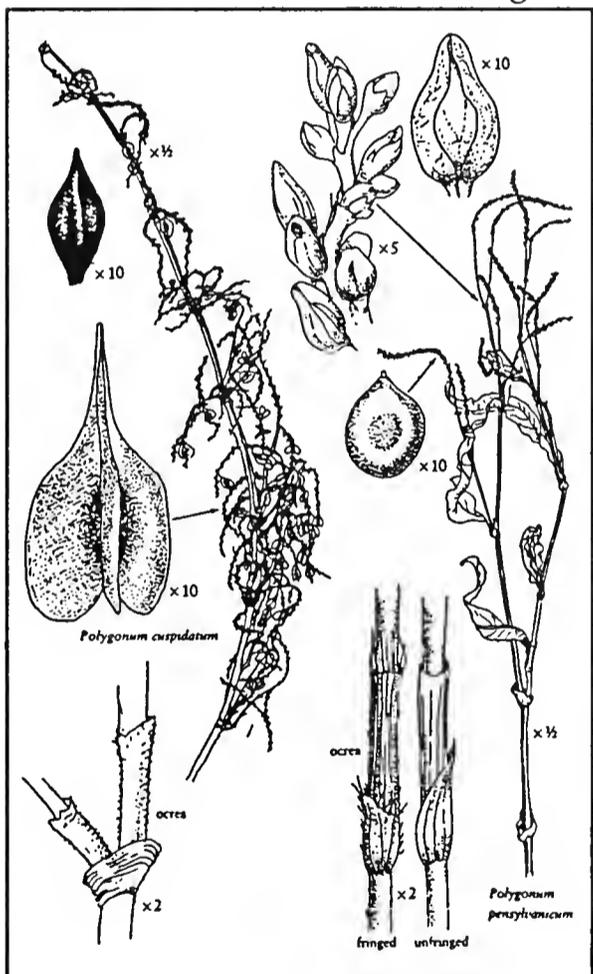


Illustration from *Wildflowers in Winter*

"A Reunion of Trees"

After just finishing *A Reunion of Trees* by Stephen Spongberg, horticultural taxonomist at Harvard's Arnold Arboretum, I felt I should call it to the attention of other Virginia Native Plant Society members. The book is delightfully written, easy reading, and liberally embellished with old woodcuts, drawings, photographs and paintings.

gives insight into history of colonization

To quote from the foreword: "The purpose of this book is to help all of us, expert and amateur alike, to comprehend our present situation by telling the history of world exploration for woody plants. The history given here is of two sorts: environmental and intellectual. First, the book tells of the transformations of the North American and Eurasian

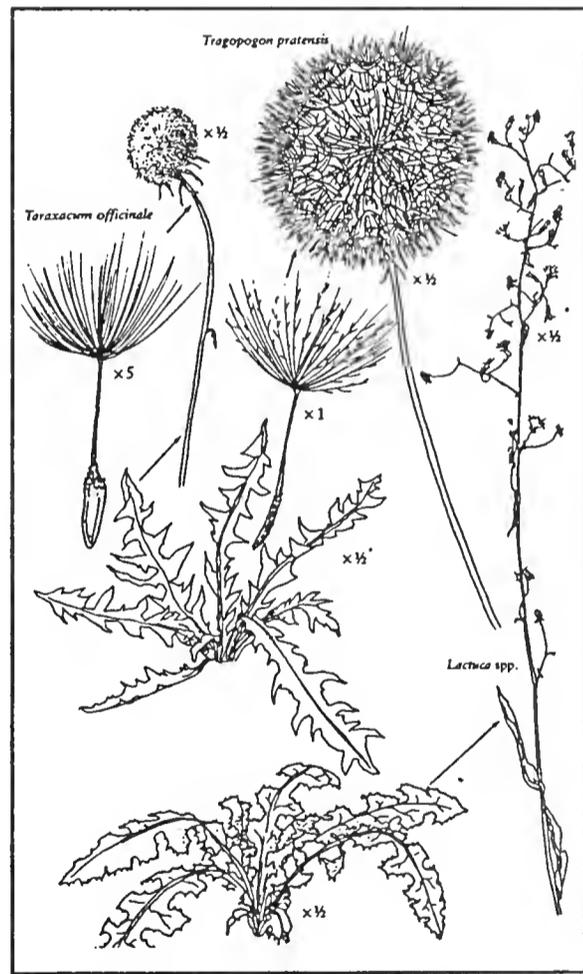


Illustration from *Wildflowers in Winter*

landscapes brought about by the migrations of trees and shrubs through geologic change, exploration, and cultivation. Second, the book tells of some of the shifts in our ideas about woody plants and their meanings for human existence."

In the early days of Western Hemisphere colonization, botanists (*See Book, page 10*)

Cryptogams: Tips for having fun with fern genes

Following an interesting program by Dr. Tom Nye on ferns at the December meeting of the Shenandoah Chapter, I briefly outlined a fern propagating technique which I had used several times with success. I was asked where I had learned the method, but at the moment I could not remember.

I later recalled that my undergraduate botany teacher, Professor C. Moore at Fairmont State College, suggested it to me for growing mosses when I was doing a special problem in 1952 on the Family Hypnaceae. I since have used the technique for propagating other spore-bearing cryptogams. (Etymology: Gk. Krypto, to hide; Gk. gameo, to marry, thus, having hidden reproduction organs.) Cryptogams include the *Bryophyta* (liverworts and mosses) and the *Pteridophyta* (horsetails, club mosses and ferns). All cryptogams form spores, while higher plants, the *Spermatophyta*, bear seeds.

The reproductive spores of cryptogams are microscopic in size. Since they are "hidden from sight," they present problems not encountered by those accustomed to growing only seed plants. How can one evenly disperse minute, invisible spores over the surface of a substrate on which they want them to grow?

ONE METHOD

Step 1. Have a reason, need or desire to grow a specific species of cryptogam.

Step 2. Have a source of mature spores of the species you wish to propagate. You may want to collect spores from the field. If so, learn where on the plant they are to be found. On ferns such as grape, adder's tongue, rattlesnake and moonwort, a fertile stalk bearing the sporophyll contains the spore cases. Most ferns have both sterile and fertile fronds in the same plant. The spores occur in sporangia (spore cases) carried sori (Gk., "heaps") on the underneath regions of fronds (fern leaves). Sori appear only at the

tips of fronds on the Christmas ferns and rock-cap ferns (both *Polystichum* spp.). On royal ferns a fruiting body appears as a dark brown structure at the tip of a frond. With maidenhair ferns only the outer margins of pinnales carry the sori. (The singular of sori is sorus). Any patch (stand) of ferns is a site for sori.

Some species of ferns will hybridize when the spores are grown in contact with each other. An example is the walking fern (*Camptosorus*) x ebony spleenwort (*Asplenium*). The hybrid is *Asplenium X Ebenoides*. (The capital "X" signifies the cross is between two genera, and the ending "oides" notes that the hybrid is ebony-like). The common name is dragon tail spleenwort. The ferns, 4-9 inches high, from this cross, have highly variable fronds. Often they are like spleenwort at the base and have long dragon-tail tips of the walking ferns. The hybrid is well adapted to limestone sites. I had some in my Japanese-style garden until hairy-tailed rats (some folks call them gray squirrels) dug them up while burying nuts. This is the most interesting hybrid I know.

You can even gather spores from herbarium specimens that are many years old. I once grew the moss *Dicranium* spp. from spores of plants collected and pressed more than 50 years earlier. It is my opinion that the viability of spores is much greater than that of seeds; however, I have not read of any scientific comparison of the two.

Regardless of your spore source, they **MUST** be collected **DRY** and **KEPT DRY** until time to plant them.

Step 3. Select the substrate or site where you hope to grow your cryptogams, in this case, ferns. If you have a stone garden or stone wall, you may want to grow ferns there without transplanting them. A suitable soil can be blended from equal parts of peat, sand and loam. If the fern requires mostly shade, you must provide it. Few ferns will grow well in full sun. One exception is the

hayscented fern (*Dennstaedtia punctilobula*) often seen in open fields.

If you want to grow ferns just to study the stages in their life cycle or to transplant them to a suitable site at a later date, the best substrate I have tried is commercial cat litter. I do not think the brand name matters. The texture is such that a great deal of irregular surfaces are exposed in many angles—this appears to be important. Regardless why, it works. One nice thing about an artificial substrate such as cat litter is that you can start ferns indoors before spores can be grown outside. I use a baking pan lined with a piece of felt or with paper towels that hold a supply of water for a fairly long time. Moisture is an important requirement to germinating spores. Do not add commercial fertilizers such as 10-10-10. These would burn spores before they could germinate.

Step 4 - With a supply of spores and a ready substrate at hand, the next thing is the vehicle that will evenly disperse the spores, such as a liquid. I call this liquid the spore-carrier-media. For this I use low fat buttermilk to suspend the spores and hold them to the substrate. In a food blender or food processor, put a pint or so of buttermilk and the dry fern leaflets (pinnales) that have sori. Pulse until well-blended. You may want to experiment with the measure of fern leaflets per pint of buttermilk. As I recall, I used two spleenwort and three or four walking fern fronds to a pint of buttermilk for my dragon tail spleenwort mix. The spores are essentially homogenized in the buttermilk. At least they remain suspended for a few hours. The spore/milk mixture can be frozen and then thawed to be used at a later time.

A spore/milk dispenser is the next adventure. I have tried two methods here. One for applying the spore/milk mixture to the cat litter substrate, the other for an application to soil in the crevices and joints (See *Ferns*, page 10)

•Food

(Continued from page 3)

they too find favor among foragers. The flower stalk, just before the flower opens, can be cut, peeled and eaten. It has a taste similar to celery and is used the same way.

Cattails (*Typha latifolia* and *T. angustifolia*) grow in wet areas and can be gathered all year at some stage. In the spring the young shoots can be cut and the outer leaves stripped down to the inner stem which has a cucumber-like taste. These can be eaten raw in salads or added to stir-fried vegetables. Later when the flowerbuds develop, they too can be steamed and eaten and have a taste similar to corn, hence "kitten-on-the-cob." The pollen can be collected in a bowl and added to flour for baking.

Not all plants are edible. Some are poisonous, even deadly, when consumed in large quantities. Positive identification of the plant and certainty of its edibility is always necessary before tasting wild plants.

Native plants are a part of our heritage and have played an important role as a food source in the lives of our ancestors. Even though today we can go to the grocery store and walk down the aisles picking up cans of food and pushing a cart, it's just not the same as walking down the trail, carrying a bag, and looking for that special treat.

Vickie Shufer, a member of South Hampton Roads Chapter, is the editor of The Wild Foods Forum.

Fern fiddleheads make tasty spring treat

Fern fiddleheads were a regular springtime item for my family. We liked to search for morel mushrooms in April and gathered fiddleheads during our morel forays.

I have heard some people complain about how bitter their fiddleheads tasted, and remark they would never try them again. The fact is, all species of fern fiddleheads are quite bitter EXCEPT those of ostrich ferns, cinnamon ferns and braken (brake) ferns. These are the only delightfully edible species. All other ferns have such a high tannic acid content that even their fiddleheads are very bitter and gastronomically disagreeable. The ostrich ferns are the fiddleheads commercially canned and available at the market. They are gathered in the New England states. The ostrich fern is rather uncommon in our area of the mountains.

I would like to share my favorite recipe for fern fiddleheads.

FERN FIDDLEHEADS WITH MORELS AND NUTS

(Serves 4)

- 1 pound fern fiddleheads (of edible species)
- 1/3 to 1/2 pound morel mushrooms
- 2 tablespoons butter
- 2 shallots, finely chopped (small sweet onions may be substituted)
- 1 bunch fresh chervil, chopped
- 1/2 cup beef stock
- salt and pepper to taste
- 1/2 cup pine nuts or hickory nuts, toasted and chopped

Carefully clean the fiddleheads and morels. If using cinnamon fern fiddleheads, brush away most of the hairs. Split the morels in half. Soak morels and ferns in either salt water or vinegar a few minutes. Drain and dry on toweling. Heat butter in a heavy skillet over medium-low heat. Saute morels for two minutes. Add fiddleheads, chervil and shallots and saute for one minute. Add beef stock and seasoning. Cover and simmer for three minutes. Serve warm; garnished with nuts. Great with toasted homemade bread.

Submitted by Dr. Elwood Fisher, a member of the Shenandoah Chapter and Professor Emeritus of Biology at James Madison University in Harrisonburg.

When collecting wild plants for food, remember that plants should never be collected on public land or without permission from private landowners. In addition, rare plants should NEVER be collected and even commonly occurring plants should never be overharvested.

See the address label for your membership's expiration date.

VNPS Membership/Renewal Form

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Associate (group) \$40; delegate _____

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 _____ Chapter
in the amount of \$10 \$25 \$50 \$100 \$ _____

Check here if you do not wish your name
to be exchanged with similar organizations.

Check here if you do not wish
to be listed in a chapter directory.

Make check payable to VNPS and mail to:

VNPS Membership Chair, 3924 Cobbler Mtn. Rd., Delaplane, VA 22025

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

The Bulletin

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Frank Coffey, President
Nancy Sorrells, Editor
Barbara Stewart, Artist

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•Ferns

(Continued from page 8)

of stone retainer walls and similar habitats.

First, the technique for the cat litter substrate. Presoak the litter in hot water for an hour or until completely saturated so it can supply moisture to the spore-carrier media. Drain the presoaked litter well and put it into a kitchen strainer that is positioned over a bowl. Pour the spore/milk mixture through the litter. It should be well coated with one application. Let the litter dry while preparing the substrate holder. Fit either a damp paper towel or a moist piece of felt into the bottom of a baking sheet or pan.

Next, spread the inoculated cat litter uniformly over the tray liner. Loosely cover with glass or clear plastic to reduce moisture loss. Leave some space for evaporation so molds will not form. Most spores will grow at temperatures from 55 to 75 degrees F. Place the container where it receives 6 to 8 hours of indirect light daily. In two weeks to a month, heart-shaped gametophytes, called prothalli, appear. Then these small green discs send up tiny erect fern-like plants called sporophytes. When this stage begins to root, lift the plants with a table fork into small pots or a

seed flat for further growth. Later, small ferns can be transplanted to flower pots or a fern garden.

If you start ferns from spores in a natural landscape situation, the site must have the correct exposure to sun and shade, moisture, soil and other requirements needed by the specific species of fern. Ecological observations are important here.

For a habitat, such as a stone wall cavity, I have used a basting syringe. More recently I have used recycled plastic containers, such as empty syrup bottles, for the job and find that these work best. They are easily filled with the spore/milk mixture and can be directed inside spots that are hard to get to. A little squirt in the correct place will do the job if conditions are proper for growth of spores.

FERN AWAY, BY GULLY!

Dr. Elwood Fisher, a member of the Shenandoah Chapter, is Professor Emeritus of Biology at James Madison University in Harrisonburg.

New zip codes

The zip codes of many of our members are changing July 1. Please, when you renew your membership, let us know what your new zip code is, or send a change of address form so that VNPS mail will arrive safely at your home.

•Book

(Continued from page 7)

from Europe eagerly sought new plants, primarily herbaceous ones with medicinal properties, to send back home to their physic gardens. The collection of trees and shrubs for landscaping quickly followed and proceeded until the 1850s when heretofore unknown trees and new shrubs from our West Coast were shipped back home to Europe. During the same period of time there was also an immigration of plants to our country from Europe and Asia.

This history book, of unexpected breadth, is artistically presented, and has a sneaky appeal. Open it, read a page, and if you have any interest in plants, you will want to read more.

Ted Scott, Conservation Chair

•Conference

(Continued from page 1)

the necessary tools to advocate effectively.

The \$10 registration fee to the day-long conference covers the cost of a box lunch. Registration information (name, address, phone number, fax number and e-mail address if you have one) and checks payable to NWF can be mailed to: Brent Plater, Wildlife Federation, 1400 16th St. NW, Washington, D.C. 20036.



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May 1996

Vol. 15, No. 3



Bulletin

A publication of the VIRGINIA NATIVE PLANT SOCIETY

Conserving wild flowers and wild places

Fringe-tree focus



Illustration
Nicky Staunton

**See page 6 for complete
VNPS photo contest rules**

Cautious optimism exists for Division of Natural Heritage

What happened to the Division of Natural Heritage after our story in the January *Bulletin*?

This is an attempt to bring you up to date. After the story appeared, members of the Virginia Native Plant Society initiated a letter-writing campaign to key members of the General Assembly. This was accomplished by contacting the presidents of all VNPS chapters and asking them to have 10 to 12 members each write a letter to a list of house delegates and senators. The letters were to point out reasons why the proposal to transfer the Division of Natural Heritage (DNH) from the Department of Conservation and Recreation (DCR) to the Department of Game and Inland Fisheries (DGIF) was a destructive idea.

We don't know how many letters were written, but the potential was for each of the delegates and senators to receive 90 to 100. We do know

that several of our chapters took the task very seriously (though a few did not) so the effort did get our message to those delegates and senators. The result of our efforts and the efforts of others, primarily The Nature Conservancy which undertook an intensive effort, was the bill's defeat in committee by both the House and Senate.

That defeat accomplished half the job. We then asked each chapter to have the same number of people make phone calls to another group of key delegates and senators urging them to restore the funding necessary for the DNH to operate for the next two years. That, too, was accomplished in both the House and the Senate by comfortable margins and forwarded to the Governor for his signature. Unfortunately, there was a question about whether the Governor might veto the funding (*See DNH, page 8*)

Inside this issue

- Annual Meeting registration form, insert
- Spring and summer wildflower events, page 3
- Highlights from the Winter Workshop, page 4

From the President

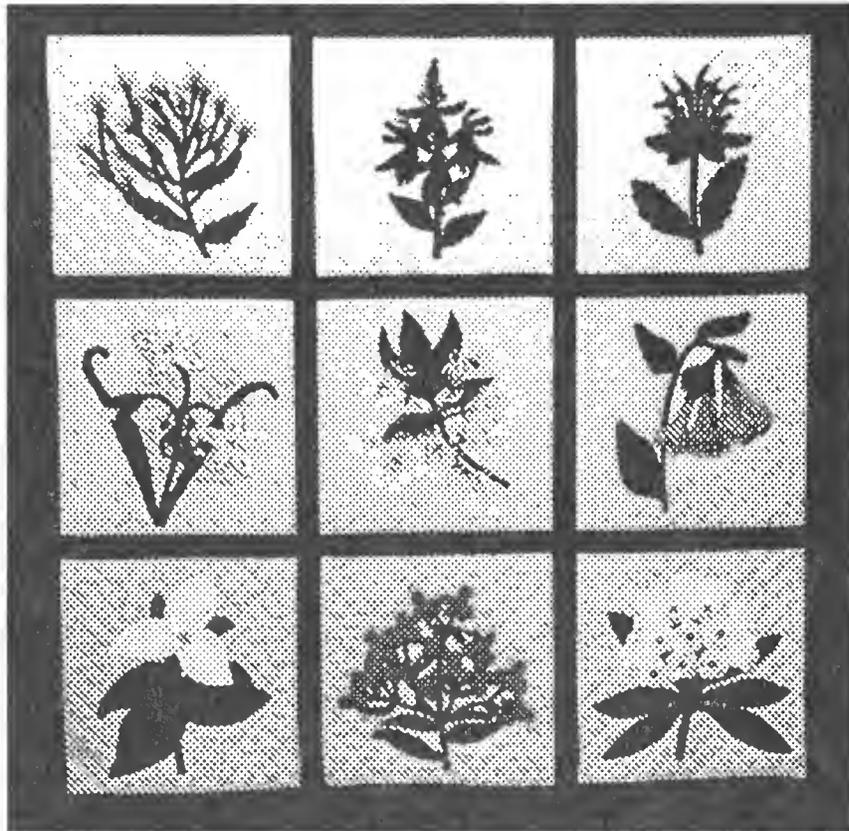
The response to our Year End Appeal has been tremendous! Our current total is just over \$5,200. Thanks so much for your generous support and a special thanks to an anonymous donor for a \$1,000 contribution. Our goal was to develop and purchase a large display unit that will get attention and help us communicate more effectively our Virginia Native Plant Society message. We are moving ahead with these plans and should have our unit by early summer. It will be set up at the Annual Meeting for all to see.

I had the pleasure of visiting the Shenandoah Chapter recently and discovered that plans for the Annual Meeting are progressing nicely. The hand-quilted wall hanging is truly beautiful and a real work of art. It contains squares with our past, present and future Virginia Wildflowers of the Year in beautiful applique and embroidery. Tickets are now available through the Shenandoah Chapter. Everyone needs to purchase and help sell the tickets! Remember, this

project replaces the auction as the fund-raiser at the Annual Meeting and so must be a success.

The VNPS Invasive Alien Plant display got a lot of attention at the Virginia

tion and passed out a lot of material about the Society and invasive alien plants. A special thanks to Nicky and Loren Staunton and Bob Eubank for assisting with our display.



The quilted wall hanging being raffled off at the Annual Meeting hosted by the Shenandoah Chapter.

The Clean Water and Wetlands Conference emphasized the importance of each of us taking a strong stand for our environment. Please communicate with your congressman or senator the importance of a strong Endangered Species Act and environmentally friendly legislation. We cannot accept less!

The records of most of our congressional leaders are very poor concerning these issues. Communicate your displeasure about individual legislation that may be environmentally threatening. Remember, the air we breathe, the water we drink and the wild habitats

Clean Water and Wetlands Conference held at Virginia Commonwealth University in March. We were a co-sponsor with the National Wildlife Federa-

we all enjoy depend on legislators getting the message that these things are important.

Your president,
Frank Coffey

Botany chair leaves Virginia for arboretum in Flagstaff, Arizona

It was with a touch of sadness, but also with some great expectations for his future work with plants that Botany Chair Chris Sacchi has turned in his resignation to the Virginia Native Plant Society. He will be leaving VNPS and his current position at the state arboreteum to be director of the Arboretum at Flagstaff, Arizona.

Chris has been the curator of the Virginia State Arboreteum at Blandy for the past eight years. During that same time he has also been a member of VNPS through the Piedmont Chapter. He has aided the society on a variety of local and state levels by giving lectures, leading wildflower walks and conducting classes at the winter workshop. He is currently serving as the state Botany Chair. In that capacity he wrote the text

for the wildflower of the year brochures and supplied several articles to the VNPS Bulletin.

The move to Flagstaff will be a reunion between Chris and the native flora of that region. After earning his bachelor's degree in biology at Fairfield University in Connecticut and his master's in zoology at Rutgers, he traveled to Northern Arizona at Flagstaff to earn a doctor-

ate in plant ecology.

The harsh natural setting of the region and limited plant diversity create a natural reliance on the horticultural use of native plants, Chris explained, adding that at 7,200 feet the arboretum is the highest elevation of any botanical garden in the United States.

"There is a vast pine forest surrounding the arboretum. The orga- (See Botany, page 4)

Opening remains for Bruce Peninsula trip

One of the persons registered for the Virginia Native Plant Society trip to the Bruce Peninsula in Canada has unfortunately been forced to cancel. This creates a vacancy for someone else to fill. The trip will leave Virginia June 14 and return June 23. The cost is \$450.

Anyone interested should contact Ted Scott at 12493 Spicewood Road, Orange, VA 22960 or call 540-672-2814 as soon as possible.

For more information about the Bruce excursion and the exciting wildflowers to be discovered, see the November 1995 Bulletin.

Calendar of Events



Penstemon
'Husker Red'
Illustration
Nicky
Staunton

American native plant chosen as top perennial

The Perennial Plant Association has chosen an American native, Penstemon 'Husker Red,' as its perennial of the year for 1996. 'Husker Red' is a selection of *Penstemon digitalis* commonly known as smooth white or fox-glove beardtongue. The species is found in meadows, prairies and along woodland edges throughout the eastern and central United States.

Like the species, this cultivar is about 30 inches tall with white tubular flowers covering about one third of the stem. Flowers have a hint of pink not usually found in the species, and foliage is a dark burgundy or bronze-red rather than the usual green.

The original plant was discovered in a Nebraska garden and introduced in 1983 by horticulturist Dr. Dale Lindgren who named it for its lovely foliage and the University of Nebraska where he works.

Each year the Perennial Plant Association features a perennial that is attractive, easy to grow and widely available. Natives chosen in the past include *Phlox stolonifera*, *Heuchera* 'Palace Purple,' and *Coreopsis verticillata* 'Moonbeam.'

May 11, Saturday, 8:30 a.m., all day. Shale Barrens walk. Bring a lunch. Jake Kagey (Shenandoah) 540-828-3297.

May 11, Saturday, 9 a.m.-noon. Prince William Wildflower Society plant sale. Parking lot of Bethel Lutheran Church in Manassas. Marie Davis (Prince William) 703-361-1626.

May 11-12, Saturday & Sunday. May 18 & 19, Saturday & Sunday. Saturdays 9 a.m.-3 p.m., Sundays noon to 3 p.m. John Clayton Chapter plant sale held jointly with the Virginia Living Museum. Jane Showacre (John Clayton) 804-435-3912.

May 18, Saturday, Potowmack Chapter Spring Plant Sale, Green Spring Gardens Park in Fairfax County. For more information, call Green Spring at 703-642-5173 or Gerry Pratt at 703-323-1094.

May 19, Sunday, 2 p.m. Fern walk, mini-program. Weyanoke Sanctuary. Becky White (South Hampton Roads) 804-489-7067.

May 19, Sunday, 10 a.m.-12:30 p.m. Great Falls Park wildflower hike. Marion Lobstein (Prince William) 703-536-7150.

May 26, Sunday, 1:30 p.m. Hike along Tillman Road. Jake Kagey (Shenandoah) 540-828-3297.

June 8, Saturday, 9 a.m.-noon. Sandy Bottom Park in Hampton. Pat Baldwin (John Clayton) 804-838-2064.

June 8, Saturday. Dragon Run Canoe trip. Mary Berg (John Clayton) 804-693-3568.

June 22, Saturday. 8:30 a.m. Blue Ridge Parkway walk. Bring lunch. Jake Kagey (Shenandoah) 540-828-3297.

June 23, Sunday, 4 p.m. South Hampton Roads family picnic, Lynnhaven House Lawn. Becky White (South Hampton Roads) 804-489-7067.

July 25, Thursday, 7 p.m. Potowmack Chapter meeting, Talk on "Grasses" by Cris Fleming. Alonso Abugattas (Potowmack) 703-528-8529.

July 27, Saturday, 8:30 a.m. Massanutten Mountain flora. Bring lunch. Jake Kagey (Shenandoah) 540-828-3297.

July 29-August 2, 9 a.m.-4 p.m. Course on Ecology of the Chesapeake Bay. NVCC-Manassas Campus. Call 703-257-6605 for more information.

Video of fall wildflowers rated a winner

The best of flower books all have their limitations. The color reproduction, the close-up of the flower excluding the leaves and the gestalt of the plant are some of the limitations of books. The video media overcomes these faults.

Fall Wild Flowers of the Eastern Forest video is a wonderful portrayal of 80 flowers that bloom in autumn. It includes all of Virginia except the Coastal Plain. A handy chart is attached to the cover and permits the viewer to follow the tape. This chart includes information on the height and habitat, growth habits and rating of ease to cultivate.

The tape was filmed by Anne H. Lindsey and the script written by Dr. Clyde Richie Bell, University of North Carolina botany professor and Director of the North Carolina Botanical Garden. Dr. Bell's other publications include *Manual of the Vascular Flora of the Carolinas* (1964) and *Wild Flowers of North Carolina* (1968).

This tape is the third in a series which includes the spring (100 species), and summer (80 species) wild flowers of the Eastern forest. Original music for the video was composed by Scott Pearson. Richie Bell, Anne Lindsey and Scott Pearson have a winner on their hands.

The fall tape is available from Laurel Hill Press, Box 16516, Chapel Hill, N.C. 27516. The phone number is 919-942-9533. The price is \$26.95 or \$59.95 for all three in the series.

E. Carter Nettles, Jr.
VNPS member

Ideas germinate at VNPS Winter Workshop

The Virginia Native Plant Society's 1996 Winter Workshop on plant propagation was held at the University of Richmond. One hundred members from all areas of the state attended. Topics included seed propagation; vegetative propagation of roots, rhizomes, corms and bulbs; woody plant propagation by layering and cuttings; and propagation of ferns from spores.

A brief summary of the presentations follows.

SEED PROPAGATION

Jefferson Chapter member and past Education Chair Tim Williams introduced a video in which Dr. Norman C. Deno, a retired chemistry professor, explained how he has unlocked the secrets of germination for around 4,000 species over the past several years. Dr. Deno says there is no excuse for endangered species—just identify the one or more strategies each species employs to insure that its seed germinates at the time when natural conditions are right for optimal germinations. In most cases, you will merely be mimicking nature.

The nine methods of breaking seed dormancy range from the very simple idea of dry or moist storage to the more complicated monthly and even daily temperature cycles and the use of gibberellic acid.

TUBERS, TUBEROUS ROOTS RHIZOMES, CORMS, BULBS

VNPS Conservation Chair Ted Scott, also a member of the Jefferson Chapter and an avid plant propagator, explained that growing plants from seed produces a variety of seedlings and occasionally you will get that special plant which can be given a cultivar name and promoted in the horticulture trade (See related 'Husker Red' article on page 2 of the *Bulletin*). However, if you want an exact clone or duplicate of a particular plant, you must use vegetative propagation. With slides and plants, Scott discussed propagation of many native species by dividing their underground parts: tubers (*Helianthus tuberosa*), tuberous roots (*Mertensia virginica*), and rhizomes (*Trillium*, *Sanguinaria cana-*

densis, *Iris*). Corms of Jack-in-the-pulpit (*Arisaema triphyllum*) can be divided with a sharp knife, bulbs of other plants can be scored, and lilies can be propagated by removing scales surrounding the bulb. The easiest method of vegetative propagation is division of the roots and can be used for most native perennials. Plants with a deep taproot, such as butterfly weed (*Asclepias tuberosa*) that are difficult or impossible to divide can be propagated by root cuttings. Scott recommended coating cut surfaces of underground parts with a fungicide to prevent rot before replanting. He also advised the use of rubber gloves and a dust mask when handling fungicides, growth hormones, perlite, vermiculite and peat moss.

Scott explained that the simplest method of vegetatively propagating woody plants is by layering. In this process, a low growing branch is cut halfway through, dusted with growth hormone, propped open with a toothpick, covered with soil and held in place with a rock.

Included in this session was a discussion of propagation of woody plants using softwood and semi-hardwood stem cuttings. One key to success is selecting vigorous new growth at the proper stage of maturity for the method chosen, Scott noted. Cuttings must be kept moist, either under a misting system or inside a plastic box or bag, until they root. Most cuttings need a temperature of 70-75 degrees Fahrenheit and

either bright outdoor light or indoor grow lights. Hardwood stem cuttings are taken just before the plant loses its leaves in the fall and are heeled into moist sand through the winter.

FERN PROPAGATION FROM SPORES

Tim Williams' fern propagation method involves sprinkling spores onto moistened peat tabs and placing them in a covered plastic container. Humidity should be very high and the tabs need to be constantly moist. This arrangement should be kept under low light at room temperature for six months, until germination takes place. Another three months must lapse during which time the tiny single cell plants (*prothallus*) become about a half inch in diameter. They should be covered with a thin film of water at this time. When the second leaf appears, the plants should be placed in potting soil and kept very moist. When five or six leaves are present, the plants can be placed in the garden.

It is difficult to do justice to Tim Williams' and Ted Scott's impressive presentations in this limited space. Participants gained a vast amount of useful information. For the unfortunate who were unable to attend, copies of information sheets are available. Send a SASE to: VNPS Propagation Workshop, P.O. Box 844, Annandale, VA 22003. A bibliography listing books recommended by the two presenters is also available.

Nancy Arrington
Horticulture Chair

• Botany

(Continued from page 2)

nization has a strong commitment to the use of native plants in a horticultural setting," he said.

"I am looking forward to the new challenge. They have been very successful in doing research in rare Arizona plants and I want to be a part of that team," he added.

Chris left for Flagstaff in mid-May and his wife plans to make the move within a few weeks. His remaining time in the region, however, was spent "enjoying my last Virginia spring." A

trip to the G. Richard Thompson Wildlife Management Center to see the trillium display there was among his final excursions.

"Chris has been quite an asset to the Society," said VNPS president Frank Coffey. "We will certainly miss him. But he has promised to keep in touch through the Internet. He has also agreed to write the 1997 Virginia Native Plant Society Wildflower of the Year brochure and will conduct the survey to decide the 1998 choice."

From Near and Far

Progress made in educating about problems of invasive plants

For years the Virginia Native Plant Society has extolled the virtues of our native flora while warning of the dangers posed by invasive (often exotic) plants. That effort to inform the public is finally paying off as many different groups and organizations are also taking up the cause. The following should serve as examples:

- Congress had its Office of Technology Assessment conduct a study in 1991 entitled "Harmful Non-indigenous Species in the United States." This study, though it does not set forth many ways to control invasive plants and animals, recognizes the threat. Let's hope today's Congress heeds these findings.

- Beekeepers are realizing that they lose millions of dollars yearly in unusable honey produced when *Ailanthus* is in bloom.

- Many park systems (including

most of those in Northern Virginia) are trying to control invasives as part of their resource management despite shrinking budgets.

- Waterfowl hunters and duck clubs are realizing the threats of purple loosestrife and phragmites to wetland habitat and are actively trying to eliminate them.

- Boaters support efforts to control hydrilla and other aquatic vegetation that block waterways and ruin motors.

- Many nurseries are starting to give in to public pressure and demand by selling more native plants and refusing to sell invasives.

- Butterfly enthusiasts, such as Virginia expert Harry Pavulaan, are confirming observations about garlic mustard. Seems that a certain native butterfly called the West Virginia white is slowly breeding itself into extinction. How is that? Well, its

normal host plants are various species of toothwort, but it prefers to lay its eggs on garlic mustard. Unfortunately, this invasive plant is toxic to the caterpillars who are then poisoned and die.

These are just a few of the many examples of how people are realizing the very real threat posed by invasive plants. As more people become aware, we can all pool our resources to help restore and protect our native flora and all the animal life that depends on it. That is why our efforts, through groups like VNPS, are so important. We have a long way to go, but we are making headway.

Alonso Abugattas

(Alonso Abugattas is a naturalist at Long Branch Nature Center in Arlington County. He is also the program chair of the Potomack Chapter.)

Wildflowers and wineries mix well on spring excursion near Potomac

Life is ever-changed by wildflower friends! Wildflowers are to seek, photograph, draw, and inventory. They even lead us to meetings with wonderful fellow wildflower enthusiasts. Add a wine connection: Tarara Winery owned by Whitey and Margaret Hubert and you have a perfect combination.

Several weeks before Easter, winemaker Rick Donnelly called with an invitation to lead a wildflower hike at a winery in Lucketts, Virginia. There was to be a spring celebration with kite flying, egg hunts, and hikes on spring wildflower trails. Tarara!

"Tarara-boom-de-ay?" No. Tarara Winery—a beautiful gray stone winery and home on a bluff overlooking the Potomac River. Under the building is a cave blasted from the hillside which is the work area. The natural architecture and the nearby woods and rocks blended perfectly.

In fact, it is the landscape of the area which inspired the winery's name. Tarara was chosen after the

October 1985 flood along the Potomac. The Hubert's grandchild noted that their peak overlooking the waters draining away was like being Noah on Mount Ararat. After Noah's animals were freed from the ark, Noah turned to vineyards and wine making. The association was perfect, but the Huberts decided to soften Ararat with a reverse spelling and there was the name—Tarara.

There was no hesitation in accepting the invitation to Tarara's wildflower walk because Marion Lobstein's spring wildflower classes had included field trips to nearby Balls Bluff and Red Rock, both near Leesburg. These two areas are spring ephemerals. Our brief walk through the forest from Tarara's bluff to the floodplain cornfield and the shore of the Potomac revealed coltsfoot, bittercress, field speedwell, toothwort, bloodroot, corydalis, sessile trillium, an extensive family of trout-lilies, spring beauties, and spicebush.

Along the muddy banks of the Potomac, we found a healthy family of Dutchmen's breeches looking down upon a single clump of bluebells. The bluebells must have been the sole survivor of the winter floods that occurred when the Potomac overflowed its banks. Only the cold, damp weather shortened the adventure.

The weather was not a problem, however, because we proceeded to Tarara's wine tasting. Delicious *pinot noir* and *cabernet* brought a warm end to the gray, damp, cold wildflower hike. We learned that Rick Donnelly is not only the winemaker at Tarara, but is very interested in the natural resources of the winery. Whitey and Margaret Hubert, the owners of Tarara, graciously invited us back for another hike. It will be a pleasure to anticipate such a visit. How fortunate the Tarara wildflowers are to have such appreciative hosts

Nicky Staunton

VNPS 2nd Vice-President

VIRGINIA NATIVE PLANT SOCIETY
PHOTO CONTEST
VIRGINIA WILDFLOWER OF THE YEAR 1997
FRINGE-TREE
RULES

1. Open to VNPS members only. (Members of VNPS Photo Committee ineligible to compete.)
2. Two categories of contestants: Professional (Main livelihood) or amateur.
3. Each photographer may submit one photo per class of photograph:
 - A. Fringe-tree in the wild
 - B. Fringe-tree in cultivated setting
 - C. Entire tree
 - D. Floral portrait (close-up)
4. Entries must be 8x10 inch prints (no slides) with stiff backing, no matting, no frames.
5. A fee of \$1 per entry is to accompany each photograph to defray costs of contest.
6. Contestant name, address and phone number should be placed on back of the submitted photos. Indicate whether professional or amateur. Also, indicate class for the photograph as detailed in item 3 above.
7. Color or black and white prints may be submitted, but will be judged together.
8. Deadline for entries: August 1, 1996 postmark.
9. Mail entries to: VNPS Photo Contest
8815 Fort Drive
Manassas, VA 22110

AWARDS: Each of the four categories will receive a first, second and third place award. An honorable mention may be awarded. There will be one grand prize winner. Prizes will be awarded to the winners.

VNPS reserves the right to use winning photographs in an exhibition and possible use in production of the 1997 Virginia Wildflower of the Year brochure. Winners will be expected to furnish the slide or negative for the winning prints.

NAME _____

ADDRESS _____

PHONE _____

CLASSES ENTERED (circle) A B C D Fee enclosed: _____

Return coupon with photos to: VNPS Photo Contest 1996, 8815 Fort Drive, Manassas, VA 22110

Chapter News

Potowmack Chapter does its part to help education

According to a publication of the Arlingtonians for a Clean Environment, the Potowmack Chapter knows how to put its money where its values are. The chapter has made two significant contributions to schoolyard education this year.

First the chapter has awarded \$500 in scholarship grants to support teachers' efforts in educating children about Virginia's native

plants. The \$500, awarded as two scholarships to two Arlington County schools which won the chapter's scholarship competition, will be used to establish native plant gardens and corresponding curriculums.

Secondly, chapter members are footing the bill to hire a botanist for two teacher training workshops.

"It seems that our children are being taught a lot about tropical plants, but not even the teachers themselves know much about Virginia native plants," says Nancy Luria, Education Chair for the chapter. Chapter Conservation Chair, Abbie Duchon, says: "As our region

continues to be developed, our wild lands are disappearing. The pockets of wildlands that remain become open to invasion by exotic species and the natural diversity is reduced."

"Native plants can teach us a lot about the importance of diversity," says Luria. "A habitat diverse in native plant species will be a rich and viable habitat for animals as well," Duchon adds. "Our region's native flora is part of our natural heritage. If we don't preserve that, we end up looking like everywhere else."

Teachers are welcome to contact Nancy Luria at 703-642-5173 with ideas as to how the Potowmack Chapter might help their teaching efforts.

Edible plant warning

Two astute readers of the March *Bulletin*, which offered stories on eating wild plants, have sent warnings on the subject.

Lytton Musselman, who is in the Old Dominion University Department of Biology, noted that: "While it is true that the fiddleheads of the ostrich fern are edible, almost all other ferns including the cinnamon and braken ferns...are not only inedible but actually toxic." He added: "No native ferns in Virginia should be ingested."

Elaine Singer, who has lectured widely on the use of herbs, warned that not all violets are edible, adding that there is a toxic yellow violet.

Potowmack sponsors intern, wins award

Thanks to a \$2,000 donation from the Potowmack Chapter, a summer intern will be able to gain valuable experience working with Virginia's native plants. The intern will be responsible for working on the Virginia Native Plant Trail at Green Spring Gardens Park in Fairfax County. Green Spring has been serving the citizens of Northern Virginia for 26 years.

This donation is in addition to contributions made by the chapter to other local parks like Riverbend and Long Branch Nature Centers.

Because of the Potowmack Chapter's active involvement in such work, the Fairfax County Park Authority awarded the Potowmack Chapter a plaque for the second year in a row for its continuing support of parks and its conservation efforts.

See the address label for your membership's expiration date.

VNPS Membership/Renewal Form

Name(s) _____

Address _____

City _____ State _____ Zip _____

Individual \$15 Family \$25 Student \$10

Patron \$50 Sustaining \$100 Life \$400

Associate (group) \$40; delegate _____

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 _____ Chapter
in the amount of \$10 \$25 \$50 \$100 \$ _____

Check here if you do not wish your name
to be exchanged with similar organizations.

Check here if you do not wish
to be listed in a chapter directory.

Make check payable to VNPS and mail to:

VNPS Membership Chair, P.O. Box 844, Annandale, VA 22003

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

The Bulletin

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(Jan., March, May, August, Nov.) by

Virginia Native Plant Society
P.O. Box 844, Annandale, VA
22003
(703) 368-9803

Frank Coffey, President
Nancy Sorrells, Editor
Barbara Stewart, Artist

Original material contained in the *Bulletin* may be reprinted, provided credit is given to the author, if named. Readers are invited to send letters, news items, or original articles for the editor's consideration. They should be typed (double-spaced, please) or sent as a Macintosh text file to the Editor at Rt. 2, Box 726, Greenville, VA 24440.

The deadline for the next issue is July 1

•DNH

(Continued from page 1)

bill. At the 11th hour before the General Assembly adjourned, Governor George Allen prevailed upon a Republican senator to reintroduce the bill to transfer DNH to DGIF. Fortunately, the senator was unable to garner enough support for the bill and did not reintroduce it.

The deadline for the Governor to sign or veto the funding bill was April 17—and he signed. Ordinarily, one would expect this to be the end of the story with a happy ending for DNH. That, however, is not the case. The Governor and his Secretary of Natural Resources, Becky Norton Dunlop, are still tinkering with the Department of Conservation and Recreation.

For the first time in history, the General Assembly took the unusual step of passing legislation to prevent the transfer of DNH to DGIF through administrative procedures initiated by Governor Allen and Secretary Dunlop. But, Allen and Dunlop have recently moved a section of the Division of State Parks to another part of DCR and are continuing to further ignore the directive of the General Assembly.

Rumors continue regarding the possibility of DNH being split up and portions of it dispersed around the state or being moved physically to

space adjoining DGIF. DNH works almost entirely as a team and splitting up that team approach by spreading the personnel around the state would be very shortsighted and destroy the remarkable results already accomplished by the Division. Remember, this is the division selected in 1994 as the most effective natural heritage program in the Western Hemisphere!

Moving the Division to space adjoining DGIF would be an obvious defiance of the General Assembly's wishes. Two studies were initiated by the 1996 General Assembly. One is a study by the Joint Legislative Audit and Review Commission (JLARC) concerning the pros and cons of streamlining and reorganizing the Natural Resources Secretariat. The second is "A Study for the Future of Virginia's Environment" by a committee consisting of selected members of the General Assembly and six citizen members. It is hoped that these two studies will finally stabilize the organization of DNH and DCR in a way that is favorable to their effective operation.

As one can well imagine the threats in the last few months to their organization and even their very existence has been devastating to the staff moral of these agencies. As stated in the January *Bulletin* article, VNPS infrequently

becomes involved in this kind of effort. Hopefully, the need will not arise again soon.

Most VNPS members think of our VNPS activities as those wonderful hours spent enjoying our native flora and discovering ones new to us. Yet, as stated in the VNPS motto "Conserving Wild Flowers and Wild Places," conservation is part of our commitment. There is no more important part of Virginia state government for conservation than the Division of Natural Heritage in the Department of Conservation and Recreation.

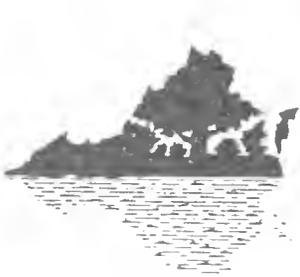
Ted Scott
Conservation Chair

Scott wins stewardship award

In honor of his tireless conservation work, Virginia Native Plant Society Conservation Chair Ted Scott has been presented "The Stewardship Award" by The Nature Conservancy.

Presented during the group's annual meeting at Montpelier in April, Scott was given the state-wide award in recognition of his "exceptional ethic of land stewardship" and "service to conservation in Virginia."

Scott has been relentless in his efforts to combat the devastating effects of invasive exotic plants on the native plant population.



Virginia Native Plant Society
P.O. Box 844
Annandale, VA 22003

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Bulletin

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

Zuni offers rare look at historic native tree habitat

Wisps of smoke drifted over the blackened remains of shrubs, branches and logs. On a few surviving blueberry shrubs hung clusters of charred berries, frozen in time by flames.

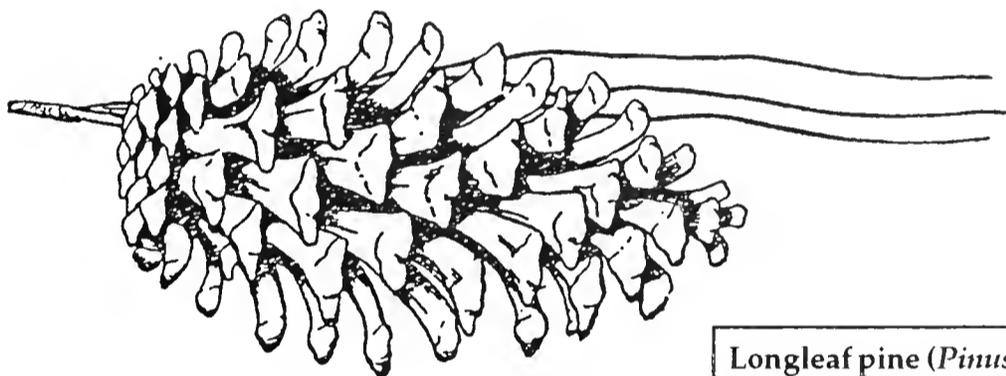
ture of the sap enough to kill underground portions. The longleaf trees themselves are scorched up most of the bole and some have brown needles in the crown.

On May 11, 1985, a 319-acre tract

eastern Virginia was exhaustive. It commenced in 1933 and covered 14 seasons, spanning the years of his life from around the age of 60 to 73. He published more than 1,200 pages of botanical literature on Virginia, mostly centered on the area south of the James River, from the coast inland to Brunswick County. His exploration led him to the heart of the Zuni Pine Barrens.

On a warm July evening in 1936, three botanists and an entomologist became lost on the last day of a collecting trip in that area. Fernald wrote of that day:

"The obvious way home for most normal individuals was via Courtland, 10 miles away, thence by the very familiar Jerusalem Plant Road; but, having set our faces this last day in another direction, we could not tolerate further anticlimax and defeat. Consequently we chose to drive after dark by a dirt road northward to Zuni, a back road that
(See *Pine barrens*, page 4)



Longleaf pine (*Pinus palustris*)
needle cluster and cone

Yesterday, before the fire, the dense understory of huckleberries made the ground surface look flat and uniform. The burn exposed all the variation of the ground's surface with the starkness of a black-and-white combat photo. A sweet turpentine-like odor permeated the air, a fragrance that can only come from longleaf pine.

The fire had been hot, just as we had hoped for with this first growing season burn in several years at the Blackwater Ecologic Preserve (BEP), historically known as the Zuni Pine Barrens. Only a growing season burn controls shrubs on the forest floor where they form such a dense stand that many of the rare, sun-loving plants are out competed. A summer fire raises the tempera-

of land was donated to Old Dominion University by Union Camp Corporation through The Nature Conservancy. Included on this property are unique plant communities and some of the rarest species in the state of Virginia. Most important are those communities with longleaf pine (*Pinus palustris*), the tree that built Tidewater Virginia. Because of its high resin content, the longleaf was the only species of pine regularly used for naval stores. What is also unique is the documented exploration of the area by botanists from Harvard University led by Merritt Lyndon Fernald. Few natural areas were studied 60 years ago with the intensity of the Harvard study.

Fernald's exploration of south-

Inside this issue

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- Cultivating berries...Page 5
- Annual meeting ...Page 6
- VNPS field trip...Page 8

From the President

There are many exciting VNPS happenings across the state. Our new VNPS educational display unit is currently in production and will be on display at the Annual Meeting. The accomplishment of this goal has been made possible by the generous contributions of many chapters and individuals. Many thanks to each of you, your support this year has been truly outstanding.

I hope everyone is enjoying the ever-changing native plant landscape. The roadsides out in the country where I live constantly reveal many old friends and an occasional surprise! The lack of honey bees, however, bothers me. I understand that a mite and severe cold have seriously depleted our wild bee population. I hope this does not offer serious pollination problems for our native plants.

As our Annual Meeting rapidly approaches, I hope everyone is making plans to attend. This meeting, hosted by the Shenandoah Chapter, should be very exciting. If you have not purchased raffle tickets for the wall hanging, you will certainly want to do so immediately. There will be tickets for sale at the meeting right up to the time of the drawing. The VNPS board members had the opportunity to view the actual wall hanging at the June board meeting. Believe me, this piece is a work of art that no photograph can accurately depict.

VNPS Wildflower of the Year T-shirts will also be on sale at the meeting. As the year of the trillium nears its end, I'm sure you will want to purchase one. I'm looking forward to seeing you at Ingleside Resort in Staunton in September.

Your President, Frank Coffey



A summer scene highlighting some of our native friends. Illustration by VNPS artist Barbara Stewart.

To The Board of Directors of the Virginia Native Plant Society: I have audited the accompanying fund balance of the Virginia Native Plant Society as of October 31, 1995, and the related statement of income for the year then ended. These financial statements are the responsibility of the organization's management. My responsibility is to express an opinion on these financial statements based on my audit.

I conducted my audit in accordance with

generally accepted auditing standards. In my opinion, the financial statements referred to at right present fairly, in all material respects, the financial position of the Virginia Native Plant Society as of October 31, 1995, and the results of its operations for the year then ended in conformity with generally accepted accounting principles.

June 17, 1996
Robert K. Hersh, C.P.A.
3213 N. John Marshall Drive
Arlington, Virginia 22207

VNPS Fiscal Year 1995 Summary Income Statement Year-to-Date For the period ending Oct. 31, 1995

INCOME

EARNED INCOME	
Other earned income	\$13,441
TOTAL EARNED INCOME	<u>\$13,441</u>
BUSINESS INCOME	
Sales	\$5,097
Fees	\$7,822
Other income/business	\$ 891
TOTAL BUSINESS INCOME	<u>\$13,810</u>
UNCLASSIFIED INCOME	
Unclassified income	\$3,067
TOTAL UNCLASSIFIED INCOME	<u>\$3,067</u>
TOTAL INCOME	<u>\$30,318</u>

EXPENSES

JOB RELATED EXPENSES	
Other job related expenses	\$1,598
TOTAL JOB RELATED EXPENSES	<u>\$1,598</u>
OTHER EXPENSES	
Education expenses	\$13,891
TOTAL OTHER EXPENSES	<u>\$13,891</u>
BUSINESS EXPENSES	
Office Exp./Business	\$12,095
TOTAL BUSINESS EXPENSES	<u>\$12,095</u>
TOTAL EXPENSES	<u>\$27,584</u>
NET INCOME	<u>\$2,736</u>

SUMMARY BALANCE SHEET

ASSETS

CURRENT ASSETS	
Checking accounts	\$13,244
Savings accounts	\$12,000
TOTAL CURRENT ASSETS	<u>\$25,244</u>
MARKETABLE INVESTMENTS	
Common Stocks	\$253
TOTAL MARKETABLE INVEST.	<u>\$253</u>
TOTAL ASSETS	<u>\$25,497</u>

LIABILITIES

CURRENT LIABILITIES	
Accounts payable	\$131
TOTAL CURRENT LIABILITES	<u>\$131</u>
LONG-TERM LIABILITIES	
Other long-term liabilities	\$3,740
TOTAL LONG-TERM LIABILITIES	<u>\$3,740</u>
UNCLASSIFIED LIABILITIES	
Unclassified liabilities	\$4,470
TOTAL UNCLASSIFIED LIABILITIES	<u>\$4,470</u>
TOTAL LIABILITIES	<u>\$8,341</u>

EQUITY

TOTAL NET WORTH	<u>\$17,155</u>
TOTAL LIABILITIES&NET WORTH	<u>\$25,496</u>

Chapter News

John Clayton finds diversity at Sandy Bottom

The John Clayton Chapter of the Virginia Native Plant Society has recently completed a 16-month study of the vascular flora of the area designated as Sandy Bottom Nature Park within the city of Hampton. The study revealed that the area was one of great plant diversity, but also one of great disturbance.

The survey showed 413 different taxa within 101 plant families and 266 different genera. Three hundred and nine plants (74.8 percent) in the study were native and 104 plants (25.2 percent) were introduced. Eighty-five plants (20.6 percent) were records for Hampton.

Piedmont officer pens column

The Botany Chair of the Piedmont Chapter, John Trott, has a new column in the *Fauquier Times-Democrat*. His column is titled "The Virginia Naturalist." Trott is also a frequent contributor to *The Leaflet*, the newsletter of the Piedmont Chapter.

New signs at Thompson

Visitors who came to view the trillium at Thompson Wildlife Management Area this year were guided by six new signs identifying the site as a VNPS registry site and urging protection of the wildflowers.

The Virginia Department of Game and Inland Fisheries provided the metal signs and directional arrows, which were posted at strategic points on the path, by Carrie Blair, Piedmont Chapter president, and John Fry, chapter treasurer. Mary Roessel, Connie Fry and John Fry had earlier walked the trail and selected the sign locations.

Chapter holds summer picnic

Potowmack Chapter held a potluck picnic in June at Green Spring Gardens Park. The meal was followed by a tour of the propagation beds given by Propagation Chair Gerry Pratt. The beds provide the vast majority of the plants offered for sale. A tour of the chapter's native plant trail was also conducted by the intern being sponsored by the chapter.

Families with the largest number of species in the study are Asteraceae with 51 species, Poaceae with 37, Fabaceae with 28, and Cyperaceae with 22.

Voucher specimens of the flora will be placed in the herbarium of the College of William and Mary in Williamsburg. Other voucher specimens exist but are in need of further evaluation before a positive identification can be determined. Sources for plant identification and plant taxonomy were *Vascular Flora of the Carolinas* and *Atlas of the Virginia Flora*.

Potowmack plant sale

The Potowmack Chapter of the Virginia Native Plant Society has scheduled a fall plant sale for September 14. The group maintains propagation beds at Green Spring Gardens Park in order to make these sales successful. Potowmack's spring extravaganza saw over 1,400 plants sold, a record-breaking success. For more information on the propagation beds and the plant sales, contact Gerry Pratt at 703-323-1094.

Progress for native flora seen at Roosevelt Island

In April the Potowmack Chapter joined with the United States National Park Service to conduct a plant survey on Roosevelt Island, located in the middle of the Potomac River. As expected, the areas where

Pocahontas plant surveys

The Pocahontas Chapter has been conducting a number of plant surveys. At the May meeting, the group conducted a plant survey at Henrico County's Three Lakes Park. The park is located in northern Henrico County. During the summer, chapter members have been meeting and conducting surveys of other parks within their membership area.

Orchids rescued from site

The Potowmack Chapter held an early June walk at Suitland Bog in Maryland. Trip leader, Lisa Bier-Garrett, who is the bog's caretaker, showed the group several carnivorous plants such as pitcher plant, some sundews, and such rarities as rose pogonias.

Several members of the group then traveled to nearby Andrews Air Force Base to rescue some native orchids and other plants from a construction site on the base. Thirteen pink lady-slippers were moved from the threatened site to a protected area in Suitland Bog. Several trailing arbutus and a few more common plants were also rescued.

the group had pulled out the invasive English ivy, included more diversity of native flora. There was more diversity in the pulled areas than in the areas where ivy had simply been cut.

PLANT PUZZLE

Can you identify this wildflower? Unless you think you recognize the description of the plant, then use the keys found in a wildflower guide such as *Newcomb's Wildflower Guide*. Once you think you know what it is, then look for the answer on page 8. However, this one should be easy! (Puzzle by Neal Fletcher)

Spring blooming herb with only three whorled leaves. The large single, showy flower is funnel-shaped at the base then flaring outward from the middle. The flower is white, turning pink as it ages. The three petals are 1 to 1 1/2 inches long. The plant is found growing in rich woods to a height ranging from 6 to 18 inches. Good luck!

Pine barrens have important place in history

(Continued from page 1)

was destined on our next two trips to be our most used artery through the country. Near Walters we suddenly realized that we were passing through as beautiful and unspoiled pineland as we had anywhere met. It was dark, but, getting out to investigate, we promptly walked into a carpet of the tropical *Crotalaria rotundifolia* [= *C. angulata*], here at its northern limit. Obviously the region must be explored on the next trip."

Fernald and friends returned on August 22 and he noted: "The thin woods of *Pinus taeda* and *Quercus laevis* Walt. (*Q. catesbaei* Michx.) were carpeted with white sand, with a dense thicket of the usual shrubs of sandy woods, but wherever there was an opening exciting herbs were growing. *Carphephorus bellidifolius* abounded and on the more open sands *Euphorbia ipecacuanhae* occurred....I was happy to collect these plants, which seemed interesting to me; but, while I was thus waisting time, Long shouted 'Here's Pyxie' and Griscom replied 'Here's another *Liatris*-like thing; and, before I could reach either of them, there came the report: '*Seymeria cassioides* again.' And so it went. We had stumbled into what we had sought for four years, a real unspoiled pine barren in Virginia. *Pyxidantha barbulata* literally carpeted the ground in many areas, at the first station discovered between southern New Jersey and North Carolina; *Carphephorus tomentosus* (Michx.) T. & G. was a second species of a genus, which, two days before, had been 'new to Virginia,' *C. tomentosus* not represented in the Gray Herbarium from north of Bladen County in southwestern North Carolina; *Seymeria cassioides* already found with *Schwalbea americana* in Greensville County, was here very abundant; its recorded northern limits otherwise in eastern and southeastern North Carolina."

So ended a sterling day of collecting in the Zuni Pine Barrens. The botanists were rewarded with nine

state record plants from this specific location, seven of them in one day. In all, Fernald recorded dozens of rare species from what is now BEP and the surrounding area. These rare plants are part of a guild associated with longleaf pine. As longleaf stands are destroyed, so were the habitats of these organisms.

According to experts, the disappearance of longleaf pine from Virginia can be summarized as the consequence of the cumulative effects following activities over 350 years of European civilization. These detrimental activities included: 1. The introduction of feral hogs which consumed pine mast and the grass stage seedlings, eliminating pine reproduction; 2. Small-scale removal of mature trees for lumber; 3. Destruction of mature trees for turpentine. This continued from the colonial era until the 1840s when longleaf pine stands were exhausted; 4. Removal of most of the remaining trees for lumber in the mid-19th century; 5. Elimination of habitat as a consequence of modern fire suppression, and 6. Removal of stands established in the late 19th and early 20th century. The last stand was removed from the city of Suffolk around 1979.

Perhaps because it was overshadowed by tobacco production, perhaps because the industry ran its course here before extensive record keeping, the extent of naval stores production (tar, pitch, turpentine, and rosin) in Virginia is not generally appreciated. Enough glimpses of the past can be gleaned, though widely scattered through the historical literature, to understand the utilization and eventual near extirpation of the species from the state.

John Smith's settlement in Virginia was largely intended as a commercial venture, and experimental "...tryalls of Pitch, Tarre...." etc. were made the first season, with the first export of several dozen barrels shipped to England in 1608. Production of these essential commodities, primarily by burning tar kilns of collected, dead longleaf pine

"lightwood," was carried out on a small scale from this time until around 1850. Customs records still on file in the British Public Records Office from ports around the Chesapeake Bay (Norfolk, Hampton, Yorktown) list barrels of naval stores as one of the most common exports from the colony from the late 1600s until the Revolution. In a report to the Lords of Trade, William Gooch, Governor of Virginia from 1727-1749, listed an annual export of 10,000 barrels of pitch and tar. Despite its importance in Colonial Virginia, little effort has been made to preserve longleaf habitat.

In addition to the longleaf communities, the preserve has an amazing diversity of other plant communities in its 319-acre confines, including pocosins, river bluff, cypress swamp, old field, and riverine.

I am writing this at the Joseph W. Jones Ecological Research Center in southwest Georgia in one of the finest remaining longleaf pine stands. Our research here involves chaffseed, *Schwalbea americana*, a federally endangered species associated with longleaf and, like its cohort, dependent on frequent burning. (Chaffseed was last seen in Virginia by Fernald in the 1930s and is assumed extirpated in the state). The trees here are majestic, widespread mature trees creating a park-like landscape. Several species occur both at BEP and here, including stinging nettle (*Cnidoscolus stimulosus*), bracken and sassafras. In addition, many genera have representatives in both places—fire dependent pawpaws (the Virginia species is *Asimina parviflora*), hollies, and confusingly large numbers of composites and legumes. So, as I look through the seemingly endless acres of longleaf, I have a vision of what we can expect to see at BEP in 50 years. What is both satisfying and challenging is knowing that this tract is preserved, but that we have the responsibility of maintenance and, even more difficult, restoration of (See *Blackwater*, page 6)

Virginia Native Plant Society Slate of Candidates

The following slate of candidates is proposed by the 1996 VNPS Nominating Committee to replace officers, standing committee chairs, directors-at-large, and members-at-large of the Nominating Committee whose terms expire on October 31, 1996, and to fill existing vacancies in other classes.

Class of 1997

BOTANY CHAIR - Stan Shetler, Potowmack Chapter. Stan, who holds a doctorate degree, is Curator of Botany, Emeritus at the U.S. Museum of Natural History. He is also director on the board of the Audubon Naturalist Society.

Class of 1999

SECOND VICE-PRESIDENT - John Fry, Piedmont Chapter. John has served as chapter treasurer and has been a chapter representative to the VNPS board. An economist with a Ph.D. from University of Texas, he taught at the University of Houston and retired from the Center for Naval Analysis.

EDUCATION CHAIR - Effie Fox, Piedmont Chapter. Effie has just completed one year as VNPS education chair and served six years on Piedmont's Board as Education Chair. She is the Environmental Education Coordinator at the Fauquier Outdoor Lab, the county's environmental and natural history resource center.

CONSERVATION CHAIR - Nicky Staunton, Prince William Wildflower Society. Nicky is completing a term as VNPS Second Vice-President and served two terms as VNPS President. She is a charter member of the society.

MEMBERSHIP CHAIR - Phoebe White, Piedmont Chapter. Phoebe has been an active member of VNPS since its inception and has served as membership chair since 1982. She is currently the recording secretary for the Piedmont Chapter.

FUND RAISING CHAIR - Currently open.

PUBLIC RELATIONS CHAIR - Alonso Abugattas, Potowmack Chapter. A naturalist for Long Branch Park in Arlington County, Alonso also works as a naturalist at Fairfax County's River Bend. He is currently his chapter's vice-president and program chair.

REGISTRY CHAIR - Boleyn Dale, John Clayton Chapter. Boleyn is the registry chair for her chapter and a volunteer steward for DCR-Natural Heritage Program at Bethel Beach, a natural area preserve.

DIRECTOR-AT-LARGE - James Bruce, Pocahontas Chapter. James has completed a term as a VNPS Director-at-Large. He is a Virginia Nursery Association member and owner of Hanover Farm nursery in Rockville, Virginia. His nursery specializes in ground covers.

DIRECTOR-AT-LARGE - Faith Campbell, Potowmack Chapter. Faith, who has a doctorate degree, is executive secretary of the Exotic Pest Plant Council. She has an 18-year-career in plant conservation issues at national and international levels. She previously served as VNPS Conservation Chair.

1997 Nominating Committee (One Year Term) - Reba Greer (Director-At-Large/Nominating Committee Chair 1996); Bob Eubank (VNPS 1st Vice-President/Nominating committee 1996); Ted Scott (Conservation Chair); Ann Regn (Nominating Committee member and past chair); Sylvia Sterling (Clayton Chapter Membership Chair).

PROXY, 1996 VNPS ANNUAL MEETING

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

Signed _____
Address _____

Return by September 13 to:
Corresponding Secretary, VNPS
P.O. Box 844
Annandale, VA 22003

PROXY, 1996 VNPS ANNUAL MEETING

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Signed _____
Address _____

Return by September 13 to:
Corresponding Secretary, VNPS
P.O. Box 844
Annandale, VA 22003

*Easy mailer: Fold this page in half, affix postage and drop in the mail.
Your vote helps us reach our quorum for the Annual Meeting.*

Corresponding Secretary
Virginia Native Plant Society
P.O. Box 844
Annandale, VA 22003

Affix 32¢
stamp here

Huckleberries, blueberries show great diversity at BEP

The heath family (Ericaceae) is one of the most diverse at the Zuni Pine Barrens, now known as the Blackwater Ecologic Preserve. This may be because the Ericaceae has an especially well developed system of mycorrhizae, a fungal-plant relationship that allows the plant to obtain minerals in a sand soil where minerals are often unobtainable. Of the almost dozen genera (*Zenobia* has not been seen for 60 years), blueberries (genus *Vaccinium*) and huckleberries (genus *Gaylussacia*) have the greatest diversity.

Is there a difference between blueberries and huckleberries? Only if you look carefully. The underside of the huckleberry leaf is covered with honey colored, glistening dots. These produce a distinct fragrance on a hot day, a suitable ethereal tribute to Gay Lussac, the French physicist who is honored in the genus name.

Late April or early May is the best time to see these in flower. Some, like the deerberry, produce attractive masses of flowers. Others are more discreet. All have attractive urn or bell-shaped white or pinkish flowers. Some of the blueberries are adapted to insect sonication in which the animal rapidly beats its wings to produce vibrations to shake pollen.

Around the Fourth of July, when the weather is hot and sultry, blueberries, huckleberries, and chiggers are abundant. Fruits of huckleberries are technically not berries but pyrenes in which the outer covering of the seed is actually derived from the fruit. They are usually black. I find them more flavorful than blueberries.

Most abundant is black huckleberry, *Gaylussacia baccata*. The dwarf huckleberry, *G. dumosa*, has tasty fruits but produces in small numbers. Dangleberry, *G. frondosa*, has fruits similar to black huckleberry.

But it is the blueberries and their relatives that are most diverse and abundant at the preserve! *Vaccinium* is probably derived from the Latin word for cow (as are the words vaccine and vaccination) because European

species ingested by cows produced bad tasting milk. The choicest edible blueberry is *V. corymbosum*, highbush blueberry, one of the important species in breeding commercial blueberries. Beautiful blue berries hang in luscious clusters--YUM!

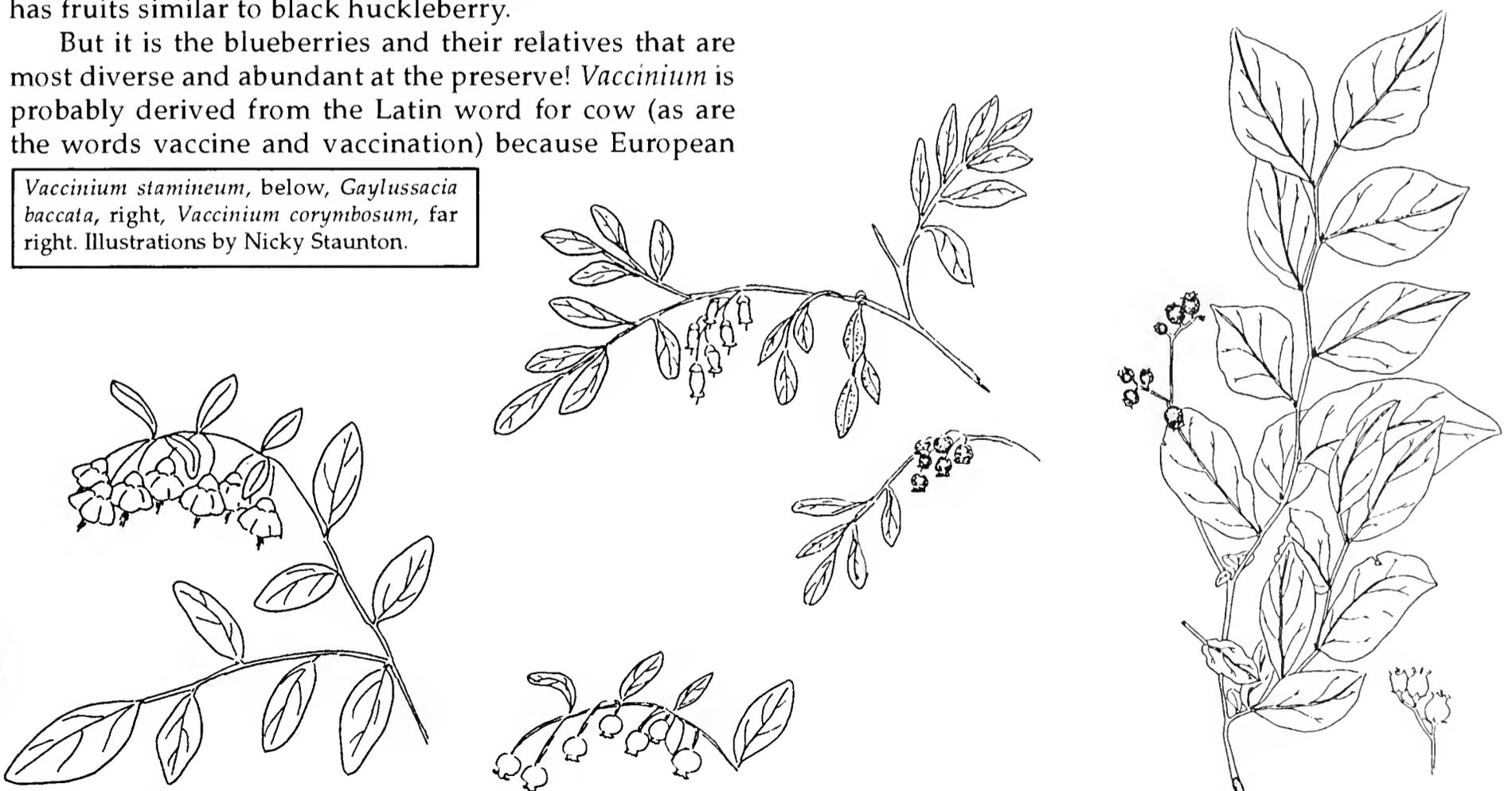
Elliott's blueberry, *V. ellioti* (considered by some botanists to be conspecific with highbush blueberry) is at its northern limit at the preserve. Its dark, almost black berries are produced in small numbers, but have a pleasant taste.

Sparkleberry, *V. arboreum*, also has blackish berries. *Vaccinium vacillans* and *V. tenellum* are small shrubs with edible but negligible fruits. Not all "blueberries" are blue. Deerberry, *V. stamineum*, has green berries when ripe. Nor are all *Vaccinium* species shrubs. Some are vines like the creeping blueberry, *V. crassifolium*. Like its relative the cranberry, it is a low, ground-hugging vine found in only one site at the preserve--in a longleaf pine stand. Creeping blueberry was only discovered at the preserve a few years ago in a burned area. This is remarkable as it is one of the few indigenous species not recorded by Fernald in his detailed floristic studies of the 1930s. The fruit of this berry is sweet, juicy, but insipid.

The not-so-barren Zuni Pine Barrens has one of the largest assortments of blueberries and huckleberries in the Middle Atlantic states. In fact, breeders of commercial berries have visited the preserve to collect genetic stock. This is just one more reason to maintain and restore areas like the preserve.

Lytton J. Musselman

Vaccinium stamineum, below, *Gaylussacia baccata*, right, *Vaccinium corymbosum*, far right. Illustrations by Nicky Staunton.



For Wildflower Gardeners

Blueberries, huckleberries complement natural landscape

In his book, *Growing & Propagating Showy Native Woody Plants*, Richard E. Bir says box huckleberry (*Gaylussacia brachycera*) is the best species for ornamental purposes. This mountain species is the rarest of the four huckleberries occurring in Virginia. Six western counties, according to the *Atlas of the Virginia Flora*, are part of its natural range of Pennsylvania to Kentucky and Tennessee.

Box huckleberry is an excellent evergreen ground cover for tall rhododendrons and mountain laurels. It grows 6 to 18 inches tall and spreads into large mats. Growing conditions are the same as those of its taller relatives: acid, organic-rich, well-drained soil and partial shade. Small white or pinkish bell-shaped flowers appear in May through early June followed by bluish berries that ripen in July and August. Glossy dark green leaves are reddish in full sun and turn a deep bronze to reddish purple in winter.

Michael Dirr, author of *Woody Landscape Plants*, says this rare native was lost to American gardens for years

but was reintroduced through the efforts of the Arnold Arboretum. Dirr also mentions the stand of box huckleberry in central Pennsylvania that covers 300 acres and is a mile long! It has been reported that this is single plant that is over 12,000 years old, though these claims may not be completely accurate.

Unlike the relatively obscure box huckleberry, numerous selections and varieties of the native highbush blueberry (*Vaccinium corymbosum*) are available for commercial growers and home gardeners. In addition to providing fruit for the table and for wildlife, highbush blueberry can also be used as an ornamental shrub for landscapes. Growing 6 to 12 feet tall with an equal spread, it is very attractive through the entire growing season. Abundant small white bell-shaped flowers appear in May just as the leaves are unfolding. Dark green foliage through the summer is a good background for the fruit that ripens in July. Fall coloring is excellent with foliage changing to combinations of yellow, bronze, orange and red.

Highbush blueberries need an or-

ganic-rich, acid (pH 4.5-5.5) soil that is moist yet well-drained and full sun to partial shade. At least two varieties should be planted for best fruiting if you are growing the berries for human consumption. Gardeners should check with the local extension service office for the cultivars best suited to the locality. Whether you plant the species or one or more cultivars won't matter so much if you are planting for birds and other wildlife. Approximately 36 species of birds, including jays, chickadees, catbirds, thrushes, robins, bluebirds, orioles, cardinals, towhees, sparrows and phoebes feed on blueberries.

Also available from nurseries are several cultivars of creeping blueberry (*V. crassifolium*). The best known is 'Wells Delight,' an excellent evergreen ground cover that is heat and drought tolerant. This and 'Bloodstone,' a cultivar with larger leaves, were developed at the North Carolina State University Arboretum. Deerberry (*V. stamineum*), an understory species common throughout Virginia, is also available.

Huckleberries and blueberries are fairly easily propagated by softwood and semi-hardwood cuttings taken during the summer or fall.

Nancy Arrington, Horticulture Chair

• Blackwater

(Continued from page 4)

one of the choicest natural areas in the Middle Atlantic states.

Like many natural areas, the Blackwater Ecologic Preserve is understaffed (10 people) and underfunded (zero dollars). Without the cooperation and hard work of The Nature Conservancy, Natural Heritage, and the Department of Forestry, no restoration work would be possible. No formal education or research programs are in place although many individuals and groups visit throughout the year and several scientists are conducting research there. The best times to view the unusual flora are in the middle of April and the middle of September. The preserve is open all the time. Only rules: no hunting, no camping, and, ironically, no fires! No collecting, of course. The phone number for the preserve is 804-683-3610 or 3595. Check for access during the fall hunting season.

Directions to BEP from Norfolk are as follows: Take US 460 west across the Dismal Swamp; after crossing the Nansemond River take the second exit right (north) this is still 460. Go north 8.9 miles to US 258 (there's a Dairy Queen at this corner); go 0.6 miles south to State Route 60. Stay on winding 603 for 6.3 miles to the junction of SR 614. The preserve is 0.6 miles on the left; look for the "ODU blue" steel posts. If you choose to go to the preserve from the village of Zuni, turn west on SR 644 for 0.1 miles (under the railway) to SR 614. Turn left (south); the preserve is 4.2 miles on the right (2.0 miles from the Zuni Presbyterian training center).

Lytton J. Musselman, the author of the two articles in this issue on the Zuni Pine Barrens, is professor of biological sciences at Old Dominion University and manager of Blackwater Ecologic Preserve.

Annual Meeting reminder

Remember, the annual meeting is scheduled for September 20-22 at the Ingleside Resort in Staunton. Room reservations must be received at Ingleside by August 31.

Registration forms were included in the May issue of the Bulletin. Please fill them out and send them soon. If you lost the form, duplicate the form from another member or get one by writing: Elizabeth Kyger, President, Shenandoah Chapter, Rt. 3, Bridgewater, VA 22812.

Contrary to the registration form schedule, there is no silent auction. As the ONLY fund-raiser, a quilted wall hanging will be raffled. This is a beautiful piece of needlework, containing applique designs of each of the VNPS wildflowers. Please get a block of tickets from your chapter president and support this project.

There is one change in the field trip schedule. The Saturday field trip listed as No. 3 (Shale Barrens) will be led by Jay Shaner, who is very familiar with the barrens.

From Near and Far

West Virginia native plant society reorganized

The West Virginia Native Plant Society has reorganized and is up and running. The group's February, 1996 issue of *Native Notes* informs us that a group of professional botanists is working on a revision of Core and Strasbaugh's *Flora of West Virginia*.

There is also a report on the activities of the West Virginia Natural Heritage Program in cooperation with college and university botanists,

The Nature Conservancy and the Virginia Division of Natural Heritage to monitor a number of rare vascular and non-vascular plants. The May issue features a profile of *Meehania cordata*, a diminutive member of the mint family easily mistaken for a skullcap.

To find out what our neighbors are up to, write to WVNPS, Corresponding Secretary, P. O. Box 2755, Elkins, WV 26241

Maps of state's natural areas available

Free, updated maps of the Virginia Department of Game and Inland Fisheries wildlife management areas are available or will soon be available from the Richmond headquarters as well as district and regional offices.

The first 10 maps of the 30 management areas include Amelia, Chickahominy (Charles City), Phelps (Fauquier), Rapidan (Madison), Powhatan, Hardware River (Fluvanna), Clinch Mountain (Smyth/Russell/Tazewell/Washington), Goshen-Little North Mountain (Rockbridge/Augusta), Briery Creek (Prince Edward), and Horsepen Lake (Buckingham). Maps of the other 20 areas as well as a complete guide to all of Virginia's wildlife management areas will be available this summer.

Another free Virginia map is the scenic outdoor facilities map of the state. Produced by the Virginia Department of Transportation, this map is designed to alert travelers to "Virginia's bounty of beauty, history, culture, recreation and wildlife areas," according to a VDOT spokesperson.

Among the sites featured are Department of Game and Inland Fisheries wildlife management areas, hatcheries, lakes, national wildlife refuges, state natural areas and parks, and national forests and parks. Maps are free at state welcome centers, local and regional tourist offices, VDOT offices or by calling 1-800-825-6831.

Native vascular plant species are counted

According to a study produced by staff members of the North Carolina Botanical Garden in Chapel Hill, North Carolina, Virginia ranks 14th among a list of North American states and provinces for numbers of native vascular plant species.

Virginia has 2,320 species, while California leads the list with 5,090. At the other end of the spectrum, Franklin in the Northwest Territory has just 340 species.

If you were wondering how some of Virginia's neighbors compared, West Virginia has 1,730, Delaware has 1,580, Maryland 2,040, Tennessee 2,110, and North Carolina has 2,450 native vascular plant species.

Reduced mowing has advantages

The city of Minneapolis has reduced its budget and increased its natural areas at the same time.

Faced with a budget shortfall, the Minneapolis Park Board voted to *not mow* certain patches of land, mostly along lakes and creeks, on hillsides and in little-used corners of parks.

The results are areas which have reverted to native grasses and wildflowers, and \$200,000 in savings.

See the address label for your membership's expiration date.

VNPS Membership/Renewal Form

Name(s) _____

Address _____

City _____ State _____ Zip _____

Individual \$15 Family \$25 Student \$10

Patron \$50 Sustaining \$100 Life \$400

Associate (group) \$40; delegate _____

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 _____ Chapter

in the amount of \$10 \$25 \$50 \$100 \$_____

Check here if you do not wish your name to be exchanged with similar organizations.

Check here if you do not wish to be listed in a chapter directory.

Make check payable to VNPS and mail to:

VNPS Membership Chair, P.O. Box 844, Annandale, VA 22003

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

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Nancy Sorrells, Editor
Barbara Stewart, Artist

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The deadline for the next issue is Oct. 1

Celebrate fall with VNPS-sponsored field trip to state arboretum

Members of the Virginia Native Plant Society interested in touring The Orland E. White Arboretum at Blandly Experimental Farm, The State Arboretum of Virginia should mark Sunday, October 13 on their calendars. Admission is free, but donations are accepted and welcome. There may be a small parking fee.

Everyone should meet at 10:30 a.m. at the arboretum which is located on U.S. Rt. 50 in the Shenandoah Valley about nine miles east of Winchester. Bring a lunch for a picnic. The state ar-

WHAT? VNPS field trip to state arboretum

WHEN? Sunday, October 13, 10:30 a.m.

WHERE? Blandly Experimental Farm, The State Arboretum of Virginia U.S. Rt. 50, east of Winchester

boretum director, Dr. Ed Connor, will give a special tour of the native plant woodlands area that is currently under development. He will also outline future plans for the native plant meadow and wetland areas. After the picnic we

will help celebrate the annual Arborfest event and tour more of the arboretum which should be showing its fine fall colors. Nobody will want to miss this opportunity not only to visit our state arboretum at this special time of year, but also to meet and greet new and old friends from all the chapters that form the Virginia Native Plant Society.

Such gatherings of members for picnics, field trips and annual meetings strengthen the thread that ties our chapters together toward a common goal of conserving native plants and habitats.

If you wish to join us on this field trip, please call Bob Eubank at 804-239-9756 and leave a message if Bob is not at home, or send him a note at 1162 Timberlake Drive, Lynchburg, VA 24502. Let him know by September 15 so the arboretum staff will know how many to expect. Those wishing to stay longer than one day or to visit other areas in this part of the Valley may find accommodations in Winchester which is less than 10 miles away.

Bob Eubank
1st Vice-President

Unique approach to nature offered by book

"Gather Ye Wild Things": A Forager's Year by Susan Tyler Hitchcock, University Press of Virginia, paperback 1995. (First published in 1980 as hardback by Harper & Row). ISBN 0-8139-1643-7.

This is a book for those who find using wild things interesting from an author who resides in Charlottesville and has taught both at Piedmont Community College and at Wintergreen's Spring Wildflower Symposium.

Susan Hitchcock has organized her information by season of availability. Each wild thing's information includes its history, some lore, instructions for use, a note about medicinal use, and even some craft projects. Green plants are mentioned, as well as puff balls, morels, and praying mantis egg cases.

Organized first by season and then by the wild thing, readers are afforded a chance to learn how poke roots or kudzu roots are gathered and used. The beautifully drawn illustrations by G.B. McIntosh complement the text and are a pleasure.

While we seldom--if ever--suggest collecting from the wild, the author has written mostly about wildflowers and woody plants which are abundant, both native and non-indigenous. I must say that reading of suggested collection of several invasive plants was most welcomed. Let's hope that kudzu powder for acid indigestion catches on!

Nicky Staunton
2nd Vice President

Plant puzzle answer

Although you were sure to figure this one out, the answer is our 1996 Virginia Native Plant Society wildflower of the year, *Trillium grandiflorum*.



Virginia Native Plant Society

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Bulletin

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

Grant insures rapid progress of native plant list

Using funds from a grant awarded earlier this spring, Virginia Native Plant Society under the direction of Conservation Chair Ted Scott, has made rapid progress in the development of a brochure listing beneficial native plants.

In the May *Bulletin*, it was announced that VNPS had applied to the National Fish and Wildlife Foundation for a grant. The purpose was to develop and print brochures

get for the project. Matching funds have been provided by all nine VNPS Chapters, Department of Conservation and Recreation-Division of Natural Heritage, Virginia Nurserymen's Association, Lewis Ginter Botanical Garden, and the Virginia Chapter of the American Society of Landscape Architects.

Work on the project was commenced almost immediately by Dustin Howarth, an intern in the

been completed in late October. After a review meeting with VNPS collaborators, the list will be revised again according to the conclusions reached as a result of the meeting.

In addition to the master list of plants, there will be three brochures printed, one for each of the three regions of the state: Coastal, Piedmont, and Blue Ridge (mountain and valley). Each of the three will list only the plants native to the region. The creation of these lists and their publication is a project undertaken as a result of recommendations and requests from nurserymen and landscape architects in the February 1995 meeting with the group of collaborators mentioned above.

Lewis Ginter Botanical Garden, a contributor of matching funds, will conduct a workshop upon the completion of the project to present the results, along with explanations, elucidation, and discussion, to all interested parties. This is tentatively (See *Project*, page 8)

Organizations working in cooperation with VNPS

- Virginia Nurserymen's Association*
- Natural Resources Conservation Service*
- Department of Horticulture at Virginia Tech*
- Virginia Chapter of the American Association of Landscape Architects*
- Lewis Ginter Botanical Garden*
- Department of Game and Inland Fisheries*
- The Nature Conservancy*
- Department of Conservation and Recreation*

listing native plants of Virginia that could be used in lieu of certain invasive alien plants for a variety of uses including horticulture, benefiting wildlife, animal forage, and conservation purposes.

Several weeks after the article for the May *Bulletin* was written, notification was made that VNPS had indeed been awarded a grant of \$5,200 as 40 percent of the total bud-

Division of Natural Heritage and a graduate student in horticulture at the University of Maryland. He has almost completed a master list of plants, showing what is native in each of the state's three major geographical areas. Each plant is also categorized by three levels of required moisture and light.

The list is also being refined according to plant uses. This will have

Inside this issue

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Fringe-tree secrets
 ...page 6

From the President

Congratulations to the Shenandoah Chapter for a great VNPS annual meeting. The attendance was one of the best on record. If you were unable to attend, you missed a real treat. I've heard many good comments about the fine field trips. It was truly wonderful to enjoy a weekend with great weather and beautiful mountain vistas in the Shenandoah Valley.

Thanks to our members' support, our new display was seen for the first time. It speaks well for the Society and should continue to do so for many years. I would like to extend a warm welcome to all incoming officers and board members and a special thank you to all those who continue to faithfully serve. The dedicated service and support of our officers and board members make the many accomplishments of the VNPS possible.

*Your President,
Frank Coffey*

Wildflower of the Year 1998

*P.S. The selection process for the Wildflower of the Year 1998 is complete and the results were announced at the annual meeting. The selection for 1998 is *Aquilegia canadensis*, columbine. Chris Sacchi, outgoing Botany Chair, says in announcing this selection, that columbine is truly one of his favorites being both beautiful and exhibiting interesting biological traits. I must confess that it is also one of my favorites and it should stimulate quite a lot of interest in 1998.*

Large numbers, good weather, plenty of plants greet annual meeting participants

The annual meeting was a smashing success because of the hard work, creativity, and fine participation of members from the host Shenandoah Chapter according to Lib Kyger, president of the chapter. The hard work and months of planning paid off in a record-breaking 121 registrants, with 37 hailing from the Shenandoah Chapter.

The field trips, by foot, car and bicycle, to many points in western Virginia went off splendidly despite the fact that the area was visited by "another" 100-year flood just two weeks before the meeting. Hurricane Fran dumped up to 14 inches of rain on the region in just 12 hours and both Augusta and Rockingham Counties had the dubious honor of being declared federal disaster areas. Despite that, only one field trip was canceled and another rerouted. Those on other trips had the chance

to see Mother Nature's work in an up-close and personal way.

Credit for much of the success goes to the field trip leaders, Jenifer Bradford, Jay Shaner, Diane Holsinger, Michael Hill, Carroll Lisle, Betty Rosson, Doris True, Anne Nielsen, Vernon Garber, Mark Gatewood, Jacob Kagey, Norlyn Bodkin and Nancy Sorrells. Two arboretums, James Madison University and Blue Ridge Community College, a perennial garden center, shale barrens, and several wetlands were among those places visited during what turned out to be a picture-perfect weekend. Some groups hunted for mushrooms, while others sought out ferns or asters.

A word of thanks must also go to all the behind-the-scene planners who made the meeting a success, especially Betty Rosson who chaired the planning committee.

New VNPS Directors elected

A remarkable 91 proxy votes were received for the VNPS Board of Directors election at the 1996 annual meeting. Your VNPS Board of Directors thanks each of you who returned your proxy. In addition, there was an unprecedented number of members present to vote with 121 registrants for the annual meeting in Staunton.

Your new Directors are: John Fry, 2nd Vice-President; Dr. Stan Shetler, Botany Chair; Nicky Staunton, Conservation Chair; Effie Fox, Education Chair; Phoebe White, Membership Chair; Alonso Abugattas, Public Relations Chair; Boleyn Dale, Registry Chair; James Bruce, Director-at-Large; Dr. Faith Campbell, Director-at-Large. The Fund Raising Chair remains open. The 1997 nominating committee members are: Reba Greer, Bob Eubank, Ted Scott, Ann Regn, and Sylvia Sterling. In addition, Bob Eubank resigned his position as 1st Vice-President and the Board appointed Ted Scott to that position for a one-year term.

The two evening lectures, both by Bridgewater College biology professors, provided some thought-provoking ideas. On Friday evening, Dr. L. Michael Hill took listeners on a winding journey through his own explorations in the plant world in order to pose the question "How Native are the Natives." Saturday night's talk, by Dr. Sarah Swank, took the audience on a naturalist's tour of Chile, unique in its extremes as it unravels, north to south, the entire length of the South American continent.

Although the dollar amounts are not yet in, the quilt raffle was a fundraising success. The handquilted wildflower wallhanging was won by Sandra Taylor of Staunton. A Barbara Stewart print, donated by Shenandoah member Bonnie Hohn, was also presented as a prize in a consolation raffle.

Fund-raising efforts transformed into VNPS exhibit

All of VNPS's efforts to raise funds for a display unit paid off with the arrival of the new exhibit in time for our 14th annual meeting in Staunton. The Board of Directors is anxious for each chapter to be able to see and to use this wonderful tool for education about the Virginia Native Plant Society, our programs and Virginia's native plants.

The 1995 fund-raising effort which made the display possible was planned by Squire & Heartfield Direct, Inc., of Oakton, Virginia. VNPS is especially appreciative of Chip Heartfield, a partner in the firm. His company has generously given their services in fund-raising to VNPS for several years. Chip is an enthusiastic native plant gardener and a member of the Prince William Wildflower Society Chapter of VNPS. Great "Hoorahs!" for Chip, Squire & Heartfield, and Mary Knowles, the account representative. They did such a great job. We are fortunate that the same group will be assisting VNPS again this year in our annual fund-raising efforts.

Sincere appreciation is expressed to each of you who had faith in our project and sent a donation. The result is a competitively effective educational tool to be used in professional settings such as seminars, workshops and meetings. The display is impressive--8 feet by 8 feet with bright leaf green fabric background. The outstandingly beautiful Hal Horwitz photograph of *Trillium grandiflorum* at the G. Richard Thompson Wildlife Management Area is enlarged to 6 feet by 8 feet and serves as the center attraction on the display. On the upper left section is Frank Coffey's sharp

and colorful photograph of *Asclepias tuberosa* with a fritillary butterfly. The VNPS message, "Education, Appreciation, Conservation," appears next to the trillium photo. The open area of the display unit has space for other additions. At the annual meeting this area was used to display our photography contest winners.

The central portion of the display can be reversed to access a blank leaf green background of fabric. This leaves more area for special photos or printed educational material.

The first exposure for the new display after its unveiling at the annual meeting came at the Heartland Forest Festival held in Farmville, Virginia. This Virginia Department of Forestry event was an opportunity for foresters, timbermen and the general public to know the VNPS program. The display is being scheduled now for the end of 1996 and into 1997. If you have questions about the display, call Frank Coffey or your board representative. This attractive display is expected to visually draw people from across a meeting room. We hope you will see the exhibit often in your community. It will mean it is being used, and is out there getting our message across rather than sitting around looking pretty.

Thanks again to each of you who were generous contributors with your gifts. Thanks also to Hal Horwitz, Frank Coffey and Squire & Heartfield. Benefits of your gifts are being returned many fold as VNPS grows through education, appreciation and conservation.

Nicky Staunton, Conservation Chair

The State Arboretum of Virginia

VNPS members explore Blandy meadows and history

On a warm, sunny autumn day, 25 members of VNPS gathered at The Orland E. White Arboretum at Blandy Experimental Farm, The State Arboretum of Virginia for a guided tour led by Director Dr. Ed Connor.

Members from southeast and southwest Virginia joined northern Virginia members in this northwestern corner of Virginia near Winchester. The tour began with a stroll through areas dedicated to becoming a native plant meadow and a native plant wetland. Then the pace picked up with a hike across the meadows and past a large pond. Dr. Connor detailed the history of the land, including current arboretum work

and future plans.

Evidence of Dr. Orland White's earlier work is seen in the many exotic cultivar species of trees and shrubs. The trip also revealed some interesting granite-dolomitic outcroppings and huge hackberry trees. Much of the upland meadows was matted with an undergrowth of *Galium verum*, and a small cluster of blooms greeted us.

Dr. Connor told us that students are collecting research data from plants in the meadows, thus accounting for some interesting collection devices that we saw. As a bonus, there were many active butterflies working the fields including

monarchs, meadow fritillaries, hackberry, question marks, cabbage, skippers and sulphurs.

Many in the group were inspired to speculate on how VNPS might find a way to be involved in our state arboretum; an idea that will be explored by the VNPS Board of Directors.

Before leaving, many members were able to visit with past VNPS president Mary Pockman, who has led Friends of the State Arboretum. We picnicked under the nearby trees, visited the gift shop and, of course, checked out the bulb sale.

Nicky Staunton
Conservation Chair

Quillworts are a curiosity among native flora



Furtive rather than curious may be a better word to describe species of the fern ally *Isoetes*, overlooked and under appreciated members of Virginia's aquatic flora. How furtive are they? I was with a quillwort specialist in one of the wonderful tidal marshes of the Mattaponi River, when he exclaimed, "How can you tell *Isoetes* from any of these other plants?" This and my own experience led me to the conclusion that quillworts are arguably the least studied and most cryptic members of our flora!

Unlike their arborescent progenitors in coal age swamps, extant species of quillworts are usually diminutive plants with the largest less than 18 inches tall. The plant has a swollen base, variously known as a corm or rootstock. Bilobed in most Virginia species, this structure has no clear parallels in any other fern or fern ally. Roots are produced in the notch between the lobes. The tips of the roots are bifurcate, each resembling a tiny translucent tuning fork. Continuous cell division in the corm occurs in such a manner as to bury the corm deeper in the sub-

strate. Leaves arise spirally from the corm. The base of the leaf is swollen and tapers gradually to a tip, resembling a quill, hence the name quillwort. In cross section, four air chambers are evident. Each leaf has the potential to produce a sporangium and is thus a sporophyll.

Sporangia are either male, microsporangia, or female, megasporangia. Above the sporangium is an intriguing structure called a ligule. As the name implies, the ligule is a tongue like appendage. Its function remains a mystery, but biochemical research on European species has shown that a plethora of compounds is produced including amino acids, carbohydrates, and proteins.

The megaspores of *Isoetes* are the largest in the Plant Kingdom, ranging from .5 mm to .8 mm in diameter. Positive determination requires an examination of the ornamentation of the megaspore surface using a 20X lens. Microspores are only about a tenth as large and thus of little value in field determination.

Sexual reproduction occurs after the megaspore is released from the sporangium and germinates to produce the female reproductive structure, the archegonium. The microspore germinates to produce four flagellated sperm--boy meets girl and a little sporeling is produced. It is possible to find masses of sporelings in the field, the season depending on the species of quillwort. But beyond this, we know little of the courtship of these curious plants.

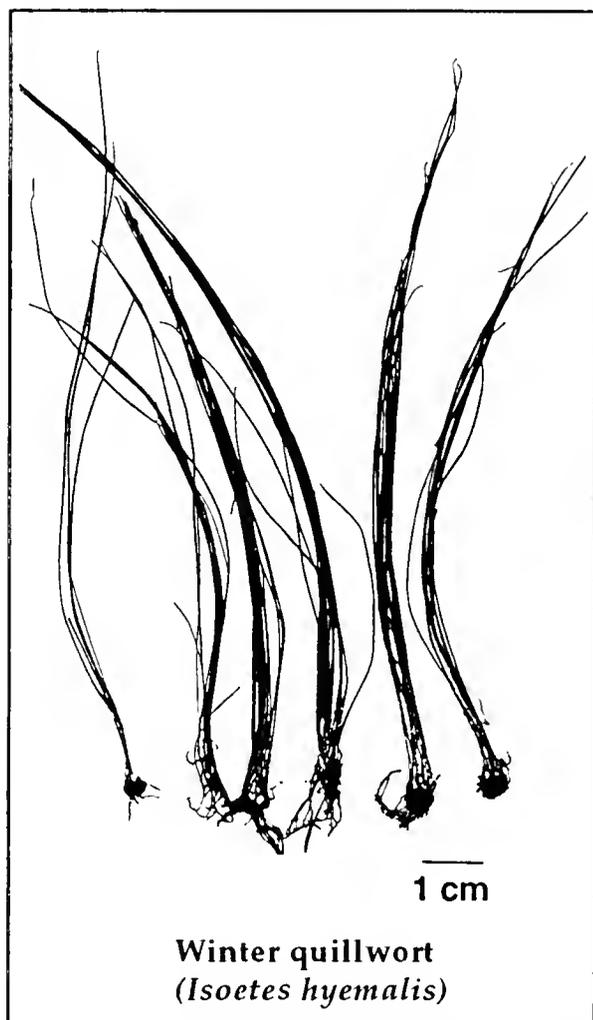
All *Isoetes* are aquatic and can be divided into two large groups depending on their habitat preference. Amphibious species spend part of their life in the water but later dry out. In fact, some quillworts grow on rock outcrops that become desiccated in the summer. Growing in these places may explain why most quillworts that have been studied have a peculiar kind of photosynthetic pathway called CAM (for crassulacean acid metabolism).

CAM is characteristic of desert plants! Other quillworts grow as submergents in lakes and rivers.

How can you recognize these furtive plants? Develop a "search image" for them. I had been botanizing in southeast Virginia for two decades before I became aware of them! They are the only wetland plants that have grass-like or rush-like leaves that are whorled with leaves slightly twisted unlike rushes (species of *Juncus*) or spike-rushes (species of *Eleocharis*), two genera with species often confused with quillworts. *Isoetes* leaves have a slight channel on the upper surface. These features (whorled, twisted leaves with a channel) along with a corm mean quillworts.

Our work during the past six years has centered on understanding the distribution of Virginia quillworts, their ecology, hybridization, cytology, and systematics. The following quillworts occur in Virginia (adapted from: "Quillworts of Virginia," *American Fern Journal* 84(2): 48-68, Musselman, L.J. and D.A. Knepper, 1994).

(See *Mysterious quillworts*, page 5)



Woodbridge Refuge represents an urban escape

The third year of plant inventory by Elaine Haug and Nicky Staunton, two members of the Prince William Wildflower Society, is slowing down at the Woodbridge Refuge now that October is here. They have identified more than 600 herbaceous and



woody plants. Even in October, *Catalpa ovata* was just identified on the refuge shore of the Occoquan Bay. Autumn blooming grasses have replaced the *Tripsacum dactyloides*. Patchwork colors from sweetgum, sassafras, sour gum, oaks, pawpaws, dogwoods and virburnums form a backdrop for golden grasses and an occasional bloom of *Bidens*, *Ageratum* and

Eupatorium species. The rattlesnake-masters have gone to seed, promising more plants next year. The honeyvine fruit pods were still bright green in October, with the appearance of short, fat bananas. Groundsel-trees, with their silky white blooms, were beginning to release seeds to the wind.

Looking down at the plants was nearly impossible on this fall day with a juvenile American bald eagle as well as redtail hawks, a female northern harrier, rough-legged hawks and a kestrel whose hunting and soaring activities captured our attention. Migrating cormorants were resting on a nearby island. Migrating warblers were plentiful and rusty wing blackbirds swarmed over the heads of great blue herons fishing nearby. Butterflies (the summer butterfly count yielded 35 species) and caterpillars showed activity: monarchs, question marks and

sulphurs and a butterscotch colored woolly bear caterpillar caught the sunlight.

With an intention to return to visit the *Ilex verticillata* in several weeks when the leaves have fallen, another visit ended at this urban refuge of 600 acres and 16 vegetative communities. The transfer of property exterior to the compound buildings will occur in the near future and educational use of the facility will grow. The Woodbridge Foundation, led by Jim Waggener, is negotiating with several universities to occupy the existing United States Army buildings.

Be sure to put the Woodbridge Refuge on your visiting list when you come to Washington, D.C. in 1997. It is located immediately off of U.S. Rt. 1 at Woodbridge, a few miles from Washington with the rail system stations a few blocks away. For more information, call Nicky Staunton at 703-368-9803.

•Mysterious quillworts

(Continued from page 4)

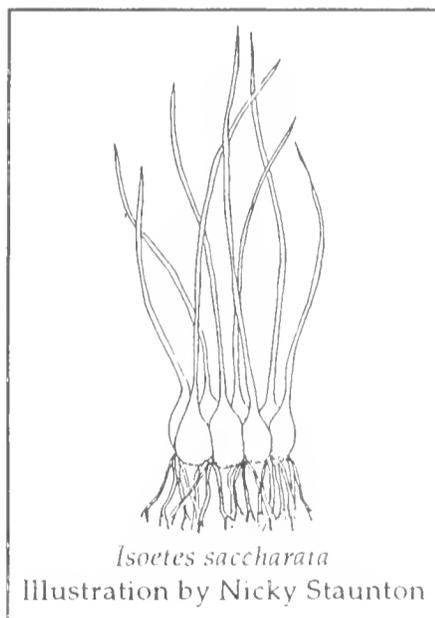
Isoetes acadensis (Acadian quillwort) - We recently documented this species in freshwater tidal marshes of the Mattaponi and Pamunkey Rivers. Previously, it was known only from New England and the Maritime Provinces of Canada.

Isoetes caroliniana (Carolina quillwort) - Frequent throughout the Appalachian Mountains in Virginia in rivers, impoundments, bogs and pools.

Isoetes engelmanni (Engelmann's quillwort) - Named in honor of the founder of the Missouri Botanical Garden and early student of the genus, this quillwort is found throughout Virginia.

Isoetes hyemalis (winter quillwort) - The common name is a bit misleading as all of our species are potentially evergreen, depending on availability of water. In fact, *Isoetes* is derived from words indicating an evergreen quality. *Isoetes hyemalis* is abundant in southeastern Virginia along small streams.

Isoetes lacustris (lake quillwort) - This is a widespread northern species



Isoetes saccharata
Illustration by Nicky Staunton

found in one stream in the Shenandoah mountains.

Isoetes melanopoda (blackfooted quillwort) - Usually restricted to non-granitic rock outcrops, this is the only species with weedy tendencies. The illusive *I. virginica* is sometimes recognized as distinct although our work indicates that it is closely related to, if not cospecific with, the blackfooted quillwort.

Isoetes piedmontana (Piedmont

quillwort) - Common on granite outcrops in the Southeast, it is found at only one site in Virginia.

Isoetes saccharata - Another species of freshwater tidal marshes, it has no accepted common name. It may be related to *I. hyemalis* if not cospecific.

A small, but dedicated group which calls itself "worters" has been studying quillworts. Eight undergraduates, three graduate students and myself have fun stalking these furtive plants. We are growing all species of Southeastern *Isoetes* successfully although *I. "virginica"* and *I. melanopoda* are proving more difficult than the other species which we simply put in a plastic container with sand and keep at room temperature. While thunderously underwhelming, they make an interesting addition to a garden. During extreme cold weather, bring them inside. And, depending on the fishes' appetites, quillworts do well in fresh water aquaria.

Lytton J. Musselman is a professor of biological sciences at Old Dominion University.

For Wildflower Gardeners

Unlocking the secret to fringe-tree berries

During our annual meeting, I visited the Blue Ridge Community College Arboretum with a group of fellow VNPS members. The arboretum, begun in 1987, features mostly native Virginia trees and shrubs growing in settings representing Virginia's mountain, valley, piedmont and coastal plain regions. The trip was led by Anne Nielson, the arboretum's project director and associate professor of biology at the college. Shenandoah Chapter members Jacob Kagey and Lib Kyger are on the arboretum's steering committee.

An especially handsome fringe-tree (*Chionanthus virginicus*), our 1997 wildflower of the year, attracted a lot of attention from our group. It was planted in the valley section of the arboretum though fringe-tree grows naturally throughout Virginia and is a wonderful small tree or large shrub for gardens in all regions of the state. Growing in full sun with plenty of room to spread, it was approximately 12 feet tall with an equal

spread--obviously the large shrub form! Fringe-tree can also be trained to grow as a single-trunked specimen and can get up to 20 to 25 feet tall.

The arboretum's fringe-tree was absolutely loaded with fruit though we had to hold back the outside foliage to see the clusters of dark blue, half-inch long, egg-shaped drupes. Fringe-tree's white, strap-like flowers are borne in May on wood produced the previous season, and the fruit is then concealed by the current season's growth. Though we had trouble seeing it, the several species of larger birds that relish the fruit have no difficulty finding it.

If you want to grow fringe tree for its fruit as well as for its lovely flowers, how can you be sure you are getting a female plant, and do you need a male for pollination? In *Manual of Woody Landscape Plants*, Michale Dirr says fringe-trees are dioecious meaning male and female flowers are on separate plants. How-

ever, I've never read that you should plant both a male and female fringe-tree (as is the case with hollies) in order to get berries. Also, a lone fringe-tree in my garden regularly produces a few berries.

Further reading in Dirr's book helps to explain. He writes that fringe-tree flowers can also be polygamous-dioecious which means having male and female flowers on separate plants, but these plants can also have perfect flowers (having both functional stamens and pistils). Apparently plants can be all male, all female, or predominately male or female.

To be sure you are getting a female plant, you'll need to visit a nursery and check for berries in August or September. Then you'll have to decide if you want to be safe and also choose a male plant or take a chance and hope your female is only predominantly female.

Nancy Arrington
Horticulture Chair

Bates' floral portrait takes top prize in VNPS contest

Although the numbers were small, the results were a big success in the VNPS 1996 Photography Contest. Carolyn Bates, a member of the Blue Ridge Wildflower Society was the grand prize winner in this year's contest which featured the fringe-tree (*Chionanthus virginicus*) as the object of the photographers' attentions.

Bates' photograph was a close-up floral portrait of the fringe-tree. She was awarded a pewter Jefferson cup.

"It was sharp, well-composed, and there were no distracting elements with the dark background," commented contest judge Dr. Robert Lyons. Lyons, professor and director of the Virginia Tech Horticulture Garden in Blacksburg, deserves a round of thanks for his willingness to judge this year's inaugural contest and to guide VNPS in establishing the contest rules.

Bates also took home two first-

prize ribbons for her fringe-tree in the wild photograph and her grand-prize floral portrait. Libbey Oliver of the John Clayton Chapter won a blue ribbon for her fringe-tree in a cultivated setting shot.

A pair of honorable mention ribbons went to Jan Gates of the South Hampton Roads Chapter for her floral portrait and her fringe-tree in a

Natural landscaping seminar to be offered in December

The National Wildlife Federation and New Directions in the American Landscape will present a seminar titled "Natural Landscaping: Inviting Nature Back to Your Property" on Saturday, December 7. The day-long seminar is for homeowners who would rather see a wildflower than a clipped hedge.

The symposium will explore ideas that reflect the beauty of the natural world in an easily managed, ecologically sound home environment. Topics to be discussed include: Blending Horticulture, Design and Ecology; Natural and Created Water Gardens; Outstanding Native Plants; and a Japanese Approach to American Landscapes. Noted designers and horticulturalists speaking include Judy Glattstein, Claire Sawyers and Larry Weaner.

The program will run from 9:30 a.m. to 4 p.m. with lunch included in the \$88 fee. For more information or to register, call 1-800-274-3478.

Chapter News

Potowmack propagation beds important project

The propagation beds of the Potowmack Chapter not only provide the chapter with a good portion of its operating budget through spring and fall plant sales, they also allow the chapter to assist in the spread of native plants through donations.

This year, donations of native plants were made to:

1. Goodwin House, a not-for-profit retirement community which is establishing a native plant trail on its grounds in Falls Church, Virginia.
2. Riverbend Park, a part of the Fairfax County Park Authority, for its project to restore a meadow habitat.
3. Stephen Lloyd, an Eagle Scout candidate, who is landscaping part of the grounds of St. Stephens United Methodist Church with native plants.

Through sales and donations from the propagation beds, which are maintained by the chapter in Green Spring Gardens Park, the Fairfax County Horticultural Center, Potowmack hopes to educate the citizens of the area to the advantages of using native plants in the landscape.

For more information on the propagation beds, contact Gerry Pratt, 703-323-1094.

John Clayton Chapter announces its "graduate" program

The John Clayton Chapter has initiated the John Clayton Graduate Program in order to encourage members to attend chapter functions and, at the same time, increase members' knowledge of native plants and their habitats.

Points will be awarded toward a "final degree," and can be earned through both participation and written exams. Examples of events earning participation points include:

attending chapter meetings, attending field trips, serving as a field trip leader, serving as an officer or board member, being a chapter representative at an event, raising plants for plant sales and obtaining new members.

There will also be written exams which will become more challenging as members progress up the ladder toward "graduation." The program was launched this fall.

Pocahontas to design garden

The Pocahontas Chapter has been asked to create a woodland native plant garden on a nature trail at the J. Sargeant Reynolds Community College in the Richmond area. The trail has been created for the purpose of acquainting walkers with the beauty of nature. Chapter members toured the site on the Parham Road campus as part of their monthly meeting and then met to begin designing the area.

Grasses CAN be interesting

Let's face it: a lot of people think grasses are kind of boring--hard to identify and not very interesting to study. Piedmont Chapter's David Yost tackled that attitude head-on with a workshop on the wonders of *Poaceae*, the grass family.

Approximately 30 eager participants, armed with microscopes, field guides and a number of samples, studied this important (where would the human race be without cereal grains?) but overlooked group of plants.

Yost reviewed the specialized vocabulary of grass taxonomy and displayed native, naturalized and invasive species, before the group took to the fields at Archwood Meadow near The Plains for a hands-on look at the grasses around them.

See the address label for your membership's expiration date.

VNPS Membership/Renewal Form

Name(s) _____

Address _____

City _____ State _____ Zip _____

Individual \$15 Family \$25 Student \$10

Patron \$50 Sustaining \$100 Life \$400

Associate (group) \$40; delegate _____

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 _____ Chapter

in the amount of \$10 \$25 \$50 \$100 \$ _____

Check here if you do not wish your name to be exchanged with similar organizations.

Check here if you do not wish to be listed in a chapter directory.

Make check payable to VNPS and mail to:

VNPS Membership Chair, P.O. Box 844, Annandale, VA 22003

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

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The deadline for the next issue is Dec. 1

VNPS Wildflowers of the Year

- 1998 - Columbine
(*Aquilegia canadensis*)
- 1997 - Fringe-tree
(*Chionanthus virginicus*)
- 1996 - White trillium
(*Trillium grandiflorum*)
- 1995 - New York ironweed
(*Vernonia novaboracensis*)
- 1994 - Mountain laurel
(*Kalmia latifolia*)
- 1993 - Wild bergamot
(*Monarda fistulosa*)
- 1992 - Butterfly weed
(*Asclepias tuberosa*)
- 1991 - Cardinal flower
(*Lobelia cardinalis*)
- 1990 - Spring beauty
(*Claytonia virginica*)
- 1989 - Virginia bluebell
(*Mertensia virginica*)

From Near and Far

Organization formed to restore estuary habitats

A new organization is calling for a national commitment to restore one million acres of habitat in estuaries around the nation, including the Chesapeake Bay, according to an article in the October 1996 *Bay Journal*.

The group, Restore America's Estuaries, is an alliance of eight regional environmental groups seeking to heighten the public's awareness of the importance of estuaries and to bring more focus on efforts to improve habitats.

To that end, the organization in September announced plans to seek legislation in the next session of Congress that sets a specific one-million-acre restoration goal and commits \$100 million of funding annually to estuarine habitat creation.

An estuary is defined as a semi-enclosed body of water where freshwater empties into and mixes with saltwater from the ocean. Estuary is another name for bay, sound, harbor, etc., but the key part of the definition is the mixing of fresh and salt water. Estuaries are among the most productive natural systems on Earth, producing more food per acre than

the richest Midwestern farmland.

While programs exist to manage waterfowl and fish populations and to improve water quality, there is little money available to support habitat restoration efforts. Even the Chesapeake Bay Program currently has little money to support habitat restoration efforts. Lost habitats include salt and freshwater marshes, grass beds, coastal forested wetlands, beaches, streamside areas, tidal flats, shellfish beds and deltas. These habitats are vital to many species of plants, fish and other wildlife.

•Project

(Continued from page 1)

planned for late winter or early spring. Throughout this project, VNPS partners in the Division of Natural Heritage, Department of Conservation and Recreation have played an important role. Without their substantial effort and expertise, this project would most certainly never have been undertaken.

Ted Scott
Past Conservation Chair



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