

A publication of the Friends of the National Arboretum

ARBOR FRIENDS

SPRING 2018



**MARK YOUR
CALENDARS !**

Saturday, April 28:
Free & open to the public 12pm - 4pm

Sunday, April 29: 9am - 4pm

MEMBERS ONLY

Saturday, April 28:
9am - 12pm

IN THIS ISSUE: Special Garden Fair Edition

FROM THE EXECUTIVE DIRECTOR



DEAR FRIENDS OF THE NATIONAL ARBORETUM:

I observed my first anniversary as FONA's Executive Director this past February. In that first year, with the support of our members, our Board of Directors and the USNA staff, we have accomplished a lot and the stage is set for much more in the coming years.

Together, we've initiated a wide variety of programs and activities. They range from staging our Summer Evenings concert series and managing the Full Moon Hike program to planting thousands of native plants along Springhouse Run and funding the creation of a revised Strategic Plan for the Arboretum's next 20-30 years. We've been busy this past year!

Perhaps most importantly, my arrival coincided with a particularly auspicious moment for FONA and the Arboretum. After 25 years building FONA's capacity to take a larger role supporting the Arboretum's mission, FONA and USNA are beginning to forge a true partnership for the future. While the details of that partnership are still evolving, our shared goal is for FONA to take on specific responsibilities, many associated with providing visitors a great experience when they're at the Arboretum, so that the USNA staff can focus on managing the Arboretum's collections and conducting research.

Our goal is to work with the Arboretum staff and other partners to substantially improve the visitor experience at the Arboretum. I truly believe this partnership will benefit everyone who cares about the Arboretum, most especially our visitors.

But it goes without saying that none of this would be possible without the support of members like you. Thank you again for all you do to make our work possible. I can't wait to share our new programs and work with you. Please make time to visit the Arboretum soon—spring and summer are especially wonderful times to be here! 🌿

A handwritten signature in dark ink, appearing to read 'Tom McGuire'. The signature is fluid and cursive, written on a light-colored background.

Tom McGuire
Executive Director



FRIENDS OF THE NATIONAL ARBORETUM

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Nadia Mercer, Nancy Moitrier, Pierre Moitrier,
Mary Eugenia Myer, Dr. Richard Olsen,
Barbara Shea, Karen Zill.

ON THE COVER: Lady's slipper orchids, *Cypripedium* 'Hank Small'.

LETTER FROM THE DIRECTOR

Of lace and loss...



JUST WHEN IT SEEMS LIKE SPRING will never arrive, the first flowering cherries and magnolias push forth buds and blooms in the narrow windows of warmth and sun in the lengthening days of March. This year March really came in like a lion, with windstorms causing, thankfully, relatively minor losses. Unfortunately, we did lose the lacebark pine (*Pinus bungeana*) in the circle drive. The lacebark pine is native to thin-soiled limestone mountains in warm

temperate zones of east-central China, but it is often cultivated in colder climates owing to its exquisitely beautiful exfoliating white bark. Excellent specimens can be found as far north as Beijing, where it was collected and reintroduced into cultivation by the USDA plant explorer Frank N. Meyer in 1905.

Meyer was hired by David Fairchild, then the aspiring head of the newly created plant exploration office in the USDA. Meyer was one of the greatest plant collectors of the twentieth century, and we are indebted to him and to Fairchild for the collection, introduction, and distribution of thousands of agronomic and horticultural crops, including the eponymous Meyer lemon of culinary fame. On the Arboretum grounds, we have several collections dating back to Meyer that include a rare Chinese species of persimmon, Chinese pistachios, Shantung maples, and columnar junipers, as well as the large lacebark pine in the Morrison garden that has been attributed to Meyer. Hundreds more specimens are indirectly linked to Meyer.

One hundred years ago this June, Meyer met an unfortunate and mysterious death on the Yangtze River north of Shanghai. E.H. “Chinese” Wilson, a contemporary and colleague of Meyer, wrote “By his untimely death, plant exploration has lost one of the most energetic and enthusiastic servants it ever had.” Meyer was buried in Shanghai with a lacebark pine marking his grave. His exploits and contributions to American agriculture are honored each year through the Frank N. Meyer Medal for Plant Genetic Resources, which is awarded to individuals who have provided exemplary service to the field of plant exploration and conservation. The lacebark pine, his favorite introduction, is featured on the medal’s reverse.

It was fitting then, that on the day the nor’easter felled the lacebark pine, I returned to the Arboretum with a carload of grafted lacebark pines from Meyer’s original introductions at the old USDA plant introduction station in Chico, CA. This invaluable, original germplasm will be conserved on the grounds as a fitting tribute to Meyer and to the efforts of all USDA personnel—especially the staff of the National Arboretum—in collecting and conserving the world’s flora.

As we move forward in 2018, please visit us often as we continue to conserve plants and connect people to the beauty and diversity residing here at the National Arboretum. 🌲

Richard T. Olsen, Director
The U.S. National Arboretum



IN MEMORIAM: **CAROLYN MORROW CHENEY**

CAROLYN MORROW CHENEY was a long-time FONA board member who began her career in politics and lobbying when she moved to Washington, DC, in 1972. She has represented the Sugar Cane Growers Cooperative of Florida since 1991. She mentored many new associates in the industry, willingly and generously giving her time and advice and leaving a lasting mark in her numerous endeavors.

Carolyn was one of the first lobbyists I met when I moved to DC and was still wet behind the ears in terms of being a staffer. Carolyn took an interest in me and, over the years, mentored me on how to be a good staffer and, later in my career, how to be a good lobbyist. She would take me to dinner and talk not just about sugar but about how DC worked and how the local agriculture community worked. We often saw each other at events in DC and around the country, and then we began to run into each other at FONA’s annual Dinner Under the Stars at the National Arboretum. This was really my first introduction to the National Arboretum, and it became an event that I hoped to be invited to each year.

As the years continued, so did our wonderful friendship. A few years ago, I was invited to join the FONA board. I was thrilled about that and often sat next to Carolyn (and tried not to talk through the entire board meeting).

I am deeply saddened that Carolyn has passed. She brought joy, friendship, and professionalism to every event she attended. She will be missed in our industry and at the Arboretum. 🌲

CHANDLER GOULE is a FONA board member.

A Sneak Peek Into the 2018 Garden Fair

Welcome, welcome, welcome to Garden Fair

2018 at the U.S. National Arboretum! The Garden Fair will again be held on the north terrace behind the Administration Building, and we will again be offering an amazing variety of plants for purchase. From annuals to perennials to woodies and rare collector's plants, there will be something for everyone's garden. We have made several major changes to the Fair from last year, so please read this column carefully!

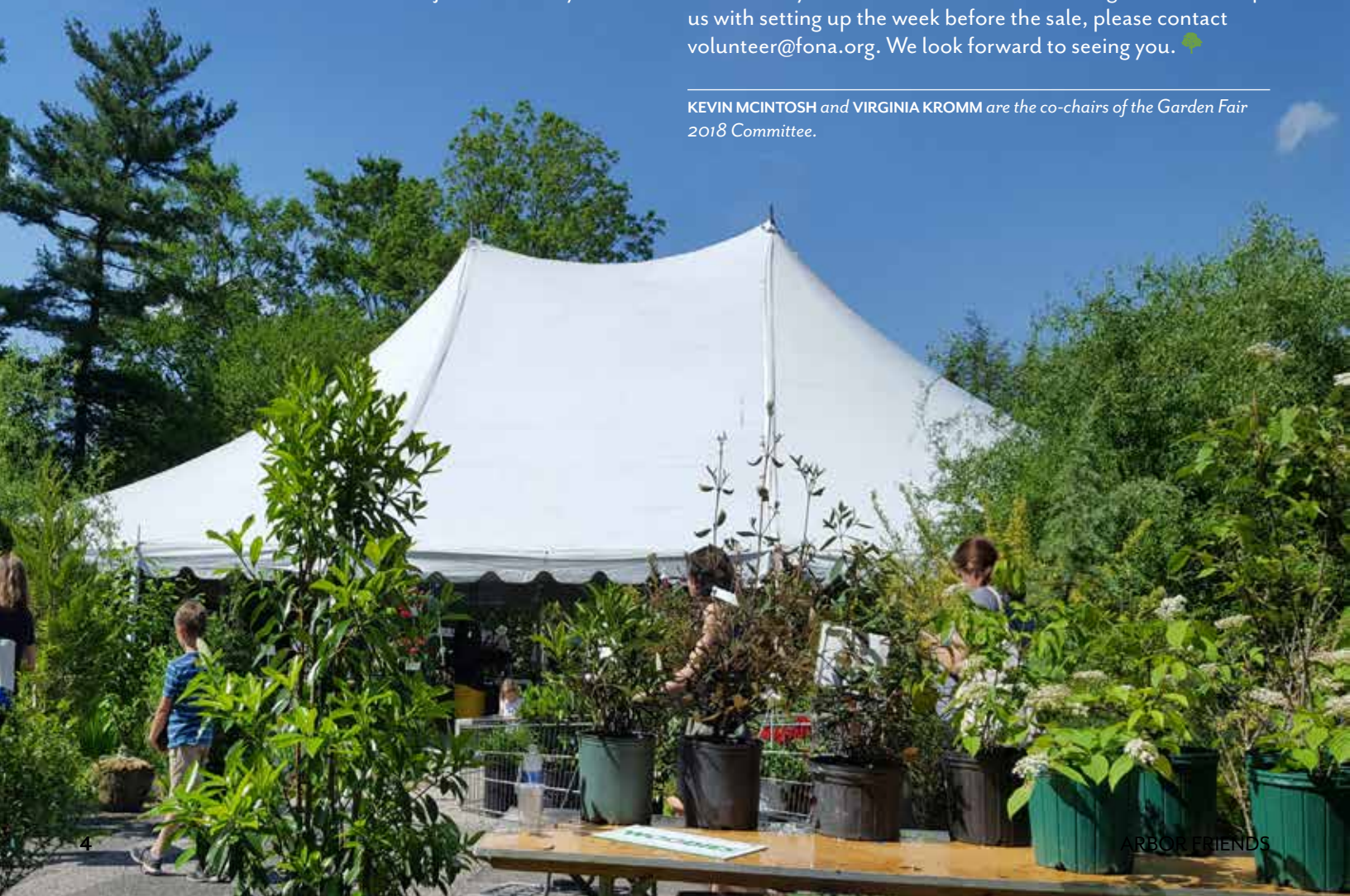
First and foremost, we are changing the days of the sale. This year's Plant Sale will take place from Saturday, April 28, to Sunday, April 29. This change to a weekend format (rather than our previous Friday-Saturday format) was made to optimize our time with you, the public. The Fair will open at 9:00am and close at 4:00pm on both days. Note that Saturday from 9am to noon is for FONA members only. If you are not a member, there is still time to join FONA so you won't

miss out on the best plants. Join or renew your membership at www.fona.org/join-or-renew/ or register at the membership table at the plant sale on Saturday morning.

We are also excited to announce that vendors will be back this year. They will be located on Meadow Road, which runs past the Bonsai & Penjing Museum and National Herb Garden. This is where the food trucks and coffee vendor were last year and where they will be for the 2018 Garden Fair. We expect to welcome back most of our traditional vendors as well as some new ones. On the East Terrace, you will find the Potomac Unit of the Herb Society of America, FONABOOKS, and a booth selling surplus plants from the Arboretum.

So please come join us at the Garden Fair. This is an opportunity for you to support your National Arboretum—all proceeds from this sale go to FONA to support Arboretum activities. If you would like to volunteer during the sale or help us with setting up the week before the sale, please contact volunteer@fona.org. We look forward to seeing you. 🌱

KEVIN MCINTOSH and VIRGINIA KROMM are the co-chairs of the Garden Fair 2018 Committee.





L-R: *Calanthe* orchid; *Carex scaposa*, photo courtesy of Hoffman Nursery; *Dysosma* 'Spotty Dotty'

As most of you already know, the Collector's Corner features rare and unusual plants. Some of these plants are so new to cultivation in this area, we don't know how they will perform, but that's part of the fun of gardening, don't you think?

This year, we will have some amazing plants for the shade garden. In addition to nearly a dozen different types of *Cypripedium* orchids (lady-slippers), we will have *Calanthe* orchids and rare *Dysosma* including *D. pleiantha* 'Hunan' (looks similar to *D. difformis*) and *D.* 'Spotty Dotty'. Both of these plants look like they came from outer space! We'll also have the beautiful evergreen sausage vine *Holboellia coriacea* 'Cathedral Gem' which features highly fragrant flowers. Finally, we're very excited to offer the amazing sedge, *Carex scaposa*, which was introduced to the United States by National Arboretum Director Dr. Richard Olsen from the Kunming Botanical Garden in China and features wonderful pink flowers in spring and fall.

For the sunny garden, we'll have *Eucomis* 'Dark Star', *Lewisia* Constant™ Coral, *Ceanothus* shrubs, the everblooming *Cestrum* 'Orange Peel', and several exquisite smaller *Daphne* cultivars and species suit-

able for rock gardens including 'Wilhelm Schacht', *D. xnapolitana*, and 'Lawrence Crocker'.

Looking for unusual tropical plants that can act as a standout accent in your garden this summer? How about the large silver-leaved bromeliad, *Alcantarea odorata*, the beautifully variegated form of *Crinum asiaticum*, or the gorgeous variegated form of the vine *Thunbergia grandiflora*? Then, there are the marginally hardy (to about 50°F) plants such as *Trachycarpus fortunei* 'Landcraft' palms, ornamental palm grass (*Setaria palmifolia* cultivars), *Agave parryi* 'JC Raulston', and two variegated forms of *Fatsia japonica*.

These and many more rare and unusual plants will be offered in Collector's Corner this year (barring crop failure of course). Be sure to shop early on Saturday morning because many of these plants are gone within the first hour of opening. 🌿

KEVIN MCINTOSH is a FONA board member, grows many of the plants featured in the Collector's Corner, and will be happy to give gardening advice to those who are interested in growing unusual plants.

COLLECTOR'S CORNER

PERENNIALS



Looking for the perfect perennials for your garden?

Do you want to be the first to have the newest varieties or do you want plants that are tried and true? Is your garden in full sun, part shade, on the deer population's best places to dine list? Do you want to support pollinators or go native? The FONA Garden Fair and Plant Sale is your answer. You would have to go far to find a greater variety of perennial plants under one tent. We have been talking to growers and scouring catalogues to find the most tempting plants so bring the big car!

This year we have ordered a large selection of the new *Epimedium*. Last year we sold out in the first hour, but this year, we are stocking up with new varieties like 'Spring Wedding' and 'Pink Champagne'. There are so many beautiful *Aquilegias* (columbine) that it was difficult to choose. Hopefully we will have a variety that will appeal to everyone. There will be a plentiful variety of *Helleborus* with a sampling from the new Wedding Party™ series. Looking for ferns or grasses? We have them. Love *Baptisia*? Try the new 'Pink Lemonade'. If you love perennials, you'll be like a kid in a candy store at the FONA sale. 🌱

BARBARA SHEA is a FONA Board Member and avid gardener.

Insets: *Aquilegia* 'Songbird Robin', photo courtesy of PanAmerican Seed. *Helleborus* 'Blushing Bridesmaid', photo courtesy of Walters Gardens, Inc. **Background image:** *Baptisia* 'Pink Lemonade', photo courtesy of Walters Gardens, Inc.

Every January, the Mid-Atlantic Nursery Trade Show (MANTS) is held at the Baltimore Convention Center. Wholesale nurseries from across the country display their wares and take orders from retail nurseries, garden centers, and nonprofits like FONA. Thousands of plants are exhibited in booths that line the convention center. This year, at the end of the trade show, more than a dozen vendors generously donated plant material to the FONA 2018 Garden Fair in support of the U.S. National Arboretum. Woody plants such as *Azara microphylla*, *Cornus officinalis* 'Kintoki', *Podocarpus macrophyllus*, *Picea orientalis* 'Skylands', *Thuja plicata* 'Whipcord', named Japanese maples, and dwarf conifers will be available in limited quantities, sometimes only one plant (quantity ordered listed in parentheses below), and will sell quickly on Saturday morning during the Members Only sale.

In larger quantities, woodies that have not been offered at the FONA sale in many years (if ever) are among the following:

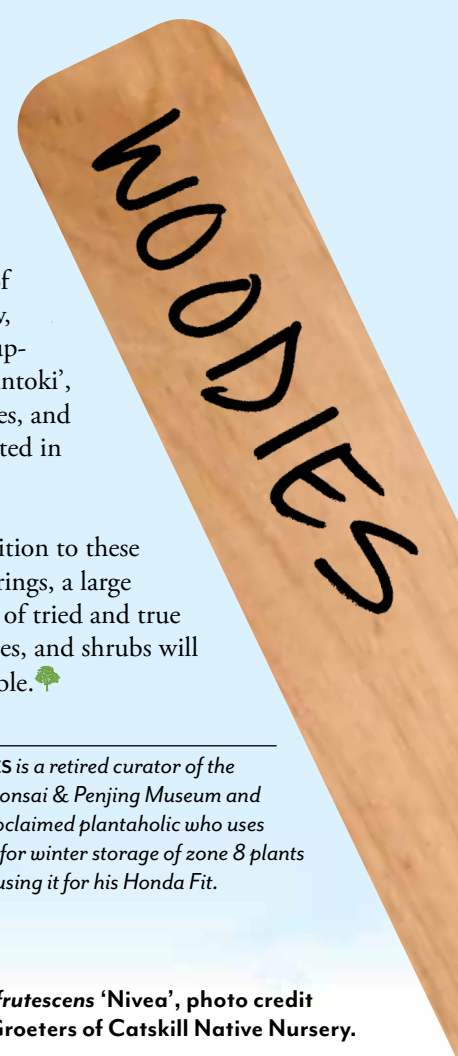
- *Aronia melanocarpa* Low Scape® Mound (10) a robust shrub native to the United States; compact with amazing color and form
- *Acer palmatum* 'Tsuma-gaki' (3) this Japanese maple translates as "red nail," a reference to the red color on the edge of the bright green leaves in spring; a graceful small tree that turns crimson in the fall
- Azaleas from the Weston Series (10) 'Innocence' and 'Parade' that are fragrant and deciduous
- *Clethra alnifolia* Einstein™ (10) 12-inch sweetly fragrant racemes top this native shrub; attracts pollinators
- *Cornus florida* 'Appalachian Spring' (8) beloved white dogwood tree; resistant to dogwood anthracnose fungal disease; recommended by Adrian Higgins of the Washington Post
- *Enkianthus campanulatus* 'Showy Lantern' (7) delicate, choice, elegant, and understated; slow-growing tree with pink bell-shaped flowers for partial sun locations
- *Edgeworthia chrysantha* (15) sought after, hardy, but tropical-looking shrub, not available at our sale last year
- *Ginkgo biloba* 'Jade Butterflies' (5) dwarf tree with characteristic Ginkgo leaf shape, great for pot culture or small spaces
- *Hibiscus syriacus* Strawberry Smoothie™ (10) double pink blooms adorn this deer-resistant, medium-size shrub

- *Illicium parviflorum* First Editions® BananAppeal™ (10) new compact, deer-resistant shrub with anise scented yellow foliage
- *Jasminum officinale* 'Frojas' (16) chartreuse vine solidly hardy in zone 7; white fragrant flowers; well behaved vine for sun or shade; great when combined with burgundy foliage or blue flowers; glows like sunshine in the shade
- *Leycesteria formosa* 'Golden Lanterns' (16) newly introduced English cultivar; dark burgundy bracts are counterpoints to amber-tinted new growth and the yellow-green foliage; our wholesale source sold out last year, but this year our order was confirmed
- *Osmanthus heterophyllus* (35) dwarf 'Kaori Hime'; Party Lights™; 'Gold Variegated'; 'Goshiki' are all deer resistant and fragrant
- *Poncirus trifoliata* 'Variegatus' (5) deer resistant, fragrant white flowers produced on spiny tree; citrus relative with variegated leaves
- *Trachelospermum asiaticum* Snow-N-Summer™ and *Trachelospermum jasminoides* 'Madison' (15) two fragrant jasmines with stunning foliage
- *Viburnum Moonlit Lace*™ (15) glossy green and burgundy foliage on deep burgundy stems; clusters of white flowers in spring
- *Wisteria frutescens* 'Nivea' (5) easy, fast-growing, well-behaved vine for the casual gardener; white fragrant flowers; much less aggressive than Asian wisterias

In addition to these new offerings, a large selection of tried and true vines, trees, and shrubs will be available. 🌿

JIM HUGHES is a retired curator of the National Bonsai & Penjing Museum and is a self-proclaimed plantaholic who uses his garage for winter storage of zone 8 plants instead of using it for his Honda Fit.

Wisteria frutescens 'Nivea', photo credit Francis Groeters of Catskill Native Nursery.





ANNUALS



L-R: Digiplexis™ Illumination™ ‘Flame’, photo courtesy of Burpee; *Russelia equisetiformis*, photo courtesy of Doreen Wynja for Monrovia Nursery.

This year’s expanded selection

of annual and tropical plants at the Garden Fair will excite you with things you have never seen before, and there will be many old favorites in new colors and sizes.

Many of the special annuals that you depend on finding at the Fair will be returning, including a wide color choice in flowering maples (*Abutilon*), as well as Digiplexis™ (*Digitalis* × *valinii*), a hybrid of a subtropical Canary Island species, and common foxglove in shades of pink and orange. We’ll also have South African foxglove (*Ceratotheca triloba*) in shades of mauve. Another returning plant will be *Plectanthurus* ‘Mona Lavender’; last year, mine grew to three feet high and four feet wide with constant spikes of lavender setting off the dark green leaves with deep purple undersides. After happily spending the winter inside, it is now back in the yard and putting out new shoots.

We are expanding our offerings of several other annuals and tropicals in response to their popularity last year. We have located some new types of Angelonia that grow taller and bloom longer—up to 40 inches and well into fall—and hope to have them in blue, pink, and white. Our selection of kangaroo paws (*Anigozanthos*) will expand to five colors: orange, red, burgundy, pink, and yellow. We will offer thirteen tall salvias in a wide color range, including some with variegated leaves. We are also greatly expanding our number and selection of “Underwear,” our supplier’s term for annual ground covers. Our supply of Underwear has sold out early every year, so this year, we are determined not to let that happen!

Now for what is totally new. We will offer *Duranta erecta* ‘Sapphire Showers’, which produces large racemes of violet-blue flowers with a white picotee edge. Bright yellow-orange berries follow in the fall. We have also ordered Lisianthus or Prairie Gentian in three colors; like a number of our other starter plants, these will be in six-paks (six plants for \$5). We decided to add flowering tobacco (*Nicotiana*) this year, even though it will not yet be in bloom. There are so many wonderful new tall varieties now being offered that we couldn’t resist getting them, and we hope that you will be able to imagine how marvelous they will be in your garden. We have added *Russelia* ‘Coral Fountain’, a cascading and trailing plant with thread-like foliage that blooms throughout the season with coral-orange flowers. The final temptation is Black Cotton *Gossypium herbaceum* ‘Nigra’, which combines the blackest of foliage with deep burgundy flowers in mid summer and seedpods that open at the end of summer to reveal balls of white cotton.

In addition, we have decided to offer a wide range of succulents, which are becoming more and more popular and are available in many shapes and colors. And finally, the Plant Zoo for kids will return this year, offering one place to see kangaroo paws, foxgloves, snapdragons, *Begonia* ‘Pink Giraffe’, lion’s ears, monkey flowers, the creepy eyeball plant (*Acmella oleracea*) and even a spiderwort named ‘Baby Bunny Bellies’, so bring the kids! 🌱

BILL MATUSZESKI is a longtime FONA board member and a member of the Garden Fair Committee. Look for him in the Annuals and Tropicals section of FONA’s tent at the Garden Fair.

FONA BOOKS at the Garden Fair!

CENTRALLY LOCATED BEHIND THE ADMINISTRATION BUILDING adjacent to the National Bonsai & Penjing Museum, FONABOOKS is a lovely place to stop and browse. Although the FONABOOKS tent will be physically separated from the FONA plant tent, **100% of the earnings from our sale of wholly-donated stock supports the National Arboretum's programs.**

New books from generous donors inspire this column on British and American women. Celia Thaxter's 1894 book, *An Island Garden*, recounting the difficulties and pleasures of gardening on a remote island off the New Hampshire coast still enchants. We have a good supply of books by the Edwardian garden designer/writer Gertrude Jekyll and by Louise Beebe Wilder who adapted Jekyll's ideas for American gardens. We're especially glad to have Mrs. Francis King's *The Little Garden* (1921) because she is one of our own; the dogwood collection here at the Arboretum was created in her honor.

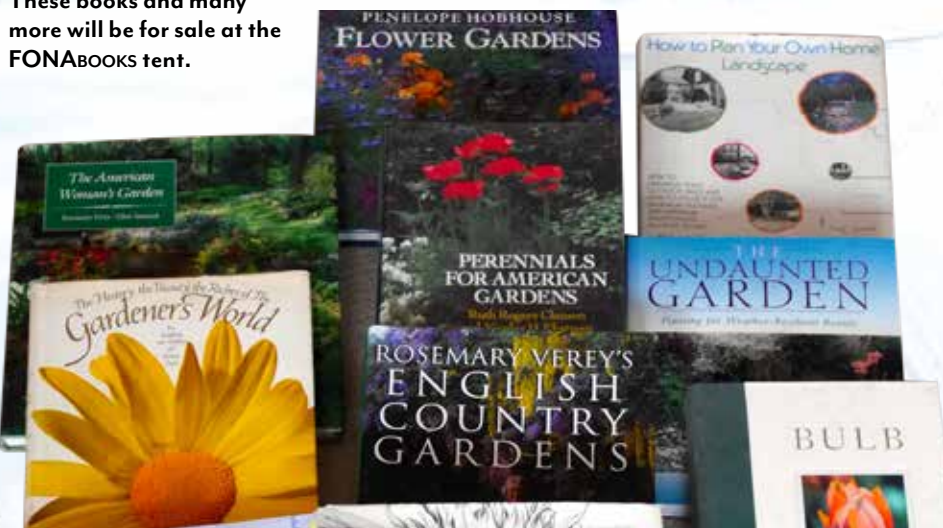
Do you know Helen van Pelt Wilson? Writing in the '40s-'60s, her warm practical advice illuminated by commentary on her own garden still holds true. Among other books of hers, we have *The Joy of Geraniums*—hard to find! Of more recent vintage, Katharine White's *Onward and Upward in the Garden* is a delightful critique of garden catalogues sporadically published in "The New Yorker" beginning in 1958 and Margery Fish's 1950s classic *How We Made A Garden*—still useful! Jane Brown's biographies of Gertrude Jekyll and Vita Sackville-West creating Sissinghurst in Kent are clear and readable.

As always, we have contemporary reference works both scholarly and popular, and many books on design—from overall landscape planning to perennial borders to stone walls to containers. There is no lack of advice about choosing perennials, shrubs, trees, and vegetables or about the disasters that may befall them! Garden history and art—especially Asian art—is well represented.

And finally, to ground you, we have a wonderful collection in all price ranges about Washington, DC, itself—its history, its landscape, and how best to garden here. 🌳

MARY EUGENIA MYER is the FONABOOKS Coordinator and a former board member.

These books and many more will be for sale at the FONABOOKS tent.



Vendors

NURSERIES

Love and Carrots, Washington, DC
The Native Yard, Seven Valleys, PA
Orchid Enterprise Inc.
Radical Roots Farm, Keezletown, VA
Urban Jungle, Washington, DC
White's Nursery, Germantown, MD

PLANT SOCIETIES AND NONPROFITS

Melwood Horticultural Training Center, Upper Marlboro, MD
Potomac Unit, Herb Society of America
The U.S. National Arboretum
The Washington Youth Garden

NON PLANT VENDORS

FONABOOKS
Full Circle Plant Food, Pasadena, MD
Shade Metals, Botanically-inspired jewelry

Contributors

INDIVIDUALS AND FOUNDATIONS

Robert Bartlett, Bartlett Tree Experts, Stamford, CT
J. Landon Reeve, Chapel Valley Landscape Company, Woodbine, MD
Foxborough Nursery
Peters Fertilizer

NURSERIES/WHOLESALE NURSERIES

Adcock's Nursery, Fuquay Varina, NC
Clement Horticulture, Baltimore, MD
Fisher Farms, Gaston, OR
Klyn Nurseries, Inc., Perry, OH
Manor View Farm, Monkton, MD
Monrovia Nursery, Azusa, CA
Pender Nursery, Garner, NC
Piedmont Carolina Nursery, Colfax, NC
Pleasant Run Nursery, Allentown, NJ
Rare Tree Nursery, Silverton, OR
Saunders Brothers Nursery, Piney River, VA
Taylor's Nursery, Raleigh, NC
Youngblood Nursery, Keizer, OR



Eight hundred thousand folders of dried plant specimens are stored in the Arboretum's Herbarium, forming a valuable plant record. Photo credit: Alan Whittemore

The Herbarium of the National Arboretum

Karen Zill

The north wing of the Arboretum's Administration Building houses a scientific collection of dried plants. More than half the space in this wing is packed with shelves from floor to ceiling with each shelf containing folders of plant specimens, about 800,000 altogether. This is the Herbarium of the National Arboretum, the only large herbarium in the USDA.



Value of the Herbarium

Part of the Arboretum's mission is to preserve and document the world's plants, and this is one function served by the Herbarium. According to Dr. Alan Whittemore, manager of the Herbarium, "Living plant collections have major limitations requiring a lot of work and a lot of space. They require gardens and specialized facilities, and there are many plants in the world that won't survive in our climate. You can keep a lot more plants in the herbarium."

Other herbaria have larger collections: those at the Smithsonian, Missouri Botanical Garden, and the New York Botanical Garden number in the millions. What sets the Arboretum's herbarium apart is its large collection of cultivated plants, especially those that have economic uses in the food industry or in horticulture, for example.

Preservation and Research

The Herbarium has several purposes. It serves as a record of plants, both wild and cultivated, that grew in the past. The American chestnut, *Castanea dentata*, was wiped out a century ago by the chestnut blight, but Herbarium specimens allow us to study chestnuts from native stands across its former range. The Herbarium serves as a record of past research. Frank Meyer, perhaps the most important plant collector ever to work for the USDA, introduced many plants from Asia a century ago. Many of these have been used in breeding projects, and their descendants are still important in our economy. If there are questions about what plants were used in producing our modern crops, we can use his voucher specimens in the Herbarium to study the plants he collected from. (A voucher is a herbarium specimen that serves as documentation for a piece of information about a plant.)

Herbarium specimens are also important as material for research. Many research projects use herbarium specimens, which allow for the comparison of plants collected in different places and at different times, rather than fresh plants.

Herbarium specimens are used:

- For comparison when identifying plants,
- As a source of data for research projects,
- As a record of the plants formerly growing in areas that have since been developed or changed in other ways, and
- As a record of how past botanists applied names and defined species.

How Specimens Are Obtained

The Herbarium includes specimens contributed by many plant collectors (including Frank Meyer, mentioned above, and in the Director's letter on page 3) whose work in the late nineteenth and early twentieth centuries led to significant expansion of the foods, ornamentals, and industrial crops available to Americans. The collection also contains specimens from such illustrious historical figures as George Washington Carver and John Stuart Mill whose interests ran to more than political philosophy.

Since 1960, the emphasis of Herbarium acquisitions has mostly been related to plants, especially woody plants used in the landscape and nursery industries and their wild relatives. Adding to the Herbarium's collection is an ongoing process. Dr. Whittemore explains, "We [staff of the Arboretum] collect plant material to document our research and plant releases and to document plants now in the trade. When we collect duplicate specimens, we can exchange these with other herbaria that have specimens we want to add to our collection. And occasionally we

purchase or acquire collections when smaller herbaria are closed.”

Currently, the Herbarium has specimens from all groups of plants and all parts of the world, but it is strongest in two areas: cultivated plants, especially landscape and garden plants of the eastern United States, and woody plants of temperate North America and Eurasia.

Keeping the Collection Safe

To keep the specimens from degrading, conditions must be carefully controlled, especially to guard against insects, which can destroy a collection. All dried plant material brought in to the Herbarium must be pressed and dried and then labeled and mounted. Any time dried plant material has been outside the Herbarium, it is frozen at -80°C before it is put back in the collection, just in case an insect has



laid eggs on it. The rooms are kept at 60°F and 50% humidity to control the growth of insects and fungi, and they are inspected periodically for problems. A nonflammable gas, rather than water, is used for fire control. When they are well maintained and protected from threats, herbarium specimens remain useful for centuries.

Left: This *Humulus lupulus* (common hop) specimen was collected by the famous plant explorer Frank Myer in China in 1914.
Top: *Ulmus davidiana* collected in Maryland in 2011 by Dr. Alan Whittemore, who manages the collections of the USNA Herbarium
Right: Chinese chestnut (*Castanea mollissima*) leaves and nuts collected during a 1980 collection expedition in China.

Benefits for All

Centuries of inbreeding left commercial coffee plantations vulnerable to disease, and by the 1950s, plant diseases threatened the crop worldwide. Frederick Meyer, the Herbarium's manager from 1959 to 1991, traveled to southwestern Ethiopia where coffee originated and collected an array of wild coffee plants. Coffee breeders, armed with this genetically diverse collection of coffee, were able to develop a hardier, resistant plant. Today, an important research project of the Herbarium involves investigating the diversity of ash trees to help direct conservation of this valuable tree while the search continues for a defense against the emerald ash borer, which is threatening to kill most of the eight billion ash trees in North America. These are just two examples of the Herbarium's contribution to the health of the world's plants and, ultimately, to the benefit of society. 🌱

KAREN ZILL is a DC-based freelance writer. Her work includes discussion guides for films and public television programs, memoirs, essays, and nature writing.



Profile: ALAN WHITTEMORE

Alan's interest in botany began in his native state of California and on family trips to British Columbia. During his undergraduate years at the University of California at Davis, he worked at the University's arboretum and herbarium to supplement his class work. After earning his BS degree in chemistry and botany, Alan chose to focus on botany and received his Ph.D. from the University of Texas at Austin in 1987.

He spent thirteen years in Missouri, first at Washington University in St. Louis (WUSTL) doing genetic research on several species of oak, then at the Missouri Botanical Garden where his main project was the *Flora of North America*, a multi-volume reference guide for which he wrote treatments and assisted with editing. He also participated in several foreign collecting expeditions and taught evening classes at WUSTL. In 2000, Alan came to Washington, D.C. to become the research taxonomist in the USDA's Floral and Nursery Crop Research Unit and manager of the Herbarium at the U.S. National Arboretum.

Alan carries out research on the taxonomy and evolutionary genetics of various groups of woody plants, primarily the oaks and hackberries, and has published research on twenty different families of flowering plants. In addition to the United States, his fieldwork has taken him to Mexico, Belize, Kazakhstan, Armenia, China, and the Russian Far East. He is currently editor-in-chief of *Systematic Botany*, the journal of the American Society of Plant Taxonomists.

While having to juggle many projects at once can sometimes be a challenge, Alan says the most satisfying aspect of his work is "being able to ask different biological questions and getting answers."



PHOTOS COURTESY OF USNA.

WASHINGTON YOUTH GARDEN

Family Garden Days

Thea Klein-Mayer

“Right before my three-year-old went to sleep, he said, ‘Momma, it was a really great day.’ And I couldn’t sum it up better. We had an amazing time with the Washington Youth Volunteer (Ms. Purple). She couldn’t have been more sweet and patient as she gently put a wiggly worm in his cupped hand, explained about the bees, and read a story. Thank you so much for inspiring the love of nature in our little boy.” — Julia K.



IN THE YOUTH GARDEN, WE LIVE FOR STORIES LIKE THIS. Stories of students engaged and excited by interactions with nature and fresh food, grown in our one-acre demonstration garden, which lies nestled between Fern Valley and the Grove of State Trees. This year marks 47 years of programs aimed at connecting youth and their families with healthy food and the natural world, and we are ready to get our hands dirty with two expanded offerings that do this in spades.

New this year, we’ll host regular Saturday activities in the Youth Garden starting in April to engage drop-in visitors in garden work and play such as watering plants, feeding worms, and reading together. An outline of each week’s activities will be shared on our website and posted at the Arboretum Visitor Center and the Youth Garden.

For a longer visit, we’ve expanded our Family Garden Days—guided, two-hour programs for families to explore gardening through learning games, nature crafts, garden work, and garden-fresh snacks. Starting in March on the second Saturday of the month, these hands-on classes will explore a different topic such as Seeds, Soil & Compost, Flowers & Pollinators, Fruits, Bugs, Watersheds, and Herbs and Grains. Families are encouraged to come back over the course of these eight Saturdays and engage in new material each time. Activities are designed for children age 5 and older to do together with adult family members; however, self-guided stations will be set-up for younger gardeners. Please visit www.washingtonyouthgarden.org/fgd to register.

We hope to see you in the garden! 🌱

THEA KLEIN-MAYER coordinates the Washington Youth Garden’s *SPROUT* field trip program and *Family Garden Days*. She wishes she’d known about WYG when she was a kid growing up in DC but gets to pretend she still is one with each group that visits, singing “Dirt Made My Lunch” and dancing like a honeybee to her heart’s content.

June 6th— An Evening to Celebrate the Chesapeake

MARK YOUR CALENDAR FOR THE EVENING OF WEDNESDAY, JUNE 6, and join us for FONA’s annual Dinner Under the Stars as we celebrate the Chesapeake Bay watershed. Cocktails will be hosted in the National Herb Garden and dinner will be served in the meadow under a festive tent with the magnificent Capitol Columns in the background. This unique event, now in its 24th year, raises important funds to support FONA, the Arboretum, and programs such as: Washington Youth Garden, horticultural and research internships, public outreach and education, visitor services, Springhouse Run restoration, the Capitol Columns, Summer Evening Concerts and much, much more. You won’t want to miss this great event! 🌱

FOR FURTHER INFORMATION and registration materials, please contact Cathy Kerkam at cathy@fona.org or 202.544.8733. Information, including sponsorship materials and ticket prices, is also available online at fona.org/dinner.





Spring Garden Tips

Nancy and Pierre Moitrier

The art of gardening is to know your soil intimately, to treat it well, and to select plants which will make any soil seem like an asset, not a problem. —Beth Chatto

UNDERGROUND

- **Start the gardening season with soil tests** for each distinct garden ecotype (ie, vegetable garden, turf, woodland, dry roadside, or moist swale).
- **Honor thy roots.** Mature trees may appear sufficiently sturdy to withstand root cutting to create a patio or having soil piled on top to alter existing grades, but in reality, root zone alterations will damage roots, reduce a tree's ability to store energy, and will contribute to its decline.

SPRING SHOWERS

- During the spring rainy season, closely **observe stormwater run-off** on your property and surrounding land. Be proactive in addressing excessive runoff caused by your own property. Notice the bioswales at the Arboretum and learn techniques that can be implemented to embrace stormwa-

ter on your site. We all need to work toward reducing the volume of stormwater run-off to preserve our soils, enable recharge of our groundwater, and reduce the amount of sediment and pollutants entering our streams, rivers, and the Chesapeake Bay.

- **Minimize mosquito populations organically!** Minimize areas that collect water such as tarps covering your wood pile, patio furniture, or grill because they will become breeding grounds for mosquitoes. Minimizing breeding grounds early in the season will help reduce the overall mosquito population. Fewer mosquitoes reproducing, equals fewer mosquitoes overall. The Asian tiger mosquito (*Aedes albopictus*; carrier for West Nile virus, chikungunya, and dengue fever) and *Aedes aegypti* mosquito (carrier of the Zika virus) fly only a few hundred feet from their breeding grounds. 🌿



NANCY AND PIERRE MOITRIER operate *Designs for Greener Gardens*, a boutique gardening company that specializes in designing, creating, developing, and maintaining distinctive gardens of all styles. Pierre hails from France and brings the charm of the Old World to their garden creations. Nancy's 40 years of gardening experience combined with her design knowledge and innate artistic eye add a superior dimension to their garden projects. Follow *Designs for Greener Gardens* on Facebook.



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HAPPENINGS *For more information visit usna.usda.gov or fona.org*

FAMILY GARDEN DAYS AT THE WASHINGTON YOUTH GARDEN

April 14, 10:00am–12:00pm,
“Soil and Compost”

May 12, 10:00am–12:00pm,
“Flowers and Pollinators”

June 9, 10:00am–12:00pm, “Fruits”

July 14, 10:00am–12:00pm, “Bugs”

At the Washington Youth Garden

On the second Saturday of each month (Mar.-Oct.), join classes for all members of the community and their families led by Washington Youth Garden staff in our one-acre fruit and vegetable garden. During this guided 2-hour program, families explore garden themes by learning games, nature crafts, and garden work and enjoy fresh garden snacks. Activities and content are designed for children age 5 and older to do together with parents or adult family members. Suggested donation of \$5 per individual. Pre-registration required. www.washingtonyouthgarden.org/fgd/

SPRINGHOUSE RUN VOLUNTEER PLANTING DAYS

(Thu.) April 5, 12, 19, 10:00am-1:00pm

(Sat.) April 7, 14, 21, 9:00am-noon

(Thu.) May 3, 10, 17, 10:00am-1:00pm

(Sat.) April 5, 12, 19, 9:00am-noon

Calling for volunteers to help plant thousands of native plants along the restored stream bed of Springhouse Run at the Arboretum! Planting days are the first three Thursdays and Saturdays of April and May. No experience necessary. See details and sign up at fona.org/planting/

HIKE & YOGA

May 6 and May 20 at 10:00am

Take a hike and inhale the fresh morning air to rejuvenate the body, mind and spirit! Led by Elena Papina of 'NYoga. Register on FONA's website.

YOGA IN THE MEADOW

June 10 and 24 at 10:00am

Practice yoga in the meadow with a view of the Capitol Columns! Led by Kelly Carnes of Carnes & Co. Register on FONA's website.

