

JC Raulston Arboretum

AT NC STATE UNIVERSITY

FALL 2006 – Vol. 10, No. 2

CELEBRATING 30 YEARS OF HORTICULTURAL EXCELLENCE

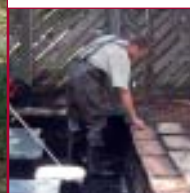
WORDS FROM THE DIRECTOR

Director's Letter

By Denny Werner, Ph.D., Director

Greetings from the JC Raulston Arboretum on this late June afternoon. It has been a challenge to discipline myself to sit down and prepare this update for you. The combination of timely rains and the dedicated care devoted to the plantings by our staff, interns, volunteers, and curators has resulted in an incredible garden display this spring and early summer, and it has been difficult for me to stay out of the garden. My first seven months as director of the JCRA have been very busy, but also extremely satisfying and educational. As I walk the JCRA and study and photograph our collection, I am reminded again of the incredible diversity in the plant kingdom, the joy of working with plants, and how much there is to learn and appreciate by studying the collection. That the JCRA collection is held in high regard is evidenced by the fact that I receive many requests for plant material, not only from members of the nursery industry, but also from arboretum directors and scientists in the United States and abroad. I recently had the pleasure of meeting **John Grimshaw, Ph.D.**, from England, a guest of JCRA member **Bobby Ward, Ph.D.** John has been commissioned by the International Dendrology Society to prepare a book on trees introduced into temperate gardens in the past 30 years. John spent two days at the JCRA studying our tree collection in support of his effort. I look forward to reading his book, and seeing the contribution that our collection has made.

I want to take the opportunity to thank the membership for your support and attendance at our winter and spring 2006 Friends of the Arboretum Lectures and workshops. We had a great lineup of speakers and it was encouraging to see the York Auditorium filled for so many of the presentations. **Chris Glenn** and I have put together the program for fall 2006 and spring 2007 and trust you will be as excited as we are about the



upcoming presentations and workshops. As always, if you have any suggestions for speakers or topics, please share them with Chris or myself.

Some exciting projects and changes have taken place here at the JCRA in the past few months. Please take the opportunity to visit the Swindell Contemplation Garden adjacent to the Visitor Center. This garden is positioned under the three large oaks to the north of the brick circle adjacent to the parking lot, and has been planted with a diversity of shade-loving plants. The physical design for this garden was done by students in the landscape design class taught by **Pat Lindsey, Ph.D.**, in the Department of Horticultural Science at NC State. The Contemplation Garden was made possible through a generous gift provided by **Patricia Swindell**. Closer to the Ruby C. McSwain Education Center, we have redesigned the garden that is positioned to your left as you approach the McSwain Center via the sidewalk.

Planted with tropical plants in past years, it now features a mixture of deciduous trees and shrubs, conifers, and herbaceous perennials that will provide year-round interest. My sincere thanks to **Charlotte Presley** and **Suzanne Edney** for assisting with the design and execution of this border.

We hope you will notice, on your next visit to the Arboretum, that we have made two changes/additions near the Visitor Center. We have opened up the brick circle adjacent to the parking lot to allow people to be dropped off and we have added an outside handicap accessible water fountain.

We called upon the services and expertise of past interim director **Kim Powell** and his talented son **Sam Powell** to install a brick walkway from the McSwain Center's rooftop garden area to the Japanese Garden. With the completion of this walkway, our handicapped visitors can now proceed freely from the brick circle in the parking lot, past the Visitor Center, up the

cascade walkway to the Japanese Garden plaza, and from there proceed to the McSwain Center's rooftop gardens. Only a small step in improving our overall garden accessibility I realize, but a step in the right direction. Thanks to Kim and Sam for a job well done. The new walkway parallels a garden space that has been vacant for too long and that is begging for planting. Long-time member and volunteer **Doug Ruhren** graciously agreed to create a design for this area, and by the time you receive this newsletter, we should be well on our way with installation.

One of the all-time favorite garden areas for children, the Water Garden, is currently being renovated. The renovation will encompass the pond liner, stonework, and installation of new plant material. Look for this to be completed by the time you receive this newsletter. Sincere thanks to Pi Alpha Xi for their generous contribution in making this renovation possible.

Students and faculty at NC State have played such a large role in design projects throughout the history of the JCRA. This semester was no exception, as the creative students in **Anne Spafford's** class developed some interesting designs for a southwest garden, and those in Pat Lindsey's class focused on creative solutions to improving the appearance in areas adjacent to the parking lot. The ideas, suggestions, and designs provided by the students will be integrated into our Grassroots Master Plan effort. The Grassroots Master Plan, which all of you were made aware of earlier this year, is a project aimed at developing a physical master plan for the JCRA. The project is well under way, and currently in the phase where all members can provide suggestions, design plans and ideas, and feedback to our Grassroots Master Plan coordinators Suzanne Edney and **Harriett Bellerjeau**. As ideas and suggestions are received, a sampling of these will be placed in the hallways of the McSwain Center, so please take a look at them and offer your feedback to Suzanne and Harriett.

If you and your children like to fish, please come to the Arboretum and "Go Fish." The creative students in **Will Hooker's** design class channeled their energies into designing and creating a collection of bamboo fish that have been placed throughout the JCRA. Pick up a guide at the Visitor Center, walk the Arboretum, and catch a few fish. The kids have loved it.

We are in the final stages of preparing to demolish the old brick building, and it is my hope that the building is down by the time you read this. I never realized there would be so many hoops to jump through to simply bring down and haul off an old building. Please look for some of the items from the brick building at our next Gala in the Garden silent auction.

Speaking of the Gala, our 2006 Gala in the Garden was a great success in spite of the poor weather we experienced. I sincerely appreciate the efforts of everybody who assisted in any way with the preparation and execution of the Gala, and a huge thanks to all who attended. Your care and support of the JCRA is sincerely appreciated. A heartfelt thank you to the numerous nurseries that provided an exquisite array of plant material for the Gala silent auction. Your generosity is greatly appreciated.

The JCRA, in conjunction with the Wake County Cooperative Extension Service, hosted the first annual JCRA Summerfest. Over 400 people took advantage of the diverse offerings of educational programs from NC State faculty representing various departments and other professionals from the private sector. We were pleased to attract many individuals who had not been to the JCRA in many years, or who had never visited before. I trust they will now visit often and take advantage of all the JCRA has to offer.

Regarding new plant acquisitions, the JCRA has intentionally limited the number of new acquisitions in 2006. At this time, our priority is to assess and care for the current acquisitions in the JCRA nursery and decide which accessions should be added to our permanent plantings. Because of our limited space for new plantings, we are renovating various garden areas and preparing them for new plantings in fall 2006 and winter 2007.

Finally, I would like to thank you again for your support of the JCRA. Please consider a visit soon, and help us spread the word about all of the great things going on here in the garden. 

Werner's Wanderings

By Denny Werner, Ph.D., Director

Weakley's Flora Nears Completion

Alan Weakley, Ph.D., of the University of North Carolina Herbarium, a department of the North Carolina Botanical Garden, has nearly completed the monumental job of writing a new treatment of the flora of North Carolina. Entitled *Flora of the Carolinas, Virginia, Georgia, and Surrounding Areas*, this treatise is the first comprehensive flora of the Carolinas written since the classic *Manual of the Vascular Flora of the Carolinas*, by **Albert E. Radford**, Ph.D.; **Harry E. Ahles**; and **C. Ritchie Bell**, Ph.D., published in 1968. Information on obtaining a copy of the flora, along with a free PDF download link, is available at <www.herbarium.unc.edu>.

Pine Wilt Nematode of Deodar Cedar

Colleen Warfield, Ph.D., and **Charles Hodges**, Ph.D., of the Department of Plant Pathology at NC State shared some information about pine wilt nematode which I thought may be of interest to our membership. Their summary follows: Japanese black pine (*Pinus thunbergii*) is routinely tested for pine wilt nematodes (*Bursaphelenchus xylophilis*) especially those from coastal North Carolina where this pine is commonly infested. A specimen of deodar cedar (*Cedrus deodara*) from the coast tested positive in April. As a result, we have begun testing others for the nematodes and have found two specimens from Durham and Orange counties to be positive. We have also found this nematode on a Japanese black pine in Wake County. These findings suggest that the pine wilt nematode may be common in central North Carolina as well as on the coast. Symptoms include general needle wilt, followed by yellowing and death. Sometimes



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Arboretum Open Daily
 April-October — 8:00 AM-8:00 PM
 November-March — 8:00 AM-5:00 PM

Visitor Center
 Monday-Friday — 8:00 AM to 5:00 PM
 Saturdays* — 10:00 AM to 2:00 PM
 Sundays* — 1:00 AM to 4:00 PM

*Weekend hours are based on volunteer availability

Christopher Todd Glenn, Editor
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Photographs by Tim Alderton, Nancy Doubrava, Frankie Fanelli, Christopher Todd Glenn, Daniel Kim, Bob Lyons, the North Carolina State University Herbarium, and Denny Werner

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"Sea Biscuit" — bamboo seahorse sculpture

only a portion of a tree may show symptoms. Eventually, the entire tree will die. Highly susceptible species, such as Japanese black pine, may die within one to three months after the first appearance of symptoms. The nematode is spread by longhorn beetles (*Monochamus* spp.). Affected trees should be removed and burned, buried, or debarked. Native plant species are not known to be hosts, but several introduced species are known to be susceptible. See Ornamental Diseases Information Note #6 "Pine Wood Nematode" at www.ces.ncsu.edu/depts/pp/notes/Ornamental/ornamental_contents.html for more details.

Wood Anatomy Database

Elisabeth Wheeler, Ph.D., professor emeritus of the Department of Wood and Paper Science at NC State, spent much of her career studying the beauty and complexity of wood anatomy. Elisabeth and a team of collaborators have initiated a project called "InsideWood" that "integrates wood anatomical information from the literature and original observations into an Internet searchable database." The database contains descriptions and images from more than 200 woody dicot families. Go to insidewood.lib.ncsu.edu/search to learn more about the project.

1491

I had the opportunity this summer to read a few recently published books. *1491: New Revelations of the Americas Before Columbus*, written by **Charles C. Mann**, examines the current thinking on the nature of the cultures and peoples who inhabited the Americas prior to the arrival of Columbus. Charles discusses recent evidence suggesting that the "pre-Columbus" population was much higher than previously thought, and he entertains various hypotheses regarding the origins of the first inhabitants of the Americas. This book, along with *Guns, Germs, and Steel: The Fates of Human Societies*, by **Jared Diamond**, finally answered a question that has dogged me for years. Why were native populations decimated by diseases brought by early Europeans, but why did the converse rarely occur? I'm not telling! Charles discusses the role of plants and agriculture in these early American cultures, and the impact these cultures had on plant communities and the environment.

Razzle Dazzle Crepe Myrtles

Mike Dirr, Ph.D., retired University of Georgia horticulture professor, has developed a new series of dwarf crepe myrtles called Razzle Dazzle. The series currently includes five trademarked selections named Cherry Dazzle, Raspberry Dazzle, Snow Dazzle, Ruby Dazzle, and Dazzle Me Pink ('Gamad I', 'Gamad II', 'Gamad III', 'Gamad IV', and 'Gamad V', respectively). Unlike most crepe myrtle cultivars that develop into small trees, cultivars in the Razzle Dazzle series will mature at 2' to 5', making them appropriate for foundation plantings and small landscapes. Razzle Dazzle cultivars are available in limited numbers this year. Look for each of these cultivars at the JCRA.



Plant Vouchering Program at the JCRA

By Paul Fantz, Ph.D., Department of Horticultural Science, NC State

One of the current activities of the JC Raulston Arboretum is the vouchering of the plant collection for deposit in herbaria (plant libraries) by myself, the departmental taxonomist. You typically will see me in action on Friday mornings, depending upon suitable weather and other conditions. Vouchered specimens in herbaria are utilized by researchers and by staff in identification of unknown plants. To further understand the process, we will look at the role of a taxonomist, the vouchering process, and finally, the role of the herbarium and voucher uses.

Role of Taxonomist

Taxonomy generally is considered to be the study of classification, including its rules, theories, principles, and procedures. *Systematics* involves the diversity and relationships between various kinds of organisms, and is considered a broader term. However, others see little differences between them, and thus, will be discussed here as synonymous.

Characterization involves preparation of plant descriptions based upon their characters, typically morphological features. New taxa (wild species, a garden hybrid, or a cultivar) need to be properly documented with a quantitative botanical description. *Nomenclature* involves the naming of the plant in accordance with the international rules on botanic nomenclature that began in 1867. *Identification* or *determination* is the assigning of an existing name to an unknown plant specimen. The recognition is based upon the comparison of morphological features with published plant descriptions, or being matched to vouchered plant specimens. *Classification* is the orderly arrangement of plants in a hierarchical system. In upper elementary school, you learned a simplified seven-tiered hierarchical system in descending order: kingdom, phylum, class, order, family, genus, and species.

There are four main objectives of systematic/taxonomic botany. One is to develop an inventory of the world's plants; these inventories are called floras. The second is to develop a plant classification system that reflects plant evolution. Currently, there are many more ranks in the hierarchical system. The third is to attempt to understand the diversity in the plant world: newer data on plants from scientific research (e.g., anatomy, cytology, chemistry, ecology, genetics, geography, genomics, paleobotany, physiology) will lead to conclusions that reclassify many plants, and may lead to newer names in accordance with the international rules. The last is to assemble plant knowledge for each person to have a greater appreciation of the role of plants in our world environment. The work of the taxonomist lays the foundation upon which all the plant science disciplines can build. Plant inventories are focused on wild plant populations. The

vouchering process at the JCRA is focused on cultivated plant populations.

The Vouchering Process

Historically, many methods to preserve plant specimens have been tried. Botanic gardens and conservatories can preserve living individual plant specimens for a short period, but can easily lose material as a result of natural disasters (e.g., the hurricane that devastated Fairchild Tropical Garden in Miami, Florida) or the death of a plant. One can study these plants only in the field, or when present during a particular growth time.

The easiest and cheapest method has been to press and dry pressed plant material. There are several advantages to pressed specimens: (1) a specimen can be studied at any time, regardless of season or century; (2) a specimen voucher documents the presence of a plant at a particular location and time; (3) voucher specimens can document the appearance at various stages of growth (vegetative or reproductive, juvenile or adult); (4) vouchers from different locations can be compared at the same time to better understand the biology of the taxa; (5) the label with the specimen can provide a wide range of additional data.

The objectives of the JCRA plant vouchering process are (1) to voucher a representative of each genus, species, or named hybrid species; (2) to voucher the specimen in the reproductive state, with flowers and fruits for angiosperms (flowering plants), with cones for gymnosperms (conifer relatives), and with sori and indusia for fern allies; (3) to check the names for each voucher for the most updated correct scientific name; and (4) to collect two vouchered samples of each taxon. One vouchered sample will be deposited in the North Carolina State University Herbarium (identification acronym NCSC) located in the Department of Botany in Gardner Hall. A duplicate voucher specimen is sent for deposit (600 vouchers in March 2006) to the U.S. National Arboretum Herbarium (acronym NA) in Washington, D.C. In exchange, NA sends duplicates of their specimens to NCSC. In some cases where limited material is available, only one specimen is collected for NCSC. Cultivars are vouchered, but vouchering of numerous cultivars in a species rates as a lower priority currently.

On Friday mornings, you will observe me in the garden with a cart and my materials. I will select areas in the garden on a rotating basis. I will have plant record books, with maps. For each specimen, I will check my master list to check its vouchered status. Has it been vouchered previously? Was it vouchered in flowering or a fruiting stage? When a specimen has been chosen to be vouchered, I will take a sample of the plant that reflects the necessary traits needed for identification. In a research book, I will record an accession number and data needed for the label: location, date, JCRA accession number, plant size, odors, colors of leaves, flowers, fruit, and any additional noteworthy data.

The newly vouchered specimen is placed inside a packet consisting of a newspaper placed between a pair of blotters. The newspaper and blotters

absorb water from the plant as it is pressed and dried. The packet is then inserted in a plant press between cardboard corrugates. Packets are built up until the press is full. Straps tighten the press and it is placed in a dryer on campus. The holes in the corrugates allow hot air to carry off water vapor and dry out the plant sample.

On campus, I prepare labels on bond paper for each accession vouchered, checking each name for current accuracy. If names have changed, I will note the correct name with the older name, a synonym, in parentheses. I add the names to my master list of vouchered specimens. A subset of the list is given to **Val Tyson**, plant recorder, periodically in order for her to update names in the computer database and to add voucher data. Occasionally, I encounter a misidentified plant, and this data is passed on to Val. In addition, I check modern references for current distribution of each taxon and add this to the label.

Role of the Herbarium and Voucher Uses

The herbarium is a library of plant specimens. Herbaria are associated with museums (e.g., Smithsonian, Field Museum of Natural History), larger botanic gardens (e.g., Missouri Botanic Garden, New York Botanic Garden), and universities. Collections are built up by staff or through exchange with other herbaria, such as we have with the National Arboretum Herbarium.

All vouchered specimens entering the herbarium are frozen for several days to eliminate any insects or fungal growth that can damage a herbarium collection. Each voucher is mounted on 11" × 17" sheets, placed in named taxa file folders, and filed in cabinets by classification. Vouchered specimens can be studied by researchers at any time, or sent on loan to researchers at distant herbaria.

County Extension agents, nurserymen, landscapers, and citizens of North Carolina frequently send in plant specimens to the university for identification. **Alexander Krings** is the curator of the North Carolina State University Herbarium, and has an Extension appointment with responsibilities in plant determination. The ornamental vouchers have been invaluable to him, providing specimens for comparison with the unknown material, and assisting him in making determinations. Without the vouchers, many plants sent in would remain unidentified.

I have been vouchering JCRA plants since 2002, adding them to the herbarium collection. *Vulpia* is an online peer-refereed journal available at <www.cals.ncsu.edu/botany/ncsc/vulpia>. If desired, you can read two articles (Fantz et. al. 2004, #15 – monocots, #16 – gymnosperms and lower vascular plants) providing information on the number of new families, genera, and lower taxa that have been added to the herbarium. A third article (#5, Krings 2002) published earlier documents on cultivated dicots. At the *Vulpia* site, click on "Archives," then "Find" (leave the search field blank), then scroll down to the article you choose. These newer

representatives of families, genera, and species are useful to students and faculty wanting to compare their plant groups under study with representatives of other related taxa on a worldwide basis.

The vouchering process at the JCRA has been utilized also for students' education. Three students have received course credit for independent study by working with me at the JCRA vouchering plants, then working with Alexander in the herbarium to incorporate the vouchers into the herbarium collection.

Our herbarium has provided international assistance already. In Cuba, women were giving plant concoctions in milk to their babies as a recommended natural holistic remedy for colic. Many babies were going into comas, or dying. Botanical researchers in Miami were attempting to determine the identity of the species, believed to be a possible species of anise (*Illicium*). **Donna Wright**, a technician in Botany, and I vouchered all of the JCRA specimens of the genus in July 2003. These vouchers were sent to the researchers in Miami for them to have material for comparison with plant samples obtained from holistic sources in Cuba. Duplicates were deposited at NCSC.

I have explained and demonstrated the process to several visitors who have stopped by the cart. When you visit the Arboretum, feel free to ask questions or watch as I voucher plants.



Above: One of over 125,000 herbarium vouchers at NCSC.

See the Bog, Be the Bog

By Bob Davis, Aquatic Gardens Curator

Did you know that the JC Raulston Arboretum has several bog gardens? In the area behind the Winter Garden, near the Conifer Collection, you will find a bog garden enclosed by rock edging. This garden contains a variety of bog plants, including cardinal flower (*Lobelia cardinalis*), one of my favorite natives; arrow arum (*Peltandra virginica*); and the lovely variegated Japanese iris (*Iris ensata* 'Variegata'), just to name a few. There is also a small bog area filled with lizard's tail (*Saururus cernuus*) in the Reading Garden. The newest bog garden at the JCRA is in the Butterfly Garden, under the arbor. Among its plant collection, you will find several pitcher plants (*Sarracenia* sp.), and the native pickerelweed (*Pontederia cordata*).

If you have a low spot in your garden which tends to stay wet, why not work with it instead of against it, and turn it into a bog garden? Even lacking a low, wet area, many people have created a bog garden in their yard by using a liner. In this case, the liner does not have to be water tight as is the case for a water garden. It merely needs to slow the progression of moisture through the soil. An old pond liner, tarp, shower curtain, or heavy plastic serves the purpose. Dig a shallow depression, place the liner in it, and refill with a mixture of half sand and half peat; compost; or rich, black soil. Water it thoroughly and add moisture-loving plants. Although far from all-inclusive, the list below suggests plants to try in your new bog garden.

Acorus gramineus 'Ogon' (golden sweet flag)
Acorus gramineus 'Variegatus' (variegated sweet flag)
Asclepias incarnata (swamp milkweed)
Canna flaccida (golden canna)
Carex vulpinoidea (fox sedge)
Cephalanthus occidentalis (common buttonbush)
Echinodorus cordifolius 'Marble Queen' (variegated creeping burrhead)
Equisetum hyemale (scouring rush)
Iris pseudacorus (yellow flag)
Iris virginica (southern blue flag)
Juncus effusus (soft rush)
Lobelia cardinalis (cardinal flower)
Orontium aquaticum (golden club)
Panicum virgatum (common switch grass)
Peltandra virginica (arrow arum)
Pontederia cordata (pickerelweed)
Sagittaria latifolia (arrowhead)
Saururus cernuus (lizard's tail)
Scirpus pungens (three-square bulrush)
Thalia dealbata (powdery thalia)
Zephyranthes candida (white rain-lily)



Houseplant? Who Says?

By Tim Alderton, Research Technician

For those of you who have relocated to Raleigh from points to the north, you have something in common with me. I am sure that it must have been as strange for you as it was for me to move "down" here and realize that the plant palette was quite different. What I found most remarkable was that houseplants grew outside here. Despite knowing that they could take at least a little cold, I would never have thought about planting out such plants as the *Aspidistra*, *Fatsia*, and *Fatsyhedra*, let alone the truly tropical houseplants. It just seems quite strange. While working at Plant Delights Nursery last year, I began to realize that there was so much that could be grown outdoors even if I had been growing them on my windowsill back home in cold Zone 5 western Pennsylvania.

One group of plants that I had enjoyed growing inside were African violets (*Saintpaulia* species and hybrids). Although African violets cannot be grown outdoors even here, there are several other relatives in the Gesneriaceae (African violet family) that will thrive in the garden if given the right spot. One of the first that I learned about was *Seemannia nematanthodes* 'Evita' (syn. *Gloxinia nematanthodes*). I admired this plant at Tony Avent's Juniper Level Botanical Gardens, and I was very happy to find it pushing itself up through the mulch in one of the garden beds in the Arboretum this past May. This stoloniferous, slowly spreading, rhizomenous perennial is late to show itself in the spring, but quickly makes up for lost time by putting up its compact stems of succulent, felty, quilted-ridged leaves. This does not seem that spectacular at first glance, but if you take the time to feel the foliage, you will find that the leaves are very tactile, as if they want to be touched. If the unique foliage were not enough, late summer to frost, *Seemannia nematanthodes* 'Evita' sports fleshy, deep red-orange blossoms that hang from each leaf axis. The inside of the blossom is speckled yellow and orange. A native of Bolivia and northern Argentina, *Seemannia* does well in an evenly moist, partially shaded spot in rich soil.



There are others in the Gesneriaceae that have also proven hardy. Some species and cultivars of *Achimene*, *Achimeneantha*, *Eucodonia*, *Hemiboea*, and *Titanotrichum* are worth hunting down and growing in partial sun to partial shade and some *Sinningia* will thrive in well-drained soil in sun to partial shade. Look for *Sinningias* in the new geophyte border being developed at the JCRA.

Another hardy "houseplant" is *Philodendron selloum* (syn. *P. bipinnatifidum*). We have one of these planted in the corner beside the Visitor Center. This is the large tree philodendron that can fill a room given

time and good care when grown inside. In the garden, it acts as an herbaceous perennial dying to the ground each fall and sprouting from the base in the spring. It does not get quite as large as it might in a frost-free spot inside or in Florida, but an established plant can be rather spectacular as it often grows to 4' tall and 6' feet wide in a summer. *Philodendron selloum's* large, glossy, bipinnatifid, deeply lobed leaves can really help to break up a boring planting and can be used like its cousins, the elephant ears (*Xanthosoma*, *Colocasia*, and *Alocasia*), in evenly moist, well-drained soils in full sun to partial shade.



When you are walking along the Perennial Border throughout the summer and fall, you might recognize several plants there as having windowsill counterparts, too. If you look closely behind a quince in the middle of the border, you may see *Abutilon*



megapotamicum 'Little Imp' stems from which hang yellow bells encased in a red calyx. You may know such plants as "parlor maple" or "flowering maple." They received the first name during the Victorian era when they were grown as houseplants in the parlor, of all places. They were tolerant of the less than ideal conditions and would still flower on occasion, had decent looking maple-like foliage most of the time, and could be set out for the summer to recuperate before returning inside for the cool months. Who would have thought that this shrub would grow in the garden here in North Carolina? Most years, *Abutilon* act as herbaceous perennials, but some winters, like the winter of 2005-2006, the woody stems are maintained with just tip damage and loss of leaves. *Abutilon* may be grown for both their blossoms (in colors of white, pink, red, and orange) and their leaves. Most cultivars have maple-like green leaves, but *A. 'Souvenir de Bonn'* has large maple-like leaves that are green edged in white; while both *Abutilon pictum 'Thompsonii'* and *Abutilon megapotamicum 'Variegata'* have small maple leaves splashed with yellow dots. Not all of them will overwinter, but they grow quickly and it can be worth experimenting with to see which will be hardy.

The chenille plant (*Acalypha repens*) is also creeping around in the border. This low grower is one that I first grew as a hanging basket plant. The fuzzy, tail-like, maraschino cherry-red inflorescence is so unusual. It looks like something from a Dr. Seuss book



and you'd think could not possibly be hardy, but, strangely, it is. This little plant in the Euphorbiaceae (poinsettia family) can be used as a small summer ground cover or just a filler to weave in among other larger plants that may have less than attractive legs. It roots as it goes making an excellent plant for sharing, yet never becomes a weed. *Acalypha repens* does well when grown in evenly moist, well-drained soil.

A little further down the Perennial Border from the *Abutilon* and the *Acalypha*, you may notice a plant covering itself in candy-corn-like yellow and orange blossoms. This one may be a little less familiar. Its indoor relative, *Cuphea*



hyssopifolia, which is sometimes called Mexican or Hawaiian heather, is less than a foot tall and wide and has tiny white, pink, or purple blossoms scattered over equally small leaves. The hardy species that you will find in the border is *Cuphea micropetala*. It can grow to 3.5' to 4.5' in a single season and cover the top half in its 1" long candy-corns. This is not the only *Cuphea* that will perennialize here. *Cuphea glutinosa*, a small lavender pink flowered, 6" to 10", slowly spreading plant, will flower much of the summer and into the fall and can take rather droughty conditions. Pam Bagget used *C. glutinosa* in the Entry Garden this year along with several other cultivars that may have some longevity to them, depending on the severity of the winter. Both *Cuphea micropetala* and *Cuphea glutinosa* are hardy to at least Zone 7, but there are many more that are hardy in Zones 8 and 9.

These are just a few of the many houseplants, or their hardy kin, to find their way into our gardens. There are many more out there, among them *Heliotropium*, *Manettia*, and *Pyrrosia*. The one that I find most fascinating, though, is *Passiflora*. (If you read my article in the spring newsletter, you will remember that is one group of plants that I have a passion for, and you can refer back to that article to learn more.) *Passiflora caerulea* is another of those houseplants that has made its way into our gardens and has proven hardy. This vine's intricate blossoms are spectacular in my eyes. There are many hybrids that have not been tried in the garden so I am trialing four cultivars (*P. 'Blue Eyed Susan'*, *P. 'Inspiration'*, *P. 'Lady Margaret'*, and *P. 'Pura Vida'*) on the Visitor Center's trellis to see if they might be hardy here in Raleigh. We won't know which, if any of these will prove worthy for a few years; in the meantime, take this opportunity to observe the show of blossoms this fall and let's hope the vines remain there for years to come.

Maybe you will now want to try to test the limits of your favorite houseplants. If you are leery about their outside survival, bring divisions in for the winter and have plants to appreciate both inside and outdoors. Who knows? They might just be hardy!



Reflections on Some Plants of Merit at the JCRA

By Denny Werner, Ph.D., Director

In my first months as director of the JCRA, the opportunity to study and photograph the collections at the JCRA has been very rewarding. It has been an opportunity to learn a number of plants of which I had no prior knowledge, and to reacquaint myself with some that have been long-time personal favorites. Following are descriptions and observations of some plants that I thought were particularly noteworthy this past winter and spring. Perhaps some of these will find a way into your garden.



Cercis canadensis 'Floating Clouds' – Fabaceae

This new variegated selection of the eastern redbud is distinctly different in character than the standard variegated cultivar 'Silver Cloud'. 'Floating Clouds' was discovered in a block of redbud seedlings by **Don Black**, owner of Charlie's Creek

Nursery, in Iva, South Carolina. Our tree was obtained from **Don Shadow** of Shadow Nursery in Winchester, Tennessee, who propagated some of the first trees on behalf of its discoverer. Don actually coined the name 'Floating Clouds' for this clone. Don said that he named it 'Floating Clouds' because the variegation pattern is very similar to that of *Acer palmatum* 'Ukigumo'. *Ukigumo* being Japanese for "floating clouds." 'Floating Clouds' shows more pronounced variegation than 'Silver Cloud', with a more distinct delineation between the white and green sectors. On adjacent trees of the two cultivars at the JCRA, situated in full sun, the variegation on 'Floating Clouds' persists for a longer time than on 'Silver Cloud'. Both cultivars exhibit some leaf burn in this full sun location, but the extent of injury is considerably less on 'Floating Clouds'. Although our observations have been limited to one season, 'Floating Clouds' appears to be an improvement over 'Silver Cloud'. We have not conducted any propagation trials with 'Floating Clouds', but it likely can only be successfully propagated by chip budding or tissue culture, similar to other cultivars of *Cercis canadensis*. 'Floating Clouds' is located to your right as you walk from the Ruby C. McSwain Education Center and proceed up the rear steps to the rooftop gardens.

Magnolia dianica 'Michelle' – Magnoliaceae

This plant was previously known as *Michelia yunnanensis*. What an incredible plant! As **Tony Avent** would say, "Oh my goodness!" and that's probably what he said the first time he saw this plant in flower. 'Michelle' originated from a small seed lot that Tony collected on his 1996 collection trip to Yunnan, China. This seedling selection, named in honor of



his wife **Michelle Avent**, is an incredible improvement on the species. The JCRA has a small three-year-old specimen in the collection, and I have observed the original seedling, now almost 10 years old, at Juniper Level Botanic Gardens. The latter tree has attained a height of about 15', with a spread of about 10'. 'Michelle' demon-

strates a much denser and attractive growth habit as compared to the species, but what really sets this selection apart is its precocious flower production, and the incredible number of flowers produced. In bloom, it is a stunning sight, literally covered with 2.5"-3" wide fragrant flowers in early to mid-April. The glossy, evergreen foliage is very attractive, and serves as a great background for the incredible floral display. The JCRA has had limited propagation success with hardwood cuttings taken in winter.



Platycrater arguta – Hydrangeaceae

Walking throughout the JCRA collection can certainly be a humbling experience. I had never seen nor heard of this charming little hydrangea relative that is native to China and Japan. Our plant, originally received from Heronswood Nursery, is situated

near the main entrance to the McSwain Center in a moist setting where it receives some protection from the hot afternoon sun. Now two years old, it is about 2' in height, has been in flower for about six weeks, and is still going strong. The small, white, nodding inflorescences are about 1" in diameter, and contain both fertile and sterile flowers. They are very attractive on the background of the slender, bright green leaves. Various references state that it is hardy to Zone 8. We have recently taken cuttings, which appear to be easily rooted from late softwood cuttings.



Dichroa febrifuga – Hydrangeaceae

Visitors walking through the Lath House in the spring and early summer never fail to comment on this beautiful member of the hydrangea family, commonly called the evergreen false-hydrangea. This small, evergreen shrub produces beautiful clusters of star shaped

blue flowers in late spring through early summer. The flowers emerge quite slowly from very attractive round buds of pale blue. The leaves are very similar to those of hydrangea. Our seven-year-old plant has performed well

in the shade of the Lath House. Although I have yet to personally see the display, *D. febrifuga* produces bright indigo-blue berries in the autumn that can persist on the shrub for many months. Many references list *D. febrifuga* as hardy to only Zone 8, but our friends at Forestfarm say that it is hardy to 10°F. The University of British Columbia Botanical Garden and Centre for Plant Research states that most plants of *D. febrifuga* in cultivation are “derived from a single, hardy clone collected in the mountains of Guizhou, China.” Various groups have reported that *D. febrifuga* can be hybridized with some species of true *Hydrangea*. Imagine a hydrangea with attractive blue fruit! One can only dream. This plant is easily propagated by stem cuttings.



Sinojackia xylocarpa
'La Grima' –
Styracaceae

Strategically situated next to the Visitor Center, this striking selection of Chinese jactree attracted the attention of many visitors while in flower this spring. *Lagrima*, which means “tear” (as in to cry) in Spanish, was selected from a

seedling population by **Brian Upchurch** of Highland Creek Nursery in Fletcher, North Carolina. ‘La Grima’ was selected because of its distinct, upright growth habit, and produces an abundance of bell-shaped white flowers typical of members of the Styracaceae. Prior JCRA employees **Todd Lasseigne**, Ph.D., and **Jon Roethling** thought highly of Brian’s selection, and moved the tree to the JCRA collection. Our tree has produced a high number of fruit this year, and we’ll be collecting these in hopes of providing some seedlings at future plant giveaways. Brian states that this selection can be propagated by semi-hardwood cuttings taken in late May and June, but further adds that it is important to keep rooted plants above 25°F during the first dormant season to ensure survival. We have taken cuttings this year, and if successful, we’ll include this great plant as a Connoisseur Plants selection for 2006-2007.



Buddleja marrubiifolia
– Buddlejaceae

Yes, a native species of *Buddleja*. Now you can grow a *Buddleja* in your garden, and in good conscience still attend native plant society meetings. Unlike most species of *Buddleja*, which are native to Asia and South Africa, *B. marrubiifolia* is native to Texas and

northern Mexico. This species is quite distinct from *B. davidii*, the butterfly-bush most commonly seen in commerce. Known as the woolly butterfly-bush, it is adapted to the hot, dry climates of its native habitat. Woolly butterfly-bush is a small, multi-branched shrub, typically about 3’ to 5’ tall

with equal spread. The ovate leaves are small, about dime sized, and are an attractive silver-gray color. The fragrant flowers are very attractive, small and round, and about 1” in diameter. Newly emerged flowers are golden yellow, which change to a beautiful orange color as they age, and are effective in attracting hummingbirds. *B. marrubiifolia* is easily grown in well-drained soil, and is very tolerant of drought and heat. Good drainage is critical for winter survival. Easily propagated from softwood cuttings and from seed. Look for the JCRA specimen to your left as you walk past the Visitor Center, in front of the large Japanese crepe myrtles.



Cercis glabra –
Fabaceae

The JCRA has a wonderful and diverse collection of redbuds. *C. glabra* was a star performer this spring, and was the object of many a photographer that visited the JCRA during March and April. Our specimen of *C. glabra* resides west of the McSwain Center. *C. glabra* is

distinguished by its multi-stemmed growth habit, similar to *C. chinensis*. Our specimen of *Cercis glabra* is one of the earliest flowering redbuds in the JCRA, slightly ahead of *C. chinensis*, and is remarkably floriferous. Flowers virtually covered the tree from top to bottom beginning in late February. One of the most noteworthy attributes of this species is the duration of flowering, extending a full four weeks, beginning prior to and persisting well after the time of leaf emergence. Based on the prior studies of **Margaret Pooler** at the U.S. National Arboretum, who demonstrated that many of the Chinese species of redbud can be rooted by semi-hardwood cuttings, we expect *C. glabra* to behave similarly.



Deutzia setchuenensis
var. *corymbiflora* –
Hydrangeaceae

You can find this attractive shrub on your right as you proceed along the cascade walkway. Obtained from **Dan Hinkley** at Heronswood Nursery, this Chinese native produced an abundance of small white flowers beginning in early

May, and continued for about six weeks. Even as I write this article in early July, some scattered flowers still exist on our specimen. The foliage is an attractive silver-gray. Our specimen is three years old, and about 4’ tall, with equal spread. It appears to be well adapted to our Zone 7 conditions. This plant would be a great addition to a mixed herbaceous perennial border, and its compact habit, lovely foliage, and heavy flower production would be a great choice to liven up a foundation planting. Easily propagated by semi-hardwood cuttings.

Sassafras tzumu – Lauraceae

The Chinese counterpart to our beautiful native *Sassafras albidum*, this stunning tree resides in the planting immediately adjacent to the McSwain Center. Our specimen was planted in summer of 2003. *S. tzumu* possesses considerably larger leaves than those of our native species, but still demonstrates the three distinct leaf forms. The tree shows the beautiful branching and classic architecture typical of *S. albidum*. Flowers of *S. tzumu*, though relatively small, are more distinct than those of *S. albidum*, and contribute to the ornamental display in the spring. *S. tzumu* has grown very rapidly, showing about 3'-4' of growth in 2005. *S. tzumu* ceases growth very late in the fall, and would likely suffer injury in the event of a severe early freeze. Zone 7 is probably the northern limit for this species. Fall leaf color of *S. tzumu* is inferior to that of *S. albidum*.



Viburnum 'Conoy' – Caprifoliaceae

This beautiful viburnum has always been one of my favorite cultivars. Definitely not new to horticulture or the JCRA, this cultivar was released in 1988 by **Don Egolf** at the U.S. National Arboretum. I have always appreciated its dense, compact growth form; its beautiful lustrous

green, evergreen foliage; and the multitude of white flowers produced in April and May. Adapted to full sun and moderate shade, this easily grown cultivar should be a staple in any garden. 'Conoy' would be a great choice as a component of a more creative foundation planting scheme. 'Conoy' produces beautiful, bright red fruit, but my observations suggest that fruit set is often limited. I have had success propagating 'Conoy' from semi-hardwood or hardwood cuttings taken from May through September. 'Conoy' would be an excellent parent in any *Viburnum* breeding program.



Cornus mas 'Spring Glow' – Cornaceae

J. C. Raulston introduced some great plants during his lifetime. I have always thought that *C. mas* 'Spring Glow' is one of the most overlooked and underutilized releases. In contrast to most Cornelian cherry cultivars that languish in our heat and humidity,

'Spring Glow' seems to take it all in stride, and always produces a profusion of flowers every year. Its beautiful yellow flowers typically open in mid-February and persist well into March. Unfortunately, 'Spring Glow' does not produce the attractive red fruit typical of the species, even in the presence of appropriate pollinizers. The basis for this inability to produce fruit has not been determined. 'Spring Glow' can be propagated by grafting onto *C. mas* seedling rootstocks, or by semi-hardwood cuttings in

late May to early June. Like other *Cornus*, it is important to promote a flush of growth on the propagule after rooting to ensure survival during the first dormant period. The original 'Spring Glow' seedling that J. C. selected showed a distinct, narrowly upright growth habit. Some cutting-derived plants often demonstrate a broader spreading growth habit, distinctly different than the original seedling tree. This suggests that *C. mas* demonstrates a phenomenon called topophysis, meaning that the position of the cutting on the mother plant influences the subsequent growth habit of the plant that develops from that cutting. A cutting oriented in a prone or horizontal position (typical of many lateral shoots) on the mother plant would develop into a tree showing a more spreading growth habit, while shoots oriented in an upright orientation (typical of many terminal shoots) would develop into a tree showing upright growth. Many species of *Abies* and *Picea* demonstrate this phenomenon, as well as *Ginkgo*. 'Spring Glow' is easy to grow and a great choice to brighten up the winter garden.



Hemerocallis 'Buttered Popcorn' – Hemerocallidaceae

This daylily cultivar, a 1971 Benzinger hybrid, is currently not included in the existing collections at the JCRA, but I have this beauty widely planted in my home landscape. Some of you have enjoyed this cultivar if you regularly

travel I-40, particularly east of Raleigh, as it is widely used by the North Carolina Department of Transportation for their roadside plantings. 'Buttered Popcorn' has a vivid golden yellow flower color. It is a vigorous, tetraploid cultivar and flowers profusely in June to early July. Individual flowers open in early morning and persist throughout the entire day until early evening. The show is not over after mid-summer, however, as 'Buttered Popcorn' will again flower beginning in late August to early September; often persisting until November. I have had flowers on 'Buttered Popcorn' on Thanksgiving Day. 'Buttered Popcorn' only now seems to be getting the widespread recognition it deserves.

Styphnolobium affine – Fabaceae

Formerly classified as *Sophora affinis*, I first saw this lovely small tree at Tony Avent's Juniper Level Botanic Gardens. It was only recently that I discovered a specimen in the west section of the JCRA, adjacent to the Southwestern Garden. This native species, commonly called Eve's necklapepod, is indigenous to Texas, Louisiana, Oklahoma, and Arkansas. It develops into an attractive, small tree with delicate foliage, and it produces an abundance of beautiful, light-pink flowers in long pendulous racemes in mid-spring. Our tree at the JCRA is 12 years old, and in spite of considerable competition and shading, is performing well. Lack of cold hardiness may limit this species to Zone 7 and warmer areas. I am not aware of any named cultivars. Propagation by seed is straightforward, the only requirement being the need to scarify the hard seed coat.



Student Interns – Working and Learning

By Nancy Doubrava, Interpretive Specialist

Summertime was hot and busy for the student interns at the JC Raulston Arboretum this year. In June, we welcomed four student interns, each full of energy, enthusiasm, and smiles. The Arboretum had no shortage of new learning experiences and projects waiting to be done over the summer. Rotating through different projects over 12 weeks, the interns worked and learned side-by-side with the permanent horticultural staff, supervised by **Tim Alderton**, research technician. As Tim commented, "We have been able to accomplish so much that we could not do without the help of the interns. They have all been eager to learn about the plants, the equipment, and the general running of the Arboretum. They have all been so great to work with!"

Each summer for the past four years, the Student Internship Program has helped to support the educational mission of the Arboretum. We thank them for the many improvements and maintenance tasks they completed this summer. A few of these include:

- Prepare planting bed for the new geophyte collection located at the east end the rooftop area
- Tree and shrub removal in preparation of the Southwestern Garden renovation
- General garden maintenance of mulching, weeding, mowing, and watering
- Plant propagation and production for FOA Annual Plant Distribution and Connoisseur Plants programs
- Sod installation

Anthony Beck, North Carolina Commercial Flower Growers' Association intern, is a senior majoring in agricultural business management and minoring in horticultural science at NC State. Anthony will be graduating in fall 2006. He has served as a teaching assistant in a business law class at NC State.



James Garzoni was the Arboretum's Raleigh Garden Club intern and is a senior in the Department of Horticultural Science at NC State. He has lived in the student apartment at the campus greenhouse and assists with



greenhouse duties for the department. James was a member of the NC State track team, and his home town is Indian Trail, North Carolina. His long-term goal is to own his own greenhouse business.

Corley Hughes, North Carolina Association of Nurserymen intern, is a senior in horticultural science at NC State, with an emphasis in landscape design. She has balanced her educational pursuits with marriage and raising her young son. Corley will be graduating this fall semester and has a particular interest in horticulture therapy and working with special needs children.



Ben Pick was awarded the Bobby Wilder and Alan MacIntyre Internship. He is a senior in horticultural science at NC State, with an emphasis in landscape design. Raised in Asheville, he attended Asheville-Buncombe Technical Community College before coming to NC State. Ben has worked in various landscaping and nursery jobs throughout high school and college.



Thank You

A very special thank you to the 2006 student intern sponsors whose generosity made many new learning experiences possible:

Alan MacIntyre
North Carolina Association of Nurserymen
North Carolina Commercial Flower Growers' Association
Raleigh Garden Club
Bobby Wilder

Interested in sponsoring a 2007 student intern? Contact Denny Werner at (919) 513-7006 or Autumn Keck at (919) 513-3826.

Annual Internship

Minimum sponsorship donation: \$2,000.00 for a three month, 20-hour-per-week internship.

Endowed Internship

\$50,000.00 to fully endow an annual named internship in perpetuity. A will bequest or planned gift is a perfect way to create an endowment!

Joslin Garden Update

By Judy Morgan-Davis, Interpretive Assistant

Early this year, Denny asked me if I would be interested in taking on a new project on behalf of the Arboretum. He hoped that I would help with gathering information about **Bill and Mary Coker Joslin** and the wonderful garden that they have given to NC State. I happily agreed to work with this couple and to begin cataloging the horticultural riches of their garden.

My first action was to conduct a series of informal interviews with Bill and Mary. They shared many stories and anecdotes of their lives and times in this special garden. A few interesting tidbits from our conversations follow:

- The Joslins purchased their property in 1950 from **Claudia Jones Hurt**. Daffodils planted by Claudia bloom in the garden still.
- The property has changed size and shape over the years as the Joslins purchased additional land to impede development in their neighborhood.
- Bill earned his law degree at Columbia University and was a clerk for the Supreme Court.
- Mary has a doctorate in French and published two books on medieval French manuscripts, as well as a biography of her uncle, the botanist **William Chambers Coker**.
- The Joslins envision that their garden will be a horticultural resource for NC State and the community for years to come.

For more information about the Joslins and their garden, ask for a brochure when you visit the Arboretum or view it on the Arboretum's Web site at <www.ncsu.edu/jcraulstonarboretum/publications/brochures/brochures.html>.

In addition to talking with the Joslins, I have had the pleasure of spending each Tuesday morning exploring their garden. I walk the paths, identifying and recording each plant that is blooming (or performing in some other way) that week. During these rambles, I have compiled over one thousand photographs of plants and spaces in the garden. By the end of this year, we expect these images to be available for viewing on the Arboretum's Web site. I am grateful to **Richard Olsen**, Ph.D., who visited the garden in May and confirmed the identification of many woody plants. Engraved labels will mark these plants in the near future.

Special thanks, too, to **Lou Bryant**, **Anne Clapp**, and **Tom Bumgarner**, members of the Triangle Camellia Society, who helped with identifying camellias in the garden. Some of these specimens are over 50 years old, planted by Mary's mother, **May Roper Coker**. May was an avid gardener and the co-founder with her husband, **David R. Coker**, of Kalmia Gardens in Hartsville, South Carolina.

Finally, we thank the volunteers and JCRA staff who helped with the Open Day in April. Despite the dramatic thunderstorm, Mary estimates that over 100 people visited the garden that day. Brave visitors were treated to the fleeting beauty of deciduous azaleas (*Rhododendron* species), as well as the playful surprise of native trilliums (*Trillium cuneatum*) in the woodland gardens.

I am looking forward to observing this garden across the next six months of the year, watching its seasonal changes, and learning more of its secrets. What a treasure we have been given!

Please be sure to visit this fall when the Joslin Garden is open to the public through the Garden Conservancy's Open Days on September 23 and 24, 2006.



Project SEE – Supported Employment Experience

By Nancy Doubrava, Interpretive Specialist

We were pleased to have our horticultural staff grow by three this summer with the addition of two new students, **Cassie Cunningham** and **Robbie Colondres**, and their job coach, **Doug Morris**, thanks to Project SEE (Supported Employment Experience). This five-week summer employment program is sponsored by the Arc of Wake County and is designed for 16- to 21-year-olds with moderate to profound disabilities. Project SEE students work at community businesses and agencies learning new work skills and identifying their vocational interests. Beginning in late June, every day you could find Cassie, Robbie, and Doug hard at work throughout the Arboretum, keeping walkways clean, potting plants, weeding, or watering. A special thank you to **Rich Martins**, associate director of Project SEE, for working together with **Denny Werner**, JCRA director, to implement this program at the Arboretum.



Above: Cassie Cunningham, Doug Morris, and Robbie Colondres (left to right).

Developing News

By Autumn Keck, Associate Director of Membership and Fund-raising Events

Join or Renew Your Membership Online

Staying connected to the JC Raulston Arboretum has just become a lot easier. Starting in July, you can join and renew your membership online on our Web site at <www.ncsu.edu/jcraulstonarboretum>. Click on "Join and Support Us" and then "Membership" and you will be directed to a secure Web site hosted by the College of Agriculture and Life Sciences' College Advancement site. You can even make a donation, an in honor of gift, or a memorial gift on our site as well.

The Real Cost of Membership

For just \$30.00, individuals can become a member of the JC Raulston Arboretum. Becoming a member essentially means that you are invested in the mission of the Arboretum and are currently an active supporter. For your support, we like to say thank you by offering benefits that more than make up for your cost of membership. By examining the benefits a little more closely, you will see that the benefits are as important to you as your membership is to us...priceless.

Free admission to the Friends of the Arboretum Lectures...	\$65.00
Annual Plant Distribution...	\$75.00*
Discounts from local nurseries and businesses...	priceless
Biannual newsletter and monthly JCRA e-Update...	priceless

*Value based upon past averages.

2006-2007 Benefit Providers

The following is a list of this year's benefit partners:

F. A. Bartlett Tree Expert Company	Neomonde Deli
Better Tree Care Associates	Norwood Road Garden, Inc.
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Nature's Select Premium Turf Services	Willow Tree Landscaping, Inc.
	www.wsiselectwebsolutions.com

Please refer to our Web site at <www.ncsu.edu/jcraulstonarboretum> for a list of their discounts and contact information. Discounts are valid through May 2007, when another list will be issued.

Keep Your Eyes Open...Connoisseur Plants Time is Quickly Approaching

Connoisseur Plants are classified as rare, new plants, or hard to find old favorites. Each year, as a part of our membership benefits, we offer this great incentive to you. Last year, we featured gardening enthusiast gems like the hardy wax begonia, bamboo fern, and the sawtooth tea-olive.

This program is another great way for you to support the Arboretum and strengthen our teaching, research, and outreach programs. Please look for more information in the mail in the beginning of October. To make things even easier this year, go to our Web site at <www.ncsu.edu/jcraulstonarboretum> to upgrade your membership to the Sponsor, Patron, Philanthropist, or Benefactor levels. Remember, the higher level membership, the more Connoisseur Plants you will receive.

Sponsor Level \$250.00	— two Connoisseur Plants
Patron Level \$500.00	— five Connoisseur Plants
Benefactor Level \$2,500.00	— 10 Connoisseur Plants
Philanthropist Level \$5,000.00	and up — 15 Connoisseur Plants

Celebrate North Carolina Wines!

The second annual Celebrate North Carolina Wines event takes place on October 8, 2006, from 3:00 PM-7:00 PM. This event is open to the general public; tickets will be \$50.00 in advance and \$60.00 at the door. The event will feature tastings from 15 North Carolina wineries, a silent auction, and a gourmet hors d'oeuvre and dessert reception. Proceeds will benefit NC State's College of Agriculture and Life Sciences' viticulture and enology research and the JC Raulston Arboretum. For more information, please contact Autumn Keck at <autumn_keck@ncsu.edu> or (919) 513-3826.

Thank You to Gala Sponsors


The Gala in the Garden was another great success this year. Even with the constant downpour of much needed rain, the JC Raulston Arboretum donors and friends came out to celebrate the kickoff event for our yearlong 30th anniversary celebration. Thank you to everyone who made this event so special this year.

A special thank you is in order for our sponsors who have generously supported the Arboretum as a vibrant teaching and research garden serving the students, the green industry, and the community.



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Members Making News

By Anne Porter, Director of Development, College of Agriculture and Life Sciences Academic Programs, NC State

New Book by Pam Beck

Pam Beck is a member of the JCRA's board of advisors, and long-time supporter of the Arboretum. She is a freelance garden writer, photographer, and popular lecturer. Pam has regularly contributed her articles and photographs to *Carolina Gardener* magazine since 1993; is also currently writing regionally for *Wake Living* and *Fifteen501* magazines. For five years, she wrote "Perennially Yours," a gardening column for Raleigh's *News and Observer*, and she was honored by the *N&O* as "Tarheel of the Week" in May 1997. Pam teaches Residential Landscaping for Wake Technical Community College's Adult Continuing Education Program; she is a local garden scout for *Better Homes and Gardens* magazine.

Pam and co-author **Laura Peters** have written their first collaborative book, *Best Garden Plants for North Carolina*, released by Lone Pine Publishing in March 2006 as part of a series of gardening books written specifically for North Carolina gardeners. For more information about this new book, please visit <www.lonepinepublishing.com>. They have already begun work on their next book, *Perennials for North Carolina*.

Additionally, Pam has just been selected to receive the Garden Writers Association of America's Silver Award of Achievement for 2006.

Congratulations, Pam — and keep up the great work!



Special Planning Tip – Tax-free Sale

If you have property that was purchased for investment and now you would like to sell, check out our gift planning Web site at <cals.giftlegacy.com> or call Steve Watt at (919) 515-9076 to learn how you can:

- Bypass capital gains
- Increase income
- Receive a charitable deduction
- Support the JC Raulston Arboretum or other organizations

Volunteer News

By Frankie Fanelli, Volunteer Coordinator

It's been an extra busy year at the JCRA! Programs began in February with the Walk in the Winter Garden, followed by the News and Observer Birdhouse Competition, Gala in the Garden, A Cut Flower Education, and the JCRA Summerfest. In addition, **Chris Glenn** coordinated twice the number of lectures for members and visitors. All of these programs and events require hundreds of hours of people power to be successful. The JCRA is fortunate to have such a solid base of active volunteers who generously share their time and talents to make programs and events possible. The JCRA staff sends out a warm-hearted thank you to every volunteer that made these programs and events successful.

The day-to-day operation of the JCRA depends on volunteers who regularly see to necessary tasks. The gardeners, labelers, mappers, tour guides, and Visitor Center staffers volunteer on a regular basis attending to activities that the staff could not possibly cover. The JCRA staff can never thank you enough for your continuous commitment!

Let me know if you would like to join the JCRA volunteer team. We can meet and find a volunteer opportunity that matches your time and talent. You can reach me by phone at (919) 513-7004 or via e-mail at <frankie_fanelli@ncsu.edu>.

Many JCRA volunteers helped with the News and Observer Birdhouse Competition with check-in and hosting visitors. In the photo below, **Beth Jimenez** and **Kathleen Thompson**, JCRA volunteers, along with **John Dole**, NC State professor and avid birder, judge a category of birdhouses.



Guided Tours

Arrangements may be made for guided tours for adult parties of ten or more by calling (919) 515-3132. One month's notice is required. There is no fee, but donations to support the Arboretum are always appreciated.

Harvey Bumgardner and **Anne Clapp**, Finley-Nottingham Rose Garden curators, take a break from their gardening tasks.



Charlotte Presley, JCRA volunteer, assists visitors with discovering some special spring flowers at the Open Day at the Joslin Garden.



Gala in the Garden requires hundreds of hours of volunteer time both in preparation and on the event day. The rainy weather brought special challenges, but both visitors and volunteers hung in to make it a successful day. In the photo below, **Jean Mitchell**, JCRA volunteer, speaks to a guest about one of the very special silent auction plants.



The JCRA partnered with the Raleigh Garden Club in June to present A Cut Flower Education paired with a Small Standard Flower Show. A special thank you to John Dole; **Frankie Fanelli**, volunteer coordinator; and Anne Clapp, Finley-Nottingham Rose Garden curator, who lectured. In addition, **Jane Barbot**, **Vandi Bradow**, Anne Clapp, and Frankie Fanelli shared their floral design talents in mini workshops. Thank you for making these programs successful!

Jan Barbot, who has studied floral design in Japan, is pictured below sharing her knowledge of Ikebana with the seminar attendees.



Vandi Bradow demonstrates some of the finer details of creating flower arrangements in the photograph below.



On the upper right-hand side of the address label to the right, there is an entry above your address. It is the password needed to access this newsletter on the Arboretum's Web site at <www.ncsu.edu/jcraulstonarboretum> and the date your membership expires. The entry is in the following format: mm/dd/yyyy – password.

The JCRA Summerfest was a source of all sorts of horticultural education as well as fun.

Sandy Reid, **Barbara Blackwell**, and **Charlie Kidder**, JCRA volunteers, sell NC State ice cream to help cool off Summerfest visitors.



Bob Davis, JCRA aquatic gardens curator and owner of Blue Moon Garden Design, demonstrates the finer points of establishing and caring for water gardens to Summerfest visitors.



JCRaulstonArboretum
AT NC STATE UNIVERSITY



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