The Garden's Gate

from the South Carolina Botanical Garden

January - May 2020

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Photo: Amanda Crawford

Plant Sales

Friends Sale	Public Sale
Friday, April 3	Saturday, April 4
2 p.m. - 6 p.m.	9 a.m. - 1 p.m.

Second Chance Sale

Saturday, April 18

9 a.m. - 1 p.m.

SOUTH CAROLINA BOTANICAL GARDEN at CLEMSON UNIVERSITY

Lynn and Mike McBride at the grand opening of the McBride Aquatic Garden

We would like to take this opportunity to extend a very special thank you to Mike and Lynn McBride for their dedication and support of the SCBG. In September, we were proud to celebrate the Grand Opening of the McBride Aquatic Garden, the newest installation in our Children's Garden. Our Duck Pond has always been a special place for Lynn McBride - she was a frequent visitor as a child. To increase the interactive experience for children and adults alike, we added a unique boardwalk and gazebo to the pond. From this vantage, visitors can observe life both in and around the pond. This year we have had a bumper crop of turtles who clamor around the edge of the gazebo to greet all observers. In addition, we have added dozens of aquatic plants to our plant collection, including beautiful lotuses and water lilies. This new space will be instrumental in engaging visitors in our Garden for Life.

~ Shannon Barrett
Landscape Architect

Lynn McBride visits the Duck Pond as a child

Director's Note

Have you ever played with Google Earth timeline? It's an amazing tool that really shows the growth and improvement of the SCBG as snapshots in time. It astounds me what we have been able to do together, with your support, your volunteerism, and your belief in our mission. Comparing the SCBG over the last decade on Google Earth shows our impressive strides.

The entrance area and Heritage Garden at the front of the SCBG was the place to visit in 2010. The majority of visitors came to walk past the caboose, feed the ducks and wander back. There was only one bricked path leading from the arbor to the picnic area and the Hosta Garden. This area of the Garden has seen the construction of the '62 President's Plaza and Walkway, a grand entrance gate, and bricked trails through this entire section of the Garden. Weekly spring and fall concerts at the Amphitheater bring even more people. The collection of plants here has grown from a solid collection of trees and shrubs, to a vibrant garden filled with herbaceous plants, and swarming with life.

I began as Director here in October of 2010, and at that time the Natural Heritage Garden was only a dream. It was a dream that I thought would be decades in the making. In less than 10 years we have a mature, incredibly diverse exhibit that takes visitors on a tour of South Carolina from the mountains to the sea. The growth and the success of this exhibit has even surprised me. In 2010, there were acres and acres of lawn, without much life. Today this corridor is among the most diverse collections of life in the temperate world, one that is vibrant with bees, birds and butterflies. Indeed, the growth is staggering, and the success measured in the life that now calls the SCBG home. We treasure the smiles, laughter, and joy we hear every day from visitors watching a Venus Flytrap close-up, or listening to a Blue Grosbeak sing.

The Visitor's Center Complex was also surrounded by a collection of woody plants and there were only a few Saw-tooth Oaks, Crepe Myrtles and Cherries around the Geology Museum. Today, there are thousands of plant varieties, a Jurassic Garden transports the visitor back in time, and the largest collection of plants from the desert Southwest growing in a botanical garden in the Eastern United States. The Visitor's Center was one of the least visited parts of the Garden and was isolated from the main collections. Today, this area is entirely connected to the rest of the Garden, and is host to a diversity of life that draws visitors from around the world. All of this has been made possible because of the support of our Friends!

Garden Entrance 2010 - no cars

Garden Entrance 2018 - full of cars

Site of Natural Heritage Corridor 2010 all lawn

Natural Heritage Corridor 2018

Visitor's Center Complex

Visitor's Center Complex 2018

Garden Staff

Patrick McMillan
Garden Director

Shannon Barrett
Landscape Architect

Kathy Bridges
Garden Manager

Susan Chandler
Garden Educator

Allison Jones
Education Program Coordinator

Allison Kelly
Natural Heritage Garden Manager

Trenton Miller
Collections Manager

Angel Perkins
Business Manager

David Rife
Arboretum Manager

Jamie Rutherford
Landscape Manager

Misty Shealy
Nursery Manager

Adam Smith
Curator, Geology Museum

Rebecca Samples Smith
Garden Educator

Kendra Vincent
Garden Educator

Spencer Waldrop
Facilities Manager

Sue Watts
Education Program Coordinator

James Wilkins
Education & Resource Coordinator
CEF/SCBG

Production:
Sue Watts
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SOUTH CAROLINA BOTANICAL GARDEN at CLEMSON UNIVERSITY

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Clemson, SC 29634-0174
phone: 864.656.3405
email: scbg@clemson.edu
www.clemson.edu/scbg

Director's Note cont'd

Native bumble bees are critical pollinators - learn about them in our May Family Science Saturday

We believe that beauty is defined as the intersection of life, not the division of life, and our Garden embodies this. A divided landscape separates the world and its interconnections for the sake of a learned concept of beauty that is simplified to only a few components. This is not a place of neatly trimmed "balls" of *Loropetalum* separated by meters of mulch. This is a place where life overflows from one structure to another, from one habitat into another, with one plant overlapping another. This is a place where diversity and interconnection is key. My friend, Admiral Mike McConnell, former Director of the NSA and Director of Intelligence, said something just a few weeks ago that resonated into the ecological world. He said that we always look to simplify things to find a solution, and long-term solutions are never simple. He said that "complexity breeds resiliency!" Wow! That is exactly what we are about. When we look at the landscapes that host the maximum amount of life, they are inherently complex. We, as Americans, like to come into complex habitats that shelter biodiversity and order it to our liking so that the world fits our model of beauty and it is inherently simplified. We are homogenizing the world to the point that we are leaving no space for the very stuff of life that makes our lives possible, such as pollinators. We want our yards to be full of birds, butterflies and buzzing bees but we have forgotten what it takes to make this happen. It takes complexity! We must value diversity, in all its forms.

Eastern towhee are suffering from huge habitat loss, find out how to help them in our March Family Science Saturday

The concept displayed in the ecological relationship between interconnections of diversity and resiliency resonates in the social and geopolitical problems we experience world-wide. Another dear friend, Col. Ben Skardon, a World War II veteran famous for being a survivor of the Bataan Death March, and who continues to make the memorial march even today in his late 90's, has also taught me a lesson I believe we need to see implemented on the ground. While explaining our Garden's philosophy he expounded to lament the fact that we all used to see everyone who lived in this country as Americans, as equals, as people we could count on when times get tough. He was talking about fighting for the rights of all of our people, for believing that diversity is important, for believing that intersections of life breed resiliency, and prosperity. We have a very, very powerful message embodied in this Garden; a mirror of society as a whole.

Squirrel Tree Frog
Get trained as a Frogz volunteer in February and be a frog advocate.

Non-profit organizations are frequently driven to seek help supporting our mission from anyone with the "capacity" to give, even if it is sometimes to the detriment of our core values. This is not a philosophy I believe in. I believe that the core of what brought us to this point was the support of Friends who believe in what we are and what we offer. I know I have a staff that believes this with all their heart, and I know that your support is responsible for our success on the ground.

We exclude no person. We serve no socio-economic group above any other. We provide open access to woods and landscapes that can heal, that can unite and that can bring peace to anyone who visits. We need your continued help. Look back over the last decade and ponder how our impact has grown from 200,000 visitors/year to over 750,000/year. How the impact of the Geology Museum, our historical structures and our integrated landscape has grown not just for us but for all life. I'm asking you to continue to support us and to bring others into our fold so that we can continue to be a free public garden for all in the next decade, and for all time. Tell everyone you know who enjoys this place they need to consider becoming a Friend, and tell everyone who hasn't been here what that they have waiting for them.

All the best,

Patrick D. McMillan

Garden News

We are clearly experiencing a changing climate here in the SCBG. We have survived yet another hot and very dry summer, with more than three months of temperatures over 90 degrees and zero rainfall. Needless to say, our water usage was ridiculously high trying to keep plants healthy and happy. We are re-thinking a few of the flower gardens, and plan on using more drought and heat tolerant plants, and less "needy" annuals and perennials.

We are researching options to reduce our water usage. We are discussing drilling some wells, and installing retention and collection ponds to supplement water to our irrigation lines. It appears that this past summer may become the norm for us, and we are trying to be proactive and plan for future needs.

One major accomplishment this year has been the installation of the McBride Aquatic Garden. The beautiful gazebo, rock dressing on the bank, and newly planted aquatic garden, have transformed this very popular area. Turtles, fish, and ducks are thrilled with this new addition, not least because of the new feeders we have installed. Bring your quarters when you visit!

Kathy Bridges planting the McBride Aquatic Garden.

Phase one of the power line burial is complete through the Garden. They still have to pull wire and remove the overhead lines. None of this will be done until they have buried pipe through campus to the Esso club area, so be aware there will be road closures along Perimeter as they head that way. The substation is still under construction, so we are probably looking at another year or so until the project is complete. We'll just have to be patient, but it'll be so nice when the overhead lines are gone from view.

Fall cleanup and winter mulching are underway, and we have enough to keep us busy this winter working on tasks that we may have had to shelve while we watered plants this summer.

I also want to give a huge thank you to all of the volunteers who have helped throughout this difficult summer. We couldn't do it without your help.

~ Kathy Bridges
Garden Manager

Becky Oliver, volunteer, with an amazing sweet potato harvest

Fynn and Liam

We are so thankful for Fynn McFarland and Liam Kwist who operated a lemonade stand to raise funds for our treehouse project. They stood in the full sun on one of the hottest days of the year in front of the Mercantile in Pendleton. Fynn also designed and sold book marks for the cause! We so appreciate their hardwork and talent!!

Junior Naturalists learning about lichen

This program has been active in the Garden for over 5 years now. It is such a joy to see such engaged young people, who give me hope for the future of our world.

Our second annual Día de los Muertos Festival was a huge success. Opening remarks were made by Claudia Velasco, Mexican Consulate for the Carolinas, Bob Jones, Clemson University Provost, and Patrick McMillan, SCBG Director. Following these speeches, the crowd was serenaded by a mariachi band, who led them up to the upper lawn dominated for the evening by La Catrina, the keeper of the bones in the underworld. Visitors were invited to leave photos of departed loved ones on beautifully decorated ofrenda (altars), get their faces painted, and enjoy authentic hispanic food, among many other fun activities.

This was a truly collaborative effort, including volunteers from Clemson University's faculty, staff and students, its Commission on Latino Affairs and the Division of Inclusion and Equity; the South Carolina Botanical Garden; the Hispanic Alliance; the Oconee County School District; Palmetto Luna Arts and the Mexican Consulate for the Carolinas

DINOSAUR DISPLAYS AFOOT THIS FALL!

Although the Saber-toothed Tiger skeleton featured in the Benson Gallery here at the BCGM, and which we fondly refer to as "Clemson's Oldest Tiger", is undoubtedly popular with our visitors, when it comes to ranking the popularity of exhibits at the BCGM (or basically any natural history museum in the world) dinosaurs tend to be the perennial favorites. In part because our curator, Dr. Adam Smith, is aware of that popularity, and in part because Dr. Smith's research focuses on the evolution of birds and their dinosaurian relatives, the BCGM is in the process of adding several exciting new displays focused on these charismatic reptiles, and the geologic time period when they roamed the Earth.

Figure 1. The right rear leg and foot of *Brontosaurus* now on display.

Many people have fond memories of learning about the giant sauropod dinosaur *Brontosaurus*, and, subsequently, disappointing memories related to when paleontologists announced in the 1990's that *Brontosaurus* was no longer going to be considered a valid species. Many people may have missed the announcement in 2015, that paleontologist had reexamined all of the fossils referred to *Brontosaurus* and *Apatosaurus* and concluded that Brontosaurus was in fact, a distinct species. The BCGM has recently added an 11 foot tall cast of the rear leg and foot of *Brontosaurus*, complete with a scale behind it that makes it a fun photo opportunity for our visitors! Visit sometime soon and see how you measure up to this truly enormous dinosaur (Figure 1),

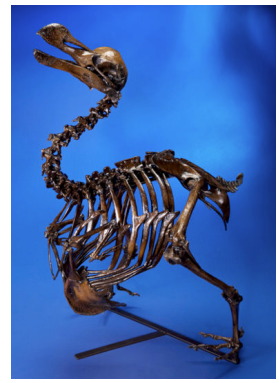


Figure 2. A Dodo Bird (*Raphus cucullatus*) skeleton like this one is being added to the Theropod Evolution display at the BCGM!

Thanks to specimens donated by our friends at Clemson University's Bob and Betsy Campbell Museum of Natural History* the BCGM is expanding our display on Theropod Dinosaur Evolution. In addition to the *Tyrannosaurus rex*, *Velociraptor*, *Archaeopteryx*, and giant flightless modern bird, specimens already on display in the Benson Gallery, we will soon add skeletal mounts of a Dodo bird (Figure 2), an Emu, a Kiwi, and a taxidermied Ostrich. The addition of these new specimens will allow us to tell the rich story of theropod dinosaur evolution—from its toothy, predatory beginnings to the rise of our modern feathered friends.

In collaboration with CU Geology student Robert Boyles, Dr. Smith is investigating the geological evidence of the meteorite impact that is responsible for the extinction of non-avian dinosaurs 66 million years ago (Figure 3). By sampling and comparing the rock records of the impact at locations in North Dakota and South Carolina, Dr. Smith and Mr. Boyles intend to generate research and display materials that will become part of a BCGM display aimed at teaching museum visitors all about "the day the dinos died".

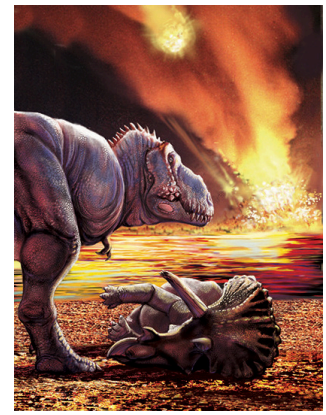


Figure 3. Artists' reconstruction of the meteorite impact that was responsible for the extinction of non-avian dinosaurs (artwork by L. Rey).

* The Bob and Betsy Campbell Museum of Natural History is located on main campus; read more here:https://www.clemson.edu/science/departments/biosci/research/museum/index.html

PLEASE HELP US TO CONTINUE IMPROVING YOUR GEOLOGY MUSEUM

The BCGM would like to offer our sincere thanks to Ernest Prevost of Anderson, SC, who recently donated a truck that will allow us to provide paleontological field work opportunities to CU students and bring new dinosaur fossils back to Clemson for study and display to the public. If you would like to make a donation of any size or type to the BCGM to assist us with our ambitious research and educational efforts, please contact Curator Dr. Adam Smith via email at bcgm@clemson.edu. Alternatively, contribute directly by choosing "Geology Museum" from the drop-down menu at https://cualumni.clemson.edu/give/scbg or email us to discuss the projects we have planned and how you can contribute. Also see our Facebook page and our website (www.clemson.edu/geomuseum) for details regarding upcoming special exhibits and events.

Classes & events

South Carolina Native Plant Certificate

Explore the state's rich botanical heritage and learn about native plants and sustainable landscaping in this series of classes. All participants must take Basic Botany first, the remaining classes can be taken in any order with no time limit on completion. Completion is not necessary.

Core Classes
Saturday, February 15: **Basic Botany**
Saturday, March 14: **Basic Horticulture (Clemson)**
Saturday, March 21: **Tree Identification**
Thursday, March 26: **Spring Herbaceous Plant ID**
Saturday, April 4: **Natural Plant Communities**
Thursday, April 9: **Spring Herbaceous Plant ID**
Saturday, April 25: **Basic Horticulture (Beaufort)**
Saturday, May 16: **Principles of Sustainable Landscaping**

Elective Classes
Saturday, March 28: **Native Plant Propagation**
Friday, May 1: **Plant Communities of the Jocassee Gorge from the lake**
Friday, May 8: **Ferns**

For more details visit: https://www.clemson.edu/public/scbg/education/certificate-program.html

CLEMSON
COOPERATIVE EXTENSION

Lunch and Learn with Clemson Extension

Wednesday, March 4
Paul Thompson, Gardening for Native Bees
There are over 4000 native bee species in the United States that are excellent pollinators. Learn several of the more common species in South Carolina and how to attract them to your landscape.

Wednesday, April 1
Layla Burgess, Gardening for Bats and Owls
How can we work with wildlife, rather than against it? By attracting new garden friends with unique skill sets. Bats and Owls help moderate vermin and various critters that can be damaging to the garden. Learn what they need and what they can do for you and the health of your garden.

Location: Hayden Conference Center
Time: noon - 1 p.m.
Fee: $7 (10% member discount)

Check our calendar for additional programs

Garden Expeditions with Patrick McMillan

Black and white warbler

Thursday, May 7
Spring Migrant Birds with Patrick McMillan
Enjoy this special opportunity to spend time in the Garden with Garden Director and expert naturalist, Patrick McMillan. The Garden is a migratory hot-spot and an important flyway for many of our avian migrant. Join Patrick to experience this wonderful phenomenon.
Bring binoculars and dress for the weather.
Location: Meet at the Geology Museum Parking Area
Time: 8 a.m. – 10 a.m.
Fee: $30 (10% member discount)

Gray tree frog

Wednesday, May 20
Frogs in the Garden with Patrick McMillan
The frog chorus is in full throat at this time of year. As we have added numerous small ponds to the Garden, our frog diversity has blossomed! Join Patrick McMillan expert naturalist, Garden Director, and host of the award-winning PBS series, "Expeditions with Patrick McMillan", to learn about the herpetological diversity at the SCBG.
Location: Meet at the Geology Museum Parking Area
Time: 7 p.m. – 9 p.m.
Fee: $30 (10% member discount)

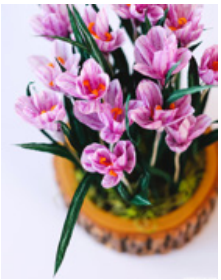
Photos: Will Stuart

Tuesday, March 10
Pruning Workshop with Mark Arena
Join extension agent Mark Arena in this hands-on pruning workshop. Learn the fundamentals of tree pruning and methods to encourage healthy tree structure. Trees with good structure are more resistant to storms and other natural forces. Bring pruning shears, and dress for the weather.
Location: Hayden Conference Center
Time: 10 a.m. - noon
Fee: $30 (10% member discount)

- All Friends get a 10% discount on programs
- The code for the Friends program discount is now: FRIENDS2020.

Use our ONLINE REGISTRATION SYSTEM at www.clemson.edu/scbg to register.
Please preregister for all programs - call to check for last minute availability.

Garden Creativity



Wednesday, March 18
Paper Crocus
The blooming of crocus is one of the earliest signs of spring. With help from this class, you can bring their beauty inside to enjoy year-round! Create a lovely, floral sculpture with guidance from educators Allison Jones and Kendra Vincent. Participants will receive all materials and hands-on instruction needed for creating a decorative display of realistic paper crocus. Please register at least 7 days in advance.
Location: Conference Center, lower leve
Time: 1 p.m. - 3:30 p.m.
Fee: $25 per participant (10% member discount)

Friday, May 8
Pea Pod Jewelry
Participants will learn basic wire-wrapping techniques to craft and customize pea pod pendant jewelry. Tickets to this class (or the finished products) make great Mother's Day gifts!
Please register at least 5 days in advance.
Location: Conference Center, lower level
Time: 1 p.m. - 3:00 p.m.
Location: Conference Center, lower level
Fee: $25 (10% member discount)

Garden Creativity classes are designed for adults, but children, ages 12 and up, may be registered as well.

Visit the Jurassic Garden today!

Signs have been installed so you can learn more about this fascinating era, particularly the important plant developments during this time. Enjoy our ephemeral pool dinosaur footprint, see some dinosaur eggs and more.

Forest Fest CLEMSON EXPERIMENTAL FOREST

March 28 ~ Save the date!

Our annual celebration of the CEF is filled with interactive and engaging demonstrations, adventures, activities and more! Forest Fest is FREE and fun for the whole family.

Join naturalist James Wilkins each month and experience the sights, sounds and sensations of nature at night. Please wear shoes and clothing appropriate for walking in the woods. Flashlights are optional. Register online at least 2 days in advance.

Tues., Jan. 28, 5:45 pm – 7:15 pm

Tues., Feb. 25, 6:15 pm – 7:45 pm

Mon., Mar. 9, 7:30 pm – 9:00 pm

Location: Discovery Center/Museum Parking Lot
Fee: $7 family (up to 5)

Clemson Experimental Forest Tours

Each month we explore a different area of the 17,500-acre Clemson Experimental Forest (CEF). These fun and informal, family-friendly walks will showcase the diversity and beauty of natural and cultural resources in the CEF. Join naturalist James Wilkins (and special guests) at a pre-determined location and carpool or follow us into the Forest. Register online at least 2 days in advance.

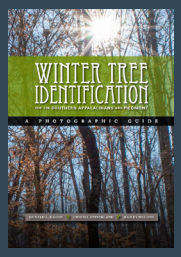
Saturday, January 25
Saturday, February 22
Saturday, March 21
Saturday, April 25

Location: Directions will be sent upon registration
Fee: $7
Time: 9 a.m. – 11 a.m.

Classes & events

Family Science Saturdays

Drop in to the Nature Center between 11 a.m. - 4 p.m. for family-friendly, hands-on science explorations and fun activities with some of our Master Naturalists and other special guests. Free, donations appreciated.



January 25, **Winter Tree Identification**
Learn about winter tree identification from the people who wrote the book. This recently published work from Clemson University Press is a welcome addition to any library. A must for hikers, naturalists, and even the newly transplanted resident to the upstate. This truly beautiful, useful book will be available for purchase. Refreshments served.

February 29, **Things that Leap!**
Celebrate the leap year in this hoppy open house! Meet some bouncy bunnies and learn about the lives and habits of frogs and other animals who leap. Learn how to make an origami frog and other fun hoppy activities.

March 28, **Help Our Feathered Friends!**
Billions of birds are missing? What is this all about and why should the recent reports of a sharp decline in North American bird population be of concern to us? We will explore these questions – and explore answers to your questions - as we look at the world of birds and how it interconnects with the Earth's ecology.

May 30, **Bee Bioblitz**
Join Ben Powell, Clemson's Pollinator Specialist, Mike Ferro, Collection Manager at CU's Arthropod Museum, and the Clemson Entomology Club, while we explore the diverse community of bees and other pollinators in the Botanical Garden. Learn about pollinator biology and conservation, and bring your smart phone as we inventory the critical critters that keep gardens thriving.

Step into the Past

Drop into the Hunt Cabin between 11 a.m. - 4 p.m. to learn about life in the nineteenth century from living history docents Mary and Bill McGinn of Thusfar Farm.
Free, donations appreciated.

January 25 **Soup & Spinning**
Winter months on the homestead were busy with essential chores such as carpentry and clothing construction. Cleaning wool, hand spinning and sewing were not only necessary – but could, thankfully, be done by the fire. Come help comb and card wool. We'll demonstrate spinning on both a wheel and drop spindle, while our winter vegetable soup simmers.

February 29 **Brrr…Bear Stew**
We're finishing up the meat from the big hunt in October. Absolutely delicious in a pot of potatoes and carrots. Of course, we throw in plenty of onions and dried greens to keep us healthy until Spring. We're also having dried apple pie, with bear lard in the crust. Nothing makes a more tender, flavorful crust than bear lard.

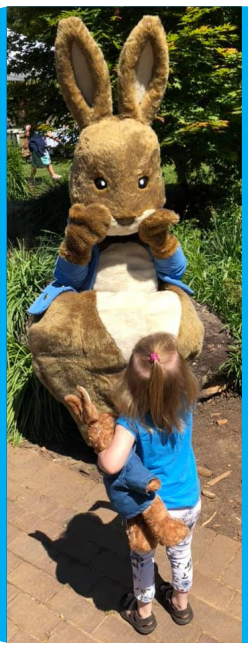
March 28: **Spring Cleaning – 1820s Style!**
After being cooped up inside all winter with a big family in this cabin – it's time for some serious cleaning. We'll be dusting walls, washing windows, scrubbing the hearth and wiping the floor. Plus it's time for new corn shucks in our bed mattress and new feathers in our pillows. Come join us! Many hands make light work.

May 30 **Food As Medicine**
From wild greens to early garden crops, there's a whole world of healthy stuff out there. Spring greens for cleansing, natural antihistamines for hay fever and teas that are serious immune boosters were just part of their herbal wisdom. Yet, today most of us know so little about them. You can change that for yourself and your family. Come learn a little. It may be the start of a whole new passion!

F.R.G.Z. FROGWATCH RESEARCHERS OF GREENVILLE ZOO

Saturday, February 22, **Become a FrogWatcher**!
FrogWatch USA™ is a citizen science program of the Association of Zoos and Aquariums (AZA). FROGZ are the FrogWatch Researchers of the Greenville Zoo chapter.

Volunteers learn to identify local frog and toad species by their calls during the breeding season and how to report their findings accurately. By mastering these skills, volunteers gain increased experience and control over asking and answering scientific questions which, in turn, augments science literacy, facilitates conservation action and stewardship and increases knowledge of amphibians. Volunteers register a wetland site and make multiple evening visits from February through August to collect data on the calls of frogs and toads.
Location: Nature Center
Time: 10 a.m. - 3 p.m.
Fee: Free (bring a packed lunch) Registration required.



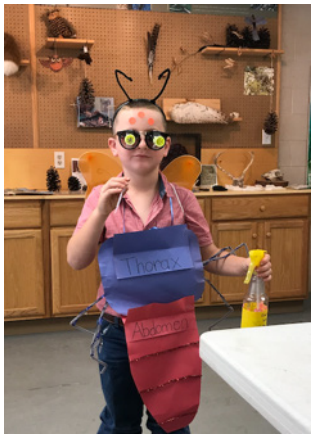
Save the date!
Sunday, April 26
1 p.m. - 4 p.m.

Visit with Peter Rabbit
Play games
Listen to stories
Fun activities
Meet live animals
Food vendors
and more

Children's Classes

Stroller Strut
We begin with a story and then set off on a Garden walk, exploring the day's theme. These free, monthly programs are ideal for preschoolers, but all ages are encouraged to join in the fun!

Friday, January 10: **Sleepy Garden Stroll**
Friday, February 7: **Rock Ramble**
Friday, March 6: **Spring Forward**
Friday, April 3: **Feathered Frolic**
Friday, May 1: **5 Senses Saunter**
Friday, June 5: **Bug Beat**
Thursday, July 2: **Water Walk**
Location: Meet at Garden Amphitheater
Time: 10 a.m. - 11 a.m.
Fee: Free



Jan. 29, 31, Feb. 26, 28, Mar. 25, 27, Apr. 22, 24, May 27, 29
Homeschool Days
Join us each month for an exciting, hands-on learning experience! Themes change each month, and activities are designed for children ages five and up. Please register all children that will be attending. Please register at least 3 days in advance.

Wednesday, January 29: **Wildlife in Winter**
Friday, January 31: **Wildlife in Winter**
Wednesday, February 26: **Rocks, Minerals, & Fossils**
Friday, February 28: **Rocks, Minerals, & Fossils**
Wednesday, March 25: **Seasons & Weather**
Friday, March 27: **Seasons & Weather**
Wednesday, April 22: **Seed to Plant**
Friday, April 24: **Seed to Plant**
Wednesday, May 27: **Adaptations**
Friday, May 29: **Adaptations**
Location: Hayden Conference Center, lower level
Time: Weds, 1 p.m. - 2.30 p.m. Frids, 10 a.m. -11.30 a.m
Fee: $6 per participant (10% member discount)

First Friday Walks with David Bradshaw
October - March 9 a.m.
April - September 7 a.m.
Meet: Caboose Parking Area
Fee: Free

Mondays, March - May
Garden Sprouts
Garden Sprouts learn about plants, animals and nature using stories, arts and crafts, and nature walks, to explore each week's seasonal theme. This program is ideal for preschoolers, but all ages are encouraged to join in the fun!
Location: Hayden Conference Center, lower level
Time: 10 a.m. - 11 a.m.
Fee: $5 per child over 3

Alt. Thursdays, Feb - May, begins Feb 21
4-H Junior Naturalist Club
Elementary school students join us on garden adventure to discover the habitats and animals of South Carolina. Through exciting hands-on activities, participants discover more about the environment and how to be good stewards of the natural world. We'll learn about natural resources, forest and aquatic ecology, wildlife biology, geology, botany, entomology and more. Scholarships available. Contact: Sue Watts, watts9@clemson.edu
Location: Hayden Conference Center, lower level
Time: 4 p.m.- 5.30 p.m.
Fee: $ 90 for the series (Feb-May)

School Field Trips

The SCBG educational staff and trained volunteer docents offer field trips for all grades. Our hour-long field trips are designed to support, and reinforce, the S.C. Science Standards. Topics include:

Plant Parts
Plants and their partners
Ecology
and more.

Field trips can be designed to meet your classroom needs.

At only $4 per student, these field trips provided an excellent way to scaffold in-classroom teaching.

Book a tour today at:
https://tinyurl.com/vgtldau

Tell a teacher today!

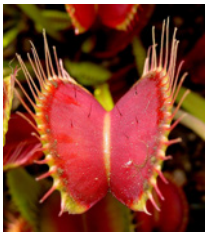
Childrens classes & events

Friday, February 7
Valentine's Tea Party
Join us for a tea party! Children will enjoy learning about tea and sampling a variety of flavors. We'll even make own herbal teas and decorate mugs for enjoying tea at home! Light refreshments will be provided.
Register at least 3 days in advance.
Location: Hayden Conference Center, lower level
Time: 3:30 - 5:30 p.m.
Fee: $10 per participant

Friday, February 21
Follow the Drinking Gourd
With help from Jeanette Winter's book, "Follow the Drinking Gourd" children learn about the Underground Railroad and the ways in which slaves relied on stars and other elements of nature during the long, perilous journey towards freedom. Each child makes a take-home craft to help them remember what they've learned.
Location: Hayden Conference Center, lower level
Time: 3:30 - 5:30 p.m.
Fee: $6 per participant

Friday, March 6
Holi: The Colors of Spring
Holi is a festival of colors! The colored powder of this holiday inspired today's popular color run races. In this class, children learn about and be inspired by the customs of this spring celebration. We'll enjoy a spring walk and create colorful rangoli art. We'll finish with a short "color race"! Dyes are washable, but please wear clothing that can get very colorful! Register at least 3 days in advance.
Location: Hayden Conference Center, lower level
Time: 3:30 - 5:30 p.m.
Fee: $8 per participant

Wednesday, April 8
Botanical Nests and Eggs
Children always love this annual program! Use leaves, flowers and plant-derived egg dyes to decorate eggs. Learn how birds make nests for their young, look at real bird nests, and construct your own 'bird nests' to take home. All ages are welcome, but younger children will require hands-on assistance from an adult.
Please register at least 5 days in advance.
Location: Hayden Conference Center, lower level
Time: 3:30 - 5:30 p.m.
Fee: $12 per participant (10% member discount)



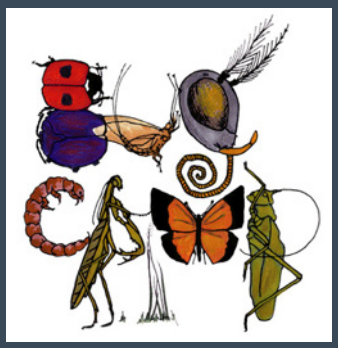
Friday, May 15
Meat-Eating Plants!
Visit the Carnivorous Display Garden, and discover the fascinating world of this special group of plants. Learn many fun facts about these insect-eating machines, and even dissect some to see what we can find inside! Each child will also enjoy making a take-home craft.
Register at least 3 days in advance.
Location: Hayden Conference Center, lower level
Time: 3:30 - 5:30 p.m.

Summer Camps @the Nature Center

June 15-19
Mountains to Sea Camp

In this camp, children will explore the various ecosystems of South Carolina. Using the Natural Heritage Garden as our guide, we'll take a journey from the mountains to the sea, and we'll discover the interesting plants, animals and people who have called these spaces home throughout our state's history. Participants will enjoy daily hikes in the Garden, games and hands-on activities as well as visits to nearby historical sites. Take home projects will include hand-dyed shirts, pottery and more! Please register by June 8. Suggested Age: 6-12
Time: 8 a.m. to 3 p.m.
Price: $195

July 6-10
Camp Ready, Jet, Go!
In this new camp, a camper's place is exploring space! Inspired by the PBS kids' show, we'll explore astronomy and Earth science through a variety of hands-on experiments, games, and other and activities, including a visit to the planetarium! Please register by June 29. Suggested Age: 6-12
Time: 8 a.m. to 12 p.m.
Price: $120



July 20-22
Little Explorers Mini Camp: All About Bugs!
Young campers will love exploring the garden and uncovering the bugs that call it home! Campers will learn through, games, crafts, and observation! Suggested Age: 5-10
Time: 8 a.m. to 12 p.m.
Price: $75

Prothonotary warbler
Photo: Will Stuart

"Death brings Life"

"The real jewel of my disease-ridden woodlot is the prothonotary warbler. ... The flash of his gold-and-blue plumage amid the dank decay of the June woods is in itself proof that dead trees are transmuted into living animals, and vice versa"- Aldo Leopold ***Sand County Almanac***.

You might be seduced by the expanse of a brilliant green lawn beneath widely spaced trees on a wooded lot, trimmed so only strong branches vibrant with leaves remain. A well-kept and perfectly trimmed home landscape, that is the American ideal. The birds, the bees and the butterflies will take one glance and bypass this "Spartan" scene. "Clean" looks are generally not healthy looks, when it comes to promoting diversity in the landscape. A dead standing tree, some rotting logs, a brush pile and fine decaying organic material are essential for much of the life that we wish to see in our landscapes. This is one portion of the vital recipe for life that is most often missing in managed landscapes.

Fruit for the birds and flowers for the pollinators is often the selling point of many a garden shrub or tree. However, the fruit and flowers are only a tiny portion of the life that woody plants give to the world around us. The insect pests that dine on the leaves, reducing them to tatters to feed thousands of dazzling migratory birds, are just as important. The beetles that bore into the rotting dead branches and scars provide essential life for the woodpecker, chickadee and nuthatch. even the wounds that bleed sap from the tree are a feast for the dazzling question mark and mourning cloak butterflies. It might be difficult to accept, but disease and death are essential to life. So, as Aldo Leopold also notes, "But for disease and insect pest, there would likely be no food in these trees, and hence no chickadees to add cheer to my woods in winter."

A soft snag
Photo: Sue Watts

Standing dead, or partially dead trees are referred to as "snags" in forestry. You might find two different types of snags in your wooded lot. A hard snag is one that is only partially dead and a soft snag is a totally dead tree with advanced decay. Not surprisingly, both are important habitat for a myriad of wildlife. Dead and dying trees, though often considered unsightly, can be one of the most important additions to your landscape for wildlife. My wildlife manager and forester friends tell me that a target of 4 or 5 snags per acre is a good proportion for providing ample habitat for the life that depends on dead wood. My home landscape itself is quite full of snags and it shows in the wildlife we enjoy. Four species of squirrel make their home here in northwestern North Carolina with my family. The larger cavities provide a nice hiding place for fox, gray and red squirrels but they are absolutely essential to the fourth and most abundant species in my woodlot-the Southern Flying Squirrel.

Flying Squirrel
Photo: Patrick McMillan

For several weeks after we moved into our home my wife and I were puzzled by the speed at which our bird feeders emptied. The strangest part was that I filled the feeders at night due to the early hour that I leave for Clemson, and it seemed that by the time she awoke all the seed was gone! Well this little mystery was solved one evening when we were sitting on the porch and six bandits flew in, worked their way through the feeders, dashied about comically and then departed. The Southern Flying Squirrel rests and nests in cavities and under loose bark. Without these spaces, you won't have flying squirrels and, as you'll find, they are just as entertaining, if not more entertaining, than any bird. If you're in a mostly wooded neighborhood you'll definitely have flying squirrels as they tend to be the most numerous squirrel in the South, though their strict nocturnal nature makes them difficult to observe. If you're feeding the birds, invest in a red porch light, which they mostly ignore, and just sit back and watch from dusk onward and you'll most likely be entertained by hours of antics from these incredibly quick and agile critters.

You might think only woodpeckers and nuthatches make their nests in cavities but 85 species of American birds make their nests in cavities in standing dead (and rarely living) wood. Worldwide, the holes provided by cavity-boring birds are incredibly important to providing the diversity of bird life we all enjoy. In our neck of the woods birds such as the Carolina Chickadee, Wrens, Eastern Bluebirds, Tree Swallows, Wood Ducks and even Prothonotary Warblers all make their nests in cavities.

If you want to support wildlife and a dead or dying tree is not a threat to health or home, then leave it alone. If you must fell a tree you will have a wealth of dead wood that can also be utilized to provide wildlife habitat. Rotting and dead logs on the ground support a vast array of invertebrate and small vertebrate life such as beetles, salamanders and shrews and these in turn are food for larger organisms. Logs are easily incorporated into the landscape and often provide a very rustic and artistic touch to the garden bed. Likewise, small branches and brush can be piled to make very important habitat for birds and small mammals. Brush piles are highly attractive to wrens, sparrows, juncos and towhees. Winter wrens love them. I seek out downed limbs to build brush piles in areas where they can remain fairly hidden from the more refined landscape. Yep, I'm the weirdo that likes the results of ice storms!

Excerpt from Patrick McMillan's soon to be published ***Gardening with Wild American Eyes***

SOUTH CAROLINA BOTANICAL GARDEN
at CLEMSON UNIVERSITY

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Plants for the 21st Century

Schwalbea americana (L.) American chaffseed

"A tall, perennial herb in the figwort family, this plant is distinguished by its large, purplish-yellow, tubular flowers. Schwalbea americana is a hemiparasite that feeds from the roots of a range of associated woody species. Once known historically from the coastal plain extending from Massachusetts to Florida, the species now only occurs at 51 sites and 15 distinct populations"

Source: https://saveplants.org/national-collection/plant-search/plant-profile/?CPCNum=3877

For this season's plant spotlight, I wanted to take the opportunity to share the Garden's plant conservation efforts. For the past three years the SC Botanical Garden has been partnering with the South Carolina Plant Conservation Alliance (SCPCA) to safeguard *Schwalbea americana* (L.), commonly called American chaffseed. Schwalbea is a federally endangered perennial herb found mostly in longleaf pine savannas. As with other plants found in the area, this species is heavily dependent on fire to maintain suitable habitat and encourage mass flowering and has suffered from fire suppression and habitat fragmentation.

Research has been done in the past to learn how we can best protect this species and manage its habitat to ensure the success of future generations, but there are still many unanswered questions regarding this plant. In my graduate research, it is my aim to answer some of these outstanding questions so that we can better conserve and reintroduce Schwalbea.

Currently we are experimenting to determine what, if any, barriers are preventing high rates of successful seed germination for Schwalbea. Following this first experiment, we will conduct a study with the aim of describing the ideal microsite characteristics. In other words, we want to find out what are the characteristics of an ideal location for a Schwalbea seed to land, germinate, and survive as a seedling. The final component of the study will focus on burn seasonality, meaning that we will be investigating the optimal time to burn that will result in the healthiest, most vigorous plants, as well as the most ideal conditions for successful seed germination and seedling survival.

It is very exciting for us here at the Garden to be a part of these conservation efforts, and to have the opportunity to contribute to science and our understanding of our natural world. As we continue to study this plant, we look forward to sharing our results with you, as well as ensuring a brighter future for some of our native species.

~ Trenton Miller, Collections Manager