2019 GCA Scholars Report
Supporting the Next Horticultural Leaders into the GCA’s Second Century

The GCA Scholarship program continues to attract students who are well on their way to becoming tomorrow’s leaders. A great example is 2017 Pollinator Fellow Rachael Bonoan, who recently participated in the Tufts Pollinator Initiative by pitching a successful proposal for a grant that supports the development of a pollinator garden on campus, thereby earning Tufts University a Bee Campus USA distinction.

This year’s class of GCA scholars is one of our largest groups, with 73 receiving a scholarship. Urban forestry, pollinator health, coastal wetlands, and native bird habitats continue to be popular topics of study and are also hot trends for this generation of budding scientists. This winter Casey Trees, one of 15 collaborating institutions, received a whopping 77 applications. The resurgence of urban living has created a need for better understanding of how to care for trees, nurture pollinators and birds, and protect the coastal landscape and wildlife in areas of dense population and sea level rise. GCA scholars are leading the way for this research.

Learn about each one in this Scholars Report, a tradition in every summer Bulletin.

A big thank you to GCA clubs for recognizing tireless teachers who inspire children to fall in love with the planet. The Scholarship Committee awarded 13 Elizabeth Abernathy Hull Awards to an amazing group of people. Read how these awardees introduce children to the wonders of nature by sharing their knowledge of horticulture and conservation.

In 1929 the GCA’s first scholarship award was given to Richard K. Webel by the American Academy of Rome for the Rome Prize in Landscape Architecture. We are so proud to report that former GCA scholars are presidents and CEOs of botanical gardens, professors at colleges and universities, managers of university research labs and herbariums, experts in horticulture, and designers of world-renowned projects in landscape architecture.

Your contributions to scholarship through annual giving or the Second Century Campaign have had an incredible influence on the environment: they directly support the research and work of our outstanding community of scholars—both former and current. It has been an honor to lead the Scholarship Committee the past two years and to witness firsthand the impact of your generosity. Thank you!

Kathy A. Keller

Scholarship Committee 2018–2019
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Photo by Jane Rogers
The Anne S. Chatham Fellowship in Medicinal Botany
Established in 1997 to protect and preserve knowledge about the medicinal use of plants by providing research support in the field of ethnobotany for recent PhDs or PhD candidates, this fellowship is administered by the Missouri Botanical Garden.

Kate Sammons
Effect of Ploidy and Genotype on Chemotype in the Achillea millefolium L. Complex
Kate Sammons is a PhD candidate in plant and microbial biology at the University of Minnesota in Saint Paul. Her research aims to describe the chemical complexity of medicinal plants with metabolomics using the case study of yarrow (Achillea millefolium). A. millefolium is a multiploid species complex with broad global distribution and a long history of medicinal use. Sammons is interested in how ploidy and genotype affect chemical composition, as well as broader questions of how high-resolution mass spectrometry can allow a more holistic assessment of the plant’s medicinal quality.

Lekeah Durden
Development of Laboratory-based Bioassays to Detect Fungal Symbiosis in Morning Glory (Ipomoea tricolor)
Lekeah Durden is an Evolution, Ecology, and Behavior PhD candidate in the Department of Biology at Indiana University. Her research interests include ecological and evolutionary questions about symbiotic interactions. She uses the ornamental morning glory (Ipomoea tricolor), Convolvulaceae family, with its fungal symbiome as a system to study co-evolution. By studying the symbiosis, she aims to understand the effects of the plant-fungal partnership and the protective role it has against insect pests and the surrounding plant community. Her prior observations have shown that the partnership provides the plant with benefits against natural enemies, due to the fungal ergot alkaloid products.

Samuel Kilgore
Assessing Viola Reintroduction Potential: Investigating Habitat Requirements for Prairie Violets
Sam Kilgore is a master’s student studying plant biology and conservation at Northwestern University and the Chicago Botanic Garden. He is investigating the above- and below-ground habitat requirements for Viola pedatifida, a species of prairie violet that is often excluded from use in restorations due to low establishment rates. His goal is to increase the diversity of options available to natural area restorations across the Midwest.

Harna Patel
Novel Applications of Kombo Butter (Pycnanthus angolensis) and its Bioactive Constituents for Human Skin Health
Harna Patel is a PhD candidate in the Department of Plant Biology at Rutgers University. She will investigate novel applications for African indigenous plants to further science and to benefit rural communities that use sustainable environmental practices in producing the ingredients. Patel will be examining new uses for the Kombo plant (Pycnanthus angolensis) native to West and Central Africa. It is also known as the African nutmeg and is used in traditional African medicine. Her focus will be on developing applications for human skin health.

Peter Kann
Summer Field Sampling of Pitcher Plant
Peter Kann is a master’s student at East Carolina University, a public research university in Greenville, NC, studying the evolution of plant-insect relationships. He is researching the flesh fly genus Flesherimyia, which broods its young within the leaves of carnivorous pitcher plants (Sarracenia). After traveling across the eastern US collecting fly specimens and cataloging pitcher plants, he will create and compare a phylogeny of the flies and the pitcher plants, seeking signs of co-evolution between them. This research will provide information to help pitcher plant conservation and will shed new light on their natural history.

Matthew Paek
Solving the Puzzle of How Apios is Pollinated
Matthew Paek is an undergraduate in the School of Forestry and Wildlife Science at Auburn University. He is interested in the pollination ecology of potato bean (Apios). This summer he will serve as a field botanist collecting pollination data on Apios americana. He will observe phenology, hand-pollinate, and measure pollen-tube competition for flowers across sites in Alabama. Paek will present his findings at the Southeastern Partners for Plant Conservation Meeting in November 2019.

The Joan K. Hunt and Rachel M. Hunt Summer Scholarship in Field Botany
Established in 2003, this scholarship encourages the study of field botany beyond the regular curriculum, thus promoting the importance of botany to horticulture.

Noah Yawn
Atlanta Botanical Garden Student Research
Noah Yawn is a freshman at Auburn University, studying organismal biology with a focus in conservation and biodiversity. At the Atlanta Botanical Garden (ABG) this summer, he will be censusing all known populations of the critically endangered Alabama canebrake pitcher plant (Sarracenia alabamensis), analyzing their floral communities, soil analytes, site quality, and conservation priority. Also, Yawn will perform tissue-culture samples on site lineages where canebrake pitcher plants cannot sexually reproduce for genetic safeguarding at the ABG. The resulting datasets from this updated survey will be used to better characterize the species occurrence, locate potential habitat for augmentation, and aid in the conservation strategy of this endangered species.

Thomas Chapin
Native Orchid Conservation
Thomas Chapin is a senior studying geography and environmental systems at the University of Maryland.
He will be conducting research at the Smithsonian Environmental Research Center where he will attempt to sequence, isolate, and culture endobacteria (family Burkholderiaceae) from orchid mycorrhizal fungi, collecting root samples from the field for initial isolation and culture. This will aid in efforts to reintroduce endobacteria (which dies out over time) to the Smithsonian’s entire collection of orchid mycorrhizal fungi. Mycorrhizal fungi, containing healthy endobacteria, is essential for the germination of many North American orchids.

**The Garden Club of America Award in Tropical Botany**

Established in 1983 and administered by the World Wildlife Fund’s Education for Nature Division, the award supports fieldwork in tropical forests for doctoral candidates in botany.

**Megan Sullivan**  
Ecology and Conservation of Tropical Forests in Central Africa: The Ecological Consequences and Long-term Sustainability of Selected Logging in Gabon  
Megan Sullivan is a PhD candidate at the Yale School of Forestry and Environmental Studies. Her research uses ecological theory to understand why tropical forests have such high tree species biodiversity. She aims to apply these theories in disturbed ecosystems, where they are understudied. Her project examines seedling regeneration patterns and species functional trait information to understand how selective logging—a low-level, wide-scale, human disturbance—changes which species regenerate and survive in logged forests compared to unlogged forests. Results of this study will contribute to understanding how logging changes the biodiversity and function (e.g. carbon stock potential or fruit-bearing potential to support wildlife communities) of Afrotropical forests.

**Betsabé Castro Escobar**  
On the Trail of the Calabash Trees: Ethnobotany, Domestication, Evolution, and Geography of Crescentia  
Betsabé Castro Escobar is a 4th year PhD candidate in the Integrative Biology Program at the University of California, Berkeley. She studies the interactions of humans with culturally significant plants in the Caribbean, working currently with a group of plants called the calabash trees in the Tropical Americas. Escobar researches through the lens of ethnobotany, ecology, and evolution, tracing responses of plant-human interface including dispersal, domestication, and documenting the versatility of uses. She is passionate about preserving traditional plant knowledge and is fascinated with how humans have stimulated evolutionary responses in plants. She is an NSF Graduate Fellow, a UC Berkeley Chancellor’s Diversity Fellow, and Botany in Action Fellow.

**Carly Anderson Stewart**  
Expedition to New Caledonia: Collecting the Cosmopolitan and Speciose Lichen Genus Cladonia in a Threatened Hotspot  
Carly Anderson Stewart is a PhD candidate studying fungal evolutionary biology at the University of Colorado at Boulder. She is currently studying the biodiversity and biogeography of lichens, specifically the large, cosmopolitan lichen genus *Cladonia* (Cladoniaceae, lichenized Ascomycota). Her work explores triggers of diversification in the *Cladonia* tree of life asking which characteristics are associated with increases or decreases in diversification. Better understanding shifts in diversification rates would constitute an important step forward in fungal evolutionary biology.

**Carrie M. Tribble**  
Evolution and Domestication of the pre-Columbian Crop Plant Bomarea edulis  
Carrie Tribble is a PhD candidate in the Integrative Biology Department at the University of California, Berkeley. Her research focuses on the evolution of underground parts of plants and on the systematics and diversification of tropical plants, such as the charismatic members of the genus *Bomarea*. She is particularly interested in *B. edulis*, a pre-Columbian plant known for its edible and medicinal root tubers. Tribble hopes to integrate statistical phylogenetic models and ethnobotanical knowledge to better understand the drivers of evolution in this unique plant.

**Mary Schoell**  
Reconstructing the History of Salt Marsh Migration to Coastal Forest  
Mary Schoell is a master’s student at the Yale School of Forestry and Environmental Studies. Her thesis explores how salt marshes migrate inland to higher elevations as a response to sea-level rise and storm events. Her focus is on the coastal forests along Long Island Sound in Connecticut. Due to their resilient nature, forested uplands can slow the process of marsh migration. Using dendrochronology and flood frequency data, Schoell aims to reconstruct the time line of tree stress and death in marsh-bordering forests to understand when and how sea level rise and storm disturbances facilitate marsh migration.

**The Garden Club of America Award in Coastal Wetland Studies**

Established in 1999 to promote wetland conservation through the support of young scientists in their field work and research, this award is administered by the Center for Coastal Resources Management at the Virginia Institute of Marine Science of the College of William & Mary.
Salt marshes.

Herbivory and traits of cordgrass in response to rising temperatures and nutrient-addition experiments in the marshes of coastal North Carolina. Nicholas School of the University Program in Ecology at Duke University. David De La Mater is a PhD student in ecology at the University of California, Davis. Her research in wetlands uses a noninvasive method called environmental DNA (eDNA) sampling. eDNA is trace genetic material left by fish and aquatic organisms in water. eDNA sampling is a promising new method for surveying biodiversity and detecting endangered or invasive species. She will sample Suisun Marsh, the largest wetland in the San Francisco Estuary, using eDNA and compare results with traditional sampling. The goal of this project is to develop eDNA as a reliable and effective survey method that can inform wetland conservation and management.

David S. De La Mater, III

Effects of Elevated Temperatures and Eutrophication on Plant-herbivore Interactions and Impacts on a Salt Marsh Foundation Species

David De La Mater is a PhD student in The University Program in Ecology at Duke University Nicholas School of the Environment. He will be conducting manipulative-warming and nutrient-addition experiments in the marshes of coastal North Carolina to address how rising temperatures and eutrophication (excessive richness of nutrients in water) interact to affect herbivory and traits of cordgrass in salt marshes.

Sam Bickley

Assessing the Impact of Coastal Development on Ecosystem Function and Structure in Tidal Creek Fringing Salt Marshes

Sam Bickley, a PhD candidate at Auburn University, will be assessing the impacts of urbanization on coastal streams and fringing salt marsh along the northern Gulf of Mexico. Coastal streams draining developed watersheds experience increased frequency and magnitude of salinity change due to increased freshwater runoff, but the impact on ecosystem structure and function of this altered salinity regime is poorly understood. Bickley’s research will examine how ecosystem metabolism, biogeochemical cycling, and resident fish communities in coastal streams and fringing salt marshes respond to this under researched yet widespread disturbance.

The Garden Club of America Fellowship in Ecological Restoration

Established in 2000 and administered by the University of Wisconsin-Madison Arboretum, this fellowship supports specialized graduate studies and research in ecological restoration, the active healing of land.

Adrienne Ernst

The Effects of Phylogenetic and Functional Diversity on Invasibility of Restored Tallgrass Prairie

Adrienne Ernst is a PhD candidate in the Plant Biology and Conservation Department at Northwestern University and Chicago Botanic Garden. She investigates how the diversity sown into a restoration affects the outcomes—focusing on invasion resistance. Standard diversity metrics do not account for species characteristics that may confer invasion resistance. Instead, her research focuses on phylogenetic and functional diversity, metrics which incorporate species identity. Ernst evaluates these metrics as potential ways to increase invasion resistance in restorations by manipulating native species composition.

Rachel E. Becknell

Determining the Role of Soil Microbes in the Establishment of Hard to Establish Plant Species and the Restoration of Grassland Communities

Rachel Becknell is a PhD candidate in the Evolution, Ecology, and Population Biology Program at Washington University in St. Louis and performs research at the Missouri Botanical Garden and Tyson Research Center. She is interested in the effects of soil microbes, such as mycorrhizal fungi and fungal pathogens, on the ability for rare and endangered plant species to become established in tallgrass prairie and glade restorations. Becknell will use molecular techniques to assess the impacts of soil microbes from remnant prairies and old fields where tallgrass prairie restorations typically occur on the growth and persistence of four hard-to-establish prairie species.

Christopher Moore

Parasites as Indicators of Biodiversity in Restored Oyster Reefs

Christopher Moore is a PhD candidate in the Biology Department at East Carolina University, a public research university in Greenville, NC. He is investigating whether parasite diversity can be used as an indicator of overall biodiversity, particularly in the context of habitat restoration. Parasites that require multiple hosts may be thought of as representing the links between organisms in the environment and “healthy” ecosystems, which are also full of parasites. His project will test how parasite diversity changes across a time-series of previously restored oyster reefs, and whether managers can implement more efficient forms of restoration to maximize the diversity of parasites and their hosts.

Sze Wing Yu

Large-Scale Restoration of the Northern Great Plains using Bison as the Keystone Species

Sze Wing Yu is a master’s student at the Forestry and Environmental Conservation Department of Clemson University. She will compare riparian vegetation community responses to bison and cattle grazing in the Northern Great Plains of Montana. She will also survey the vegetation in bison wallows and see if species composition changes with time since bison reintroduction. She hopes that her findings will inform the restoration efforts of bison on the landscape.

The Sara Shallenberger Brown Garden Club of America National Parks Conservation Scholarship

Established in 2010 and administered by the Student Conservation Association (SCA), this scholarship encourages college undergraduates, ages 19–20, to pursue careers in conservation by experiencing field training while protecting the treasured resources of America’s national parks through the SCA’s Apprentice Crew Leader Program.
Kiernan Bartlett
Apprentice Crew Leader, SCA National Conservation Crew Program
Kiernan Bartlett will return to Christopher Newport University, Newport News, VA, in fall 2019 after taking a gap year. He will participate in field training and protection of resources at one of America’s national parks through the SCA Summer Apprentice Crew Leader Program. A dedicated member of SCA, Bartlett has worked at Fort DuPont National Park, George Washington Memorial Parkway, Kenilworth National Park, and Wolf Trap National Park.

Vinisha Browne
Apprentice Crew Leader, SCA National Conservation Crew Program
Vinisha Browne is an undergraduate at Prince George’s Community College, majoring in environmental engineering. She will take part in SCA’s Summer Apprentice Crew Leader Program at an American national park, learning field training and protection of resources. In summer 2016 she worked in the New Jersey State Park System as a member of SCA’s National Crew Program.

The Garden Club of America Award in Desert Studies
Established in 2006 and administered by the Desert Botanical Garden in Phoenix, this award enables graduate or advanced undergraduate students in horticulture, conservation, botany, environmental science, or landscape design relating to arid landscapes to further their studies of the arid environment, with preference given to projects that generate scientifically sound water and plant management.

Lauren Reeves
Desert Botanical Garden
Lauren Reeves is a third-year landscape architecture student at Arizona State University. Working at the Desert Botanical Garden, she will research desert plants to gain understanding of their use in sustainable landscape design. This knowledge will advance her studies on Low Impact Development strategies in the arid environment. She will also use Geographic Information Systems to enhance the Desert Botanical Garden’s tree inventory and gain valuable horticultural knowledge about function and care of trees in the desert landscape.

The Garden Club of America Scholarship in Garden History and Design at the Archives of American Gardens
Established in 2001, this scholarship supports independent study in the field of landscape history and design. Preference is given to students planning to intern at the Smithsonian Archives of American Gardens in Washington, DC.

William Hartman
Denver Botanic Garden
William Hartman is a junior at Oregon State University majoring in horticulture. Building on his background as a full-time firefighter and his research at Denver Botanic Gardens, Hartman will enhance his understanding of desert plant species, particularly those that are fire resistant. For his project, he will design a Firewise® demonstration garden utilizing sustainable native plant species with a thoughtful design to combat the growing threat of wildfires in Colorado.

The Douglas Dockery Thomas Fellowship in Garden History and Design
Established in 2000 to further the study of history and design in the American garden and also look to the future of gardens and their place in the environment, this fellowship is administered by the Landscape Architecture Foundation.

Lizabeth Wardzinski
A Model for the World, Tennessee Authority and Postwar Development
Lizabeth Wardzinski is a PhD candidate in design at North Carolina State University. Wardzinski focuses her research on the Tennessee Valley Authority as a mechanism for shaping areas of the American consciousness as well as the landscape. In her dissertation, Wardzinski hopes to demonstrate how popular notions of conservation and the wilderness were vital to promoting the TVA mission of regional planning and decentralization. Focusing on the cultivation of the tourism industry by the TVA as a development model, Wardzinski contrasts recreational model-planning typologies of the TVA with development models of industrial and residential planning.

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The Catherine H. Beattie Fellowship in Conservation Horticulture
Established in 1983 and administered by the Center for Plant Conservation, a network of 40 botanical gardens in the US and Canada that is headquartered in Escondido,
Californian, this fellowship promotes the conservation of rare and endangered flora in the southeastern United States by supporting field research by graduate students.

Rachel Ann Lyman
Conservation Genetics of the Tennessee and Virginia State-Endangered Cedar Glade Endemic Trifolium calcaricum
Rachel Lyman is a PhD candidate in the Evolution, Ecology, and Population Biology Program at Washington University in St. Louis in conjunction with the Missouri Botanical Garden. Through genetic research and biogeographic analyses, she will assess the genetic diversity in native and reintroduced populations and determine biogeographic forces that gave rise to the endangered endemic Trifolium calcaricum. This study will provide important insights for management and conservation.

Gavin Shotts
Understanding Sexual Diversity in Endangered Southeastern Spigelia for Improved ex situ Conservation
Gavin Shotts is a master’s student in biology at Auburn University. His studies focus on how pollination ecology can inform conservation of rare and threatened southeastern flora. His project investigates breeding traits and mating systems critical to maintaining genetic diversity in both threatened Spigelia species. His research will directly inform seed collections for ex situ conservation of Spigelia through plant propagation and future outplantings. This project will also provide new avenues to integrate pollination ecology into plant conservation efforts throughout the Southeast.

The Katharine M. Grosscup Scholarship in Horticulture
Established in 1981, this scholarship is designed to encourage undergraduate and master’s students in the study of horticulture and related fields.

Tyler Morgan Engel
Tyler Engel is an undergraduate at the University of Cincinnati majoring in horticulture. He has returned to college after military service that included two combat tours in Afghanistan. With his favorite classes being soil science and plant nutrition, he is considering a graduate degree in soil science. Engel has grown up loving the outdoors and caring for plants. A professor comments that “he is an intuitive gardener.” On a break from school he hiked the Appalachian Trail.

Zachary Fox
Zachary Fox is an undergraduate student in environmental studies and natural history at Hiram College. He works as a land steward at the college’s 550-acre James H. Barrow Biological Field Station, establishing a 30-acre native grassland, managing invasive species, and conducting a beechnut disease monitoring project. He also works as a macroinvertebrate research technician, as well as the caretaker of the college’s Teaching, Research, and Environmental Engagement House. Fox plans to earn a master’s degree before entering the field of habitat restoration or land management.

Rhiannon Newton
Rhiannon Newton is an undergraduate majoring in horticulture at West Virginia University. She has participated in several projects and internships, including a three-month internship at Plant Delights Nursery & Juniper Level Botanic Gardens in summer 2017 and a six-month internship at Tagawa Greenhouses in spring 2018. Currently, Newton is studying on a semester abroad at The University of Natural Resources and Life Sciences in Vienna, Austria. Her career goal is to own a specialty nursery or greenhouse garnering industry experience to achieve it.

Caleb Walton
Caleb Walton is a senior at Michigan State University pursuing a degree in sustainable and organic horticulture. After completing an internship in plant health care for a landscape company, Walton is now directing his passion for plants and people to the nonprofit sector helping subsistence farmers in developing countries or helping urban families in food deserts within the US through urban agriculture. This summer, he is pursuing opportunities to serve with missionaries working in agricultural development in the Republic of Benin. After his December 2019 graduation he will pursue opportunities in the Peace Corps, Agricorps, or GoCorps.

John Gove
John Gove is an undergraduate student at Michigan State University majoring in horticultural science with a focus on fruit and vegetable production. Since 2008 he has been farming his own plot of land, growing cherry tomatoes and corn for popcorn, to help fund his degree. He has designed and implemented an independent study project evaluating different methods of grafting tomatoes. In the summer he interned with an extension agent from the University of New Hampshire, addressing practical grower problems, while also working on the family fruit and vegetable farm. After graduation, his plan is to apply his education to improving and advancing his family’s seventh-generation farm. Gove is also an NCAA student athlete.

Mary Macleod
Mary Macleod is a junior studying sustainable plant systems, specializing in horticulture, at the College of Food, Agricultural and Environmental Sciences at The Ohio State University. She assists in strawberry lab research where the yield and quality of everbearing strawberry plants are being tested over different dormancy periods. This summer she will research berry production in California. Macleod intends to pursue a career in greenhouse production of produce, with a focus on public horticulture and making produce accessible to low-income areas.

Robert Hammond
Robert Hammond is a junior at the University of Cincinnati studying horticulture. Native plants and how they interact in the ecosystem are his primary areas of focus. His current independent project is a study of the aster family in which he hopes to discover traits that make certain cultivars more appropriate for Ohio growers. He is also an assistant grower at a local wholesale grower with five acres under glass and is passionate about educating growers about invasive species still being offered for
sale. He would like to earn a master’s degree in plant ecology and work at a botanical garden educating the public about the role of plants in a healthy environment.

**Marissa Lamp**

Marissa Lamp is pursuing a degree in greenhouse management at the Agricultural Technical Institute of The Ohio State University. She managed a local greenhouse on her own through an independent study project with the FFA (Future Farmers of America) organization. Lamp continued her research through her college courses, working at OSU’s research greenhouses in Wooster, OH, and independent projects. Last year she won third place in Nursery Operations at the Ohio State FFA Convention and will compete as a finalist again this year. Her passion for horticulture inspires her to eventually own a greenhouse and garden center that focuses on educating the community.

**Megan Schafer**

Megan Schafer is a student at Cuyahoga Community College pursuing three associate degrees including an Associate of Science in plant science and landscape technology. She was also a member of the National Collegiate Landscape Competition Team and competed in the Irrigation Troubleshooting and Business Management competitions. Schafer placed second overall in the Irrigation Troubleshooting competition. She has also completed personal research on regenerative agriculture and geoengineering. Schafer hopes to transfer to a four-year university. She will pursue a career at a nonprofit organization focusing on reforestation or irrigation in impoverished communities.

**The Corliss Knapp Engle Scholarship in Horticulture**

Established in 2010 to encourage the development of research, documentation, and teaching skills in the field of horticulture, this scholarship honors the memory of the exceptional and inspiring Corliss Knapp Engle, a long-time member of the Chestnut Hill Garden Club (Zone 1). The scholarship is open to undergraduate and graduate students, advanced-degree candidates, and nondegree-seeking applicants above the high school level.

**Sean Markovic**

**Plant Growth Regulators**

Sean Markovic is a PhD candidate at Colorado State University with a research focus involving plant growth regulator (PGR) applications on herbaceous perennials. His goal is to provide commercial growers of difficult-to-produce herbaceous perennials with improved protocols for stock-plant production and propagation. By using PGR to manipulate plant growth habits, this research has been able to find ways to incorporate PGR applications into the production procedures for herbaceous perennials. The ability to increase vegetative growth and production efficiency has resulted in greater profitability for commercial growers over the past two years.

**Kyra Matin**

**Research at Dunedin Botanic Garden in New Zealand with UWBG**

Kyra Matin is a master of environmental horticulture candidate in the School of Environmental and Forest Sciences at the University of Washington, Seattle. She will be studying at the Dunedin Botanic Garden on the South Island of New Zealand to train and conduct research for the continued development of the New Zealand native plant display at the University of Washington Botanic Garden (UWBG). The UWBG has the largest collection of New Zealand native plants outside of New Zealand. She will be involved in seed collecting, cultural research, and evaluating plant selection and care strategies.

**Gabriella Hale**

**McNair Scholars Research Program**

Gabriella Hale is an undergraduate honors student at Texas Tech University where she is majoring in plant and soil science. As a member of the McNair Scholars Program, she will be designing and constructing controlled-environment plant growth chambers. These chambers will be used to measure the CO₂ gas exchange rates of plants with genetic mutations for their blue light receptor proteins. A recent discovery by Hale’s mentor, Dr. Mendu, has concluded that these mutations influence cellulose biosynthesis. Hale hopes her research in plant physiology will help scientists better understand how plants regulate cellulose production on a genetic level.

**Gabriela Maria Garcia**

**Stability in Coffee Agroecosystems**

Gabriela Maria Garcia is a PhD candidate in biology at Tufts University. In her doctoral research, she employs socio-ecological methods to explore the causes and consequences of yield variability in coffee agroecosystems. Her work will reveal opportunities to promote the stability of small-scale farmer livelihoods in the face of increasing climate variability. She looks forward to sharing her results with both the farming and scientific communities. Garcia has also enjoyed mentoring numerous undergraduate students in interdisciplinary fieldwork.

**Alejandra Feliciano**

**Sustainable Urban Horticulture for Ornamental Plants in Private Gardens**

Alejandra Feliciano is a PhD candidate in horticulture at Washington State University. Her research investigates a novel method for creating self-sustaining ornamental planting beds by addressing plant selection from an ecological perspective. She aims to create sustainable seed mixes by selecting species that are predicted to out-compete weed species and will tolerate competition. Aesthetic appeal will be enhanced by selecting species that are both attractive and ecologically adaptable to urban conditions.

**The Garden Club of America Hope Goddard Iselin Fellowship in Public Horticulture**

Established in 2013 and administered by the American Public Gardens Association, the fellowship further the study of public horticulture through experiential learning that takes place at a recognized public garden, botanic garden, or arboretum within the United States.

**Michael Bradshaw**

**Epidemiology and Biology of Powdery Mildew on Ornamental Plants**

Michael Bradshaw is a PhD candidate studying fungal pathogens at the University of Washington. His dissertation research will include mapping out and evaluating the diversity of fungi within Pacific Northwest botanical gardens. Bradshaw will create a herbarium collection of these fungi and add
them to a genetic database. He also has a keen interest in ornamental horticulture and the substantial economic losses to the industry caused by non-native organisms. Bradshaw’s goal is to become a university affiliated garden director or herbarium curator as well as teaching and conducting research.

**The Garden Club of America Montine M. Freeman Scholarship in Native Plant Studies**

Established in 2017 to encourage the understanding and development of under-utilized native plants, this scholarship is open to college undergraduates and graduate students, advanced degree candidates, or nondegree-seeking applicants above the high school level to encourage the development of research, documentation, and teaching skills in the field of horticulture. It was made possible by utilizing surplus funds from the Montine M. Freeman Medal account and the generosity of the Freeman family.

**Rachel Smith Strategic Plan for Native Plant Gardens at State Botanical Garden of Georgia**

Rachel Smith is a master’s student in the Department of Horticulture at the University of Georgia working on the development and implementation of a strategic plan for native plant gardens with Dr. Jim Affolter at the Mimsie Lanier Center in the State Botanical Garden of Georgia (SBG). The research program aims to learn more about the culture of native plants in urban areas and restoration sites. The goal is to study and discuss the scope of native plant trial programs at other universities and botanical gardens and to establish partnerships to help develop a similar program at SBG.

**Nicole Argueta**

**Creation of a Unique Garden within the San Luis Obispo Botanical Garden that Implements Education on Native Plant Species**

Nicole Argueta is a sophomore majoring in environmental management at California Polytechnic State University, San Luis Obispo. The focus of her research project is the development of an educational garden unique to San Luis Obispo Botanical Garden. The garden’s footprint will be enhanced by the watershed restoration of a narrow seasonal creek. Educational emphasis will be given to indigenous plants and their medicinal uses. Members from the local Chumash council will serve as advisors to incorporate education about their culture into the botanical garden.

**The Garden Club of America and Royal Horticultural Society Interchange Fellowships**

Established in 1948, these two fellowships provide for a reciprocal exchange of British and American students in horticulture, landscape architecture, and related fields to study and intern in each other’s country for one year.

**The Royal Horticultural Society Interchange Fellow**

**John Nix**

John Nix graduated this spring from North Carolina State University with a BS in horticultural science and plant biology. He has worked in the Mountain Crop Improvement Lab under Dr. Tom Ranney and has two independent projects in blueberry genetics, working with the Genomics Lab at NC State. His interest in horticulture began with the Future Farmers of America in high school, and includes plant breeding, tracing, and public horticulture. This summer he will have a specially designed internship at Longwood Gardens before his Interchange Fellowship begins. As the RHS Interchange Fellow, Nix plans to continue studying ornamental horticulture and to further develop his skills as a researcher, educator, and plantsman.

**The Garden Club of America Interchange Fellows**

**Henry McBeath**

Henry McBeath will be at Longwood Gardens for the 2019 GCA Interchange Fellowship year. He decided to pursue horticulture seriously in 2016. McBeath was accepted by the MacRobert Trust and Royal Botanic Gardens, Edinburgh, where he earned the Level 2 Certificate in Practical Horticulture and the Level 2 Certificate in Principles of Horticulture. He was a garden intern at Inverewe Garden where he took various plant identification tests and learned impressive skills such as mastery of heavy machinery and propagation in all its forms including from delicate cuttings.
Kathryn Bray
Kathryn Bray is going to Longwood Gardens for the 2019 GCA Interchange Fellowship year. In 2014 she received a BS with honors at Bournemouth University and since then her history of garden placements is impressive. It includes Sir Harold Hillier Gardens and the Cambridge University Botanic Gardens, where she earned a Level 4 Certificate of High Education in Practical Horticulture and Plantsmanship. She is currently completing the rigorous Diploma in Horticulture Course at Royal Botanic Gardens, Kew, where she runs the Kew Mutual Improvement Society, a series of lectures she coordinates and introduces. Bray has a number of published articles and has strong public speaking and writing skills.

The Rome Prize Fellowship in Landscape Architecture
Established in 1928, this fellowship provides American landscape architects the opportunity for advanced study at the American Academy in Rome.

Dr. Kate Thomas
Nymphaeums, Grottos and the ‘Pink Lily': Lesbian Gardens in fin-de-siècle Italy
Dr. Kate Thomas is the K. Laurence Stapleton Professor of English at Bryn Mawr College. She holds a master’s degree from Cornell University and a PhD from University of Oxford. Her project will focus on the sensory qualities of the garden, including vistas, textures, and sounds, and exploring how a body might move through the space. She says, “this project allows me to turn my literary study to the material and botanical, a gesture newly understood in my field as attention to ‘vibrant matter,” appreciated by authors over a century ago to be particularly enabled by the Italian culture. Her study will concentrate on Villa Gamberaia, near Florence. She intends to publish both an article and a book following her residency.

The Frances M. Peacock Scholarship for Native Bird Habitat
Established in 1994 and administered by the Cornell Lab of Ornithology in Ithaca, NY, the scholarship is awarded to college seniors and graduate students for the study of habitat-related issues that will benefit threatened or endangered bird species and inform land management decisions.

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Kathryn Grabenstein
An Experimental Assessment of How Urban Green Spaces Alter Species Interactions
Kathryn Grabenstein is a PhD candidate at the University of Colorado, Boulder. Overall, her work explores the patterns that urban green spaces appear to change. Combining field studies and genomic approaches, Grabenstein investigates how gardens and backyards modify the interactions between chickadees to promote hybridization. She is also establishing a long-term study titled the Boulder Chickadee Study, as an experimental framework to address this question. Results from this work will provide insight into how the interactions between species are altered in a rapidly changing world.

Spenser Keyser
Impacts of Climate-Mediated Mangrove Expansion on Avian Community Structure and Food Web Dynamics
Spencer Keyser is a master’s student at the University of Texas Marine Science Institute. Using regional long-term data sets combined with local field surveys, he will investigate how climate-driven changes in coastal vegetation (i.e. marsh-mangrove shifts) will impact bird community composition and food web interactions across the Gulf of Mexico. Keyser believes understanding how climate and vegetation shifts impact bird assemblages is crucial to conserving and predicting changes in current avian biodiversity across the Gulf of Mexico.

Spencer Keyser
Mangrove Expansion on Avian Impacts of Climate-Mediated Community Structure and Food Web Dynamics

Joshua Driscoll
Characterizing Habitat on Breeding and Non-breeding Grounds for Eastern Whip-poor-will
Joshua Driscoll is an undergraduate student at Worcester Polytechnic Institute. Driscoll’s research will utilize GPS trackers to monitor the migratory path of the eastern whip-poor-will, identifying where the species spends the winter. The winter habitat will then be compared to the breeding grounds using ArcGIS. This information will help identify specific habitat requirements needed for whip-poor-wills so that conservation management plans can be established.

The Garden Club of America Board of Associates Centennial Pollinator Scholarship
Established in the spring of 2013 and administered by the Pollinator Partnership, this fellowship supports one or more graduate students to advance the knowledge of pollinator science. It was made possible by generous gifts given in honor of the GCA Centennial by members of the Board of Associates.

Aramee Diethelm
Pollinator Survival and Water Stress: Effects of Plant Chemistry on Pollinator-predator Interactions
Aramee Diethelm is a PhD candidate studying plant-insect-predator interactions at the University of Nevada, Reno. She is interested in how variation in plant chemistry impacts herbivore survival. Her project investigates how milkweed (Asclepias) chemical traits alter the interactions between western monarchs (Danaus plexippus) and their predators across a rainfall gradient. By exclusively consuming milkweed, monarchs are toxic to some
predators. However, the chemistry differences within milkweeds as well as the health of the plant impact monarch survival. Diethelm will research how drought stress interacts with plant chemistry, which may impact monarch survival. Her research will aid monarch conservation across the arid West.

Hannah Levenson Qualifying the Disease Ecology across Pollinator Communities as a Result of Planted Pollinator Plants

Hannah Levenson is a PhD candidate in the Department of Entomology and Plant Pathology at North Carolina State University with co-majors in entomology/biology and ecology/evolution. Levenson is conducting a multi-year survey of the native bee populations across North Carolina and assessing how planted habitat affects these populations over time. Her study utilizes previously established pollinator plots to test a range of pollinator species for disease presence and quantity. She measures the presence and infection level of several different pathogens across many bee species found at the site. This study will be the most detailed survey of native bees in North Carolina to date and will aid in making future conservation decisions.

Funded by North Suffolk Garden Club, Zone III

Nyika Campbell Independent Research at University of Colorado Mount Research Station on Niwot Ridge

Nyika Campbell is an undergraduate at the University of Colorado, Boulder majoring in ecology and evolutionary biology. Her interests are plant biology and population ecology. This summer she is undertaking a manipulative field study in Colorado’s Front Range to examine how changing climate conditions affect alpine plants. Her work specifically examines the seedling germination rate of the alpine flower (Geum rossii) in response to warmer weather and early snowmelt across community types. This work will provide an improved ability to predict how plant populations will be affected by climate change across complex landscapes.

Kristen Rabbitt Research at the Richard B. Gump Field Station in Mo’orea, French Polynesia

Kristen Rabbitt is an undergraduate at Rice University in Houston majoring in ecology and evolutionary biology. For the past year, she has been part of a team working to establish protocols for the analysis of symbiotic algae in the stomach contents of fish. This summer, she will be working in Mo’orea, French Polynesia, to research the potential for coral-eating fish to disperse an important coral-associated algae. Her research will help contribute to our understanding of coral reef fish and the role they play in coral reef resilience.

The Clara Carter Higgins Summer Environmental Studies Scholarship

Established in 1964 to encourage college students to further their studies and careers in the field of ecology, this scholarship offers opportunities to gain knowledge and experience beyond the regular curriculum.

The Garden Club of America Awards for Summer Environmental Studies

Established in 1993, this scholarship encourages undergraduate summer studies in fieldwork, research, or classroom work in environmental studies beyond the regular curriculum.

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such as climate change or veterinary antibiotics—may influence this important dynamic.  
**Funded by Green Spring Valley Garden Club, Zone VI**

### Damon Leach  
**Occupancy Modeling of Bumblebees and Citizen Surveys**  
Damon Leach is a junior majoring in statistics with a minor in biology at the University of Minnesota, Twin Cities. He will be working as an assistant at the Cariveau Native Bee Lab utilizing both of his study areas. This summer’s research will combine fieldwork with citizen sightings of bumblebees with the goal of creating more efficient methods of bee population estimates based on detection probabilities. This research will provide better information regarding locations of different types of bumblebees and help inform management policy.

### Jessica Sales  
**Costa Rica Summer Research**  
Jessica Sales is a junior majoring in industrial engineering with a minor in alternative energy and sustainability at Robert Morris University. She will be studying regions in Costa Rica that face a critical environmental challenge. Her research endeavors will focus on the intricate intersections of conservation, climate change, economic development, and ecosystem function. In order to facilitate this research, she will be immersed in the local community to learn from citizens’ perceptions of sustainability. Her research results will provide critical data that will contribute to Costa Rica’s sustainable development.  
**Funded by The Trowel Club, Zone VI**

### Jason Dean Robinson  
**Summer Research in Plant Ecology**  
Jason Dean Robinson is an undergraduate at the College of William and Mary studying biology and plant ecology. Working with the Milkweed Conservation Lab led by Dr. Harmony Dalgleish this summer, he will research the potential mutualism relationship between the longhorn milkweed beetle (Tetranopes tetrophthalmus) and the common milkweed plant (Asclepias syriaca). The longhorn beetle is known to be parasitic to the milkweed plant, eating the plant’s roots. There may be evidence, however, that the presence of the beetle changes the plant’s nectar chemistry, increasing its attractiveness to essential pollinators. Robinson’s goal in studying this relationship is to increase the efficiency of milkweed plant conservation efforts.  
**Funded by Amateur Gardener’s Club, Zone VI**

### Gabby Ross  
**Wildlife Management and Human Environment Interactions**  
Gabby Ross is a sophomore at the University of Tampa. This summer she will spend a month in the Serengeti with The School for Field Studies, an independent study abroad organization, where she will focus on the biophysical and socio-cultural influences on the ecosystems of Tanzania. She will record animal behaviors, wildlife consensus data, and various quantitative/qualitative observations that will augment The School for Field Studies’ ongoing research. Her goal is to determine how to effectively use natural resources and sustainable practices to benefit both the economies of the local communities and the conservation of the region’s wildlife.  
**Funded by MAM-NWJ Foundation, Inc.**

### Autum Auxier  
**Marine Hope Conservancy**  
Autum Auxier is a junior concentrating in zoology at Ball State University, Muncie, IN. She will participate in a marine biology summer research program aimed at converting Algoa Bay, South Africa, into a Marine Protected Area. Auxier will collect gut samples from various species through the trophic levels for marine plastic analysis. Her work will include deploying and analyzing the footage from Baited Remote Underwater Videos, participating in marine stranding surveys, and attaching GPS trackers to adult African penguins. Her data will be combined with many other projects having similar goals.

### The Mary T. Carothers Summer Environmental Studies Scholarship
Established in 2005, this scholarship is for undergraduate students who are doing summer fieldwork, research, or classroom work beyond their regular curriculum.

### The Elizabeth Gardner Norweb Environmental Studies Scholarship
Established in 2005, this scholarship encourages undergraduate summer studies doing fieldwork, research, or classroom work in environmental studies beyond the regular curriculum.

### Simone Evans  
**Research Experiences for Undergraduates/Smithsonian Center**  
Simone Evans is a freshman at the University of Maryland who has been studying orchids and their fungal partners at the Smithsonian Environmental Research Center. This summer she will focus on hybrid orchids using genetic markers to identify their fertility. She will also isolate and sequence fungi from the roots of the hybrid orchids and the parent species to identify whether the hybrid’s fungi are more similar to one parent. Understanding that orchid distribution and viability rely heavily on the fungi available, Evans will compare the geographic distribution of the hybrids and their parent species to their fungal signature.
Adele Woodmansee
Independent Thesis Research in Oaxaca, Mexico

Adele Woodmansee is a senior at Harvard University. She is a double major student in integrative biology and social anthropology with a minor in Latin studies. For the past three years she has been researching maize agriculture in a Zapotec community in southern Mexico. Woodmansee is conducting a genetic study for transgenic contamination in combination with ethnographic research on seed saving practices, the role of subsistence agriculture in family economies, and local ideas around contamination and chemical use. This summer she will return to Oaxaca to complete final field work and present results of her genetic research to the community.

Samuel Flett
Wildlife Health Immersion in Africa: Ecology, Capture, Rehabilitation and Forensics

Samuel Flett is a junior majoring in wildlife conservation at Virginia Polytechnic Institute and State University. This summer he will study in Chobe National Park, Botswana, conducting international field research and data collection in ecology, wildlife capture, rehabilitation, and forensics. The research will focus on discovering creative solutions to critical social problems emergent from human activity and environmental change, specifically in areas including water systems, rural environments, wildlife conservation, and infectious disease.

The Garden Club of America Zone VI Fellowship in Urban Forestry

Established in 2005 for advanced undergraduate or graduate students to study urban forestry and related subjects, this fellowship is administered by the GCA in collaboration with Casey Trees, Washington, DC.

Avery Williams
Using High-resolution Satellite Data to Track Phenological Shifts of Urban Vegetation for Individual Tree Scale Analyses

Avery Williams will be a master’s student in environmental science at American University in August 2019. Her research will use high-resolution satellite data to track phenological shifts of vegetation over downtown Washington, DC. This study will examine how flowering fluctuates from cold and warm years while evaluating these changes on an individual-response level based on species and site variability. Monitoring the phenological shifts via satellite images may allow a better understanding of vegetation response to climate change.

Funded by Casey Trees, Washington, DC, Zone VI

Brooke Saba McDowell
Urban Forestry and the Effect on Longevity

Brooke Saba McDowell is a master’s student in gerontology at Virginia Commonwealth University, Richmond, VA. She will research how the existence or absence of trees in the urban environment impacts older adults including effects on their health, wellness, and longevity. The data will be analyzed for themes. Conclusions and recommendations will be shared with community members and organizations.

Funded by Casey Trees, Washington, DC, Zone VI

Erica McCormick
Modeling the Effect of Urbanization on Trees in Riparian Settings

Erica McCormick is an undergraduate at the University of Texas, Austin. Her project seeks to analyze the effects of urbanization on large riparian trees in Austin by deploying hand-built sensor packages at multiple tree heights. These sensors will measure variables such as soil moisture, sap flow, rain penetration, leaf area index, and branch movement from wind. She will combine this information with meteorological and streamflow data to build and test computer models of how urbanization changes riparian ecosystems and the trees that live there.

The Elizabeth Abernathy Hull Awards

In addition to announcing its scholarships, the GCA, through this national award, recognizes individuals who work with children under 16 to inspire “their appreciation of the beauty and fragility of our planet.” Award recipients are proposed by a GCA club or club member.

Carol Burton
Houston, TX

Proposed by Doris Heard, The Garden Club of Houston, Zone IX

Carol Burton began volunteering for Urban Harvest 20 years ago and is now director of youth education. She currently oversees the garden and nutrition classes for 22 schools, impacting children aged 4–14 from all over greater Houston. Urban Harvest is a nonprofit organization with three programs: community gardens, farmers market, and youth education. Over the last 15 years Burton has greatly enlarged her job to include training garden educators and project managers who help develop edible gardens. Eighty percent of the schools with an edible garden are Title 1 schools where nearly 100 percent of the students are receiving free breakfast, lunch and now from the garden, dinner.

The Garden Club
Free Breakfast, Lunch, and Dinner

The Garden Club began offering a free breakfast, lunch and now from the garden, dinner. Ninety percent of the students are receiving free breakfast, lunch and from the garden, dinner. The program is administered by the GCA in America Zone V Fellowship in Urban Forestry.

Elijah Catalan
Access to Wilderness in Washington, DC

Elijah Catalan is a junior at Howard University working toward a BS in biology and a BA in environmental studies. Trees and wilderness are known to improve the health and economic welfare of communities. His research investigates the relationships between the racial and economic demographics of Washington, DC, to the distance from parks and tree cover in the metropolitan area. His goal is to determine whether DC communities have unequal access to green spaces due to socioeconomic status thereby providing data to advocate for more inclusive urban planning.

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Funded by Casey Trees, Washington, DC, Zone VI
Regina DiStefano  
Tarrytown, NY

Proposed by Anne Myers, Garden Club of Irvington-on-Hudson, Zone III

As the lower school science teacher at Hackley School in Tarrytown, NY, for the past 14 years, Regina DiStefano works with children in Grades K–4 teaching subjects such as earth science, ecology, biology, and living organisms. She also collaborates with middle- and upper-school students to document the ecology of the extensive forest surrounding the campus. Her lower-school students help by maintaining salamander count, identifying plants and animals, and assisting with trail clean up and restoration. In 2014 she initiated a lower-school project to plant a vegetable and herb garden to attract pollinators that has become a focus of the lower-school curriculum and a source of pride for the students. DiStefano also teaches popular after-school and summer classes.

Amy Jagodnik  
Washington, DC

Proposed by Natalia Jagannathan and Janet Lindgren, The Trowel Club, Zone VI

When Amy Jagodnik’s children were students at Horace Mann Elementary School in Washington, DC, she volunteered to cultivate school partnerships with DC Greens, Shelburne Farms and Center for Ecoliteracy. As the School Improvement Team Chairperson, she directed numerous sustainable and green initiatives that resulted in the school’s 2017 Gold LEED certification. In 2010 the school hired Jagodnik to be the garden coordinator at Horace Mann Elementary School with a population of over 400 students ages 4–12. She has developed a year-round school garden program with 16 tower gardens, seven beehives, a developing fruit orchard, and egg-laying hens plus chicks. Twice weekly she teaches the youngest students in the garden. Middle-school classes focus on food production, healthy eating, and waste management. The executive director of Casey Trees noted in his letter of recommendation that Jagodnik organized an event for 400 students emphasizing the importance of trees, and in 2017 she was recognized with Casey Tree’s Canopy Award for Education.

Funded by Lorill Haynes, Trustees’ Garden Club, Zone VIII

Kellie Karavias  
Houston, TX

Proposed by Doris Heard, The Garden Club of Houston, Zone IX

Kellie Karavias is the Culinary Arts Educator at Gregory-Lincoln Education Center in the historic Fourth Ward near downtown Houston, with an enrollment of nearly 700 primarily low-income students ages 4–14. Employed by Urban Harvest, she is also the founder of the Cultivated Classroom where students learn about food by working in the garden, caring for chickens, picking fruits from the orchard, and preparing these foods in the kitchen classroom. Cultivating their minds and bodies, Karavias’s students know where their food comes from because they sow it, grow it, share it, and eat it. She initiated a unique program working with a local grocery store to create a Kids Market. There, students are responsible for marketing, display, pricing, and selling the food they grow. Karavias observes that, “the school garden melts barriers and changes everything. It is a safe place for them to be themselves.”

Victoria McMillan  
Cleveland, OH

Proposed by Robin Schachat, Shaker Lakes Garden Club, Zone X

Victoria (Torrey) McMillan is the director of the Center for Sustainability at Hathaway Brown School in Cleveland, the oldest continuously operating college preparatory school for girls in Ohio. She is a mentor to these young girls, setting an example by running marathons, participating in triathlons, and being the only female contestant in a 700-mile kayak race. She tirelessly advocates for youth environmental education in the community. As director she understands that teaching the teachers will bring awareness to more students, but her personal focus is lower and middle schoolers. On campus, she and her students designed and built a bird sanctuary, which is incorporated in many educational lessons. Her goal is to enhance her students’ appreciation of the natural world so they can act to help save it.

Jackie Kondal  
Summit, NJ

Proposed by Mary Lewis, Garden Club of Madison, Zone IV, and Mary Kent, Plainfield Garden Club, Zone IV

Jackie Kondal is the director of children’s education at Reeves-Reed Arboretum in Summit, NJ. During the ten years she has held this position, over 10,000 students have participated in the “Hands to Nature” program for children ages three and up. Each year, Garden Club of Madison funds field trips for students from Newark, NJ, who otherwise might not be exposed to natural habitats. To prepare students, Kondal travels to the Newark schools beforehand to describe their upcoming Reeves adventure. When they arrive at the arboretum, she guides them in hands-on activities to teach appreciation of nature. She also develops all children’s activities for special events such as Daffodil Day and Celebrate Fall. She now has a staff of three to help support these very popular programs.
Nina Miller
Darien, CT
Proposed by Susan Brewer and Danielle Granath, Garden Club of Darien, Zone II
Nina Miller has been involved with The Darien Nature Center since 1992. Originally a volunteer, she became a member of the program staff 15 years ago, leading all preschool program activities. Her imprint in the community is legendary. She has a singular ability to connect with children, knowing how to teach so that they both engage and remember what they have learned. Among the many activities she has developed and taught are Babes in the Woods, Nature Time for two-year-olds, Knee High to Nature for threes, Critters and Kids, Nature’s Playroom, and Story Time with the Animals. Miller also directs a seven-week summer camp for two- and three-year-olds. Her after school program is called Animal Caretakers Club geared for children in Grades 2–6. She also leads elementary school students on environmental tours at the Nature Center and other public parks. The executive director of the Darien Nature Center said “the world is better because of Nina and our environment has a fierce advocate for protection.”
Funded by Sasqua Garden Club, Zone II

Elizabeth Minott
Northeast Harbor, ME
Proposed by Eleanor Andrews, Garden Club of Mount Desert, Zone I
Betsy Minott is the garden coordinator and education technician in the Mount Desert Island School in Maine, working with all students ages 5–14. Examples of her innovative programs include harvesting potatoes and graphing favorite ways to eat them (Grades 1 and 2), and creating seed-to-table salsa recipes in Grade 7 Spanish class. She taught Grade 3 science classes inherited traits by growing five different lettuce seedlings. In 2015, The Garden Club of Mount Desert and the town funded a greenhouse to engage students in hands-on food growing to support community connections to nature, sustainability, healthy choices, and food security. Minott created the greenhouse’s programming and according to the principal, “the results are magical.”
Funded by Ridgefield Garden Club, Zone II

Kathy Sapienza
Bath, OH
Proposed by Ann Hubiak, Akron Garden Club, Zone X
Kathy Sapienza works at Old Trail School, an independent day school in Bath, OH, for students in pre-K–8. She successfully implemented a cross-disciplinary edible education program teaching the concept of planting the “Three Sisters,” incorporating history, horticulture, and environmental stewardship. She has established four hives and set up a “Farm Hands-on” elective for students in Grades 6–8. The food the students produce is served in the school dining room almost every day. The curriculum also includes working with children in Grades 3–5 on raised garden beds, tapping maple trees, and harvesting syrup. Last year, middle schoolers harvested and cultivated organic cotton. Next year they plan to replant cotton using the seeds they saved and also to start a dye garden with flowers, roots, and berries.
Funded by Julie Johnson, Little Garden Club of Columbus, Zone X

Sue Schoenfeld
Rumson, NJ
Proposed by Guendolyn Wisely, Rumson Garden Club, Zone IV
Sue Schoenfeld has been a third-grade teacher for over 23 years. She has also served as garden club advisor at The Deane Porter School in Rumson, NJ, for the past 15 years, teaching children ages 7–9. In 2003 working with the Rumson Garden Club, Sue created a monarch butterfly garden in the courtyard of the school. She taught the children the importance of the role monarchs play in our ecosystems. As the program grew, she arranged trips for students and their parents to Mexico to take part in the Monarch Watch. Upon their return, students would share their experiences. Schoenfeld also pioneered the school’s recycling program by inviting the senior director of Monmouth County’s recycling department to speak to third graders as well as guiding field trips to the recycling center.
Funded by Julie Johnson, Little Garden Club of Columbus, Zone X, in honor of Gina Brandt, Hancock Park Garden Club, Zone XII

Laura & Shawn Sears
San Francisco, CA
Proposed by Karen Gilbully and Abigail Wilder, Woodside-Atherton Garden Club, Zone XII
Laura and Shawn Sears founded a free residential outdoor education program called Vida Verde Nature Education in 2001. Since then, the three-day, non-profit, outdoor education camp has positively impacted 11,000 inner-city students ages 10–12 who come from under-resourced schools and have no access to outdoor learning programs. During the school year, fifth graders camp for two nights in Northern California and participate in many activities, such as milking goats, walking silently through the forest, and harvesting vegetables from the organic garden, which is used to prepare their dinner. Students also visit the coastline exploring sea life along the shore and splashing in the ocean. This hands-on science education and team-building program is life changing for the children. These outdoor experiences provide low-income students with an introduction to the wonders of nature, as well as a respite from their daily routines. Laura Sears says, “Camp is magic.”
Funded by Julie Johnson, Little Garden Club of Columbus, Zone X, in honor of Gina Brandt, Hancock Park Garden Club, Zone XII

Norma Simmons
Little Rock, AR
Proposed by Rebecca Smith, Little Rock Garden Club, Zone IX
Norma Simmons started the ACCESS garden in 2003, a nonprofit program offering full-time education, therapy, and training for children with developmental disabilities. The students, ages 7–16, grow a variety of flowers, fruits, herbs, and vegetables from cuttings, seeds, and small plugs. Then they host garden sales for the school and community, while learning customer service skills, reading, writing, use of currency, and math. The raised beds in the 3,364-square-foot greenhouse make gardening more accessible for these special-needs students who would otherwise not be able to experience horticulture and caring for plants. Making worm tea is another popular activity. The HydroCycle Vertical System, which Simmons initiated five years ago, is also accessible by all, rewarding the student gardeners with plants growing 30–50 percent faster than traditional growing methods.

Maggie Tuohy
Maplewood, NJ
Proposed by Laura Gilkey and Jane Conrad, Garden Club of the Oranges, Zone IV
Maggie Tuohy is the garden instructor at Seth Boyden Demonstration School, a Title 1 kindergarten to fifth grade school in Maplewood, NJ. A Master Gardener and former volunteer, she is now a faculty member working to align the school’s garden and outdoor experience programs with the New Jersey state curriculum. The Outdoor Learning Center, which she helped develop, includes the Strawberry Fields teaching garden, a habitat garden, and a native arboretum. Every grade level has a garden bed to plan, plant, and maintain through which students learn math, history, and language arts. On garden walks in the rain, students also learn to hear the differences in the sounds on rainy versus dry days. Tuohy has empowered thousands of students to appreciate and interact with nature.