Matthaei-Nichols: bridging the academic and public sides of the university

Inside: 3,000 Members • Straw Bale Structure • A Big Tree in the Arb • Before and After • Beautiful Bugs • Heritage Seeds Take Root • Third Summer for Wolverine Pathways
Dear Friends,

What's unique about our university-based botanical garden or arboretum?

One key difference between us and other gardens is our commitment to teaching and research in addition to public outreach. As a museum facility at the University of Michigan, we bridge the academic side of the University and the general public, providing an important entry point for members of the broader community.

From their early history, university botanical gardens and arboreta served critical roles as laboratories for science education. The earliest botanical garden on U-M campus was a medicinal garden to help students in pharmacy and medicine learn about plants used as medicines. Since then, we have developed extensive collections of plants from local ecosystems and from around the world. Today, we maintain many plants that are threatened in the wild, and our collections and gardens serve an important role in plant conservation.

As is the case with many university botanical gardens and arboreta, dozens of classes and thousands of students from the University and from other schools use us as places to learn. Those learning and teaching opportunities include botany, ecology, sustainable agriculture, engineering, kinesiology, data science, the visual, literary, and performing arts, and many more. The variety of ways we serve as learning and training environments only continues to grow.

For members of the broader community and those from campus, university botanical gardens and arboreta contribute to the overall quality of campus life, providing much-needed places of respite and beauty that contribute to mental health and well-being. Over the years, I’ve encountered walkers in the Arb who point to the hospital and say “That's where I go for treatments, but here's where I come for my therapy.” Many of our students tell us that our spaces help them deal with the stress of campus life throughout the year, whether running or walking in the Arb or making it through the long Michigan winter on a visit to our conservatory.

The following stories demonstrate the values we represent and our unique role as bridge between the academic and public sides of the university.

Sincerely,

Bob Grese

Director
Research

Teaching

Public Engagement

Health and Wellness

Story continued on next page

Michele Yanga, and Scott Soderberg; design by Mackenzie King.
A GOLD MINE FOR RESEARCHERS

Matthaei-Nichols GIS intern Daniel Wu’s work this summer focuses on creating GIS records of woody plants. The records will enhance and add value to the U-M Woody Plants class, helping students with their plant ID skills. The woody plants data will also populate the geodatabase. This is useful for Matthaei-Nichols, Daniel writes, “Because the gardens and Arb are living museums, we have plants from all over the world that are of interest to researchers and scholars.”

Daniel also observes that working on plant IDs changed his perception of the Arb. He thought he’d never find any nannyberry (Viburnum lentago) in the Arb, but one morning happened to notice a tree with the nannyberry’s characteristic winged petioles. “I noticed it had lots of small white flowers and as I was walking along Nichols Drive later that morning, I began to see the same white flowers. The flowers were like neon lights pointing to the nannyberry and I could see it from quite far away. I have discovered many examples of species in surprising locations. Plant identification makes you see the Arb so differently!”

HANDS-ON LESSONS IN SUSTAINABLE BUILDING

Students in Professor Joe Trumpey’s Green Building class (U-M College of Literature, Science & the Arts Program in the Environment) built a structure of straw bales and adobe at the Campus Farm at Matthaei Botanical Gardens this spring. It’s the first structure on the Ann Arbor campus that’s built by students, and it’s the first building on campus to claim off-the-grid status. Student Kristen Hayden recalls her experience helping build it.

“I worked on everything from laying the foundation and stacking straw bales to applying adobe and building the porch. Everyone had a chance to try everything. The project gave me the confidence that I am able to build anything. It was incredibly empowering to do it all ourselves, and I learned that nothing is as difficult as it looks.

“The whole project was a constant flow of teaching and learning as we passed around information, asked questions, and told each other tips for getting things done better. Because of this learning style, I’ve become a more independent worker and I’m better at explaining instructions and showing people how to complete things. Most important, it was a chance to do something hands-on, which is in rare supply in academia. It’s really impossible to understand something unless you’ve done it yourself.”

THE AUTHORS

Tamara Pietala
Arboretum Visitor and Volunteer

Daniel Wu
Nature Academy Intern

Sarah Gizzi
Arboretum Caretaker

Kristen Hayden
University of Michigan Student
THE ARB WAS HER SANCTUARY

Tamara Pietala volunteered for eight days this past summer in Nichols Arboretum. It was a way to give back, she explains: being in the Arb helped her through one of the most difficult times of her life. In 2016 and 2017, Tamara’s husband spent many months in the U-M hospital. Home, in Chassell, Michigan, in the Upper Peninsula, was far away. In Ann Arbor, just across the street, the Arb became her emotional savior, she says, a place where she could unwind during her husband’s treatment.

“While my husband was in the hospital I spent many hours running on the trails in the Arb. I honestly think that having such a beautiful place to go to, to run my heart out and help clear the many emotions I was feeling, helped tremendously in dealing with my husband’s illness and all that it entailed. The Arb is awesome. Sometimes after I finished my run I’d just sit by the river and watch. It was my sanctuary during that time, and I will forever be grateful for it.

“When my husband and I returned home in May 2017 I had in the back of my mind that someday I would come back to help and to give back to a place that meant so much to me. A little over a year later, all the pieces fell into place and I was able to make the trip. The week I spent working in the Arb was a great experience and I’m hoping that as each year rolls around, I will be able to come back and help again and again!”

BUILDING

A PLACE FOR EVERYBODY

This summer—her third working for Matthaei-Nichols—Sarah Gizzi is a caretaker in Nichols Arboretum. She spends most of her time in the peony garden and lives in the caretaker’s cottage, she says, “where the sounds of the Ann Arbor hustle and bustle are not present, and you can revel in the beautiful nature all around.” Sarah reflects about working in the Arb, talking to visitors, and explaining the importance of what they’re seeing and experiencing.

“I may not be directly interacting with the public every day, but I’m still in the presence of visitors for the majority of my work. I get a lot of questions about the peonies. Many people ask how often we water and/or fertilize the peonies, to which I proudly answer: we don’t! Many of our peonies have been in the same place since the early 1900s and are established well enough that the only maintenance they require is weeding, staking, and deadheading.

“I think that a lot of people in today’s society are disconnected from nature and that’s why the Arboretum is such an important part of U-M’s campus and Ann Arbor as a whole. For many, the Arb provides a place of relief from the stresses of everyday life. It can transport people to another time and place. Maybe they grew up in Appalachia and are brought back to their childhood when they walk through Heathdale. Maybe they had a relative who loved peonies and are reminded of them when visiting the peony garden. The Arb means different things to different people. That’s why we work so hard to maintain the trails and natural areas and to hold the collection spaces to a high standard.” It’s our job as interns and caretakers to make the Arb a place for everybody, where anybody can come and learn about nature and connect with their roots.”
They say a picture is worth a thousand words.

We think these pictures tell the story of the thousands of people who joined together to create incredible change at Matthaei Botanical Gardens & Nichols Arboretum. It is hard to imagine that just a few years ago some of your favorite gardens, collections, and programs either didn’t exist, or were shells of their current splendor.

What started as a project led by students interested in sustainable food systems is now the sprawling Campus Farm, featuring passive solar greenhouses, production facilities, and a brand new straw bale building. And, what was an underused hillside is now our Great Lakes Gardens—a premiere collection of plants and ecosystems native to the Great Lakes region.

Walking through our gardens today, it’s easy to see the impact that our donors have made throughout the Victors for Michigan Campaign. Over the course of the campaign, more than 8,407 unique donors have included Matthaei Botanical Gardens and Nichols Arboretum in their philanthropic priorities. Your gifts and commitments have not only made an immediate impact on our spaces and programs, they’ve also set in motion the next wave of change. Stay with us as we build our Bonsai and Penjing Garden into a nationally significant collection. Join us in celebrating the renewal of the historic Nichols Arboretum Peony Garden. Witness how the hundreds of U-M students who have interned here at Matthaei-Nichols create change in the world. In the meantime, we invite you to be a victor for Michigan—and for nature. —Meredith Olson, Matthaei-Nichols Director of Development

Above: Student intern Allison Green carts a wheelbarrow of compost into the original fenced Campus Farm area at Matthaei Botanical Gardens in 2012; below, the farm in summer 2018. Today the farm is a sprawling complex that includes three passive solar greenhouses, production facilities, and a brand-new straw bale building. The Campus Farm is a living learning laboratory for sustainable food systems at the University of Michigan. Crops are grown by students for students through the dining halls on campus. The straw bale structure, the product of a U-M Green Building class, is a model of sustainable building practices.

Over the course of the U-M Victors for Michigan Campaign, more than 8,407 unique donors have given gifts to Matthaei-Nichols.

Below, top: Workmen prepare the Great Lakes Garden site in 2012; below, the gardens in fall 2017. What was once an underutilized hillside at Matthaei Botanical Gardens is now a showcase for Great Lakes’ ecosystems and habitats and the plants that grow in them. Key to understanding the amazing diversity of our regional plants and landscapes, the gardens feature rare plants that visitors may never have a chance to see in nature, such as showy lady-slipper, lakeside daisy, native grasses, and others.
Indigenous Communities Collaborative Garden Grows at Matthaei

The future grows from seeds. The future is rooted in the past. Seeds with histories connect people and places from the past to those of us who plant them today. These seeds and the plants that grow from them are our relatives. These are the lessons that Anishinabe (indigenous peoples of the Great Lakes region) farmers, and Elders shared with U-M staff and interns as we worked together to plant a new garden at Matthaei Botanical Garden. On the last day of May’s lunar cycle more than 30 Tribal partners, Nature Academy interns, Matthaei-Nichols and U-M staff, and several volunteers, instructed by several Elders, planted the garden. Antler rakes and shoulder blade hoes prepared the mounds—no metal cut the earth. When all was done we had a simple feast. Work was purposeful, playful, messy and joyous: one sense was gratitude for this day and future collaborations to help us all learn from the seeds.

The traditional white flint corn (pictured) is the tallest of the corns, beans, squash, Potawatomie watermelons, sunflowers, and sacred tobacco growing in the new Anishinabe Collaborative Garden at Matthaei. Working together, we are all seeking respectful ways to share knowledge about heritage seeds and to grow them in partnership.

For the full story and additional photos, lists of participants, institutions, and funders are posted on the Matthaei-Nichols blog: mbgna.umich.edu/blog/

—Dr. David C. Michener, Associate Curator, Matthaei-Nichols

The Many Uses of the Straw Bale Structure

Students in Professor Joe Trumpey’s Green Building class (U-M College of Literature, Science & the Arts Program in the Environment) built a structure of straw bales and adobe next to the Campus Farm this spring. Besides visually anchoring the farm the structure will showcase sustainable building methods such as carbon neutral building methods, minimal concrete, locally sourced building materials, high R-value (thermal resistance) insulation, and solar power. It will also be a gathering place for Campus Farm student volunteers and for farm program-related events.

Arboretum Specimen Is State Big Filbert Tree

A Turkish filbert (Corylus colurna) in Nichols Arboretum just earned the state Big Tree designation. Michael Dority, a board member of the Michigan Nut and Fruit Growers Association and a U-M staff member in the Host Microbiome Initiative, takes walks in the Arb to unwind. On a recent outing he came across the tree and, recognizing it as a possible candidate for the Big Tree program, passed the information on to a certified forester, who took the tree’s measurements. The filbert is more than a pretty face, however. It may help unlock the mystery of Eastern filbert blight (EFB), a fungal disease that attacks hazelnuts and has often thwarted the production of hazelnuts in the U.S. Researchers will take samples from this filbert in order to study resistance to EFB. According to our records—in this case two 90-year-old, handwritten index cards—this Turkish filbert was planted in the arboretum in the early 1920s, has a height of 82 feet, a circumference of nearly 97 inches, and an average crown spread of 84 feet.

Matthaei-Nichols Membership Reaches 3,000

Clearly nature makes a difference in our members’ lives. Enough so that membership at the Arb and Gardens continues to increase, topping 3,000 in June. That’s important for several reasons, explains Ashley McCloskey, assistant director of annual giving. “The best part of reaching this record-breaking number of members is that it illustrates how much our community believes in our mission and the work we do. It is inspiring and encouraging that we have so many new and returning members who truly want to see our organization succeed at caring for nature and enriching life.”
An Intern’s View: Communicating Climate Change Concepts to Local Students

This summer, Matthaei-Nichols’ youth education team hosted students participating in University of Michigan Wolverine Pathways. This free, year-round program partners with the families, schools, and communities of Detroit, Southfield, and Ypsilanti to provide learning experiences that help students succeed in college and future careers. As part of my summer intern project and under the guidance of my supervisor Liz Glynn, I developed an activity focused on climate change and how it impacts ecosystems and individual species. I worked closely with Doris Duke Conservation Scholar Tiffany Wu as she developed the presentation component of the project and I developed the field activity. Communicating the complex study of climate change and ecosystem impacts was a big challenge to take on! While here, students observed and identified native plants on the trails, took biodiversity measurements in flagged sections of the trail and used their data and observations to make predictions about ecosystem impacts based on predicted impacts to an assigned tree species. I learned that Wolverine Pathways students are exceptional. This is a highly competitive program, and students came in with some understanding of the concepts. Planning, coordinating, and conducting the program was such a rewarding experience. These students are the future and after a week with them, I feel that the future is in good hands. The complete story of this summer’s Wolverine Pathways program at Matthaei-Nichols is available on our blog: mbgna.umich.edu/blog/. — Santiago Bukovsky-Reyes

Architecture Student’s Project Is Both Art and Science

Reciprocal Shades is up! University of Michigan doctoral student Omid Oliyan Torghabehi installed the wood structure in June at Matthaei Botanical Gardens. Rooted in Chinese Song dynasty (960-1276) wooden bridge building, this concept was introduced to the west through the sketches of Leonardo Da Vinci and the works of Italian Renaissance architect Sebastiano Serlio in the fifteenth century. Omid’s research studies the potential of adapting reciprocal frames to create new lightweight material configurations as multi-performance architectural systems. “I’m excited to see Reciprocal Shades finished and installed at Matthaei,” says Omid. “It’s the culmination of some of my research into adapting reciprocal frames to multiple applications. The project benefits from ample space to achieve its physical impact, and I think it fits in really well at the botanical gardens as both a research project and public art installation.” Reciprocal Shades will be up for at least 6 months.

Volunteer Opportunities

Volunteers are needed in a number of areas at Matthaei-Nichols. Stay tuned for more information regarding dates and times this fall.

Trainings:

Prescribed Burn Crew Training
Fri., Oct. 12, 1-3 pm, Matthaei Botanical Gardens
Join the Burn Crew and learn about the history and use of prescribed burns to maintain and restore our natural areas. Pre-registration required.

Conservatory Ambassador Training
Date and time TBD
Ambassadors greet and guide visitors to points of interest in the conservatory. Shifts available seven days a week. Training introduces volunteers to the many plants that make up the three biomes in the Conservatory. Pre-registration required.

Special Events:

Wildflowers and Native Plants Sale, Oct. 6 & 7
Volunteers help with set up, greeting and directing visitors, and selling plants.

Zombie Run, Oct. 27
Volunteers help with registration, way-finding, refreshments, and finish line.

Pumpkins, Lanterns, and Leaves, Oct. 19 & 20
Volunteers help with set up, greeting and directing visitors, and clean up.
### SEPTEMBER

**Wednesday, Sept. 5, 7 pm**  
**Fall & Winter Garden Prep**  
Features members of Growing Hope. Ann Arbor Garden Club.

**Sunday, Sept. 9, 2 pm**  
**Classic Roses**  
Huron Valley Rose Society.

**Sunday, Sept. 9, 2 pm**  
**Multiflora Paphiopedilum and Their Culture**  
Sam Tsui discusses Asian slipper orchids. Ann Arbor Orchid Society.

**Monday, Sept. 10, 7 pm**  
**Herb Walking Tour**  
Meet outside the auditorium at Matthaei. Herb Study Group.

**Tuesday, Sept. 11, 6:30 pm**  
**Are My Bees Tripping?**  
Oxalic Acid Update  
Richard Mendel discusses oxalic acid as a varroa mite eradication tool as well as other topics. Ann Arbor Backyard Beekeepers.

**Wednesday, Sept. 12, 6:45 pm**  
**Survival of the Red Crossbill**  

**Wednesday, Sept. 12, 7:30 pm**  
**Birds, Beasts, and Beliefs: Incredible India!**  
A photo journey of the beasts and birds of India with local veterinarian Cathy Theisen. Washtenaw Audubon Society.

**Thursday, Sept. 20, 1-2:30 pm**  
** Ikebana: Japanese Flower Arranging**  
Email 2 weeks prior to each class to receive an e-invite to attend. Attendance limit: 25. Info: a2ikebana@gmail.com. Class fee $20. Ann Arbor Ikebana Int'l.

**Mon., Oct. 8, 7 pm**  
**Do Bees Really Need Antibiotics?**  
A presentation on new changes to antibiotics and bees and how they are currently used. Ann Arbor Backyard Beekeepers.

**Wednesday, Oct. 10, 6-7:30 pm**  
**Catching Your Breath**  

**Saturday, Sept. 29, 1-4 pm**  
**Community Dahlia Competition**  
Bring your best cut dahlias. Entries accepted 11 am-12:30 pm. Vases supplied. Includes demo on winter dahlia storage. MI Dahlia Association.

### OCTOBER

**Monday, Oct. 15, 7:30 pm**  
**Factors Influencing the Distribution of Natural Communities in Michigan**  
Michael Kost, Matthaei-Nichols curator of native plants, explores this topic in-depth. MI Bot. Club Huron Valley.

**Tuesday, Oct. 16, 7:30 pm**  
**Hibernating Bats and White-nose Syndrome in Michigan**  
Dr. Allen Kurta, professor of biology at EMU, answers questions about bats and white-nose syndrome. Sierra Club Huron Valley.
Thurs., Oct., 18, 1-2:30 pm
§ Annual Hosta Seed Exchange
A discussion about making split nucs and wintering nucs (a nuc is a smaller colony created from a larger colony). Ann Arbor Backyard Beekeepers.

Wed., Nov. 14, 7:30 pm
South Africa: Birds and Game

Fri., Nov. 16, 10 am–2 pm
Caregiver Wellness Day
A free program for learning skills essential for continued health and well-being. Designed for caregivers of adults living with memory loss. To register: 734.936.8803. MI Alzheimer’s Disease Center.

DECEMBER

Sat., Nov. 17, 2 pm
Bromeliads-Life in the Trees
A presentation by Paul Wingert reveals the diversity of bromeliads and their adaptations for survival. SE MI Bromeliad Society.

Sun., Nov. 18, 2 pm
Brassavola nodosa Orchid and Its Hybrids
A discussion about the highly fragrant Brassavola nodosa and its use as a parent for hybrids. Ann Arbor Orchid Society.

Mon., Nov. 19, 7:30 pm
Ecological Surveys of S. Michigan
Jesse Lincoln of MI Natural Features Inventory discusses the results of recent vegetation surveys he’s conducted in Michigan. MI Bot. Club Huron Valley.

Nov. 17, 10 am–noon
Woodland Wonderland
Create scented sachets, evergreen swags and decorations to welcome the coming winter. Age range 6-10 or younger with parent guidance. $10.00/child

Sat., Dec. 8, 10 am–2 pm
Greens Workshop
Bring gloves and garden clippers to create your own holiday greens decoration. RSVP: Nancy Hart, nhartgreen@aol.com. Free to members; $20 nonmembers. Ann Arbor Garden Club.

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Thurs., Dec. 13, 1-2:30 pm
§ Ikebana: Japanese Flower Arranging
Email 2 weeks prior to each class to receive an e-invite to attend. Attendance limit: 25. Info: a2ikebana@gmail.com. Class fee $20. Ann Arbor Ikebana Intl.

Sat., Dec. 15
Ann Arbor Christmas Bird Count

Mon., Dec. 17, 10-11:30 am
Catching Your Breath
A free monthly program for caregivers of adults with memory loss. Info and to register: 734.936.8803. MI Alzheimer’s Disease Center.

Tues., Dec. 18, 7:30 pm
Tales and Travels of Sierra Club Huron Valley
The group’s annual review of members’ explorations. Send digital photos to: lighthawk.pilot@gmail.com. Sierra Club Huron Valley.
Holiday Programs & Events
Nov. 24, 2018–Jan 6, 2019
Beautiful Bugs
Holiday Conservatory Exhibit
There’s more to the forest than meets the eye. Welcome to the land of butterflies, moths, beetles, and other multi-legged creatures that crawl, fly, march, and munch their way through the world’s ecosystems. This annual winter/holiday event also features seasonal flowers, decorated trees, kids activities, holiday items in the Garden Store, and more. Discounts in the Garden Store for Matthaei-Nichols members. Free. Note: Closed Christmas Eve, Christmas, and New Year’s Eve. Open New Year’s Day.

Nov. 24, 2018–Jan. 6, 2019
Holiday Art Exhibit
A display of art created by U-M students, faculty and staff, and members of the local and regional communities. Stay tuned for exhibit details later in 2018. Free.

Sat., Nov. 17, 10 am-noon
Woodland Wonderland-Kids
Holiday Greens Workshop
Create scented sachets, evergreen swags and decorations to welcome the shorter days and longer nights of the coming winter. Recommended for children 6-10 or younger with parent guidance. Class fee $10 per child.

Sun., Dec. 2, 10 am-4:30 pm
Holiday Artisan Market
Our third annual holiday artisans market. This year, dozens of local artists as well as U-M students and staff are selling their high-quality crafts and art. No member discount on merchandise. Free.

Sat., Dec. 8, 10 am-noon
Bugs Don’t Bug Me!
Explore the amazing world of insects and learn how they fly, hop, walk on water, and signal each other. Discover why bugs are so valuable to humans and the planet. Make a beautiful bug ornament of your own to take home! Recommended for children ages 5-11. Class fee $10 per child.

Sat., Dec. 16, noon-2 pm
Father Christmas
The annual visit by the real McCoy, Father Christmas. In town for one day only. A great phot opp. Free.

Transitions
Volunteer Coordinator Sharyn Falls-Dennis left Matthaei-Nichols in June when her husband Chris transitioned from active military to veteran status. During her tenure here, Sharyn had great impact on our volunteer program with the implementation of a new volunteer management software system and kicking off a new garden captains program.

Adam Hulyksmith, our IT projects coordinator and staff savior in all matters technological, transitioned to a full-time position with the Ann Arbor-based website company Boxcar Studios in July. Adam started working here in 2008 and quickly became known here as a rock-steady tech fix-it guy who could seemingly solve any computer-related problem—with a smile.

Sydney Richards, our visitor services front desk and events supervisor, is leaving Matthaei-Nichols after the Labor Day weekend. Sydney says she wants to focus on grad school at Wayne State, where she’s pursuing a master’s in arts administration.

Associate Director Karen Sikkenga is leaving Matthaei-Nichols at the end of 2018 for a position with EMD Consulting, a firm that works with many nonprofits, including dozens of botanical gardens, parks and conservancies. Karen has been with Matthaei-Nichols for more than 13 years. In that time she managed the employees, finances, and day-to-day operations of the organization. It’s difficult to imagine Matthaei-Nichols without Karen. She will be missed!

Captions. Page 7, top: Associate Curator David Michener stands amid the Indigenous Communities Collaborative Garden at Matthaei. The garden is part of a long-term collaboration that seeks respectful ways to share knowledge about heritage seeds and to grow them in partnership. Center: The straw bale structure near the Campus Farm at Matthaei. The structure was built by students in Professor Joe Trumpey’s Green Building class, with assistance from Matthaei-Nichols Nature Academy interns and staff. It will be a model for sustainable building and a gathering place and locus for Campus Farm student volunteers and workers. Bottom: The Turkish filbert (Corylus colurna) in Nichols Arboretum recently achieved Michigan Big Tree status. The tree may also hold clues to how filbert trees develop resistance to Eastern filbert blight.

Page 8, top: Students from Detroit, Ypsilanti, and Southfield public schools participating in the summer 2018 Wolverine Pathways program, part of which took place at the botanical gardens. Students worked on a climate change project, collecting samples from Fleming Creek on the Matthaei property. Center: “Reciprocal Shades” is a research project being conducted by architecture Ph.D student Omid Oliyan Torghabehi. Omid’s research studies the potential of adapting reciprocal frames to create new lightweight material configurations as multi-performance architectural systems. It looks pretty cool, too!

On the cover: A collage of photos demonstrates the ways in which Matthaei Botanical Gardens & Nichols Arboretum engages with the university community and the public—in research, teaching, public outreach, and wellness—and the benefits that flow from our activities.