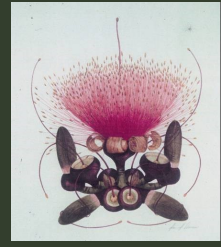


Gifford Arboretum Newsletter

Fall 2016

Volume 12, Issue 1



End to Road Threat and Arboretum Expansion!!!

By: Steve Pearson

It gives me great pleasure to announce that the threat of a road through the Arboretum has finally ended. On November 15, 2016 the Coral Gables Commission voted to amend the University's Development Plan so that no road through the existing Arboretum will be required. Like most good agreements, there was some give and take on both sides to find a mutually acceptable solution. The good news is that there will be NO ROAD through the existing Arboretum. In addition, the grassy area of approximately 13,000 square feet where the wooden art buildings had been located will be added to the Arboretum. However, this new area will have a controlled, service vehicle only road through it that will also run through the parking lot behind the physics building. That was the compromise as our neighbors rightfully complained that UM's service vehicles were coming onto the public streets. If you were a neighbor, then you wouldn't be happy with that either. So, the threat of a road through the Arboretum has finally been put to rest with the Arboretum getting an expanded area and the neighbors getting a service road to take service vehicles off the public streets. Most importantly, the existing Arboretum is intact and without any road running through it!

It took years to reach this resolution, and I want to personally thank the many Arboretum supporters who spoke up for the Arboretum's value for education and research, as well as its value for beauty and tranquility. While not everyone was satisfied with the outcome, no one wanted to see a road destroying the beauty and ambiance of the Arboretum. It is truly a University as well as community resource that is increasingly known to and loved by its constituents both on and off campus. I want to specially thank Janet Gavarrete for her skill in leading the negotiations on behalf of UM. I also want to thank in particular three friends of the Arboretum who came to many of the meetings and hearings in support of protecting the Arboretum: Ron Weeks, Peter Ostrowsky and Lenny Goldstein. It was a happy day and THANKS TO ALL WHO HELPED MAKE IT HAPPEN!!

Kathy, I hope you are smiling .



Biology Dept. Chair:

Athula Wikramanayake
Ph.D.

**Gifford Arboretum
Director:**

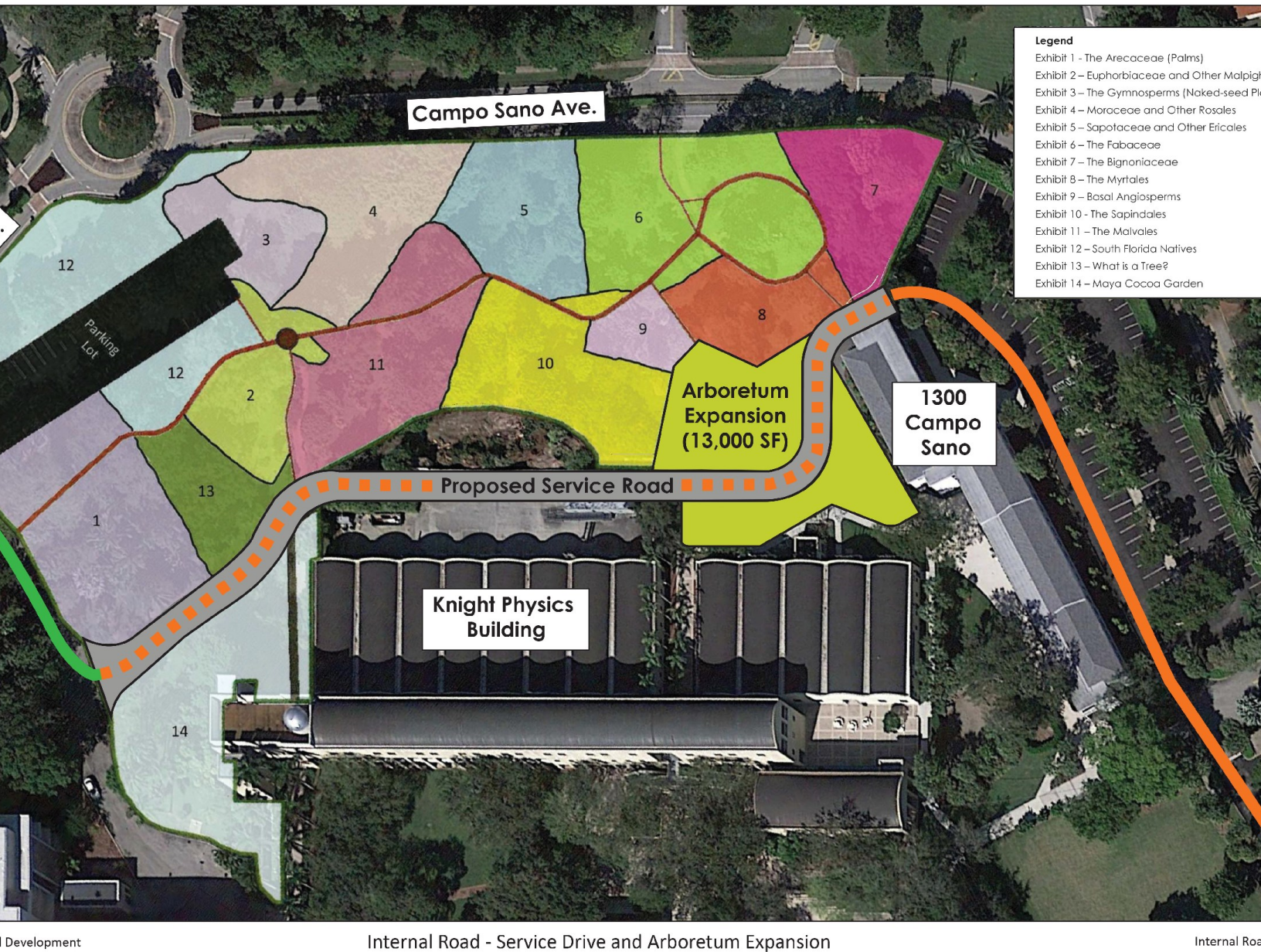
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shows existing Arboretum Exhibits and the expansion area. The exact location of the service road will be determined in a meeting with the peers.

2016 American Public Gardens Association Conference in Miami

The Gifford Arboretum was one of fourteen botanical gardens in southern Florida that co-hosted this year's AP-GA conference in June. Entitled "Changing Perspectives – Planting for the Future," the conference attracted over 800 people. Most of these came from other gardens around this country, but there was also a good number attending from gardens in foreign countries. While most of the events consisted of lectures and workshops at the Intercontinental Hotel in downtown Miami, the Gifford Arboretum was featured in 2 events during the conference.

First, a classroom in Cox was used for a pre-conference seminar that focused on problems and opportunities of campus gardens. I was able to attend and learn from directors and staff from some great university gardens, including the Cornell Botanic Gardens at Cornell University, the Morris Arboretum at the University of Pennsylvania, and the Matthaei Botanical Gardens & Nichols Arboretum at the University of Michigan. After the morning sessions, we enjoyed box lunches in the Gifford Arboretum and I then explained the history and plot scheme of the Arboretum before leading a tour of its collection. To put it succinctly, THEY LOVED IT!! and I even received two ovations during the afternoon. Interestingly, while I had worked very hard to get the Arboretum looking as good as possible for this event, our strawberry jam tree (*Muntingia calabura*) had been hit by a freak wind during the morning of the seminar and snapped in half! I was very concerned that this would detract from the Arboretum, but this group of experts wasn't even disturbed by it. Aware that these kinds of things happen sometimes (especially with some of the soft wooded members of the Malvales order), they instead focused on the diversity and health of the rest of our collection and were impressed by the botanical diversity maintained here. (As a side note, the *Muntingia calabura* has since been replaced with a young seedling.)

The second time the Arboretum was featured was during the final day of the conference when attendees had an opportunity to sign up for various tours to visit local gardens, most of which were presented in pairs. The Gifford Arboretum was paired with the Kampong, an obviously great garden, but one that many had already seen since it was featured in one of the two offsite dinners that week. Nevertheless, the tour attracted a full bus and I believe that was in part because the earlier guests had told others that they should see the Gifford Arboretum. The tour proceeded to the Kampong first and was going well. However, when it came time to leave for the Arboretum, a torrential downpour started. It was still raining very hard when we got to the Arboretum and I assumed that no one would want to brave the rain for a tour. However, when I asked whether anyone still wanted to take a tour, about 10 hands went up. So off we went with our umbrellas and we were very fortunate that the rain later slowed to a drizzle and more from the bus joined in as the tour progressed. Although I could tell that the people enjoyed the tour, I am happy to report that most guests rated the tour excellent, with the balance saying that it was very good. Not a bad result for seeing our Arboretum in the rain! Most importantly, this conference was an opportunity to introduce the Arboretum to a lot of garden directors and staff who had never heard of it before, and I believe that participation in the conference raised the Arboretum's profile in the botanical world.



ARBORETUM EVENTS SINCE LAST NEWSLETER

April 7, 2016: Dr. Helene Muller-Landau, Lead Scientist for the Global Forest Carbon Initiative of the Smithsonian Tropical Research Institute, presented the annual Gifford Arboretum Lecture on "**Tropical Forest Responses to Global Change**" Dr. Muller-Landau shared her research on how tropical forests are changing as a result of global changes, and particularly climate. We learned about her work to build predictive models of how forest feedback is also causing further global changes and about the importance of this work..

May 4, 2016: Dr. Kathleen Sullivan-Sealey, Associate Professor of Biology at the University of Miami presented "**Island Coasts and Plants: Coastal Ecology and Restoration in The Bahamas.**" Dr. Sealey discussed the effects of pollution on a fragile environment and how coastal plants can help safeguard fresh water and healthy reefs in the Bahamas. She described what she is doing to demonstrate these effects and to restore and safeguard the environment there.

September 7th, 2016: Caroline Lewis, Executive Director of the CLEO Institute presented "**Climate Change – A Simple Overview of the Science, Seriousness, and Solutions.**" An exceptionally talented educator, Ms. Lewis was both inspiring and clear in her presentation. Climate change can simply be described as the result of increased carbon dioxide and other greenhouse gases holding the sun's heat in our atmosphere. The increased heat causes more extreme weather events; polar and glacial ice to melt and sea levels to rise; and excess carbon dioxide also acidifies our oceans, damaging coral and other sea life. The solution is straight forward - eliminate the causes of greenhouse gases, most importantly, the burning of fossil fuels. One thing that was news to me is that methane (a greenhouse gas) is released in natural gas extraction processes and that, as well as the water pollution caused by fracking, are more than enough reason to discourage the use of natural gas as the "cleaner fossil fuel."



October 5th, 2016 – George Gann, founder and chairman of the Institute for Regional Conservation presented "**Everglades Restoration and Rare Plants.**" Born and raised in South Florida, Mr. Gann has dedicated his life to understanding this area's native plants and to teaching the ecological value of preserving native ecosystems. After explaining field work that he and his colleagues have performed to document plant identity and dispersion in various parts of South Florida, he described how plants generally, and rare plants in particular, are not being given adequate consideration in Everglades restoration efforts and why the inclusion of same is vital to the success of these efforts. He also described various reasons why success in Everglades restoration efforts is vitally important to Florida's future. Finally, he showed how the IRC's website can be helpful to anyone deciding which plants to install and maintain in any given area of South Florida.



October 16th, 2016 - Musical performance in the Gifford Arboretum by **Leslie Miller and Keelan Dimick**, both students at UM's Frost School of Music. This duo presented a delightful set ranging from folk to jazz music. Leslie has also been a big supporter of the Arboretum, and she encouraged guests to cherish and use this resource.

October 27th, 2016 - Walking Tour of the Arboretum's Sacred and Magical Trees by **Dr. John Cozza** of FIU and Arboretum Director **Steve Pearson**. This annual tour teaches participants about various myths, legends, religious uses, and alleged magical attributes of some of the Arboretum's trees, just in time for Halloween!

November 2nd, 2016 - Barbara McAdam, of UF/IFAS Extension Service, presented "**Gardening on a Mission: Water Conservation and Saving the 39 Imperiled Butterflies of South Florida.**" After a brief review of some water conservation ideas that should be embraced by all homeowners, Ms. Mc Adam showed slides of South Florida's imperiled butterflies and provided information about their nectar (butterfly) and larval (caterpillar) plants. It was a presentation that was both beautiful and full of good information.

November 16th, 2016 - Music in the Arboretum with a performance by the **World Peace Ensemble**. This quartet produced a unique blend of jazz and jam band rock that was exceptional in its composition and style. Featuring extended songs that allowed each musician to also express his voice in featured solos, it was a fun and satisfying concert. We also celebrated the end of the road threat that evening.

December 3rd, 2016 - This year's **annual picnic in the Arboretum** will feature a special tour by FIU **Professor Bradley Bennett** on "**Ethnobotany in Southern Florida: How Indigenous Peoples and Early Pioneers Survived.**" Besides the always good fare, guests can also see the newly planted area extending the South Florida Natives Exhibit and the new area for future expansion of the Arboretum.

2017 GIFFORD LECTURER ANNOUNCEMENT

It gives me great pleasure to announce that the 29th Annual John C. Gifford Arboretum Lecture will be given by **Dr. William (Ned) Friedman**, who is Harvard University's Arnold Professor of Organismic and Evolutionary Biology as well as the Director of its Arnold Arboretum. Dr. Friedman's topic will be "**Mutants in our Midst: Darwin, Horticulture, and Evolution.**" Although often overlooked as such, many of the horticultural varieties that we grow in gardens are premier examples of the ongoing process of evolution: random mutations that lead, on the rarest of occasions, to novel and desirable biological characteristics. Throughout his life, Charles Darwin (as well as other nineteenth century evolutionists) looked to the world of horticulture and plant domestication to gain critical insights into the generation of variation and the process of natural selection that underlie evolutionary change. Come learn how horticulture played a central role in laying the foundations for discovering evidence of evolution itself, as well as understanding how evolution works. Professor William (Ned) Friedman, the eighth director of the Arnold Arboretum of Harvard University, will argue that modern botanical gardens can and should become a leading force for the promotion of evolutionary thinking in society by highlighting the very kinds of mutations observed by Darwin, as well as new examples of monstrosities and mutants that continue to be found in botanical living collections around the world.

Please mark your calendars now and plan to attend this lecture on **Monday, April 3, 2017 at 7 PM in Cox Science Center Room 126**. Note that this is a change from our normally scheduled date of the first Thursday in April, but a scheduling conflict for Dr. Friedman required this change. The Lecture will be followed by a reception, and we will also have the Gifford Arboretum's 2017 Plant of the Year available for distribution. Having Dr. Friedman as our Lecturer also continues a long term relation with the Arnold Arboretum. Former Arnold Arboretum Director **Dr. Richard Howard** was instrumental in helping the Gifford Arboretum's advocates convince the University of Miami's administration of the great value of its collection for education and research, and his advice was invaluable as the Gifford Arboretum forged ahead and improved after having been threatened with being turned into a parking lot in the late 1980s.

OTHER UPCOMING EVENTS

Wednesday, February 1, 2017 at 7 PM in Cox Room 166 - **Charles J. Kropke** will present his Emmy Award winning film "**The Unseen Everglades: Inside A Legendary Wilderness**" about the ecosystems, people and issues of the Florida Everglades. The film is one hour and there will be time for questions and discussion upon its conclusion

Wednesday, March 1, 2017 at 7 PM in Cox Room 166 - **Dr. M. Patrick Griffith**, Executive Director of Montgomery Botanical Center, will present "**Integrated Plant Conservation: Garden Genetics Close the Loop.**" MBC houses one of the world's best palm and cycad collections, and, under Dr. Griffith's leadership, it just keeps getting better. He is a serious botanist and scientist who is working hard to preserve endangered species.

Wednesday, May 4, 2017 at 7 PM in Cox Room 166 - **Jason Lopez**, an outstanding horticulturist who keeps Fairchild Tropical Botanic Garden looking so good, will present "**Bahamian Plants and Their Legacy at Fairchild**". Our speaker is very knowledgeable and full of great horticultural tips and insight.

We will also have **Music in the Arboretum** performances at 6 PM on February 15, March 15, and April 19, 2017.

TREEmendous Miami helps Expand the South Florida Natives Exhibit

By: Steve Pearson



On November 19th, TREEmendous Miami planted 238 trees and shrubs as we expanded our South Florida Natives Exhibit between San Amaro Drive and the small parking lot that intrudes into the Arboretum. TREEmendous Miami is a hard working group of volunteers dedicated to planting, promoting and preserving trees in Miami-Dade County. Some of its other projects include the trees planted alongside the Metro-rail on South Dixie Highway from the end of I-95 to Bird Road; the planting of over 11,000 trees and shrubs to restore the maritime hammock at Virginia Key Beach Park; and planting trees to restore the original botanic splendor of the Miami Cemetery.

But November 19th was the Arboretum's day, and wearing both hats as Arboretum Director and President of TREEmendous, I was joined by some great volunteers as we worked to expand the South Florida Natives Exhibit. This expansion was prompted by the University's desire to visually screen the small parking lot intruding into the Arboretum from traffic on San Amaro as neighbors had complained during the meetings about the road issue that the parking lot was not very attractive. The northern edge was already fully planted, but the



southern portion contained only a few scattered trees.

With the help of Gary Hunt, TREEmendous Miami's Vice President of Tree Planting and an expert on native flora, we planned and executed a project that satisfied 3 criteria: it visually buffered the parking lot; it expanded the Arboretum's collection in meaningful ways; and it benefitted native fauna. The expansion area is really not very big so the planting consisted primarily of shrubs and many low ground cover plants. However, 18 new species were included and these ranged from trees like willow-bustic (*Sideroxylon salicifolium*) and red ironwood (*Reynosa septentrionalis*) to shrubs like West-Indian lilac (*Tetrazygia bicolor*), black torch (*Erithalis fruticosa*) and Deering partridge pea (*Chamaecrista deeringiana*). The border is full of colorful butterfly plants like pineland lantana (*Lantana dupressa* var. *dupressa*), blood sage (*Salvia coccinea*), and beach verbena (*Glandularia maritima*), and the butterflies are arriving already!

Besides the number of plants, the hardest part of this project was to coordinate volunteers working safely in such a tight area. But we did it! THANK YOU TREEmendous Miami for a tremendous day and effort!

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Some of the hard working volunteers on Nov. 19th

Part of the finished product



Fertilization of Flowering Trees and Shrubs

By Paul Gehrke*

All plants need fertilizer to thrive, but which fertilizer is best for flowering trees? Fertilizer labels list the percentage of Nitrogen (N), Phosphorous (P), and Potassium (K) that are in the bag. To get best flowering, the ratio of N to K should be 1:1 or 2:3. The N should be the same or lower than the K. A ratio of 1:1 would be a 6-6-6 or 10-10-10. A ratio of 2:3 would be 8-4-12 or 8-2-12.

The middle number is the Phosphorous and it can be much lower than the N or K. Fertilizers that are high in P and called “bloom busters” are a myth. Excess P only pollutes our waterways and it doesn’t help form flowers and buds. It is the low N to high K ratio that pushes blooms. High phosphorous fertilizers can also tie up the available minor elements and render them unavailable to the plants.

A good “palm special” with a 2:1:3 ratio like 8-4-12 (#6878) or the new and improved 8-2-12 (#9836), both from Atlantic FEC in Homestead, is recommended. Lesco also makes a “palm special” 8-2-10 which can be bought at Lesco and many Home Depot stores. These three fertilizers are highly recommended for palms, annuals, turf, shrubs, and flowering trees. Make sure that most of the N and K fertilizer is in slow release forms. The Atlantic FEC and Lesco Palm specials are made with sulfur coatings that gradually release the fertilizer over 2 to 3 months. These fertilizers are high magnesium and have plenty of iron and manganese and sulfur for proper plant growth in the high pH soils of South Florida. When choosing a fertilizer, try to avoid fertilizers with composed sewage sludge because the sludge can bind up the minor elements. Sewage sludge can be used as part of a fertilizer program, but be sure to apply it separate from the minor elements and to add extra K to maintain the proper N: K ratio.

Apply 8 ounces (1/2 pound) of palm special slow release fertilizer per inch of tree trunk diameter, and spread it out over the root zone of the tree. Try to concentrate the fertilizer near the drip line of the tree if possible. Check fertilizer label for specific application instructions. Try to feed around March 1, June 1, and September 1. It may be easier to remember to fertilize on the first day of spring and fall (the equinoxes March 21 and September 21) and the first official day of summer (June 21). Winter feeding may lead to soft new growth which may receive more cold damage in the winter. Newly planted trees should not be fertilized for several months, or they can be fertilized at half rate.

To fertilize shrubs or annuals, spread 2 to 3 pounds of palm special per 100 square feet of bed area. Make sure to brush the fertilizer off of the leaves and to water the plants well to activate the fertilizer and clean off the leaves. Almost all fertilizers can stain concrete, so be sure to brush off any fertilizer spills on the hardscape.

It is also possible to use Dynamite fertilizer 13-13-13 with the red label and to fertilize the plants twice a year. Dynamite is a 1:1:1 fertilizer that lasts 6 months. Dynamite is convenient, but expensive to use.

Fertilizers like 20-20-20 or Miracle Grow can be used to green up plants between scheduled granular fertilizations. These water soluble fertilizers leach very rapidly in the rainy season in Florida and are essentially gone after one heavy rainstorm. It would be a never ending saga to try and reapply enough liquid fertilizer in the rainy season.

*Mr. Gehrke earned a master's degree in horticulture from the University of Florida and is the Head Grower and Horticulturist for Pure Beauty Farms. He also has his own nursery specializing in tropical flowering landscape plants and is a board member and officer of the Tropical Flowering Tree Society

During his visit to Miami to teach tropical botany at the Kampong during the summer of 2016, **Dr. Walter S. Judd**, preeminent plant taxonomist and former Gifford Arboretum Lecturer, wrote the following to Steve Pearson:

I took the Tropical Botany students to the Gifford Arboretum again this year – and they really enjoyed it. We saw several important species that are not represented at either the Kampong or Fairchild. I was again really impressed by the quality of this Arboretum!! You are to be congratulated for keeping this resource in such good condition – and it is such a positive outreach to the university community.

Please Donate to the Gifford Arboretum

Mailing Address: John C. Gifford Arboretum, Rm. 231 Cox Science Center
University of Miami, 1301 Memorial Drive, Coral Gables, FL 33124-0421

Website: <http://www.bio.miami.edu/arboretum>

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☐ Please keep me informed of activities at the Gifford Arboretum.

☐ Please find enclosed my tax-deductible donation to the University of Miami-Gifford Arboretum. (Tax deduction excludes value of benefits)

☐ Please send me information about including the University of Miami in my estate plans.

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- | | |
|--|---------|
| <input type="checkbox"/> Student friends | \$5 |
| <input type="checkbox"/> Friends | \$25 |
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| <input type="checkbox"/> Benefactors | \$5,000 |

Benefits

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| newsletter and discounts |
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Through tax and estate planning techniques and incentives, planned gifts allow you to meet your personal financial objectives while ensuring the future of the Gifford Arboretum. Planned giving options include bequests, trusts, and charitable gift annuities.

PLAN YOUR GIFT

To learn more about planned giving opportunities that can benefit you and the Arboretum, contact Kyle Paige, JD '89, director of estate planning and giving, at kpaige@miami.edu or 305-284-1527.

Please make a gift to the Gifford and/or include Gifford Arboretum in your estate plans to help support the ongoing work of caring for the trees and to enable the Arboretum to remain a central feature of the UM campus for generations to come.

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