

Gifford Arboretum Newsletter

Fall 2014

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Gifford Arboretum Loses an Important Friend

Kathryn Ball Gaubatz deserves the gratitude of everyone who loves the University of Miami's John C. Gifford Arboretum. During the 1980's, Kathy fought tirelessly to save the Gifford Arboretum when there was a proposal to turn it into a parking lot - an expedient solution to the growth to which the University aspired and was achieving. Kathy Gaubatz was "The Lorax" of the Arboretum when she spoke up for the trees and called upon others to do so as well. Broad support for the Arboretum was revealed both within the University and in the community at large and, thankfully, sense and wisdom prevailed. It would have been a tragic and ironic loss for an institution of higher learning to destroy a collection of great educational and research value for a parking lot. After then-President Thaddeus Foote saw the light, there was even talk of the entire campus becoming an arboretum, and his wife, Bosey Foote, became an active supporter of the Arboretum. To its credit, the University started taking, and continues to take, its landscaping more seriously than it had in the past. While we aspire to make today's Arboretum collection the most valuable and used that it has ever been, the Arboretum was even more of an oasis in relation to other parts of the campus during those dark times. Kathy was instrumental in not only saving the Arboretum, but also waking others up to the potential for beautifying and environmentally enhancing other parts of our campus. *(continued on page 4)*

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Athula Wikramanayake
Ph.D.

**Gifford Arboretum
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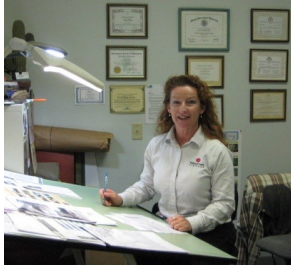
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LICHENS

By: Corine Ferré, Certified Arborist and Licensed Horticulturist and Landscape Designer



Lichens are some of the most amazing living things on this planet. Often the first form of life to colonize a new area of rock, they occur all across the world and can constitute the sole vegetation in some extreme environments such as high mountain elevations and high latitudes. Some survive in the tough conditions of deserts and others on frozen soil of the Arctic regions!

The European Space Agency has discovered that lichens can survive unprotected in space. Two species were sealed in a capsule and launched on a Russian Soyuz rocket in 2005. They were directly exposed to the vacuum of space with its widely fluctuating temperatures and cosmic radiation. After 15 days the lichens were brought back to earth and were found to be in full health with no discernible damage.

A major Eco physiological advantage of lichens is that they are poikilohydric, meaning they can tolerate extended periods of severe desiccation. They will then enter a metabolic suspension in which the cells are dehydrated to a degree that halts most biochemical activity.

They have the aspect of leaves, or cover the ground like a crust, adopt shrubby forms or are gelatinous. I find that amazing...so many forms, which are determined by the genetic material of the fungal partner. Lichens are colorful - greens, grays, oranges and yellows are common colors. The real beauty of lichens however is in their intricate shapes and often three dimensional forms. (I used them in model making for representing forests or making individual trees by gluing them onto sticks).

Lichens are not a species, but a fungus and an algae growing together as an interwoven mass that appears to be a single individual. The fungus and algae grow symbiotically, which means that each of them provides something essential to the survival of the other.

Lichens are not harmful to plants. They are merely using the plants or trees as a place to anchor. Lichens can be found on exposed rocks in the deserts, on solidified lava flows in Hawaii, on frozen substrata regions, on the bark of trees and palms, and on the leaves of plants. One of the most important role of lichens, so far as humans are concerned, is as indicators of air pollution. In centers of heavy industrial pollu-



tion, no lichens can be found. The lichens population increases gradually with distance from these centers and is thus something of a measure of pollution intensity. So, if lichens are growing in your area, consider yourself lucky.

Lichens are important in many ways:

- Lichens are sensitive to pollution in the air and can tell us if the air is clear and clean.
- Drug companies make antibiotics from lichen substances
- Some lichens make nitrogen in the air usable to plants.
- Lichens can be used as a natural dye to color wool.
- People eat lichens (**careful** - a few are poisonous, so don't experiment without expert guidance).



Director's Message

Thank you to all Friends of the Gifford Arboretum for your interest in and support of our Arboretum. If you are able, please make a year-end donation to the Arboretum to help us with current needs, including new identification signs for our trees, structural pruning for hurricane resistance, and nutritional supplements needed to properly maintain a rare and unusual collection.

I am happy to report that the Gifford Arboretum was positively profiled in Trees Live Here: The Arboretums of America , a new book by Susan McDougall that was recently published by Sound Books in Seattle Washington. The book includes 33 arboretums and 11 of its pages are dedicated to our Arboretum . With color pictures and descriptions of 25 of our trees, the author writes that “the collection at Gifford demonstrates form, function, and color quite unlike any other arboretum.”

Other new books of particular interest to Florida gardeners are Attracting Birds to South Florida Gardens and Birds of Fairchild, both by James A. Kushlan and Kirsten Hines. While the photography in the latter is particularly exquisite, the former is an actual guide of what you can do and plant to make your home garden attract and help birds. Another great book for plant lovers is Plants of the Kampong by Larry M. Schokman, who was in charge of the plants of the Kampong for 35 years and is now its Director *Emeritus*. This book is a comprehensive guide to the living collections at the Kampong, and it is full of interesting and useful information. Finally, David Lee has written The World as Garden: The Life and Writings of David Fairchild, a very interesting collection of various bits of wisdom and philosophy from Dr. Fairchild.

All of these books would make great additions to your library or holiday gifts, and all are currently available at the gift shop in Fairchild our Picnic in case you want to preview



tions to your library or holiday gifts, and all are currently available at the gift shop in Fairchild our Picnic in case you want to preview any or all of them.

Commemoration of Kathy Gaubatz Continued:

Once the Arboretum was safe, it was incumbent upon people like Kathy Gaubatz and Professor Carol Horvitz to see the Arboretum improve and serve our community better. Friendships were fostered, and guidance was received, from luminaries like Dr. Richard Howard of Harvard University, Dr. Peter Raven of Missouri Botanical Garden, and Dr. Paul Cox of the National Tropical Botanic Garden, among many others, and the Arboretum's actual and perceived value increased significantly. Kathy was instrumental in establishing the Gifford Lecture Series, which continues today as our Arboretum's premiere event each year.

I was proud to stand with Kathy and speak before the Coral Gables Commission and others when the Arboretum was threatened back in the 80's. Although Kathy and I had been good friends before this, and we continued our friendship afterwards, I was busy pursuing my law career and was not nearly as engaged with the Arboretum until the idea of parking and a road in the Arboretum again reared its ugly head about five years ago. Kathy and I found ourselves once again down at City Hall and working to convince the University's administration that paving the Arboretum was a terrible idea. Once again, Kathy Gaubatz could be counted on to stand and speak up for the trees of the Gifford Arboretum. I hope that her legacy will be that we never again have to fight to preserve the Arboretum and its great value for education and research.

The Arboretum, this community, and many of us individually lost a great and important friend when Kathy Gaubatz died on October 10, 2014. She helped our community in so many ways, including her wonderful work with the Miami Bach Society and the Royal Poinciana Fiesta. I hope that each of us will continue to find inspiration in Kathy's dedication to trying to make the world a better place, and that we will resolve to carry this dedication forward in our hearts and actions.



Royal Poinciana (*Delonix regia*) was Kathy Gaubatz's favorite tree. She chaired the Royal Poinciana Fiesta for many years when it was sponsored by the City of Miami Committee on Beautification and Environment.

ARBORETUM EVENTS SINCE LAST NEWSLETER

April 3, 2014: Dr. P. Barry Tomlinson, Professor of Botany *Emeritus* at Harvard University was our 26th Gifford Arboretum Lecturer. Dr. Tomlinson is a world renowned tropical botanist, with particular expertise on palms. He presented “**Longevity in Plant Cells: Are Palms the Longest-Lived Trees?**” In an erudite and visually stunning presentation, we learned that palm cells can live for the entire life of a specimen, unlike dicots where new cells are always being generated to replace the dying cells that make up the interior wood of the tree. It was a fascinating look at how a plant scientist uses living collections in his research and begins by “asking the plant.”

April 16, 2014: Music in the Arboretum - A lively and uplifting performance by the Stamps Brass Quintet was enjoyed in the Arboretum to close that season of musical performances.

ARBORETUM EVENTS SINCE LAST NEWSLETER (Continued)

April 26, 2014: Cactus and Succulent Symposium - Co-sponsored by the South Florida Cactus and Succulent Society and the Gifford Arboretum, this event provided a great opportunity to learn about this fascinating group of plants. The event included a tour of the Arboretum's collection as well as excellent presentations by Emy de la Fuente, Corine Ferré, and Roger Hammer.



May 7, 2014: Ms. Georgia Tasker, garden writer for the Miami Herald for more than 30 years and now writer and blog master for Fairchild Tropical Botanic Garden, presented "**Pathogens, Parasites, and Pesticides put Honeybees in Peril.**" We learned about the serious threats to honeybees that are occurring around the world with hive collapse and significant drops in honeybee populations; what this means to the environment and our food supply; and the latest thinking on the causes and potential solutions to this problem. We also learned that Organocide (made with fish and sesame oils) is a bee-friendly alternative to using imidacloprid, an ingredient now found in many pesticides, that is believed to have adverse effects on bees and has been banned in some European nations.

September 3, 2014: Dr. Joyce Maschinski, Conservation Ecologist and South Florida Team Leader at Fairchild Tropical Botanic Garden, presented "**Rare Plant Tales.**" Using four of the species she has been working to protect, Dr. Maschinski educated the audience on why conservation work is important, and some of the difficulties that are faced in trying to save species. This was a great talk to a standing room only crowd.

October 1, 2014: Dr. John Cozza, Instructor at Florida International University and former Aldridge Curator of the Gifford Arboretum – Dr. Cozza presented an interesting talk on "**Growing New Trees and Ideas for South Florida.**" He inspired us to be more aware of the unrealized potential for biodiversity here and challenged us to stretch our horticultural pallets by planting new and underutilized plants.

October 30, 2014: Walking Tour of the Arboretum's Sacred and Magical Trees - Over 30 people enjoyed learning about myths, legends, religious uses, and alleged magical attributes of some of our trees, with John Cozza and Steve Pearson serving as their guides.

November 5, 2014: Dr. Harold Wanless, Professor and Chairman of the University of Miami's Department of Geological Sciences, presented "**Climate Change: What you Need to Know and What you Can do about It.**" This was a very interesting presentation on something that is vitally important to everyone. If you were unable to attend or want a refresher, please go to <http://www.bio.miami.edu/arboretum/wanless.pdf>. Besides sea level change, another major and accompanying problem in Florida is salt water intrusion. Dr. Wanless made the point that Everglades restoration has never been more crucial to protect our water supply.



Gifford Arboretum Horticultural News

In all gardens, change and evolution are ongoing aspects of the garden that are also parts of its challenges and rewards. With a collection like that of the Gifford Arboretum, this is especially true because many of our plants are growing in conditions very unlike their native habitats. This last summer was a particularly interesting time because we had a very wet summer and that helped some of our plants, while creating problems and challenges for others.

First, on the positive side, I am very pleased to announce that our breadfruit tree (*Artocarpus atilis* cv. Ma'afala) produced 3 fruits over the summer. This is quite an accomplishment because Miami is generally considered to be too cold for breadfruit, and even gardens that can keep them alive for more than a few years have had them fruit only very rarely.



On the negative side, the high rainfall and humidity of this last summer were very hard on some of our plants that like drier climates. For example, our European Fan Palm (*Chamaerops humilis* var. *cerifera*) is generally an easy to grow palm. However, it is continental Europe's only native palm and naturally grows in a Mediterranean climate that is much drier than our summer conditions here. It appears that a fungus got started during the summer and, while I believe it will recover, it does not look very strong presently. Similarly, Cashew (*Anacardium occidentale*) grows in hot, dry areas, and our specimen was very challenged by the incessant rain of the summer that then continued well into the fall. Again, I think our tree will recover, but it does not look happy or vigorous presently.

Another problem was the long term effects of some bad pruning in the past. Our large, beautiful Poinciana (*Delonix regia*) lost about a third of its canopy because of internal rot. This situation started because someone had cut unwanted branches horizontally where the wound was straight up and water had collected in the resulting cavity and slowly worked its way down into the main trunk. There was no way to observe this condition from the ground and it was too late by the time we realized the problem. After that, I filled any similar cavities that I found with a sealing foam to try to keep water from collecting and hurting the other trees that have this same problem. For an example, see our Calabash tree (*Crescentia cujete*).



By far our worst problem *in* recent times has been that our Cabada Palm (*Dypsis cabadae*) has Ganoderma butt rot. Lethal to palms, this disease is caused by the fungus *Ganoderma zonatum*, which is a soil-borne fungus for which there is no cure or control presently. While the conks were removed and some of the stems of our specimen appear to still be healthy, the prognosis is not good and I expect that we will lose this tree. Ganoderma has been a problem in the Arboretum in the past, so this may not be the last time that it damages our collection even if we completely remove the root ball of this palm, which we will certainly do if our specimen dies.

We have some great programs and activities lined up for the Spring semester. Please check them out and plan to join us!

February 4, 2015 –Meeting and Presentation by Dr. Thomas Lodge - Dr. Lodge is a respected authority on the Everglades and author of The Everglades Handbook: Understanding the Ecosystem, now in its third edition. We will have an opportunity to learn about this complex ecosystem when he presents "**Everglades Tree Islands: Kinds, Origins, Ecology, and Problems.**" 7:00 pm in Cox Science Center Room 166.

March 4, 2015 –Meeting and Presentation by Dr. Floria Mora-Kepfer Uy– An entomologist who received her PhD from the University of Miami and who is now a Research Assistant Professor in the Biology Department at UM, Dr. Uy will speak on "**Symbiotic Relations Between Insects and Plants, and How to Attract Beneficial Insects to Your Garden.**" This will be an interesting talk with important practical applications as well. 7:00 pm in Cox Science Center Room 166.

April 2, 2015 – The 27th Annual John C. Gifford Lecture by Dr. Dennis W. Stevenson – Dr. Stevenson is Vice President for Laboratory Research at the New York Botanical Garden. He is also an Adjunct Professor at six universities, including being a Professor of Biology at Columbia University, a Professor of Plant Biology at Cornell University, and a Professor of Forestry at Yale University. He started his career with the New York Botanical Garden in 1980, and before that he was a Research Associate at Fairchild Tropical Garden during the 1970s. Today, he continues to do some of his research at the Montgomery Botanical Center. His topic will be "**Yes Bobby, Gardens and Arboreta are Relevant to the Molecular World!**" This will be an opportunity to learn about why living collections continue to not only be important to science, but why their importance has never been greater. 7:00 pm in Cox Science Center Room 145. A reception and refreshments will follow. Note that this lecture is on a Thursday.

There will also be a special **luncheon honoring Dr. Stevenson** on Friday, April 3, 2015 where attendees will have the chance to meet and greet Dr. Stevenson and discuss his work in a more informal and personal setting. Please contact the Arboretum's director at sdpearson@bio.miami.edu if you are interested in attending .

May 7, 2015 –Meeting and Presentation by Jennifer Possley MS - A Field Biologist with Fairchild Tropical Botanic Garden, Ms. Possley will present "**The Secret Lives of Miami's Rare Native Ferns.**" Small, County preserves are home to 25 threatened and endangered fern species. Many of the wild populations have just a few dozen individuals, and chance event such as hurricanes, pest outbreaks, or even just moving a pile of fill can wipe out an entire population. Monitoring wild populations and building representative collections are paramount today. Ms. Possley will take us on a virtual tour to some of Miami's remaining fern grottoes and describe the work she and Fairchild are doing to preserve the remaining rare ferns. The evening will start in the Arboretum at 6:30 pm for a look at our new native fern collection that is being created with the help of Jennifer and Lenny Goldstein. We will then move inside for our meeting at 7:00 pm in Cox Science Center Room 166.



Cochlospermum vitifolium in bloom in the Arboretum's Malvales Exhibit

We will have **Music in the Arboretum** performances on **January 21, 2015, February 18, 2015, March 18, 2015, and April 15, 2015** at **6:00 pm**. These open air performances feature a variety of music played by different ensembles from UM's Frost School of Music. Performers to be announced.

There will also be various **Tours of the Arboretum** on topics and at times to be announced.

All Gifford Arboretum events are free and open to the public except for the luncheon honoring Dr. Stevenson for which there is a charge.

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.

Membership levels (annual)

<input type="checkbox"/> Student friends	\$5	newsletter and discounts
<input type="checkbox"/> Friends	\$25	newsletter and discounts
<input type="checkbox"/> Supporters	\$100	all above plus t-shirt
<input type="checkbox"/> Donors	\$1,000	all above plus special luncheon
<input type="checkbox"/> Benefactors	\$5,000	all above plus display on plaque

Benefits

T-shirt size (circle one): S, M, L, XL

Make your donation by check: Total amount enclosed \$ _____
(payable to *University of Miami- Gifford Arboretum*)
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LEAVE A LEGACY FOR TOMORROW, TODAY

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.

HELP US GROW

