

Montgomery Botanical

NEWS

Fall/Winter 2020 *Volume 28, Number 2*



Three Decades
of Growth
page 3

Florida's Last
Buccaneer Palm
page 6

A Relic from
Times Past
pages 4-5

Advancing Research, Conservation, and Education through Scientific Plant Collections

Montgomery Botanical Center
Established 1959

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To advance science, education & conservation of tropical plants, emphasizing palms and cycads, Montgomery Botanical Center grows living plants from around the world in population-based, documented, scientific collections in a 120-acre botanical garden exemplifying excellent landscape design.

Montgomery Botanical Center is a tax-exempt, nonprofit institution established by Eleanor "Nell" Montgomery Jennings in memory of her husband, Colonel Robert H. Montgomery, and his love of palms and cycads.

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**From the
Executive Director**



Dear Friends,

Everything changed immensely this year – all our detailed, careful planning had to be COMPLETELY RE-THOUGHT in mid-March. You certainly understand; *everyone* was affected by the pandemic. My biggest disappointment was deferring Montgomery's March 14 Members Meeting – the perfect weather and beautiful setting were quite lonely without you here.

The team was greatly resilient during these uncertain months. We took every possible measure to keep safe and keep working: for example all meetings, discussions, and breaks are taken outside. Throughout all these changes, our team exemplified an old favorite quote: "*hopes high, expectations low, morale EXCELLENT.*" We can't depend on plans, but we can depend on great people! We make adjustments, but we also make progress. I draw inspiration from our past crises (page 8), and our long-term trajectory (facing page). This virus can't stop us!

Despite the global situation, our important work continues. This year, *Plant Exploration* means a close study of our own palms and cycads rather than those on distant horizons. Our botanical efforts still bear fruit – see page 7 for example. Our important education efforts still reach many young plant people (also page 7). I am excited to report on our conservation project last year in the Mediterranean (pages 4-5), and Eliza offers a glimpse into what Montgomery is doing to help palms closer to home (page 6).

I look forward to seeing you here just as soon as you are able. Montgomery is always an essential place, but now even more so – with no shortage of sunlight and fresh air!

Pictured: Dr. Griffith with *Lodoicea maldivica* (the Double Coconut or Coco de Mer) at Montgomery Botanical Center.

On the Cover: Ourania Grigoriadou, Tonya and Patrick Griffith with *Phoenix theophrasti* among the ruins of Itanos, a Minoan port (see pages 4-5).

Three Decades of Growth

When our Founder, Nell Montgomery Jennings, passed away in 1990, it catalyzed an energetic effort to carry out her wishes – a beautiful garden to advance tropical botany, conserve palms and cycads, and carry forward the legacy of Colonel Montgomery. The challenges came early – Nell's clear intentions for her property were not universally respected, as developers and others had their own plans for this cherished acreage. Our Board followed Nell's Will and memoirs very closely, hewing to her direction to establish a center for plant research, in a garden of excellent landscape design.

Those early years could have been set back in August 1992 when Hurricane Andrew devastated the plant collection and crippled the facilities. Recovery efforts were quite prolonged, given the scale of the disaster (see page 8). But the Team saw this calamity as a *tabula rasa*, pursuing a new Master Plan for the landscape, and setting out to distant places to rebuild the palm and cycad collection.

Over the next 30 years Nell's landscape steadily refined, developing a new grace and tranquility as our plant collection grew and diversified. As our team studied and collected plants in 55 countries, those palms and cycads brought tremendous scientific value. We published over 200 articles and books on our studies, while nearly 600 other articles made use of our plants!

Like the life cycle of a great tree, this garden started as a seedling of an idea, then established, and persisted – and grew ever stronger. Three decades of that growth, carefully tended and nurtured by a dedicated team, have produced an amazing living treasure. Looking around the landscape and reviewing the record of successes, Montgomery is now flourishing in its prime – many more great decades are ahead!



A major project in the 1990s was dredging the lakes and grading the lowland areas. Great care was taken to preserve the palms onsite at that time. The royal palms at the center of the image comprise the Stuart Y. Jennings Memorial Grove, established just before Nell died in 1990.

The lowland areas around Royal Lake have matured beautifully over the last 30 years. The Stuart Y. Jennings Memorial Palm Grove (tall palms at right) is the focal point, flanked on either side by numerous palms collected and grown since our founder Nell passed away.



A Relic from Times Past

Montgomery constantly explores for new palms and cycads – our scientists' work has brought numerous novel finds to botany. Discovery is a potent inspiration! But one palm known even to the ancients evaded Colonel Montgomery. Theophrastus himself – Aristotle's own student and the FATHER OF BOTANY – wrote of it thousands of years ago, "*In Crete some palm trees are said to split into two or even three branches. There are even **five headed palms***" – a description so incredible, it was repeated by Pliny the Elder 300 years later!

Surprisingly, this mythic "lost palm" went unknown to botanical science until 1967, when a young Curator at the Geneva Conservatory, Dr. Werner Greuter, followed these ancient texts to Crete. Greuter named it *Phoenix theophrasti*, after the venerable author whose account inspired his trek. Recent paleobotanical study established that this species is indeed quite old – unchanged on Crete since the ice age, even while date palms were widely cultivated throughout the Mediterranean.

This mythic "lost palm"
went unknown to
science until 1967

Patrick collecting leaflet specimens for conservation research on the south coast of Crete. These leaflets provide genetic data to determine how diverse this major palm grove is compared to plants in gardens.

I am deeply thankful to Professor Pirintsos, Ourania Gregoriadou, and Tonya Griffith for their help and enthusiasm, and to the Directorate of Forest Protection for permission to perform this study, a collaboration of the Botanical Garden of the University of Crete and Montgomery. The work was generously funded by Montgomery's PLANT EXPLORATION FUND.

Background: Patrick and Ourania hike towards an isolated Theophrastus Palm near Toplou Monastery in Eastern Crete.

I longed to see this plant after reading these accounts. To my surprise, not only was Theophrastus' Palm not on the Montgomery grounds, but it had never been grown here! And so many questions remain about its origins and persistence. Thusly motivated, I joined with Professor Stergios Pirintsos to develop a study and conservation project.

In late 2019 Tonya (my wife and field assistant) and I worked with Stergios and his student, Ourania Grigoriadou, to track down specimens and seeds. As first noted by Dr. Greuter, this palm only grows in the most remote and wild parts of Crete, itself a distant isle. In this place where people have cultivated both dates and civilizations for *five thousand years*, it is amazing to see such healthy, robust native palm groves as those at Vai, Preveli and Itanos – a sight the first Minoans certainly enjoyed.

M. Patrick Griffith, Executive Director
patrick@montgomerybotanical.org

research near Preveli
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ed to other groves

Ourania and Tonya underneath a very old and massive *Phoenix theophrasti* at the Itanos ruins. This palm had many trunks, far more than the 5-trunked palm that so impressed Theophrastus! Palms here sprout from the site of an important Bronze Age port – also visible on the cover of this issue.



Conservation Horticulture Fellows

Help Florida's Last Buccaneer Palm

South Florida has one of the most unique ecosystems on the planet, which in turn puts our gardens and research institutions in an important position to conserve and protect that biodiversity.

As part of our Conservation Horticulture Fellowship, Christina Chavez, Daniela Noblick, and I decided to continue the work of our colleague, Tracy Magellan, for our final project. Our goal was to assess the status of and possibly collect seeds from the last remaining population of native, wild *Pseudophoenix sargentii* on Elliott Key. For our first trip in April 2019, we chartered a boat, the only way to access the island, and camped for three days along the water's edge. We battled hordes of mosquitoes and some thieving raccoons, but we were successful in locating all the palms we had set out to find. Sadly, our trip revealed that there was only one living, wild adult left on the island, and it was being attacked by an unknown fungus! This worrisome discovery led to three subsequent field expeditions, a presentation of our findings to Biscayne National Park staff, and a collaborative effort with the park to implement in situ fungicide treatments.

The future of this palm and its important genetic information is still uncertain, but this project has proven that with education and collaboration, meaningful conservation efforts can be realized.

Eliza Gonzalez, Collections Specialist
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The Conservation Horticulture Fellows Program is generously funded by grants from the Batchelor Foundation and a gift from Christiane Tyson. We thank the US National Park Service for permission and assistance for this fieldwork.



The Fellows presented their work to the National Parkstaff at an invited seminar.



Xavier treated the last remaining wild Buccaneer Palm in Florida with a diluted fungicide.

Background: Elliott key is famous for its plants, history, and its dense, year-round mosquitoes!

Team News



Shawn Smith



Julian Fiuza



Johnny Mui



Ezra Remer



Christina Chavez



Nisrine Toury



Leo Galetti



Cody Morgan



Maggie Richardson



Glenn Wilson



Claudio Fernandez



Jason Flores



Adja Gigliot

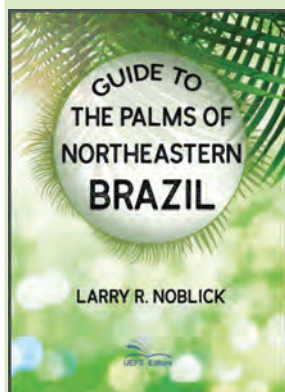
CONGRATULATIONS ON TWO PROMOTIONS! **Sean Smith** was promoted to Assistant Curator this summer, and **Julian Fiuza** was promoted to Landscaper II. We are also glad to have **Johnny Mui** join the team as Landscaper I. These three, along with everyone on the team, help improve the garden every day.

BOTANICAL INTERNS AT MONTGOMERY: Thanks to a generous endowment from Peter R. Jennings, we employed two young researchers this year. **Ezra Remer** is a recent biology graduate of UM, where he served as curator of the Gifford Arboretum; Ezra studied palm-soil moisture interactions as our 2020 Robert K. Zuck and Peter R. Jennings Intern. From FIU, we employed **Christina Chavez** (see also page 6), who is taking a very close look at our *Sabal* collection for morphological details, as our 2020 Peter R. Jennings and Stuart Y. Jennings Intern. Another great student, **Nisrine Toury** also joined as our FIU Tropical Intern, studying flower stalk development on *Attalea*. We also had the dedicated help of **Leo Galetti**, our International Studies Preparatory Academy (ISPA) High School Intern, who worked tirelessly this summer to care for our seedlings.

GIS INTERNSHIP PROGRAM EXPANDS! With generous funding from Lyman Dickerson, we raised the number of East Carolina University GIS Interns from 2 to 3 this summer – gaining the wonderful help of **Cody Morgan**, **Maggie Richardson**, and **Michael “Glenn” Wilson**. Under the direction of Eliza (see page 6), these students brought their cutting-edge knowledge to bear on mapping our natural forest areas.

NEW TALENT FOR HORTICULTURE: Recruiting from Miami Dade College and Florida International University, we hired **Claudio Fernandez**, **Jason Flores**, and **Adja Gigliot**, as our 2020-2021 Conservation Horticulture Fellows – all of whom came highly recommended for this specialized opportunity. We are grateful to the Batchelor Foundation for funding this very successful program, now in its tenth year! Alumni of the Program have moved forward into many types of horticulture careers in South Florida, taking a dedicated conservation ethic with them.

Research Updates



- ✳ Larry Noblick published a new book, *Guide to the Palms of Northeastern Brazil* (left). This guidebook is based on Larry's explorations over many decades, and is published in both Portuguese and English.
- ✳ Montgomery's broad study of *Pseudophoenix ekmanii* was featured on the cover of the *INTERNATIONAL JOURNAL OF PLANT SCIENCES* (right). Experts from the Dominican Republic and the US demonstrated that gardens working together conserve plant diversity more effectively.



Space limits what we can discuss here! Please see montgomerybotanical.org for a full list.

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GABLES**
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FROM THE MONTGOMERY ARCHIVE

VOLUNTEER WORKDAY, 1993

The passing of our Founder Nell in 1990 (see page 3) was closely followed by the worst disaster in local history, HURRICANE ANDREW, in August 1992. This robust group of enthusiastic volunteers came to help restore Montgomery in September 1993 – Can you believe recovery work was still needed over a year later! Over the course of that year, Miami Dade College (MDC) fielded a total of 6 such workdays, bringing huge numbers of horticulture students to help Montgomery.

We remain deeply grateful for the help from MDC at that critical time. We continue to work with their horticulture department to develop new talent for gardens and conservation. This year marks our 10th year of the Conservation Horticulture Fellows Program (see pages 6 and 7). Talent and passion for helping plants is essential – we sorely needed that help 30 years ago, and now we are glad to help move the field forward.

