The Palmateer

Volume 15 Number 1 *Central Florida Palm & Cycad Society* *March 2023*

March Meeting—Indian Harbour Beach Shines!

By Libby *Luedeke*

Welcoming the visitors at Neil Yorio's house. (Photo by Matthew Kennedy)

Another great day had by all at the Spring 2023 meeting at the Neil Yorio and Mike MacKendree gardens. Neil began his palm enthusiasm back in 1994 after a trip to Rockledge Gardens where he encountered palms he never heard of before. Soon after he attended his first Central Florida Palm Society (later to become Central Florida Palm and Cycad Society) with Wabasso and Vero Beach garden visits including the legendary collection of Joe & Anne Michael. Since then he has experimented with many species of palms and cycads to learn what would grow in his beach side garden.

The meeting at his garden includes many species of palms and cycads that demonstrate salt tolerance more than cold hardiness, which is the challenge in his location. The coldest he has experienced is 33 degrees. Pretty much everything in the garden started out as small plants or grown from seed. He remembers where he got most of his palms and cycads which is amazing in itself. There is a battle going on with the Atala butterfly larva, very ravenous. Several cycads seem to be the food of choice for these soon to be beautiful creatures. The *Zamia pyg-*

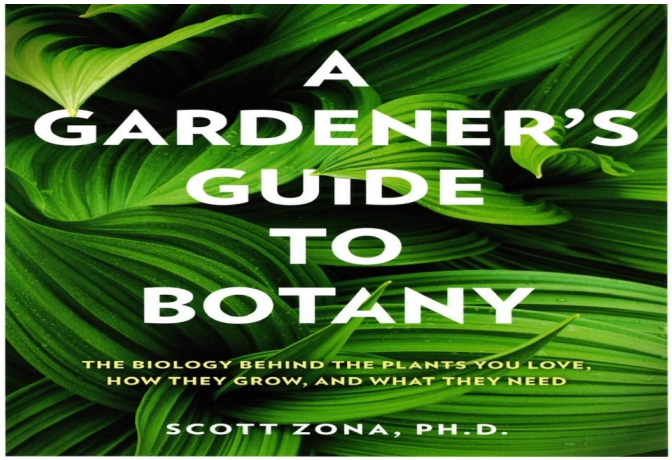
(Continued on page 3)

Freeze Damage at St. Johns B. G.

By Dr. John Rossi, President SJBG

The St. Johns Botanical Garden and Nature Preserve is located in Hastings, Florida, in extreme southern St. Johns County at latitude 29.679810° N and longitude 81.458090° W. It is at the extreme northern boundary of USDA Zone 9b. It is between the St. Johns River and the Atlantic Ocean and 11 miles west of I-95. The altitude is approximately 5M (15 feet above sea level). The garden's primary collection is located in a heavily forested area under huge live oaks, which helps to moderate the temperature during short freezes by as much as 5° to 7° F. It also prevents frost from settling on most plants. It is interesting to note however that the two hurricanes that passed nearby earlier this year did knock a significant number of leaves off of the oak trees, thereby presumably reducing the protection the trees would normally provide. In the future, we may be able to quantify this effect by using light meters before and after the storms. The

(Continued on page 5)



Mini-review on page 21.

CONTENTS

March Meeting	**1**
Freeze Damage at St. Johns BG	**1**
Lakeland Plant Sale	**16**
Leu Gardens Plant Sale	**18**
Emergency Heat Source	**19**
President's Message	**20**
From the Editor's Desk	**20**
Zona book	**21**
Membership Information	**22**
Board List	**23**

Tommy Armour stands under a Copernicia fallaensis *at the meeting.*
(Photo by Libby Luedeke)

Renew your 2023 CFPAC membership . See page 22.

The Palmateer

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The Palmateer

Central Florida Palm & Cycad Society

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March Meeting

maea has practically been defoliated.

The first large cycad we came to is the Cycas edentate. An interesting fact about this cycad is the males tend to cluster and the females are always solitary. Another great fact is they are immune to white scale. The male in his front yard is only 12 or 13 years old, but is very large and happy. Also, it has never shown any cold damage. Good addition to anyone's garden. Another great cycad is the *Encephalartos gratis* that he bought from Paul Craft that he got as a 1 gallon plant 20 years ago. He has had great success hybridizing it with an *Encephalartos laurentianus* that has created a more salt tolerant and larger plant.

As you can well imagine, a lot of his plants took a beating during the hurricanes. There is a huge African Oil Palm in the back yard that had sustained a lot of damage. Recently he noticed some kids in the neighborhood earning extra money trimming trees. Three boys on bicycles, one pulling what looked like their little sister's wagon, holding all their tools. The oldest one was all of fourteen years old. He watched as they worked in a yard close by and figured if that particular neighbor would hire them, he'd give them a try. They came over and he negotiated a great price to trim it up. Much to Neil's amazement they wound up being some of the most professional trimmers he's ever seen. One climbed the tree with a harness and bare feet while another stood below spotting him

(Continued on page 4)

Seen at the meeting—boys trimming an African Oil Palm.

(Photo by Libby)

March Meeting

(Continued from page 3)

while the third cleared the debris. They did a bang up job as evidenced by the picture shown. Sure wish they'd visit my neighborhood.

We ventured over to Mike's garden and enjoyed a tour through the Caribbean. Neil has been spreading his love of palms and cycads on the new young people moving into his neighborhood and bringing us new members. His garden is a young five years in the making, but he has an amazing start with several interesting *Gaussia*s I had never seen before and lots of *Coccothrinax*es. He is also integrating very tropical plant companions. There are several aloes and flowering bushes. I was also glad to see some mangos in the back yard. Mike already has a great memory for the palms he planted. He impressed me with his knowledge and understanding of his collection as a beginner palm and cycad enthusiast. We are glad to have him and several of his cohorts join our ranks.

Next time we will be meeting in Savannah, Georgia. It will be the first weekend of June so save the date. An itinerary will be coming soon. We look forward to seeing some more cold tolerant palms and cycads that push the limits. We also need some ideas for some places to visit on the Florida west coast for the Fall, so if you want to have a visit at your garden or know of a great place we should visit, let us know, we'd love to visit some new places or some that we haven't seen in a while that have matured. Also, if you have any interesting seeds to

The visitors looking around at Neil Yorio's property.

(Photo by Libby)

(Continued from page 1)

hardier species are placed in more open positions with little protection.

The SJBG is home to over 350 species of palms, many of which are considered Zone 10A plants. Because of its northern location and the number of species present it is an ideal location to make freeze damage observations and study the cold tolerance of many species.

In late December, 2022, a 3-day freeze occurred. Although lower temperatures were predicted, the actual low temperatures measured were 27° F, 27°F, and 31°F on December 23rd, 24th, and 25th, respectively. The unusual nature of this freeze was the relatively low humidity during the event, with a humidity as low as 19 % on the first night and only slightly higher on subsequent nights. In a sense, this made it more like a "western" or southern California freeze rather than a Florida freeze as very little frost was observed. The wind may have also been a factor: 13 MPH from the Northwest on the 1st night of the freeze, with gusts up to 20 MPH.

Unfortunately, being a fledgling botanical garden with a limited budget at this time, the rarer species were often given additional protection and some even received supplemental heat in the form of a 40 W light bulb, since original predictions were for temperatures as low as 23 °F. We realize that this invalidates "pure cold tolerance data" on these species but rather provides relative cold tolerance. In some cases, rather than risk the entire palm, we would leave one leaf outside of the protected covering, and where multiple specimens of the same species exist, some individuals were left totally uncovered. The observations on each species will include comments such as under heavy canopy, uncovered, open deciduous forest, covered, in the open, covered, or in some cases, where additional heat was provided, this will be specified. The staff at the garden is aware that leaving a plant totally unprotected is the only true way to measure its cold tolerance, but it is hard to do that with a rare or endangered palm that is hard to replace and may cost hundreds of dollars, especially at this stage of our existence. **Nevertheless, there** were some fascinating observations on the relative cold tolerance of some very rare palms. Perhaps the most interesting observation is that of one *Sabinaria magnifica,* totally unprotected except by the surrounding plants that showed zero cold damage two months later. Other pleasant surprises included the relative hardiness of a variety of New Caledonia palms, including 4 species of *Burretiokentia* , 3 species of *Cyphophoenix* and *Kentiopsis pyriformis*. A small *Actinokentia divaricata*, also from New Caledonia, under canopy but totally uncovered also showed zero damage. A small *Calyptrocalyx yamutumune*, an understory palm from Papua New Guinea, which was covered and under canopy, showed zero leaf damage. Most of the genus *Pritchardia*, a group of fan palms from the Hawaiian Islands that were present at the garden continue to pleasantly surprise us with their relative cold tolerance. These included *P. beccariana, lowreyana, hardyi*, *hildebrandtii, martii, minor, napaliensis, perlmanii*, and *remota*. Only one *P. martii* (exposed to a north wind) and *P. thurstonii* (2 specimens) showed significant damage at these temperatures, even when covered. And because of previous freezes, we no longer house *P. pacifica* outside at the garden, which appears to show damage at 35°F or below. Unpleasant surprises included a small *Marojeyja darianii*, a critically endangered species from Madagascar, heavily covered, and under a double canopy, which showed

significant damage at these temperatures, and may not recover.

General Observations

Acanthophoenix crinita: Under canopy. Uncovered. 40% leaf damage.

Acanthophoenix rubra: Under heavy canopy and surrounded by other tropical plants. Uncovered. 20% leaf damage. This species is reportedly more cold sensitive than the former but it was more heavily protected by surrounding plants.

Acrocromia aculeata: 2 specimens uncovered, out in the open, 15' OA, 50% leaf damage

Acrocromia crispa: 1 small specimen, covered, in the open, No damage.

Actinokentia divaricata: small specimen uncovered but under heavy canopy. No damage.

Allagoptera (4 species): Uncovered. Open canopy. No damage.

Archontophoenix alexandrae: large specimens 5 to 25' OA. Under heavy canopy. A forced air propane heater was used to provide supplemental heat to the area. Uncovered. No damage.

Archontophoenix sp. "Beatricae": 2 specimens. 5' OA. Under canopy. No damage.

Archontophoenix cunninghamiana: multiple specimens. Varying sizes. Uncovered. Under canopy. No damage to most, however one specimen purchased as an "Illewara" (perhaps misidentified) showed 30 % leaf damage.

Archontophoenix maxima: multiple specimens. Under canopy. 10 - 20% leaf damage

Archontophoenix myolensis: multiple specimens. Under canopy. No damage.

Archontophoenix purpurea: multiple small specimens under canopy, some covered. No damage, however one larger specimen, which was covered and had a propane heater, may have actually had some leaf damage from excessive heat or dryness.

Archontophoenix sp. "terracarpa": 5 specimens, 4 ' OA. Under canopy, covered. No damage.

Archontophoenix tuckeri: Large (uncovered) and small specimens (covered), No damage. One small specimen, which was in open canopy and uncovered suffered severe damage and may not recover.

Areca triandra: Under canopy. Uncovered. 20% leaf damage.

Arenga species (caudata, engleri, micrantha, microcarpa, sp. “narrow leaf”): Under canopy. Uncovered. No damage.

Arenga species (australasica, brevipes, pinnata, tremula): Under canopy, uncovered. 10 – 30 % leaf damage

Arenga hookeriana: Multiple specimens. 1 to 3‘ OA. Under canopy. Covered. 1 specimen 20% leaf damage. No leaf damage in the others. The damaged one may have had more wind exposure.

Attalea butyracea: In the open. Uncovered. 70% leaf damage.

Attalea cohune: multiple specimens: Uncovered. Some under canopy. Some in the open. Leaf damage varied from 20 to 80%. Those under canopy fared much better. But all appear to be recovering at the time of this writing,

Attalea phalerata: In the open. Uncovered. Only 10% leaf damage. We were surprised by the relative cold tolerance of this one specimen. Is this an anomaly or does this species possess more cold tolerance than the other members of the genus? More specimens may be needed to determine this.

Beccariophoenix alfredii. Multiple specimens. 3 to 30‘ OA. Under partial or full canopy. Uncovered. No damage. One specimen, exposed to wind and with no overhead canopy, showed 10% leaf damage. It is important to note that this specimen was on the north side of an island in a small lake. Perhaps this increased the humidity in the area and actually increased the damage caused by the north wind rather than decreased it, as is commonly believed. Perhaps the temperature modulating effect of water is only significant with large bodies of water, suggesting that planting specimens near small bodies of water may actually increase their damage in a freeze (at least on the southside of such lakes when the wind is blowing from the north).

B. fenestralis. Under canopy, covered. No damage.

B. madagascarensis: 20 ‘ OA. Uncovered and in the open. 25% leaf damage on older leaves, but still looks very healthy. This appears to be a fairly robust and relatively hardy species once it achieves some size, though not quite as tough as its relative, *B. alfredii*. A smaller specimen, under canopy, no damage.

Bentinckia nicobarica: Under canopy. Covered: 10% leaf damage around the edges of the leaflets.

Bismarckia nobilis: 4 to 50’ OA height. Varied from no damage in partially protected specimens to 70% leaf damage on the older leaves of totally exposed specimens. But the damage on this species appears to occur on the leaves only, not the petioles, just as in other members of the tribe Borasseae in the Subfamily Coryphoideae, like *Borassus aethiopium*, *B. flabellifer*, and to some extent, the *Hyphaene*. We have referred to them

as “stem hardy” in previous writings.

Borassus aethiopium: In the open. Based upon previous observations, the leaves were removed prior to the freeze and the stems and trunk were covered and supplemental heat was provided. This invalidates our observations on this species at this time. We were only trying to protect it until it achieves a larger size. In the past, all leaves were lost at 25 °F but the stems survived with minimal damage and the plant recovered rapidly. Mature specimens have reportedly survived 19°F.

Borassus flabellifer: Same as for B. aethiopium.

Brahea (13 species): Uncovered. In the open. No damage.

Butia archeri, capitata (odorata), eriospatha, paraguayensis, strictor (odorata?), and *yatay*. Uncovered, no canopy. No damage.

Butia hybrids*: Butia x Jubaea*: No damage. *Butia x Jubaea x Jubea*: No damage. *Butia x Jubaea* x *Syagrus romanzoffiana*: No damage. *Butia x Jubaea x S. schizophylla*: No damage. *Butia x Syagrus romanzoffiana*: No damage.

Caryota 7 species: Under open canopy. All uncovered except for *ophiopelis*. *Cumingii, mitis* and *urens* showed the most damage, which ranged from 30% in *cumingii* to 60% in *urens*. *Monostachya* (2 specimens) appears pretty tough with no leaf damage. *Obtusa(gigas)*: multiple specimens: uncovered. Under canopy. 10 to 20% leaf damage. *Maxima (himalayana*) showed 10 to 20% leaf damage. *Ophiopelis*, which was the only covered specimen of this genus, showed 10% leaf damage.

Chamaedorea (12 species):

All species except for *woodsoniana* were uncovered and under canopy. Only radicalis in both forms, and *microspadix* appear to be totally hardy at these temperatures. *C. adscendens* is another tough as nails species showing no cold damage year after year, even when not covered. *C. costaricana* also demonstrated no damage. *C. plumosa* showed minimal damage 10% leaf damage. Several specimens of *C. oblongata* showed varying results. Two specimens were virtually untouched while a third showed heavy damage 70% leaf damage. Other species varied in the damage they showed. *C. tepejilote* showed major damage 70% leaf damage but is recovering quickly. *C. hooperiana* showed minimal damage 10% to no damage, depending upon the location. *C. cataractum* varied from 20 % to 50 % leaf damage. One hybrid *C*. “Douglas delight”, which is considered to be a cross between *radicalis* and *oreophila*, also showed no damage. All other species had some leaf damage, including *arenbergiana, deckeriana*, *elegans*, *klotzschiana*, *metallica*, *seifrizii*, *tenella*, and *stolonifera* but should recover. *Ernesti-augustii* was most likely killed by this freeze event, but it may return from the roots.

Chamaerops humilis: varieties "*cerifera*", "Vulcano" and the standard variety all showed no damage in various locations. None were covered.

Chelyocarpus chuco: 2 specimens. 2' OA. Uncovered. 60% leaf damage. The second specimen, 4' OA. Covered with supplemental heat. No damage.

Coccothrinax: over 20 species. Varying locations. Covered. It is becoming obvious that those stiffer, thicker leafed variety such as *C. miraguama* and its close relatives have a much greater cold tolerance than their relatives. The exceptions are *C. argentata* and *C. argentea*, which appear very cold tolerant as well.

Copernicia: alba, baileyana, brittonorum, curtissii, fallaensis, gigas, glabrescens, hospita, prunifera, *rigida*, *tectorum* and *yarey* were all in the open but covered and given supplemental heat (except for *alba* and *glabrescens* specimens which were neither covered nor given supplemental heat). One *baileyana,* and one *gigas* under partial canopy but uncovered without any supplemental heat showed 0% leaf damage. And all of the *alba* and one *glabrescens* which were unprotected showed 0 % leaf damage. Only *prunifera*, where some leaves were exposed showed any damage (50% on exposed leaves). The latter species is not nearly as cold hardy as it's look alike cousin, *alba*.

Corypha lecomptei: 2 ' OA, covered with a plastic flower pot. No damage. This specimen had survived 25 ° F previously with no cover. It had lost all its leaves, but as in the other members of this genus that we have observed, they appear to be stem hardy, and recovered quickly.

Corypha umbraculifera: Same as for *B. aethiopium*.

Corypha utan: Same as for *B. aethiopium*.

Cryosophila stauracantha: 5' OA. Under canopy. Covered. No damage.

Cryosophila warscewiczii: 7' OA. Under canopy. Covered. No damage.

Cyphophoenix (alba, elegans, nucele): Under canopy. *Alba* and *elegans* were covered. *Nucele* was not but surrounded by heavy vegetation. No damage. We are adding more of these to further test their cold tolerance, but so far, we have been impressed. They survived 25°F last year with no problems.

Cyphosperma balansae: 2' OA. Uncovered. Under canopy and surrounded by dense vegetation. No damage. Another New Caledonia species with surprising cold tolerance.

Dypsis (Chrysalidocarpus) (30 species). This huge genus from Madagascar has been generally doing quite well for us under the oak canopy and planted with many surrounding hardy tropical plants. We did cover many of these plants this time because a freeze of 23°F was predicted and we

didn't want to take a chance of losing this many young plants. Two unprotected *Dypsis leptocheilos* showed significant damage but we expect that they will recover rapidly as they have in the past. The largest one, approximately 30' OA had survived the winter of 2010, having been exposed to 19 °F (covered with a light) nearly every night for over a week. That specimen was totally out in the open at that time but has since been transplanted to an area with overhead canopy protection and never given supplemental heat. This was the tree that inspired us to try to maintain many other members of this genus here. Three large *Dypsis decaryi* (triangle palms), uncovered, also showed significant leaf damage (50%) but appear to be recovering quickly. Multiple *D. lutescens* uncovered but under canopy showed 30 to 50% leaf damage but they appear to be recovering quickly.

Dypsis decipiens: 2' OA. Uncovered. No damage. This species is reportedly the most cold hardy of the genus.

Elaeis guineensis: Under canopy. Covered. Minor leaflet damage. (10%)

Euterpe edulis (orange crown shaft). Under canopy. Covered. No damage. Another specimen was killed at 25°F last year.

Gaussia attenuata: Under heavy canopy. Covered. No damage.

Gaussia Gomez pompae: Under heavy canopy. Covered. No damage.

Gaussia maya: Under heavy canopy. Covered. No damage.

Gaussia princeps: On south facing side of island near water's edge. Uncovered. Heavy vegetation to the north. 40% leaf damage. Recovering quickly.

Geonoma schottiana: In open deciduous forest. 3 specimens, ~ 2 ' OA. Uncovered. No damage.

Guihaia (argyrata and grossifibrosa). Under canopy. Uncovered. No damage.

Hemithrinax ekmaniana. In the open. Covered. No damage.

Howea belmoreana. 3 specimens. 2' OA. Under canopy. Covered. 10% leaf damage.

Howea forsteriana. Large specimens. Under canopy. Uncovered. 50% leaf damage. It should be pointed out that a large oak tree near these plants had recently fallen, and removed a significant amount of protection that had helped these plants survive even colder measured temperatures with no damage in previous years.

Hyophorbe lagenicaulis: 20' OA. Uncovered. Had a string of C -9 incandescent "Christmas lights" scattered among the crown and around the trunk.

70 % leaf damage. Recovering quickly.

Hyophorbe verschaffeltii: 2 specimens. 7 ‘ OA and 13 ‘ OA .Uncovered. Partial canopy. 80 % leaf damage. Recovering quickly.

Hyophorbe indica: 2 specimens. One “green” form 7’ OA and one “red” form 6’ OA. Both were covered and under partial canopy with supplemental heat near the crown, but one leaf exposed on each. 90% leaf damage to the exposed leaf on each. No damage to protected plant material.

Hyphaene compressa, coriacea, petersiana, and thebaica. All species experienced some leaf damage 10 to 40%. It is hard to conclude which species is the most cold tolerant at this time.

Johannesteijsmannia altifrons: Uncovered. Partial canopy. No damage. Appears to be truly cold tolerant.

Jubaea chilensis: Uncovered. In the open. No damage. This specimen is suffering from the high humidity however.

Kentiopsis (Chambeyronia) macrocarpa: Multiple specimens: Under canopy. Uncovered. 0 to 40% leaf damage. Those that were covered. 0% leaf damage. One Chambeyronia hookeri which was uncovered, died from exposure to 25°F last year.

Kentiopsis (Chambeyronia) oliviformis: Multiple specimens: Covered. 0 to 10 % leaf damage.

Kentiopsis (Chambeyronia) pyriformis: Covered: No damage. If one were to rank these three species in terms of cold tolerance, it would be pyriformis #1, oliviformis #2, and macrocarpa #3.

Laccospadix australasica: 2 specimens. Uncovered. Under canopy. No damage.

Lanonia (acaulis, calciphila, centralis): Covered. No damage.

Lanonia dasyantha. 3 specimens. 2’ OA. Uncovered. Under canopy. No damage.

Latania (loddigesii, lontaroides, verschaffeltii). 2 – 6 ‘ OA. Covered. No damage. From previous observations, *L. verschaffeltii* is far more cold sensitive the other members of this genus.

Leucothrinax morrissii: Over 20 specimens. 2 to 12 ‘ OA. Open forest to heavy canopy. Uncovered. No damage on any.

Licuala (auriantica, fordiana): Under canopy, Covered. No damage.

Licuala peltata peltata and *L. peltata sumawongii*: Under canopy. Uncovered. No damage.

Licuala ramsayi: Multiple specimens. Under canopy. Uncovered. 10 - 30% leaf damage.

Licuala spinosa: multiple specimens. Under canopy. Uncovered. No damage.

Livistona species (*alfredii, australis, chinensis, decora, drudei, fulva, lanuginosa, mariae, muelleri, nitida, rigida, saribus* and *speciosa*): Uncovered. Positions varied. Heavy damage to one small(1 'OA) *L. (Saribus) rotundifolia*. See *Saribus*.

Livistona benthamii: Under canopy. Uncovered. Minor leaf damage. Previous observations of this species uncovered in the open at 25°F with heavy frost have shown nearly 100% leaf damage, and in one case, death of the plant. A larger specimen 3 ' OA under canopy experienced 50% leaf damage but recovered.

Livistona robinsoniana: (from seed collected from trees identified as such at the Marie Selby Garden in St. Petersburg). 1' OA. Under canopy. Uncovered. 10% leaf damage. There is some question as to whether this is the same species as *Saribus rotundifolia*. It has been stated that the leaves are broader and the spines are smaller relative to the latter species, and that the origin of *L. robinsoniana* is the Philippines. It is also reportedly more cold tolerant than that species.

Nannorrhops ritchiana: 3 specimens. Varying sizes. Uncovered. No damage.

Parajubea torallyii: 2 specimens: In open canopy. One covered. One uncovered. No damage in either one.

Phoenix (12 species): All uncovered. Positions varied. No damage to *acaulis, canariensis*, *dactylifera, loureiroi loureiroi, loureiroi pedunculata, paludosa, pusilla* (under canopy), *roebellenii* (under oak canopy), *roebellenii reasoneri, rupicola* (under oak canopy), *sylvestris*, and *theophrasti* showed no damage. *Phoenix roebellenii* without any cover from the oak canopy showed minimal damage 10-20% on older leaves*. Phoenix reclinata* had similar results to *P. roebellenii*. No damage under canopy. 10 to 20% leaf damage when out in the open.

Pinanga coronata: 5' OA. Covered. Under canopy. 5% leaf damage.

*Pritchardia beccariana, hardyi, hillebrandii, lowreyana, martii, minor, perlman*ii, and *remota* under oak cover and covered showed little to no damage. *P. thurstonii*, covered and under canopy showed 30 to 75% percent leaf damage but should recover. One *P. martii* under oak canopy and covered but exposed to the north wind experienced 60% leaf damage but appears to be recovering quickly.

Pseudophoenix sargentii (multiple specimens varying from 3 to 10' OA) and *Pseudophoenix s. saonae* uncovered but under oak canopy demonstrated no damage.

Ptychosperma elegans: Under heavy canopy. 10% leaf damage. At 25°F last year a large specimen was killed.

Ptychosperma macarthurii: Under canopy: 20% leaf damage.

Ptychosperma propinquum: Under canopy: Surrounded by heavy vegetation. 10% leaf damage.

Ptychosperma schefferi: Two specimens. Under canopy: One covered. The other not. Covered specimen: Only damage to exposed leaf. 80%. Uncovered specimen: 70% leaf damage but recovering quickly.

Ptychosperma waitianum: 3' OA. Under canopy. Covered. 20% leaf damage, but recovering quickly.

Ptychosperma "Lisa". The species here is a mystery as the originator of the variety didn't/wouldn't/couldn't disclose the parent stock but it is presumed to be a variety or mutant of elegans with "fused" leaflets. No damage under heavy canopy.

Ravenea glauca: 3 specimens. Varying sizes. Under canopy. Covered. No damage.

Ravenea hildebrandtii: 1 specimen. 5' OA. Uncovered. Under open canopy (a large oak tree had recently fallen, thereby removing some of the protection granted to this palm in previous years, when it survived colder temperatures with far less damage. With this freeze: 50 % leaf damage. Recovering quickly.

Ravenea rivularis: Multiple specimens. Uncovered. Varying exposure. Those unprotected by any canopy or surrounding plants showed major damage: 80 to 90% leaf damage. Those in protected areas showed 0 to 10% leaf damage.

Ravenea sambiranensis: one specimen. 2' OA. Under canopy. Covered. No damage.

Reinhardtia latisecta: Uncovered. Under open canopy. 90% leaf damage. May not survive.

Rhapidophyllum hystrix: Multiple specimens. No damage to any regardless of location.

Rhapis excelsa, excelsa "true dwarf", *excelsa* "super dwarf", *humilis, laosensis, multifida, robusta*, and *subtilis*. Only *subtilis* showed any damage. 20% leaf damage.

Roystonea oleracea: One specimen. 10' OA. Covered. Under canopy. 50% leaf damage.

Roystonea regia: 3 large specimens 30 ' +/- OA . Uncovered. Under canopy. 30 to 40% leaf damage, but this species always appears to recover quickly. Smaller specimens in more open canopy and uncovered experienced heavy damage and some were killed. One large specimen here recovered from the low to mid-twenties every year until it was killed in 2010 by a prolonged cold spell where it dropped to 19°F at night repeatedly for over a week. That palm was planted in the open with no canopy protection. That was a particularly bad year. One day during that event, the

high temperature was 35°F and there was ice on the lake. Conclusions so far on this species: Specimens under 10 feet OA are at a tremendous risk from cold damage or outright death at 27 or below. Larger specimens appear to develop quite a bit of cold tolerance, recovering from temperatures in the 22 to 27°F range as long they are not prolonged exposures.

Sabal antillensis, blackburniana, bermudana (princeps), causiarum, domingensis, etonia, gretheriae, maratima, mauritiformis, mexicana, miamiensis, minor, palmetto, palmetto "Lisa", pumos, rosei, tamalupias, uresana, x brazoriensis and *yapa*: No damage. A large population of *Sabal minor* and several *Sabal palmetto* occur naturally on the property and there was no damage to these.

Sabinaria magnifica: 2' OA. Uncovered but under heavy canopy. No damage.

Saribus rotundifolia: Under canopy. Sizes from 2 to 8 ' OA. 0 to 30% leaf damage depending upon position. Those with more wind exposure had more damage. One small specimen, ~ 1' OA appears to have been killed.

Satakentia liukensis: 2 specimens. One had little to no canopy protection. Covered. 40% leaf damage. With overhead canopy, covered. 10% leaf damage.

Schippia concolor: Multiple specimens. Varying sizes from 2 to 7' OA. Under canopy. Some covered. Some not. One specimen which was uncovered showed 30% leaf damage.

Serenoa repens: Varying sizes and locations. Both planted and naturally occurring on the property. No damage to any.

Syagrus amara, botryophora, campylospatha, cearensis, coronata, lorenzionorum, picrophylla, romanzoffiana, ruschiana, sancona, schizophylla and *yungasensis* were present during this freeze. All were uncovered except for *campylospatha* and *coronata*. Significant damage occurred to *amara, botryophora*, *cearensis*, one *coronata* but not another*, sancona*, and *schizophylla* but all appear to be recovering rapidly. *Ruschiana* had minimal damage. The others had no damage. *S. kellyana* and *vermicularis* died in last year's freeze at 25°F.

Synechanthus fibrosus: 6' OA. Under canopy. Covered. Additional heat. No damage. Previously uncovered specimens have demonstrated severe damage uncovered in open canopy at 25°F.

Thrinax excelsa: 2 specimens 3' OA. Open canopy. Covered. No damage. One larger specimen. Under canopy. Uncovered. 30% leaf damage.

Thrinax parviflora: Heavy canopy. Covered. No damage.

Thrinax radiata: Multiple specimens. 2 to 8 ' OA. Uncovered. Varying damage based upon exposure. 0 to 30% leaf damage. All recovering quickly.

Trachycarpus fortunei, latisectus, martianus, oreophilus, princeps, takil, and *wagnerians*: No damage.

Wallichia caryotoides: Under open canopy. Uncovered. 40% leaf damage.

Wallichia disticha: Under canopy. Uncovered. 10 ‘ OA. No damage.

Wallichia oblongifolia: Under open canopy: Uncovered. 40% leaf damage

Washingtonia filifiera and *robusta*. Varying sizes from seedlings to 60’ OA. No damage.

Wodyetia bifurcata: Varying sizes and locations. Uncovered. 10 to 50% leaf damage.

Conclusion: The loss of a significant amount of our leaf canopy due to the two hurricanes that passed near us in 2022 resulted in far more freeze damage to a larger number of palm species and individuals than we have seen in previous years, even at lower temperatures. Higher wind speed and lower humidity may also have played a role. Every freeze appears to be a unique event. In spite of this, very few individuals died in this cold event. Ultimately, success with each species will depend upon their long-term survival with exposure to repeated freezes, not just one event.

We would like to thank all of the volunteers who help us with the massive effort of protecting our palm collection from these occasional freezes that we experience. As we grow, we hope to provide more accurate cold tolerance data and study some of the other factors that affect success or failure with certain species of palms and cycads. We are a 501(c)3 organization, and any donations are tax deductible. Or become a volunteer, or as a PFFR (Palm Freeze First Responder)! Call 904.553.7563, visit our Facebook page, or online at: *https://stjohnsbotanicalgarden.org.*

Photos by John Rossi

Ravenea hildebrandtii

Sabinaria magnifica

Satakentia liukiensis

CFPACS Returns to Lakeland for Plantae-palooza

By Jeremy Evanchesky

Four months after the first-ever CFPACS Meeting in Lakeland, our society was invited to participate in the City of Lakeland's recently renamed annual plant sale. Originally named Plantopia, the name was changed to Plantae-palooza since the name was already taken by another sale. The sale was a great opportunity to make our presence known, share our expertise, and raise money for both the society and Hollis Gardens. Kevin Polk, our guide for the Fall 2022 tour of Hollis Gardens, maintained constant communication with Jeremy Evanchesky, our membership chair, to share details and updates concerning the sale.

When people think of fun, it rarely involves waking up at 4AM, driving to a botanical garden several hours away, and unloading a truckload of plants. CFPACS President Dave Hall and Steve Farnsworth made the trip, with CFPACS West VP Keith Santner arriving later during the day. After arriving at the garden, Jeremy guided them to the vendor entrance where they were guided down to the Frances Langford Promenade to unload their wares at the 20 x10 slice of paradise reserved for our booth. One of the wait staff at the Garden Bistro took our lunch orders, and the booth gradually took shape over the course of the next 90 minutes.

Our booth featured a wide variety of palms, cycads, and other plants, along with T-shirts and information about our society. The sale got off to a hot start, with the plants on the table at the front of the booth selling fast. Several of the attendees stopped by to ask for information concerning various plants as well as potential referrals. It is no surprise that some attendees wanted to buy coconuts and Christmas palms, but unfortunately, we did not have any available. A few attendees asked if we could tell them why all of the date palms were dying, starting a lengthy discussion on Lethal Bronzing and its local impacts.

CFPACS booth at Hollis Gardens Plantae-palooza.

(Photos by Jeremy)

On a day that surpassed 90F, having four people at the booth allowed everyone to take a much-needed break and explore the other booths after a quick lunch. Having only one or two people at the booth would have been overwhelming due to the volume of customers. Having Keith on hand really helped with the folks who asked about cycads or fertilization regimens. A visit from local cycad expert and CFPACS member Tom Broome was much appreciated as well.

As the day was winding down, we were able to reach our sales goals and had handed out roughly a dozen pamphlets to promote our organization. A

(Continued on page 17)

CFPACS at Plantae-palooza

(Continued from page 16)

few attendees took photos of our table so they could look for us online using the logo. We were able to interact with dozens of other attendees who wanted expert advice on a variety of topics, mostly centering around the survivability of a species in their particular area.

Closing time was made easier by our success selling most of the plants. Dave Hall donated his unsold plants to Hollis Gardens, and the city staff was helpful and attentive at all stages of the sale. A special thanks to Kevin Polk and Stacy Smith with the City of Lakeland, as well as the other City of Lakeland employees who helped us get set-up and answered questions. My hope is that this sale further strengthens the bond between the City of Lakeland and CFPACS, and that we can continue to participate in and expand our presence in this sale, and potentially others, in the future.

Additional Links:

PalmTalk – Plantae-palooza: https://www.palmtalk.org/forum/topic/76607-plantae%E2%80%93palooza-garden-festival-formerly-plantopia-saturday-february-25th-2023/

PalmTalk – Fall 2022 Meeting: https://www.palmtalk.org/forum/topic/73966-central-florida-palm-cycad-society-fall-meeting-sat-10222022/

PalmTalk – Hollis Gardens (2009 – Present): https://www.palmtalk.org/forum/topic/18482-hollis-gardens-in-lakeland-florida/

City of Lakeland Urban Forest – Hollis Gardens GIS Map: https://lakelandflori-

President Dave Hall works the booth in Lakeland.

Leu Gardens Plant Sale

By Libby Luedeke

The Leu Gardens plant sale was seriously successful this year. We were there bright and early at 7:30 am ready to go and the line down Nebraska was already half way down the street. We got to meet some fun plant people in line while we awaited entry. There were lots of orchid, bromeliad, and rose vendors. Some bamboo, succulent and native plant folks, plus a lot of carnivorous plants were available and Tropiflora was having a stellar day. But not a lot of palms and cycads.

We made our way to MB Palms where Mike and Becky Smukall were overflowing with customers. We were able to round them up for a quick photo op with Bob Bowden, the former director of Leu Gardens, a gardening legend. Next month MB Palms will be having a big open house sale on April 15th and 16th first ever. Cash and credit accepted located at 6948 Beth Rd., Orlando, FL 32824. Email mbpalms@hotmail.com Jerry and I walked away with two bromeliads, a succulent, and a handy dandy pair of ergonomic trimmers I'm in love with. We'll save the palm and cycad purchases for the MB Palms sale. As we were *leaving from the south gate*, we saw the volunteers keeping up with the entries. They were counting how many actual members of Leu that were coming in. From 8 am to 9 am members could come in early. They recorded over 3000 members just at the one entrance, and not the main entrance at that. This was just the first hour. Then droves of members and non-members followed at 9am. It was great to see so many folks enjoying the outdoors

The first hour of the sale was for members of Leu Gardens who turned out in great numbers. (Photo by Libby)

Inexpensive Emergency Heat Source for Sensitive Plants

By Dr.John Rossi
President, St. Johns Botanical Garden

All of us like to Zone Push --it's like the gardener's version of gambling! And when that cold comes our way, our "pushed plants" need a little help. While shopping in the Home Improvement light aisle looking for a heat lamp just days before the last freeze, I found a cheap heat source that may be helpful to all of you gardening gamblers out there. And by the way, yes, all of the heat lamps, work lights and other heat sources were long gone, and the aisle was full of panicked gardeners looking for them!

What I noticed in the same aisle opposite from the emptiness and panic on the other side, were bins of individually wrapped plug in light sockets. There were scores of them, and they only cost about $2.68. Working quietly, like a thief in the night, I scooped about 20 of these little gems into my cart, and moved away before anyone noticed. After all, I might need to come back for more later. Covering them with some other merchandise, I moved over to the extension cords, where I found 6' cords for $2.35 each. I bought 20 of these. Then it was over to find some incandescent bulbs, which is no easy task in this day of energy efficiency. I have found that 40 watt incandescent bulbs work extremely well most of the time, so I looked for them first. No luck. However, in this age of bait and switch truth bending, I did find some incandescent 60-watt bulbs that only used 43-watts, and that was close enough! So I loaded up on these in case I never saw them again.

The result was 20 jury-rigged little heaters that could be deployed rapidly and inexpensively. The total cost for each was approximately $7, including the light bulb, which is much cheaper than even the cheapest work light fixture, even though it doesn't have a reflector or a clamp or a hook to hang it with, I knew that I could just hang it over a branch if I needed to. Plant lives were saved and no panicked gardeners needed to be knocked to the ground in this struggle for heat sources, and survival of the, "unfittest," plants!

Seriously though, these little light fixtures are a very inexpensive way to provide supplemental heat to a plant. And you can always tell when they are working because you can see the light on in the dead of night. They are especially effective when the plant is covered with a frost cloth and you can create a heated pocket of air around the plant. Don't make me tell you what was going on near the frost cloth aisle! It might scar young gardeners…

The low-cost emergency heater to protect sensitive plants during a freeze.

From the Editor's Desk

I'm always glad to get a contribution from John Rossi, president and founding spirit of St. Johns Botanical Garden. Always longer than most pieces I receive and beautifully written. OK, I've put his *entire* freeze report into the layout. Folks want to hear about freeze problems before they might encounter these maybe next winter.

Neil Yorio's property was a revelation. Seems like every square inch had a palm or a cycad on it. And he even had gotten some of his neighbors interested in palms. Usually when the group is going to a member's garden, you can tell which place is the member's. Crowded with greenery while all the neighbors have neat lawns with a couple of shrubs planted by the builder and maybe even a Queen Palm. I guess no one living in a development with a property owners' association can be a collector, for the other folks would see a collection as messy and probably have a list of permitted plants (available at Home Depot).

Scott Zona has published a book that many folks will want to have. See my assessment on the next page—after I spent half an hour looking through it.

John Kennedy

PRESIDENT'S MESSAGE

I would like to thank Neil and his neighbors Mike and Bill for hosting us on Saturday.

I also want to say that our next meeting will be in Savannah, Georgia on Saturday, June 3rd, with two other chapters: the First Coast chapter and the Southeast Chapter.More details are in the works and I will be sending more information out soon.

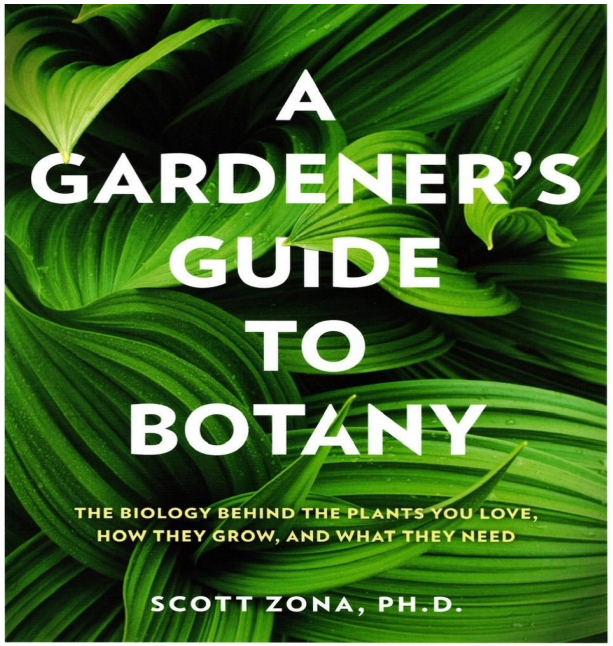
If any members would like to host a meeting, please let us know because we have no plans yet for our Fall and Winter meetings.

Our members should let us know about the past winter experience. How did their palms do, for we had a lot of freezing temperatures and frost. We want to hear from them how low were their temperature and any damage that might have occurred.

David Hall

My thanks to my son Matthew who helped the old guy when he got confused.

A Gardener's Guide to Botany



An IPS board member suggested that I publicize Scott Zona's new book, *A Gardener's Guide to Botany* in the December issue of *The Palmateer*. I declined to provide what would be taken as a recommendation for a book that I had not seen. My local public library now has the book and I have been able to appraise it. The subtitle explains Zona's purpose: *The Biology Behind the Plants You Love, How They Grow and What They Need.* This is not a palm book.

I had wondered whether it would be thick with botanical language that only botanists use or if its contents might display the condescension that specialists in a field sometimes show when dealing with non-specialists. Zona provides a straightforward account about the needs and growth patterns of plants that is aimed at the intelligent lay person. As a humanities undergraduate, my sophomore year science was Biology; the course was the first in the demanding pre-med program at my university. But I don't recall that the beginning semester devoted to Botany presented information as clearly as Zona does. This is a 245-page book with spectacular photos illustrating its points.

Titles of the eight chapters indicate how the author has arranged the material: Chapter 1, "Being a Plant"; Chapter 2, "Plant Parts and What They Do." Chapter 3 is "What a Plant Needs: Water" and Chapter 4 is "What a Plant Needs: Light." Chapter 5 carries the title "What a Plant Needs: Nutrients." The final chapters are Chapter 6, "Defense," Chapter 7, "Reproduction," and Chapter 8, "Seed Dispersal."

This isn't a reference book (though it is that) nor a book that will be read straight through but dipped into from time to time. I do know that I will be getting a copy as soon as I can. The publisher is Cool Springs Press in Beverly, MA. The price is the U. S. is $32.00.

—John D. Kennedy

PayPal Tutorial

Here is how to make a payment to CFPACS using PayPal

1) Log on to http://www.paypal.com

2) If you have a PayPal account, log into your account. If you do not have a PayPal account, click on the 'Personal' tab. Once on the 'Personal' page go to 'Send Money' and then 'Send Money Online.'

3) Once on the 'Send Money' page, type 'payments@cfpacs.com' in the 'To' field.

Type in your email address in the 'From' field and the amount you wish to pay in the 'Amount' field.

4) From there you will be taken to a secure page where you can enter your name, address and credit card information.

5) When you are ready to finish up the payment process, please indicate whether your payment is for membership or seeds or t-shirts in the message field.

The International Palm Society (IPS)

56 Autumn Oaks Drive

The Hills, TX 78738

Regular membership, $60, other levels of membership (including free), quarterly journal

http://palms.org

The Cycad Society

3355 Blanchette Tr.

Lake Worth, FL 33467

Regular membership, $35, other levels of membership, quarterly journal

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The Central Florida Palm & Cycad Society service area includes the following counties:

Alachua, Brevard, Citrus, DeSoto, Flagler, Hardee, Hernando, Highlands, Hillsborough, Indian River, Lake, Levy, Manatee, Marion, Okeechobee, Orange, Osceola, Pasco, Pinellas, Polk, Putnam, Sarasota, Seminole, St. Lucie, Sumter, Suwannee, and Volusia.

Host gift for our Meeting hosts from Jerry Luedeke's garden.From left, Jerry,President Dave Hall, Mike MacKendree, and Neil Yorio.

(Photo by Libby)