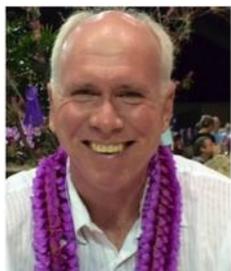




HAWAII ISLAND PALM SOCIETY

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President's Message



I trust this newsletter finds everyone in good health in this uncertain time. As with all other organizations, HIPS has had to adapt to the new normal of social distancing as covid-19 spreads through the community. Fortunately, we were able to move ahead with the July garden tour at my property despite the approaching hurricane. In July the county's restrictions on outdoor gatherings allowed up to 100 attendees, so the 70 members who participated were well within that limit. I

certainly hope everyone enjoyed the chance to get out of the house and do something fun during the lockdown even though we all had to wear masks and keep our distance. Unfortunately, a month later the case count had grown at such an alarming rate that Mayor Kim limited all gatherings to only 10 people. That rule remains in effect today. Consequently, we were forced to cancel the remaining two tours we had hoped to offer this fall as well as the potluck lunch and member plant sale.

Since HIPS has gone into hibernation mode due to the pandemic, the board recently decided to extend all memberships by 12 months without charge. See the separate article for details.

The board is still debating if or how we will operate the annual auction in February. We cannot move forward unless gathering limits are raised closer to 100 people. There are many unknowns we face over the next few months. Most importantly, will the state reopen to outside tourism and how will that affect the case load on the Big Island? We have abandoned the idea of our traditional indoor auction and banquet at Auntie Sally's. Instead, we are investigating covered outdoor venues with natural air circulation. We are not sure if we will be able to safely serve food. As we get closer to the date, watch the web site and December newsletter for more specific details.

While much of the island has been shut down, major renovations continue at the zoo. Many large palms have been lost to the construction, but HIPS is working to replace as many as possible once the work is done. The zoo will probably not reopen until the spring of 2021, at the earliest.

Contents:

President's Message

Memberships Extensions

*HIPS Officer and Board
Member Openings*

*Free Virtual Event: Garden
Verse September 30*

Kelley Garden Tour Highlights

Zoo Construction Update

*Conservation Through
Cultivation: A Profile of Cycads*

Palms On Fire

This has been a stressful year for the entire country and may get worse as we approach a highly divisive election and Supreme Court battle. I urge everyone to spend as much time as possible in your gardens reconnecting with the natural world. Even pulling weeds can be a healing experience after watching the news.

Rick Kelley

Complimentary Membership Extension

It has been a very challenging year, with much regret we have had to cancel most of our highly anticipated garden tours, lectures, and community outreach events this year. The HIPS board has decided that our members deserve a do over, so people who have been HIPS Members for any period between January 1 and September 30, 2020 will have their renewal dates extended by 12 months.

This applies to all levels of memberships, although we haven't quite figured out how to extend lifetime memberships at this time. We appreciate your patience and we hope that come February we will be able to

design a safe and fun annual meeting and auction. While we are setting the new renewal dates in our membership management software, if any of you receive an automated membership renewal reminder, you may disregard it.

In the interim, please stop by the [HIPS website](#) from time to time to see what is new. There is a lot of interesting content hiding under the menu buttons. Photos of past garden tours, previous newsletters, lots of palm photos, tips on germinating and growing palms, maps where to see palms growing on the Big Island, and more.

HIPS Officer and Board Openings



HIPS would like to thank current Vice President Rick Jones for his help with our annual audit, researching philanthropic organizations worthy of our support, and for help planning a wonderful year of events that unfortunately were put on hold. Rick will be moving to the mainland and we wish him good luck and good health.

Joining the HIPS board is a fun way to get involved and shape palm society events and initiatives. You don't need to be an expert on palms, just willing to donate your time and ideas to make our events enjoyable and informative. We currently have an opening for Vice President, a position that will be confirmed at our annual meeting in February. The chief job of Vice President is to stand in for the president at functions or meetings in the event of the president's absence. We are seeking someone personable, enthusiastic, and comfortable speaking in front of people. We are also always looking for volunteers to join the board as members at large. Board members and the Vice President are expected to attend quarterly board meetings, help out at society events, and occasionally may be asked to head an event or initiative that may interest them. If you are interested, please contact Rick Kelley at rickkelley@att.net

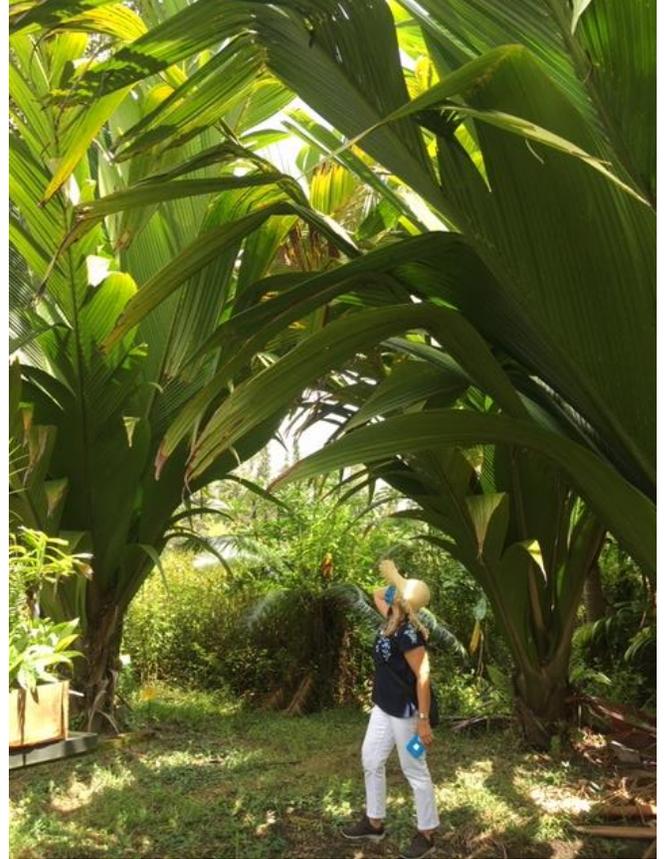
Free Virtual Event: Garden of Verses

In January 2020 the house and palm garden of W.S. Merwin came under the stewardship of The Merwin Conservancy and is now transitioning from a private residence to a more public space. Some HIPS members visited the garden of William and Paula Merwin when they were still alive in 2015. For the first time, the public will be invited – virtually for now—into the house and garden. Special guests Naomi Shihab Nye, Edward Hirsch, Jane Hirshfield, Carrie Fountain, Howard Norman, and Kealoha will read William’s poetry and share remembrances.

To attend, click this link to register: [You can register for the event here.](#)



Kelley Garden Tour Highlights



The socially distant tour of Rick Kelley's Orchidland garden was definitely a first for HIPS. Guests were asked to wear masks and encouraged to take a self-guided tour of the garden with only the people they drove in with. A guided tour was extended to a few people, but they were asked to keep 6 feet apart. Of course there was no handing out water bottles or snacks. Many people appreciated an outing after being locked down, even if they couldn't hang around and socialize with friends. Rick's informative signage, complete with planting date, size, and origin, made for some astonishing realizations about how fast things grow in his garden with cinder and mulch. In the photo above on the right, Kim Cyr stands under massive Marojejya. The problem with a socially distant garden tour is that you miss out on sharing reactions to what you are seeing. Luckily, Kim Cyr and Harry Messenheimer shared some photos and their impressions.



When Kim sent the photo above she said, "I was fascinated by his garden because he has such a healthy stand of ohi'a trees, and made good use of them by loading them up with exquisite orchids -- many were in bloom. Also his use of coleus and other colorful ornamentals, many commonly used in California, really amped up the feeling of exotic exuberance in the garden. Pretty impressive place for only seven years of cultivation!" Sadly, Rick says that there has been increased signs of Rapid Ohi'a Death around his property, but in true Rick spirit, he has used the downed logs to form stairs for his paths.

For Harry Messenheimer, who sent in the photo below, these young Clinostigmas reminded him of the early days of his own garden many years ago. Harry and his wife Robin lost their garden in Leilani Estates during the last eruption. It is still remembered by many HIPS members who were lucky to tour his garden just the year before.



Even palm enthusiasts had to marvel at this beautiful orchid, one of many attached to almost every vertical surface.

HIPS would like to thank Rick Kelley for opening his garden up to us and putting in the extra effort to make the tour a safe and informative event. Thanks also to those that volunteered to help at the event.

“The tree which moves some to tears of joy is in the eyes of others only a green thing that stands in the way.”

William Blake
From a Letter to Revd Dr Trusler,
August 23, 1799



Zoo Construction Update

Complex manager Pam Mizuno from the County Parks and Recreation department contacted President Rick Kelley to let HIPS know that some of the palms HIPS planted and maintained for decades will be removed as the zoo starts an extensive remodel to bring the paths into compliance with ADA requirements. Pam explained that some of the grades were too steep for wheelchairs to operate safely. In addition to leveling out the paths, new drainage, benches, and drinking fountains are also being planned. The main entrance building and large pavilion near the playground and petting zoo are also getting a makeover.

Pam worked with Rick and former HIPS president Karen Piercy to identify the palms that will be removed and said that in the case where the removal would mean a loss of a species in the collection, a new 1 gallon palm would be bought from Floribunda Palms as a replacement. This amounted to about 12 new palms, it is not known how many individual palms are being removed.

Although Rick and Karen pleaded the case for keeping some of the more unique or slow growing specimens, there was little concession for deviations to the plans. Most disappointing was the loss of the iconic native Pritchardia palms at the front entrance. Many palm experts have tried to key out those Pritchardias but their species remained a mystery. As most Hawaiian Pritchardia species are extremely rare and endangered in the wild, the loss of these trees is painful from cultural, historical, and ecological perspectives.



As a consolation, Pam brought Karen and Rick to the greenhouse where she pointed to potted seedlings that she said came from seeds collected from the Pritchardia palms at the entrance, but sadly those turned out to be Licuala seeds. There were other donated exotic palms in 15 to 20 gallon pots in the greenhouse, but Pam wouldn't say if there were any plans to plant the trees.

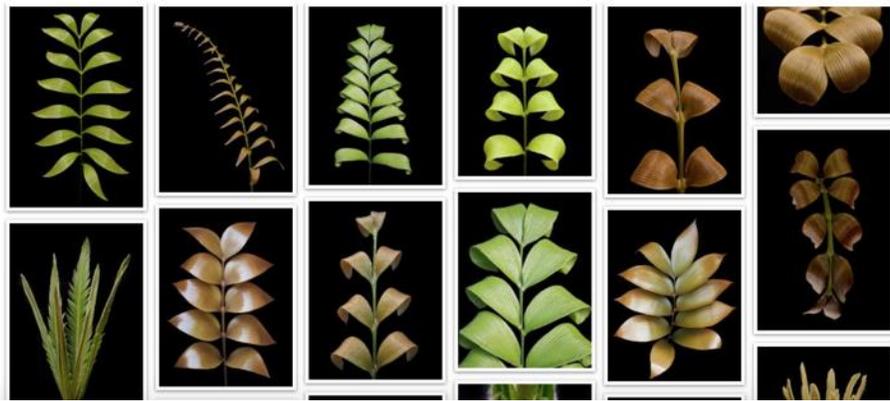
Recently Karen and Rick were invited back to the zoo to identify potential locations for the new replacement palms. This task turned out to be difficult as each potential location was abandoned due to the fact that over the years, placement of buried utility lines had not been recorded on a master plan of the zoo and the subcontractor charged with landscaping had not been fully briefed regarding exactly where additional excavation would be done. The suggestion to come back to locate plantings when the construction was completed was rejected. Consequently, the dozen or so flags marking the locations of new palms were put down

in the parking lot island where beautiful monkeypod trees once stood, their wide arching branches shading picnicking families since the Panaewa zoo opened. This spot too was only temporary, the flags would have to be removed later as the contractor said the area had yet to be leveled.

No firm reopening date has been set for the Panaewa Rainforest Zoo and Botanical Garden, but the expectation is that most of the work will be complete by the spring of 2021.

Conservation Through Cultivation: A Profile on Cycads

By Ken Beilstein



Emerging leaves from from cycads in Montgomery Botanical Center's living collection

Cycads are frequently misunderstood. They are often mistaken for palms. In fact, several cycad species have even been given common names that suggest a close relationship with palms: sago palm or cardboard palm, for example. Both of which are actually cycads, not palms. While many cycad species bear a superficial resemblance to palms, the similarities are the result of convergent evolution – similar adaptations to the same environments and ecosystems. In reality, cycads are not closely related to palms at all.

Cycads are very different. They are gymnosperms and more closely related to conifers and ginkgoes. Like many other gymnosperms, cycads are also ancient plants. Sometimes called the dinosaurs of the plant world, cycad origins are far older than even the Jurassic Age. Fossil records indicate cycads first emerged during the late Carboniferous Age, or perhaps early Permian Age – roughly 250 to 300 million years ago. Cycads have been around a very, very long time. And survived the mass extinctions which extinguished dinosaurs and trilobites and countless other species of plants and animals.

Today, however, cycads are threatened as never before. The IUCN (International Union for the Conservation of

Nature) – the authorized international assessor and regulator for endangered species – has designated cycads as **the most threatened subclass of all plant species**. On a global basis. Every species of cycad (there are about 325 species) is considered to be 'at risk'; and every cycad species is included in the IUCN Red List of regulated plants. Over half of all cycad species are included in the higher risk classifications – Vulnerable, Endangered and Critically Endangered. Meaning there is greater than a 50% probability that these species will disappear from habitat within the next 3 generations or 100 years. Dozens of cycad species are Critically Endangered, with an extinction probability over 90%. Some species are already extinct in the wild and exist only in cultivation. And several more are virtually certain to become extinct in habitat because their species-specific pollinators have become extinct.

The primary cause of this extinction threat to cycads is loss of habitat. Specifically, the on-going transformation of land use from native forest and savannah ecosystems into agriculture. While the loss of broad leaf rainforests may receive the most attention, the habitat loss encompasses all tropical and subtropical ecosystems. Within the next 25 years, over 80% of the historical

acreage of tropical savannah and tropical broad leaf and coniferous forests will have been lost. World-wide; in Africa, in the Americas, throughout tropical Asia and the islands of southeast Asia and Oceania.

Fortunately, there is something we can do, as individuals, to preserve cycads and cycad diversity. Cultivate them in our gardens.

As cultivated garden plants, cycads also have something of a mistaken reputation. They are often considered slow-growing, too heavily armed and barbed, subject to scale infestations and very finicky about location and drainage. While those descriptions are accurate for some cycad species, there are many others with surprisingly rapid growth rates, are unarmed, very resistant to virtually all insect pests and highly adaptable to most garden conditions – except heavy, wet soils. By choosing the appropriate species for garden size and micro-climate, cycads in Hawaii are relatively maintenance free and thrive. They readily naturalize.

Importantly, cycads cannot become invasive in Hawaii. For in habitat sexual reproduction, cycads require species-specific pollinators – typically specific beetles. These pollinators are not present in Hawaii; thus, cycads

cannot produce viable seed in Hawaii. Many cycad species, however, readily produce viable offsets - ‘pups’ – which are easily separated from parent plants and propagated.

In recent months, our Hawaii Island Palm Society has established an association with the [Montgomery Botanical Center](#) in Florida for distribution of viable cycad seeds to our members from the Montgomery seed bank. This is an exciting development and opportunity for our membership. The Montgomery is one of the world’s foremost botanical research institutions with a specific focus on cycad conservation. Viable seed from Montgomery allows our members to propagate cycad species seldom, if ever grown here in Hawaii.

The diversity of Hawaii’s micro-climates and soil compositions provides ideal environments for cycads in cultivation. Rain forest cycads from Central and South America thrive in East Hawaii gardens. Savannah cycads from Africa and Australia readily naturalize in drier West Hawaii gardens.

In a very real sense, the Big Island is a sanctuary for cultivation of this most threatened sub-class of all plants.

Palms On Fire

The scale of the wildfires burning across California and Oregon is astonishing, look at the map below. I used the comparison map from the NBC News website, to compare just one of the fires burning in California to Maui.



I was especially concerned with the small grove of ancient Coastal Redwoods trees in Big Basin State Park, after living centuries, could the 2020 fire season be their last? I knew the big trees were well adapted to fire, and while not all made it, many of the old ones with their thick bark and lowest branches starting high above the ground survived. This made me wonder, how would palms do in a fire?

As it turns out, being essentially arboreal monocots, palms have some distinct advantages over traditional trees in fire prone areas. Having a trunk predominantly made up of living vascular water and nutrient moving tissue (as opposed to having a trunk with only an outer edge of living tissue) increases the chances of surviving a fire and budding out again once the fire has past. Even the way palms grow, with the new spear tightly compressed against the growing point or apical meristem, forms a shield that might sustain the plant. These advantages can allow palms (and cycads) to dominate the understory of fire-prone savannahs and woodlands, as we see with *Livistona* species in Australia.



Livistona spp the first to bud out after a brushfire in Australia. Photo from Insider.com

Many palms living in dry and hot places that frequently burn develop a skirt of dead leaves. The mat of leaves helps to trap moisture near the trunk. If the leaves catch fire, they burn quickly and can lift the flames away from the trunk and apical meristem. This behavior might save the tree, but as the flaming leaves are blown off, they can often spread the fire. Of course the skirt doesn't always protect the palm and folks from Southern California recognize the roman candle blaze of a *Washingtonia* palms.



Washingtonia palms in Southern California. Photo from Hanford Sentinel

Like the coastal redwood trees that branch high above the forest floor, tall palms keep their flammable crowns high above ground fires. And like a redwood's thick bark, thick leaf sheaths and furry tomentum, or even scurf scales can protect the trunk and crown shaft of palms. *Bismarckia nobilis* in Madagascar is a perfect example.



Bismarckia nobilis in the grasslands of Madagascar's Isalo National Park. Photo by Dr. John Dransfield Kew/Palmweb

The Cerrado of Brazil is open woodland scrub or savannah, most palms there have acaulescent deep subterranean stems which initially grow deep into the soil and not upward, some form a pronounced saxophone shape as the leaves form pointing down and must make a 180 degree turn to emerge on the surface. Given the frequency of fires in this region, these palms choose to put their energy into building a root system with an in ground growing point rather than immediately reaching for the sky. Palms of the Cerrado include *Alagoptera campestris*, *Syagrus petraea* and *Acrocomia*



Subterranean view showing the saxophone growth pattern of *Sabal minor* a palm native to the deep south eastern and central U.S. and Mexico. Photo by Bob Harms University of Texas

Chamaerops humilis is native to the coastal shrublands of the western Mediterranean Basin and is well adapted to recurrent high intensity shrubland fires. It re-sprouts quickly after fire from surviving apical buds, but it also has rhizomes from where new stems can emerge after disturbance. Scientists were taken aback at the early flowering behavior of *C. humilis* since the specific weevil that pollinates this palm could not have recovered from the fire yet. Turns out, *C. humilis* has a backup pollinator that isn't perfect, but desperate times...



Chamaerops humilis flowering (male) 2 months after fire; Valencia region, Spain (photo: JG Pausas).

Of course, protection mechanisms in palms aren't a guarantee for survival, we saw that palms are little match for rivers of lava. Still, there are enough come back stories of palms we assumed were dead to keep us marveling at the resilience of these remarkable plants.

Note from the editor:

This newsletter goes out quarterly, the next newsletter will go out December 31st. If you have any questions, comments, or would like to contribute to the production of the newsletter, contact Mary Lock at marylock@sbcglobal.net.