



Palm Beach Palm & Cycad Society

Affiliate of the International Palm Society

Monthly Update

July 2014

UPCOMING MEETINGS

July 2, 2014

Speaker: Dr. Larry Noblick
Collection Manager & Palm Specialist at the
Montgomery Botanical Center
Subject: Getting to Know the Coconut's
Closest Relatives

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All photographs in this issue were provided by Charlie Beck.

July Featured Auction Plants

Dypsis psammophila
Marojejya darianii

Special Thanks to

Paul Craft
For organizing and guiding the Pre and Post IPS Biennial to Cuba

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FEATURED THIS MONTH: *Copernicia baileyana* and *Copernicia fallaensis*
by Charlie Beck

I've been waiting to showcase these magnificent Cuban palms in our newsletter until I understood the differences between these giants. We have eleven of these palms growing in our garden, most of which are 21 years old. It wasn't until my trip to Cuba where I spoke to Raul Verdecia, the recognized expert on Cuban palms, that I started to learn the differences between these two palm species. Raul is expected to publish a scientific revision to the Genus *Copernicia* in years to come. I am told that DNA analysis must be completed prior to publishing this revision. Keep in mind that these two species were lumped together in the 1995 publication, Field Guide to the Palms of the Americas. This publication was never accepted as a scientific revision to the Genus. The authors stated that more study was required for proper classification. The latest monograph of *Copernicia* was published in October 1963 and this is still considered current nomenclature except *C. fallaense* described is now named *C. fallaensis*. This name change was due to confusion centered on the original name as described by Leon in 1931.

Aside from differences in flowering structures, Raul Verdecia stated four recognizable differences between *C. baileyana* and *C. fallaensis*:

1. The overall scale of *C. fallaensis* is larger than *C. baileyana* (larger stem girth and height, longer leaves and petioles).
2. The leaf color of *C. fallaensis* is always silver or grey whereas *C. baileyana* may be silver or green.
3. *C. fallaensis* has a noticeably longer rachis than *C. baileyana*.
4. *C. fallaensis* has more of an orbicular leaf shape where *C. baileyana* is more rounded.

The ratio of leaflet length at the apex versus the leaflet width is greater for *C. fallaensis* than that of *C. baileyana*. Keep in mind that both *C. fallaensis* and *C. baileyana* have leaves which comprise included angles of approximate 180 degrees. Do not confuse these palms with the other giant, *Copernicia gigas*, which has wedge shaped leaves of an approximate included angle of 60 degrees.

I measured leaf length to width ratios in our garden. The three *C. fallaensis* leaf length to width ratios ranged from 2.0 to 1.51. The plant with the 2.0 leaf ratio is quite silver and probably is a true *C. fallaensis*. Our 8 remaining *Copernicia baileyana* palms vary between silver and green and the leaf length to width ratios vary between 1.86 and 1.28. I visited Dale Holton's garden to compare his palms with the findings in our yard. Dale has a *C. fallaensis* in his yard grown from habitat collected seed. This plant was silver in color and had a 1.78 leaf ratio. The peti-

oles were noticeably longer than his *C. baileyana* which had a 1.4 leaf ratio.

I noticed no appreciable difference between the rachis lengths of all eleven palms in our garden. I also compared rachis length of *C. fallaensis* as seen in Cuba with documented wild collected *C. baileyana* at the Montgomery Botanic Center. I noticed no appreciable difference in rachis length there either. I'm not convinced that rachis length is a reliable indicator of which species you have.

Petioles do appear to be longer on *C. fallaensis* than on *C. baileyana*, but if you compare the descriptions in the 1963 Revision of the Genus *Copernicia* you will find overlap in all of the physical measurements of *C. fallaensis* and *C. baileyana* (see table on page 3).

C. fallaensis is a relative newcomer to South Florida. Fairchild Tropical Botanic Garden (FTBG) planted out their *C. fallaensis* in 1987 and 1988. All of their plants are silver and have noticeably long petioles. (See photo on page 9.)

After all of this comparison I've concluded that *Copernicia* palms offered for sale in Florida, that were not grown from wild collected seed, are not guaranteed to be the true species as advertised. We all know how easily *Copernicia* species hybridize. Even seed collected in Cuba might be hybrids unless they are collected from an isolated population of the species. Many of the *C. baileyana* I saw in Cuba were mixed with *Copernicia* hybrids. Should all of this uncertainty stop us from buying and planting these palms? Absolutely not! Both of these species are equally beautiful as well as their hybrids. Of all of the palmate palms in our garden, these palms provide me with the most visual impact. Anyone who has seen the magnificent *C. baileyana* growing at FTBG knows how these palms stand out in the landscape. FTBG's original *C. baileyana* were planted as mature plants in 1939 but you don't need 75 years of growth to produce an impressive palm. These palms grow quite fast if irrigated and fertilized. I recommend buying the largest palm you can find in the 15-25 gallon range. Even though palms this size can be quite expensive, buying and planting a palm this size makes an immediate impact to your garden.

Both *C. fallaensis* and *C. baileyana* are large palmate palms with large stems. They are monoecious palms with bisexual flowers. Stems are large, either columnar or swollen. The crown of leaves is spreading, not upright. The leaves are large with stiff leaf tips which stand out against the sky. These palms are endemic to Cuba and originally grew in savannas and woodlands but are now relegated to

(Continued on page 3)



(Continued from page 2)

growing in pastures and agricultural areas. These palms are considered endangered in the wild. *C. fallaensis* flowering branchlets are 4-5cm long with solitary flowers. *C. baileyana* flowering branchlets measure 8cm long with clustered flowers of 2-3 in number. Both of these palms have inflorescences which extend beyond the leaves. Leaves are not self cleaning but the palms hold onto a limited number of dead leaves which provide habitat for wildlife, like bats. Even though these palms can grow in dry areas, they also grow in wet or periodically inundated areas.

How do these palms grow in Palm Beach County? Let me share our experience. As with many palms in this genus, growth rates may vary widely. Our oldest *C. baileyana* which is 23 years old, transplanted from our garden in Jupiter has not grown in height. It is still about a foot tall. Some palms are runts and will never grow. In 25 more years of growth it will probably still be one foot tall. I've also seen this stunted growth habit in certain *Copernicia macroglossa*. If you plant large specimen palms grown in 15-25 gallon containers you eliminate the possibility of planting a runt. Our 21 year old *C. baileyana* specimens average a height of 15' tall measured to the bottom of green petiole bases. Palm footprints measure 16-18' in diameter. Stems average 22" in diameter. Three *C. baileyana* specimens planted in 2006 now stand about 8-10' tall. These palms were planted from 25 gallon containers. Three *C. fallaensis* purchased and planted 14 years ago are 14', 8', and 1' tall. As you can see there is quite a bit of variation in growth rate. The shortest specimen is planted in the shade but it still is healthy and quite beautiful. These palms do grow best in full sun. Even though I've seen these palms growing successfully in very wet areas in Cuba, I have had more success planting these palms on mounded or raised areas. If your garden never floods, this should not be an issue for you. If you spend the money on a 15-25 gallon size plant, I wouldn't plant it in a low area just to be safe.

Hurricane resistance is variable. Many of the mature *C. baileyana* at FTBG toppled over in Hurricane Andrew. They were reset with cranes and most survived the shock. The *C. baileyana* at FTBG also survived the record freeze of 1989. Temperatures dipped to 27 degrees F on two nights. I observed only 25 percent leaf burn and I doubt there were any fatalities. The record cold winters of 2009 and 2010 had no evident effect on our *C. fallaensis* and *C. baileyana* planted in our garden in Palm Beach County.

If you grow these palms in our sugar sand expect minor nutritional deficiencies. There is quite a bit of variability. Some palms are happy with recommended fertilization applications but some palms require constant vigilance by the grower. Potassium deficiencies are common and are easy to fix. Extra potassium will help reduce the yellow speckles on older fronds. The same goes for magnesium deficiency- dolomite, magnesium sulfate, or Epsom salt will reduce leaf tip yellowing. Boron deficiency sneaks up on you and can kill your palm if untreated. Look for stunted emerging fronds. Even though there is a full crown of healthy fronds, look at the emergent fronds. Stunted fronds can be shielded from view by healthy fronds so be vigilant. The cure is ¼

(561) 586-2332



LAKE OSBORNE ANIMAL CLINIC

JOHN T. LYNCH, D.V.M.

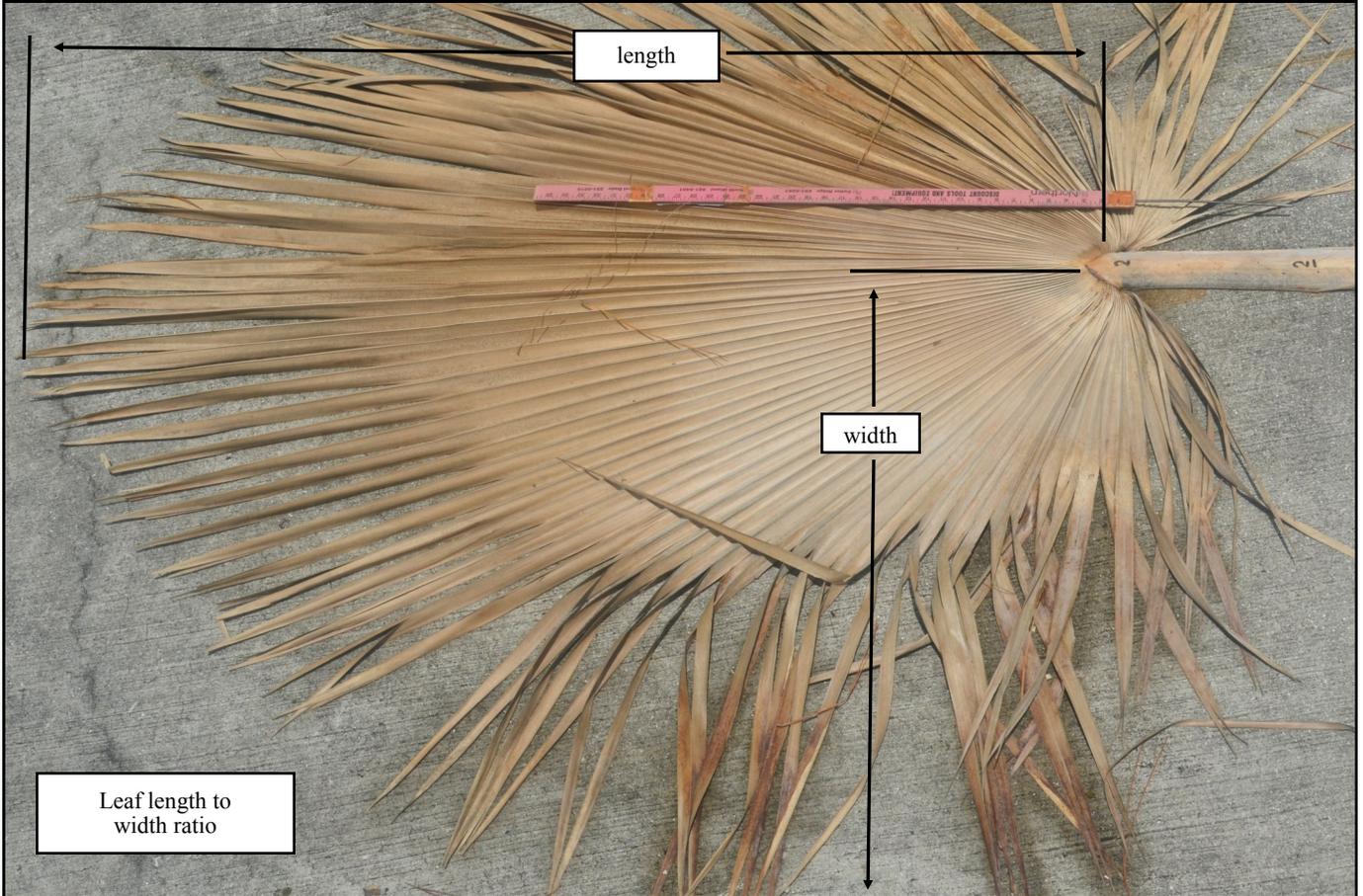
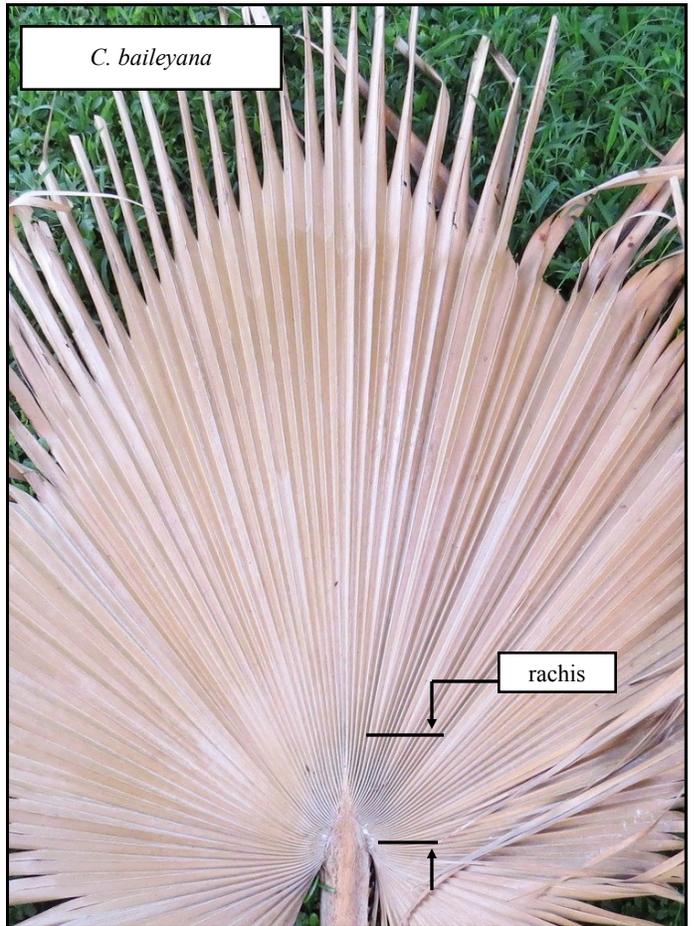
1502 Lake Osborne Dr.
Lake Worth, FL 33461

cup of borax diluted in a bucket of water evenly spread below the canopy. If the canopy is large more might be required. Be careful- over application of Boron can be fatal. I must admit that I give these palms a double dose of fertilizer when I feed them. I circle the palms twice when applying fertilizer. These palms do respond to the extra feeding.

I hope you enjoy photos of these magnificent palms that I took in Cuba. The photos from Cuba include multiple populations of *Copernicia baileyana* but only one population of *Copernicia fallaensis* due to inclement, rainy weather. I also included photos of some of *C. fallaensis* and *C. baileyana* growing in our garden. In my opinion, nothing rivals the charm of their stiff leaf tips quivering with the slightest breeze when contrasted with a blue sky. Give these palms a try in your Palm Beach County garden. They are about the same mature size as the more commonly planted *Bismarckia nobilis*.

	<i>Copernicia baileyana</i>	<i>Copernicia fallaensis</i>
Overall height	33-49 feet	39-66 feet
Stem diameter	up to 26 inches	up to 31 inches
Petiole length	up to 51 inches	up to 69 inches
Petiole width apex	up to 3 inches	up to 3 inches
Petiole width base	up to 7 inches	up to 14 inches
Leaf blade	orbicular	orbicular
Rachis length	1.5 - 4 inches	up to 4 inches
Leaf blade segment number	110-130	up to 120
Central blade segment length	up to 65 inches	up to 82 inches
Inflorescence length	up to 10 feet	up to 12 feet
Flowering branchlet length	up to 3 inches	up to 1.5 inches

Compiled from Revision of the Genus *Copernicia* 1963



Copernicia fallaensis in Cuba



Copernicia baileyana in Cuba



Copernicia baileyana in Cuba



Copernicia in the Beck Garden



C. baileyana
15' tall
21 years old
From 3 Gallon



C. baileyana
10' tall
8 years old
From 25 Gallon



C. fallaensis
in shade
14 years old
From 3 Gallon



C. fallaensis
14' tall
14 years old
From 25 Gallon



C. fallaensis at FTBG
27 years old



C. fallaensis in
the Beck Garden
8 years old
8' tall
From 25 gallon



C. fallaensis in Beck Garden



C. baileyana recovering from boron deficiency



C. baileyana with potassium and magnesium deficiency