Plumeria Potpourri
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Come to the July 11th meeting!

Tuesday, July 11, 2017, 7:30 p.m.
Cherie Flores Garden Pavilion, 1500 Hermann Drive, Houston, Texas
... anyone with an interest in plumeria is invited to attend ...

Mike Atkinson will share tidbits, insights, and wisdom picked up from others and his own successes and failures as a grower of nearly 20 years in Southern California. He’ll cover a hodgepodge of topics like photography, propagation, winter care, and more. He and his wife Stacy have over 200 plants in the ground (year round) and 300 in pots. They sell plants, cuttings, leis, arrangements, and have even done a plumeria wedding.

The Plumeria Society of America, Inc.
July 2017
President’s Corner

by Mark Wright, Texas (wright5447@sbcglobal.net)

The June plant sale is now behind us. It was a huge success, and everyone involved deserves a pat on the back. This is the first sale I remember that many, if not most, of the growers sold out. The July sale is coming up soon, and we will need lots of volunteers to help it run smoothly too.

Mike Atkinson, whom many of you met at the IPC in Naples, will be the speaker for our July 11th general meeting. There will also be the July Sellers’ Meeting after the program. We will have several visitors from California and Arizona with us, and it should be a fun and informative evening.

The revised Registration Form and the Registration Rules are now on the PSA website. With the recent registrations of George Brown (aka Musk Rainbow), Aussie Fruit Salad, and Butera Cocktail, we are caught up at this time (see page 20 for photos of the newly registered varieties).

The cost of producing the newsletter has gone up significantly during the last 10 years. At this point in time, the membership dues do not cover the cost of printing and mailing them. To offset these expenses, the Board has voted to increase dues to $35/year on January 1, 2018. The business card ad with membership will be $95/year, and the double size ad with membership will be $160/year. This will affect memberships which expire after January 1, 2018, leaving those expiring prior to that date at the previous rate.

Last year we had a potluck for our Fall Social in October. It was very well received with everyone I’ve talked to commenting on how much they enjoyed it. We plan on doing it again this year. The date is October 10th.

The October meeting seems like a long time from now. That meeting will be important for the PSA. That is the night we must present a new slate of officers for the next two years. The Nominating Committee will be looking for several people to run for many of the positions. Please think about the opportunity to help guide and shape the PSA for the next two years. The PSA is after all, people—just everyday people. We are ultimately what makes it work. For too many years, too few people have shouldered the job of keeping it running, and it’s time to pass the leadership on.
Vicki Jenkins shared her grafting skills at the May PSA meeting. She began grafting years ago as a way to save small tips which broke off desirable plants. She calls them “graftlings.” To graft, she uses Kuhn Rikon teflon-coated knives which can be found locally in Houston at HEB, Sur La Table, or ordered from Amazon. She first wipes the stems of the scion and stock with alcohol to clean the area to be cut. She cuts off the leaves on the scion and uses staples to secure it to the host stock before wrapping with ½” Parafilm® grafting tape. She keeps the graft under cover of a patio or similar area to protect the graft from moisture until it takes.

Presentation: Graftlings
by Vicki Jenkins

Bud Guillot began re-sizing his 15-foot Jeannie Moragne tree in 2015 by trimming half of the branches. This photo shows new growth on the trimmed branches.

By 2016, there was lots of beefy growth on the branches cut in 2015, and the beginning of new growth on the branches trimmed in 2016.

In 2017, the Jeannie has lots of lush, balanced growth ... a beautiful shape! The tree bloomed in 2015 and 2016, and will bloom in 2017.
Inducing Plumeria Dwarfism

At the May 21st meeting of the Southern California Plumeria Society, Ampol Orrungroj and Carl Herzog presented Ampol’s new grafting technique to create dwarf plumerias. Bloom size and leaf size are the same size as a standard plant, however, the plant is more compact in growth.

Ampol has named this new grafting technique the “Roland” to honor Roland DuBuc, past president of the SCPS. A student of Ampol’s in Thailand did the first graft of this kind last December. As this is a new technique, only time will tell if the compact growth remains fixed in the plant.

The Roland graft is useful for tall-growing plumerias like Vera Cruz Rose, Aztec Gold, Dragon Heart, India, Jeannie Moragne, Mele Pa Bowman, Moragne #23, Ryann Chelsey, and others.

The Roland grafting technique uses two grafts. In the photo to the right, the top scion is Vera Cruz Rose. The middle scion is upside down—Siam Ruby in the photo. Other good choices for the middle scion are compact varieties like Pink Pansy, Divine, and Pink Diamond. This middle section should be green wood and approximately 4–5 inches in length.

Both grafts were done at the same time using an inverted V-graft. A standard V-graft or slant graft would also work. For a pictorial on Ampol’s standard V-grafting technique, please refer to the July 2016 issue of Plumeria Potpourri.

Tips from Ampol

When taking cuttings and leaving a 4–6 inch stub on varieties like Schmidt Red, Hilo Beauty, and Ellen #15, often there is die back to the main branch. One solution is to graft a new variety onto the stub.

When Ampol had his nursery, he transferred his plumeria into his greenhouse for the winter. He found the plants grew leggy during that time. He experimented with growth regulators like B-Nine® WSG, Cycocel®, and Bonzi® to control the growth.
Two Cuban botanists and I have been working on an account of the amazing palm flora of Cuba. With permission from the U. S. government to travel to Cuba and conduct research, I have made two extensive field expeditions to this fascinating and charming island nation in 2016 and 2017 to document its rich and diverse assemblage of palms and have a third trip planned for 2018. Our objective is to produce a book that chronicles the island’s palms. My friend and colleague Linda M. Ohara, who has an extensive Plumeria collection, urged me not to ignore Plumeria during my search for palms. Thus, here I present and discuss a few observations of Plumeria in Cuba.

In Cuba, Plumeria occur on rocky, well-drained substrates, including karst limestone and serpentine soils. The former forms extensive outcrops, hills, and low mountains throughout Cuba. Solid or blocky, angular, fissured, cracked, pitted, and mostly razor-sharp rocks characterize karst limestone. Always uneven and sometimes unstable, karst limestone is difficult and dangerous upon which to work; tripping or falling can easily result in serious injury or worse. Karst limestone typically supports a distinctive and unique vegetation type, which is often open but sometimes rather dense, mostly low, scrubby, and frequently with many prickly plants.

Serpentine soils are derived from ultramafic, igneous rock low in silica and primary plant nutrients like nitrogen, phosphorus, and potassium but are high in magnesium and iron, as well as nickel and chromium. It, too, supports a distinctive and unique vegetation type, which is also somewhat open, mostly rather dense, mostly low, scrubby, and frequently with many prickly plants.

Both habitats can be exceedingly dry at times. Nearly all of Cuba has a distinct and pronounced dry season from December through May where little if any rain occurs and then a moist to wet rainy season from June through November. Even in the rainy season, though, extended, rainless periods are common, and many parts of Cuba are in the throes of a five-year drought.

The most recent monograph of Plumeria is Woodson (1938), in which he lists two species for Cuba: The endemic and intriguing P. filifolia and the indigenous and extremely variable P. obtusa. In Cuba flowers of both taxa are white with a small, yellow “eye” or center.

Plumeria filifolia. I first encountered the intriguing and stunning filifolia in 2016 in surprisingly dense, seasonally dry forest on the top of a steep-sided karst limestone hill in the Sierra de Nipe in Holguin province. Aptly named, the leaves were long and slender, like filaments or threads, and mostly hung laxly from the stem tips (Fig. 1). The pendulous, hanging nature of the leaves might be more apparent than real and could be due to the unusually dry conditions at the time I viewed the plant. The plant itself was an open, somewhat scraggly, large shrub or small tree. Flowers (corollas) were typically white with a small, yellow center (Figs. 2–3). I saw P. filifolia a few other times in eastern Cuba, always in the same type of rather dense, scrubby forest on karst limestone, which, along with the plant’s scraggly nature, made it difficult to photograph. Later I was able to see a cultivated specimen in the Las Tunas Botanical Garden (Figs. 2–4) where the leaves were not so lax but were somewhat spreading.
Plumeria obtusa. Woodson (1938) included a multitude of other Cuban names as synonyms of *P. obtusa*, including *P. clusioides*, *P. cubensis*, *P. montana*, *P. nipensis*, and *P. venosa*. Nearly all these names were originally based mostly on differences in leaf shape, size, and venation, which Woodson felt were generally insignificant. In justifying his wholesale synonymy Woodson stated (1938, p. 204): “If one arranges in a single series a suite of leaves each of which has been taken from type specimens of as many species from the *P. obtusa* L. complex ..., the difficulty of segregation upon such characters at once becomes apparent.”

However, Woodson did make a concession for indumentum (hairs), and established the variety *P. obtusa* var. *sericifolia*, stating that plants included in this variety have leaves with abaxial (lower) leaf surfaces and frequently petioles and inflorescences more or less conspicuously pubescent. Here he included several more Cuban names as synonyms, including *P. emarginata*, *P. lanata*, *P. sericifolia*, and *P. trinitensis*. Nonetheless, even this variety is now included in *P. obtusa* (Davidse et al. 2009), making it one of the species with the most synonyms, which is a reflection of its enormous, primarily vegetative variability. Obviously, a modern molecular- and morphological-based treatment of *Plumeria* is sorely needed.

I found *Plumeria obtusa* to be widespread and on a variety of habitats in central and especially eastern Cuba. In 2016 nearly all the plants were more or less leafless and had not yet flowered, but in 2017 nearly all the plants had leaves and were in flower. On both trips I was in Cuba during the same time of year, late March to the middle of April—the only difference being that eastern Cuba had experienced heavy rain in October 2016 from Hurricane Matthew, which perhaps had forced plants out of dormancy and led to earlier vegetative growth and flowering. Leaves were glossy light to dark green, of variable shape and texture, but flowers were always typically white with a yellow center.
I first encountered *Plumeria obtusa* on karst limestone near Yaguajay in Sancti Spiritus province, where it formed a small spreading tree about eight feet tall (Fig. 5). The glossy light green leaves were oblong to lanceolate, round- to slightly blunt-tipped, with revolute margins and prominent secondary nerves, which were conspicuously raised abaxially (Figs. 6, 8). Flowers were white with a small, yellow center (Figs. 7–8).

I next found *P. obtusa* near Guisa in Granma province. Again it was on a steep-sided karst limestone hill. Here the leaves were unusually variable in shape, from oblong-lanceolate (Fig. 9) to obovate (Fig. 10) with rounded tips although these were sometime also slightly indented. Unfortunately, flowers were not seen, but the stem was densely studded with short tubercles (Fig. 11). Fruits were typical for *Plumeria* (Fig. 12).

In Holguín province I saw *Plumeria obtusa* on both karst limestone and serpentine soil. The steep-sided karst limestone hill near Sagua de Tanamo required the use of a rope to make the ascent to the top—the plant was an erect, densely branched tree about 10 feet tall (Fig. 13). The thick, broadly lanceolate, round-tipped leaves had a prominent, white midrib (Fig. 14), and the white flowers had only a faint yellow center (Fig. 15).
Where I found *Plumeria obtusa* on serpentine soil was at or very near the type locality of *P. nipensis* and not too far from where I had originally encountered *P. filifolia* in the Sierra de Nipe in Holguin province. The plants were erect, moderately branched and to about 12 feet tall (Fig. 16). Leaves
were oblong with an unusually conspicuous, pronounced, wide, whitish midrib adaxially (upper surface) and with inconspicuous secondary nerves
abaxially (Fig. 17). The densely branched inflorescence (Fig. 18) held the typically white flowers with faint, yellow centers (Fig. 19). Fruits were typical for the genus (Fig. 20).

By now I thought I had pretty much figured out Cuban Plumeria. I had seen many plants in different locations and habitats, and *P. filifolia* and *P. obtusa* seemed sufficiently distinct, despite the latter’s variability in leaf shape, texture, and venation. However, was I in for a surprise as we moved to the southern coast of Cuba in Granma province and followed the coastline eastward into Santiago province. The road hugs the coast here, with steeply sloped hills and mountains on the north and the ocean on the south. The area was exceedingly dry, among the driest places I had seen in Cuba.

We followed the road from Bartolome Maso in the interior of Granma province to Marea del Portillo on the coast. Just prior to arriving at Marea del Portillo, from the window of our auto, I thought I had seen *Plumeria filifolia* growing on dry, rocky slopes. I ignored it because I thought it could not be, but a few miles east of Marea del Portillo, as we headed for Santiago, I again observed this strange, wispy *Plumeria*. I could no longer be deterred, so we stopped and I hastily ascended the slope to have a look. In a thick tangle of prickly vegetation the spreading small tree grew to about 12 feet tall and nearly as wide (Fig. 21). What was surprising was how narrow the leaves were; not as narrow as those of *P. filifolia* but still amazingly narrow nonetheless, only about 0.125 inch wide (Fig. 22). In addition to being slightly wider, they were not lax and drooping as the leaves of *P. filifolia* mostly sometimes are, but were held stiffly and horizontally (Fig. 23) and had a prominent white midrib abaxially. Flowers were typical for the *P. obtusa* complex, white with a small yellow center (Figs. 24–25). What could this be, an unusual form of *P. filifolia*? Or an unusually narrow-leaf form of *P. obtusa*? Before departing the site I noticed a large, attractively marked caterpillar of the frangipani moth (*Pseudosphinx tetrio*) happily munching away on a *Plumeria* (Fig. 26).
As we moved farther eastward toward the city of Santiago, our goal for that evening, *Plumeria* became more and more common, their roundish canopies studded with white flowers, making them easy to pick out among the dry, often leafless vegetation of the steep, rocky slopes. Near Turquino, La Cueva in Santiago province, we saw several particularly nice plants on bare rocks close to the road, and we stopped so I could have a closer look. The upright to spreading, moderately to densely branched plants were about 10 feet tall and 4 to 12 feet wide (Figs. 27–28). What intrigued me was
their leaves; they were narrow (Fig. 29), not as narrow as those of the previous plants we had seen at Marea del Portillo but still significantly narrower than those of the typical, lanceolate to broadly lanceolate or obovate leaves of *P. obtusa* we had encountered earlier in our trip. Bark was smooth and darkly colored (Fig. 30) while the white flowers with small yellow centers (Fig. 31) and fruits (Fig. 32) were typical for the species.

As we continued even farther along the coast to the east toward the city of Santiago we saw more *Plumeria*, and their leaves were increasing in width until they were more or less as wide as those of the typical *P. obtusa* that we had seen earlier on our trip. This situation was fascinating for it seemed that along the southern coast of Cuba in Granma and Santiago provinces the leaves of the *Plumeria* progressively increased in width from west to east, from as narrow as 0.125 inch to 0.5 to 0.75 inch and then finally 2 to 3 inches wide. This steady, progressive increase in leaf width bears further study and analysis but would seem to suggest that one, highly variable species was present, and that it should be referred to as *P. obtusa*. Of course, if so, it begs the question: does *P. filifolia*, with its thread-like leaves simply represent the most extreme leaf condition and should it be included in *P. obtusa* also?
As another curiosity with *Plumeria* in Cuba, this involving the cultivated, exotic *P. rubra*, we observed that a white-flowered form was common if not spectacular at the Cementerio de Veguita near Yara in Granma province (Fig. 33). Typically one sees the yellow-flowered *P. rubra* Celadine (also known aptly as ‘Graveyard Yellow’) in cemeteries. So seeing this cemetery with numerous, large, white-flowered *P. rubra* trees was an intriguing sight.

I returned to California with a few seeds of three of the *Plumeria obtusa* types that I had seen, including the one with moderately narrow leaves from Turquino, La Cueva in Santiago province (Figs. 27–32), which had green, unopened fruits, and one each from Guisa in Granma province (Figs. 9–12) and from the Sierra de Nipe in Holguin province (Figs. 16–20), both of which had lanceolate to broadly obovate leaves and mature, brown, slightly opened fruits.

I distributed the seeds to botanical gardens in California and Hawaii and to Linda Ohara. Prior to sowing, Linda performed a phenol red (phenolsulfonphthalein, C19H14O5S) test on one seed from each of the three collections. A solution of phenol red is typically used as a pH indicator in cell culture, the color of the solution
changing from red to yellow as pH drops below 7.5 and becomes more acidic. Respiring or viable seeds would change the phenol red solution to yellow because carbon dioxide that the respiring seeds emit would go into solution as carbonic acid, acidifying the solution. Unrespiring and perhaps unviable seeds would not change the color of the phenol red solution. The initial test was discouraging because none of the three seeds changed the color of the phenol red solution, indicating no respiration. Linda performed a second test, this time on all the seeds, and the results were only slightly more encouraging but still not a strong positive reaction; the seeds appeared to be barely if at all respiring. Nonetheless, she gave all the seeds a clean water soak for 24 hours then planted them in a porous, peat/perlite mixture topped with pure perlite, and placed them in a heated germination box where temperatures were maintained at about 95 F.

Much to our surprise seeds of the moderately narrow-leaf form germinated within five days (Fig. 34) while the one with lanceolate to broadly obovate leaves from Granma province germinated within seven days. This rapid germination is in contrast to reports that seeds of wild-collected species *Plumeria* are sometimes difficult to germinate. Why the seeds did not have a strong reaction to the phenol red test yet still germinated is perplexing. Perhaps, because the plants grow in rather harsh climates with a long and pronounced dry season, the seeds are able nearly to “shut down” and barely if at all respire as they wait for optimal germination conditions, primarily moisture. More study of *Plumeria* seed germination, especially of species, is much needed.

When I return to Cuba in 2018 to continue my palm studies, I will also again be on the lookout for more *Plumeria*.

**Acknowledgements**

Linda M. Ohara, lab technician at El Camino College in Torrance, California, and Dr. Richard Criley, my former professor at the University of Hawaii, Honolulu, reviewed the manuscript and provided helpful suggestions.

**Literature Cited**


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Our new website is easier to navigate and to find information about plumeria care, cultivar registration, society news, events, and much more! Since the website is new, please check for updates and to see added features such as the flower identification database and a members only newsletter archive! Below is the current MEMBERS ONLY login and password information that will be needed to access the website’s newsletter archive.

Log in: psamember  
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Purpose of The Plumeria Society of America
1. Promote interest in and increase knowledge of plumeria hybridization, propagation, and culture of plumerias.
2. Share this knowledge with hobbyists interested in plumerias.
3. Provide a register for recording, identifying, and classifying by name new types and varieties of plumerias.
4. Encourage and unite plumeria enthusiasts around the globe, throughout America, and across the seas.

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PSA Calendar—2017
January 10 ........................................................meeting
March 14 ............................................................meeting
May 9 ...............................................................meeting
June 10 ..............................Show & Sale I (Seabrook/Clear Lake)
July 11 ..............................................................meeting
July 22 .......... Show & Sale II (Fort Bend County Fairgrounds)
October 10 .............. Fall Social (potluck) and meeting

• Meetings are held at Cherie Flores Garden Pavilion, 1500 Hermann Drive, Houston, Texas 77030.
• Meetings begin at 7:30 p.m. You’re welcome to come 30–45 minutes before the meeting for snacks and chat.
• We have a raffle, guest speakers, and more. Please join us to learn more about plumeria care and collecting.
• Non-members are always welcome!
• Bring your blooms. Bring your friends.
• Bring plants, cuttings, etc. for door prizes! These can be anything, not just plumerias.

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New PSA Registrations

**Aussie Fruit Salad**
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**Butera Cocktail**
registered by Antonio Butera

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‘Butera Cocktail’

**George Brown (aka Musk Rainbow)**
registered by the Frangipani Society of Australia