

Stemma



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On the cover: *Hoya lobbii*, photographed by Gabi Rothman, Photoshop by Mark Randal

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Editor's note

This issue focuses on the experiences of several *Stemma* subscribers.

Kristin Natoli, a horticulturist at the newly reopened California Academy of Sciences in San Francisco, describes her efforts to include *Hoya* species in the new *Rainforests of the World* exhibit. This exhibit, a three story indoor rainforest featuring plants and animals from the Amazon, Borneo, Costa Rica and Madagascar, is included in the new Academy building along with extensive aquariums, natural history exhibits, a planetarium, and an expansive living roof planted with California native plants (see below).

Linh Huynh describes her quest to grow and flower *Hoya pandurata*, a species from Thailand and southern China recently introduced into cultivation.

Gabi Rothman kicks off our ongoing series “my 10 favorite *Hoyas*”, which will highlight the qualities which individual growers find so compelling about this group of plants. Each issue of *Stemma* will focus on a different grower and their personal relationship with the genus *Hoya*. 🌿



Horticulturist Kristen Natoli (center) and volunteers Geoff Wong (right) and Judith Finn (left) at the California Academy of Sciences.



Exhibiting *Hoyas* at the California Academy of Sciences

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The newly reopened California Academy of Sciences Museum houses- along with its many aquariums, planetarium, and natural history exhibits- a 3 story tropical rainforest exhibit titled *Rainforests of the World*. This display strives to create an emergent rainforest experience for visitors, representing in a relatively miniaturized way the incredible complexity and precariousness of a natural tropical rainforest. The exhibit has extensive plant and animal inhabitants which coexist and intermingle with one another, creating a mini-ecosystem with complex interactions between free roaming animals and between plants and animals existing together both in open plantings and in planted terrariums.



Fish, birds and tropical plantings all coexisting in the Rainforest of the World exhibit.

As the Horticulturist for this exhibit, I have been tasked with designing planted displays which strive to convey the unique character and teeming diversity of plant life represented in the four regions we are replicating; Amazon flooded basin, Borneo, Madagascar and Costa Rica. The added challenge of learning to do horticultural installations in animal habitats has made the work more interesting.

Of the four regions, Borneo is particularly high in plant diversity. Tropical plants from Borneo represent a number of unique and exceptional morphologies and strategies for plant growth and reproduction, providing us with particularly interesting educational opportunities to share with visitors. We also work to inspire interest in preserving the unique tropical ecosystem. To represent the plants of Borneo we have installed two vertical panels packed with interlaced plantings of Tropical Pitcher Plants (*Nepenthes* sp.), orchids and vines.



4 Several species of plants native to Borneo installed in vertical planted walls.

In addition, we have a scattering of terrariums housing reptiles, amphibians and insects native to Borneo in naturalized settings. *Hoyas* are a natural choice of plants to incorporate into these displays. Not only are they interesting and lovely, they are also compatible with our challenging growing environment. As with any indoor planted exhibit, lighting is a limitation. Add in a Mangrove Snake with attitude and flying geckos and we have a unique set of obstacles.

With the help of Carol Noel (from Big Island Growers) and Mark Randal I was able to select *Hoya* species that were practically custom tailored to our unique environments, even some species tolerant of the abysmally low light along the rock-work surrounding the bat exhibit, which was sorely in need of plant décor (below).



Cutting of *H.sigillatis* along bat exhibit outer rockwork.



Borneo River Toad (*Bufo juxtasper*) observing *Hoya curtisii* in its new home.

I also selected a species tolerant of the water stress that can result from occasional uprooting by the river toad (above). Some species were chosen to add much needed color accent and visual variety (from both foliage and flowers) in our vertical walls (below).



H. neriifolia and *H. neriifolia*

Consider the potential for unruly vines to grow outside planted boundaries and blur the lines between living and structural exhibit elements, and it is obvious that these plants have a lot to offer our displays from a design perspective.

Carol and Mark visited in early May and along with two exceptional horticulture volunteers, Geoff Wong and Judith Finn (below right), we sorted, labeled and discussed suitable planting locations for each species. Having the resource of two expert growers to create a detailed record of the cultural needs of each species was invaluable.

I worked with Judith Finn over the next week to install plantings which Sarab Stewart (a fellow horticulturist) and I have since been busy tending.

***Hoya imperialis* climbing edge of vertical wall.**



Judith Finn (left), Kristin Natoli (center) and Geoff Wong (right).



Carol Noel and Kristen in the Rainforest exhibit basement, which looks up into the Rainforest fish habitat. 6



Judith, Geoff and Kristen unpack and discuss *Hoyas* with Carol Noel.



Brian Freiermuth, herpetologist.

I worked with Herpetologist Brian Freiermuth, who provides the design, layout and husbandry needs of the Borneo terrariums, to find suitable locations to install trial plants in the terrariums.

The Mangrove Snake seemed only mildly annoyed about being tucked safely in a separate tub while we were doing the work. Having a healthy respect for large venomous snakes with attitude, I wisely gave a wide berth while Brian returned it to the new and improved exhibit.



Mangrove Snake *Boiga dendrophila* returning to 'improved' terrarium.

This is very much an experimental process, as are all of our plantings in this unique growing environment. It will be some time before we have a sense of which species will perform best and particularly how plants tolerate the unique set of challenges in the animal displays. In light of this we intentionally introduced a diversity of species with a variety of morphologies and cultural requirements so that we can continue to cultivate those that demonstrate high performance. 🐍

Growing *Hoya pandurata*

**Text by Linh Huynh,
photos by Linh Huynh
and Dave Teppans**

I have been growing *Hoya pandurata* for approximately 1.5 years. What first captivated me about *H. pandurata* was the odd-shaped leaves and the cute orange-yellow flowers.

I acquired three rooted two-node cuttings from a dear friend in the beginning of 2008.



At first, I had the delicate cuttings in a room where the temperature generally held at around 20°C (68°F). The room had sunlight only during the early hours of the morning. After a few hours the sun had passed, and the pot fell into shadow.

I placed the cuttings in a self-watering pot, which was 14cm in diameter. I gave it a porous soil mixture which contained a small amount of coco fiber. I let the young plant dry out slightly, now and then.

Although the cuttings grew very slowly, the peduncles kept coming at every node, which gave me hope of an early bloom. Unfortunately, regardless of my watering habits, they did not grow to be more than two millimeters.

After about 6 months I moved the plant to a different window. The sun shines directly in this window all morning. The temperatures here were significantly higher during the day, resulting in a bigger temperature difference between day and night.



The three cuttings became a nice, shrubby plant. Suddenly, in August, the plant decided it was time to show me some flowers! When the flowers opened, they had a yellow hue and a sweet scent that reached far into the room. The strong aroma was present only during the evening.

After the flowers had fallen off, I moved the plant to a window with direct sunlight in the afternoon, leaving it in the same self-watered pot. I was careful not to let it dry out when it started to get buds. These changes resulted in faster growth, but I can't really tell if this was due to the warmer environment, the afternoon sun or just coincidence. The peduncles still pop out at almost every node, but they still take the same long time to produce flowers. Also, on some occasions my *H. pandurata* blooms with a slight pinkish tint.

When the plant blossoms, all the waiting pays off. The petite yellow flowers with their delightful aroma are truly worth waiting for.



My 10 favorite Hoyas

by Gabi Rothman

When asked what draws me to certain hoyas, I have both a simple and a complex answer. The simple answer is: foliage, blooms, and ease of care. The complex answer is: foliage size, foliage pattern, flower color, flower size, flower shape, ease of care, growth pattern, speed of growth, uniqueness of the hoyas, and just plain “draw” to the hoyas.

Keeping all of these factors in mind, I will attempt to come up with my top ten list. Keeping the list at ten is not an easy task. Hopefully sharing my favorites, in addition to *why* they are my favorites, will help both new and seasoned growers decide what their next conquest will be. And if you already have that hoyas, maybe you will see things in it that you have never noticed before.



Ok, here we go. These are in no particular order.

- ***Hoya* sp. "*Cyrtocerus floribundum*"** (also often sold as *Hoya multiflora*): Even though I would've never thought a thin-leaved hoyo would be one of my favorites, I love the grooves in the leaves and the sheer size of them. This is also a year-round bloomer and a fast grower. The blooms have no scent, but they are different from any other hoyo bloom. I allow this hoyo to grow upright, and it is now almost the same height as me! As for care, it is simple as soon as you realize it's a water guzzler.



- ***Hoya macrophylla*** variegated:

For me, the foliage on this hoya has one of the most interesting and beautiful patterns of all hoya leaves. I have not had blooms yet, but the beauty of the foliage compensates for that. This is a very fast growing hoya, and is very easy to take care of. It has grown about 4 times its original size, and it is still in its original 3.5" clay pot. This hoya likes to climb, so I recently put it on a bamboo trellis.



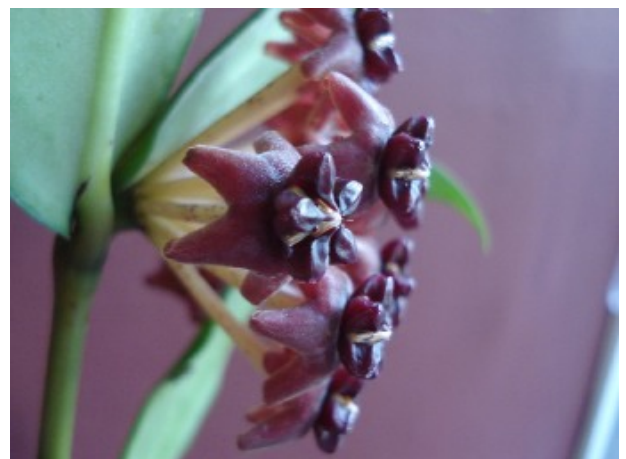
- ***Hoya caudata***:

This is another one-of-a-kind hoya. The leathery leaves, their red coloring in the sun, and their white-colored splotches makes this hoya a must-have in my book. I let this hoya hang, and keep it more on the dry side. I cannot comment on the blooms just yet, but I have recently noticed a new peduncle with buds forming. This is a medium sized plant, so its fair to say that it blooms rather early.



▪ ***Hoya lobbii*:**

The blooms are the main attraction of this one. They are just stunning. If you have one of these and it is budding up, make sure you get a chance to view the flowers before they become completely reflexed; when compared to the fully opened flowers it's almost like seeing two different species in bloom. Even the buds are a sight to see, with their speckled color pattern. I also love the upright shrubby growth and the firm leaves with a scant speckled pattern. I recently started to keep this one on a trellis, but I wrap the vines around it VERY delicately, as they will easily break, especially as they get older. This hoya has not given me any problems... it thrives on neglect.



▪ ***Hoya calycina*:**

The appeal of this hoya is the foliage. It has soft, pubescent leaves that range in size from small to large, and it becomes a gorgeous plant when it grows out. I have mine on a large trellis, and it never stops growing. Vines seem to pop out from every which way on a daily basis, and they wrap around anything and everything! I water this hoya when it is dry, and the only problem I have with it is getting it to bloom, despite its many peduncles!



▪ ***Hoya thomsonii*:**

The leaves on this hoya are simply adorable. They are also very pubescent, so I just love petting the leaves. The dark green color of the leaves topped with the white speckling is gorgeous. This one is a fast grower, but only grows for me in the Spring/Summer months. I find this hoya very simple in terms of care. This hoya seems like it can be made to climb, but I just let it hang.



■ ***Hoya lacunosa*:**

This hoya is one that I could not live without! The scent of its flowers is intoxicating, its draping growth is gorgeous, and it is very hard to kill. The one thing it needs is lots and lots of water. It also needs a good amount of sunlight (all of my hoyas are in eastern exposures). I lost ALL 60 of my peduncles on this one when I had it too far away from the window one winter, but they grew back to full effect within months. Now that's determination!





▪ ***Hoya motoskei*:**

This is a hoya with gorgeous foliage and snow-white blooms that smell like chocolate. You can't go wrong with chocolate scented flowers! This is also a very fast grower and extremely easy to care for. The leaves can get quite large, and they have a beautiful shape. I also love the white speckling on the dark green leaves. I grow this hoya around a bamboo hoop, and it loves to wrap its new vines around its neighbors.



▪ ***Hoya pubicalyx* 'Red Buttons':**

Although this hoya hasn't bloomed for me yet, I love it for both its bloom color (which I've seen only in pictures, and they are almost black) and for its foliage color. New leaves are a dark red, and when mixed in with the "older" green leaves, the plant looks absolutely gorgeous. Now I just need those unique black flowers to complete the masterpiece look of this hoya. Since this hoya likes to climb, I grow it around a trellis. This is another hoya that does fine with infrequent watering.



- ***Hoya lambii*:**

Size matters when it comes to this hoya. The leaves on this hoya are simply amazing, due to their sheer size and beauty. The shape is intriguing too, as they are round-ish with a pointed tip. Even the undersides of the leaves are beautiful, as they have dark veins and are slightly pubescent. The way the umbels of this hoya are cupped within the leaves (which I've only seen in pictures) is very interesting, and I look forward to the day when I see it in person. This is not a fast growing hoya for me, but I don't mind the wait. I grow this hoya upright on a trellis and only water when it is dry. It is a simple hoya to root and to care for. 🌿



Reprint

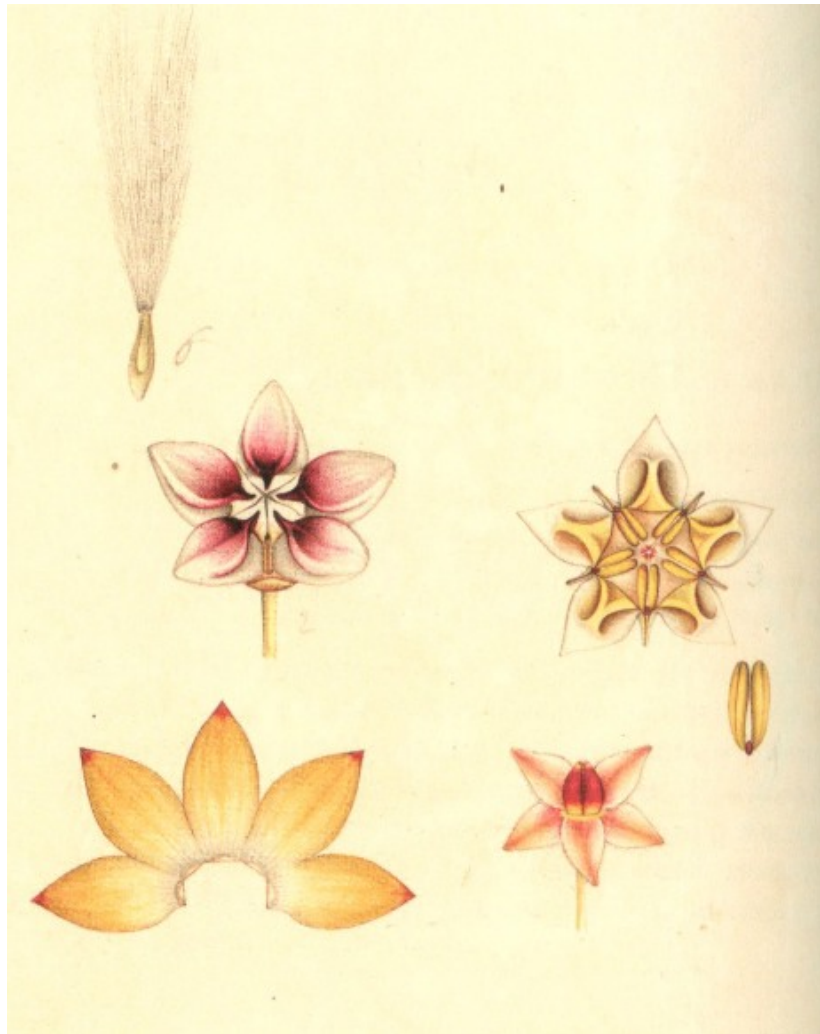
***Hoya ovalifolia* Wight & Arn.**

from Contributions to the Botany of India, 1834 p.37

(Translated from Latin by Mark Randal)

H. ovalifolia (W. & A.): twining, rooting, glabrous, leaves fleshy, oval, acuminate at both ends, peduncles shorter than the leaves (pedicels?) many flowered; corolla inside puberulous, segments ovate acute, leaflets of the staminal corona oval obtuse, inner angle short, stigma blunt.— **Hoya**, *Wight! cat. n. 1522*; *Wall.! Asclep. n. 31, 43?, 45?* -- At **Neelgherry. Singapore?**; *Wallich*.

(Written in English): The Singapore specimens are not in flower, and are probably different. This is very nearly allied to *H. parasitica*, but apparently quite distinct.





Illustrations this and previous page by Rungiah, dating from 1834. These illustrations were recently (2007) reprinted in: Robert Wight and the Botanical Drawings of Rungiah & Govindoo, Book 2, H. J. Noltie. Available online at: <http://www.balogh.com/edinburgh/rbgedin.html>.

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Hoya sp. GPS7401 aff. *ovalifolia*

Synonyms: *Hoya* sp. IPPS07401, *Hoya* sp. AH301 aff. *ovalifolia* (from Aloha Hoya).

Country of Origin: acquired at the Peradeniya Botanical Garden on Sri Lanka by Ted Green around 1989. *Hoya ovalifolia*'s type description cites the described material of that species having been collected in southern India.

Related/Similar Species: *Hoya acuta*, *Hoya bhutanica*, *Hoya pottsii*, many other species in the *Hoya pottsii* species complex, closest to penninerved species like *H. acuta*.

Flower Color: off-white.

Flower Size: approximately 1.5cm across.

Flower Form: rotate or slightly reflexed.

Scent: similar to that of *H. acuta*.

Leaf size: from 4 to at least 9 cm long, 3 to 7 cm wide.

Collector: unknown.

Water Requirements: high, this plant seems to resent drying out completely.

Light Requirements: nearly full to partial sun.

Cultivation notes: this plant seems to need some direct sun to flower, though it does not seem to be an early or profuse flowerer even then. This plant requires a very quick draining mix and frequent watering. The roots tend to rot in heavy mixes that are not sufficiently aerated.

Taxonomic notes: This plant has been distributed in North America and northern Europe as *Hoya ovalifolia*. Some details of the flowers and leaves of sp. GPS7401 do not match with the details of the type description and type specimen (leaf shape), or with early illustrations (leaf shape, minor corona details, sepal arrangement, pollinaria proportions) so that further study and comparison of the type sheet to this collection would be necessary, with documentation, to confirm this material as *Hoya ovalifolia*. For the time being this material should remain labeled as "*Hoya* sp. GPS7401 aff. *ovalifolia*". It is important that the earliest known accession number (GPS7401) remain affixed to this plant, as this will not change, despite the status of the name *ovalifolia* as applied to this collection.



Hoya sp. GPS7401 aff. *ovalifolia*

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