S.F.V.B.S.

SAN FERNANDO VALLEY BROMELIAD SOCIETY

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sfvbromeliad.homestead.com

NOVEMBER 2015 NEWSLETTER

OFFICERS

Pres: **Mike Wisnev** V.P.: **Mary K. Carroll** Secretary: _____ Treasurer: **Mary Chan**
Membership: **Joyce Schumann** Health & Wellness: **Georgia Roiz** News & Web Page: **M. Wisnev**
Directors: **Steve Ball, Bryan Chan, Richard Kaz –fp, Dave Bassani-fp**

next meeting: Saturday November 7, 2015 @ 10:00 am

Sepulveda Garden Center 16633 Magnolia Blvd. Encino, California 91316

AGENDA

9:30 – ***SET UP & SOCIALIZE***

10:00 ***- Door Prize – one member who arrives before 10:00 gets a Bromeliad***

10:05 -Welcome Visitors and New Members. Make announcements and Introduce Speaker

10:15 –*Speaker:* ***Larry Farley***

Program: "**Bromeliads - the Beginning"**

Do you remember your very first Bromeliad or where it was obtained? Do you remember when or how you discovered it's common or species name? How do you collect new Bromeliads? Have you ever grown Bromeliads from seed? Have you ever experienced the thrill of the first inflorescence from your seedling? Have you pollinated any Bromeliads? Have you shared Bromeliads with neighbors or friends?

Join us at the November Meeting to learn/share answers to all of the above questions in a lively 45 minute presentation with Q&A by one of our own members, hobbyist Larry Farley.

Don't miss this meeting! <>

TIME TO RENEW **……**
Please pay $10.00 dues at the November meeting

11:15 - Refreshment Break and Show and Tell: Will the following members please provide refreshments this month: ***Steve Rudolph, Martin Sattah, Joyce & Rosemary, Carole Scott, Scott Spreckman, Ray Van Veen, Gloria Vargas, Andrea Wareham, Mike Wisnev, and anyone else who has a snack they would like to share.*** If you can't contribute this month don't stay away…. just bring a snack next time you come.
Questions about refreshments? Call Mary K. (818-705-4728) Leave message - she will call back.

Feed The Kitty

If you don't contribute to the refreshment table, please make a small donation to **(feed the kitty jar)** on the table; this helps fund the coffee breaks.

11:30 - Show and Tell *is our educational part of the meeting* – Members are encouraged to please bring one or more plants. You may not have a pristine plant but you certainly have one that needs a name or you have a question.

11:45 – Mini Auction: members can donate plants for auction, or can get 75% of proceeds, with the remainder going to the Club
12:00 – Raffle: Please bring plants to donate and/or buy tickets. Almost everyone comes home with new treasures!
12:15 - Pick Up around your area
12:30 –/ **Meeting is over**—Drive safely <>

President's Message

Last month's meeting was one of the best we have ever had. Lots of new faces, Pam Koides gave a great talk and had great plants for sale, we had a great lunch, auction and raffle. I hope all of you enjoyed it as much as I did.

Next month, we will have our holiday extravaganza in lieu of our normal meeting. Kathleen has graciously volunteered to oversee our pot-luck brunch.

Mike Wisnev

Announcements

- **Officer Nominations** were conducted last month. Nominees were recruited by Mike and Mary K. We have several folks who have agreed to accept positions. Nominees will be listed and voted on at the Nov. meeting. Additional nominations can still be taken from the floor. We need all the help we can get so don't be shy.
- **Happy Birthday** ***Max Wurzel on Nov.4 and Rosemary Polito.***
- **Holiday Party** – We will have our regular holiday party on Dec 5, 2015. Kathleen has volunteered to organize it, so she will be contacting you. There will not be a joint party with the L. A. Cactus and Succulent Society.
- **Participation Rewards System –** This is a reminder that you will be rewarded for participation. Bring a Show-N-Tell plant, raffle plants, and Refreshments and you will be rewarded with one Raffle ticket for each category. Also **bring a first time visitor** and receive a free raffle ticket. <>
- **No Email !!!** – If you don't have e-mail, you are missing some great Bromeliad articles. Our president is a great researcher and we can all benefit by reading his articles which include some great photographs. If you don't have e-mail, ask a neighbor or family member to let you look at this newsletter once a month.
  The webpage is **sfvbromeliad.homestead.com**

Mary K. is taking a look back at the October meeting……

Last month Pam Koide's program was great and we really appreciated her traveling from the San Diego area. She brought many great tillandsias to sell and for our mini-auction she donated a ***Rauhia*** which is a genus of Peruvian plants in the Amaryllis family. By advertising Pam's program at the LACSS meeting we drew nine first time visitors. Thank you for the increase in member contributions at each meeting. Thanks to *Kathleen* for helping in the kitchen and donating food along with *Mohamed, Leni, Steve and Mary K. and* we can't compliment *Ana Wisnev* enough for her fresh baked bread. Raffle plants were donated by *Chris Rogers, J. Martinez, Steve, Mary K. and Ray VanVeen. George Allaria*, close friend of John Arden, donated Arden Vriesea pups, helping to make another outstanding raffle. Show-N-Tell participants were *Pam, B. Chan, Kathleen, J. Martinez, Mohamed, Leni, M. Wisnev, Mary K, and Steve; they shared great plants.* Thanks *Joyce, Mary Chan and Big Steve* for working the reception table. Hope I didn't miss anyone. Thank you all. Please sign the attendance book each month. *Happy Halloween and don't forget, the time will Fall Back.*

Holiday Brunch Saturday Dec, 5

These gatherings are always fun. Please let Kathleen know how you plan to help. At this meeting, please let her know what pot-luck dish you intend to bring and if you plan to bring a guest. We also need to know if you can help set up or take down. We have suggestions for members who don't cook. We don't want all desserts.

Contact Kathleen at the November meeting or leenest@aol.com or 818-402-6031

----- *Happy Thanksgiving* -----

Please Put These Dates on Your Calendar

Saturday Dec 5, 2015	Holiday Brunch and meeting – 10a.m.
Saturday Jan 2, 2016	SFVBS Regular meeting - STBA
Saturday Feb 6, 2016	SFVBS Regular meeting - STBA
Saturday Mar 5, 2016	SFVBS Regular meeting - STBA
Saturday April 2, 2016	SFVBS Regular meeting - STBA
Saturday May 7, 2016	SFVBS Regular meeting - STBA
Sat. & Sun. May 7-8, 2016	LaBallona Bromeliad Show & Sale
??? Sat June 4, 2016 ???	**??? Regular meeting ??? Vote**
Sat & Sun June 11-12, 2016	**SFVBS Show & Sale w/ the Cactus Club**
Saturday July 2, 2016	SFVBS Regular meeting - STBA
Saturday August 6, 2016	SFVBS Regular meeting - STBA
Sat. & Sun. Aug 6-7, 2016	So. Bay Bromeliad Show & Sale
Saturday Sept 3, 2016	SFVBS Regular meeting - STBA
Saturday Oct 1, 2016	SFVBS Regular meeting - STBA
Saturday Nov 5, 2016	SFVBS Regular meeting - STBA
Saturday Dec 3, 2016	SFVBS Regular meeting - STBA
Saturday Jan 7, 2017	SFVBS Regular meeting - STBA

STBA = Speaker To Be Announced

Speakers - We have had some interesting speakers recently but it is never to early to start planning for 2016. Let us know if you have any ideas for Speakers about Bromeliads or any similar topics? We are always looking for an interesting speaker. If you hear of someone, please notify Mary K. at 818-705-4728 or e-mail **rango676@aol.com** <>

Membership Dues

TIME TO RENEW .....

Pay at the meeting to:

Membership Chair - Joyce Schumann or Treasurer - Mary Chan

or Mail to: SFVBS membership - P.O. Box 16561 - Encino, CA 91416-6561

***Yearly Membership* Dues** **$10.00** for a single or couple

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Editor's note - Mike Wisnev tells me he has been writing more Taxonomic Tidbits articles recently, as well as continuing to study *Hechtias*. Since some of you may not have much interest in *Hechtias*, especially in the details of trying to determine which species one plant might be, we decided keep the regular Tidbits article, and add an extra *Hechtia* Tidbits article. As a result of the increased length and extra pictures, there is no Broms in Bloom article. Mary K is attaching something humorous about gardening and lawncare.

Taxonomic Tidbits – *Musings on (and around) the Nidularium – Guzmania complex.*

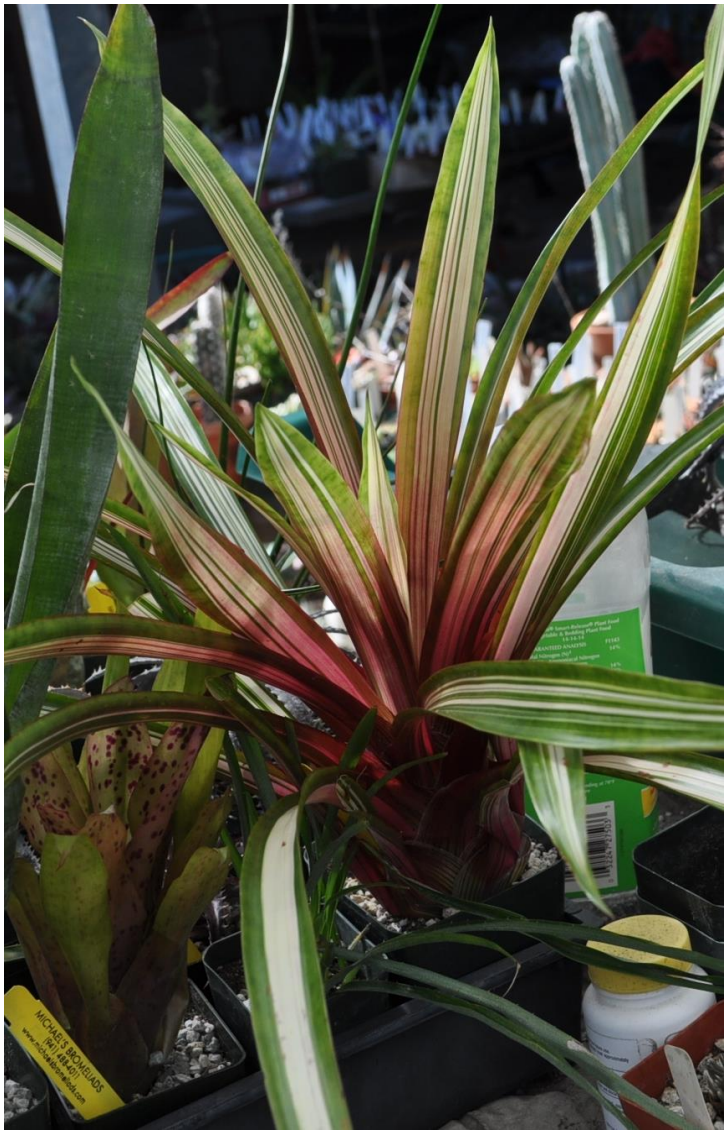
By Mike Wisnev, SFVBS President (mwisnev@sbcglobal.net)

San Fernando Valley Bromeliad Society Newsletter –November 2015

It is probably safe to say that not even the more knowledgeable Club members know much about the *Nidularium-Guzmania* complex. For that matter, I doubt Derek Butcher, who probably knows more than all of us combined, knows much about this complex. He might not have even heard of it!

I only have a few of each and most haven't flowered.

Here is ***Guzmania* 'Kapoha Fire' variegated on the right** with a much **smaller *Nidularium* 'Leprosa' on the lower left.** The picture is from 2012 right after I got them from Michael's Bromeliads. Both are cultivars.



A detour is needed to explain this topic. I have been writing these articles for about two and a half years now. Knowing little about Bromeliads, I started trying to learn more, and wrote an article. Starting with the various subfamilies, I moved on to the more common and well known genera. For reasons that elude me, I have always wondered about how various genera differ.

Of the three *Nidulariums* I have, only one has bloomed. Below is *Nid. regelioides* (now referred to *Nid. rutilans*) which bloomed this summer. As you can see, the inflorescence is a lovely bright colored cup like structure. The petals don't open up, or at least I never saw them open. This particular plant has orange petals. The inner bracts burned a bit.

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I soon realized that I will run out of topics, at least at the genera level. The Bromeliad Taxon List shows 56 current Bromeliad genera, many of them quite obscure or small or both. http://botu07.bio.uu.nl/bcg/taxonList.php? And I find it is difficult to get all that interested in a genus if I haven't seen, let alone possess, one of its members.

For those new Club members, you will find that the bulk of the plants seen at our meetings are probably *Dyckia and Tillandsia*, followed closely by *Aechmea, Billbergia, Neoregelia and Vrieseas* , *Hechtia, Portea, Quesnelia, Orthophytum* and a few others also sometimes find their way to the show and tell table.

I have already written about most of these, some of them in more than two articles. So what to do? Write about more genera? Start discussing species? Already wondering how many actually read this, what happens if I write an article on a single species. Since my pay for writing the Newsletters isn't tied to its circulation, I can, if I choose, ignore the latter consideration, but still I would like the topic to be of some interest.

In any case, the articles necessarily have to address narrower topics, or topics with less species members or less commonly known. This led me to the *Wittrockia* genus, mainly because I am enamored of *Wittrockia leopardinum*, and another plant that looks quite similar – *Edmundoa lindenii*.

I often write a number of these articles together, and then won't write one for months. Starting to learn more about *Wittrockia* led me to other related genera and in fact learned there is a so called "Nidulariod complex" that includes the two genera just noted, as well as *Canistrum* and *Nidularium*. This complex is known for their cuplike inflorescences. *Nidularium* are, I think, one of earlier genera to make their way into cultivation, and a lot are cultivated though we rarely see many of them here. : So I ended up with three articles on *Wittrockia, Canistrum and Edmundoa*, which you will see in later months. I avoided *Nidulariums* since I knew even less about them. Yet after writing three articles, I was a bit more piqued about *Nidulariums*, wondering where they fit into this complex. I also wondered where *Guzmania* fit in. Perhaps more so than *Nidularium*, since none of the articles I saw even mentioned them, and the two seemed to have sort of similar inflorescences based on the handful, if that, of the two that I had seen.

Here is ***Guzmania*** **'Sun Kissed,'** apparently a *Guz. lingulata*

hybrid by Chester Skotak.

This is the only one of my four *Guzmania* have bloomed. Sadly it didn't survive its first winter. I can describe this inflorescence exactly the same way I described the *Nidularium regelioides* – " the inflorescence is a lovely bright colored cup like structure. The petals don't open up, or at least I never saw them open." Obviously the colors are different, and the inner leaves of this one are longer and more pointed, but that is actually a bit unusual. When I look at the pictures in Derek's materials, it seems that most *Nidularium* have longer triangular inner leaves, while *Guzmania* often have shorter more rounded ones. So you can ignore the inner leaf shape as a defining characteristic.

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The detour is complete. I confess, if you haven't already gathered, that the name of this article is a spoof, there is no such complex at least in the literature. Rather, they are united by being medium large plants in large well known tropical genera. They might grow in the same areas – as I write this sentence I don't know and will have to look it up. They are further united by the incredibly unimportant feature that I know almost nothing about them, but they seem to have somewhat similar inflorescences that differ from those we normally see. I am not sure how they differ, but know their inflorescences look nothing like *Aechmea, Billbergia* or other genera we see.

So that is the *Nidularium-Guzmania* complex, completely fabricated and non-existent. My apologies for those of you who feel deluded after plodding through three pages of my ruminations. In some odd sense, however, it does show a bit about taxonomy: there are all sorts of ways to group things. Some of them make more sense than others, some turn out to be, in hindsight, wrong, and some might be silly, though probably none as ridiculous as the *Nidularium Guzmania* complex. Many plants have been grouped based on features that turn out to exist in a number of unrelated genera – they developed more than once.

I am also more than a tad bit embarrassed. Some of you probably knew there couldn't be a *Nidularium-Guzmania* complex. I confess that it was only after finishing the third article on the nidulariod complex that I found out why.

Nidularium, like the other members of the nidulariod complex, are members of the *Bromelioideae* subfamily. But when I went to Derek's Bromeliad Genera Key to find *Guzmania,* I saw they were in the *Tillandsioideae* subfamily. So they are completely unrelated other than both being Bromeliads. Even worse, I had once known this – the first Tidbits article in March 2013, all of six sentences, says "Tillandsioideae includes *Tillandsia, Guzmania and Vriesea* - its seeds have tufts of hair that allow them to be carried in the wind, like dandelions. The third group is Bromelioideae which includes *Aechmea, Billbergia and Neoregalia*. Seeds of this subfamily are neither hairy nor winged, and the fruits are usually berries."

There is even a more basic difference. I could show you every species of both *Guzmania* and *Nidularium*, all without flowers, and you could tell me exactly which is which. No exceptions. How? The leaves of *Guzmania* and other *Tillandsioideae* do not have spines on their margins, while those of *Nidularium* and other *Bromelioideae* do. Thus, all you have to do is look at the margins of the leaves, or run your finger along them, to distinguish the two.

Since much of this article is about how I write these articles, I will also confess that I have to stop writing for a bit - I have literally exhausted my knowledge of these two genera. I need continue my research.

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Someday I may write a more detailed article about these genera, but not now. For now, just a quick look about each of them.

Nidularium is a mid-size genus that currently has about 47 species. They generally grow in eastern South America in the rain forests of Brazil and the Atlantic Coast areas of South America, and they seem to love water and shade. No doubt this is why we don't seem to see many of them in Southern California – we don't exactly have an ideal habitat for them.

They are named after their nest like inflorescences. This is really more cup like and is designed to hold water for a long time. Look above at the *N rutilans* picture and you can see how water would stay in the cup for a long time.

As you can also see in the picture above, their flowers are generally closed. These flowers can come in all sorts of colors. Together with their most colorful bracts, usually red to purple, they can be popular Bromeliads if you have the climate for them.

The shape of the scape bracts of my *Nid. rutilans* is a bit unusual. From what I see, most *Nidulariums* have longer and more triangular and pointed bracts; for that matter, it seems other clones of *N rutilans* often have these pointed bracts. Here is a picture of one species that is more typical, at least regarding the shape of the bracts.

Nidularium serratum photo by D Cathcart

Guzmania is a very large genus, currently with about 217 species. As I noted earlier, they are in the *Tillandsioideae* subfamily. As such, they don't have spines on their leaves, and their seed is completely different than *Nidulariums*.

How can you tell a *Guzmania* from a *Vriesea or Tillandsia*? They are distinguished in Derek's key as having "Petal bases conglutinated in a tube, equaling the sepals or, rarely, the petals entirely included in the sepals." Conglutinated basically means glued together. In contrast, *Tillandsia and Vriesea* have "Petal bases free or with very short tube exceeded by the sepals; flowers distichous in most species."

According to Wikipedia, *Guzmania* "are mainly stemless, evergreen, epiphytic perennials native to Florida, the West Indies, southern Mexico, Central America, and northern and western South America. They are found at altitudes of up to 3,500 m (11,483 ft.) in the Andean rainforests…. *Guzmanias* require warm temperatures and relatively high humidity." Since *Nidularium* grow in eastern South America, it appears the two don't even grow near each other!.

Back to the non-existent *Nidularium* – *Guzmania* complex. As noted above, they are in different subfamilies, and don't even seem to grow in the same areas! But if not for the spines on the Nidularium leaves, I suspect you could confuse the two genera based on their similar cuplike inflorescences and closed flowers. I found an excellent article on Nidulariums*;* it looks like if you take out the references to *Nidularium* history and species, toothy leaves and change the locality a bit, the article might be completely accurate if written about *Guzmania*. One item I am not sure about is the range of flower colors of *Guzmania*.

In any case, I remained a bit curious if there had been any confusion between these two genera. So I did a computer search of Derek's materials, and found almost no confusion – I found only three examples. Here they are.

1. Even though Lemaire established the genus *Nidularium*, and named the type plant *Nid. fulgens* in 1854, he apparently had another plant he named *Guzmania picta* that same year. *Guzmania picta* turned out to be *Nid. fulgens*. I have no other details and leave it to you to figure that one out.

If you aren't' aware of it, botanical drawings and paintings used to be quite common, and are still often used. Since the camera didn't exist, or didn't take color pictures, they provided the best way to show the plant.

Nidularium fulgens

2. Three years later, a plant was named *Nidularium splendens* only to be later synonymized with *Guzmania lingulata var splendens* . This plant looks much like the *Guzmania* Sun Kissed' pictured a few pages ago.

As an aside, *Guzmania lingulata* is relatively famous in the Bromeliad world. It was the Bromeliad introduced into cultivation in Europe – back in 1776. There is also a rather famous and special form called G 'Fortuna'.

H.E. Luther

Guzmania lingulata 'Fortuna'. This exceptional clone of *Guzmania lingulata* was the star auction plant at the 1990 World Bromeliad Conference in Houston, Texas. It was collected originally in northwestern Panama by H. Luther, W.J. Kress, J. Halton, and L. Besse. The rare plant auction has become an established attraction of world bromeliad conferences with the money helping to support bromeliad identification and research. Please see page 212 for a review of the 1990 conference.

Finally, if you have attended more than one meeting of our club, you have probably heard someone say "that is a Skotak hybrid." This is referring to Chester Skotak, one of the best Bromeliad hybridizers around, who also wrote a book called "Searching for Miss Fortuna, The Hunt for a Bromeliad."

3. Finally, Smith and Read named a Columbian bromeliad *Guzmania nidularioide*s. J Brom. Soc. 35: 251. 1985 They stated that this new species of *Guzmania* with its sunken inflorescence and long white petals can easily be mistaken for a *Nidularium* at first glance. However, the leaves lack spines and the ovary is superior as can be seen through the transparent petals without the necessity of a dissection."

Here is a picture of *Guzmania nidularioides*.
So much for the so called *Nidularium – Guzmania* complex, may it rest in peace.

Guzmania nidularioides **Photo by Eric Gouda**

Last comments. Many *Guzmania* have very different inflorescences than the ones pictured above. Below is one Mary Rango brought in for September's show and tell. I am not sure I caught the name, but think it was G 'Smart & Final.'

For those non L. A. readers, Smart & Final is a grocery chain and the name, like the title of this article, is fictitious. However, the name may well be *Guzmania* 'Candy Corn' – I saw another one at Costco from Kent's Bromeliads and their website has this one pictured.

Finally, I now know that all those *Nidulariums* I thought I saw at Home Depot from time to time are really *Guzmanias* – the leaves have no spines!

Hechtia Tidbits – Maddening Mysteries at the HBG, Part 3 - *Hechtia* HBG 45369: *H sphaeroblasta* or *H conzattiana or ???*.

By Mike Wisnev, SFVBS President (mwisnev@sbcglobal.net)

San Fernando Valley Bromeliad Society Newsletter – November 2015

As soon as I got interested in *Hechtia*, I noticed HBG 45369 immediately. I guess that isn't saying much since there were two huge colonies of it, and each rosette has large, whitish, and upright leaves. It almost looks like a *Puya*. I hadn't seen anything like it before. There was a label, but no species given.

Here is one colony of HBG 45369 in March 2014. The other interesting red Hechtia in the upper right corner might be the subject of another article someday.

You can imagine my surprise when I found this entire clump was gone a few months later! Some of it has been replanted in another bed.

The HBG card says seeds were collected by Baum and Kimnach in 1981 from Puebla – specifically, 5.4 m east on road to San Luis Atolotitlan off H 125 at point 3.4 miles s of Zapotitlan – 6100'. This plant has been in cultivation for some time - it was introduced as ISI 1486.

Digging through Derek's materials, I realized that it had been collected on the very same road where *H pueblensis* had been found – just about five miles away. So I figured it most likely was H *pueblensis*.

I suspect almost none of you have heard of that *Hechtia*. Not surprising since it was only described in 2011. I read the description and it seemed to match fairly well, but not perfectly. For example, the upper surface of the HBG 45369 leaves is white, while H *pueblensis* is "glabrous and lustrous above but sparingly lepidote above the blade-sheath junction." But from what I have read many species can have green or white leaves, so maybe this species does as well. The article didn't include any photos, so I wasn't very sure.

In June, the plants in the remaining clump started to develop an inflorescence. It turned out to be a male with white/green petals.

Below is part of the other clump of HBG 45369 in Bed 3. The stem on one rosette is just above and to the left of the rock.

Here is HBG 45369 in flower in late June. The inflorescence is roughly 8 feet long, and the side branches are over a foot. The bees love it.

I looked at the H *pueblensis* article again, and that species is supposed to have much shorter branches, and a cream flower. Plus, the floral bracts of the HBG plant are shorter, not longer, than the sepals. As noted above, the description of *H pueblensis* says leaves are glabrous on top, and this isn't! I figured this isn't H *pueblensis* despite the fact it was collected where that species grows.

So I looked at the description of other *Hechtia* that grow in Puebla. Most are in the *H podantha* complex, which is rather different than this plant. I saw a picture of H *caulescens*, described in 2009, which has been found in Acatlan about 25 miles to the west. It looked the same, at least the leaves. And it has a wide range across Puebla and neighboring states, so it could well grow at this locality.

But the flowers didn't match very well.

Below are HBG 45369 male flowers in bed 3. By the way, what color are the flowers? To me they seem white at the base with a green tinge at the end. But I could see someone calling them yellow, or cream. And who knows if we all see colors the same way anyway.

Now I was more confused – the leaves look like H *caulescens,* but the inflorescence and flowers don't match. H *caulescens* has 3 – 15 secondary braches, and this plant has two – which is consistent with H *pueblensis*. And the rachis seems to match H *pueblensis* which is described as sulcate (i.e. with furrows) and this is the most sulcate branch I have seen!

Not sure what to make of this, I sent pics of HBG 45369 to some of the experts in the Hechtia world. Expert X responded that it <u>might</u> be H *aquamarina*! I hadn't thought of that plant. It had been described as, and compared to other, small clumping *Hechtias*, and I don't think of HBG 45369 as such a plant.

Hechtia *aquamarina* was just described in 2012 – it had been named H *pueblensis*! When the author realized another plant had been named the same, she changed it to H *aquamarina*, since it has that coloring in cultivation. When I looked again at the article, the picture seemed to match well, except for the size of the plant. Often a plant will grow considerably larger in cultivation than in habitat since it is regularly watered, if not fertilzed. So that might account for the difference in size. But the article says it has tiny spines (0.5mm), and the HBG plant has rather large ones. (I wonder if the article misprinted the measurement of the spines – 0.5mm is extraordinarily small for spines, and it seems the spines are visible on the picture below. So perhaps they meant 0.5cm??)

The flowers and inflorescence seem to match even better, and while the localities don't quite match, they don't seem all that far away.

Here is Hechtia *aquamarina* – while it doesn't say, I assume it is a female since it appears bipinnate

Now compare the flowers to the flowers of HBG 45369 – they seem to match pretty well! But that may not mean all that much – I have been told that many Hechtia species have very similar male flowers in contrast to the more distinctive female flowers.

Hechtia aquamarina **Photo by Ivon Ramirez**

I went back to look at HBG and take all sorts of measurements. I realized the plant did have a stem, which is consistent with H *caulescens*. Here is a comparison of some the features of HBG 45369 compared to others I had considered.

Hechtia aquamarina Female left, Male right Photo by Ivon Ramirez

	Leaves, upper surface , spines	secondary branches	Scape bracts	flowers
pueblensis	33-39 cm, glabrous and lustrous, 3-4mm	2 at base	23-33 cm long with linear-triangular aggressively spinose blades	Pale cream with long floral bracts
caulescens	29-40 X 1.8-3 cm, densely white lepidote on both surfaces, long acuminate and apiculate, 2-4mm .	3-15	1-1.4 X 1.1-1.2 cm; reduced blades linear, 4.2 - 7 cm X 3-4 mm, acuminate and apiculate,	White elliptic
aquamarina	narrowly triangular, acute, pungent, 22-30cm white lepidote, 0.5mm	2 at base	narrowly triangular, membranaceous, abruptly acute and long acuminate, 4.2-6.5 long,	Pale green broad oblong
45369	53 cm x 3-5 cm at base, white lepidote, 3-4mm	2 at base	1cm base and 5-8 cm linear blades	Yellow base, green tips, broad oblong

I have highlighted in red the plant that HBG 45369 most closely resembles for the relevant part. Interestingly, the leaves of the HBG plant are larger and wider than any of these, but they seem close to H *caulescens*. The scape bracts also match it well. But the inflorescence and petal color are more like H *aquamarina*, as are the other floral parts. But H *aquamarina* is supposed to have a glabrous inflorescence that is lepidote apically, and this is glabrous everywhere. The sulcate rachis seems like H *pueblensis*.

I gave up on this one, only to soon hear back from Expert Y, who said this was H *sphaeroblasta*. This is a species that seems to be in cultivation, although I haven't seen one myself. Some of the pictures on the web show a green leaves species with red marking near all spines – it is beautiful, but quite unlike HBG 45369. Was this species that variable?

It turns out that the HBG does have another H *sphaeroblasta*. HBG 37096 is about 10 feet from HBG 45369, but has no name. After it flowered, I sent pictures to some experts and two of them identified it as H *sphaeroblasta*, which also grows in Puebla.

Here it is.

You can see that the inflorescence of this plant is a bit different – all the branches have many side branches. In contrast, the branches of HBG 45369 have two small side branches at the base of the primary branch, but no others. The flowers of this plant seem whiter, and leaves are much more green. As in many of these situations, it seemed different enough to be a different species, yet close enough to be the same. And I haven't been in the field, so I have no idea how variable the species might be.

So now you might get a sense why identifying Hechtia can be so maddening, at least if you haven't seen them in habitat. A plant growing in the H *pueblensis* locality looks fairly close to a large H *aquamarina* or H *caulescens*, but turns out to be H *sphaeroblasta* even though it doesn't looks the same as another H *sphaeroblasta* growing about 10 feet away. From what I have gathered, it is just as maddening at times for the experts!

Well, the story gets better, or worse, depending on how you look at it. By now I had found where the other clump of HBG 45369 had been moved. Even though it had not been planted, it had bloomed and I had missed the flowers. The inflorescence was bipinnate and the flowers were female, and seemed green and very small. Finally I found a couple flowers remaining at the top.

Female HBG 45369 in Bed 4.

When I got home, I went to see what female H *sphaeroblasta* flowers looked like. This turned out to be a problem. The only description is in Smith and Downs, and it described the male flower. There is a more recent article which briefly discussed this species, but it only said "*Hechtia sphaeroblasta* is readily distinguished from other taxa by its glabrous, characteristically twice compound pistillate and staminate inflorescences with ascending branches." See Burt-Utley, Utley, & Garcia-Mendoza, Phytoneuron 59: 1-17. 2011. It also noted it was thought to be known only to grow in one location, but that in fact it is abundant in numerous habitats.

Now I was really stumped. I was already a bit unsure about the male, since the male H *sphaeroblasta* 37096 seemed different from the male HBG 45369. Now I find that the female inflorescence of HBG 45369 is once compound, not twice compound as stated for H *sphaeroblasta*. Finally, when I looked through the materials I had, the female flower looked a lot like *H aquamarina* to me, which as what another expert suggested as a possibility.

I sent another email to some experts, though it wasn't as clear as it could be. The response was this female was *H conzattiana*! I clarified that I was almost certain that this plant was the same species as the male 45369 identified as *sphaeroblasta*. This lead to more emails, and the following tidbits *conzattiana* has unbranched branches and flowers always yellowish, while *sphaeroblasta* are branches with branches with white or pale cream flowers. But for unrelated problems, we were unable to resolve the issue.

To recap, the male 37096 is very twice branched, as *sphaeroblasta* is supposed to be. The female 45369 is once branched which is consistent with *conzattiana*, not *sphaeroblasta*. The male 45369 is twice branched, but there are only two side branches at the base – again, not as clear as one might hope.

I considered the possibility that the two clumps are not the same species – perhaps one of the signs got moved by mistake. But the plants are virtually identical vegatatively. Both have almost a velvety feel to the leaf surface – I showed them to John Trager once, and he also thought they seemed the same. The inflorescences are also very similar other than the flowers, but obviously male and female flowers can look different. Also, the card said seeds were collected, so there is no surprise in having both male and female plants. So I would be shocked if the two are different species.

Over the next few months, two H *conzattiana*s bloomed. HBG 72113 is a male, and someone had written H *conzattiana* on the label –It was collected by Glass and Kimnach in 1992 7 miles past Tecomavaca, Oaxaca, which is very close to the type locality of H *conzattiana*. The description matches well, including the reddish scape bracts with hyaline margins. BELOW IS HBG 72113

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Here we have a red peduncle, and short branches with no side branches. Unlike the male HBG 45369, there were no side branches, and the branches aren't sulcate. Yet, the rosette sure looks different than the ones above, as does the inflorescence. The leaves are very recurved, while HBG 45369 has upright leaves

Finally the other *conzattiana*, a female, bloomed, and I missed most of the flowers. HBG 65498 had been collected by Bill Baker (Baker 6244) in Oaxaca , but I don't have more details. Expert Z had seen a picture of this plant before, and wasn't altogether confident it was named correctly.

To me, it matches well with the female HBG 45369. It is certainly a different clone, as the rosettes differ, but the inflorescence and flowers are extremely similar. I don't see anything to suggest they might be different species.

One more obstacle. Just like H *sphaeroblasta*, H *conzattiana* was described from a male plant. So I don't have a description of the female flower or inflorescence.

Here is HBG 65498.

I do feel confident that the two colonies of HBG 45369 are the same species – their features, other than the flower, are almost identical. Yet the male was identified as *sphaeroblasta* and the female as *conzattiana*. And I am confident that female HBG 65498, labelled *conzattiana*, is the same species. The problem is the male 45369 doesn't match either the male *conzattiana* or male *sphaeroblasta* all that well.

So what is HBG 45369 – I still don't know. Possibly H *conzattiana*, or possibly a new species. Perhaps even a hybrid – with the various species all located in a relatively small area, it seems likely a few would exist. Not very definitive! Hopefully someday there will be a new article on H conzattiana, and maybe someday someone will even find the site where HBG 45369 was collected.