

**ILLAWARRA BROMELIAD SOCIETY  
INCORPORATED**

**NEWSLINK**

**July 2021**



*Puya clava-herculis*  
Photograph by Dr Eric Gouda

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- The Society is, by the holding of meetings, displays and competitions, to provide a forum for the people of the Illawarra region who are interested in the culture and collection of bromeliads.
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**BANK DETAILS FOR FEE PAYMENT, ETC:** Illawarra Credit Union; BSB No. 802249; Account No. 249 039 602

**MEETINGS** - The Society meets from 12.00 noon to 4.00 pm on the first Saturday of each month (February to November) at the Berkeley Neighbourhood Centre, Winnima Way, Berkeley\* See April 2021 Newslink

**MEMBERSHIP SUBSCRIPTIONS** - Due 30<sup>th</sup> June each year: \$15 single/\$25 family.

**NEWSLINK ISSUED QUARTERLY** - January, April, July, and October and at <http://www.bromeliad.org.au>

**VISITORS ARE ALWAYS WELCOME**

**NEW MEMBER:** A very warm welcome to our new member, Val Harvey, who signed up at our June meeting. We wish you a long and happy association with our Society.

**MONTHLY RAFFLE PRIZE ROSTER:** Each rostered member is asked to bring up to five bromeliad plants-- or goods related to the cultivation of bromeliads--for the raffle. The quality of plants should comply with the requirements of 'Plants for Sale' and should you be unable to provide items for the raffle on your rostered day please contact the Program Officer (Bob Stephens 04 1283 4985) so that appropriate re-arrangements can be made.

August	-	Elizabeth Bevan, Steve Wain, June Casey, Beth Clague
August 28	-	June Smith, Ann Kennon, Judy Hunt, Cheryl Mathews
October	-	Rhonda Patterson, Christine Stephens, Belinda Drury, Gary Claydon
November	-	Maadi McKenna, Jan Stammers, Carol Burgdorf, Beverly Irvine
<b><u>2022</u></b>		
February	-	Graham Bevan, June Casey, Jim Clague, Anne Mobbs

**TENTATIVE PROGRAM FOR THE REST OF THE YEAR:** With the overall uncertainty of how things are going to pan out for the rest of the year regarding COVID, I will include here an agenda which Bob has drawn up for us. However, as you know, our July meeting had to be cancelled at rather short notice and I guess that this can happen to us again in the months ahead. But I am listing here some of the events which Bob has planned. Also, because our hall in Berkeley is used as a polling place on the first Saturday of September we have had to reschedule our September meeting to the last Saturday in August. This is something we felt that we needed to do because of our upcoming Show which will be held over the weekend of September 11/12, with setup starting at 12.30 pm on Friday 10<sup>th</sup>, all being well.

John will be looking for volunteers to help load and transport gear such as tables, banners, signs, etc., and a bit closer to the date John will let us know what time he would like for members to meet at his home to assist with this.

**GENERAL MEETING – AUGUST 7 – A.G.M.**

**GENERAL MEETING – AUGUST 28 – SEPTEMBER MEETING RESCHEDULED**

**SEPTEMBER SHOW – SEPTEMBER 10 – 12, WITH SETUP COMMENCING AT 12.30 PM ON THE FRIDAY**

**GENERAL MEETING – OCTOBER 2 – Topic: RECYCLED GARDEN – Peter Nolan**

**GARDEN VISITS – OCTOBER 16 – Details to be advised in our October Newslink and via EMAIL**

**GENERAL MEETING – NOVEMBER 6 – Topic: GROWING BROMELIADS FROM SEED – David Hastings**

**CHRISTMAS PARTY – DECEMBER 4 – DETAILS TO BE ADVISED**

**OTHER TENTATIVELY SCHEDULED EVENTS:**

**September 18-19: PLANT LOVERS' FAIR – Kariong Mountains High School, 10 Festival Drive, KARIONG**

**September 25-26: We have been invited to the BROMELIAD SOCIETY OF QUEENSLAND'S SPRING SHOW – Genesis Christian College Sport Hall, Youngs Crossing Road, Bray Park. 20 sellers – plants from \$5; a large judged competition; free on-site parking. [www.bromsqueensland.com.au](http://www.bromsqueensland.com.au)**

**LINK TO OUR SOCIETY'S FACEBOOK PAGE: <https://www.facebook.com/groups/448297386598187>**

We hope that you will feel free to join the group which Romina has set up for us. When someone searches "Illawarra bromeliads" under groups on Facebook, the Illawarra Broms group should be the first to be listed. Also, if you have bromeliad photographs/photos of your garden, etc. that you might like to share on our new Facebook page, Rowina has volunteered to handle this for you. To do this, just use the email address: <illawarrabroms@gmail.com> that she has set up for this purpose.

**KIWI BROMS CONFERENCE – POSTPONED UNTIL LATE MARCH, 2023:** We have learned from the New Zealand Society that their *Kiwi Broms* Conference, scheduled for April 2022, has once again had to be postponed, with the dates now March 22–26, 2023. This is something beyond their control but these new dates mean that it will be two weeks before Easter and will now be within daylight savings hours—a great positive.

### **April 3, 2021: Competition Plant Results**

#### **Open:**

1 <sup>st</sup>	Bob Stephens	<i>Billbergia vittata</i>
2 <sup>nd</sup>	Bob Stephens	Vriesea hybrid
3 <sup>rd</sup>	Bob Stephens	Neoregelia
3 <sup>rd</sup>	John Toolan	<i>Aechmea fasciata</i>

#### **Novice:**

1 <sup>st</sup>	Judy Hunt	<i>Aechmea nudicaulis</i> 'Flavomarginata'
2 <sup>nd</sup>	David Hastings	<i>Billbergia</i> 'Perriam's Pride'
3 <sup>rd</sup>	Judy Hunt	Vriesea hybrid

#### **Tillandsioideae:**

1 <sup>st</sup>	Steve Wain	<i>Tillandsia xerographica</i>
2 <sup>nd</sup>	John Toolan	<i>Tillandsia punctulata</i> ?
3 <sup>rd</sup>	Steve Wain	<i>Tillandsia crocata</i>

### **May 1, 2021: Competition Plant Results**

#### **Open:**

1 <sup>st</sup>	Steve Wain	<i>Neoregelia</i> 'Painted Delight'
2 <sup>nd</sup>	Bob Stephens	<i>Aechmea orlandiana</i>
3 <sup>rd</sup>	Michael Drury	<i>Neoregelia concentrica</i>

#### **Novice:**

1 <sup>st</sup>	David Hastings	<i>Billbergia</i> 'Kolan Opal Joy' (not registered)
2 <sup>nd</sup>	Judy Hunt	<i>Billbergia</i> 'Curly Top' – <i>leptopoda</i> form
3 <sup>rd</sup>	Judy Hunt	<i>Billbergia</i> 'Pink Patches'

#### **Tillandsioideae**

1 <sup>s</sup>	Steve Wain	<i>Tillandsia flabellata</i>
2 <sup>nd</sup>	Steve Wain	<i>Tillandsia stricta</i> 'Bak' (not registered)
2 <sup>nd</sup>	Judy Hunt	<i>Tillandsia crocata</i> 'Rutchman's Orange'
3 <sup>rd</sup>	Beth Clague	<i>Tillandsia complanata</i>

### **June 5, 2021: Competition Plant Results**

#### **Open:**

1 <sup>st</sup>	Michael Drury	<i>Billbergia</i> – Gorgeous – 8 Inflorescences
2 <sup>nd</sup>	John Toolan	<i>Aechmea pectinata</i> Hawaiian form
3 <sup>rd</sup>	Michael Drury	<i>Vriesea elata</i>

#### **Novice:**

1 <sup>st</sup>	Judy Hunt	<i>Aechmea weilbachii</i>
1 <sup>st</sup>	Judy Hunt	<i>xSincoregelia</i> 'Ralph Davis'
2 <sup>nd</sup>	Judy Hunt	<i>Billbergia</i> hybrid
2 <sup>nd</sup>	David Hastings	<i>Orthophytum</i> 'Warren Loose'
3 <sup>rd</sup>	Ana Mallon	<i>Neoregelia</i> 'Ned Kelly'

#### **Tillandsioideae**

1 <sup>st</sup>	Steve Wain	<i>Tillandsia chiapensis</i>
2 <sup>nd</sup>	Steve Wain	<i>Tillandsia fasciculata</i> (Nev Ryan No. 81)
3 <sup>rd</sup>	Judy Hunt	<i>Tillandsia</i> 'Curly Slim'

## **PUYA CLAVA-HERCULIS – THE REAL ONE**

By Eric Gouda – Reprinted with permission from *Die Bromelie*, 2020(1) and thanks to Dr Gouda for emailing to me copies of his beautiful photographs for use in this article.

*Puya clava-herculis* was described by Mez & Sodiroin in 1904. The epithet 'clava-herculis' refers to the club of Hercules who was a divine hero in Greek mythology, the son of Zeus. This name speaks to your imagination and, once noticed, it is not forgotten easily. This is probably the reason why there are so many errors in the use of this name for all kinds of *Puya* with club-like inflorescences, and there are many. For example, the images in *Die Bromelie* 2019 (2) about Colombia (part 2) by Andreas Böker on pages 74 and 75 are not this species at all. The reason for this article is to show you the right species and its characteristics and how you can recognize it easily. For all of the other look-alikes it is very difficult to tell which species it is without having a specimen at hand.

In the first place, the rosettes of *Puya clava-herculis* are easily recognized by having a glabrescent [lacking hair or a similar growth] upper leaf surface and white lepidote (scales) on the lower surface. On their margins the leaves have black spines that are typically covered with a tuft of white trichomes (scales/hairs). The leaves are about 30 cm to 40 cm long, forming medium-sized solitary rosettes with a relatively stout inflorescence of 1 m – 1.5 m high.



The inflorescence is very hairy with pale brown or grey hairs and, of course, is club-shaped. The lower primary bracts and the peduncle bracts are typically recurving, the lower ones are short reflexed laminate. [In the photograph on the next page] you can see the obvious stout peduncle, caused by the densely imbricate bracts relative to the rosette (probably protection against freezing). The flowers only appear from the primary bracts with their blue corolla and orange-yellow stamens. The plants are always found as solitary rosettes and they are monocarpic, which means that they die after flowering [without producing pups].



**Above:** The upper part of the hairy inflorescence showing the recurving peduncle and lower primary bracts. Also can be seen the habitat of *Puya clava-herculis* with heather-like vegetation and large grasses and small shrubs.

This remarkable species is growing at the páramo from about 3,000 m to over 3,900 m elevation and grows mostly between tufts of high grasses and small shrubs. It has a large distribution in the Andes of Ecuador. A few records are known from Colombia and one from Cajamarca/Peru, but those were not verified.

The photos in this article were taken in June 2015 in Ecuador, Road 28c from Quito to Baeza, northwest of Papallacta at 3,906 m elevation.

## References

- Böker, A. 2019. From 0 to 3650 m and 8°C to 37°C—Colombia is everything (Part 2). *Die Bromelie* 2019(2): 72-81
- Mez, C. 1904. *Additamenta monographica 1904* (part 2) - Bulletin de l'herbier Boissier sér. 2,4: 863-878

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## AUSTRALIAN TREES FOR BROMELIADS

Article and Photos by Andrew Wilson

(Reprinted from *The Bromeliad Blade*, newsletter of the San Diego Bromeliad Society, October 2019)



During Robert Kopfstein's talk last month questions were raised about the tree materials that might be used for the mounting of bromeliads. That led to discussion of several types of Australian trees. While deviating significantly from the topic of the talk the discussion did raise matters that are relevant to growing of bromeliads in our gardens. Here they are:

### **Eucalypts are toxic?**

We see little vegetation growing under eucs in woodland areas such as Rancho Santa Fe, Scripps Ranch and in parts of UCSD. Is that due to toxicity of eucs for other plants? No, it's not. It's due to the effect of deep leaf litter which chokes understory plants and prevents seeds from sprouting by denying them moisture if they do sprout. It's not due to eucalyptus oils preventing the growth of other plants. When eucs were introduced into Southern California to provide lumber for railroads the trees were planted close together and the several species chosen had large leaves and came from regions with higher rainfall than ours. As a result of these actions the leaf litter built up to levels not seen in their native habitat. In those parts of Australia where the climate is Mediterranean-type and the rainfall levels are low, similar to ours, the leaves and the trees are much smaller, grow widely apart and the leaf build-up is far less than we see in this area. Eucalyptus leaves, if shredded and allowed to decay, produce excellent material for potting. Shredded compost obtained from the city includes material from eucalyptus trees. It is not toxic to other plants. But, unless you enjoy taking risks, do not eat the live leaves. They can be toxic to some people.

### **Euc branches for mounting bromeliads**

The trees provide excellent material for mounting bromeliads. There are nearly a thousand species and the branch and bark forms are very varied. For bromeliads avoid the species that shed their bark and choose the more suitable such as the ironbarks (see *E. sideroxylon* at right). These trees have a hard, deeply channelled bark that stays on the trees for many years allowing you to mount plants on the trees. If you mount on bark from cut branches, you'll need to drill a hole or two to insert a wire to hold the plant in place or you can simply glue it to the bark. That's a little more work than simply pushing an awl through cork but the euc bark is stronger.



### **How about Melaleucas?**

Another group of Australian trees that can be very useful for providing mounting sites for your bromeliads are the melaleucas. Their leaves are not large, not spiky and not covered in resin. The best known species is *M. quinquenervia* which has thick, soft bark that is used by many Australian bromeliad enthusiasts. In this case you need to pull off the bark, a soft material that can be as thick as 6 inches. Mounting plants on the tree is impractical because it will shed large pieces of that bark every few years. Its bark is easy to work. An awl can penetrate inches through it and it accepts glue attachment well. Note that because it is not structurally strong it must be attached to a firm backing. The trees should be pollarded annually to limit height and encourage a thick, stocky base for better production of the soft, puffy bark.

### **Tea trees**

A third group of Australian trees that can help us are the tea trees (as distinct from ti trees) or, more accurately, leptospermums. Sometimes called tea trees after Captain Cook's crew, arriving on the east coast of Australia, brewed the leaves (of a different tree, *Melaleuca alternifolia*) for tea that was used for combatting scurvy and other medical purposes. Leptospermums are easily grown in our gardens. Ranging in size from shrubs to small trees they stand up well to windy conditions. Unlike the other two groups they do not provide thick bark materials. On live or cut branches the bark often loosens into strands, making glue attachment difficult or even impractical. It is easier to drill screws for hanging plants.

The large species, *Leptospermum laevigatum* (shown at the top of this article), with its long, arching branches and small leaves provides a moderately shaded cover and is an excellent host for tillandsias, aechmeas or neoregelias either attached, suspended or seated in crotches. It rarely grows taller than 20 feet and is often less. These Australian trees all belong to the myrtle family, *Myrtaceae*. They are easily grown in our area and are not spiny. In drier parts of South America where many bromeliads grow, small trees acting as their hosts occur in dry scrub and thorn forests. You can imagine how friendly they are. Fortunately in such a large region there are many gorgeous exceptions.

### **SOMETHING A BIT DIFFERENT!** (Photographs on next page)

The following two photographs were kindly supplied to me by Dave Anderson of the Bromeliad Society of New Zealand when I got in touch with him to ask permission to reprint them from the BSNZI's *Journal* of May 2021. **The top picture** features a spot in the Florida Everglades when Dave, his wife, Joan, and fellow New Zealanders, Peter and Jeanette Waters, took a side trip to this fascinating area before attending the 2010 WBC in New Orleans.

**The bottom photograph** shows clumps of tillandsias growing around a pond in his front garden.

**SOMETHING A BIT DIFFERENT!!**



The Florida Everglades – (note the alligator towards the bottom right)



Tillandsias growing around a pond in Dave's front garden

## **POTTING MIX - GETTING IT RIGHT**

Compiled by Amanda Barbe – Australian Bromeliad Community – Facebook  
(Reprinted from the Far North Coast Bromeliad Study Group's newsletter – May 2021)

Let's face it, most of your bromeliads will spend their lives in pots so choosing the right potting mix can be very important for their long-term health. If the mix consists of too much soil it can stay too wet and cause their roots to rot. Too much inorganic material and they won't get enough nutrients to grow. If the mix is too light it can cause the plant to become too top heavy and move around or topple over, not allowing the roots to take hold. There are basically three critical requirements to consider when choosing a potting mix for your bromeliad.

### **A Firm Footing:**

Bromeliads won't root if they do not have a solid foundation. They don't want to move around once planted or mounted. Even slight wind can cause a pup with no roots to move around in a pot if it is not tightly packed or there is not enough soil. Soil not only provides nutrients for your plants, but it acts as a binder to give your plants that solid hold to keep them from moving around.

### **Aeration:**

Lots of air at the roots means a healthier plant and less risk of rot. Bromeliads like to be moist but not wet so it's important that the potting mix drains well and gets a lot of air movement to allow it to dry out quickly;. To accomplish this we use 6 mm-13 mm (1/4"-1/2") pine bark chips untreated, usually used for mulching. The wood is very light and porous so it holds in moisture well, but the irregular shapes provide plenty of space for air flow.

To allow air movement into the potting mix be sure to keep the top of the pot open and clear of any solid debris. Remove dead leaves or rocks that may prevent air from reaching the soil.

### **Moisture Control:**

The mix should allow water to drain quickly and easily and not allow for any water to pool inside the pot. Perlite is a widely used addition to soil mixes because it is lightweight, porous, and prevents soil from compacting, allowing water to drain more easily. It is also resistant to microbial attacks, preventing some bacterial diseases.

Always use pots that have holes for drainage and make sure these are clear and don't clog. A great way to achieve this is by adding extra-large perlite to the mix, or some broken terracotta pots in the bottom of your pot. The uneven edges will fill the holes but allow space for water to flow out of them. This also weighs the plant down so it doesn't topple over in windy conditions.

### **Use the Right Mix for You:**

To get a mix that provides for each of these requirements we use a mix consisting of 20% perlite, 20% peat and 60% small pine bark chips. You may want to experiment with the ratios to find what works best for you based on your own unique conditions.

For climates that get a lot of rain and humidity like we do in S.E. Queensland you will want to use more pine bark and perlite added to our mix for increased aeration and moisture control so the mix doesn't stay too wet. If you live in a dryer climate you may need to use more soil to retain moisture.

Whatever combination you find is right for you make sure that it is mixed well and not in layers. When you are ready to plant your bromeliad, fill the pot with your mix, dig out a small hole in the centre and try to centre the cup of the plant as much as possible. Use a small amount of your mix to pack the plant tightly to prevent it from moving.

### Also Growing on Trees:

Many bromeliads are a type of plant called epiphytes, which means they draw moisture from the air and don't need to be in soil to survive; they are not a parasite. While their roots can draw water and nutrient, they typically serve as a plant's 'anchor', attaching and holding it in place.

### What is Perlite?

Perlite is made from a mined volcanic glass of the same name. As a raw material it contains water, trapped by the rapid cooling of lava. The moisture vaporizes explosively when heat is applied. It is easy to mix into your own potting medium, but make sure you buy horticultural-grade perlite.

### What is Peat?

Peat moss is an important component of most potting soils and seed-starting mediums. It holds several times its weight in moisture and releases the moisture to the plant's roots as needed. It also holds onto nutrients so that they aren't rinsed out of the soil when you water the plant.

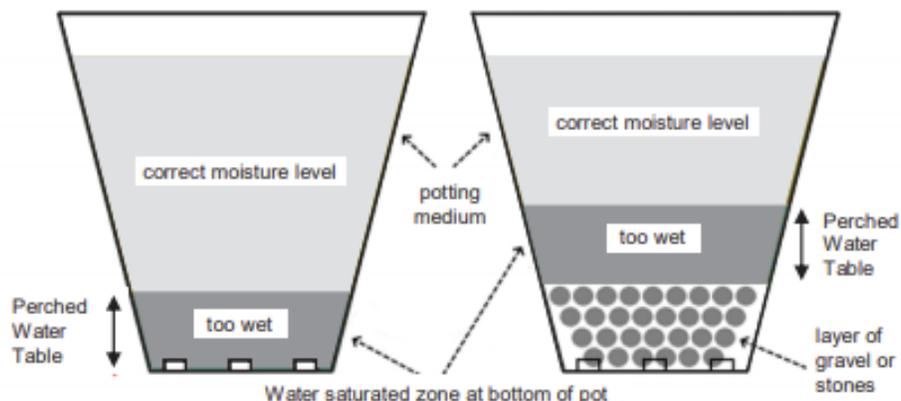
## CROCK IN THE POT – THE PERCHED WATER TABLE

(Reprinted from the Far North Coast Bromeliad Study Group's newsletter – June, 2021)

The effect of placing gravel at the bottom of a pot on the perched water table would it make any difference if we laced a wet sponge upright in the sink, or on a layer of gravel in the same sink? Now that we understand how the forces of adhesion and cohesion within liquids create capillary action, leading to the formation of a perched water table at the bottom of an absorbent medium, we can see that it won't have any effect on these forces in any way at all.

Remember, the downwards force is due to gravity, which we can't increase; a lower layer of another material won't change the adhesive forces between the growing medium and the water molecules, nor will it alter the cohesive hydrogen bonds between water.

So what effect will adding gravel at the bottom of a pot below the growing medium have? It will reduce the volume of potting medium and push the perched water table higher up into the pot, as shown in the diagram below.



Adding gravel in the bottom of a pot will create two potentially serious problems:

1. Pushing the saturated water table layer upwards, closer to the plant roots, actually increases the risk of root rot, as the roots will stay wetter, longer.
2. Reducing the volume of growing medium available to the plant roots will reduce root growth space and overall root volume, as well as available moisture, thereby decreasing the plant's drought tolerance and potential maximum growth size.

There is no benefit to be gained by adding a layer of gravel or rocks to a pot when we examine the matter from scientific first principles!

### **The Correct Way to Increase Drainage in Pots and Containers**

If the same potting medium is used, irrespective of the size or shape of the pot, the perched water table always stays the same height because it is determined by the wicking ability of the potting medium, since gravity doesn't change.

The way to increase drainage of the perched water table is to add materials throughout all of the potting medium to increase the air spaces in the mix and reduce capillary action.

Some plants require extremely well-draining potting mixes in containers. A lot of orchids, for example, are epiphytes (plants that don't grow in soil but obtain moisture and nutrients from the air and rain and usually grow on the surface of another plant), and many grow in trees. Growers of cymbidium orchids (and bromeliads) use an orchid mix which is composed mainly of coarse 20 mm (3/4") composted pine bark pieces. This mixture contains huge air spaces and drains extremely well, barely retaining moisture in the bark pieces, so there is no perched water table.

Cactus and succulent growing mediums for pots are coarse, open mixes made with some organic matter to retain a little moisture, and plenty of gritty material such as crushed quartz or other crushed rock which act like a sandy soil and let water pass almost straight through.

Perlite and vermiculite are materials which are used as soil amendments and both are minerals that are made more porous by expanding them with heat, much like popcorn. Because they have large air spaces within them, they are used to increase the drainage and aeration in potting mixes. Perlite mainly increases drainage while vermiculite will also hold some moisture and help retain nutrients too. Mixing either of these amendment materials right through a potting mix will increase aeration, improve drainage and reduce the height of the perched water table.

Hydroponic systems also use perlite as a potting medium, or 'clay balls', which are, in fact, clay-coated pumice balls which are very porous and weigh almost nothing. These growing media have large air spaces both inside and between the particles so they drain extremely well, but hold enough water to keep the roots moist.

We can see that the common practice in horticulture to increase drainage in pots and containers is to alter the composition of the potting medium to increase the air spaces within it, and not by making changes to the space beneath the pot.



***Puya berteroniana***

(Reprinted from the San Diego Bromeliad Society's Home Page)P