



BROMELIAD SOCIETY OF GREATER CHICAGO

THE BSGC NEWS

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Lori Weigerding

We have a long break from our meetings. The next one is February 14th. Mark it on your 2016 calendar. Hope your bromeliads do well this winter.

President's Column

Well we had a nice time at our visit to the Chalet Nursery. It's always interesting to learn something about how things are done and new information about the care of our plants.

I hope everyone had a safe and wonderful Thanksgiving! We certainly did, we went to our son's house for dinner and then I watched Liyah while her parents went shopping.

We have some things to decide on and think about. The first thing is does anyone want to run for any of the offices – President, vice president, secretary, or treasurer, besides those that already hold those offices? As you know the secretary position is vacant at this time. The second item is that the Garden will not allow us to have our show there next year unless we find someone to do it with. They said that we didn't make good use of the room. So we need to find some where else to hold our show.

We'll be having our next meeting in February 2016. I'll be showing something from a DVD and we'll be discussing what we're going to do for the future. If you have any ideas in the mean time that you wish to share please forward them to Martha and me.

Wishing you and yours a wonderful and safe Christmas and holidays.

Lori Weigerding

We have had some contributions for this newsletter. Anne sent the following from Dennis Cathcart about the role of roots in epiphytic plants.

From Dennis Cathcart of Tropiflora: his weekly column, dated 11/9/2015

The Root of the Matter

Roots, no one can dispute the importance of roots. What would a tree be without them? We eat roots, use them in medicine and extract industrial chemicals from them. Roots by their very nature evoke strength, stability, and tenacity and have inspired us to adapt the term 'roots' into our daily language. While money may be 'the root of all evil' and it is important to get to 'the root of the problem', on the positive side most of our lives are 'rooted in faith'. Heaven knows that to be a rootless drifter goes against our sense of security, and we therefore advise our children and fellow man to 'put down roots'.

So what does all this root talk have to do with plants? Nothing much actually, it only serves to point out the importance that people put on roots, but what of plants? Aren't roots at least equally important to plants? The answer of course is yes. However, not all plants! When one begins to speak of epiphytic and lithophytic plants, we begin to enter the 'Twilight Zone' of our preconceived notions about roots.

Surprisingly, people who collect or grow bromeliads, orchids and other epiphytic plants often draw the line when it comes to treating them like real epiphytes. The very idea that roots without soil can function at all seems to cause severe doubt. However one need only look at these amazing plants in their natural habitats to learn to appreciate the genius of their design, one that has allowed almost 10% of all plants on Earth to adapt to some sort of epiphytism and tropical forest can have up to 30% of their plants growing as epiphytes. In all, some 84 plant families have adapted some or all of their members to an epiphytic lifestyle. No, we won't name them all, but in order of relative abundance, here are a few of the top families in the epiphyte hierarchy: Orchids; two out of three are canopy epiphytes. Ferns; a surprising 29% of ferns are found in forest canopies. The Araceae, such as Anthurium and Philodendron, contains many epiphytic members and among the Bromeliaceae, fully half of its members are epiphytic.

Most epiphytic plants are monocots, but dicots are also well represented. Other plant families with strong tendencies towards epiphytism are the Cactaceae (cactus), Ericaceae (Blueberry family), Gesneriaceae, Melastomataceae and Piperaceae. There are even some surprises; for instance, *Zamia pseudoparisitica* a rather large Cycad from Panama, grows only as an epiphyte. Its large seeds, distributed by birds, amazingly take hold rapidly in what would seem an extremely hostile environment for such a plant. The mechanics of seed dispersal among epiphytes is truly amazing, but we are now wandering precariously away from the root of our story.

Roots of non-epiphytic plants serve the purpose of holding the plant upright or in place and providing moisture and food to the rest of the organism. These 'normal' plants have roots that do not have the ability to regulate water loss to prevent desiccation when water is scarce. They will take up water whenever it is present, and shed water when it is not. To this end, non-epiphytes have developed several strategies to reduce water loss in dry or other stressful situations. Foliage drop is perhaps the most common and conspicuous method, followed by root loss. Tap roots often form large caudices or storage organs which serve to regenerate previously shed roots and foliage, when drought conditions abate.

But what of epiphytes? These plants face all of the same stress factors as terrestrial plants, perhaps even more. While most epiphytic plants occur in pluvial or very wet forests where conditions are pretty much the same year-round, providing abundant moisture and moderate temperatures, some epiphytes are to be found in xeric habitats as well. All these plants have a common need to be held in place, gather food and moisture and to reproduce and disperse seed. It is hard to imagine a less hospitable place than the canopy of a tree for the support of a plant. Far away from soils and their incumbent moisture and stability, these plants have developed mechanisms to attach themselves and take up precious water and nutrients. So then it might be safe to assume that a plant, if not earth bound, is an epiphyte and therefore must have the same survival techniques from one type of epiphytic plant to another. Not so. Many plants living in the forest canopy are growing almost a terrestrial existence, rooting into densely matted layers of mosses, the roots of other plants and detritus where moisture levels are more or less constant. These are often referred to as 'continuously supplied epiphytes'. However, most epiphytic plants live in places where water may be available only seasonally and



Zamia pseudoparasitica

<http://plantnet.rbgsyd.nsw.gov.au/cgi-bin/cy cadpg?taxname=Zamia+pseudoparasitica>

some ability to survive prolonged periods without a fresh supply is essential to their continued survival, these are referred to as 'pulse supplied epiphytes'. Their adaptation to epiphytism is varied, but most have at least some ability to limit water loss or to store water for future use. Some epiphytes, such as Cycads, Ericads, and some members of the Rubiaceae, form a caudex for water and food storage. Other plants, such as cactus and gesneriads are stem succulents, a group that many orchids fall into as well. Then there is external storage means

by which some plants are able to survive drought. Tank type bromeliads are an example. These plants have water retaining vase or bowl-like shapes that stores sometimes large volumes of water. Trichomes or peltate scales that resemble hairs on the leaf surfaces can avail the plant to this water source, even during times of little rainfall. Some aroids and orchids are known as 'trash basket' epiphytes. Forming a network of aerial, non attachment roots to form a 'basket' that effectively catches leaves and other debris from the host tree. This debris becomes compost and a source of moisture and nutrients.

Some epiphytes fall into the group called facultative epiphytes, having the ability to survive as a terrestrial or adapt to life as an epiphyte. Many of the more mesic bromeliads such as *Neoregelia*, *Aechmea*, etc., fall into this category. But, perhaps the most interesting of the epiphytic plants are the xerophytes, those adapted to life in the most inhospitable of environments, where water is a scarce and occasional commodity. Such plants have developed means to both avoid and endure drought conditions.

Not surprisingly, given the general diversity of plant families involved, these plants have developed some different strategies for survival in xeric habitats. Orchids tend to depend upon their root systems for holdfasts as well as water and nutrient gathering, even photosynthesis in

some cases. The roots of orchids and some other plants like Anthuriums are covered with a spongy material called velamen, a structure that can vary from one cell to many cells thick. In species that photosynthesize with their roots (an adaptation unique to epiphytes) the velamen layer must necessarily be thinner. The velamen helps prevent transpiratory loss of moisture from the root surface while serving as a storage organ. The velamen itself is non living tissue filled with fissures and channels and does not shrink or expand appreciably when either wet or dry. Velamen can play host to mycorrhizal fungi, which may aid some orchids with nutrient fixation. Rapid uptake and retention of water is essential in xeric epiphytes and to this end the velamen works very well. It instantly absorbs water, quickly filling all of its internal cavities to capacity by capillary action, then retaining it for later take up by the root's transfer cells.

Orchids in general are wholly dependent on their root systems. There is little doubt that a healthy root system is essential to the health and survival of orchids. In fact, some orchids have abandoned their foliage and stems in favor of a leafless existence, carrying their chlorophyll in their root systems. But what of bromeliads? As epiphytes and xerophytes sharing much of the same habitat as orchids, they share the same stress factors but answer them in different ways.

Xerophytic bromeliads, notably Tillandsias, use their roots primarily as holdfasts. Wire-like roots are tough and lack a covering of velamen like that found in orchids. To gather and retain moisture these plants have highly developed trichomes or peltate scales on their leaves which act as does the velamen, to instantly capture and store water. The water is trapped in storage tissue and absorbed through specially adapted one way cells. Contrary to the leafless orchids, bromeliads are wholly dependent upon their leaves. So it is of no surprise that as there are leafless orchids, so there are rootless bromeliads. *Tillandsia usneoides* the



Tillandsia duratii
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ubiquitous 'Spanish Moss' is the most common example, but there are many more. All of the 'rootless' Tillandsias produce roots in their seedling stage and then abandon them with maturity. Many such rootless species are lithophytes, living among boulders on stony ground, but there are some epiphytic ones as well, aside from Tillandsia usneoides. One good example is Tillandsia duratii which as a rootless epiphyte uses its leaves as tendrils to grasp and hold twigs to prevent it from dislodging, replacing the roots for this purpose.

A common misconception about epiphytes is their presumed ability to absorb moisture directly from the air. Tillandsias especially are often called 'air plants', fostering the notion that they do not need direct contact with water. Water vapor (humidity) will help epiphytes reduce their moisture transpiration but will not be absorbed by them. Direct wetting by fogs, rain or artificial means in cultivation, is essential to their survival as they can only absorb liquid water.



Look at the SIZE of that inflorescence!
Jack Reilly's Billbergia rosea

Epiphytes and lithophytes are the cutting edge of plant evolution. Their ability to thrive where most other plants cannot, on the fringes of survivability, has allowed these remarkable plants to evolve into many fabulous forms, often with spectacular foliage and blooms. Each species adapts to its environment and answers the challenges of survival in its own unique way. And all of this without a single brain cell!

Tropiflora has many bromeliads for the collector (and regular people too). **Their website is www.tropiflora.com**

On Oct. 18th, Jack Reilly sent some pictures of his blooming Billbergia rosea. If you have any blooming bromeliads, we would be happy to put them in our newsletter.

This fall our daughter went to Omaha, Nebraska and saw bromeliads at the zoo there. If there are any places you have gone that have bromeliads, we would love for you to share them.



In the Nov/Dec. 2015 Southeast Michigan Bromeliad Society there was a good article on pests by Paul Wingert and an addendum by Pen Goff.

Growing Concerns: When Bugs Attack!

by Paul Wingert

(reprinted from SEMBS NovDec2005)

Pen challenged me to write about possible problems that face bromeliad growers here in Michigan during the winter months. This issue we'll face the problem of insects. The most obvious danger is always the possibility of an infestation of scale. This especially applies to growers like me who take their plants outside during the summer months. I try to spray with a systemic insecticide before bringing the plants in for the winter, but there's always the chance that an infected plant or two get missed. I regularly groom my plants to remove old and dying leaves (at least every two months). That's always a good time to be on the look out for signs of scale. While you may see them anywhere on the plant, they seem particularly fond of hiding in the outer leaf axils. If the manifestation is small, you might be able to eliminate it by rubbing off the offenders with your fingers. Just to be on the safe side, though, I spray suspect plants with an insecticidal soap

such as Safer's™. I try to avoid using harsher chemicals in the greenhouse. I know some growers who use rubbing alcohol and either spray it directly on the plant or dip a cotton swab in alcohol and apply it that way. Keep an eye on any treated plants for possible follow up treatment in 10-14 days. There's always the chance that some eggs or young crawlers got missed in the primary treatment. Most of the species of scale we encounter here in Michigan seem to be fairly selective. I rarely find scale running rampant throughout the collection, but I find certain species to be "scale magnets." For instance, I've had *Tillandsia deppeana* in my collection for thirty years now. I find myself treating it for scale every year or two. *Vriesea saundersii* is another species I keep a close eye on. Occasionally I find a severe outbreak on a *Dyckia* or two. I'll admit I'm a bit less fastidious in grooming the *Dyckias*, since that can be a pain (literally!). Most of the bromeliads in my collection are rarely, if ever, bothered by any scale. We don't often think of mealy bugs as a bromeliad pest. Some inflorescences produce nectar in the flowers, or sugar in the berries that are an attractive food source for mealy bugs. More rarely I see them crawling on the leaves of a plant. In any case I find them easier to control than scale by using either of the methods described above. The most insidious and aggressive bromeliad scale is the "fly-speck" scale. Plants that are seriously infested will look as though somebody has liberally applied black pepper with a pepper grinder.

I have seen collections in Florida where it has run rampant. Fortunately, most commercial growers (and hobbyists) keep a keen eye out for this pest, and treat it quickly and aggressively to eradicate it. I have rarely seen it in Michigan collections.

The last—and by far the most destructive bromeliad pest—is the Mexican bromeliad weevil (*Metamasius callizona*—aka "the evil weevil"). It was accidentally introduced to Florida from Mexico about twenty years ago. It has ravaged wild bromeliad populations throughout the state. It has spread to cultivated plantings as well. I have seen whole beds of cultivated *Dyckias* ravaged in just a few months by a serious infestation. Unfortunately, the first sign of damage usually occurs when a bromeliad collapses and dies, as the plant is eaten from the inside out. Many species and hybrids are at risk of attack from this nasty predator. On the positive side, growers are extremely aware of the problem. Inside shadehouses, greenhouses, lanais—even outdoors—periodic spraying with a chemical such as *Sevin*™ seems to give good control. So far I have not heard of any occurrence of this nasty weevil in Michigan.

An Addendum on Bugs with Illustrations of Things You Cannot Find in Paul Wingert's Greenhouse by the Editor, Who Has His Sources

On the right are brown circles which are young scales.



As they grow older the circle rises to form a hump which becomes blackish. These scales can easily be rubbed away with one's finger.



From SEMBS newsletter

Above is a well established community of mealy bugs and their cottony egg masses. This infestation is on a billbergia leaf. **An important point to bear in mind: Healthy plants are far less likely to be attacked than plants under stress.** A healthy plant can grow beside an infested one and be completely unaffected (but don't bank on that).

A most insidious pest (which Paul doesn't have) is the spider mite. It is spider related (i.e. arachnid) and tinier than a pinhead. Usually black but may also

be green or red, they are found on the undersides of plant leaves. They are called spider mites because of the fine webbing with which they cover the leaf surface (their highway system). By the time you notice them scurrying back and forth on the webbing they have already done considerable damage, sucking plant cell contents out of the cells one by one. This causes silver and brown patches on the upper leaf surface because the cells are empty and dead. If you see fine black dots underneath the leaves, dots which can be brushed aside with your finger, you have spider mites. Another test is to tap the suspected leaf above a piece of white paper. If black dots fall to the paper, go get the Safer's™ Soap. Spider mites flourish at high temperatures and low humidity so especially in winter houseplants are at high risk. I would never grow a rose in the house without a can of spray sitting beside it. Among bromeliads, the plants at risk are all the soft leaved vrieseas, guzmanias, tillandsias (not the "airplants"), and others with soft green leaves. Since many bromeliads grow relatively few leaves, they can ill afford spider mite damage. And of course it makes them unattractive. Bromeliads are relatively pest-free but they do need to be checked regularly. (By Pen Goff)

I receive the Boyce Thompson Arboretum magazine. In the most recent issue there was an article on the Monte and Chaco regions of Argentina. Matt Johnson from the University of Arizona in Tucson had gone on an expedition there. He noted that in the rugged Sierra Del Velasco that there were forests of *Echinopsis terscheckii* (*Trichocereus terscheckii*). The slopes were covered with masses of spiny terrestrial bromeliads, *Dyckia* and *Deuterocohnia*. There were also three species of epiphytic *Tillandsia* including *Tillandsia duratii* which was growing on *Echinopsis terscheckii*. When growing our plants, it is always helpful to know their native habitat. In the August 2015 newsletter of the New Zealand Society, Andrew Devonshire wrote the following article.

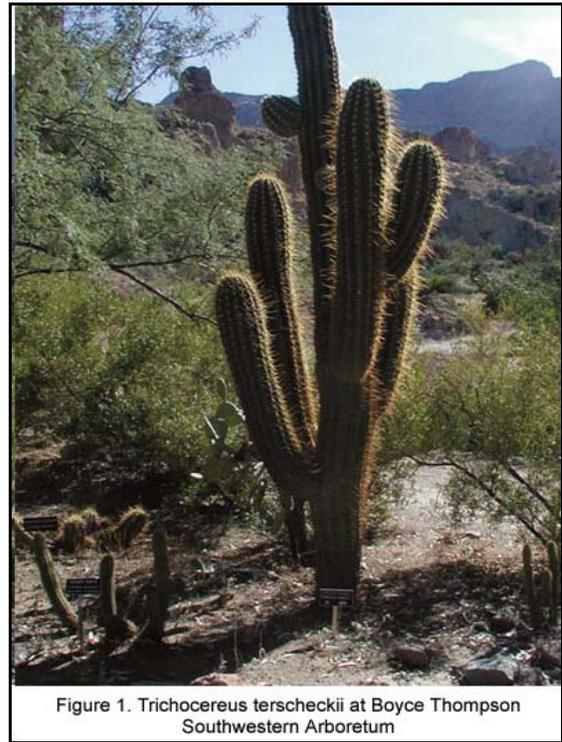


Figure 1. *Trichocereus terscheckii* at Boyce Thompson Southwestern Arboretum

Photo by Kevin Barber and Mark Dimmitt

Learning about the genera :

Dyckia and Deuterocohnia

– Article and photos by Andrew Devonshire

Dyckia and Deuterocohnia are genera from the subfamily Pitcairnioideae. They are both considered terrestrial bromeliads, meaning that they are designed to grow on the ground where their extensive root systems can run free.

Dyckia:

Dyckia (pronounced dick' ea) grows mainly in Brazil with some being found in Uruguay, Paraguay, Argentina, and Bolivia. They prefer sunny, rocky terrain and range in altitudes from sea level to 2000 meters. The genus is named after the Prussian botanist, botanical artist and horticulturist The Prince and Earl of Salm Reifferscheid-Dyck.

Succulents and dyckias are often confused as they can look superficially similar. Dyckias can survive long periods without water by going dormant, but their rosette of leaves will eventually wilt as they have no internal water storage tissue like true succulents.

Well known for their sharp spines, dyckias are often referred to as 'spikies', or 'spinies'. While many species do have very sharp spines...sharp enough to draw blood, there are species that have softer, plastic-like spines that can be quite decorative, leading to their popularity in cultivation.

Dyckias typically grow in a tight rosette and will eventually develop into large clumps formed of masses of individual plants. There are currently over 120 recognised species, with recent discoveries still awaiting description. They come in a range of colours from shades of red, green, yellow and silver with sizes ranging from under 10cm to over 1 metre.

When mature, dyckias will produce tall flower spikes that tower well above



Dyckia 'Aotearoa' a Dyckia marnierlapostollei type plant
From Bromeliad Journal of the Bromeliad Society of New Zealand Inc.

the foliage. The flowers are typically small, but come in colours of oranges, reds, and yellows, often so bright that they appear to glow. As the flower spikes are not produced from the centre of the plant (like most other bromeliads), the mother plant does not die after flowering, so it continues to grow and flower year after year.



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Dyckia 'Yellow Glow'

Dyckias are extremely well suited to cultivation, provided their key requirements can be met. Select a larger sized pot than you would for say a similar sized neoregelia, and use a free draining mix. Over winter they are best kept on the dry side, however during summer they will take as much water as they can get. Many growers actually sit their pots in trays of water during the summer growing season. Grow the plants in a full sun situation and give them generous applications of fertiliser.

Propagation is typically from pups and many species are quite prolific. Pups can be difficult to remove due to the mother's rosette of leaves, especially if it is a variety with sharp spines! Pup removal is best performed with the plant removed from its pot. Come in from under the plant and carefully lever off the pups, one by one. Some species will produce multiple rosettes; These are typically split into

two,

before clumping and splitting again, thereby spreading out and forming large colonies. These rosettes can be divided, however this process is not for the faint hearted, as it will require stout gloves and a good pruning saw to cut through their woody base.

Dyckia brevifolia is an attractive species with wide green leaves. It typically grows on rocks close to running water. Its roots will take hold in the rock crevices, allowing it to remain attached during times of flood and the plant can actually survive for weeks being totally submerged. Bright yellow flowers are produced during summer. A very sought after clone is Dyckia 'Yellow Glow'. It produces a bright yellow rosette of central leaves creating a unique eye catching display.

Dyckia fosteriana can be found in a range of sizes and colours from red to silver. The typical form has a compact rosette of thin leaves that curve down creating a ball-like effect. They form clumps by division and will soon develop into a large mass of rosettes. *Dyckia fosteriana* is popular in collections and it has been used extensively in hybridising.



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Dyckia marnier-lapostollei

Dyckia marnier-lapostollei is one of the most recognisable of the species. It has wide recurved leaves that are covered in trichomes, giving it the appearance of being dusted in silver. These trichomes can be washed off by the rain or when watering. To keep them looking their best, give them protection from the rain and water from below. This species is sensitive to the cold, so keep that in mind when selecting where to grow them. As their rosettes do not divide, they grow to form impressive specimen plants that deserve a

place in any bromeliad collection.

Dyckia platyphylla is a species with broad leaves that shares similarities with both *Dyckia brevifolia* and *Dyckia marnier-lapostollei*. This has led to the theory that it could actually be a natural hybrid.

Dyckia remotiflora has a very wide range and is often found growing in sandy soil where its long stolons can spread. It is a smaller sized plant with thin green leaves and few spines. *Remotiflora* is Latin for few blooms.

Deuterocohnia:

Deuterocohnia is a diverse genus, with some 12 species that can be found in Argentina, Bolivia, Brazil, Chile and Peru. The genus is named for the German botanist Ferdinand Julius Cohn and as there was already a genus named *Cohnia*, they added the prefix 'deutero' to show that it was a second genus named after Ferdinand Cohn.

Many have a resemblance to dyckias, as they have a similar rosette form with heavily spined leaf margins. Others are clump-forming and typically smaller. These distinctive smaller species were once described as belonging to the genus *Abromeitiella*, however they were re-evaluated and classified within *Deuterocohnia* following DNA analysis.

In cultivation, they will respond well when treated in a similar way to dyckias. The smaller forms do very well planted in a garden situation where they

can receive full sun and plenty of water during the summer. They are very cold tolerant and will soon develop into an attractive dense cushion of plants making a stunning display, ideally suited for the edges of garden beds. Division is the best way to propagate these clumping forms, however make sure each division has its own root system as unrooted sections are notoriously difficult to get established.

Deuterocohnia brevifolia appears to be a variable species, with some featuring rosette of up to 3cm, while others can reach up to 6cm. The rosettes will multiply and grow into a large mound over time. Small, inconspicuous tubular apple-green flowers are produced during summer.

Deuterocohnia ‘Chlorantha’ was known as a subspecies of *brevifolia*, but has recently been given cultivar status (See BCR registration document 7/2014 D Butcher). This distinctive plant forms masses of rosettes at just 2cm in diameter with each one dusted in trichomes. The plant makes a popular display for bromeliad shows, where its eye catching habit of growing into large mounds can be seen to full advantage.



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Deuterocohnia ‘Chlorantha’



www.fcbs.org Deuterocohnia lotteae

Deuterocohnia lotteae is very similar to *brevifolia*, but can be identified when it flowers, as the flowers have a distinct reddish colouration. Coromandel Cacti have been selling these for a few years, so any clumping deuterocohnia (*abromeitiella*) purchased from them will be tagged as this species.

Deuterocohnia longipetala is a larger species with wide green leaves, giving it a resemblance to *dycckias*. It develops a tall flower spike with distinctive bright yellow flowers.

Deuterocohnia abstrusa (was *lorentziana*) occurs in the typical green form and a very attractive silver form. This species has had a recent name change as Andy Siekkinnen states in a recent article for the San Diego Bromeliad Society... 'There was recently a dissertation on the genus *Deuterocohnia* published by German researcher, Nicole Schütz. She studied all known publications and existing herbarium records of the genus. In her work she discovered that the specific epithet (species name) '*lorentziana*' was first applied to a plant that is really *Deuterocohnia brevifolia*. Since the first published name has priority the name *lorentziana* becomes invalid, so this species should now be known as *Deuterocohnia abstrusa*'. Reference: The Bromeliad Blade; Newsletter of the San Diego Bromeliad Society March 2015.

Steve and I went to the Carefree Art Show. One of the exhibitors was Jerry Locke. His tillandsias are displayed on his rock art. He purchases his tillandsias from Tillandsia International which is wholesale only. They have an interesting Air Plant Art section on their website www.airplant.com



Jerry Locke's Art

From the distant past we have this advice from an article by Victoria Padilla which was in the December 1959, No. 6 Bromeliad Society Bulletin.

Your Greenhouse in Winter Victoria Padilla

Some Do's and Don't's for the Beginner

Do see to it that your bromeliads get sufficient Light during the dark days of winter. If the glass of your house is heavily coated. Scrape off some of the paint. With the exception of Florida and Southern California, most winter days are so gloomy that the light reading is very low. Bromeliads are air plants, and most of them will take more light than the average person realizes. Give them all they will take-just this side of burning.

Don't overwater your plants-especially those which stay outdoors. Bromeliads will take a surprisingly low temperature, but only if they are dry.

Don't let your house get too dry, however. Try to maintain a temperature and a humidity reading that are about equal.



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Do spend this time, which for some plants is not a period of active growth, in cleaning your house and plants. Before the onset of the very cold weather, give the house (ED. Note- **GREENHOUSE**) a good fumigation. If your plants show an infestation of scale, two fumigations, a week or two apart might be necessary. Parathion is deadly but is very effective and is not harmful to plants. However, it must be administered with care. At the beginning of spring, another fumigation is recommended, and then usually you can sit back contentedly and know that your plants are clean and will remain so at least until fall.

Don't stop your fertilizing program. Some bromeliads never stop growing, and if they are planted in a bark of some kind which contains no nutriment, they need the added boost which a good liquid fertilizer will give them. If your water is on the alkaline side, a small amount of liquid fertilizer in the water will tend to counteract the effect of the salts.

Do look for blooming spikes on such plants as *Aechmea* "Foster's Favorite," *Aechmea victoriana*, *Aechmea racinae*, *Aechmea pineliana*, *Aechmea weilbachii*, and *Aechmea orlandiana*. A number of *Billbergias* also come into flower at this season, among them being *Billbergia lietzei*, *Billbergia iridifolia concolor*, and *Billbergia vittata*.

Do listen to the weatherman if you grow any bromeliads in te garden. They don't mind a low of 45° F., but will not be too happy if the thermometer gets into the low thirties and twenties.

Do order those catalogues which feature bromeliads. They make fascinating reading for the long, cold winter evenings and will help you plan for the plants which you wish to add to your collection.

Editors note:

Because of its high toxicity and risks of exposure to agricultural workers and to birds, and in response to the manufacturers' request, EPA in January 1992 announced the cancellation of all uses of parathion on fruit, nut and vegetable crops. The only uses retained are those on alfalfa, barley, corn, cotton, sorghum, soybeans, sunflowers and wheat. Further, to reduce exposure of agricultural workers, parathion may be applied to these crops only by commercially certified aerial applicators and treated crops may not be harvested by hand. EPA intends to cancel all uses of parathion in the near future.

So you can't get Parathion at your local greenhouse supply shop. Remember that this article was published in 1959!

<http://pmep.cce.cornell.edu/profiles/extoxnet/metiram-propoxur/parathion-ext.htm>



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