Plants of the Month– September

Advanced Winner and Placings

1st Len and Sheryl Waite's *Reccurvarta "Zeta"*

Article on the
Olive Grove visit

2nd Len and Sheryl Waite's *Neoregelia "Criss Cross"*

Novice winner and placings

1st Belinda Tilton's *Vriesea gigantea "nova"*

2nd Belinda Tilton's Vriesea "Ro Ro "

Potting mix is still available in 25L bags for $4.oo.
Contact Lou and Ardie Baker on 5494 8426

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Glasshouse Country Bromeliad Society Newsletter

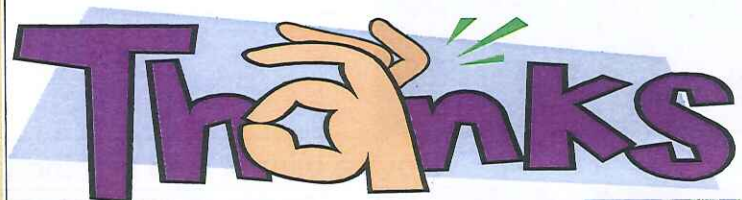
Volume 3 Issue 14 October 2010

Inside!

Glasshouse Country News are pleased to be able to support the Glasshouse Country Bromeliad Society in their publication.

Bob Brereton
will feature in
our next issue

September saw the annual general election for office bearers. Welcome to the newly elected office bearers, President Len Waite. Vice President Bob Brereton & Treasurer Geoff Tilton. Len takes over as president from Bob McLean. Geoff inherits the position of treasurer from David Binstead. Both Bob and David have stood aside from official duties this year but have indicated their willingness to assist the club and the management committee in any capacity. No doubt your offer will be accepted sooner than later.



Bob and David, for everything you have done in guiding the club and keeping it on an even keel. Well done.

Plants of the Month—August

Advanced winner and placings

1st **Len and Sheryl Waite's** *Aechmea Zeta*

2nd **Len and Sheryl Waite's** *Billbergia Tarentella*

3rd **Lou Baker's** *Neoregelia Johannes De Rolf*

Novice winner and placings

1st **Pat Pennell's** *Neoregelia Treasure Chest*

2nd **Mark Pearce's** *Neoregelia Pauciflora*

Do you recommend any particular spray treatment?
For the wet season I spray once a week. I have written of my aversion to insecticide sprays in the environment, the spray I use is my own formula, it does not contain harmful insecticides. I mix together 50m1 Alginox, 50m1 vinegar and l00ml of kerosene shaken to make an emulsion and made up to 5 litres with water. The kerosene is used only at swarming times. I walk around and spray the plants at dusk - 5 litres covers a thousand plants. If I have too much on the leaves of delicate plants I water these plants half an hour later, time enough for wrigglers to go beyond the point of no return on the health charts. This dilute emulsified kerosene, presumably because of the oil in water emulsion formed, does not appear to damage the plants like kerosene or kerosene based sprays do. Do not be tempted to try commercial white oil. Kerosene has a low boiling point and hence higher vapour pressure and does not hang around like the damaging white oil.

If I add kerosene to the spray, how long should I leave it on delicate plants?
If you have delicate plants with soft new leaf, wash off 15 minutes after spraying. My studies have shown that large wrigglers die quickly but minute ones can survive 15 minutes under the spray in well-oxygenated water. Probably something to do with thinner skin and larger surface area to body weight of the smaller wrigglers.

How does the spray work?
The kerosene stays only long enough to smother the wrigglers. The Alginox is surfactant, which would lyse and destroy eggs. It would also change the surface tension of the water which might cause landing mosquitos to get wet and sink, and also make it impossible for hatching mosquitos to escape from the surface. The vinegar changes the pH of the vase water killing the larvae.

What is the easiest way to check for mosquitos?
Tip the water into a white bucket is the surest method, a white bucket will show the smallest wriggler. Should this method be impossible or even impracticable then try the battery acid tester to sample the water. Check for surfacing wrigglers looking for air after the spray treatment. Use a torch at night. All these methods will work for you.

When/where am I most likely to find mosquitos in my bromeliads?
Flowering neoregelias, these have rotting flowers in the vase supplying food for the predators as well as the mosquitos, and they release carbon dioxide as the old flower ferments. Mosquitos are attracted to water, flesh tones, heat, and carbon dioxide. Flowered neoregelias score 3 out of 4. Shaded plants also attract mosquitos. Very rarely do I see a mosquito hatching of any size - the worst offenders in my collection are neoregelias, frequently offending, but not big hatchings unless their water is putrid. Screwing out the spent flower removes the food source and also cleans up the plant's vase.

What else can I do?
When you are sitting in your garden amongst your broms having a coffee and a cigarette just drop your coffee swill and your butts into the broms. The caffeine and nicotine will kill just about everything in the animal kingdom including your pet dog!

Before signing off I should point out two things. I will probably change the recommended amounts in sprays in the future as experiments need a lot of time and patience. I wish to get the Alginox as low as possible as it could harm frogs and it wipes out the desirable algae and spirogyra. The spray does not seem to worry the midges and I do not yet know what it does to the Mesocyclops.

The second thing is probably obvious now, and that is, the predator method and the spray method cannot be carried out concurrently. The spray kills the algae spirogyra.

In conclusion, if you use insecticide, observe closely as in some areas of the world there are mosquitos now immune to all known insecticides. It is happening here to a degree. If I am right, the next step would be to develop chemical resistant organisms and then use integrated pest management.

http://fcbs.org/

What are Mesocyclops?

Mesocyclops are found in the bromeliads with clearer water. These have only recently been discovered as a mosquito predator by Dr. Michael Brown working at the Queensland Institute of Medical Research. They are very small and just visible to the naked eye. They zig and zag about often carrying two large egg sacks. Several researchers are using these creatures to study mosquito breeding in mine shafts and water tanks. These fellows keep my bromeliads free of mosquitos right through the year up until the heat and heavy rains of summer. They are now gone, dead or washed out of my bromeliads. They do not like putrid conditions and do best in clearer waters in cooler conditions, however they can be replaced after the heat of summer. (Uncle Derek says they look like very miniature Mitsubishi logos if you clean your bifocals)

Where can I get the predators?

Up here in Townsville one looks for a pond that has no fish or tadpoles and as yet no wrigglers. It (the pond) is under predator control if it has not been sprayed. I brought the water home from two ponds and set up my own tubs in the yard. I have never had to top it up, but I do watch that my ponds do not get too hot or polluted. Midges have come to the ponds of their own accord and can be found in most neglected collections up here.

Are there any other predators?

Blood worms, these little creatures are small red aquatic worms which multiply via some weird divisionary process. They hatch into non-biting midges. These appear to be predators only in the sense that they can kill wrigglers, I have never seen them eat the wrigglers, though some midges can be carnivorous. While I was ill I set up glasses of possible predators around the bed, I had time to observe these creatures. Using wine glasses to simulate bromeliads, wrigglers came down to the bottom where the worms were concentrated. Anything touching the worm was wrapped in a ball of worm. These worms do not hunt. I found them in old neglected billbergias on the trees, they concentrate at the bottom of the vase, they are unusual creatures in that they can survive in putrid conditions. Their red colour is due to their possessing haemoglobin like ours. This concentrates the oxygen in their bodies, and is apparently very rare in insects.

Spirogyra, this is a filamentous algae found in ponds. When healthy, this collects bubbles and floats to the surface of the bromeliads and eventually becomes impenetrable to the wriggler, which subsequently drowns. Unfortunately, it can hook on to the spines and be carried out of the water. It then bleaches and looks ugly so you must be prepared to push it back into the water.

Bladder-worts, I have read about these as being mosquito traps in wild bromeliads (in habitat). The first one appeared in my *Neoregelia burle-marxii*. Maybe it was imported with the plant? When the plant was small, mosquitos appeared, I guess it was trapping and eating my Mesocyclops. Now the plant is larger mosquitos are not present. It may be useful, it's early days yet.

How do I treat my bromeliads to minimise mosquitos?

For the dry season and incidentally the cooler season, they are totally under predator control. I rarely find a single mosquito during this period. Spirogyra is best, Mesocyclops are very efficient but so small you do not know they have died until you find mosquitos. (Continued page 7)

What's On When

October 3. Monthly meeting Ardie & Lou Baker's residence 7Gwen Court Landsborough 2.oo. pm.

October 9-10. Bromeliad Extravaganza: Wavell Heights Community Hall
175 Edinburg Castle Road Wavell Heights.

October 23. Bustrip to 4 gardens in South Brisbane. Contact Sheryl Waite 54967795.

October 23. Gold Coast Succulent & Bromeliad Annual Show. Carrara Community Hall. Nielsens Road Carrara. *Huge range of bromeliads and succulents on display and sale. $2.00 entry.*

November 7. Monthly meeting. Belinda & Geoff Tilton's residence 160 Glenview Road Palmview. 2.oo. pm.

December 4. Monthly meeting & Christmas party. Mary McKillop Centre. Peachester Road Beerwah.
Time to be advised. BYO drinks. Bring a plate

April 7th-10th 2011. 16th AUSTRALASIAN Bromeliad Conference. *Darwin N.T. Registration Fee (early bird $220.00 if paid before 31 October 2010). Registration forms, newsletters and further information can be downloaded from www.bromsonarafura.com*

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President's Message

Many thanks to the members who have put their trust in myself and my support team to guide us through the next year. I am sure with the help from Bob Brereton, Pat Tennant, Geoff Tilton and our Committee, we will do our best to make this society a place you want to be part of. My first task is to thank our past President Bob Mclean for his dedication and leadership for the last two years. These are going to be big shoes to fill, but I am sure I will be able to call on him if the need arises as he has become my friend in his time at the helm. I am not going to name any more names because I will forget somebody, but you know in yourselves if you did your bit to help in the past year. Thank you one and all.

With the new beginning to a new year my aims will be:

(1) Making meetings meaningful.

(2) Needing input and ideas from all members.

(3) Making myself available to listen to anybody at any time.

(4) Grow together for the health of plants for the future.

(5) Last but not least to keep my lovely wife on side at least some of the time. I will win on that front someday

Management Committee Officers.

President: Len Waite Vice President: Bob Brereton Secretary: Pat Tennant
Treasurer: Geoff Tilton

Committee members:

Newsletter Editor Bob Watkins.

Librarian: Vanessa Pilarski

Raffles : Kay Knotman

Plant of the Month: Ann Cormack

Trip Coordinator Sheryl Waite

Catering Team Ardie Baker. Belinda Tilton.

Newsletter Editorial Committee : Bob Watkins, Pat Pennell ,

To Get In Touch:

Phone Pat on 54941761 or address mail to P.O. Box 424 Glasshouse Mountains 4518

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Len's Timely Tips

(1) Support your newsletter team which comprises of Bob Watkins and Pat Pennell. Without their hard work and dedication we would not have a newsletter of the standard that we can be proud of.

(2) If nobody supplies articles for the newsletter they have to find something to fill the empty spaces. A little article, maybe on how you got started in your fascination of bromeliads, will help.

(3) A photo of one of your favourite plants coming into flower. Maybe take photos over several weeks from when it starts to spike to full flowering.

(4) Maybe a photo of one of your plants that didn't do what it was supposed to do and ask why.

(5) Support your newsletter. It is the lynch pin of our society. Its yours and mine.

Cheers
Waitey

Your contribution to our newsletter can be sent to: bobwatkins69 @ yahoo.com.au
or call 0418 782 538 and we will pick it up from you.

Contribuutors to this Issue: **Rob Smythe. M.Sc.** (Bromeliads and Mosquitos)

Thank You

The newsletter editorial committee would like to say a big thank you to Margaret von Konigsmark for her tireless efforts in being the mainstay for the production of the newsletter over the past two years.

Margaret's ability in transferring the lovely coloured photographs onto the computer and her ability with the publishing programme was an inspiration to all of us. Margaret has decided not to continue on the editorial committee in the forthcoming year,

Thank you Margaret.

Introduction by Derek Butcher

Let me as Uncle Derek introduce Rob Smythe to you. He has grown Orchids and Bromeliads for many years and lives in Townsville, Queensland, on relatively high ground but close to a swampy area. After heavy rains, mosquitos are the first to exploit this new environment and come from the swamps in swarms but Rob seemed to fare better than his neighbours.

Townsville is also the place where Ross River Fever was first detected and which is also mosquito borne. This gives Townsville a certain notoriety. However most cases of this fever occur some 1000kms to the south! Perhaps they don't grow bromeliads there!

So Rob had a battle on his hands as the following will show. This dreaded fever is more debilitating than fatal but is discussed here in dry old Adelaide. I find it interesting that I seem to get less mosquitos now that I grow bromeliads than when my garden was full of cactus! One would expect Brazil, the home of many of our bromeliads, to have a horrendous problem with mosquitos and in fact in the 1970's bromeliads were said to be the villains. However you are referred to "Bromeliaceas" E A Malaria-Bromelia Endemica (1983) by Raulino Reitz. Admittedly this is in Portuguese but it does exonerate the bromeliads, and the Brazilians have a less hysterical approach to the problem. Their Health Depts. have become more ecologically minded and seek more logical solutions to the mosquito menace.

BROMELIADS and MOSQUITOS By: Rob Smythe M.Sc.

A bit of history

A bit of history as to why I am doing this research. The Townsville City Council in Queensland has been prosecuting people for having mosquitos in their bromeliads. They have advertised these plants as the arch enemy. I contacted the World Health Authority asking for any research where Aedes aegypti, the mosquito carrying Dengue Fever has been found breeding in bromeliads. The latter are of no concern to them so far as Dengue Fever is concerned as only two cases of finding larvae in bromeliads have ever been reported and the number of wrigglers was negligible. The Council (Health Department) is saying bromeliads are bad in the tropics while I am saying that we in the dry tropics, like Hawaii, have the best growing and colouring up conditions in the world. Bromeliads should be promoted as a tourist attraction here in the tropics. Somewhere between the two is probably correct. The Townsville City Council (Parks and Gardens) is helping me resolve this dichotomy by supplying me with some of their larger bromeliads to add to my study so that I would have a larger range of genera and species than I had in my pilot study. While I was waiting for new growth of pest free plants, and waiting for the vases to become large enough to possibly attract mosquitos I made a strange observation. The council supplied plants were getting mosquitos in some of their plants while my plants weren't. How could this be? Was someone trying to show me that we were both right? I had proposed in my previous publication that I believed there could be a chemical inhibitor to mosquitos released by bromeliads. My wild unspoiled plants up the trees never had mosquitos in them in 30 years so my hypothesis sounded reasonable. After all some carnivorous bromeliads are known, so we know they can utilise flesh. If this is true why were the council ones performing differently?

My son, Dr. Mark Smythe working at University of Queensland read and forwarded to me an article found in their newsletter stating that a predator of mosquitos called Mesocyclops had been found by a Dr. Michael Brown working at the Queensland Institute of Medical Research. My garden has been pesticide free for thirty years while council plants would have been sprayed. Could the council have killed a predator?

Now that I have started asking questions I feel that I can explain my findings better in a Question and Answer format. Predators, that is my favourite word at the moment. I have spent a lot of time studying the water in vases of bromeliads, and so far have found several predators worthy of my research. As I am now retired, I do not have the funds to exactly identify these so accept my names with some reservation, that is until someone gets paid to research them properly. (Continued page 6)