



Australian Native Orchid Society - Macarthur Group

FEBRUARY 2021

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President: Mr. W. Southwell (Ph. 46818589)

Postal Address:- 20 Colo Street,

Secretary: Mr. R. Morrison

COURIDJAH. 2171

Treasurer: Mrs. C. Asquith (Ph. 46259874)

Next Meeting: 16th FEBRUARY,

2021

Life Members: Mr. J. Riley, W. & M. Southwell, A. & C. Asquith, R. Morrison. (J. English, T. Cooke decd.)

Conservation Officer: *ANOS Macathur Group disclaims any responsibility for any losses which may be attributed to the use or misuse of any materials published in this newsletter*

Venue: BIRRAWA HALL

Should you wish to pay into our account for your fees

FITZPATRICK ROAD

BSB 062517 A/C 00909929

Mt. ANNAN.

Doors open 6.45pm, benching closes 7.55pm, meeting starts 8pm

Hi to all, With Wal still in hospital, this is a ghost written report..... Thanks to Mike Harrison for his usual high standard presentation.

Corona virus is still with us but the future is looking very good with vaccine to be available soon.

Corona restrictions will still apply. NO ADMITTANCE WITHOUT A FACE MASK & SOCIAL DISTANCING WILL APPLY.... Sorry, NO SUPPER YET (Read Ross' email of 12/2/21)

Wally

General Meeting – 19 January 2021 8.00pm

Minutes of Meeting

The President welcomed everyone to the January meeting and highlighted Mike Harrison's presentation – 'Sarcophilus relatives' would be brought earlier in the meeting with general business held over to after the presentation.

Attendance: Members:Face to Face–as per sign on book that included Mike H, Mike M, Jagath D, Ian L, Tony C, Sandra C, Don R, Marg and Wally S, Graeme and Ross M, Peter B, Greg S, Jim C, Noel B. Gordon B, Phil G, Robert M.

Members: Online – Col H

Visitor: William Dobson

Apologies: Carol and Tony A, Marge Y

Acceptance of Previous Minutes:

Moved: Don Roberts Seconded: Ian Lawson Carried

Meeting Presentation

Other Australian Aeridinae Species by Mike Harrison.

Mike provided a fascinating and informative presentation about the unique and variety of Sarcophilus relatives found across Australia. The presentation was recorded and has been uploaded to Macarthur ANOS Group Facebook page.

Business Arising: Carried forwarded to General Business

Correspondence:

In: December – Central Coast ANOS Newsletter

Treasurer's Report: In the absence of the Treasurer, the Secretary reported a closing balance of \$9616.43.

General Business

- The President distributed the benching monies for 2020 and awarded the Pointscore Trophy.
- The Secretary proposed the 2021 Show Dates and here they are:-

Autumn 8 May, Spring 18 September, Sarc. Show 23 October

Venues to be confirmed prior to the March Meeting.

- **AGL Macarthur Orchid Survey Update:** The Secretary highlighted that over 250 observations had been recorded, with over ten community members providing photos. Two new species have been identified – *Pterostylis uliginosa* and *Calochilus gracillimus*.
- **Tuber Sales** – a small number of terrestrial tubers and plants were provided and sold on the night.

Monthly Benching Results

Benching Class	Place	Plant Name	Owner
Dendrobium species	1	<i>Dendrobium finniganensis</i>	Mike Harrison
	2	<i>Dendrobium lichenastrum</i>	Margaret and Wally Southwell
Dendrobium hybrid	1	Dendrobium Brolga x Autumn x Barbara Tulloch	Sandra Crosby and Tony Costa
	2	Dendrobium Pinterry	Ross Morrison
Sarcanthinae species	1	<i>Saccolabiopsis armitii</i>	Mike Harrison
	2	<i>Plectorhizza brevilabris</i>	Mike Harrison
Sarcanthinae hybrid	1	Rhinochilus Rona x Plectorhizza tridentata	Don Roberts
	2	Sarcochilus Sunvale David	Greg Steenbeeke
Bulbophyllum	1	<i>Bulbophyllum elisae</i>	Mike Harrison
Rhizobium species	1	<i>Dendrobium wassellii</i>	Margaret and Wally Southwell
Rhizobium hybrid	1	Dockrillia Waverly x Racemosa	Ross Morrison
Australian species other	1	<i>Cestichis coelognoides</i>	Ross Morrison
	2	<i>Cadetia taylori</i>	Mike Harrison
Terrestrial Evergreen species	12	<i>Spiranthes australis Cryptostylis erecta</i>	Ross Morrison
	2		Ross Morrison
Terrestrial Species other	1	<i>Dienia ophrydis</i>	Greg Steenbeeke
Seedling	1	Sarcochilus Velvet x Elsie	Noel Bates
Growing Competition	1		Gordon Bush
	2		Ross Morrison
Judge's Choice		<i>Cestichis coelognoides</i>	Ross Morrison
Popular Choice		<i>Dendrobium wassellii</i>	Margaret and Wally Southwell

Raffles: Wally Southwell, Ian Lawson, Phil Griffiths

2021 MANOS Meeting Dates

19 January	16 February	16 March	20 April
18 May	15 June	20 July	17 August
21 September	19 October	16 November	21 December

Meeting Closed at 9.30pm

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LIME, CALCIUM and pH by Stephen Early

When pH, lime and calcium are discussed at orchid meetings, there is often considerable confusion about the different terms and effects. Hopefully this article will explain the differences and remove some of the confusion. pH is a measure of the acidity of a liquid. It is a measure of the number of hydrogen ions in the solution. A neutral solution has a pH of 7, while an alkaline solution has a pH greater than 7 and an acidic solution has a pH less than 7. Each change of 1 in a pH number results in a change of 10 in the number of hydrogen ions in the liquid. Thus a change from pH 7 to pH 5 means that the number of hydrogen ions in the solution has increased 100-fold and the solution has become 100 times more acidic.

Lime. The term lime is often used for a number of products that are actually quite different. Lime comes from limestone rock, which is basically calcium carbonate (CaCO_3), its most common impurity being magnesium carbonate (MgCO_3). No purification is done so the exact composition depends on what hill the limestone is dug from. If the limestone is crushed and bagged it is then sold as Garden Lime. If it contains a significant amount of magnesium carbonate, then it is sold as Dolomite Lime. Calcium carbonate is a stable, relatively insoluble chemical until added to an acidic solution, when the calcium carbonate dissolves and carbon dioxide gas is released; the calcium carbonate only stops reacting with the solution when it has become neutral (pH 7). Hence adding Lime (or Dolomite Lime) to a potting mix will counteract any acidity and will continue to react to maintain neutrality (pH 7) until it is washed out or consumed (much less likely).

The first step in processing limestone is to crush it and heat it. This produces calcium oxide (CaO), a highly alkaline product sold as Lime. I would never use this product as it is dangerous to handle and quite likely to damage plants because of its high alkalinity. It may make the pH of a potting mix far too alkaline for safe use on orchids. A further step is to add water to the Lime to produce Hydrated Lime or Slaked Lime. This is calcium hydroxide (Ca(OH)_2), an alkaline solid that is slightly soluble in water. It is not as strongly alkaline as Lime and I know some growers use it. However, it can produce a pH much higher than 7 if added in too large an amount. Both Lime and Hydrated Lime will dissolve in water and over time react with carbon dioxide (a trace component of air) to produce calcium carbonate, particularly when in contact with water. If you wish to add lime I would choose Dolomite Lime, as it can cause little damage and will react only if the potting mix is acidic.

Lime or Dolomite Lime provides calcium only to acidic potting mixes – it provides no calcium if the mix is neutral or alkaline. Lime and Hydrated Lime may add more calcium but only by making the mix very alkaline, which would damage the plants. Calcium nitrate is another source of calcium that is often used. It's a highly desirable additive, as it provides nitrogen without simultaneously increasing the amount of potassium or sodium present. However, most calcium salts are fairly insoluble so when adding calcium nitrate I would expect much of the calcium to end up as insoluble material not available to the plant.

Although I intend to add lime to my plants, I often forget, so I have looked for another method of simultaneously controlling pH and adding small amounts of calcium. I therefore add a small amount of shell grit {Canunda Shell} to my potting mix. This is a good source of calcium carbonate, which, being fairly coarse, will not wash through the pot when I water. In conclusion, to grow orchids well you need to keep your potting mix neutral (pH 7). This is readily and safely achieved by adding Dolomite Lime to the potting mix. Another method is to add shell grit (Canunda shell) or marble chips to the mix.

(Article from OSCOV Website)

Fungal Black Rot of Orchids

Most orchid growers will have witnessed the devastating effect of 'black rot'. Unfortunately, 'black rot' covers a multitude of infections, some caused by bacteria and some caused by fungi and their close relatives. Both types of infections can be similar in appearance and equally devastating in their effect. On this occasion I shall deal specifically with 'black rot' caused by the water moulds, *Phytophthora* and *Pythium*. These pathogens belong to a special group of fungi (the Oomycetes). Because they are different to other fungi, direct treatment to control the diseases they cause requires different fungicides to those used to control other fungal diseases. Both *Phytophthora* and *Pythium* are widespread and, given favourable conditions, can infect orchids of all ages and genera.

Disease Symptoms

Phytophthora can infect the roots, stems or leaves of the orchid plant. Infection produces dark brown to black lesions depending on the particular host. With Vandas, infection may start on new leaves as a soft, dark brown to black rot. The infection then spreads down the stem, which becomes dark brown in appearance. Conversely, infection may start at the base of the stem and work upwards. With Cattleyas, infection can spread along the rhizome to the next growth causing the same symptoms. Unless effective action is taken the disease will continue to spread rapidly throughout the entire plant, which is then impossible to save. Leaves may initially be infected on one side only but as the infection spreads the entire leaf is engulfed with a soft, black rot. Because of the way *Phytophthora* grows and reproduces, lesions are soft and uniform in appearance and without any clearly defined rings or lines of fruiting bodies. This differentiates infection with *Phytophthora* from infection by other fungi, such as *Glomerella*, that also cause a 'black rot'. However, it is almost impossible to distinguish infections caused by *Phytophthora* from those caused by *Pseudomonas* and *Erwinia*, bacteria that also cause diseases commonly called 'black rot'. Both types of organisms produce water-soaked lesions that do not show any fruiting bodies, both types of lesions spread rapidly, and both types of lesions can be similar in colour. About the only distinguishing feature is that the ooze produced in the bacterial lesions has quite an offensive smell.

Pythium is characterised by infection that occurs at or below the surface of the medium. Leaves are rarely infected. Infection that starts in the roots or rhizome progresses up the pseudobulb as a soft brown rot that has a clearly defined border. There are no obvious signs of fruiting bodies. These features differentiate infection with *Pythium* from those caused by other root-rot fungi. For example, infection with *Rhizoctonia* results in hard, dry, brown bases of the pseudobulbs. While it is less pathogenic than *Phytophthora*, *Pythium* can still have equally devastating effects. Newly de-flasked plants in particular can succumb to 'damping off', the result of infection with *Pythium* that causes a soft brown rot that girdles the entire stem adjacent to the medium. Adult plants growing in poorly drained or stale media are also susceptible to infection. Unless effective action is taken, the infection will continue to spread through the roots, along the rhizome and up into each pseudobulb. The infection almost always spreads from the base upwards.

Control

As is always the case, effective disease control depends on adopting practices that minimize the chances of introducing the disease to your collection and always following correct cultural practices. I shall not repeat these messages here. Rather, I shall deal briefly with the situation where disease becomes established.

The motile zoospores of both fungi are readily spread by water splash. Hosing an infected plant can therefore spread the disease to adjacent plants. It is therefore particularly important to remove any infected plants from the general collection as soon as infection is noticed. This will help to minimize further spread of the disease. Ideally, infected plants should be treated and fully restored to health before they are returned to the collection. All infected parts should be cut away and the plant and all cut surfaces treated with an effective fungicide. Realistically, by the time infection is noticed, spores will have already been spread to neighbouring plants. Treatment of these plants will generally be required to prevent further disease outbreaks.

Fortunately, there are a number of effective fungicides that are available to hobby growers. Contact fungicides such as mancozeb are generally totally ineffective. However, the contact copper-based fungicides, such as copper oxychloride or Kocide Blue, kill the spores and do provide some protection against initial infection. Unfortunately, they have no curative action once the disease is established. To be fully effective, the copper-based fungicides must be used repeatedly and this may result in phytotoxic effects particularly in some of the Dendrobiums. Aliette has very effective systemic activity against *Phytophthora* but is less effective against

Pythium. Ridomil is equally effective against *Phytophthora* but is more effective than Aliette against *Pythium*. Fongarid controls both fungi and has both protective and curative properties. All three of these fungicides have a systemic effect and may control both *Phytophthora* and *Pythium* for up to 6 weeks after treatment. Unfortunately, none of these fungicides will control diseases caused by other fungi. Thus, other fungicides are required to control leaf-spotting diseases or root rots caused by fungi such as *Fusarium* or *Rhizoctonia*. Phosphorous acid based fungicides such as Fosject, Agrifos or Phosacid, provide some measure of both protective and curative action against *Phytophthora*. There is some evidence that these fungicides may also stimulate the natural resistance of the plant. They have very low toxicity and can therefore be used fungicides, read the label carefully and follow all directions.

Friendii.

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Thanks to Jim Brydie for identifying a website previously not known to your editor.

Stay safe everybody.....GOOD GROWING