Australian Plants Society South East NSW Group

Newsletter 152

August 2019

Corymbia maculata Spotted Gum and ***Macrozamia communis*** Burrawang

Contacts: President, Dianne Clark, dianneclark293@gmail.com
Secretary, Paul Hattersley paul.hattersley26@outlook.com
Newsletter editor, John Knight, johnonvista49@outlook.com
Group contact southeast@austplants.com.au

Next Meeting

Saturday 7th September 2019

At the Eurobodalla Regional Botanic Gardens commencing at 10 a.m.

The colours of Spring

The change of seasons heralds an awakening, a burst of flowers, until recently tucked away in protective buds, now blossoming boldly as the days lengthen and the sun warms.

The committee thought this might be an ideal opportunity to showcase the wonderful variety of spring flowering Australian plants our members grow in their gardens.

For this meeting, we are planning a massive "Show and Tell" and to be a success, everyone is asked to bring along bootloads of sprigs, branches, and any other plant part, or pot plants, which might add substance to the event.

President Dianne will lead the discussion, with help from others, and members will have plenty of opportunity to input their own thoughts. Besides detailing the attributes of each plant, there will be information on how members can propagate the plants displayed. To assist presenters, members are requested to name their plant specimens, or provide a list so we can record all the plants represented.

After the lunch break, we will be offered the chance to walk through the rainforest areas of the gardens, or as members wish, to do a bit of propagation practice in readiness for the busy growing times ahead.

We will meet in the staff/volunteer room in the nursery area, as the current development works preclude use of the room adjacent to the café. There is some parking close to the venue for those wishing to avail of it. Others might just as happily park in the carpark.
As always, members are advised to bring morning tea and lunch, or, why not dine at the Chefs Cap Cafe.
Wear sensible clothing and shoes suitable for the planned outdoor activities.
Note also that dogs are not permitted at APS activities.
Hope to see everyone there for the start of the spring season, with bags of plants and bundles of enthusiasm.

As mentioned in the meeting preamble, Spring is just around the corner, and with the change of seasons our glorious wattles come into their own.

In 1988 the Golden Wattle **(*Acacia pycnantha***) was officially gazetted as Australia's national floral emblem.

Acacia pycnantha

In 1992, the first day of September each year was officially declared **'National Wattle Day'** throughout Australia by the Commonwealth of Australia, although wattle day was celebrated on 1 September in NSW, Victoria and South Australia from 1910.

How many Wattles are our members growing?

It would be an interesting exercise to compile a list, and to kick it off, I'll list the few that I have flowering at present.
Acacia cognata, Acacia floribunda, Acacia longifolia and ***Acacia paradoxa.***
Unfortunately ***Acacia pycnantha***, which struggled for 5 or so years, finally gave up, and has been removed.

Please let me know which you are growing.
Send an email to johnonvista49@outlook.com or to southeast@austplants.com.au

Last Meeting,
Report by Paul Hattersley

THE STARTLING AIR: CLIMATE SCIENCE AND ENERGY CHANGE

Of all the challenges facing us today, there is arguably nothing as fundamentally important as the impacts of climate change on our environment.

This is because climate change has the potential to disrupt ecosystems, agriculture and infrastructure, and therefore communities, nations, economies and peace.

So members were lucky enough to hear all about climate science and what can be done about climate change, from our guest speaker **Tony Eggleton**, on Saturday 3 August.

A concern was whether the volunteer and staff tearoom at ERBG would be big enough to seat everyone, but the venue proved to be just right for the 50 members who came to Tony's clear and definitive exposition of this 'hot' issue.

Tony is a retired professor of geology (ANU). He started researching climate change in response to being asked about it by friends and family because he was a scientist. As a scientist, he wasn't going to voice an opinion about it until he researched and understood the science.

A reflective Professor Tony Eggleton, pondering the challenges of climate change

This led to him writing a book two years later, that was concise, comprehensive and reader-friendly (*A Short Introduction to Climate Change*, Cambridge University Press 2013; out of print now, but you can order a copy if you contact CUP at 477 Williamstown Rd, PORT MELBOURNE VIC 3207). His book explains the complicated science clearly and debunks all the deniers' arguments against anthropogenic-induced climate change.

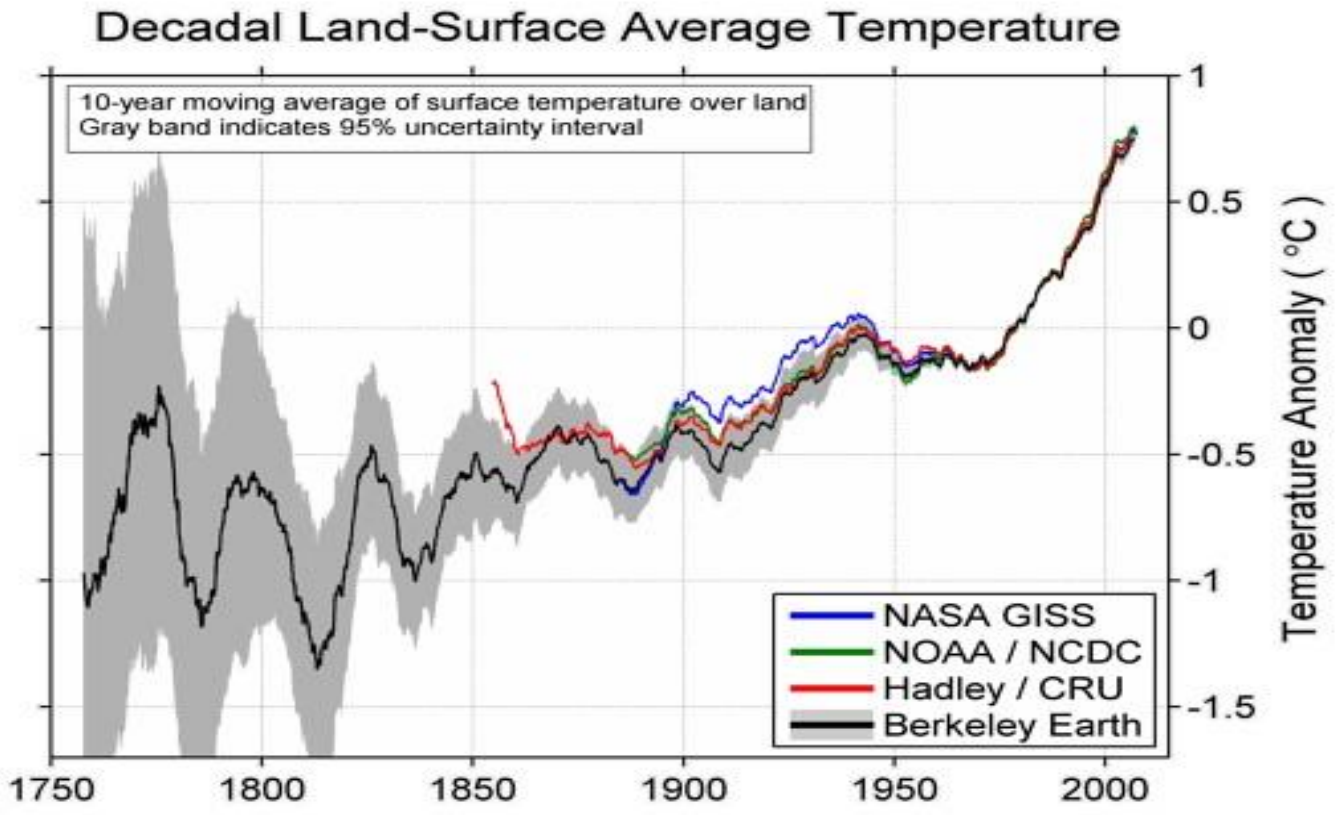
In the first part of his talk, Tony posed the questions:

Is the climate changing?

Why does it change?

How do we know CO_2 is implicated? Then he explained the sources of carbon dioxide (CO_2). In the second half of his presentation, Tony made it very clear that CO_2 and other greenhouse gas emissions need to be ***reduced*** by 12%, not just ***limiting*** the ***rise*** of emissions globally by 12% (the Paris Agreement).

Many researchers, using different and diverse sources of data, leave no doubt that global temperatures have been rising steadily since the Industrial Revolution (Figure below).
Yes, it is true that global temperature fluctuations have occurred before during that period, but firstly these can be explained by relatively transient phenomena such as vulcanism, sunspot cycles, and atmospheric SO_2 pollution levels.
Longer term changes are also well known, for example in the case of ice ages, as also are the main reasons for those changes (**Milankovic cycles, albedo changes**). In our current interglacial period, we should be in the cooling phase. We have had no significant vulcanism for several hundred years, and 200 years ago albedo change was triggering cooling, not warming.



After explaining how 'Greenhouse' works, it was clear that atmospheric **CO_2 has been the central player** in past climate changes in the last million years (the last 8 ice ages).

It is not the only greenhouse gas, others being water vapour, methane and ozone, but CO_2 is the key 'forcer', meaning that it is mainly responsible for forcing a change in the previous global heat energy balance that dictated the climate.

Water vapour is a more significant heat absorber in the greenhouse effect than CO_2 but increasing water vapour as the world warms creates a feedback loop, increasing the temperature.

Methane, although the biggest heat energy absorber, is quickly degraded to CO_2. Oxygen and nitrogen are not greenhouse gases.

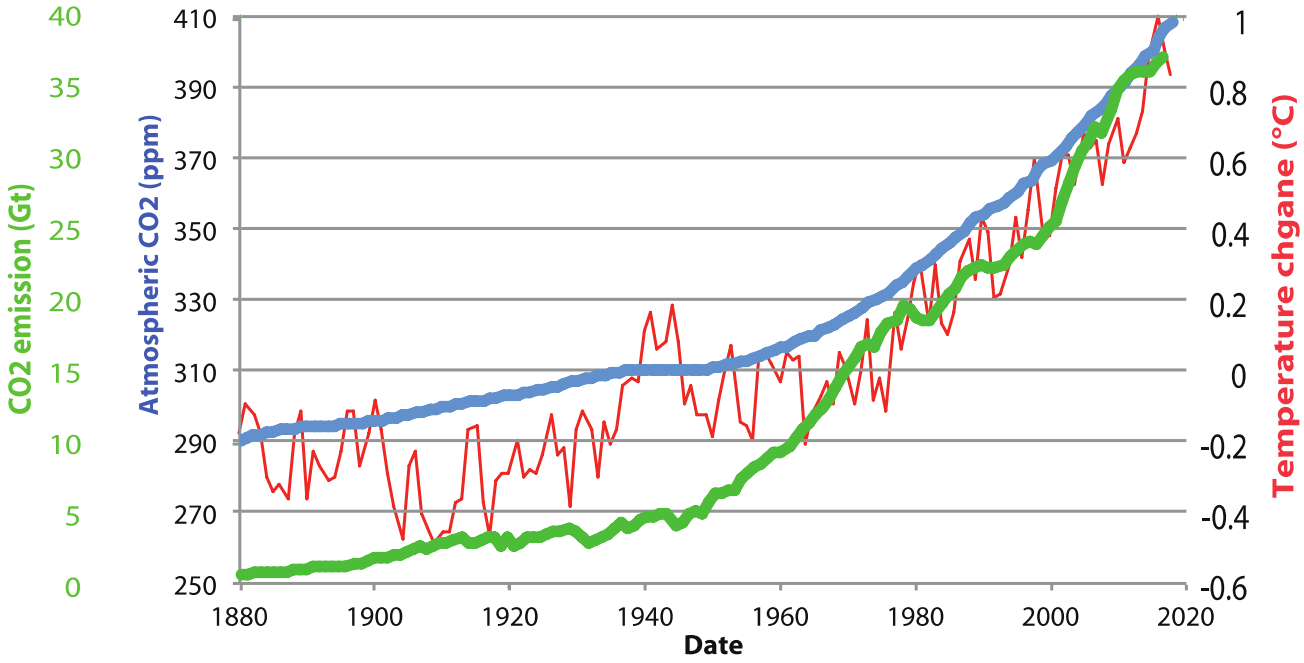
Fact: Atmospheric CO_2 has increased by 40% since 1900.
That amounts to 1.5 million million tonnes.

All of this has come from burning fossil fuels (Figure below, next page).

It has not come from the oceans releasing CO_2 ***because*** temperature is rising due to some cause other than greenhouse (eg we are in a sunspot cycle); as explained above, there is no evidence for this.

The steady and relentless rise in temperature since the industrial revolution (see above) is the result, not the cause of the CO_2 increase we are witnessing.

The past records (from ice cores) show that CO_2 rise in the past has lagged behind a temperature driver by 1,000 years, because it takes that long for surface temperature changes to be distributed throughout the oceans. The rate of change of the earth's temperature due to a Milankovic cycle is therefore very much slower than today's rate of temperature change.



The above figure shows the very close correlation between anthropogenic CO_2 emissions, atmospheric CO_2 levels, and temperature change.

Not only is temperature changing, but also rainfall distribution, ice melt, ocean acidity, and sea level. Today's climate change has no parallel in the past 2000 years. Tony concluded that the sole reason for these changes is the quantity of greenhouse gases added to the atmosphere since the Industrial Revolution.

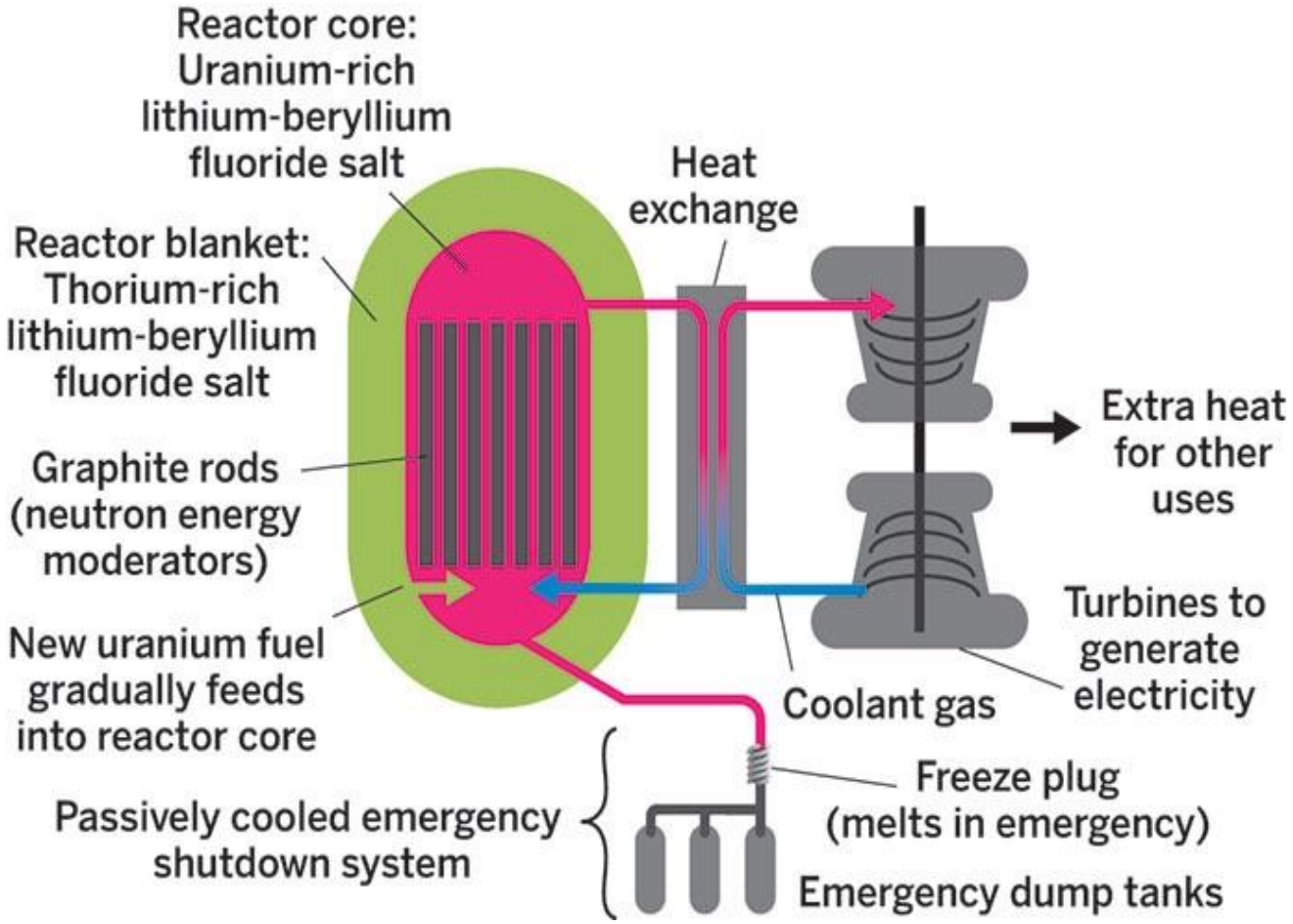
What impacts will climate change have on plants?
Only generalisation can be made. CO_2, temperature, and rainfall will all change, and not the same in all regions, and the specific mix of these will determine a plants response. **Further, this will not be the same for all species!**

While CO_2 and water use efficiency will increase plant growth in many plant species, this may be offset, for example by less rainfall. This will depend in part on the kind of photosynthetic pathway a species uses. The potential for increased growth could also be limited by, for example, nitrogen availability. Temperature increases on earth are already having impacts, such as earlier ripening of grapes in both France and Australia.

Turning to 'Energy Change', there is an energy 'quadrilemma':
not only do emissions need to fall a lot, but reliability must be maintained, prices need to fall (in Australia anyway), and all this while demand will increase!

Tony outlined the central issues that need to be addressed, such as shifting to renewables in a stable policy setting. Carbon capture and storage is needed (the technology is there) and electricity storage needs to be in tandem with increased use of wind and solar.
Pumped hydro systems need to be developed, and while these (perhaps insurmountable) challenges are tackled, the use of nuclear energy needs revisiting.

Tony is convinced that nuclear is the way to go, given there are zero CO_2 emissions and new reactors based on the thorium cycle are safer than currently used reactors and have several other advantages (eg they can be small-scale). China is currently developing these.



Tony's talk generated many questions and after lunch and 'show-and-tell', many members engaged in lively discussion on climate change, particularly thinking about what individuals and groups could do locally.

Jan Douglas stressed that 'from little things, big things grow', **so the dire news should not deter us acting as individuals**. Caroline Noake suggested that, as a group, we all propagate tree seedlings to distribute to our communities.

We must thank Paul for writing such succinct but detailed notes about a complex topic.

Show and Tell (Photos, Di Clark)

Whilst Winter drags on, Spring is almost upon us, and the diversity of plants grown by members was on display. Here, Marjorie points to the value of smaller Grevilleas, providing much needed food for honeyeaters during recent months.

***Grevillea* 'Lady O', one of Peter Ollerenshaw's brilliant, hardy cultivars. It is a cross between *G. victoriae* hybrid and *G. rhyolitica*. Hardy once established, with low water requirements, and it flowers for most of the year!**

Lesley Hulands allowed last year's ***Rhodanthe*** to seed, and the result is a prolific germination over much of her garden. Large swathes of colour adorn garden beds near the house. Lesley points out that the natural seed fall is left uncovered over summer, and germinates as the weather cools. She did warn that mulching with organic matter prevents germination, but the seed enjoys popping up in gravel.

Rhodanthe chlorocephala subsp. rosea,

Banksias are always popular garden plants, but ***B. menziesii*** from Western Australia's deep sand country has been a challenge. Phil Trickett has grafted some onto ***B. integrifolia*** with success, but **Norm Hulands** proudly displayed a flowering branch of his plant, growing on its own roots, in heavy granitic soil at his Moruya property.

Caught mid sentence, Norm extols the beauty of his pride and joy.

He has a number of plants growing along an internal fence line around the 'horse paddock', and has had to place barriers beside some plants to prevent the horse from browsing the developing flower heads.

The specimen on display came from a shrubby plant about 1.2m high, which at the moment has another 13 flowering branches. Said Norm, "plants given a sunny, well drained site, and, after the first year left to their own devices, develop strong deep roots, are naturally shrubby, and when ready reward a patient grower". Here is the proof. He does dig deep and large holes, and raises the plant to prevent waterlogging, should heavy rains fall. (We should be so lucky!)

Some of the other plants on display included:

Acacia baileyana,
Grevillea lanigera, which some members have difficulty keeping healthy,
***Grevillea* 'Winpara Gold'**, a hardy largish shrub which flowers most of the year,
an un-named **Leptospermum** seedling,
and the ever reliable ***Thryptomene saxicola***.

Members attending were challenged to bring along their treasures to future meetings.

Tonics, Tubes and Teeth **by Leigh Murray**

I've had some notable failures and successes recently.
First there were fungal problems. Several of a newly-acquired batch of plants succumbed suddenly. They were short tubestock, rather than the taller tubestock I've been used to, and my old method of keeping them in a low bucket for transport and storage between houses and before planting just didn't work. They were too enclosed.

I saved some plants by spraying them with **Chamomile spray (2 teabags in 500ml water)**.
This was such a success that I sprayed other languishing plants with the Chamomile, and these plants clearly regarded this as a tonic. They cheered up, and grew more enthusiastically.

Chamomile is said to be fungicidal and insecticidal, and it seems to be generally beneficial to plants.

Next I tried protective tree tubes around several newly-planted eucalypts.
A few plants found the tubes helpful, but a ***Eucalyptus tetraptera*** took umbrage, and its growth tip began to blacken within a week. I removed the tube pronto on arrival next trip, and sprayed it frequently with the Chamomile. I also sprayed the other little eucs. The ***E.tetraptera*** has recovered, and is showing signs of growth. Signs of growth have also been shown by an ailing ***E. caesia*****.** This had been a most promising plant, getting off to a good start. But it stalled, and nothing, absolutely nothing, helped it to restart – I tried chelated iron for yellowed leaves, organic fertiliser, seaweed solution and generous water. No go.

Then I put one of the tree tubes around it, and sprayed it with the Chamomile. Hey presto, new growth. Wonderful!

The third major event was related to teeth. Sorely missed Bush Rats reappeared after a long absence. Much joy. But then one of them nipped off – at the base – a ***Grevillea*** **'Sandra Gordon'**, which was planted to fill a significant gap; it had been growing nicely, more's the pity. The loss of this plant was a major blow. It led to the purchase of more plants, with the good side-effect of discovering another online supplier of native plants, **Australian Plants Online (https://www.australianplantsonline.com.au)**.

I 've since bought a couple of small batches of plants because they have quite a few species/hybrids that I haven't been able to get elsewhere.

So, for me, gardening has been more of a roller-coaster than usual lately, and I've been very busy spraying and tubing and planting and ordering.

Committee news

Vale, Stan Powell

We were saddened to learn recently that one of the Group's founding members, Stan Powell passed away in June, following a short period of failing health.

Stan, who in March celebrated his 92nd birthday, was, until recent years an enthusiastic member of APSSE, and delighted in sharing his large garden and rainforest with us during group visits.
He served the Group as Secretary for a number of years.

Newsletter delivery, Dianne Clark

Dear Members,
In recent months we have experienced a few 'technical glitches' with the delivery of our newsletters.
I apologise to any member who has not received all or some of them.
In some cases the newsletter files were too large to be accepted, but mostly emails have 'bounced' as undeliverable.

We have verified our mailout lists, but need to know if any member failed to receive any emails. Also, if you have recently changed email addresses, please let us know.

I have also realised that we are only sending one newsletter to couples. If that is your situation, and you would prefer a copy to be sent to each, you could let us know the details of each email address so we can update our mailout list.

Any queries regarding email issues can be addressed to me at dianneclark293@gmail.com, or alternatively the group's email southeast@austplants.com.au

PLANT "SWAP" AT APS MEETINGS

APS members have for years exchanged their own propagated plants on an informal private basis. The committee of APSSE would like to encourage this at monthly meetings, to promote wider growing of Australian native plants among members and their families and friends. The plants need not be from our own south-eastern region; experimentation with growing plants from interstate and other climatic regions of NSW is already widespread among members.

Successful propagation may mean excess plants. What to do with the bounty ?

A donation to the propagator/grower is suggested, to cover the cost of production (pots, and potting mix etc)

If you have plants to swap or donate at an up-coming meeting, Marjorie is co-ordinating this on behalf of the committee. Contact her by email, marjorieapthorpe@gmail.com to discuss

In My Garden

Recent windy weather has tested the staying ability of some shrubs, and right now a lovely ***Hovea purpurea*** **(Rusty Pods)** lies against ***Banksia spinulosa***, with half of its roots exposed. But it's still bravely flowering, with lovely dark purple pea flowers brilliantly displayed against the foliage.

This plant was grown from seed collected west of Moruya on a steep western slope, in what appeared to be a most inhospitable site.

It has survived now for 6 years, but has been a slow grower, being just over 1m high. I am amazed that the plant does not appear to have developed a dense root structure, but is nonetheless tenacious. Hopefully it will live long enough to set some seed around Christmas, and I can grow some more of this delightful, but unassuming shrub, just in case.

Hovea purpurea

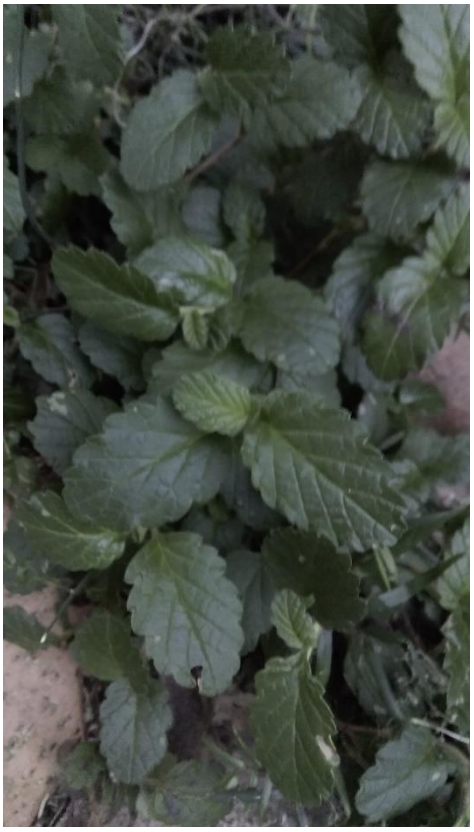
Some plants which were available many years ago, but for various reasons go 'out of fashion', appear to be making a comeback, at least in real nurseries where a more extensive range of Australian plants are on display.
On a recent trip to Melbourne, we stopped at one such nursery and found to our surprise, and delight, some plants labelled as ***Actinodium cunninghamii***, (Albany Daisy) a small woody plant from near Albany in W.A., with flowers like a daisy, but is actually in the gumtree family.

It's a bit cheeky to say it is in my garden, as it has just arrived and still sits in a pot waiting a decision.

It most likely will remain as a container plant, as my experience is that it needs moist soil, has particular dislike of anything but perfect drainage, but is happy in semi shade or partial sun. I will propagate a few cuttings and then take a chance in the ground.

***Actinodium cunninghamii,* an unusual member of the Myrtaceae Family, with daisy like flowers**

Finally, a plant rarely cultivated, but certainly has proved long lived and hardy, ***Hibbertia grossulariifolia***, also from the heaths of southern W.A.. This is a ground cover plant which tolerates a lot of shade and looks the part growing with low growing ferns in a south facing garden. Trailing stems ramble through the ferns, dotted with yellow flowers during spring and summer, adding a splash of colour to this green garden. Rarely seen in cultivation, which is odd given how tough it has proved, how readily it propagates from cuttings, and how attractive the foliage looks.



***Hibbertia grossulariifolia*, Gooseberry-leaved Guinea Flower.**
The common name is as unwieldy as the botanic name. The leaves resemble plants in the Genus Grossularia, of which there is now only 1 recognised species, ***G. purpusii***. All other species have been reduced to synonoms, or transferred to other Genera. Therefore, the name of this Hibbertia remains a bit confusing, as the leaves do not resemble ***G. purpusii*.**
The Gooseberry, *Ribes uva-crispa*, is commonly referred to as Grossularia in Europe

COMMITTEE CONTACT DETAILS

President,	**Dianne Clark**	**Ph 0402 555 330**	**e.** dianneclark293@gmail.com
Vice-President	**Geoff Gosling**	**Ph 0438 286 382**	**e.** geoff.gosling@bigpond.com
Secretary,	**Paul Hattersley**	**Ph 0412 426 413**	**e.** paul.hattersley26@outlook.com
Minute Sec.,			
Treasurer,	**Geoff Gosling**	**Ph 0438 286 382**	**e.** geoff.gosling@bigpond.com
Membership	**Jenny John**	**Ph 0437 304 173**	**e.** peteandjenny.john@gmail.com
Publicity	**Dianne Clark**	**Ph 0402 555 330**	**e.** dianneclark293@gmail.com
Members	**Marjorie Apthorpe**	**Ph 02 4478 1142**	**e.** aptpal@clearmail.com.au
	John Knight	**Ph 0434 674 347**	**e.** johnonvista49@outlook.com
Website.			southeast.austplants.com.au