Australian Plants Society South East NSW Group

Newsletter 158

March 2020

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

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I must apologise for not attending more quickly to the task of producing this current newsletter. With meetings for the foreseeable future now cancelled, the urgency of sitting down and 'doing my job' seemed somehow lessened, and other life issues seemed more important.

Now that I am back on the job, the task of precising the presentation from last month is as daunting as ever. We all need to understand the principles of which our speaker spoke, but I think one needed to be there to be able to absorb the topic and the messages contained therein. So I will do my best to recall the messages, and hope that any who would like to seek more information look to the publications to which our speaker provided input.

Last Meeting,

"How rocks feed plants"

Those members who attended the last meeting in February were treated to an extremely interesting presentation by Emeritus Professor Tony Eggleton from the Research School of Earth Sciences (ANU) .

Before meeting Tony, few would have recognised just how impressive his resume on the subject is.

During his working life as a geologist, Tony co-authored a massive 92 papers on various aspects of regolith formation, edited the comprehensive "Regolith Glossary" in 2001, contributed in depth chapters to 6 published works on Geology, co-wrote "Regolith Geology and Geomorphology", published in 2001, wrote the impressive "A short introduction to climate change" on which topic he spoke to us last year.

And, his 2014 booklet " The Golden Volcano; the geology of Gulaga (Mt. Dromedary)" copies of which he donated to the group at the last meeting, and which were quickly snapped up

Photo 'stolen' from Tony's bio, as none of the photos available from the meeting do justice to his genial countenance

How rocks feed plants

- South Coast geological history
- What is in the rocks?
- How rocks become soil
- Chemical movement -5
- Plants in the landscape

With apologies to Tony, *'wikipedia'* provided the following less technical information.

The term ***regolith*** combines two Greek words: *rhegos*, 'blanket', and *lithos*, 'rock'.

The American geologist George P. Merrill first defined the term in 1897, writing:

"In places this covering is made up of material originating through rock-weathering or plant growth *in situ*. In other instances it is of fragmental and more or less decomposed matter drifted by wind, water or ice from other sources. This entire mantle of unconsolidated material, whatever its nature or origin, it is proposed to call the regolith".

Earth's regolith is a layer of loose, heterogeneous superficial deposits covering solid rock and includes the following subdivisions and components:

soil (pedolith) ,
alluvium and other transported cover, including that transported by wind, glacial, marine, and gravity flow processes.
'saprolith', generally divided into the
upper saprolite: completely oxidised bedrock
lower saprolite: chemically reduced partially weathered rocks
saprock: fractured bedrock with weathering restricted to fracture margins.
volcanic ash and lavas
duricrust. It is formed by cementation of soils, saprolith and transported material by clays, silicates, iron oxides and oxyhydroxides, carbonates and sulfates, as well as less common agents, into indurated (hardened by great heat) layers resistant to weathering and erosion.
groundwater- and water-deposited salts.
biota and organic components derived from it.

Regolith can vary from being essentially absent to hundreds of metres in thickness.
Its age can vary from instantaneous (for an ash fall or alluvium just deposited) to hundreds of millions of years old (regolith of Precambrian age occurs in parts of Australia).

Regolith on earth originates from weathering and biological processes; if it contains a significant proportion of biological compounds it is more conventionally referred to as soil.
People also call various types of earthly regolith by such names as dirt, dust, gravel, sand, and (when wet) mud.

(The book, simply titled **Dirt, the ecstatic skin of the earth**, William Bryant Logan, 1995, sometimes available through local libraries, provides much food for thought on this subject)

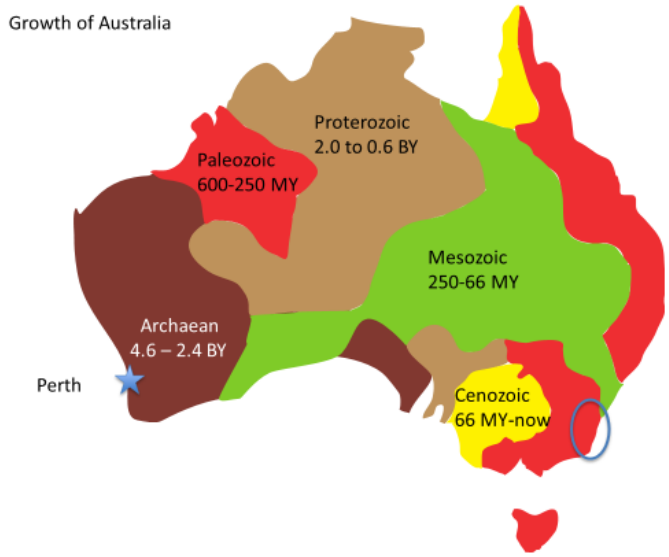
On Earth, the presence of regolith is one of the important factors for most life, since few plants can grow on or within solid rock and animals would be unable to burrow or build shelter without loose material.

Regolith is also important to engineers constructing buildings, roads and other civil works. The mechanical properties of regolith vary considerably and need to be documented if the construction is to withstand the rigors of use.

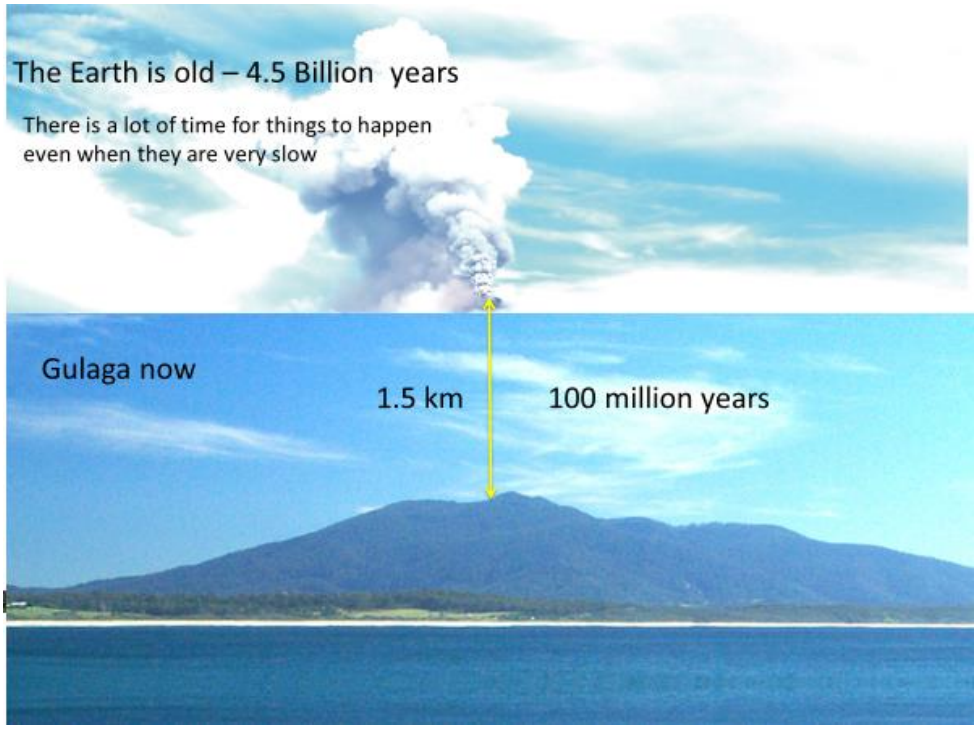
Regolith may host many mineral deposits, for example mineral sands, calcrete uranium, and lateritic nickel deposits, among others. Elsewhere, understanding regolith properties, especially geochemical composition, is critical to geochemical and geophysical exploration for mineral deposits beneath it. The regolith is also an important source of construction material, including sand, gravel, crushed stone, lime, and gypsum.

The regolith is the zone through which aquifers are recharged and through which aquifer discharge occurs. Many aquifers, such as alluvial aquifers, occur entirely within regolith. The composition of the regolith can also strongly influence water composition through the presence of salts and acid-generating materials.

On each of these points Tony was able to demonstrate the science and the how and why of the processes, and just why these processes are important to growers of plants.



Beginning by looking at how Australia grew over geological time, we see that south west of Western Australia is the most ancient landform at between 4.6 and 2.4 billion years, and that most of the NSW South Coast, our gardening area belongs to the Paleozoic era, 600 to 250 million years, with a small intrusion of Mesozoic era sandstone to the north.



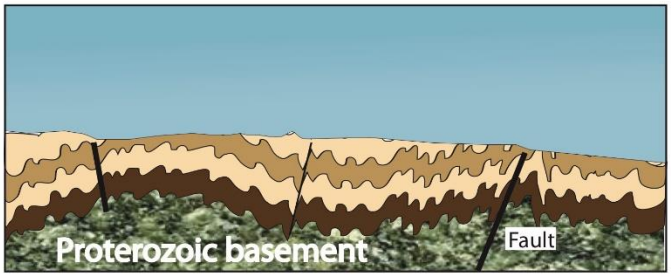
Imagine how dominating of the landscape Gulaga (Mt. Dromedary) might have appeared 100 million years ago, as an active volcano some 2500m. high, and now its diminished height at just 806m a mere fraction of its former self.

Tony used a composite of Volcano Villarica in Chile to demonstrate how Gulaga might have appeared 100 million years ago, compared to today

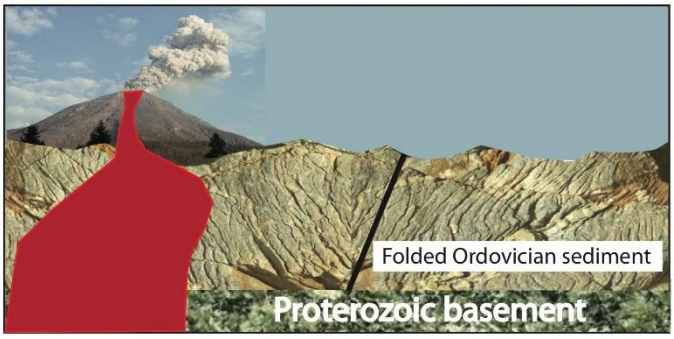
The Great Escarpment
Victoria to North Queensland

- **How Eastern Australia Grew**
  - About 140 million years of erosion since New Zealand left us
  - Headward erosion at about half a kilometre in a million years

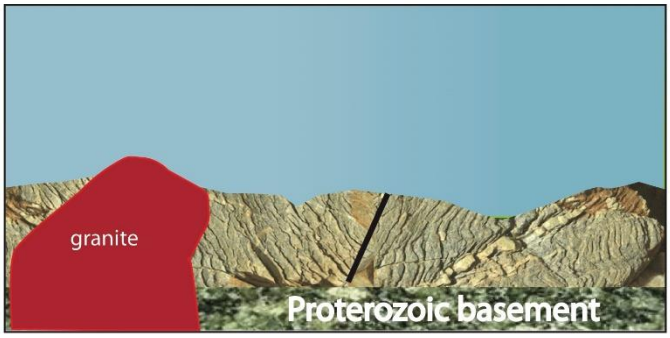
500 million years ago in the late Cambrian, lavas and marine muds filled an ocean basin



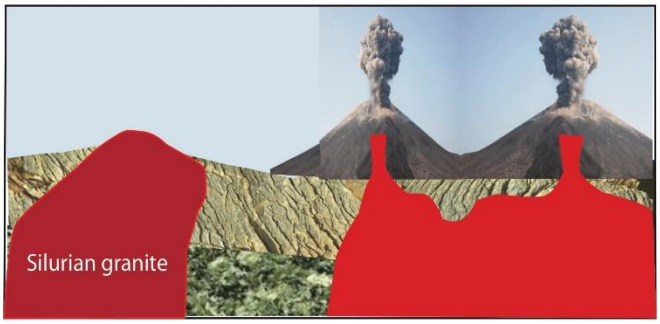
Followed by more sedimentation in the Ordovician, burial, folding, faulting and then erosion exposing the folded rocks



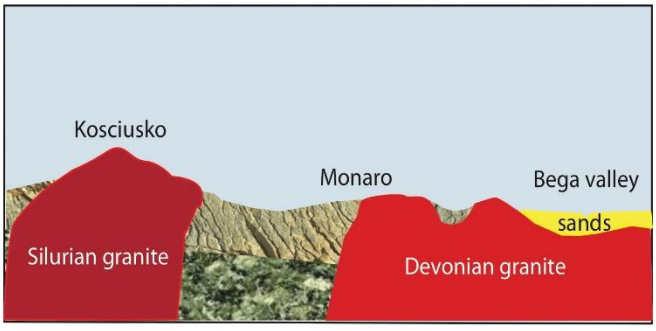
Silurian magma rise and vulcanism around 430 million years ago



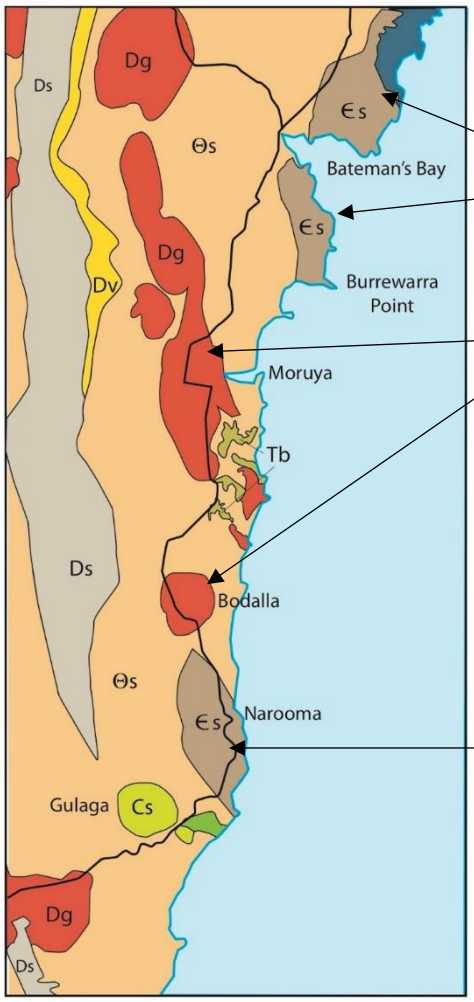
By the end of the Silurian erosion of the volcanic rocks exposed the granite magma chambers



Then early in the Devonian there was a second burst of vulcanism and granite intrusion



Followed by rapid erosion and deposition of river sands and gravels



Broad rock types of the mid south coast region of NewSouth Wales

Cambrian -600 Ma

The oldest part, coloured brown on the map

Devonian granite – 380 Ma coloured red/tan

Ordovician – 460 Ma coloured light tan

Devonian volcanics – 360 Ma coloured grey

Cambrian -600 Ma

Pillow lavas, Narooma Surf Beach

Narooma

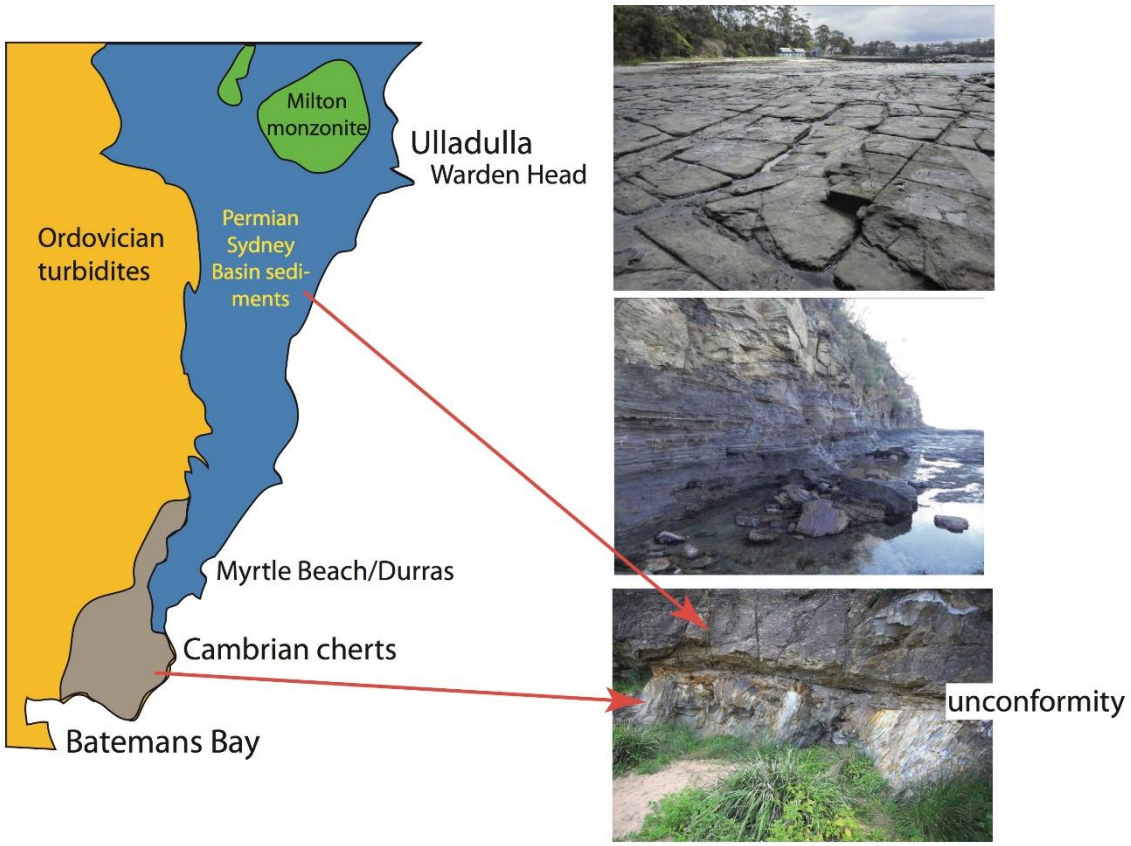
Wagonga beds: late Cambrian cherts. 590 Ma

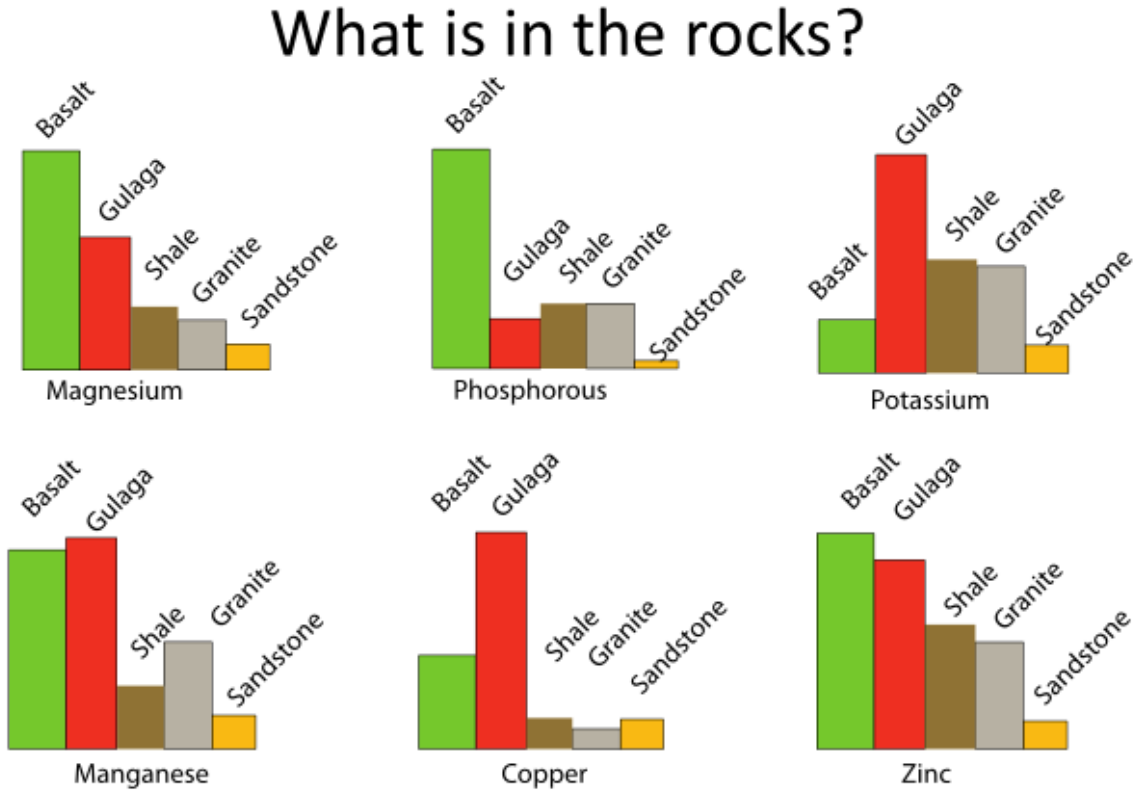
Ordovician sandstone and shale

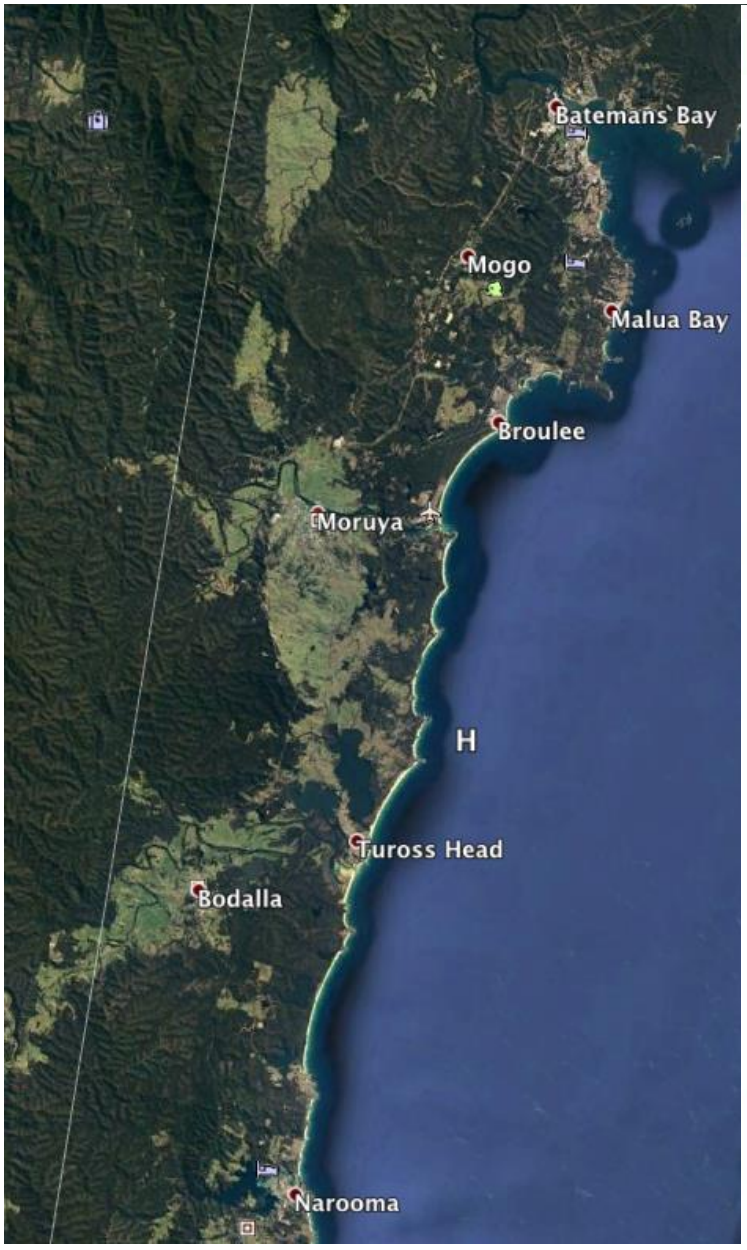
Tilba road cutting

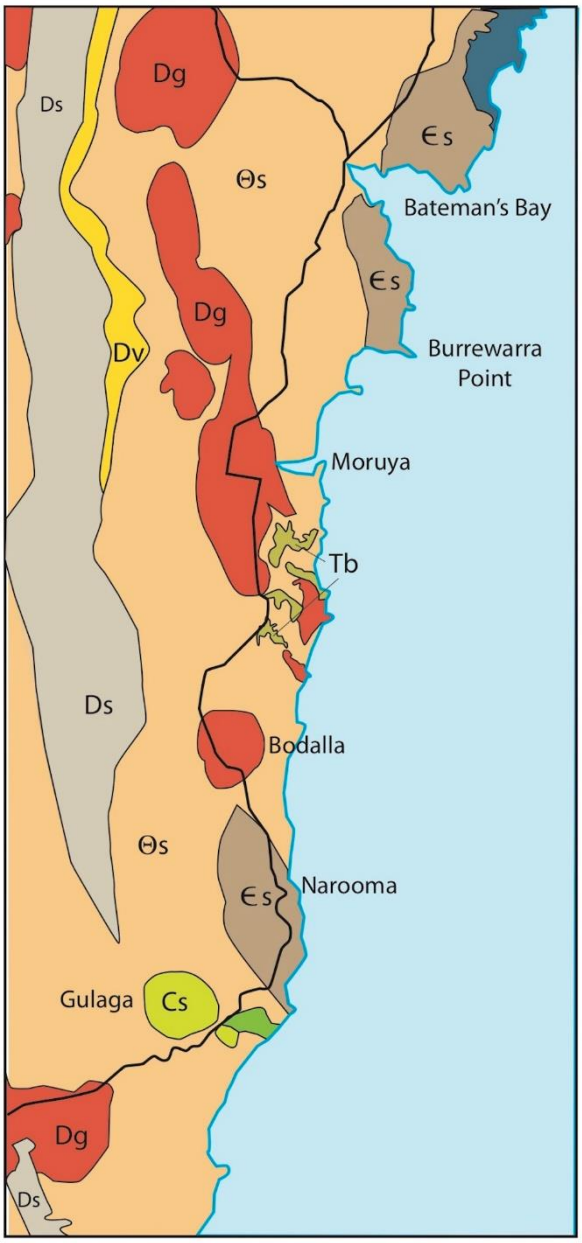
Younger rocks- Ulladulla to Batemans Bay – Permian era

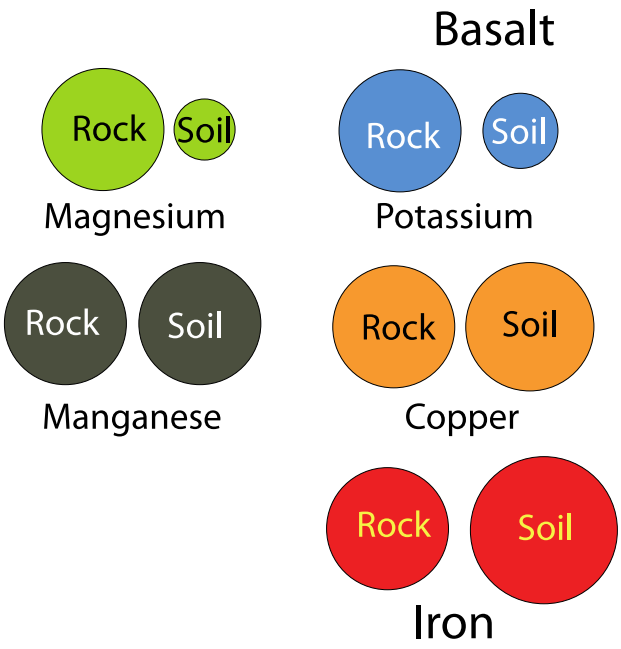
Note the small area of Monzonite to the west of Ulladulla, a type of granite producing very fertile soils. The same soil type is found east of Gulaga, productive arable land favoured for farming









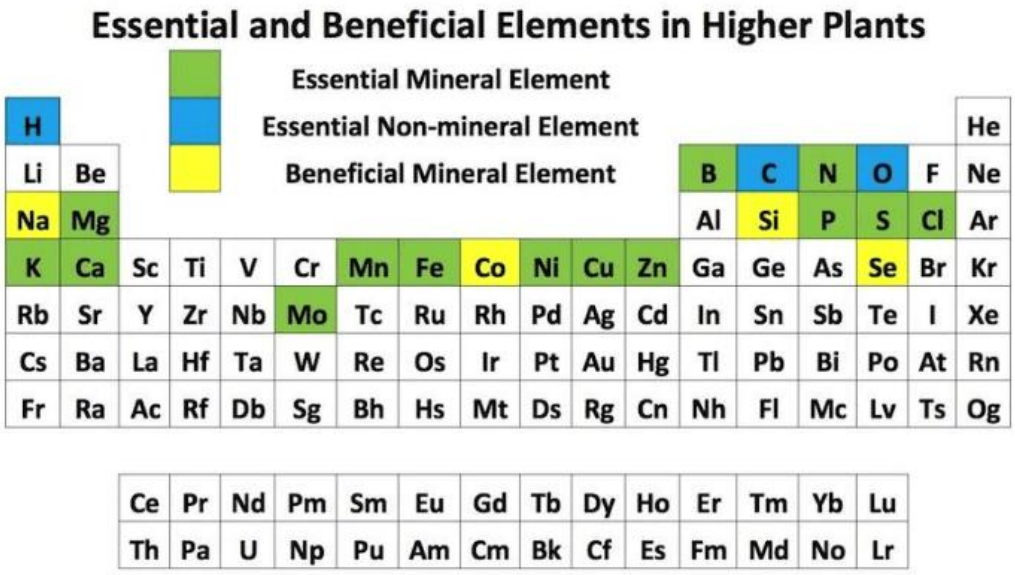


The pictures above illustrate the close relation between Devonian granite rock derived soils, and farming operations.

Basalt is far and away the most fertile of our soils, as shown by the table highlighting the proportions of minerals of the rock also available in the soil.

Remember the days at school, when we studied (if that is the correct term) the Periodic Table, and wondered what use it might someday be?

For those who might have forgotten here is the names of those highlighted in the table below.

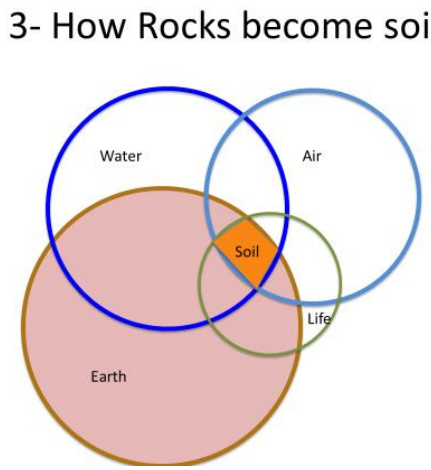


H Hydrogen
C Carbon
O Oxygen
B Boron
N Nitrogen
Mg Magnesium
P Phosphorus
S Sulphur
Cl Chlorine
K Potassium
Ca Calcium
Mn Manganese
Fe Iron
Ni Nickel
Cu Copper
Zn Zinc

Mo Molybdenum Na Sodium Si Silicon Co Cobalt Se Selenium

Assuming all 11 essentials are in fact essential, then on a scale of 1-10 Basalt scores a 6, Shale 4, Granite 4 and Sandstone 2

But is this realistic, as plants generally don't grow in rocks, but in soil. Soil is a mixture of weathered rocks and rotted organisms, and what matters is the elements that are in the soil.



Agents of weathering:

Oxygen, ferrous iron to ferric = rust
CO_2 acidifies rain water
H^+ replaces metals = clay
Biota, plant roots use acids to dissolve minerals

Black mica for example, (Biotite) is common in Granite and contains K, Fe Mg, 3 essential plant nutrients, plus several trace elements are also quite high, Cu (100ppm) and Zn (700ppm). But importantly Biotite also holds Apatite, a main source of Phosphorus, and commonly contains quantities of rare earths

One of Tony's Honours students, Jill Banfield in 1985 completing a Master of Science degree on granite weathering, looked inside a fresh Biotite crystal to see how weathering might be changing it. Using a scanning electron micrograph she saw that partly weathered apatite crystals had been replaced by half donut shaped material. Analysis shows the composition of the donuts is Rare-Earth phosphate.

Clay is a vital ingredient in soil, but where does it come from? Feldspar (K, Na, Ca) $[Si, Al]_4O_8$, is the main source of Potassium and Calcium, and adding water dissolves K, Na, Ca leaving kaolin which is useless as a nutrient. First, feldspar turns to another clay, a swelling clay called Bentonite,

which is common in black soil plains. Useful nutrients can be Potassium, Magnesium, ammonium, Zinc and so on. Plants take useful nutrients, substituting H^+

Chemical movement

Iron: Almost all rocks contain enough iron for plants. This forms an essential part of enzymes in the production of chlorophyll. The problem is that it becomes insoluble when oxygen is present. Rising and falling water tables move the oxidation zone up and down, and the iron moves with it.

Ferrihydrite Essentially $Fe(OH)_3$

Many will have come across a slow moving creek with an orange sludge which is jelly like and breaks up in blobs. Now you know what causes it

Calcium: A very soluble chemical found in most rocks, but it is easily leached into the soil water, turning it alkaline. Too much Calcium and the soil becomes alkaline, available iron drops, and plants exhibit lime induced chlorosis, iron deficiency.

Phosphorous: Iron oxide minerals, rust, attract P to their surface. Tiny crystals of iron oxide have spaces between them where elements such as phosphorous and copper can attach.

Regolith of the South Coast

There is 5 rock types,

Ordovician sandstones, greywackes and shales, which are twice weathered, low in nutrients, produce shallow soils, and are acidic and infertile
Granites are generally acidic, infertile deeper soils
Sydney Basin sandstones are nutrient poor, shallow, permeable and with low fertility.
Cenozoic basalts produce fertile deep soils
Cenozoic sands and gravels are generally well drained, acidic but exhibit low fertility.

As we are learning something new everyday in this time of hibernation, Tony explains that Kainoz, Greek for new, led to the most recent of the Geological eras to be called Cainozoic, new life. That's too many letters for Americans, so they reduced it to Cenozoic. Kenoz is Greek for empty, so now it means 'empty life' rather than 'new life' ! Could it be that at the moment, locked away we are experiencing a Cenozoic existence.

Well Tony, that was quite a trip, and I hope that the report covers enough to make sense to some, and is of interest to most.

I did learn something else about Tony which might be of interest. He specialises in taking photos of Butterflies. This just might be a topic to keep everyone interested, especially if we could relate the species to the plants they prefer.
Just a thought.

Annual General Meeting.

President Di opened the meeting, welcoming members and visitors, and calling for apologies, of which there was a few following recent fires and other events.

On behalf of Secretary Paul Hattersley, Di presented the minutes of the previous AGM, which were affirmed by all present. She then proceeded with her President's report, which follows:

2019 was an interesting year for the South East NSW Region group. As the year progressed the lack of rain became more and more obvious in our gardens and also in our landscape and in our informative talks. The drying land eventually succumbed to several fires that occurred in our region with devastating results. 2020 has brought relief to the community in the form of rain and cooler conditions, but not without further damage being inflicted. It seems impossible now to talk about anything without referencing the period of fire.

In this report I would like to reflect on the aims of the group and then outline our activities.
All these activities have been written up in detail in our newsletters, so I will try and be brief.
So what were our aims?

Our website homepage states "that the Australian Plants Society South East region aims to promote an awareness of Australian native plants in our community, inform its members about native plants and act as a social group for people with an interest in these plants."

I think the years activities reflect this aim and I would include conservation as stated in the mission statement for the APS NSW Strategy 2017 - 2020.

The year began with a small committee being elected at the AGM held at the Eurobadalla Regional Botanic Garden (ERBG).

This was followed by a presentation by **John Knight on the family Goodeniaceae**. John's fascination for botany and taxonomy shone through as he attempted to share the highlights of the Fred Rogers Seminar held at Horsham, Victoria. The seminar has encouraged John to grow many of these plants in his garden and report on his success in the newsletter. As a group we also had a chance to experiment with leaf cuttings and stem cuttings in the ERBG propagation area.

As part of our planning the Committee decided to include more of the landscape design discussions that we have previously conducted for our meetings. For the March meeting we were guided through a most interesting assessment of two gardens in the Narooma and Dalmeny area.
Architect Designer Shane Doherty showed us how to look at the garden with design, access, views, focus, safety and fun in mind.

Our April meeting looked at how **architect Geoff Lovie and Lesley Vincent** combined the house and garden design to enhance their block on the Ridge Road and to live in balance with the environment. Unfortunately this garden has since been burnt by the New Year's Eve fire and Lesley and Geoff are in the process of rethinking and rebuilding the garden.

In May, we were once again at the ERBG but this time in the smaller lunchroom area, as the ERBG building improvements were preventing us from using our normal facilities.
Linda Groom was our guest speaker and her topic was "Save Kosci". Linda demonstrated through her talk that one person can make a difference. One person with a huge amount of energy and

commitment. Linda came to this cause through her bushwalking and her love of the natural world and it showed in her slides.

The June meeting involved a trip north to Ulladulla and a visit to **the South Pacific Headland**. **Dr Nicholas de Jong** guided the group through the heathland and his detailed knowledge of the plants and the ecology was greatly appreciated. Parts of the reserve were burnt in 2016 and it was interesting to observe the regeneration that had taken place since then. The reserve is maintained by volunteers and Helen Moody (President of the Volunteers Trustees) gave our group an inspiring lunchtime talk about the work being done to maintain and promote the reserve.

Many of our members head off on a winter break so we decided to keep the July meeting a simple as possible. We arranged to meet for a **walk at Bingi Dreaming track** and five intrepid walkers set off to amble through the bush and look at plants.

The group reconvened for our August meeting and members were to be startled to hear all about climate science and what can be done about climate change, from our **guest speaker Tony Eggleton**. The talk being titled **The Startling Air - Climate Science and Energy Change**. 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. The talk was thought provoking and stimulated some discussion regarding how people could make changes in their own lives.

Spring found us back at the ERBG **celebrating native plants in our gardens**. Even with limited rain and pending water restrictions the collection was fantastic. All together there were 125 specimens on display proving that our members are native plant enthusiasts and not afraid to try growing plants from all over Australia. The list included taxa from Western Australia such as ***Grevillea trifida*** and ***Lechenaultia biloba*** and some of our beautiful local plants such as ***Grevillea macleayana*** *and* ***Philotheca myoporoides***.

Our next meeting (October) involved **a two day visit to Canberra**. The first stop was the **ANBG** where we did a self guided 3 hour tour through select parts of the garden, including the red centre garden.

After lunch we headed over to **Ben and Ros Walcott's Garden in Redhill**, Canberra. This is a beautiful, large native garden. Ben and Ros are generous hosts and their garden is inspiring for its design and diversity.

Our second day began at the **National Arboretum** where we walked through the **Southern Tablelands Ecosystems Park** . The garden highlights the range of tablelands plants and is maintained and developed by volunteers. After this we returned to more designed gardens and were given a tour of the **Terra Australis Garden** by Ros and Ben Walcott. It wasn't a planned activity but many of us met at the Cool Climate Natives in Pialligo, ACT on the way home to add to our own collections.

Our final meeting for the year was going to be a visit to **Montaque Island** but unfortunately it proved too difficult to obtain the numbers to achieve a group discount. We were always at the mercy of the weather as well, so not an easy task. Instead we were given a wonderful talk by **Paul Hattersley** about the island and its plants and animals. Paul has been a volunteer tour guide on the island over the last three years and so got to know the island well. His talk included details of plant research and conservation and the history of the island and highlighted some of the difficulties and importance in carrying out this research.

Most of our meetings included a show and tell segment, and I would like to thank everybody for making the effort to bring in samples from their garden and being prepared to talk about them. A great way for others to learn about what will grow here. We have also been encouraging people to bring in potted plants to give away or share.

I would also like to thank the committee for keeping the show on the road.
Specifically Geoff Gosling for being vice president and treasurer,
John Knight for his extensive newsletters and sharing of knowledge,
Jenny John for her regular maintenance and her understanding of the membership list,
Paul Hattersley for recording the committee meetings and being the secretary and
Marjorie Apthorpe for her support with committee activities and newsletters during the year.
And Mark Noake for his behind the scenes work on the website and his contribution to the photographical aspects of our talks.

I would also like to thank Sue Grahame for her role as returning officer this meeting.

As I said, 2019 has been an interesting year. We look forward to building on our themes and continuing to learn and share our love of native plants.

Thank you for coming along.

Di Clark, President

TREASURER'S REPORT

Any year in which the Treasurer can report that revenue is higher than expenses is a good one.

For 2019, **revenue was $522.24** and **expenses were $506.00**, giving the APS South East a balance at the bank of $2686.18 with another $100.00 on hand in petty cash. For an organisation that does no fundraising, that is a good result.

However, there are some other points to be made. The bulk of our funding comes from membership payments. APS South East receives $10 from each membership in our group. Note that that is not from each member; it is from each membership. So, if you have a joint membership we receive $10, if you have a multi-year membership we receive $10, and if you have a single membership for a single year we receive $10.

It is difficult, for me at least, to determine whether the NSW Regional Office is sending us the correct amount as the membership lists, although containing extensive information, are not clear about when a membership is renewed or how many people are covered. When I last counted the membership numbers, we had 76 paid up members but received $490 in membership fees. I have requested information about this from NSW Region but the answer was not clear. I will continue the enquiry as the year goes on.

What this issue reveals, is how slim our margin of safety relating to money is. We have a major purchase that we will have to make this year (a new projector for the computer, about $700) and we may have to start paying rent for meeting rooms (up until now all or most of the meeting rooms have been free). Our members may have to face up to the need for some future fundraising activities to meet our expenses.

I commend this report to the meeting.

Geoff Gosling, Treasurer
7/3/20

Membership Report for AGM March 2020

We are always searching for ways to attract new members to the SE Group but we are in competition with innumerable other clubs and associations so we can congratulate ourselves on acquiring twelve new members in 2019 and on persuading one member to return to us after a while away.
This brings our Group's total membership to 93.
Admittedly some of those twelve were already members of other Groups of the NSW APS but now that the fee for associate membership to other Groups has been removed it is simple for members to select our Group as a secondary district in their profile on the system and that triggers their name appearing in the download of our members.

The SE Group warmly welcomes the following members:-

Shari and Shaun Armstrong from North Nowra
Nik Devenish from Bulli
David Hall from Brogo
Chris Reid and Safrina Thristiawati from Helensburgh
and welcomes back Fran Tomkins from Bodalla
Vera Konsuo and Janice Clay from Banksia
Karen Everest from Binjura
Barb Johnson from Dalmeny
Charlotte Taunton from Wombarra

I have posted name badges to this year's new members but still have quite a collection of badges with the new logo, for existing members. Please let me know if you would like your 'new logo' badge. I apologise for my poor attendance at meetings but I would like to emphasise that I am always ready to respond to any membership queries or requests via e-mail, snail mail or text.

Can I encourage members to go onto the ***austplants.com.au*** website, and go to **Membership**, **Renew your membership**, where you can check your details and edit your profile, if necessary.

If you do not want to use the website, or have not been receiving the Group Newsletter, notification of renewals, or the Australian Plants journal that you requested, will you please contact me. I will inform the Newsletter editor and/or notify Regional Office, who administer the site, to make the necessary changes.

Finally, our meagre garden in Narooma does now have a few Callistemons, Grevilleas, Eremophilas, Thryptomenes and others which would not suffer if they lost a few growing tips. If any member is in need of cutting material, to replenish their garden, please come to 12,Riley Street with your secateurs and help yourselves.

Jenny John, Membership Officer
peteandjenny.john@gmail.com
Mobile: 0437 304 173

Each report was moved, and seconded from the floor, and each passed scrutiny without comment.
There being no questions, President Di then asked for our **Returning Officer Sue Grahame** to take over the meeting to conduct the election of a new committee for 2020.

Nominations received:

President Di Clark, elected unopposed
Vice President Geoff Gosling, elected unopposed
Secretary, Paul Hattersley, elected unopposed
Treasurer, Geoff Gosling, elected unopposed
Membership Officer, Jenny John, elected unopposed
Publicity Officer, Carolyn Noake, elected unopposed
Committee members, Marjorie Apthorpe, Norman Hulands, John Knight and Sally Power, each elected unopposed

Following general acclamation, Sue then handed the meeting to the incoming President, Di Clark

Show and tell

There was an interesting diversity of plants brought to the meeting for discussion

Norm and Lesley Hulands presented

Banksia media, which continues to flower despite the efforts of the horse 'Nugget' who delights in biting off accessible flowers to enjoy the sweet honey nectar. The photo shows a flower spike and developing bud, taken in February. The flower spike is over 20cm tall

***Grevillea lavandulacea* x *juniperina* 'Strawberry Smoothy'**

***Grevillea rhyolitica* 'Deua Gold'** - developed by Tarrawood nursery

***Correa reflexa* 'Canberra Bells'** is another of the brilliant Correa cultivars developed by Peter Ollerenshaw. The plant is literally covered in lovely bell flowers, popular with honeyeaters and bees

***Scaevola* 'Bondi White'** - nice shaped mound with many flowers

Jan Douglas and Dave Crawford displayed a couple of rare plants, and following information was taken from the **APS East Hills Group** newsletter. There it notes that the specimen that Jan brought to the East Hills meeting was the same as the one shown at ours some 2 weeks later, proving the long lasting potential as a cut flower.

Photo Brian Walters ANSPA

Homoranthus porter, formally described in 1931 and called ***Darwinia porteri.*** In 1991 the name was changed to ***Homoranthus porteri.***
"Dave and I have ***Homoranthus porteri*** growing in our garden, and it is one of my favourite plants. Its flowers are intricate and colourful and occur in great numbers over a long period. It has also coped well with dry soil and drought."

Gymnostoma australianum - Daintree pine or Oak- Has brittle stems that do not reshoot, but beautiful weeping foliage

Mark Noake brought a couple of local plants he had propagated and offered to members

***Notelaea longifolia*-** Mock Olive

John Knight showed some specimens from the Goodeniaceae garden, which is now flourishing

Plectranthus granitica , but considered to be an unknown species. The plants grows naturally at Jenny Vine's Moruya property, on granite rock with skeletal soils, and is very tolerant of dry soils.

Goodaceniaceae plants included

Scaevola striata 'Royal Robe' - low growing mound

Goodenia albiflora - Grey foliage, from South Australia on limey soils a small shrub under 1m, with strong displays of large white flowers

Goodenia gracilis and ***Goodenia pusilla,*** both very small plants ideally suited to rockeries and containers

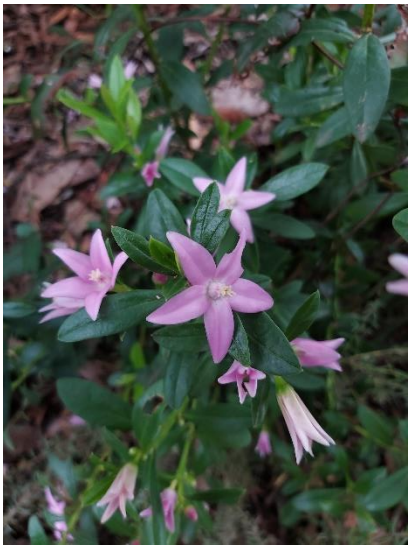
Scaevola aemula - Pink, small flowered compact mound

Lechenaultia formosa 'Starburst'strikingly bright orange/red flowers on a 30cm high mounding shrub

Thryptomene baeckeacea flowers continuously, with masses of tiny 5-petalled teatree like blooms well displayed along weeping branches.

Isotoma axillaris with large blue flowers as long as the weather is warm. The plant does have sap which some find irritating, and Ruth Pulford noted that she suffers coughing if she prunes or weeds around the plant.

***Grevillea* 'Pink Midget' –** is a dwarf shrub, under half a metre, always flowering with spidery pink conflorescences, loved by insects, especially native bees



***Lobelia* sp.** - point Anne WA suckering herbaceous plant about 200mm high, with bluish/white flowers most of the year

Crowea saligna hybrid - 1m high No water other than when it rains, it retains a naturally bushy habit growing beneath a Callistemon. Flowers from February to July

Veronica arenaria -good for blue banded bees. This is an herbaceous shrubby plant with arching branches up to 1m. Flowers throughout the warmer months, with sprays of delicate but brilliantly blue flowers. Can be pruned fairly hard to encourage another flush of flowers, propagates readily from cuttings, and seed sometimes germinates naturally in the garden

Grevillea thyrsoides ssp. thyrsoides- grafted low plant now 15 years old. Spreads outwards 40cm x 2m with flowers held away from the foliage on long naked stems. Thought to be pollinated by small animals rather than birds, but I did notice that some honeyeaters visited during the dry weather

Banksia oblongifolia - low rounded shrub. Plants were grown from seed supplied by Ryan Harris, from his Victorian garden, and propagated by Mark Noake. A range of forms were grown on, and the best forms chosen for further selection. This plant has prominently displayed flowers, sitting atop the foliage, not hidden in bush as some plants.

Buckinghamia celsissima - Ivory Curl is a small rainforest tree from Nth Q'land, but is very happy to grow in a sunny position without additional watering, as far south as Melbourne.

In the Proteaceae family, plants are slow growing and might reach 4 – 6m eventually, but can be kept smaller with pruning.
Long sprays of delicate ivory white flowers begin in February, and will last through till May as long as the sun continues. Given good drainage and plenty of sun, this is a reliable specimen tree for even small gardens, and can be kept as a container plant for many years, although flowering might be curtailed.

In My Garden
An Awful Summer

by Leigh Murray

What a summer it's been. Really awful.

With severe drought, huge bushfires that threatened both our places, prolonged Kings Highway closures that stopped us from travelling, dense smoke that kept us cooped up indoors for weeks, and a record-breaking heat wave causing heat stress, it's been a corker. There were irritations too, such as an ant invasion at home, and a peacock (probably a bushfire refugee) that pranced across our roof with hobnailed boots, making a tremendous din and peering in at us through our clerestory windows.

All in all, it's been an awful time for so many people, animals and plants. We seemed to spend much of the summer attached to the Fires Near Me app, anxiously watching fires near us and near friends.

Now that there has been wonderful rain to clobber the bushfires (and the smoke haze), and with the Kings Highway finally reopened after weeks of closure, we are beginning to resume our usual pattern. It's terrific to get back to some sort of normality, albeit with many burnt reminders of the fires.

Our gardens suffered from the conditions and from our lengthy, unplanned absences. We've lost quite a few plants, mostly very small ones that needed watering every few days, but also some larger ones that simply couldn't take the heat and dryness. There is only one surviving ***Epacris longiflora*** **'Nectar Pink'** of several I bought from Angus' website. They were little darlings, tiny little plants that were already flowering. I got them to replace the wonderful, gangly ***E. longiflora*** that had attracted Eastern Spinebills for 18 years at home before suddenly succumbing to the drought. (That drought has been so strong in Queanbeyan that large, indigenous eucalypts have died.) The tiny plants had been doing well while I could water them every few days, but many couldn't withstand a long absence during heatwaves and strong winds.

At Tuross, most of the larger plants and indoor plants were knocked about but OK. Surprising survivors were small tubestock of several **Grevillea** cultivars (Moonlight, Coconut Ice, Sandra Gordon) – I expected them to be dead, but they looked just fine. Small eucalypts also survived, ditto acacias, but tiny banksias didn't. And we've lost some small **Anigozanthos** – I find them hard to establish from tubestock – including a much-loved ***Anigozanthos flavidus*** **'Pink'** which had been growing and flowering beautifully before our extended absence; I adored that plant. Several quite tiny plants look fine so far, including ***Correa*** **'Adorabell'** and ***Melaleuca*** **'Narrow Nessie'** (a form of ***M. nesophila***).

At home, I'm still hoping for the survival of a large ***Hakea eriantha***, which is a major drawcard for Yellow-tailed Black Cockatoos; it was hit hard by the drought, and it's hanging on by its toenails. The cockies do fly-overs, possibly to check it's OK. They dote on it.

Water that I put out for birds and other wildlife proved very popular, and I kept it topped up when I could, smoke permitting. Wallabies and roos drank lots, and I had steady streams of bird-bathers in shallow bowls of fresh water. There was a massive storm in the Canberra area, and the next day I found a small possum sheltering at the base of a Callistemon in our courtyard. The possum stayed there for a couple of days, recovering.

Our garden ponds sank to very low levels during our extended absences (first we were trapped at Tuross when the Kings closed suddenly, and then we were stuck at home for weeks in January) so I'm working hard to rehabilitate the ponds (removing sludge, replenishing water and running a little battery-operated pump). This has worked well, and some fish have turned up from the depths, where they must have been lurking in the mud. Tadpoles survived too, as did most of the pond plants even when there was only almost-dry mud left.

Recent good rains have provided suitable conditions for the Whipbird to return at Tuross – it only visits when the ground is damp. And the rain has been a godsend for garden recovery. We've had plenty of wildlife adventures recently too, which is a great joy. As far as the plants go, it is simply a waiting game to see which ones really recover from their, and our, stressful summer.

Watch and wait and try to recover.

In My Garden

From Christina Kennedy, we received advice of a podcast which will be of interest to any member concerned with the use of chemicals in the garden.

Those who are up to date with technology can search the WWW for
https://podcasts.apple.com/au/podcast/zach-bush-m-d-on-gmos-glyphosate-healing-the-gut/id582272991?i=1000405915346
which discusses the use of Glyphosate

Committee News

Vale John Liney

We were sad to learn of the death of John Liney in February this year. John and Jenny were foundation members of the APS South East group in 1997, and Jenny has been an enthusiastic contributor to our knowledge of Australian plants, and supporter of the group, over the past 23 years.

Our very first APS SE outing at Jemison's Beach Potato Point was led by John and Jenny in July 1997. Jenny is a keen supporter of APS South East, and a prolific recorder of information about the flora of this area.

The committee, on behalf of all members, sends heartfelt condolences to Jenny and her family.

Farewell Wendy Ross

Wendy passed away on March 6th after a battle with cancer.

The following message was sent to Bob, from **Sue Sullivan**.
"We send our sincere condolences for your loss of Wendy. We will miss her wonderful company and the opportunity to swap stories and experiences on our bike riding outings. I was shocked and saddened to hear this week that Wendy had died. It was only in November last year that we went on a bike ride with the two of you along the airport stretch, followed by coffee at the chaotic terminal, being renovated there then. As well as our many bike rides alongside the Merimbula airport, we remember the planting events there. Wendy was instrumental in supplying the many plants and for much of the organising and labour with you there Bob.

I have so many memories of good times with you and Wendy and our Plant Society activities. As well as sharing transport on many occasions to meetings all over from Batemans Bay to the Victorian border we went on field trips with you both to Cape Conran in 2005, Mallacoota in 2006 (remember the southerly wind and your tent), Wilsons Promontory in October 2007 and Kosciuszko NP in January 2009 (in a heatwave)".

Bob and Wendy were members of APS way back in South Australia, and also while they were living in Cooma, before moving to the coast and joining APS SE in 1999. Wendy's first article for the group newsletter appeared in January 2001, on the subject of Flannel Flowers. (***Actinotus helianthi***) That same month she led a group excursion to Kosciuszko N.P. using her experience as a ranger with NPWS there and at Sawpit Creek Earth Education Centre to explain the alpine plant communities. Her love of Australia's natural world also saw her guiding at Yarrangobilly Caves for a period.
Along with other members of the group, Wendy arranged plantings of local Australian plants alongside Merimbula airport, and also, another community planting at Bega Park Garden, replacing plantings of introduced species again with local native species.
Wendy was a long time committee member of the SE NSW Group from 2005 up until December 2014, and contributed articles to the newsletter on a variety of topics, including on making jam from Davidsons plums.

On behalf of the committee, and all her knew Wendy, we offer our condolences to Bob.

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