Dianella admixta

AUSTRALIAN PLANTS SOCIETY

SOUTH EAST MELBOURNE REGION INC.

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AUGUST NEWSLETTER 2018

Meetings are held on the first Tuesday of each month, February to December except November.
The venue is the Hughesdale Community Hall, Cnr Poath and Kangaroo Roads, Hughesdale (MEL 69 C7)
Visitors are always very welcome.

COMMITTEE:

PRESIDENT: John Thompson thomme@netspace.net.au
DEPUTY LEADER: Helen Appleby
SECRETARY: Helen Appleby
TREASURER: Catherine Irwin irwincs@hotmail.com
PUBLIC OFFICER: Helen Appleby
NEWSLETTER EDITOR: Marj Seaton normarjs@bigpond.com
COMMITTEE: Amanda Louden amandalouden@icloud.com

Please forward any newsletter contributions, comments or photos to Marj at 36 Voumard Street, Oakleigh South 3167 or to the email address above.

Note: Deadline for the SEPTEMBER newsletter is August 23rd

AUGUST MEETING

Tuesday August 7, 2018

8pm Hughesdale Community Hall
Cnr Poath and Kangaroo Roads, Hughesdale

AGM, members' slides, calendar photo competition

This is the night of our Annual General Meeting where office bearers will give their reports and we vote in a new committee for 2018-2019. All positions will be declared vacant. Please give consideration to standing for one of the positions as our club needs new ideas if it is to remain vibrant.

If you are showing your photos in Members' Slides, please get your photos to John early so he can load them onto his computer.

Our first calendar photo competition will be held throughout the night. When you arrive, please collect some Blu-Tak if you have photos to offer and mount these on the walls. You should have your name on the reverse side of each photo. Everyone has five votes so collect some stars and affix these to the photos. The photos with the most stars will be used to construct the calendar.

Supper follows all of the fun.

RAINFALL RECORDS

The following are our rainfall records for 2018 (in mm) so far.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Oakleigh South	**67.6**	**1**	**26.2**	**20.5**	**71**	**54.3**							**240.6**
Highett	**52.2**	**1.6**	**16.5**	**17.1**	**50.1**	**38.1**							**175.6**
Hampton	**51**	**0**	**18**	**18**									**87**
Cranbourne South	**47**	**4**	**31**	**26**	**78**	**70**							**256**
Caulfield Sth	**76**	**1**	**25**	**17**	**58**	**44**							**221**
Elsternwick	**63.3**	**1**	**22**	**13.6**	**42.55**								**142.45**

JULY MEETING

Speaker: Dr Greg Moore

Topic: The Evolution of Plants: "How Brilliant are Plants"

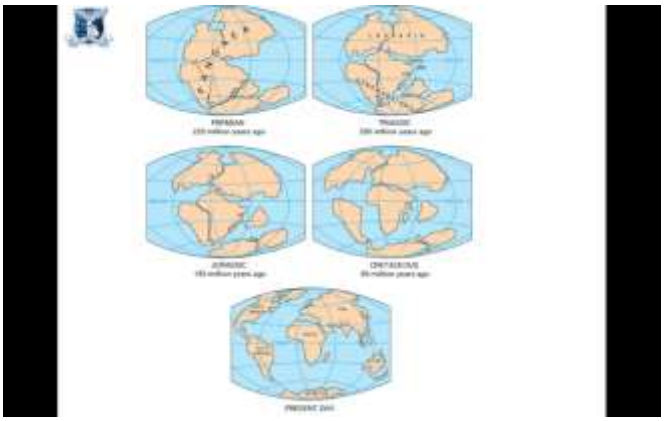
Write-up by Marj Seaton

We need knowledge of history to understand our plants. Plate tectonics and Continental Drift give sense to our flora and its distribution. We start from Pangaea, the original major continent where all of our current continents were connected together.

Back in the Silurian period (443 – 416 MYA), the soils were rich, sunlight was unfiltered by algae and water droplets, there was a lot of carbon dioxide and the first plants were primitive. Fossils of Cooksonia, a primitive plant named after Melburnian Isobel Cookson (a botanist and paleo botanist) and extinct for over 400 million years, have been found in Europe and North America and was the first known vascular plant. It had dichotomous branching and small lignified cells like the xylem of the modern pteridophytes (ferns and their allies).

Land plants then evolved and developed, particularly during the Carboniferous period. The first trees evolved in a warm, sunny and wet climate, high concentrations of carbon dioxide. Photosynthesis went 'gangbusters' creating massive biomass production and fossilization occurred on a great scale. All of the plants were ferns and their relatives – horsetails, psilophytes and lycophytes. Gymnosperms appeared at the end of the Carboniferous but there were no Angiosperms (flowering plants) yet.

In the Atlantic ocean, the Atlantic ridge was pushing the tectonic plates apart causing Pangaea to split into two major land forms – Laurasia and Gondwana, separated by the Tethys Sea and connected only by a narrow land bridge allowing some movement of plants, see diagram. The split particularly affected the conifers.



In the Cretaceous period, Angiosperms appear for the first time and evolved first in Gondwana (Africa, South America, Australia and Antarctica). 100 MYA, the Indian Plate was pushing north and creating the Himalayas. Surprisingly, India and Australia share more plant families than those we share with Papua New Guinea.

Edna Plumstead, a paleo botanist working in South Africa, studied fossils of Glossopteris, a sea fern which seems to have formed a link between sea ferns and sea plants. Sea ferns

in the northern hemisphere were different from those in the southern hemisphere. It is thought that

Gymnosperms first evolved from the northern sea ferns whilst the Angiosperms evolved from the southern ones. Angiosperms then crossed to the north via land bridges. Greg made the point that northern areas have less diversity of Angiosperms than in the south.
Looking at a time line, 110 MYA South America and Africa separated from Gondwana.
80 MYA New Zealand drifted off.
65 MYA India separated and moved north
45 MYA Australia separated and moved north.
The Australian/Indian plate is moving about 6cm/year north but is relatively stable.
Because of the close departures of India and Australia, their plants have many things in common.

Glossopterids: - a whole flora with great diversity. Glossopteris was a small to medium tree with finely patterned veins and left many fossils (fossil leaves right, especially top, fourth from left). It is thought that this plant led to Angiosperm formation.

Glossopterids almost certainly gave rise to the 'southern conifers' eg Agathis, Araucaria and Podocarpus which are related more closely to Angiosperms than Gymnosperms. Australia's oldest Angiosperm fossil is of pollen from Ilex (holly) which prefers sub-tropical forests and is an indicator of climate. Nothofagus and Proteaceae types quickly followed. Nothofagus is found in NZ, Chile and Australia. Proteaceae evolved early in Australia and Africa, with different genera evolving in each continent (eg proteas and banksias/ grevilleas).

100 MYA, there was a great flood in Gondwana, especially the Australian part and this lead to 3 or 4 islands developing in the shallow seas. Lots of fish and algae led to calcareous soils. Later the Nullarbor and Lower Murray regions were submerged and three separate regions developed – South West, Adelaide area, South East. These inundations affected eucalyptus distribution.

The Ice Ages were superimposed on all of this geology. In the north, 3km thick ice sheets drove the vegetation south. When the ice had passed, plants re-established but diversity was lost. In the south, the Ice Ages had less impact except in the Alps and Tasmania, so there was less loss of diversity.

Our area is now getting warmer and drier. Some trees, eg the elm, are quite hardy in the urban environment and will survive climate change. Others eg Birches, may not, although different versions may arise to cope better. Our eucalypts and acacias are still evolving so should survive.

Greg now talked about 'Displacement Series". Within each genus, several species exist and one may displace another as the climate changes due to hardiness in coping with new stresses including insect and fungal attacks. He discussed three categories of eucalypts – symphyomyrtus, monocalyptus and corymbia, with symphyomyrtus being hardier than monocalyptus and corymbia less hardy again. As the climate dries, there is a greater root to shoot ratio, slower stomatal response and a lower rate of transpiration in response to water stress. This means that where both exist, Acacia dealbata will give way to the hardier Acacia mearnsii, softer Acacia leptocarpa will give way to Acacia cinerea which copes with harsher conditions.
Greg showed several such displacement series including some eucalypt and salt bush series which will allow these genera to survive. He also commented that symhyomrtus is highly tolerant to phytophthera, whereas monocalyptus is very susceptible to this infection.
The last aspect of his talk considered the political issue of prescribed burning. Some of the areas burnt in Australia included monocalyptus forests such as jarrah and banksia forests, both of which were subsequently wiped out by succumbing to phytophthera. This has occurred in Victoria too

since 2009 when the Victoria government 'upped' its burning regime in Victoria's monocalyptus forests. Acacias are more antagonistic to phytophthora so survive better.

SPECIMEN TABLE - JULY MEETING

We had another good collection of specimens brought in for discussion.

Ray's garden gave us a basketful of colour. Ones to catch the eye

were a pink epacris, the golden flowers and red buds of *Eucalyptus erythrocorys* (left), *and Hakea Victoriae* (right). *Grevillea* "Moonlight", *G. dimorpha*, *G. "Billy Bonkers"*and *G. linearifolia* covered this genus well. Eva added a dish of fungi to the mix (below left).

Mandy offered a cream *Grevillea rosmarinifolia, G. olivaceae*, *Hakea cristata* (chosen as plant of the month), *Eucalyptus preissiana* (bell-fruited mallee, which grows well in large pots)(right) and a variety of correas.

Marj's *Templetonia retusa* (left) had a full head of darkish red flowers (cockies tongues).

John said *Correa pulchella* does well on limestone soils and its flowers are a gorgeous bright pink *Epacris calvertina var versicolor (*left) has pretty pink flowers. Three acacias made up the

rest of his specimens: *Acacia alata var alata* (right) has winged stems, is prickly and suits part shade best. Any dieback should be pruned off. *A. alata var tetrantha* has white flowers and is softer. *A. madrodynia* or zig-zag wattle (lower left) comes from Queensland, is a small to medium shrub of 3-4metres

and has bright yellow flowers. The other 'zig-zag wattle, *Acacia merinthophora* was also on the table and John compared the two.

Pam too brought in several correas ("Mallee Bells", alba(massive in her garden) and bauerlenii, the chef's cap correa), as well as a westringia and a green flowered eremophila which the birds love. She also had the red *Grevillea "Lady O".*

SUSTAINABILITY IN GLEN EIRA

The latest newsletter from the Gen Eira council has some interesting pieces in it, including their biodiversity implementation plan, how to get their booklet on the Indigenous Plants of Glen Eira, building a swale to capture storm water, healthy soil, and information about different types of basil. You can download it at:

sustainability@gleneira.vic.gov.au

Pick of the Bunch July 2018

Hakea cristata R.Br. Snail Hakea

Specimen grown by Amanda Louden

Hakea cristata is an erect, sometimes straggly shrub with a lignotuber, up to 3m high by 3m wide. It is a quick growing species which may be cut back vigorously if necessary. The grey-green oval leaves have wavy prickly toothed margins and the reddish new growth is most attractive. The white flowers are borne in the axils of the leaves from June to August.

A species of restricted distribution, it occurs in the northern Darling Botanical District in south-west Western Australia growing in Marri[1] - Wandoo[2] woodland in gravelly soils.

In cultivation it adapts well to most soil types and conditions. It requires good drainage and full to partial sun. Heavy frosts can damage the new, young growth. Propagation is from seed or cuttings.

Hakea is a member of the Proteaceae family. A family of c.1500 species in c.80 genera occurring mainly in the Southern Hemisphere in tropical and temperate regions with c.900 species in 45 genera in Australia. It includes such genera as *Adenanthos*, *Banksia*, *Conospermum*, *Grevillea*, *Isopogon*, *Lomatia*, *Persoonia*, *Stenocarpus*, *Telopea* and *Xylomelum*. The genus *Hakea* is endemic to Australia with c.150 species with the greatest number being found in south-west Western Australia.

Hakeas are named in honour of Baron Christian Ludwig von Hake (1745-1818), a German patron of botany. The specific name, *cristata*, is derived from the Latin, *cristatus*, crested, in reference to the crest on the top of the woody fruit.

1. *Corymbia calophylla* 2. *Eucalyptus wandoo*

Bees need food

We know how important it is to provide our native bees with a home, such as a bee hotel, but they also need food. In fact, the availability of the right kind of food is critical in your garden being able to attract native bees and other wildlife. Good food plants for native bees include *Angophora* and *Eucalyptus* trees, *Brachyscome* groundcovers, grevilleas, *Leptospermum* and *Westringia*.

A fun fact: the blue-banded bee (*Amegilla cingulate*), pictured right, love plants with purple and blue flowers, such as lavenders. Some also say these bees are attracted to people in blue clothing.

Text from Glen Eira City Council newsletter. Image attributed to Magdeline Lum

AUGUST MEETING

Supper: Marj Seaton (1 litre milk please)

Write-up: John Thompson

DIARY DATES

August 7	AGM and members' slides. Calendar photo competition.
August 18,19	APS Foothills hosts APS Vic Quarterly gathering. "Plants and Gardens of the Dandenongs and Foothills". Includes Victorian COMM and AGM. See June "Growing Australian".
September 4	Mike Beamish: Part two of "The Top End"
October 2	"Grasslands", Cathy Powers
October 20 – 21	FJC Rogers seminar, Horsham, "Goodeniaceae". fjcrogersseminar2018@gmail.com
November	Annual Outing - TBA

Plant Sales and Shows 2018

July 22, 23	Cranbourne RBG Friends Winter plant Sale 10am – 4pm
September 1	APS Wilson Park Native Plant Sale Mel 133K10 9 – 3
September 8,9	APS Yarra Yarra Plants Expo 10 – 4 Eltham Community Centre, 801 Main Rd
September 22,23	Bendigo Native Plant Group flower show. Kangaroo Flat Primary School
October 6,7	APS Grampians Group Pomonal Native Flower show, Pomonal Hall, 9:30 – 5 Saturday, 10 – 4 Sunday
October 13,14	South Gippsland Native Plant Sale, Leongatha Recreation Res, 10 - 4

ANNUAL GENERAL MEETING AGENDA:

1. PRESIDENT'S REPORT
2. TREASURER'S REPORT
3. ELECTION OF OFFICE BEARERS FOR 2018/2019

- ALL POSITIONS WILL BE DECLARED VACANT. WE ARE IN NEED OF EXTRA COMMITTEE MEMBERS. WITHOUT AN ADEQUATE COMMITTEE WE WILL BE IN A PRECARIOUS POSITION TO CONTINUE INTO THE FUTURE. OUR COMMITTEE MEETS EVERY TWO MONTHS AT DIFFERENT HOUSES AND THE POSITIONS ARE NOT ONEROUS, BUT WE DO NEED SOME NEW IDEAS FOR SPEAKERS SO PLEASE CONSIDER NOMINATING.

- NOMINATIONS SHOULD BE IN WRITING, SECONDED BY ANOTHER MEMBER AND HAVE THE SIGNATURE OF THE PROPOSED OFFICE HOLDER. HOWEVER, NOMINATIONS WILL BE ACCEPTED BY EMAIL OR ON THE NIGHT. YOU MAY NOMINATE YOURSELF!

- I, ……
- NOMINATE ……
- FOR THE POSITION OF ……
- SECONDER:……
- SIGNATURE OF NOMINATED MEMBER:……

……

Memberships were due on July 1st. Please complete the following form and return to Catherine Irwin asap, either by post or at the next meeting, even if you pay online, as we need to confirm current addresses etc. A late request from the Membership Officer of APS Vic: Please write your membership number on this form – found on the wrapper of "Growing Australian" if you can find it.

JOINT MEMBERSHIP FORM for APS VIC and APS SOUTH EAST MELBOURNE

For 2018 onwards

	APS Vic	No. of years	"Australian Plants" $15 (optional)	APS SE Melb	No. of years	Total $
Single						
Household						
Student						

APS Vic fees are: Single $35, Household $40, Student $26
APS South East Melbourne fees are: Single $10, Household $15, Student $8
If you wish to purchase "Australian Plants" through APS Vic, then please include it in the appropriate column above.

Please complete the table above and the total you are paying.

Amount paid…….Date……

Title……Surname……M'ship no: …….

First name(s) ……..

Postal address……

……Postcode……

Phone……Mobile……

Email……

Payment methods:

- Direct deposit to APS South East Melbourne (preferred method)
  Bank CBA
  BSB 063 209
  A/c name: Australian Plant Society – South East Region Inc
  A/c No: 1002 6413
  Remember to include your surname as a reference.
- Cheque or money order for the appropriate amount to the Treasurer, Catherine Irwin, posted to 6 Euston Road, Hughesdale 3166
- Cheque or cash directly to the Treasurer at meetings.

Saturday October 20, Sunday October 21

Have you booked your accommodation yet?

Registrations opened in April.

To receive newsletters email:

fjcrogersseminar2018@gmail.com