



Australian Plants Society

South East NSW Group

Newsletter 172

June 2021

Corymbia maculata Spotted Gum and
Macrozamia communis Burrawang

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Next Meeting

Saturday 3rd July 2021, 10.00am for 10.30am start

**at Norm and Lesley Hulands property
9 Mountain View Rd Moruya**

Members' Meeting

Everyone has a story to tell, though some are reticent to speak up.

At this informal gathering, President Di asks each of us to step outside our comfortable zone, (e.g. seat in the back row behind a covert screen) and contribute to the conversation or add to the narrative.

- **Bring your loquacious, chatty anecdotes and yarns,**
- **think out loud about some troubling garden or plant problem,**
- **report on a plant or plants which have performed brilliantly, or less than so,**
- **reminisce about a place you visited and the plants you found,**
- **bring some plant specimens and tell their stories, histories, cultivation secrets,**
- **compile a simple powerpoint presentation to illustrate a topic you find interesting,**
- **share photos of your garden, and maybe the fauna which call your garden 'home'**

You are free to talk about anything that you think other members would be interested in. Please don't think that nobody would be interested.

We are a diverse group with many interests and common passions.

We invite you to share your interests with the group.

The choice of subject is entirely yours, but you should limit your presentation to 10 minutes.

The committee will provide computer, screen and projector for those needing such. You need only provide your presentation on a memory stick.

Last Meeting

PROTEACEAE OF THE EUROBODALLA REGION

Although not quite needing to put out the “House Full” sign, a good sized crowd filled the meeting room at Eurobodalla Regional Botanic Gardens to learn about the Proteaceae of the Eurobodalla region.

John Knight was our guest speaker and he did not disappoint. John has a real skill in passing on information that is clear and easy to understand, although not too simple. You always learn something new, and feel a bit more confident about tackling plant identification yourself.

I hope those that were present will take on the challenge that John gives us to try and look at plants more closely and think about their relationships to each other.

John’s passion and understanding of our local area was evident in his talk and also shared by many of our members in the audience who were part of the collecting trips that John’s pictures depicted.

Rather than describe in depth the more than 60 taxa which occur locally, the presentation detailed the characters which define Proteaceae in general, and the clues which enable us to determine to which Genus a plant attaches.

A brief summary of the key characters is offered here to reinforce the information offered at the meeting, and a copy of the full presentation will be posted to our website.

The large family Proteaceae is one of the oldest of the flowering plant families, originating in the super-continent Gondwana over 90 million years ago. Evidence of this can be found in the fact that representations of the family are growing not only in Australia, but also New Zealand, southern Africa, South America and India, with the various genera evolving separately on disparate continents.

The Family is named for a sea god Proteus who could change his shape at will. *Protea*, one of the world’s most primitive flowering plants, is a South African genus, inflorescences of which are often, erroneously, included in floral arrangements marketed as native flowers.

Flowers of the plants of this Family have in common

- An absence of either sepals or petals (usually the sepals)
- 4 petal-like structures (tepals)
- 4 stamens in front of each tepal, and often attached to it

Locally, plants in the Proteaceae Family can be found in most environments, from dunes behind beaches, wet and dry forests, swampy heathlands of sandstone plateaux and highlands.

Plants are mostly woody evergreen shrubs, ranging in size from spreading ground covers, small to large shrubs and a few trees, with usually tough to leathery leaves.

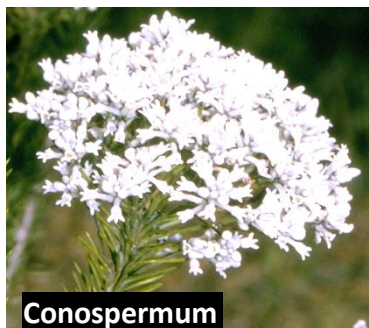


An individual flower of *Grevillea arenaria*, showing the 4 stamens attached to the tepals, a single style and the stigmatic disc (pollen presenter)

Flowers may be arranged individually or in pairs, or grouped together in compound confluences or, as shown here with *Banksia spinulosa*, spikes of many hundreds of flowers.

The Flora of Australia recognises 46 Genera of naturally occurring plants in the Proteaceae Family, and 12 of these are represented within the ERBG collecting region.

Whilst members of the Family may appear very different, a closer look at the flowers shows that they are not very different at all.



Conospermum



Grevillea

You can see that arranging the various Genera alphabetically does nothing to support the fact that each belongs to the same Family



Hakea



Isopogon



Lambertia



Lomatia



Persoonia



Petrophile



Stenocarpus



Symphionema



Telopea

Recognising the differences in the 12 Genera and the more than 60 taxa which can be found in the Region

Most, but not all plants have inflorescences comprising a number of flowers.

Clue 1a.

Inflorescence consisting of 7 flowers, a central flower surrounded by 6 others.

The flowers are surrounded by conspicuous bracts.

Flowers are mostly red, but may be pink or cream.

Fruit is a woody follicle with 2 horns, giving the plant its common name, Mountain Devil.

Only one species occurs locally.

Lambertia formosa is widespread in dry forests and heathy areas



Clue 1b.

Inflorescence is not 7 flowered

Clue 2a.

Flowers sessile in dense cone-like globose or cylindrical inflorescences. Floral bracts become woody in fruit.

Clue 3a.

Flowering axis and fruiting cone more than 5cm long.

Flowers in pairs.

Banksia, 9 species occur within the region



Banksia canei occurs above the snowline in Wadbilliga NP

Banksia cunninghamii is similar to *B. spinulosa*, but does not have a lignotuber.

Banksia ericifolia is common on sandstone country

Banksia integrifolia is a common tree of coastal areas

Banksia marginata occurs in a range of environments, from high elevation cold wet Eucalypt forests, to drier sclerophyll forest closer to the coast

Banksia oblongifolia grows on sandstone, in the north of the collecting area.

Banksia paludosa is found on sandstone, often in quite inhospitable places, and often on wet sites.

Banksia serrata occurs in drier coastal forests, on sandy soil overlaying clay

Banksia spinulosa is a lignotuberous small to large shrub seemingly happy anywhere in forests and heath.



Clue 3b.

Inflorescences not more than 5cm long.

Flowers not in pairs.

Clue 4a.

Inflorescence globose.

Fruiting cone scales falling with the fruits, which often release seed on maturity.

Isopogon, 3 species occur within the region.

Isopogon anemonifolius, a fairly common small to medium shrub which grows in heaths and drier forests

Isopogon anethifolius, a medium sized shrub also found in heaths and dry forests

Isopogon prostratus, grows at higher elevations. The form collected for ERBG was found in *Allocasuarina nana* heaths on tough dry sandy soil



Isopogon (iso equal, and pogon beard) is named for the hairs which surround the nuts



Clue 4b.

Inflorescence longer than broad.

Fruiting cone scales not falling with fruit.

Cones mostly remain tightly closed on maturity.

Petrophile, 3 species occur within the region

Petrophile pedunculata, an often spindly, common shrub in dry forests and heaths

Petrophile pulchella, fairly common shrub of the coastal ranges and adjacent heaths

Petrophile sessilis. is a tall erect shrub of the tablelands and ranges, and also is found on sandstone plateaux



Petrophile sessilis

Clue 2b.

Flowers not in cone-like structures.

Clue 5a.

Leaves opposite or whorled

Clue 6.

Flowers borne singly in the leaf axils, in racemose inflorescences.

Clue 7.

Style tip not swollen, not functioning as a pollen presenter.

Fruit falling at maturity.

Persoonia, 8 species, and number of sub-species, occur within the region

Persoonia asperula, a ground cover or low shrub found in wet forests at high altitudes

Persoonia chamaepeuce grows in similar situations as *P. asperula*

Persoonia chamaepitys is also found at high altitudes, but often in drier situations on the Budawang Range

Persoonia laurina is a small to medium shrub of forests, widespread on the ranges, but not common

Persoonia levis is an untidy, spreading, open shrub to 3m or more, with very attractive black papery bark, growing in drier forests and heaths

Persoonia linearis is widespread and common, with an attractive tree-like form, reaching 4-5m

Persoonia mollis is represented by 3 subspecies locally, each quite attractive rounded shrubs, often found in wetter situations.

Persoonia sylvatica is a variable shrub growing in the forests around Monga and into the Budawangs.



Persoonia asperula, flower and fruit



Clue 5b.

Leaves alternate.

Telopea mongaensis

Clue 9a.

Perianth strongly zygomorphic.

Clue 10a.

Flowers in dense, erect head-like confflorescence surrounded by enlarged bracts



Telopea, 2 species, and a hybrid, occur within the region

Telopea mongaensis as the name suggests, comes from the wet-sclerophyll forests around Monga, where it grows as an open shrub in sheltered sites

Telopea oreades also is found on the ranges near Monga, where it grows somewhat taller, and is recognised by having much larger leaves. There appears to be a hybrid of the 2 species where their populations overlap, and the photo at right shows a presumed hybrid which is growing close to the Mongarlowe R. just south of Monga



Clue 10b.

Flowers not surrounded by enlarged bracts.

Clue 11a.

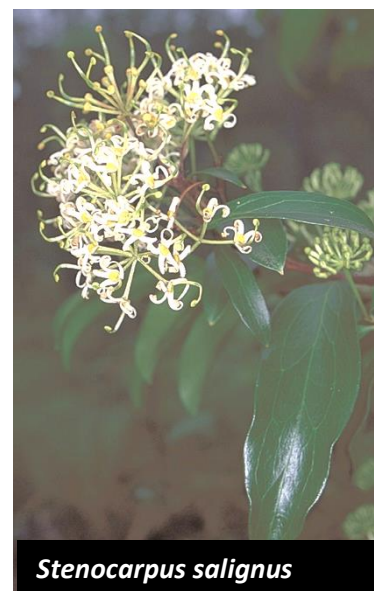
Conflorescences umbel-like with flower pairs radiating from the apex.

Clue 12.

Conflorescence 10-20 flowered, seeds numerous

Stenocarpus, 1 species occurs within the region

Stenocarpus salignus occurs on the margins of rainforest, growing as a small tree. Locally it is uncommon, but grows near Durras Mtn., and in the gullies of Mt. Budawang.



Clue 11b.

Flower pairs not umbel-like.

Clue 13a.

Ovules more than 2, with numerous seeds.

Clue 14.

Flowers white to cream in elongating conflorescences

Lomatia, 3 species occur within the region

Lomatia fraseri grows in wetter forests, and is a medium sized shrub

Lomatia ilicifolia is uncommon but widespread in dry forests and heaths, and grows naturally at ERBG

Lomatia myricoides can be found along rivers and creeks from the coast to the tablelands, and can grow to 3m or more



Lomatia ilicifolia resprouting from lignotuber after a heavy prune

Clue 13b.

Ovules 1 or 2. Fruit a 1 or 2 seeded follicle.

Clue 15a.

Flowers borne in regular sessile pairs on the conflorescence axis.

Style tip functioning as a pollen presenter.

Fruit a follicle.

Clue 16a.

Follicles woody.

Leaves terete, or, both faces of the leaves similar.

Hakea, 8 species occur within the region

Woody Hakea fruit



Hakea dactyloides is a widespread shrub to 3m tall, growing on hillsides of forest and adjacent heath.

Hakea eriantha has a tree like form, growing 3m or more. It is generally found in well-watered forests, such as Gulaga and Budawang.

Hakea laevipes is similar to *H. dactyloides*, but has a lignotuber, and is more common in drier forests and heaths.

Hakea macraeana can develop as a tree to 6m or more, but forms collected from dry bony ridges grow less than 2m high in nature, but have proved more vigorous in cultivation.

Hakea microcarpa is at home in wet heaths, tolerating long periods of inundation. It is a shrubby 2m

Hakea pachyphylla grows on the open heaths of Tianjara Ra., and is a stocky shrub to 2m

Hakea sericea is the most widespread of the local Hakeas, growing in many and varied habitats. In well-watered forests it can reach 4m, but in coastal situations maybe just 2m.

Hakea teretifolia is the most prickly of Hakeas, testing any collector of seed. Found in wet soils of heathy country, it forms dense thickets, and is promoted by too-frequent fires.



Hakea macraeana

Clue 16b.

Follicles thin and leathery.

Leaves not terete, and both leaf surfaces different.

Grevillea, 13 species occur within the region

Grevillea arenaria can be found in such varied habitat as creeksides in heavy forests, to dry rocky sites exposed to the harshest conditions. That it thrives in almost any situation should mark it as a great garden plant, but its flowers are not spectacular. Don't let that stop you wanting to grow it, birds find it anyway

Grevillea buxifolia has only been recorded creekside east of Pigeon House where it grows with sedges in open forest

Grevillea baueri ssp asperula is a low ground cover growing along wet heathy tracks, and has proved a reliable garden plant

Grevillea epicroca is one of many recently named plants which were previously included in *G. victoriae*. It is a shrubby plant to about 2m. and is found in isolated pockets of wet forests at higher altitudes.

Grevillea irrasa ssp didymochiton is another from *G. victoriae*, and is a variable shrub from 1m to 4m. At least 3 forms have been collected, from the very dry Wadbilliga NP comes the biggest and boldest, and from Nerrigundah, much more restrained forms with arching branches and well displayed flowers

Grevillea linearifolia is another which is variable in habit. Plants from around Pigeon House are upright shrubs to 2m, with white flowers which attract many insects.



Grevillea buxifolia



Grevillea macleayana Diamond Creek

Grevillea lanigera in our area comes from the high frosty heaths of Two River Plains, and grow along watercourses in full sun. There are much better behaved forms on the coast further south, but none have yet been recorded for our collecting area.

Grevillea macleayana comes from Diamond Creek, west of Moruya, growing on steep hillsides in heavy forests, and grow as a single trunked very tall shrub. This collection is quite distinct from the usual forms found around Milton.

Grevillea mucronulata likes to occupy dry sites in open forest. Locally it is a small 1m shrub, quite hardy and long flowered. It suffers similarly to *G. arenaria* in that the flowers are small and not conspicuous.

Grevillea oxyantha again from *G. victoriae*, is a variable shrub, found in wet forests at high altitude, dry hillsides on the eastern escarpment, and in open country in the upper reaches of Tuross R.

Grevillea patulifolia was separated from *G. linearifolia*. This one is a suckering small shrub with delightful pink/mauve flowers

Grevillea rhyolitica ssp rhyolitica is yet another from *G. victoriae*, and is a hardy shrub found in a variety of locations, usually growing in shade. Along rocky creeksides it grows to 2.5m as an open shrub, but the variety known as *G. rhyolitica* "Deua Flame" is a naturally occurring shrubby form collected west of Moruya on steep sided eastern slopes in lightly treed country.



Grevillea rhyolitica "Deua Flame"



Grevillea rhyolitica ssp semivestita occurs along the Moruya R on Araluen Rd., and in the nearby gullies on fairly steep country. A cream flowered form was collected by ERBG's Ryan Harris some time back, and has proved a reliable open shrub in gardens.

Clue 15b.

Flowers borne singly on the inflorescence axis.

Style tip not modified as a pollen presenter.
Fruit not a follicle, but a small nut crowned with a ring of hairs.

Conospermum, 3 species occur within the region

Conospermum longifolium,

Conospermum taxifolium,

Conospermum tenuifolium. The *Conospermum*s are fairly similar in form, and inhabit sandy heath environments from the coast to nearby plateaux, and are small shrubs which have proved difficult to maintain in cultivation.



Clue 9b.

Perianth actinomorphic.

Clue 17a.

Leaves divided into segments.
Flowers borne singly, not regularly paired.
Fruit dehiscent, a small nut.

Symphionema, 1 species occur within the region
Symphionema paludosum is a dwarf softly wooded shrub to about 60cm., and is found in wet sites in heathy environments. It has also proved difficult to propagate and cultivate.

Clue 17b.

Leaves entire.
Fruit a drupe.

Persoonia



Thanks to **Catriona Bate, Di Clark and Sue Grahame** for providing background information and photos which assisted in the preparation of the talk.

At the completion of the Proteaceae presentation, a short **Show and Tell** session was introduced by President Di.

Geoff Gosling kicked off with a couple of hardy *Grevillea* hybrids, **G. “Flora Mason”** a cross between *G. pinaster* and *G. olivacea*, a 2m shrub similar to **G. “Winpara Gem”**, and **G. “Forest Rambler”** the origins of which are uncertain, but it seems that *G. shiressii* is one parent. This is a vigorous low sprawling shrub which seems to flower forever, but can get a bit out of control, although it tolerates pruning very well.



Banksia spinulosa gold

Phil and Catriona brought along the usual spectacular display of *Banksias*, such as **B. “Skyscraper”** a form of *B. spinulosa* var *collina* from the NSW Nth Coast. Flower spikes are at least 30cm long. Another *B. spinulosa* form, just termed **‘gold’** for its brilliant yellow flower spikes, is similar to the plant collected for ERBG from the Wog Wog area of the Budawang Ra. Other plants featured included *Banksia ericifolia* and *B. marginata*, and the various forms of *B. marginata* which might be found locally. Then *Persoonia linearis*, *Isopogon anemonifolius* (of course), *Grevillea rhyolitica* **“Deua Flame”**, which Phil mentioned had produced massed seedling germination after the fires, and the rare *G. mccutcheonii* from the Busselton area of W.A., where there are few than 10 plants remaining in the wild. This unusual plant appears easy to grow in well drained soils, and with its attractive foliage and well displayed flowers, should prove a winner. It was noted that all the material was quickly snaffled for cuttings.

Norm Hulands showed the burgundy flowered form of *Banksia ericifolia*, a spectacular spray of *Hakea victoria* with foliage that actually displayed some bright colour, which held insignificant but none the less attractive flowers, and some grafted Grevilleas, *G. rudis* which Norm noted he had observed in the wild during a trip to W.A. wheatbelt. The scented cream flowers of this plant are held high above the foliage. *G. tenuiloba* is an orange flowered ground cover which grows about 50cm high and 2m across. Flowers are displayed on naked branches outside the foliage. This is often grafted onto *G. robusta*, as a standard about 2m high to best show the attractive flowers and naturally weeping habit.

Marjorie Apthorpe showed the delightful small W.A. shrub *Thryptomene denticulata*, with arching sprays of tiny deep violet flowers, *Correa* “Orange Glow” which is probably a hybrid *C. pulchella*, a dwarf plant of 60cm x 60cm, and *Grevillea* “Currowan” which is believed to be a cross between *G. rhyolitica* and an adjacent *G. victoriae* mountain form. Flowers are well displayed and similar to *G. rhyolitica*.

Anne Keaney raided her Braidwood garden for a *Banksia aemula* spike, a long spray of *Hakea* “Burrendong Beauty”, which really thrives in the cold climate at Braidwood, producing arching branches of rich pink flowers, and a *Hakea*



Banksia ericifolia
burgundy

which she purchased as *H. pachyphylla* but has turned out to be *H. nodosa*, which has tiny yellow flowers crowded along the upright branches.

H. nodosa is a hardy shrub which grows about 2m high and tolerates poor drainage better than most Hakeas.



Hakea nodosa



Banksia aemula

John Knight brought along some Proteaceae to help reinforce the features of these variable plants.

Stenocarpus salignus had a few late formed fruit, *Persoonia pinifolia* held bunched grape sized fruits with the style still evident, *Grevillea arenaria*, collected from Shallow Crossing displayed very attractive red/yellow flowers in pairs, highlighted by the fresh green foliage, and lastly *Grevillea* “Caloundra Gem” with both fruit and flowers to demonstrate the conflorescence arrangement and the leathery follicles which each held 2 seed.

With plans to further our involvement in developing a Proteaceae garden at ERBG, those attending this gathering were given the opportunity of being inducted as Gardens Volunteers, with the process conducted by Di, and ERBG Staff member Lee.

Although a simple and straightforward process, it is important that when we are acting in a volunteer capacity, we are aware of and comply with the O H & S requirements of ERBG.

After a break for lunch, President Di called members together to lay out a proposal for the afternoon program.

Following a quick introduction to the garden area, a brief toolbox OH&S discussion, and a broad overview of what we might achieve, it was time to dig in.



It's amazing how much can be achieved when everyone jumps in. Not too sure what is so interesting in the bucket, maybe someone pulled up a treasure. Photos Sue Knight

At the subsequent working bee on the 18th June, a sizeable group turned up continue the work.

With enthusiasm, under Di's direction, the group began intensive clearing of the site,.

With much of the clearing out of the way, members divided into smaller working parties.



Some agreed to undertake further clearing to enable measurements to be taken to prepare a working drawing of the site.

Others moved to the Gardens nursery area to sort through the seeds which could be sown.

The remaining few moved to the heated glasshouse to begin propagation of cuttings of plants currently held in the living collection, as well as some collected from gardens where the provenance could be verified.

We were pleased to welcome new member Christina Potts of Mystery Bay, and returning past committee member Alison Spurgeon, both of whom joined in the work with enthusiasm.



The cuttings team included Leonie Kestel, Lesley Hulands and Catriona Bate.

It doesn't take a gun team too long to show a good return for a couple of hours work

Photos Di Clark





Sorting, counting and sowing seeds required great diligence.

Under the watchful eyes of Marjorie Apthorpe, Jan Douglas and David Crawford add their own expertise



President Di took responsibility for ensuring all nursery work complied with stringent record keeping

Photo Marj Apthorpe

Di provided information regarding the Proteaceae family in the hope that this will inspire members to become involved.

Botanic Gardens are special places and the ERBG is especially important because it only sources plants from our local collecting area.

This collecting area includes 12 genera from the Proteaceae family that have previously been collected by the ERBG.

These 12 genera are Banksia, Conospermum, Grevillea, Hakea, Isopogon, Lambertia, Lomatia,

Persoonia, Petrophile, Stenocarpus, Symphionema and Telopea.

As you can see there is a huge range of plants in this family of all shapes and sizes. Please follow the link for more information. <https://profiles.ala.org.au/opus/foa/profile/Proteaceae>



The aim of the Proteaceae Garden Bed is to showcase these wonderful variable plants, but also to highlight the diversity in our region. A garden bed needs to be well designed and maintained to allow for the plants particular growth habits and requirements and also to show them off.

Part of the bed we propose to develop

At this stage APS will be liaising with the ERBG to determine how many and which plants will be able to be included. Another aim of a Botanic Garden is to be able to refer back the provenance of plants that are planted and to have a representation of wild collected local species. Record keeping is also a vital part of this project.

I believe there is scope for anyone to become involved and help get this project moving. Whether it be helping us weed the beds, assess the site, keep lists of plants up to date, assist with propagation or keep photographic records and so much more.

Hopefully we can offer you some practical on going action in the following months.

There will be further opportunities for members to get involved at future working bees. These will be arranged by the committee to fit in with the schedule of ERBG staff.

You will be advised via email, and given sufficient time to organise your calendars so that you can participate.

President Di is co-ordinating the project on our behalf, and would be pleased to hear from any member to discuss our involvement.

Committee news

The evolving Covid situation may mean changes to our future meetings at short notice. You will be kept informed of any changes as soon as the committee is notified.

In the meantime, COVID 19 restrictions still apply at all our gatherings, both indoors and outside. Members will be required to sign our attendance record, and supply contact details for tracing purposes should that need arise. Also, you need to supply your own refreshments, as a “no sharing” policy is adopted by the committee until advised by APS NSW Region that this requirement has been relaxed.

Next meeting

Our next meeting at Norm and Lesley’s will be indoors for the Members Sessions, so if you could bring an easy to manoeuvre chair, it would help with seating arrangements.

Don’t panic if your article didn’t make it into print this month. I have over-run this edition, so articles held over will appear next month.

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