Australian Plants Society
South East NSW Group

Newsletter 114

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Corymbia maculata Spotted Gum and
Macrozamia communis Burrawang

Contacts: President, Margaret Lynch, yaraan@southernphone.com.au
Secretary, Michele Pymble, mishpymble@gmail.com
Newsletter editor, John Knight, johnonvista49@outlook.com

Welcome to the New Year

Next Meeting

10.00am SATURDAY 6th February 2016

Venue: St John's Church hall, Page Street, Moruya

(just down from the intersection with Campbell Street)

Why is the Australian Garden changing ?

Thanks to the efforts of Mark Noake, the Committee is happy to announce that the group will kick start the year with special guest, well known Television personality, horticulturist Angus Stewart.

Angus has a special affinity with the Australian plants, and has for years been a grower, breeder and marketer of many new plants. In recent years he has promoted a range of new Kangaroo Paws, as well as Pandorea forms, and other smaller plants.

He is of course well known to Australians from his segments on the popular ABC television show, Gardening Australia, mostly extolling the virtues of Australian plants for the garden. What is not so readily known is his many years of Sydney radio involvement as panelist on Simon Marnie's popular Saturday morning show on ABC radio. Again Angus pointed to the many positive attributes of using Australian plants, and championed the inclusion of indigenous plants in home gardens.

Angus, nestled amid some of his new Kangaroo Paws, proudly displays the new publication

In his latest publication, "The Australian Native Garden, A Practical Guide", Angus, and co-author A.B. Bishop, discuss the reasons why they think Australian gardens are evolving. This new book is written in an approachable and accessible style, and discusses their thoughts on how gardeners are all contributing to the evolving Australian style.

Whilst Angus is well known to many, A.B. Bishop is maybe not so, at least away from Melbourne. She is a researcher for the ABC's Gardening Australia, also a freelance writer and a presenter on a Community Radio gardening program.

Following Angus's presentation, he has agreed to lead a question and answer session on all things garden. This will be our opportunity to ask those nitty gritty questions which we sometimes see referred on Gardening Australia.

Show and Tell

It is hoped that many visitors will attend this special meeting, and we will be including a longer than usual session talking about the plants in our gardens. Members are asked to bring along as many plant specimens as possible, to showcase the range of plants we grow. It is important that we take the opportunity to highlight the benefits of growing Australian plants.

Raffle

There will be a special raffle, first prize being a signed copy of Angus' latest book, and he also has offered two sets of his latest Kangaroo Paws, each comprising 6 different coloured plants.

Plant Sale

Angus is bringing along some of his latest plants to sell, and Phil Trickett will also bring some special grafted plants. All members are offered the opportunity to bring along some of their own propagation successes to add to the range of plants available.

As the meeting comes to a conclusion, Angus will be there to sign copies of his book.

It is anticipated that the meeting will finish around 1 pm, but this will depend on how the question session goes, as Angus has agreed to continue until exhausted, either by the number of questions or we run out of ideas. So come prepared to seek answers to your most difficult garden issues.

Please come along, and bring your friends, and let's kick off the year with a bang !

Presidents Message,

Happy New Year to all APS SE NSW members and best wishes for a successful year ahead both in and out of the garden.
The recent rains have given a welcome boost to growing conditions though it seems, in my garden at least, there is always something that screams "too much" and turns up its toes. Such are the dynamics of gardens, presenting the opportunity to try something different!

Your committee is working on putting together another interesting program for the year ahead with a variety of talks, walks, garden visits and propagating tips. So mark your calendars with APS meetings on the first Saturday of each month and we look forward to seeing you there.
The South East is a large area so your contributions/ideas are always welcome both for the newsletter and for our monthly activities. Just contact one of the friendly committee!

Just for your information late last year a directive came from APS NSW informing of a change to the financial year timeframe for the Society. It now runs from January 1 to December 31. This has no impact on your membership, but will necessitate some changes by the committee. How these affect our schedule, in particular the AGM, has yet to be determined, but I am happy to advise that the current committee has complied with the new arrangements, and found the changes required little extra effort.
Margaret Lynch

Report on last outing

Picnic at Eurobodalla Regional Botanic Gardens

A small but happy group met at ERBG for the last gathering of 2015. It was nice to see Jo Benyon back on deck, albeit in a wheelchair as she recovers.

Committee news

The committee has met, and begun preparing for another great year. The range of activities planned is indicative of the commitment to encouraging all members to get involved. We acknowledge the difficulties of meeting the expectations of all members over our difficult geographic area, and are looking at the format of our activities to determine the best outcomes for all.

Getting value from your membership of the Australian Plant Society means being involved in activities. The committee of course can only offer activities based on their knowledge and expectations. If the program is to consider the needs of all members throughout the south east area, we need you to be involved.

If you have any issues or ideas, any of the committee would appreciate your input.

Future activities

March Summer excursion to ERBG. Margaret will be discussing plant adaptations

April Phil Trickett and Catriona Bate Garden visit, featuring Banksias, and propagation day

More details will be in future newsleters

Membership Renewals

Annual memberships come due for renewal at each quarter of the year and I send reminders, with an attached form, to members at the beginning of March, June, September and December.
Recently, the Group Committee decided that it would speed up the process of membership renewal or application if members sent their payments direct to the Regional Office.

Thus, payment by direct transfer should now be directed to:-

BSB: 062 217:
Account Number: 0090 7163
Account Name: Australian Plants Society NSW Ltd
Reference: Your surname and membership number

Cheques and Money Orders should be made payable to Australian Plants Society NSW and the completed form sent to APS NSW, Membership Officer, PO Box 3066, BOWENFELS, NSW 2790.

To help me to keep accurate records of our SENSW Group would you also please send me an e-mail (peteandjenny.john@gmail.com) giving your name, type of membership and method of payment.

If you have any queries or require a copy of the renewal form you can contact me at the above e-mail address.
Jenny John
Membership Officer APS SENSW Group

Plant of the Month

Actinotus helianthi: an iconic plant of Australia

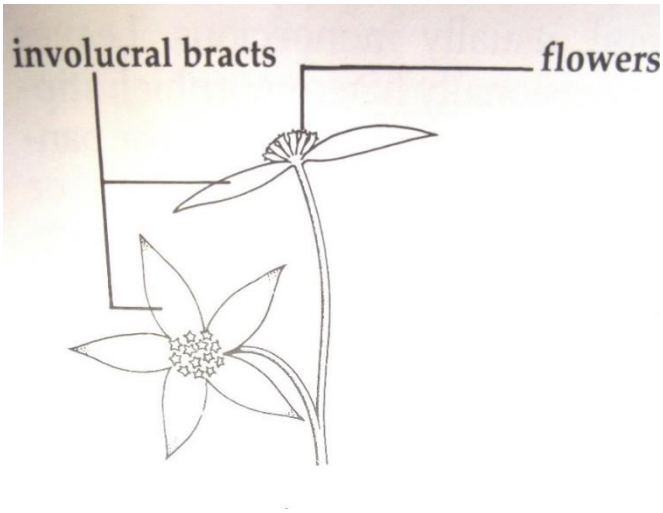
"In among the rocks and sandy patches [of the Blue Mountains sandstone communities] *I found the best flowers of all, the Flannel Flowers. Such big, bright stars they were, as they gleamed against the dark grey rocks. In a few minutes I had gathered as many as I wanted…"*. This is how *Actinotus helianthi* was described by a lady in a little book called *A Bush Calendar* that was published in 1909. The book contains descriptions of the birds and plants in her mountain home in very fanciful language, almost as if nature was there for her benefit, probably a view held by many of her contemporaries. Hence the 'gathering' of the flowers for her personal enjoyment.

The whole of the Flannel Flower plant is covered with soft woolly hairs, almost 'floccose' (hairs that are entangled and tend to rub off easily), according to the description in Volume 3 of *The Flora of New South Wales*, ed. Gwen Harden. It thrives in temperate conditions and can tolerate a wide range of environments, from coastal cliff faces (Pebbly Beach for example), dry forests and sandy soil heaths.

A cultivar, **Federation Star**, was specially developed for the Australian centenary year in 2001. This was sold widely in commercial nurseries. I wonder if any of the plants are still alive today.

A.helianthi belongs to the Apiaceae family which includes carrots, ***Hydrocotyle*** spp., members of the Pennywort group, fennel, celery, ***Xanthosia*** spp. (often called Southern Cross flowers), the ***Apium*** genus and others. All of the species in this family have their flowers arranged in umbels of one kind or another. An umbel is when lots of flowers, generally small, arise from the one point at the top of the flower stalk. The old name for this family was Umbelliferae, rather more descriptive than the current name. Many of the species are introduced; some have spread as weeds, while others have commercial and nutritional value.

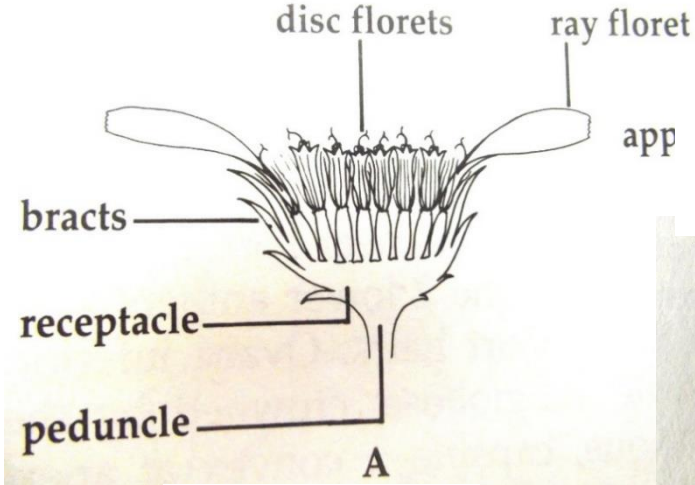
Actinotus helianthi was named by Jacques Labillardiere in his 1805 *Novae Hollandiae Plantarum Specimen*. He claims the Type specimen was collected '*in terra Van-Leuwin'* (Western Australia) but the species does not occur in Western Australia. This appears to be another of his 'fudged' Type specimen claims (see the piece on *Calytrix tetragona* printed in a previous newsletter).



Actinotus comes from the Greek word meaning rays, or spokes of a wheel, while the specific name refers to the genus ***Helianthus***, the Sunflower, which it superficially resembles. At first glance a Flannel Flower might look like a member of the daisy family; in fact, George Bentham, in his 1867 *Flora Australiensis* did place the species in the Asteraceae, the daisy family.

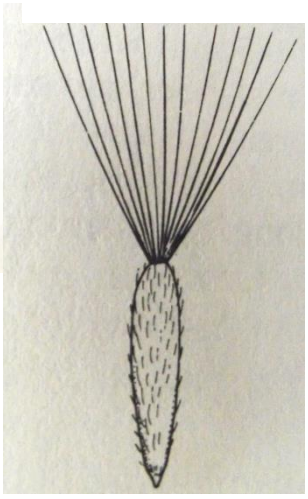
The typical daisy flower, read Sunflower, has an inner head of small florets (tiny flowers) surrounded by petal-like bracts. ***Actinotus helianthi*** also has a head of small flowers surrounded by petal-like bracts. However, the resemblance stops there.

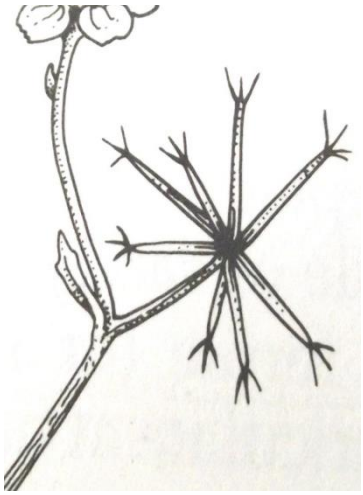
The head of the Flannel Flower consists of a disc of sessile flowers, i.e., they do not have a stalk, the outer ones male, the inner bisexual, that are surrounded by a single row of enlarged bracts that look like petals. The bracts are not part of any type of flower (as in a daisy) – they are just there. The fruit, or seeds, are oval-ish and covered with long silky hairs, not tufted. The plant reproduces entirely by seed – the silky hairs aid in dispersal.



Typical daisy flower

Daisy seed, with a tuft of hairs, and on the right, seeds of Bidens pilosa, Farmers Friend, showing those tenacious hooks that annoyingly attach to socks and anything else that comes in proximity





The outside bract, or ray, of a daisy is part of a floret, and is called a ligule. These ray florets surround the disc florets that have various shapes and are either male or female or sterile. The seed of a daisy typically has a tuft of hairs, the pappus, in different sizes and arrangements, on the top; these are caught by the wind to disperse the seed away from the parent plant.

However, it must be noted that some daisy seeds have hooks and/or spikes on top, or sometimes on the body as well, of the seed. The hooks enable the seeds to be dispersed by hitching a ride on animals or peoples' clothing.

So one could almost ask 'when is a daisy not a daisy?'; the answer, of course, is when it is a Flannel Flower.

Jenny Liney

REFERENCES

Mack, Amy E. *A Bush Calendar*. Angus & Robertson, Sydney:1909

Harden, Gwen, ed., Flora of New South Wales, vol.3, NSW University Press, Sydney:1992

Photos: Helen Moore; Wikipedia; sketches: Flora of NSW, vol.3

Weedy plants (or not!)

Member Christina Kennedy has mentioned her concerns about the spread of ***Pittosporum undulatum*** at Horse Island, and has in place a program to reduce its spread. The committee discussed Christina's concerns, and agreed to highlight some opinions about the validity or otherwise of *Pittosporum undulatum* as a component of local bushland.

Australian Plant Society Articles:-

Pittosporum undulatum

Family:	Pittosporaceae
Distribution:	Moist gullies in rainforest and sclerophyll forest from south-east Queensland to eastern Victoria; also naturalised in parts of Tasmania and South Australia
Common Name:	Sweet pittosporum; native daphne.
Derivation of Name:	***Pittosporum***; from Greek, meaning "pitch-seed", referring to the resinous coating on the seeds. ***undulatum***; from Latin *unda*, a wave or surge, referring to the characteristic wavy edges of the leaves.
Conservation Status:	Not considered to be at risk in the wild.

General Description:

Pittosporum is a large genus which extends beyond Australia to the warmer regions of Africa, Asia, the Pacific Islands and New Zealand. There are about 14 Australian species occurring in all states. They give their name to the family Pittosporaceae, a small but important family horticulturally, which also includes the native frangipani (*Hymenosporum flavum*), the bluebell creeper (*Billardiera heterophylla*) and the genus *Bursaria*. Six species formerley classified within *Pittosporum* have been moved to the new genus *Auranticarpa* (e.g. *Auranticarpa rhombifolium*)

These notes were prepared by Cas Liber.

Sweet pittosporum (*Pittosporum undulatum*) is another example of a native species gone feral; a tall shrub or small tree native to wet forests in coastal areas between the Great Dividing Range and the sea from southern Victoria to southern Queensland. It is noted for its creamy white, sweetly-scented flowers and brightly coloured clusters of orange fleshy fruit- that just happen to be attractive to birds!

Sweet pittosporum is now a serious weed problem outside its natural range in Victoria, South Australia, Tasmania and Western Australia. It is present on King, Lord Howe and Norfolk islands and many countries overseas including Jamaica, the Azores and South Africa. It is already a serious weed in the Sydney area and NSW mid-north coast.

Spread of sweet pittosporum has been encouraged by horticultural advocates extolling its hardiness and sweet perfume and by a range of fruit eating native and exotic birds. Sweet pittosporum impacts on natural environments through shading, competition and changes in soil nutrients. By invading native bushland it has removed fire-adapted species and changed fuel loads, even though it is fire-sensitive.

Male flowers, and fruit of *Pittosporum undulatum*
Photos: Brian Walters

Pittosporum undulatum is a tree to 12 metres in its natural habitat but usually smaller in cultivation. It provides dense shade and spreads up to 7 metres across. It has coarse grey bark and glossy green elliptical leaves some 6-15 cm long and 1.5-4 cm wide with distinctive wavy, or undulating margins. The leaves are about 75 mm long with toothed margins. Small, white, fragrant flowers occur in terminal clusters in spring and early summer and are followed by orange-tan berries 1 cm in diameter in autumn, which persist for several months.

The species is well established in cultivation in Australia and some other warm regions around the world such as California.

It is a hardy and adaptable plant which appreciates most acidic soils and extra moisture, yet can also withstand extended dry periods once established. It can be clipped into hedges and is quick growing, as well as having pleasantly perfumed flowers which can pervade a large area (hence the common name 'native daphne').

Unfortunately, the species has also proven to be very invasive in bushland, colonising moist areas, such as gullies, and areas of disturbed soil. It grows rapidly and quickly shades out most other plants. *Pittosporum undulatum* seems to adapt to soils with higher nutrient levels much more readily than other native species, hence grows well in areas where the soil has been changed this way. Its berries are attractive to birds and thus may be carried quite far from the parent plant. It has become an environmental weed in Cuba, Tasmania, Western Australia, Western Victoria and South Australia, as well as in bushland around Sydney. This last place is surprising in some ways as *P.undulatum* is an indigenous plant of the Sydney area but habitat changes brought about through urban development have been in its favour and the species has taken advantage with a vengeance.

It should be pointed out that many other plants, native and introduced, have shown potential for becoming weedy when conditions are altered to suit them, whether by accident or design.

Follows is part of a discussion paper by Ros Gleadow, Monash University

Realising predictions about *Pittosporum undulatum*

INTRODUCTION *Pittosporum undulatum* is a native tree species with a natural range from south-east Queensland to eastern Victoria. The Australian Virtual Herbarium reports that it was first identified in 1803 in Port Jackson (Sydney) and later in 1854 at Brodribb River (Orbost), Victoria (Mueller) and in 1884 at Studley Park in Victoria. It was inevitable that its sweet scented masses of white flowers in early spring and large orange berries in autumn would attract the attention of nurserymen and gardeners, so it became a popular ornamental tree in gardens throughout eastern Australia ~ from where it has spread

Pittosporum undulatum Vent. was identified as an invader of forests and woodlands in southern Australia over 30 years ago (Gleadow and Ashton 1981). At the time it was predicted that its high reproductive potential, suppression of competitors, changed management practices and broad tolerance of environmental challenges could result in serious infestations and threaten the regeneration of native eucalypt forests, unless steps were taken to control it. That prediction is becoming a reality. At Menzies Creek, where there was a single female tree 70 years ago, the density of saplings and mature trees is now 4000-6000 per hectare; there is no diversity and no eucalyptus seedlings under the coalescing canopy. In order to determine the rate and direction of invasion in neighbouring areas, a good approximation of tree age is required. A citizen science project co-ordinated by one of us (JW) worked with the local primary school to calibrate plant circumference with age. Trees (N=39) were felled 30cm above ground level and age determined using tree rings at two sites; at the edge of the invasion canopy, and within it. The correlation between age and circumference was highly significant at both sites; however the slopes differed between trees growing at the edge and those growing in a closed canopy. Incorporating plant growth parameters into the invasive model will determine the time it will take for *P. undulatum* to invade non-managed forests in the region. It was estimated that the invasion front is progressing southward from Menzies Creek at about 80 m/year. If this rate applies to the *P. undulatum* populations now surrounding the Dandenong Ranges, then unless treatment or control measures are put in place, they will be completely covered in 25~30 years. **The gender ratio of *P. undulatum* suggests that only about 25% of the population need to be treated or controlled-the female trees carrying viable berries**, thereby reducing the cost of treatment greatly.

From Indigenotes, the newsletter of the Indigenous Flora and fauna Association, Volume 4, No. 10, October 1991 botanist and ecologist Graeme Lorimer had the following to say, and has backed his research with practical intervention.

"readers from the outer parts of Melbourne and Sydney (and other areas) will know sweet pittosporum (*Pittosporum undulatum*) as very invasive plants in both gardens and bushland. They cause major restructuring of many forest types. It's a pity, because they are wonderful plants in other respects.

There's good news for people who are reluctant to remove all the sweet pittosporum from their gardens, or who can't convince others to do so. It may be possible to leave at least half of them and still prevent them threatening bushland !

The key is that in nearly all cases, the plants are either male or female (dioecious, pronounced die-eeshus). From Graeme's investigations, about 40% of plants are male, the rest female, and in only one instance has a plant contained both male and female flowers. (see above article where it is estimated that female plants are in the minority)

If all the female plants are removed, there will be no berries to spread. Leaving the male plants may be desirable for reasons of landscaping, fire protection or preventing massive growth of weeds which often occurs when a dense canopy is suddenly opened to sunlight.

You can only tell a male plant from a female one once they are old enough to flower. If you see berries or their remains, it's obviously a female. If there are flowers, you need only to check whether there are five yellow anthers, (pollen capsules) protruding from each flower, which makes it a male. There are no anthers on females; they are reduced to protrusions less than 1mm long, just inside the base of the petals.

There is a stigma (pollen receptacle) and a swollen ovary in the middle of both male and female flowers. They remain when the petals fall. The presence of an ovary means that you could call the flowers bisexual, except that the ovaries don't develop into berries in any plants examined. The diameters of the ovary of male and female flowers are very similar when the flowers open, but the pollinated female swell rapidly as the petals fall.

All this is surprising in view of the conventional wisdom that the pittosporum family is entirely bisexual.

Note the length of the stamens in these male flowers, and the ovary ! top right

Hopefully, this clears up what has been a vexing issue for many gardeners, and the validity of Pittosporum as a component of natural environments can be maintained.

Your comments are welcome.

COMMITTEE CONTACT DETAILS

President,	**Margaret Lynch**	**Ph 0408 447 678 e. yaraan@southernphone.com.au**
Secretary,	**Michele Pymble**	**Ph 02 4473 8587 e. mishpymble@gmail.com**
Minute Sec.,	**Amanda Marsh**	**Ph 0421 426 366 e. mohippoly@gmail.com**
Treasurer,	**John Knight**	**Ph 0434 674 347 e. johnonvista49@outlook.com**
Membership	**Jenny John**	**Ph 02 4476 3576 e. peteandjenny.john@gmail.com**
Publicity	**Jillian Peck**	**Ph 0421 432 953 e. jcpeck88@gmail.com**

Website can accessed by searching the APS NSW website, and access the South East NSW Group. austplants.com.au and follow the link to South East Region