

# PLANT NAMING AND STRUCTURE by Matt, Frank and Roger

As I was away working for the May meeting, I am very grateful to Phillip Royce for this report.

Three venerable members tackled the important but potentially awkward topic of naming plants and important features of their structures. Regrettably for them, and their audience, the laptop didn't connect to the projector and so an old-fashioned Q&A was the order of the night.

During the course of the talk Matt, Roger and Frank encouraged us all to get more familiar with the botanical language that is used in the plant naming system and the descriptors of plants, flowers, fruit and leaves. A snapshot of their talk is below:

The Swedish botanist, Linnaeus, lies at the heart of the modern binomial system of naming plants eg. Hakea laurina. The first name is the Genus the plant is in, and the second name is the particular species. The species name can come from many sources: the individual who found it, or a financier, or a member of an expedition (Hibbertia banksii), or some-one's partner. Clues when plants are named after people are endings such as 'ianai, 'iae', 'ae' and 'ii'. The species name could also be after the shape of the leaf (Acacia glaucoptera), or the colour of the flower (Correa alba), or the location where they were collected (Eucalyptus yalatanensis - from Yalata in South Australia). While plants often have Greek or Latin names they are sometimes Aboriginal (Eucalyptus even Indonesian pimpiniana), or (Eucalyptus cajuputea).

Sadly for us laymen, botanists often review the placement of plants in a particular genus which can result in familiar plants being renamed, for example *Dryandra quercifolia* became *Banksia heliantha* in 2007 when the genus Dryandra was subsumed into the genus Banksia.



**Carl Linnaeus** 

There are four main groups of plants: Flowering plants (angiosperms); conifers/pines (gymnosperms); mosses (bryophytes); and ferns (pteridophytes). All Australian flowers have the same structures associated with any other: petal, sepal, stamen (with anther and filament), stigma, ovary. But they are not always as easily distinguished as in some exotic flowers (for example, the rose). A useful book in our library is: 'Name that Flower' by Ian Clarke and Helen Lee. Flowering plants are classified as either a monocotyledon (the seedlings have one seed-leaf and flowers in multiples of three) or a dicotyledon (having two seed-leaves and flowers in multiples of four or five).

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Parts of a 'typical' flower

The leaves of monocotyledons (often shortened to monocots) have veins that are parallel whereas the veins in a dicotyledon (or dicots) form a network. All leaves are described according to the shape (for example: falcate - hooked or sickle shaped; ovate egg-shaped; lanceolate - like a lance, pointed at both ends; cordate - heart-shaped with stem in a cleft), the edge (for example: ciliate - having hairs; crenate - with rounded teeth; serrate - saw toothed; entire - even and smooth throughout; spiny - sharp stiff points) and their arrangement on the stem (for example: alternate - leaflets arranged alternatively; pinnate leaflets in rows with two at the tip; opposite - leaflets in adjacent pairs). Leaves attach to the plant stem by a stalk that's called a petiole and in some plants, for example, the leaves are so miniscule that photosynthesis occurs in the petioles. Some leaves don't have petioles, for example, Stellaria sp, in which case the leaves are described as sessile.



The talk concluded with an examination of the leaves of nine *Banksia sp* that showed many of the features presented.

### ON THE TABLE

with Barbara Bell

The plant table was full of colour that made up for the small number of specimens. Barbara Bell led the description in which Grevilleas and Hakeas were the predominant genera, accompanied by a few Correas.

Several examples of Hakea laurina were dense with their pin-cushion flowers, as was a H. 'Burrendong Beauty'. Also on the table was a H. laurina x obtusa that has slightly different laurina-type flower head. Roger reported a H. myrtoides x H. laurina that never has any myrtoides features. A lovely WA plant H. subsulcata had axially presented pink-purple flowers. This is an open plant of about 1m in height.



Photo Matt Leach

Amongst the Grevillias were G. 'Pink Surprise', 'Billy Bonkers', and 'Ivory Whip'. The latter was reported to be less vigorous than 'Pink Surprise' and a tip was given to spray its flowers with hair spray to extend their life as a cut-flower. A sample of the fuchsia grevillea, G. bipinatifida, possessing sharp, prickly, bipinnate leaves and large red flowers caught many an eye. Another Grevillea caught the eye for another reason. G. treuriana is listed as Endangered under the Commonwealth's Environment Protection and Biodiversity Conservation (EPBC) Act 1999 (ie. facing a very high risk of extinction in the wild in the near future).

Correa reflexa and C. 'Marian's Marvel' provided more colour. *Acacia iteaphylla*, the willow-leaf wattle, bear phyllodes rather than leaves. A phyllode is defined as a leaf whose blade is much reduced or absent, and whose petiole and rachis have assumed the functions of the whole leaf. The slender phyllodes of *A. iteaphylla* are from 50 -100 mm long and are broadly linear with a small gland at the base. They are blue-green in colour and arranged alternately, almost at right angles to the stems. The perfumed flower heads are produced in clusters of pale yellow balls which contrast pleasingly with the foliage. The buds are attractively enclosed by conspicuous pale, browntipped bracts. The flowers are followed by masses of flattened blue-green seed pods which become brown when mature.

### PLANT OF THE MONTH Eucalyptus pachyphylla

Patrice Hall won the raffle and selected a handsome example of *Eucalyptus pachyphylla*, brought in by Matt Leach. Matt writes ...

*Eucalyptus pachyphylla* (meaning thick leaves), bears the common name of Red-budded mallee. It is found in scattered populations in the Gibson Desert of central eastern Western Australia, east and north-east central Northern Territory, and far western Queensland. It is usually a small (sometimes tallish) mallee of 1-5 x 2-8m with moderately dense foliage in natural conditions. They form dense thickets on sand dunes and stony slopes. Multiple stems with smooth, greyish bark that became deciduous in late summer, autumn, in long ribbons. New branches have a lovely reddish colour for the first couple of years.



Leaves as juvenile are from 3-10 x 1.5-5cm, initially opposite, but quickly becoming alternate, lanceolate to broad-lanceolate, with a glaucous appearance. As they mature leaves become 9-16 x 3-4cm, alternate, ovate to broad lanceolate, stalked leathery glaucous. Buds grow quickly to flower in a few months of appearing. The buds are in threes, and are red with short stalks, 5-6 ribbed cap and shortly pointed. Flowers to about 4cm across that are either cream to pale yellow and very conspicuous. My plant is 7-8 years old planted in a raised bed of laterite-sand in an area sheltered from the prevailing cold southern and westerly winds at Inverleigh. Four years after planting, my red-budded mallee produced its first flowers in a mass display. They are sometimes short-lived due to the first frost of Autumn/Winter killing the flowers and those yet to come. I would think it would flower over many months in an area without frosts. My plant, at present, is 1.5m tall by 2m across. They are hardy to drought, and birds love them. The New Holland Honeyeaters are constantly fighting over the flowers and, unfortunately, the Eastern Rosellas chew the buds and flowers.



Photos by Matt Leach

### WIDER GEELONG FLORA LECTURE

June 9<sup>th</sup>



Hosted by the Geelong Field Naturalists Club, the lecture will be in the Geelong Botanic Gardens, in the Friends Room, on Tuesday 9<sup>th</sup> June, at 7.30

pm. Entrance is at the intersection of Holt Road and a Eastern Park Circuit in Eastern Park. (Melways 452 G4). The guest speaker is Mr Neville Walsh who is the Senior Conservation Botanist at the Royal Botanic Gardens in Melbourne. His topic will be "Why Plant Names Change". Moving the goalposts - plant nomenclature in a molecular age. There is no cost to attend the lecture (and if you get there early you may score a free cuppa).

# TASMANIAN CONIFERS

by Roger Wileman.

I am very grateful to Roger for sharing some of his vast knowledge of Australian Plants in the pages of **The Correa Mail**, particularly this year. This is the first of a series of articles he has written about the conifers of Tasmania.

#### THE HUON PINE

#### Largarostrobus franklinii

The conifers or cone bearing plants are well represented in Tasmania with eleven species, of which nine are endemic. The most widely known is *Lagarostrobos franklinii*, the Huon Pine. A large tree 15 to 35 m in height, it was discovered in 1803 in the form of logs washed up along the shores of the Huon river. Even so, it was first recorded by Alan Cunningham in 1818.

The generic *Lagarostrobos* comes from two Greek words *Lagaros* = thin and *strobos* = cone. The specific named Franklinii honours Sir John Franklin, 1786 to 1847, a naval captain, Antarctic explorer, who was Governor of Tasmania from 1836-1842.

Lagarostrobos franklinii is found only in Tasmania and there is no other Lagarostrobos in existence today. It is a truly ancient species, and the same plant family exists in fossil evidence from 200 million years ago. It was once a fairly common tree in the west and south west but due to its excellent qualities for boat building and furniture it is very greatly reduced. In a smaller way, it was used in the motor industry as blanks to make models for car parts as the timber could be turned or cut in any direction.



An ancient Huon Pine – Photo by Chris Bell

Due to the demand for the timber all the easily accessible trees have been cut down and it now is fairly rare except in the very hard to reach areas. It occurs on rivers banks and on the margins of swamps, at altitudes from sea level to 1000 m. The timber is still much sort after and some years ago the trees that had been felled to make way for the Franklin dam were being raised from beneath the waters of the lake. It was found that despite years of submersion, the timber had not decayed. Its durability is due to the presence of the unique oil, Methyl Euganol, which permeates the wood making it virtually impervious to rot and giving the timber a distinctive sweet smell.



The beautiful grain of the Huon Pine

Many small new trees are now growing along the banks of the Gordon River and may live for 2000 yrs. Many years ago, I went down to the Cunningham pier in Geelong to visit a relative who was the owner of Franklin caravans in Ballarat. Their luxurious boat was 105 feet long and, if I remember correctly, was the last large boat to be made from Huon pine in Tasmania.

#### Notes on Propagation.

Seed of Huon pine is available and is easily raised. But if you are growing a specimen tree, the best result comes from cuttings collected from a well-shaped tree. The cuttings need to be protected from sun and wind, as conifers transpire rather freely and dry out more rapidly than a lot of others. The cuttings will have a good root system in about 6 months and when planted out will grow well, but not fast. This is a long term tree. The oldest living Huon pines are in the order of 3000 years old, surpassed only by the Bristle cone pine of California, *Pinus longaeva*.



Another very interesting part of Huon pine history is the ancient population growing on Mount Read. High on the slopes of the mountain, near Rosebery, is a small forest patch. Here, in the wettest part of Tasmania, at an altitude of 1000 m are several hundred trees which share an extraordinary legacy. All the trees are male and all are genetically identical. No variation has been found between any of the trees within this clone colony. It is suggested that a male tree became established some 10,500 years ago and has been propagating itself ever since, so the identical genes survive to this day.

How it got there originally, however, is an open question. It most probably arrived during the last interglacial about 30,000 years ago. The main method of survival has probably been by layering, whereby roots develop where branches strike the ground. While the oldest individual tree at Mount Read may be 1-2000 years old the organism itself has been living there for more than 10,000 years.

The oldest known living clone is *Lomatia tasmanica* - 43,600 years old - ironically growing in the same range as Huon pine.



Lomatia tasmanica – Photo by Natalie Tapson

# **OUR NEXT MEETING**

#### June 16th

The June meeting will be addressed by John Bennett of the Melton APS group who will talk to us about the Melton Botanic Garden and Eucalyptus arboretum. This will be followed by an excursion on June 20<sup>th</sup> to visit the gardens and arboretum.

#### **EXCURSION**

### June 20th

We will visit the Melton Botanic Gardens and Eucalypt Arboretum on Saturday June 20<sup>th</sup>. Our June Speaker, John Bennet, will give us a history of the gardens, and then David and Barb Pye will guide us through the various plantings.

Meet at the Harvey Norman, Corio, car-park at 8.30 am. There may be a bus available, depending on numbers. If the bus is arranged, cost will be \$10 per

member, with the rest subsidized by the club. If not we will car-pool / self-drive in convoy. Please bring lunch in the form of picnic or BBQ. There are BBQs available and an indoor area to eat, if the weather is not suitable.

### **PRE-MEETING DINNERS**

The venue for our pre-meeting dinners has changed. The old bistro has changed management and is no longer open on Tuesdays. We meet at the bistro of the **SPHINX Hotel** on Thompsons Road, at 6.00 pm. This is a very busy restaurant, even on a Tuesday, and booking is essential. If you wish to attend you must contact Denise by the previous Friday night, to ensure there is a seat at the table for you.

Email: deniseandphill@gmail.com

#### SIGN-IN AT MEETINGS

It is essential for our records and for insurance purposes that everyone who attends our meetings signs in on arrival. Members will be asked to add their mobile phone numbers in future , and we thank you, in advance, for your co-operation.

#### A MESSAGE FROM OPEN GARDENS AUSTRALIA

The Open Gardens Australia 2014-15 season has now finished across the country and with that comes the wind up of the organisation. We have achieved an incredible amount in our 27-year history having opened close to 20,000 gardens and raised over \$6 million for charities and local causes, so there is much to be proud of.

As we wind up our operations, we have been striving to preserve as much as possible from the past 27 years so that we can continue to share and inspire fellow garden lovers. We have developed a **Garden Opening Kit**, which outlines all that we've learned about opening gardens over the years. It has been written with individual garden owners as well as organisations in mind and we hope that people find it to be a useful resource to continue opening gardens around Australia.

The Kit is now available online at ...

http://www.opengarden.org.au/news-kit.html

until our website shuts down on 30 June 2015 and we are encouraging as many people as possible to download it. We are also talking with other industry organisations in an effort to have it published on other relevant websites, which will allow it to be available after we close.