



2.

### March Meeting

**Speaker: Chris Long**

**Topic: Boronia Oil**

Can you smell *Boronia megastigma*? Apparently quite a large part of our population can't. Those who can't are said to have "Specific anosmia". For those who can, the scent is deemed 'heavenly'.



Chris took us on a journey through his working life with *Boronia* and its conversion into an essential oil. Essential oils capture the volatile components of a plant and contain the plant's essence – smell and other properties – and are used by the pharmaceutical and cosmetic industries for flavour and fragrance. Other plants from which essential oils are obtained include eucalyptus, ti-tree, lavender, peppermint, orange blossom.

How is the oil obtained? There are two methods generally used: steam distillation followed by condensation and decanting the oil floating on top of the water. The second method uses organic solvent extraction with the solvent then being evaporated to leave a waxy 'concrete'.

The concrete is then dissolved in warm alcohol, the wax is solidified and the oil filtered off. The essential oil so produced is known as an 'absolute'.

**Historically**, WWII years saw increasing demand for morphine; producers were looking for a reliable supply of the opium poppy and an industry was established in Tasmania and Victoria. Over the years, expertise developed in horticultural and chemical processing and it was thought appropriate to diversify into other areas to use these skills. Low volume, high value products were sought and *Boronia* oil was one considered. There was some demand for this but supply of materials was problematic.

*Boronia megastigma* is one of 140 species in the Rutaceae family which also includes citrus and correas.

*B. megastigma* is a short lived woody shrub growing 1 – 2m high, in seasonally wet jarrah forests in WA and pollinated by a native bee. It needs to be pruned heavily at each harvesting and cultivated on well drained sites. A cut flower trade was well established from early in the 1900s, leading to extensive cultivated stands in Victoria using selected cultivars from WA source material. The Melbourne suburb of Boronia was so named because of the large acreage grown in that area. Cultivars were selected for their longevity, flower size and colour. The Chandler family developed many cultivars including "Currant", 'Squinney', 'Don's Red', 'Chocolate', 'Harlequin', 'Tortoiseshell', 'Burgundy' and 'Jack Maquires Red'. The cut flower industry peaked in 1940s and have decreased since then. Disease wiped out whole crops and the wearing of sprays went out of fashion.

**Extraction:** In the 1920s, planter industries were given licences to collect from the wild and they used solvent extraction to obtain the oil. Supply was small and erratic for some time. However there was deemed to be a good market if supply could be more consistent. To have a reliable product, reference standards needed to be established. For this, samples needed to be collected from Chandler's cultivars as well as from the wild. Chris' task was to apply for a licence to collect from the wild, and travel to a small area of Western Australia (Rocky Gully near Albany) relying on some complicated written instructions – no GPS in those days. He then had

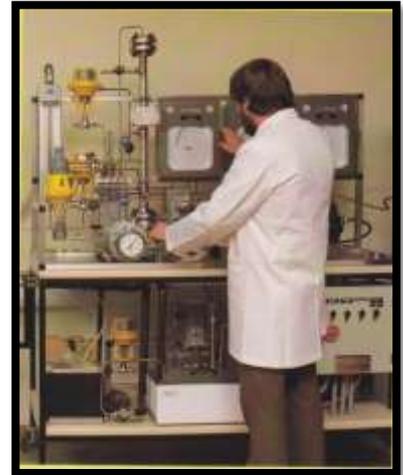
to pick off the flowers manually and place them into a solvent (Hexane) in several glass jars so that there was minimum time between picking and extraction. Over time, he was able to include leaves with the flowers and even to break off whole branches so that he could quickly transport them to his car and pick off the flowers and leaves. The jars were then placed in a special transport case for dispatching to Melbourne by refrigerated transport.



### 3.

#### Uses of the Absolute.

As a rich source of Beta-ionone, multinational companies use the absolute for its berry and fruit flavours. It is produced from bulk supplies of the flowers and leaves from Chandlers and Winfields in WA. Ladies were hired to pick the flowers and leaves initially, but it was found that a good whack on the bench had the flowers flying off – much quicker! Alternative solvents were sought by chemists and it was found that liquid carbon dioxide under high pressure was a really good solvent. (CUB used this with hops too). Once extracted, the pressure is relieved and the CO<sub>2</sub> evaporates. After all of this, 1 kg of the Absolute was obtained for testing.



Trial sites of 100 plants each were then set up in Victoria and Tasmania to investigate horticultural processes such as soil types, herbicide trials, pruning/slashing trials, cultivar comparisons and scaling up. A larger trial site was set up on rich volcanic soil near Warrnambool, with irrigation and in spring, large scale propagation from cuttings taken in Tasmania was mechanised with spacings of 400mm, chemical weed control initiated and progress monitored.

#### Disaster!

Almost all plants were lost within six months mostly due to sandblasting from windblown soil particles and also salt burn from windblown salt.

Operations were moved to Tasmania but the company then changed direction, abandoned the project and the technology transferred to other projects in Tasmania. Four growers however established small operations in Tasmania on 30 hectares with two tonne/hectare of flowers yielding 120kg of Absolute.

Chris ended his talk by considering the personal gains he had achieved in the 2 – 3 years he was involved with the project – horticultural trial experience, project management skills, a harvesting trip to WA and exposure to the world of perfumes and flavours. In the process he achieved a “Diploma in perfumery” though he has not used this in any further way.

Chris then passed around samples from a small bottle of the slightly viscous, brown essential oil, using strips of blotting paper. He learned that there are things to look for when smelling the oil, particularly an initial top note then a middle note some time later.

A most enjoyable talk, thanks Chris.

#### SPECIMEN TABLE

It is a bit of a transition time in the garden so our contributors found it hard to find many good specimens for the table.

Mandy started us off with *Micromyrtus leptocalyx*, a rather brittle plant growing to about 1m high and having tiny yellowish flowers. *Lambertia orbifolia* has orange-red flowers in groups of four. Its flowers only last one day and the fruit (not edible) form along the stems. It grows to about 2m high and about the same width. Everyone should have a *Hypocalymma xanthopetalum* (left) says Mandy. Many people mistake it for a wattle without closely looking at the small yellow flowers, but this is a great small plant for the home garden, flowering for most of the year. it copes with full sun but likes some shade. *Correa* “Brisbane Ranges” has quite large flowers and is one of the recommended correas for our sandy soils.



4.

Finally, Mandy brandished a hairy stem at us! It came from one of the acacias in her garden and showed clearly



its Minnie Ritchie bark with its tiny fibrous curls. This type of bark can be found on some eucalypts as well as some acacias. It may be protective against the strong heat of the sun.

Marj brought in several correas, including *C. glabra*, *C. "Dinner Bells"*, *C. mannii* and the local green flowering *C. reflexa*. *C. "Dinner Bells"* is a vigorous bush which needs pruning regularly to help it bush-up

and the flowers are jewel-like in the sun. Full sun or part shade, it does equally well and cuttings take readily. Marj's lilly pillly, *Acmeni smithii*, (now *Syzygium smithii*?) is a massive shade tree with creamy white flowers attracting the bees and making the tree 'hum'. Unlike some of the smaller *Syzygiums*, it doesn't seem to suffer from psyllids which can cause leaf blistering and curling. As usual, *Rhododendron lochiaie* attracted attention because of its vibrant red flowers. This plant was passed on from Bev Truscott and thrives in a pot with not a lot of soil. Needs repotting every few years to introduce better soil but requires very little attention otherwise. Can burn in the hot sun.

In noting Mandy's *Lambertia*, John commented that there are 11 species of *Lambertia*, one from NSW the other



ten from WA. His *Lambertia uniflora*, left, as the name suggests, has single flowers. It is easy to grow and needs cutting back once established. A grevillea we have seen before, *G. armigera*, is a spikey WA plant with black toothbrush flowers. John recommends that it be grown as a graft in Melbourne. *Olearia passerinoides* has fine foliage and small white daisy flowers and is generally found in mallee areas. It is relatively rare in the wild. *Prostanthera densa* is

from NSW, also rare in the wild, has soft furry leaves, mauve flowers all summer but needs some extra watering. John extolled the virtues of *Marianthus bicolor*, below.



This is a small spreading shrub or light creeper with attractive purple-striped white flowers which will grow in full sun or part shade. Two lots of fruit (below) graced the table. The native tamarind, *Diploglottis campbellii*, has its bright red fruits in threes, contained within a single green head. John's plant is about 10 – 15 years old and has reached a height of 3½ m and width of about 2 1/2m. It makes good jam but the



fruits don't peel readily. The other two fruits were from a Davidson's plum. John's is *D. jerseyana* which is about 3m tall, with the flowers and fruits on the stem ranging from about 30cm to 2m above the ground. As the individual fruits ripen, he puts them in the freezer until there is sufficient to make jam – sometime about Easter.

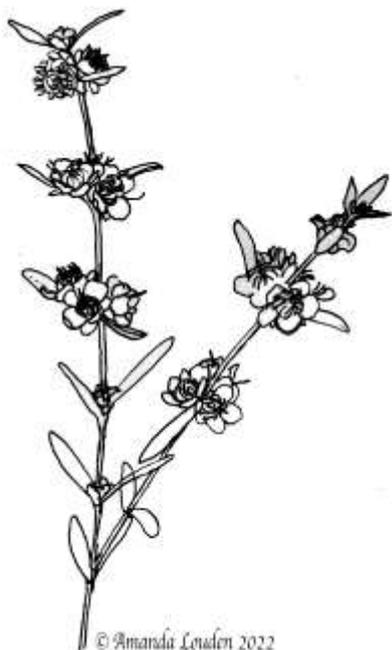
### **Pick of the Bunch      March 2022**

*Hypocalymma xanthopetalum*    F. Muell.      Golden-flowered Myrtle  
Specimen grown by Amanda Loudon

*Hypocalymma xanthopetalum* is a small spreading shrub (0.3 - 1m x 0.5 - 1.5m) from the south west of Western Australia. Its distribution ranges from the north of Perth to the south of Geraldton. It grows in sandy heathland or open woodland.

The yellow flowers produced in pairs in the leaf axils. In cultivation flowering can occur all year round.

In the wild flowering can occur from July to March. They are very showy and attract a variety of insect species.



A sunny aspect in well-drained soil is recommended. Plants will also grow in a partly shaded position. Pruning helps promote bushy growth and if required curb its spread. It is drought tolerant once established and resistant to light frosts. Propagate from seed or cuttings.

*Hypocalymma* is endemic to the south west of Western Australia. The genus consists of c.34 species, some of which are as yet unnamed. It is a member of the Myrtaceae family, a large family of c.3500 species in c.150 genera with c.1400 species in c.75 genera occurring in Australia. It includes such species as *Astartea*, *Beaufortia*, *Callistemon*, *Calothamnus*, *Darwinia*, *Kunzea*, *Leptospermum*, *Melaleuca*, *Thryptomene* and *Verticordia*.

The genus name, *Hypocalymma*, is derived from the Greek; *hypo* meaning under and *calymma*, a covering or hood. This refers to the cap of the calyx when in bud. The species name, *xanthopetalum* is derived from the Latin *xantho*, yellow and *petalum*, a petal i.e. having yellow flowers.

### **APS VIC QUARTERLY MEETING REPORT** Marj Seaton

Some points made during the meeting held in Ringwood East on 5<sup>th</sup> March:

1. A new group has been established – APS Heathcote - whilst another, APS Wilson Park (Berwick) is trying to revitalise after having seen a drop in their numbers. A shift to Pakenham is a possibility.
2. Growing Australian is expected to come out mid-March – Australian Plants is delayed. There are a few new contributors. So far, there has been no replacement for Lachlan Garland as editor. Any suggestions should be passed on to the committee.
3. A grant scheme has been approved, up to \$20,000. Guidelines for applications can be found online under By-laws. There is no formal application form.
4. **MIFGS** will be held from 30<sup>th</sup> March till 3<sup>rd</sup> April. If anyone wishes to help on the APS Vic stall they will be very welcome – just turn up and say you are happy to help. Kuranga has joined with APS this year and will have lots of plants to look at (not for sale). It will be a stand-alone stall – not attached to the Royal Horticultural Society. Two speakers will appear on stage on APS Vic's behalf during the Show – one 10am Wednesday, the other 3pm Sunday.
5. Anne Langmaid, APS Vic Membership Officer, is expecting to load the APS Vic database onto the web in about a fortnight and three groups will be testing it. This means that members will be able to check their own membership details though they will not be able to pay to renew their memberships online until later in the year. Instructions for using the website will be given to Group Treasurers or Membership Officers once the website is up and running. To log on, members will need to provide their current email address and their membership number (found on the Growing Australian envelope).
6. **FJC Rogers Seminar:** 15<sup>th</sup> and 16<sup>th</sup> October. If you are planning to go, REGISTER ASAP and think about whether you need accommodation on the Saturday night. Sunday garden visits will only be available by bus so you'll need to register for that.

6.

7. **ANPSA.** This year at Kiama. Registrations will be available from mid-March. Pre and post conference tours should be booked when registering if you plan to go as they will be heavily booked.
8. **ANPSA 2024.** APS Vic will be hosting, with the venue being the Melbourne Convention and Exhibition Centre. Attendees will be on site Mon, Wed, Fri with excursions planned for Tues and Thurs. A conference organiser has been appointed to handle details and needs to have promotional material available for the Kiama meeting. Can anyone help with photos of Cranbourne or Melton Botanic Gardens please for promotional purposes? – if so, contact Chris Long or Chris Clarke. Pre and post tours are being planned but details still being worked out. No general theme yet but it will pertain to aspects of gardening.
9. **Next Quarterly meetings:** one day (June 4<sup>th</sup>?) at Shepparton; date not confirmed. 10am AGM and spring meeting hosted by APS Loddon Murray 24<sup>th</sup> and 25<sup>th</sup> September.

### NEXT MEETING

**Supper: Petra Cox**

**Write-up: Marj Seaton/John Thompson**

### DIARY

#### APS South East Melbourne Meetings:

<b>April 5<sup>th</sup></b>	Propagation night.
<b>May 3<sup>rd</sup></b>	Speaker Bill Aitchison: “Daviesias”
<b>June 7<sup>th</sup></b>	Speaker: Malcolm Dow – “Sustainable Gardening”
<b>July 5<sup>th</sup></b>	Speakers: Norm and Marj Seaton – “Tanks, silos and wetlands”
<b>August</b>	AGM and slides

#### APS Victoria

**30 March - 3 April** - MIFGS.

**9 April** - APS Geelong Australian Native Plant Sale, ‘Wirawilla’, Lovely Banks. 8.30 am to 4.00 pm.

**7 May** - APS Mornington Peninsula Plant Sale. The Briars, Nepean Hwy, Mt Martha 10am – 3:30pm

**June** - APS Vic Comm, date to be advised. Hosted by APS Shepparton

**16, 17 July** – Cranbourne Friends Spring Plant Sale 10am - 4pm

**27, 28 August** – APS Yarra Yarra Australian Plants Expo, Eltham Community & Reception Centre 10 - 4

**3 Sept** – APS Wilson park (Berwick) Plant Sale. Date to be confirmed.



**11 – 16 September** – ANPSA Biennial Conference 2022 – Kiama, New South Wales.

Preliminary details of the Conference, pre- and post-Conference tours and the beautiful town of Kiama can be found on the APS (NSW) website.

**26 to 30 September** – 7<sup>th</sup> Global Botanic Gardens Congress, Melbourne. *Influence and Action: Botanic Gardens as Agents of Change*. Includes a youth program for future gardens' leaders aged 18 to 24.

**15 & 16 October** – 14<sup>th</sup> FJC Rogers Seminar. Topic: Fabulous peas (the typical 'pea-flowered' plants from the sub-family Faboideae). York on Lilydale in Mt Evelyn. Expressions of interest and queries to [fabulouspeas2022@gmail.com](mailto:fabulouspeas2022@gmail.com)

**22 & 23 October** - Cranbourne Friends RBGV Spring Plant Sale. 10 am to 4 pm.

7.

**Monthly Photo Gallery**

Here is one of the sadder sights a gardener can imagine. Ray can't even blame the rabbits this time.



But now a happier lot:

*Ixodia archillaeoides dwarf*



*Lambertia Formosa*



8.

*Lambertia inermis*



*Rhododendron lochiai* (Over 20 years old)



*Eucalyptus rhodanthe*



*Grevillea* "Poorinda Royal Mantle"



*Verticordia grandis*



*Hemiandra pungens*



## PROMOTIONS



# MELBOURNE INTERNATIONAL FLOWER AND GARDEN SHOW

30 March to 3 April 2022  
ROYAL EXHIBITION BUILDING  
& CARLTON GARDENS



**11 – 16 September 2022** - ANPSA Biennial Conference 2022 – Kiama, New South Wales.

Preliminary details of the Conference, pre- and post-Conference tours and the beautiful town of Kiama can be found on the APS (NSW) website.

**26 to 30 September 2022** - 7<sup>th</sup> Global Botanic Gardens Congress, Melbourne. *Influence and Action: Botanic Gardens as Agents of Change*. Includes a youth program for future gardens' leaders aged 18 to 24.



### Fabulous Peas 2022

**FJC Rogers Biennial Seminar**  
**15<sup>th</sup> - 16<sup>th</sup> October 2022**

Discover the extraordinary world of Australian pea plants.

**Saturday** York on Lilydale, Mount Evelyn

Speakers with expertise in identifying, growing and propagating peas. Learn about current research into propagation and growing-on techniques. Evening dinner and an entertaining speaker.

Plant sales of common and unusual pea species. Book

sales. Displays. Raffle.

**Sunday** Coach tours to public and private native gardens which include a wide variety of pea species.

Art exhibition and sale featuring pea plants from 8<sup>th</sup> – 16<sup>th</sup> October at Karwarra Australian Botanic Garden. Plant sales.

Expressions of interest: [fabulouspeas2022@gmail.com](mailto:fabulouspeas2022@gmail.com)

<https://apsvic.org.au/fjc-rogers-seminar-2022/>

Hosted: Australian Plants Society Maroondah Inc.