AUSTRALIAN PLANTS SOCIETY Geelong

Correa Mail

Newsletter No. 269– November 2011

OCTOBER MEETING **Bruce McGinness**

Our October meeting was addressed by Bruce McGinness and his topic was 'Plant Tissue culture'. Bruce has worked for Melbourne University providing technical support to various research groups. His major role has been tissue culture, particularly in cotton plants. The aim of Bruce's work is to develop a fungus resistant cultivar of the commercially grown cotton plant.

The aim of plant tissue culture is plant transformation by genetic manipulation. It allows rapid multiplication of plants in a clonal line, enabling forestry or agriculture to very quickly establish plantations or crops of cloned plants that are the ultimate in production. It is also used to propagate very small seeds like orchids, and for the production of genetically disease resistant, or disease free stock.

One of the projects assisted by the University of Melbourne researchers was for Bosisto's Eucalyptus Oil. The National Parks Bill of 2002 stated that long-term harvesting leases for Public Land would not be renewed. The industry had to move operations to private plantations in order to continue. This would be a considerable cost in both land and plantation establishment, and a delay until the plantation trees were ready to harvest.

The assistance of the team at University of Melbourne was sought, and a strategy developed for clonal forestry. 'Elite' plants were selected from natural stands – trees with a high oil yield, high quality oil, high growth rates and a large amount of leaf material. These plants were propagated at the University facilities and introduced into the plantations in 2006. They flowered after three years and first harvesting began in 2010.

Blue Mallee plantation – Photo Prof. I Woodrow

So, how is the tissue culture undertaken? Once the type of plant is established, material from the plant is obtained. This can be from a variety of sources depending on the type of plant in question. They can be from seed, from stem material, from hypocotyls or from the tips (apical meristems) of plant shoots. Juvenile stems were used in Eucalyptus, hypocotyls are the common material in cotton.

Cotton hypocotyls in the first stages of culture

President: Harry Webb - harry.webb@bigpond.com Secretary: Bruce McGinness – brucesm@unimelb.edu.au
Treasurer: Frank Scheelings - Ph 52297494 Editor: Ade Foster - adefoster@internode.on.net
Australian Plants Society – Geelong P.O. Box 2012 Geelong. 3220

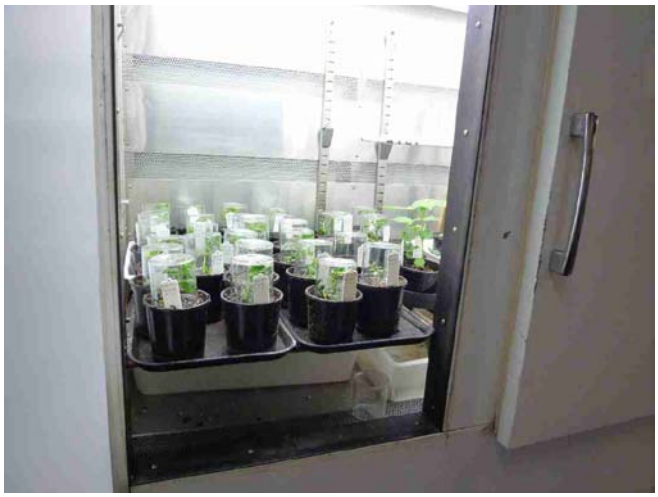
The samples are collected and placed in petrie dishes on a growth medium. The growth medium is matched to the type of plant growing, and contains all the macro and micro nutrients and vitamins. Sugar is also supplied as an energy source as the plants are not able to photosynthesise at this stage.

A great deal of care is taken to ensure that all instruments and samples are sterile and free of pathogens. Work is done in cabinets with filtered air moving away from the operator to ensure that no contaminants can fall onto the samples.

Sterile tissue sample collecting room

The samples are then transferred to growth cabinets in the growth room, where a constant temperature is maintained. This is important to establish strong plants. The room also controls light levels and the amount of light and dark (day length) Humidity is important, though not controlled at this stage of development.

Once the plant is sufficiently developed it is 'deflasked' – removed from the petrie dish and planted into a sterile pot in a suitable potting mix. The environmental conditions are strictly controlled again. The plants are soon placed in greenhouses for 'hardening off' before being exposed to the fungal spores, resistance to which is the aim of the project.



The types of cotton in commercial use do not lend themselves to tissue culture, and so an 'obsolete' strain is used for this work. Those that show a resistance are then cross bred with commercial cultivars until, hopefully, a suitably fungus resistant, commercially viable cultivar is arrived at.

Examining the cotton crop

While Bruce's work is with cotton, the same principals apply with native plants. Scientists at the university are seeking native plants with higher numbers of defence molecules against fungal attack. They are seeking input from the public – suggestions about plants which flower prolifically and whose flowers stay open for a long time. (Not necessarily vase life) The theory is that flowers that stay open for a longer time will have higher levels of defence molecules. Please send us your suggestions if you think you have a plant that fits the bill.

Bruce's work is very important in agriculture, and could save millions of dollars while providing a better, higher producing crop. Without a profit motive it is unlikely, but wouldn't it be nice if we could have pest resistant, high yielding natives for our gardens too?

PLANT TABLE

The plant table in October was stunning, as it should be in the height of spring. Matt Baars talked us through a staggering display of form and colour as only he can, and there were several very interesting plants which caused much amusing discussion within the group.

Prostanthera serpyllifolia aurea(?) is a lovely yellow flowering shrub to 600mm. There also exists a prostrate form which is useful as a ground cover.

Leptospermum 'Cherish' is a medium to tall shrub 2-3 metres high by 2 metres wide. In spring it is covered in large white flowers, with delicate pink bracts and buds on long branches. 'Cherish' is a hardy shrub that will grow in most soil types. It can be useful as a cut flower if stems are picked when the bud first start to open.

Leptospermum 'Cherish'

Gaeton brought along a white flowering form of the Bluebell Creeper, *Sollya heterophylla*. While it was very attractive, it has apparently been declared a noxious weed on this side of the country, and he was subjected to a bit of good natured ribbing.

A beautiful specimen of *Kunzea ericoides* was next. It has lovely white, strongly honey-smelling flowers hugging the long stems. The foliage too, is very aromatic. There was some unresolved discussion as to the origins of the plant and my subsequent research reveals that it is a native of New Zealand.

Philotheca verrucosa is a small shrub which occurs naturally on poor soils in Victoria, South Australia and Tasmania. It is a very attractive plant with masses of white flowers, but it seems to be prone to aphid attack and sooty rust in gardens of the Geelong region

***Philotheca verrusosa* – Bendigo Wax-flower**

Lechenaultia biloba is a short-lived plant that likes a sandy well-drained soil. There are forms in various shades of blue flowers, and our specimen was a startling electric blue.

Grevilleas were represented well, with a number of exceedingly prickly specimens including G. Georgiana, G. truriana, and G. paradoxa. A particularly nice hybrid from the Robyn Gordon family, Grevillea 'Molly', had large, deep red flowers in every month of the year.

***Grevillea paradoxa* – Bottlebrush grevillea**

PLANT OF THE MONTH **Epacris longiflora**

Plant of the Month this month is *Eapacris longiflora*, a stunning plant brought in by6 Margaret Guenzel. Margaret writes … *Epacris longiflora* occurs naturally in NSW extending just into southern Queensland. It is widespread from coast to mountains, but more common in coastal heaths . In its natural habitat it grows in sandy soil, but has been successful in gardens in Victoria, even in heavy clay soils. It's been said that it grows better in gardens in Victoria than in its natural habitat.

***Epacris longiflora* – Fuchsia heath**

Epacris longiflora can grow to 2m tall, but more often it is .8 - 1m, with long arching branches . It can also be grown in a pot if kept moist, well drained and in mottled shade. There is a coastal, more compact form, pictured in this newsletter. I had one in my garden in Boronia for over 20 years, growing in heavy acidic clay. It was a spectacularplant.

E. longiflora has been cultivated in England since 1803 . It was then known as *E. miniata* . In 1884 it was awarded a silver medal by the London Horticultural Society and considered a "Gem of a Plant ".

WHAT'S IN THE BUSH **Brisbane Ranges**

We did a walk in the northern part of the Brisbane Ranges in early October, searching for an uncommon orchid. We found it, but I was more interested in the colours of the native flowers in the area … swathes of pink, mauve and purple covering the stony hillsides.

Baeckia ramosissima spp ramosissima is a small showy shrub, commonly known as Rosy Heath Myrtle. In this part of the Brisbane Ranges, it is a low-growing, almost prostrate plant with masses of pink flowers. In some places it was like a carpet, completely covering the ground.

***Baeckia ramosissima* – Rosy Heath Myrtle**

There are several different forms of *B. ramosissima* in cultivation - the prostrate form with small, white flowers; a compact form with deep pink flowers and an upright one with pale pink flowers. They tolerate a variety of conditions from full sun to partial shade, will grow in poor soils, and can stand periods of relative dryness. This BR form would make a great plant in the garden, as a ground-cover, or tumbling over a rockery.

Standing a metre above the Baeckiea were lovely compact *Prostanthera denticulata*, the Rough Mint Bush, with deep mauve flowers and a strong minty smell from the foliage. *P denticulata* is a reasonably hardy garden plant taking full sun or dappled shade, and able to tolerate periods of dryness.

Prostanthera denticulata - Rough Mint Bush

Several of the north facing hillsides were thick with the delightful little plant, which I think is *Boronia anemonifolia*. A small shrub about 600 mm x 600 mm, there are several forms available from the nurseries with tiny, very pale to mid-pink flowers. All the plants in this part of the Brisbane ranges are purest white, with pale pink centres and buds. It is a very pretty plant with masses of flowers and dark, green hairy leaves. I could detect no scent from the flowers, but the leaves had a peculiar 'painty' odour.

ROADSIDE GEM **Rokewood**

We were searching for sun-orchids, in particular the Basalt Sun-orchid, *Thelymitra gregaria*. It wasn't much of a day, with strong wind blowing banks of heavy cloud across otherwise blue skies. As their name suggests, Sun-orchids require sunshine to open, and on cool or overcast days, they simply don't bother.

We had found them on the roadside near Rokewood, in a stretch of remnant grassland about 50m wide and 1km long. The grass was much higher than last year, and the sun was not yet warm enough for the orchids to be open, so they were hard to find. As a result, I paid a little more attention to some of the non-orchid species flowering in this remnant area. And what a little treasure-trove it was.

There were patches of yellow everywhere - two different Billy-buttons, *Craspedia sp.*, Wiry Buttons, *Leptorhynchus tenuifolius*, Yam daisies, Microseris sp., Yellow buttons, Chrysocephalum apiculatum, and, where the grass was lower, masses of the Bent Goodenia, *G. geniculata*.

In the wetter depressions there was the lovely little blue Swamp Isotome, *Isotoma fluvialis*, which is apparently a good ground cover in the garden. And deep down in the grass were flashes of red from the Running Postman, *Kennedia prostrata.* I was a little surprised to find it here – to me it is a plant of the open forests.

There were quite a few *Ptilotus macrocephalus* with lovely fluffy flower heads, although they were not as tall as usual. Around a waterhole fed by roadside drains was a large stand of *Leptospermum laevigatum*, which I suspect must have escaped from a garden or planting nearby. They were spectacular, completely covered in large white flowers, and humming with bees, hoverflies and blowflies who had all gathered for the feast of nectar.

Coastal Tea-tree - *Leptospermum laevigatum*,

Perhaps the most beautiful were clumps of the Common Rice-flower, *Pimelea humilis*, whose creamy white flowers contrast beautifully with the deep green foliage. Common perhaps, but a real treasure in what may seem a patch of grass as you roar past at 100 kph.

So, take a minute to stop and explore, you will be amazed as I was by the diversity that can be found on these little patches of grassland. Oh, and we didn't find the orchid.

RETIREMENT **Brendan Stahl**

Brendan has informed the committee that he will be standing down as Geelong APS representative on the APS Victoria Committee of Management after their November meeting, and directing his energies towards the Colac Otway group. Brendan has represented the club on various committees over many years and we are grateful for his input and enthusiasm.

We would like to hear from any member who might like to take over the role so that APS Geelong can continue to have a voice on the State body. It is important to be represented on these committees, and we appreciate that everyone has a busy life. Perhaps you might be able to attend one meeting a year and share the role with one or two others? Please give it some thought.

NEXT MEETING **November 15th**

The November meeting will be a departure from our usual practice. Instead we will visit two members' gardens, followed by a BBQ tea. We will start at Ade and Penny Foster's grevillea garden, a work in progress in suburban Belmont. The address is 8 Hazel Street, and members should arrive at about 6.00 pm.

After a wander there, we will move on the Frank and Tina's established native garden over-looking the Barwon River in Highton. The address here is 7 Admiral Court. After marvelling at Frank's garden we will have a BBQ tea. The club will provide meat and bread, please BYO everything else – drinks, glasses and cutlery.

AUSTRALIAN OPEN GARDEN SCHEME

Nov 12/13 Kerry's Garden is a contemporary Australian plant garden with an innovative mix of native plants and carefully selected exotic shrubs and perennials. Featuring grasses, kangaroo paws, and Eucalyptus tetragona. 44 Como Street, Alphington. 10.00 am – 4.30 pm. $6.00 entry.

Nov 19/20 Campbells garden features a line of Mt. Fuji cherries leading to a profusion of natives and

exotics, benefitting from the borrowed landscape of an adjacent park. Callistemons, grevilleas and hardenbergia, seating areas and ferns shaded by dense boundary plantings. 64-66 Claremont Street, Mount Eliza. 10.00 am – 4.30 pm. $6.00 entry.

Nov 19/20 The Collyers have a glorious 2 acre garden developed within a framework of mature trees and bordered by two fern-lined creeks. Grass paths lead past wide borders of natives, colour-coordinated perennials, tress shrubs and alpines. Ferns and indigenous species line the creeks and wetland. 46 Bena Road, Korumburra. 10.00 am – 4.30 pm. $6.00 entry.

Nov 26/27 The Lexington Avenue garden is an elegant garden of drought-tolerant Australian, African and exotic plantings around a refined, minimalist, contemporary timber house. 39 Lexington Avenue, Shoreham. 10.00 am – 4.30 pm. $6.00 entry.

CHRISTMAS BREAK-UP

Our Christmas break-up will once again be hosted by Gaeton and Pauline Limsowtin at their Lara home, 40 Gebbies Road. Saturday December 3rd is the date to remember, and 4.00 pm is the time to be there. Gebbies Rd runs off Kees Rd, just up from the 5-Ways. No. 40 is at the end of a long driveway.

Gaeton has a wood-fired pizza oven in his yard, and those who attended last year will attest to the quality of his home-made pizzas. There will also be the traditional BBQ. Please bring a salad or desert item to share, as well as your own chair, plate, cutlery and glass. The club will supply meat, bread and pizzas. We hope to see you all there.

Gaeton and his fabulous pizza oven

2012 PLANT SALE

Once again we are indebted to Arthur and Linda Pape for making their property available for the Autumn Plant Sale. The dates to remember are 21st and 22nd April 2012. This is a huge weekend for the club, and everyone is encouraged to help out sometime over the weekend. The BBQ tea for workers on the Saturday is an institution, and should not be missed. So put those dates in your calendar now.

CHRISTMAS RECESS. Dec/Jan/Feb

The club does not have formal meeting in December, January or February. However, we have the Christmas break-up in December, and in February we start the year with a BBQ get-together. This will be also at Arthur and Linda's place on Saturday February 18th. More details in the December newsletter.

CALENDAR 2012

Your committee, in particular Liz Wells, has been very busy and we have our calendar of speakers almost full for 2012. As soon as the last details are finalised we will let you know about a very interesting year ahead.

We also have a couple of bush-trips planned. One is to a wildlife park and indigenous nursery. The other will be an excursion to examine plants of the volcanic plains, following a talk on that subject at our monthly meeting. We are also looking into a two day weekend trip if there is sufficient interest.

HELP!! Articles

You will notice that this edition of the Correa Mail is a little thinner than usual. Tony Cavanagh is away, and his absence highlights how important member input is to our newsletter. Without Tony's regular contribution, the Correa Mail comes up short!

I have made heart-felt pleas for content from you, the members, in almost every past edition. I have personally asked members to assist with articles. But it seems you are a bit shy. Please don't be!

I signed on as the editor of the Correa Mail, not the author, and I struggle to provide sufficient content to fill a worthwhile newsletter. Please get your pencils and paper, typewriters, word-processors and computers busy and tell us, your fellow members, about your thoughts on our collective passion … native plants. I know you can do it ☺