

Report of meeting Saturday 7th March

“Grevillea”

Peter Olde, the leader of the Grevillea Study Group presented an insight into just how much effort has been expended in gathering information to enable the 3 volume Grevillea books to be published.

Before getting too far into the presentation, Peter took your editor to task, pointing out that I said he had a ‘microscopic’ knowledge of Grevillea. Members I trust took my words the right way, in that I know Peter has such a fine head for detail when it comes to all things Grevillea, that I was suggesting that not much would escape his attention. This proved so on the recent excursion by members of the Grevillea Study Group, which I attended, and learned so much about the Grevilleas of the Sydney area.

This fact was also amply demonstrated during the presentation, with Peter recalling in detail where he had travelled and what was found in some of the most remote areas of Australia. There would not be many that could claim to have observed virtually every one of the 375 or so species of Grevillea. That Peter has done so, at great expense in both time and cost, just because he had to do the work well, demonstrates his commitment to his pet subject. We can be thankful for his commitment.

Peter presented a selection of slides depicting some of the species which tested both his observation skills and patience. Many was the time he has had to return to some far distant hill, or desert dune, to locate a species which had been recorded there. Using information gathered personally from Herbaria both in Australia and overseas, expeditions were mounted to places we had never heard of let alone visited. The information available was often short on detail, or accuracy of location, making the task of finding a small population of plants somewhat difficult. Many of the species Peter spoke of were not general garden plants, but often relic plants from long changed climate.

Following this, Peter agreed to tackle the difficult question of taxonomic research. Whilst we have only our observation of characters available, scientists are delving deeper and deeper into plant DNA to discover ‘true’ relationships. Much has been made of recent plant name changes, based not on morphological characters that we common folk can see and make sense of, but on genetic research. The recent recommendation to include Banksia under Dryandra is a case in point. It seems that not all is as it seems with Grevillea either, and Peter said he has an open mind on work currently being undertaken which might see Grevillea disappear as a Genus, being consumed by Hakea. Whether this is agreed by the scientists is still being debated. It is amazing just how much work is being done in this field. We do not find out about it until a paper is finally published, giving new names to a plant we might have grown for years and thought we knew. Many scientists are working on the family Proteaceae, both here and overseas.

We learned a couple of facts which were unexpected.

It was generally assumed that the evolution of plants was influenced by a drying climate. Plants that were of rainforest origin began to evolve different characters to suit a new, drier environment. Genetics shows that the oldest evolved Grevillea is *Grevillea endlicheriana*, a shrubby species from the Darling Range in Western Australia. This species is unusual in that the flowers are held well above the foliage on long woody, sparsely foliated stems. The flowers are sweetly perfumed, and insect pollinated. Research also shows that plants probably first evolved as insect pollinated, and moved to bird pollination over time. There is evidence also to show that some plants are returning to a state whereby insects will be their main pollinator. What will we learn about plant relationships when all this research is complete?

The second surprising revelation was that the Proteaceae of the world has evolved from the Platanales, which is the Plane Tree family. Dr Peter Weston of the Sydney Herbarium has presented

quite a number of papers on this issue, for comment within the scientific world. His is a fascinating story which I believe members would find interest. Maybe we should try to seek his attendance at a future meeting.

The group offered Peter a couple of nice bottles of red in appreciation, although they were not presented, as someone had left them in the car.

John Knight

The Practical Pages

After lunch many of the group travelled to Moruya, to Mark and Carolyn Noake's garden for a practical propagation session and garden visit. This garden was chosen as Mark has a keen interest in Grevillea, with a good range growing well. Peter and Mark led half the group around the Grevillea gardens whilst the other half were offered some advice about propagating Grevillea. This session was led by Phil Trickett and John Knight.

To start off, the group discussed how to select the right type of material to give the best possible results. Each member selected a branch from Grevillea 'Forest Rambler', a hardy cultivar which is easy to grow and just as easy to propagate. They were shown how to choose wood suitable for cutting, and the type of wood which should be discarded. Of course, if you need to collect material and only unsatisfactory wood is available, then you must take what you can get. After completing the 'spring test' and the 'snap test' we went to collect material from other plants, using this new found knowledge. This material was to be used to propagate new plants, with each member choosing material from a plant they wished to grow at home.



Last month I mentioned air filled porosity, and the importance of getting the right balance of moisture and air in the cutting mix. I had prepared cutting mix of 2 parts sharp sand, 2 parts medium grade horticultural perlite and 1 part cocopeat. During lunch this mix was placed into a container and allowed to totally fill with water till it was fully saturated.

The informality of the day is highlighted by this pic, taken by Jillian Peck.

Here I explain my preferred method of firming the cutting mix to ensure the perlite is not destroyed

To undertake an air filled porosity test, it is important that the container holds exactly 1litre, so that the results are easily interpreted.

The container I used is a 1kg Goulburn Valley sliced peaches (grown and packaged in Australia) plastic container, which holds precisely 1 litre of water, just perfect for this experiment. In the screw top lid, 4 holes of 10mm diameter had been drilled to allow the mix when drain when the container was inverted. These holes are covered by the first 2 fingers of each hand whilst inverting the container to prevent water spilling out before the container is placed in the measuring jug. The mix was

subsequently drained into a measuring jug to see how much free water was in the mix. This free water, when completely drained, will equal the amount of air now available in the mix. In the case of the prepared cutting mix, this was just shy of 300ml drained, which equates to almost 30% air in the mix, which ensures an adequate supply of oxygen for the cuttings to callus and root successfully. The container took about 30 minutes to completely fill with water when immersed in a deep bucket, and about 2 hours to finally drain, so you need to be patient.

This test can be performed on any type of soil, including potting mix, garden soil (although soil takes a long time to wet and much longer to drain) or anything else you care to experiment with. Using the test for garden soil is a useful exercise as you can determine what the drainage of a garden bed is likely to be, and then adding other material to the test you can see what improvement various additives make to a garden bed before going to the effort of actually doing the work.

Back to the cuttings. We set a very tight timetable so that everyone could have a go, and also get to walk around with Mark and Peter discussing this and that about Grevilleas. Alas, the best laid plans. The first propagation group were still hard at it, asking questions, stripping or cuttings leaves, discussing hormones, setting cuttings and generally enjoying their afternoon, oblivious to the needs of the rest of the group. I take a fair share of the blame, as once started, find it difficult to keep quiet. There is always something new to discuss, so the timetable went out the garden gate. Phil was having just as much fun with his group. The first garden visiting group returned and just joined in, but the first propagation groups did not get to see the gardens as time was done before we were.

The plans for the day meant a tight schedule, and if we decide a follow up session on propagation is needed, maybe that is all we will do, so everyone gets plenty of attention.



The garden visits conducted by Mark and Peter was also hailed a success. Peter's knowledge was certainly on show as he discussed the various features of the Grevilleas, and gave his opinions on their suitability for garden cultivation. Mark and Carolyn have a very large garden with well drained raised beds allowing him to grow many species others find difficult. The evidence was here, on show. Improve your drainage. As Aristotle said (or was it his brother) you can always water dry soil, but it is very difficult to dry a perennially wet soil.



I'm sure there is a snake in there says Cliff, while Mark Peter and Margaret are more concerned with discussing a Grevillea Pic Jillian Peck

All in all the presenters had a great time, hopefully the attendees did too. Peter was impressed by our group members, and Mark and Carolyn's garden. It was getting on when we finally packed up, and then Mark and Carolyn offered that the presenters and our guests stay for a meal. What could we say. So a few good reds appeared, with cheese of course, followed by salad and lasagna with crusty bread. Cooked to perfection in Mark's huge home made brick pizza oven. While the oven was hot an opportunity was taken to heat up some Banksia cones for seed collection. Another great APS day,

which ended a little later than anticipated.

Thanks to all who participated, and especially to Peter and Margaret Olde for making the trip from Sydney, Phil Trickett and Catriona Bate for assisting with the propagation session, Mark and Carolyn for being such generous hosts. Carolyn needs special mention for working like a Trojan in the weeks leading up to the garden visit, getting the garden into such great order. Her enthusiasm has no bounds. Then she turns around and makes a meal for us. What a girl!

John Knight