



## GREVILLEA STUDY GROUP

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# Newsletter N° 34

Dear Members

There have been a number of matters of interest to the membership which occurred in 1992 on which I need to report. Not least of these was the invitation from Heather Clark, curator of the Grevillea collection at the Hunter Region Botanic Gardens, to officially open the Grevillea garden on September 19. Although this garden has been functioning for some years, I must convey to you how impressive the collection is in its scope and beauty. Large gardens, crammed with both species and hybrid **Grevillea** have been combined into a truly exotic planting, worthy of your time and trouble to visit. I was so impressed by this effort, undertaken without pay or financial support by Heather and her husband (both pensioners), that I felt we need to gather a network of such gardens in which the living collection can be maintained and through which mutual support can be offered. A number of these gardens come to mind in New South Wales: Mt Annan, Hunter Region Botanic Garden, Dave & Eva Mason's arboretum at Coraki, perhaps the Grevillea Park, Bulli, in due time. Where are the others in your State, or even in NSW which I have not seen? Not only could this network be a showcase of all the **Grevillea** species across the nation but also a repository for both rare and endangered as well as newly introduced species. Perhaps State leaders could compile a directory and forward it in due course.

In June 1992, SGAP NSW Limited granted me a research grant of \$5,000 for taxonomic research in the genus **Grevillea**. A further \$1,000 from the Newcastle Group, \$1,000 from Sutherland Group and a \$50 from Menai Group, all unsolicited, enabled me to complete part of this project. The money was used to travel to and from and within the Top End in July over a period of two weeks and for herbarium work at Perth and further field work for two weeks in W.A. in September. Following this field work, a taxonomic revision of *Grevillea angulata* was submitted to and accepted by *Telopea*, the journal of the NSW herbarium, involving the circumscription of four new species. A further, much larger paper has been submitted to *Nuytsia*, the official journal of the W.A. herbarium. I was greatly humbled by the faith shown in me by these groups and wish to here record my sincerest thanks to all these bodies and their members.

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In October, 1992, I attended a conference of Study Group leaders in Canberra organised by Geoff Butler and the Network for Plant Conservation. This was a very fruitful meeting of like minds, sharing experiences and hopefully increasing the viability of some study groups which are struggling. During the discussion sessions, our newsletter was singled out by a professional newsletter writer, as an example of excellence in layout, presentation and diversity of content. Special acknowledgement here to our editor, Christine Guthrie, and through her, our typesetter and layout guru, Alison Bailey. Thank you to both of you and well done.

At the end of this conference I travelled to Tumut to check out the new species recently discovered there. This is a most stunning species, clinging to existence beside the Goobragandra River some 17 km from Tumut, with beautiful pinkish-purple racemes displayed very prominently over the whole plant. Set against the river with nectar-feeding birds darting among the flowers, it was a most picturesque sight. Study group members wishing to see this species in the wild should contact me for directions. It was in full flower in October.

Another recently discovered population of *G. arenaria* in northern NSW also shows great horticultural promise, bearing very large yellow/green ageing yellow/red flowers. This cultivar from Banyabba Nature Reserve near Casino is being introduced to cultivation by Dave Mason of Coraki.

(Peter Olde's letter continued on Page 2)

# BOOK REVIEW

by Peter Olde

## GREVILLEA Proteaceae, A Taxonomic Revision

D.J. McGillivray assisted by R. O. Makinson

Melbourne University Press, RRP \$225

At long last, the long-awaited McGillivray revision of the genus *Grevillea* has finally been published via the Miegunyah Press Series, established via bequests under the wills of Sir Russell and Lady Grimwade. It has been produced in large format, glossy page, coffee-table style with over 170 colour photographs. Among its most notable features are; an easy to use (subject to some familiarity with botanical terminology) key for the identification of plants collected in the wild; comprehensive descriptions of each species with additional notes on variation, ecology, habitat, distribution etc.; a chapter on the morphology and descriptive characters in the genus some of which have not been observed before; a truly excellent and well-researched chapter on the nomenclature, typification, accepted names and synonyms for each species which will prove of great value to future botanists working with the genus. This is an academic work featuring a life-time study by a distinguished botanist on the third largest genus in the Australian flora. As such, its content may have limited appeal to non-botanists or amateurs, whose love of the genus is essentially horticultural but will appeal to serious researchers and botanists.

The relatively broad circumscription of some 'species', *sensu* McGillivray, will perhaps disappoint some people. Large numbers of species previously accepted by botanists and horticulturists alike have been referred to synonymy or reduced in rank. McGillivray is a very exacting botanist, applying very rigorous criteria in his species' definitions which admit no overlaps. Accordingly, many species e.g. *G. alpina*, *G. victoriae*, *G. fasciculata* are unresolved. Elsewhere, apparently good field species (e.g. *G. flexuosa*) are referred to synonymy or subspecies (e.g. *G. buxifolia* subsp. *sphaerocarpa*). In his introduction (P.xiii), McGillivray states: "Some species are delimited in a broad sense (and subdivided informally), in the hope that they will be sufficiently obtrusive to activate further research." One would hope that serious research is not too far away in this respect.

The revision is internally consistent and reliable, although a definition of the author's species concept should have been included (as it should in all revisions).

Whether or not you agree with McGillivray's concepts, this revision stands as his testament and life work, albeit cut short by illness. It is a major step forward, a reference point from which other opinion can diverge or advance but one which can act as a foundation, especially with such valuable descriptions and work on typification and synonymy within its pages.

## NEWS IN BRIEF

One of our new members, Peter Beal from Mt Cotton, Qld, is a research officer at Redlands Research Station, Qld Department of Primary Industries. He is currently evaluating *grevilleas* for value as disease resistant rootstocks and also scions suitable for cut flowers or foliage.

The revision contains the description of one new species *G. subterlineata* Makinson and sees a name change for the well-known *G. glabrata* — now *Grevillea manglesii*. One of the features of this revision is the very detailed descriptions of all the species, long overdue in this genus.

I do have serious reservations about the format for this work. This is not a work really for the average reader. It is a serious, technical work to which serious botanists must make continuous reference. Being so expensive, one is reluctant to even touch the pages, let alone turn them and use them in a way in which botanical revisions are normally used (and abused). The size of the work also precludes easy access, as the book is large and quite heavy. The general standard of the photography is not high although some shots are well balanced and of high quality. Nonetheless, in my opinion, this book will have high collector value and although it is somewhat expensive, the price does properly reflect a life-time of work. If you cannot afford a copy yourself or its content is of limited appeal, you could perhaps recommend it to your local library.

## From The President

Two people in SGAP, neither of them members of the Grevillea Study Group, have made an outstanding contribution recently to the study of *Grevillea*. The first of these is Ann Duncan, who assisted me very ably when I was running flower shows for SGAP at Peakhurst, NSW in the early 1980's. Ann has more recently become interested in conservation and offered to survey the rare species *Grevillea kennedyana* in and around Sturt National Park for the National Parks & Wildlife Service as part of a survey of rare and endangered species, increasing the count to some 7000 individuals and confirming its distribution in Queensland. Her article was published recently in *Cunninghamia* and will be summarised soon in an article for this newsletter.

Perhaps one of the most talented members of the SGAP Victoria is Alf Salkin, who recently undertook some private (and voluntary) research for me on the leaf anatomy of some *Grevillea* species, confirming the distribution of stomates on both leaf surfaces of some tropical species. Alf recently wrote an article for *Victorian Naturalist* Vol.109(3)80-84; *Phytoglyphs — An Aid to the Taxonomy of the Proteaceae*, which is of great general interest. I am trying to get him to work up an article for *Grevillea*.

Although no-one in this Study Group has to date taken up the challenge to study a *Grevillea* species or some aspect of one, I remain optimistic that someone will come forward and offer their services. Remember, it's not what your Study Group can do for you but what you can do for your Study Group! I think I heard that somewhere before...

# IN YOUR GARDEN

## A Brief History of the Grevillea Garden – Hunter Region NSW

by Heather Clarke (Hon Curator, Grevillea Garden)

**1985-6: THE ORIGINAL AREA** presented as 3Ha of gently undulating, much disturbed bushland, containing NO large healthy trees, a few old *Monotoca elliptica*, and a multitude of dead and dying acacias. The most prevalent species on this site was lantana, which covered the flats and reached into the tree tops. This was removed as labour came to hand.

**LATE 1986 – EARLY '87:** The present mound, (now invisible, and covered with large *Grevillea rosmarinifolia* etc. thus forming an aesthetic backdrop) was built up with local sandy soil by a volunteer from the former Commonwealth Employment Programme (and others), helped to place railway sleepers along the mound. This was quickly planted with *Grevillea* sp. in order to retain this dry soil. Weeds were always a problem and mowing reduced this to a minimum, but demands and need for effort was increased.

**1987:** Paths were defined by placement of acacia 'logs' and many plants were established as they became available – mainly through donations from individuals and nurseries. These small 'originals' were cared for under duress because of lack of tools, mowers, mulch, labourers and other necessities to ensure their weed-free survival.

**1988:** Commencement of our liaison with other Botanic Gardens, especially the Royal Botanic Gardens, Sydney, became a reality. Other 'specialist' organisations also realised the potential of the area enabling us to add many valuable endangered sp. to our enterprise. Mulch in the form of old woodchip became readily available and the plants prospered.

**1990:** Continued support from interested working groups enabled the further establishment of fully planted, mulched and defined areas. Landscaping with a view to the future became evident, i.e. plantings to the North Swamp margin, 'o prevent noise and erase a view of Highway. 'Special' plants obtained from many sources (Mt Annan etc)

**1991:** 'Working Bees' established constructed paths. Funding for this was provided by the Department of Sport, Recreation and Racing as well as the Hunter Region Botanic Gardens Society. A garden seat was provided by public donations. These stable paths allowed for prams, wheel chairs and the elderly and incapacitated, that all might enjoy free access to the *Grevillea* display in spring. This year, many rare and endangered plants came from Burrendong Arboretum.

**LATE 1991 – 1992** Extensions to the area well established. One being the *Grevilleas* of the Hunter Region and the other main section being those of Western Australia, which accounts for most of our *Grevillea* sp. Records are kept to International standards. The naming of plants through signs commenced. Major effort concentrated on propagation of pants for sale in order to support further advancement in *Grevillea* and other sections. Grafting programme commenced in order to establish problem plants. Paths to N.E. of Grevillea Garden established.

**1993 – THE GREVILLEA GARDEN BECOMES A MECCA FOR MANY TOURISTS**

The Hunter Region Botanic Gardens are located adjacent to the Pacific Highway at Motto Farm about 3km north of the Hexham bridge. The township of Raymond Terrace lies about 4km north of the Gardens. They are open to the public on Tuesdays, Saturdays and Sundays from 10am to 4pm. Group bookings can be arranged at other times by phoning (049) 87 1655.

The Gardens are a result of community initiative. Areas established there include the Acacia Garden, Palm Garden, Aboriginal Garden and the Grevillea Garden as mentioned above, which was officially opened in September by Peter Olde. With several hundred plants and over 120 species, the Grevillea Garden is well worth a visit.

## ILLAWARRA GREVILLEA PARK, BULLI, NSW

by Col Tyndall (Vice President I.G.P.S.)

Since we last reported on the Park's progress, there has been plenty of activity in the planning and working departments.

In the work department, Ray Brown and his band of helpers have completed the security fence on the lower half of the Park.

No rest for anyone at Bulli. 5.30am Wednesday 3 March saw an 1897 two room wooden church (donated) move from a neighbouring suburb to the Park where the building will be restored, painted and act as a work shed whilst overlooking the dam and car park area.

In May, by way of a Government Grant administered by the Wollongong City Council, a group of 20 youths will spend 26 weeks on various projects, such as install water system (donated by NSW S.G.A.P.), spray out areas, reduce undergrowth ready for planting and construct walking trails.

In planning, we wish to thank the Sutherland Group for their donation which will allow us to purchase well advanced grafted *Grevilleas* from Neil Marriott.

Additional plants are being propagated by Ray Brown with more plants from David Mason and Paul Nixon.

We also make an appeal to any other members of the Study Group and S.G.A.P. members for donations of suitable *Grevilleas* for planting out in the Park.

We also suggest Study Group members may wish to assist by propagating for the future, there is a lot of Park to plant out.

Our aim is to stage an open day in September to correspond with Wollongong City Council's Annual Flora Event.

Any enquiries can be directed to Ray Brown phone (042) 839 216 (early morning or late evening).

We are currently preparing a submission to the Landcare Funding which, if successful, will accelerate progress at the Park.

# IN YOUR GARDEN (cont.)

## Grevilleas in Darwin

by Kerry Rathie, Greenbank, Qld

When my son visited his cousin in Darwin in January 1992, I sent him off with 5 newly grafted grevilleas. They were just breaking through the Nescofilm tape, as Merv Hodge's 'mummy' method had been used.

All survived and on staying with my brother in late September. I was interested to see that all had made substantially more growth than similar plants here in Greenbank even though our 1992 winter was milder than usual, with 3 frosts instead of our usual 20 to 30. All were on *G. robusta* rootstock.

I only sent one northern species (orange form of *G. wickhamii*) as I was curious to see how grevilleas from the 'deep south' would flower in the tropics.

One species, *G. drummondii* has not flowered, but was in furious vegetative growth. I have 2 similar plants here in Brisbane, plus one a couple of years older which has been covered in flowers for months. The others were all in flower and *G. "Magic Lantern"* had apparently been so since January. This is the *thelemanniana* form not the *alpina* hybrid of the same name mentioned in Wrigley & Fagg's book. *G. wickhamii* had flowered well and was covered with buds. *G. asteriscosa* was already 2m x 3m and covered in red flowers.

The most spectacular was *G. longistyla x johnsonii* over 4m tall and growing so fast that the top 2m were soft and vegetative while the lower 2+ m was in full (but fairly recently) flower. The relatively erect form (it was only just starting to branch actively near the base) is different to that shown by the same clone in Brisbane.

Private gardens in Darwin are still nearly a palm monoculture, but local nurseries are selling more *G. banksii* hybrids like "Majestic" and "Sylvia" than on my last visit 3 years ago. I saw a few northern species like *G. parallela* and *G. dryandri* for sale. *G. formosa* has been well used in a few civic areas, particularly to fill in the centres of roundabouts.

A small wholesale native plant nursery which started up some 5 months ago supplied me with tubes of *G. angulata*, an orange/pink *G. dryandri* (most other colour forms were available also), *G. longicuspis* and *G. parallela*. They also had *G. decurrens*, *G. pteridifolia* and many others.

I've sown seeds of *G. mimosoides*, *G. decurrens*, *G. pteridifolia* and *G. benthamiana* from this trip, but too early to tell the results.

I brought back some plants of *G. pluricaulis* (I refuse to call it a subspecies of *G. goodii* when it is so different and has no gene flow with *G. goodii* or *G. decora*) from a spot where I saw 2 good colour forms flowering 3 years ago. They were in early flower bud as I dug them up and one I planted in my brother's Darwin garden proceeded to flower. The other has lived, but a double transplanting discouraged them a bit. *G. pluricaulis* grows to about 1 m in the wild with annual canes and a perennial lignotuber. In cultivation in Darwin, it stays green and grows to about 3 - 4m. Flowers can be predominantly orange/apricot, predominantly pink or predominantly greenish-yellow. The area in question contained the first 2 colour forms.

Re the S.E.Qld 'Activity Report' on page 4 of Newsletter No 33, the ant killing insecticides mentioned were only *Dursban*, *Cislin* and *Dichlorvos*. The others on page 4 were for scale, caterpillars and so on. *Cislin* is safe enough to use inside houses and has some residual effect. *Dursban* is also relatively safe, but not for

household use. It is cheap but has no residual effect. *Cislin* is very effective against cockroaches.

\* \* \* \* \*

## Some Disappointments

by Ian Mitchell, Ringwood, Vic

My grevillea growing is languishing a bit largely due to lack of material. I have grown a number of plants of *G. insignis* by cutting from a commercial source in the last couple of years with considerable effort to keep them alive over summer, only to have them flower as *G. monticola*.

I bought this year a plant of *G. asparagoides* which I thought was quite a windfall, only to have it flower as *G. armigera*.

Can the Grevillea Study Group do anything to help access to stocks of Grevillea?

\* \* \* \* \*

## Making Toothbrushes into 'Shaggy-Dogs'

by Mark Herrington, Wellington Point, Qld

We all know grevilleas are beautiful and their flowers are enchanting. The development of the inflorescence of 'toothbrush' grevilleas is also fascinating.

In our Grevillea Study Group Newsletter No 29 (p5). I indicated that in the 'tooth-brushes', the inflorescence first develops cylindrically but then the pedicels on the under-side of the inflorescence bend so that the florets actually open on the upper-side of the inflorescence.

Following this observation, some interesting questions arose — could a tooth-brush be made into a cylindrical inflorescence? Could the inflorescence be tricked into making the florets of the tooth-brush face the ground, instead of the sky? Could the tooth-brush become confused? The following is a report on some observations made to answer these questions. The tooth-brush *G. asplenifolia* was used.

In one case, a nearly vertical tip was fixed in a vertical position from the time the developing inflorescence was first observed. This tip eventually produced a near cylindrical inflorescence rather than the tooth-brush usually formed on *G. asplenifolia*.

In a second case, the apical 30cm of a nearly horizontal branch was twisted and fixed so that the surface of leaves, branch and inflorescence which normally face downwards now faced upwards. The inflorescence was allowed to grow until nearly fully developed. At this time, it faced the sky. The branch was released to return to its original position. The tooth-brush opened facing the ground.

In a third observation, the orientation of a half-developed inflorescence was disturbed and partly inverted. Some florets aborted and the whole inflorescence ended up resembling a 'shaggy-dog' rather than a pristine 'tooth-brush'.

Perhaps other G.S.G. members would like to confirm these observations through other experiments and perhaps document differences in response amongst species i.e. when comparing species, the tooth-brush' character is 'fixed' in some species at an earlier stage than in others.

# IN THE WILD

## Grevillea williamsonii FvM Rediscovered

by Neil Marriott

In 1893, H.B. Williamson discovered a solitary Grevillea at the foot of a small hill between Mt. Abrupt and Mt. Sturgeon, at the southern extremity of the Grampians/Gariwerd Ranges in Western Victoria. This was described by von Mueller in December of that year as *Grevillea williamsonii*, the description of which was published in the Victorian Naturalist Vol. 10:129.

This area of the Grampians was burnt out by a bushfire four years later, in 1897 and the sole *G. williamsonii* was destroyed. Subsequent searches (often quite thorough and extensive) by botanists and naturalists, have failed to relocate the species, and after some 90 years, the species was presumed extinct. In "A Handbook to Plants in Vic - Vol II" written in 1972, Jim Willis states that "affinities are with *G. aquifolium*" and it is possible that *G. williamsonii* was a mutant of this species or part of a hybrid population.

Several years ago, further doubt was thrown on the validity of *G. williamsonii* as a species, when steam softened specimens housed at the Melbourne Herbarium were found to be sterile. It was determined that the lone plant was merely a "putative hybrid..." probably with *G. aquifolium* as one of the parents.

Last year, Brian Lacy, a native plant enthusiast from the southern Grampians told me that a friend of his had discovered a population of unusual Grevilleas with toothbrush flowers in the local bush. Entire leaf forms of *G. aquifolium* are not uncommon in the Grampians, and although I briefly considered *G. williamsonii*, I dismissed the idea, preferring to see a specimen of the plant first.

In November 1992, Betty Lacy brought me some flowering specimens, and I couldn't believe my eyes, having seen the original specimens of *G. williamsonii* in the Melbourne Herbarium. I recognized the fresh specimens as being almost certainly that species. As I was going to the Herbarium the next day to complete some work on new species for the Grevillea Book, I took the opportunity to carry out microscopic comparisons between H.B.Williamson's collection and the fresh specimens. There was no doubt, *G. williamsonii* had been rediscovered!!

Dave and Lyn Munro sensed they had discovered something different when they stumbled on the small colony of unusual Grevilleas whilst looking at orchids. They were absolutely thrilled to find out the plants were the presumed extinct *G. williamsonii*. The site was in the bush off Cassidys Gap Road, some 7 kms north of Piccaninny Hill, where Williamson discovered his Grevillea nearly 100 years ago.

Arrangements were made to visit the site, and we marvelled at the luck of the Munro's discovery. The Grevilleas are not visible from the track and searching the area failed to reveal any more plants. The colony consists of 5 mature plants and 7 smaller specimens. Mature plants were dense shrubs 1m x 1m with a distinct horizontal layering habit with ashy grey-green foliage and masses of small yellow toothbrush flowers which age to pink. One shrub was greener with occasionally toothed leaves but similar

flowers. Examination of the flowers showed the species to be actually closer to *G. ilicifolia* than *G. aquifolium*.

I was most interested to note on a subsequent visit that several of the larger bushes had immature follicles (seed pods) developing, despite the fact that the flowers we had dissected had no anthers and hence no pollen. This tied in with the earlier findings of sterility in Williamson's plant. A number of young follicles were bagged, resulting in the subsequent collection of 5 well developed viable seeds several weeks later. Possible explanations of this surprising outcome could be that the species has very few fertile flowers, the majority being sterile or early season flowers may be fertile with end of seasons flowers being sterile. A further explanation could be that the flowers are self pollinated while in bud, with anthers being shed at antithesis. Further research will eventually reveal the truth to this fascinating puzzle.

A small amount of cutting material was collected with half being sent to Mt Annan Botanical Gardens. Material has struck well and has been potted on. Due to the rarity of the species, no further collections will be made from the wild. Plants will gradually be made available through the Grevillea Study Group and plants will be distributed to all major Botanic Gardens and arboreta.



*Grevillea williamsonii*  
collected Nov. 1992

# IN THE WILD (continued)

## Locating Grevilleas on the Clarence River N.S.W.

by David Mason, Coraki, NSW

Peter Olde asked me to locate and send samples of *G. arenaria* from six sites in the Grafton, Lawrence and Gibraltar Range area, with one being located on private property.

The latter was simple, with the owner's knowledge, the plant turned out to be the same as the one sold in the trade in this area as 'North Coast'. The original cuttings coming from Althofer's.

Next location was Banyabba Nature Reserve. I enlisted a friend who had been Park Ranger at Gibraltar Range for some years. He suggested we collect the Mulligans Hut type first and on another weekend use his 4 wheel drive for the Banyabba location, as he knew this species also, but said they were different.

Cuttings from all locations were sent to Peter, who advised that we had in fact collected three different Grevilleas. Peter travelled up after opening the Grevillea Park, to check the three plants in the wild.

A quick day's outing, with five or six locations checked, revealed that indeed there were three different plants, and no doubt in time Peter will describe the differences along with their proper names etc. but a short summary from a new chum is as follows:

**Lawrence:** small shrub to half metre by half metre  
leaves approx 20mm - oval shaped  
red/purple flowers  
sets huge amount seeds

**Mulligan's Hut:** tall open shrub to 1m  
leaves approx 20mm - oval, green  
green/purple flowers  
no fruits

**Banyabba:** open shrub to 2m  
leaves to 50mm  
flowers red (appears different to the other types  
with 10-12 flowers per head)

I now have all 3 types growing as grafted plants and am attempting to grow all types from cuttings side by side for comparison. Cuttings of all types were sent to Mt Annan and Neil Marriott.

## Rare and Endangered Species – *Grevillea singuliflora*

by Keith Kerr

reprinted from Friends of Myall Park Botanic Garden Newsletter Vol 1 No 4 Spring 1992

A Queensland grevillea that is very rare (but not particularly endangered) has links with Myall Park and its founder David Gordon.

Associated with the early history of Queensland and recorded in the old "Queensland Flora" published 1899-1902, this little grevillea was first described by Baron Ferdinand von Mueller from specimens collected by Leichhardt in 1844. Only one location was given — Dogwood Creek, and no other information was available or recordings of it made after the original listing.

A study of maps in an old school atlas showing the routes of early explorers was the basis of the quest to re-discover *Grevillea singuliflora*. Translating the old map information onto a modern map, it was assumed that Leichhardt had crossed the Dogwood Creek (and found *G. singuliflora*) in the Pelham area, north-west of Chinchilla in the State Forest.

On 6th June, 1953, David Gordon, (accompanied by Dorothy and baby Robyn) set out to try to track down this elusive Grevillea. When just about run out of road and in thickly timbered country, amongst a wealth of acacias, eucalypts and just about everything else, Dave located this odd looking shrub. With coin-like leaves and camouflaged flowers, certainly not much like any other Grevillea, Grevillea no less it was and *G. singuliflora* for sure! The specimens submitted to the Herbarium were the first recorded since Leichhardt — just over a hundred years previously.

Since then other limited areas have been found — more in the Barakula Forest, also in the Helidon district and the Blackdown Tableland.

## PROPAGATION

### Damping Off of Seedlings

by Christine Guthrie

One of our new members asked about how to control damping off of seedlings. While we were at Mt Annan Botanic Gardens, I decided to ask the expert, Peter Cuneo, for advice.

Damping off is caused by a fungus and the best way to control it is to provide conditions that prevent the fungus from growing.

The soil mix should be sterilised by using boiling water or a microwave oven. The soil mix should not be too heavy ie not too much peat. Straight coarse sand can be used as long as the seedlings are pricked out early. Good light levels and good air movement are important and don't overwater.

Excess water lying around provides ideal conditions for growth and movement of the fungus.

If all this fails, you can use the fungicide *Previcure* according to manufacturer's directions.

### Marking Pens for Plant Labels

by Jim Thomson, Parramatta, NSW

Apropos Edgar Burt's recommendation (Newsletter No 33) of Lyra Plasto-mark 6363 as an excellent pen for white labels for pots, I might just mention my own experience.

Many felt pens labelled 'indelible' faded completely when the labels on which they have been used had been rained on a number of times. It seemed that they had been designed for use indoors.

Turning that argument on its head, I postulated that a laundry marker, being designed to write on clothing which would regularly go the rounds with a washing machine should therefore, be suitable for outdoor use. So it has proved. The brand which Wilma and I use is Artline 750 which we purchase from Woolworths, but I assume that any other laundry marker would be equally serviceable.

# ACTIVITY REPORT

## Visit to Mount Annan Botanic Garden

by Christine Guthrie

Peter Cuneo and Richard Johnson from Mount Annan Botanic Gardens met an enthusiastic group of around 20 members. It was explained that at the present time there is a co-operative policy being developed between the Botanic Gardens and the Grevillea Study Group for exchange of plant material. Already a number of people are sending material to Mount Annan for propagation. It is essential that this material is from a documented wild source. Each collection is assigned a number and all the information about that material is stored on computer.

Seed at the gardens is stored at 4°C in hermetically heat sealed containers with the air evacuated. Again, seed must be from a documented wild source, with information stored on the database.

Some of the rare Grevilleas such as *G. kennedyana*, *G. flexuosa*, *G. caleyii* and *G. scapigera* are being kept in long term germ plasm storage. This involves propagating the material by tissue culture and storing the plants in plastic bags in a refrigerator at 4°C.

When more material is available, plants are propagated by cuttings or grafting. The soil mix used for cuttings is heated to 60°C and contains 65% coarse sand, 35% peat, nutricote, trace elements, dolomite, lime and iron. The pH is adjusted to 6.5.

Rooting hormone can be used on the cuttings, but choice of material, time of year and condition of the material are probably the most important factors. Material from wild sources is much more difficult to propagate than material from horticultural sources.

The glasshouses at the gardens are air conditioned and maintained in different ways for different methods of propagation. Seeds are raised in punnets which are kept on capillary matting to minimise overhead watering. Cuttings are misted automatically every 5 – 8 minutes, while newly grafted plants are kept inside a fogging unit until they have "taken". A modification of the "mummy" graft is used – the leaves of the scion are removed but are not taped all the way up.

The shade house covers an area of 0.5 hectare and is covered with 50% shade cloth. It houses the permanent stock collection, as well as a collection of rare and endangered plants. Pots are kept up off the ground to minimise the spread of disease via water splash, to prevent roots growing into the ground and to create good air flow so foliar disease is reduced. Some of the plants we saw growing in this area included *G. batrachioides* which was rediscovered in 1991 at Mt Lescuer, *G. fulgens*, *G. petrophloides*, *G. wittweri* and the new grevillea discovered in Tumut *G. wilkinsoniana* MS. Those members who attended were lucky enough to be given plants of *G. scapigera*. Five plants were rediscovered in the wild, and of these 5, now only 1 plant remains. We are now in the position where there are far more plants under cultivation, particularly at Mount Annan than there are in the wild.

For anyone lucky enough to have a plant of *G. scapigera*, Peter Cuneo suggests leaving the plant in a pot in full sun keeping the foliage up off the ground and using gravel mulch to minimise splash and spread of black fungal disease to which the plant seems particularly prone. *G. scapigera* has flowered well and for long periods in cultivation, but has not set any seed.

It has been found that the original sand beds used for growing Grevilleas in the Gardens was expensive, with questionable success. Pure sand was a mistake and an oversimplification of what conditions are like in the wild, where there can be clay subsoil, organic matter and soil microflora. Now crushed sandstone and peat is being tried for Proteaceae plants from the eastern states. It was suggested that "fatty" sand used for bricklaying and cow manure would be worth trying, but in all cases, good drainage is essential.

I would like to thank Peter Cuneo and Richard Johnson for their time in showing us around the Gardens. We are indeed lucky to have someone like Peter at the Gardens who is taking such an active interest in and devoting time to the genus *Grevillea*. Most of the success with propagation of the grevilleas at Mount Annan is due to Peter's efforts and we thank him whole-heartedly for these efforts.

\* \* \* \* \*

### S.E.Qld GROUP

by Norm McCarthy

27th September 1992. The S.E.Qld Grevillea Study Group journeyed interstate to Dave Mason's large garden at Coraki near Lismore. Remarkably, there was an attendance of 24 souls, despite the distance travelled.

Our guest speaker was none other than John Wrigley from Coff's Harbour.

John gave a great talk on Rainforest Proteaceae. He spoke authoritatively and displayed some 27 lovely fresh foliage specimens and flowers in marvellous variation. Makes you want to grow them all, as well as Grevilleas.

Dave Mason's garden could still be termed young, although exceedingly prosperous with Grevilleas in large numbers and in many species. Dave is grafting lots of plants using *G. robusta* as a rootstock.

29th November 1992. The venue this month was at Olwyn and Merv Hodge's garden. I seem to lose count of heads but at least 40 people were present.

Merv has retired from work. Ha! Ha! He is now a wholesale nurseryman.

Our guest speaker for the day was Cameron McLean. He spoke to our Group on the 'Uni-Fogger' – ultrasonic misting.

After his extensive talk, there was a conducted tour and explanation of the 'Uni-Fogger' unit, which Merv has installed as a propagation aid.

The 'Uni-Fogger' is an ultrasonic misting system that uses high frequency soundwaves which shatter the water molecules into a fine atomised mist which resembles fog. The benefits of the system are the high quality mist, low water usage, low energy use and low capital cost. For more details contact Cameron McLean 19/7 Hanlon Close, Minto 2566, Ph (02) 820 3216.

This is the last report from Norm McCarthy as Public Relations Officer for the S.E. Group. Norm has assiduously recorded the proceedings of the meetings of the S.E.Qld group for the last two years and I would like to thank him for his time and efforts in doing so.

# GROUP INFORMATION

## S.E.QLD GROUP

### Sunday 28th March

**Venue:** Home of Heather Knowles, Lot 2 Ebenezer Rd, Rosewood

**Phone:** 074 641 333

### Sunday 30th May

**Venue:** Home of Kerry Rathie, 5 Salston Rd, Greenbank (off New Beith Road)

**Phone:** 07 200 0268

### Sunday 25th July

**Venue:** Dept. of Primary Industries, cnr. Delancey Street and Finucane Road, Cleveland

**Host:** Peter Beal

**Phone:** 07 286 1488 (during work hours)

**Subject:** Inspection of facilities and activities of the Research Station

### Sunday 29th August

**Venue:** Home of Graham Nosworthy, 609 Grandview Road, Pullenvale

**Phone:** 07 374 2178

### Sunday 31st October

**Venue:** Home of Ron Jell, 3 Fryar Court, Clear Mountain, Samford

**Phone:** 07 298 5396

### Sunday 28th November

**Venue:** Home of Merv Hodge, 81-89 Loganview Road, Logan Reserve

**Phone:** 075 46 3322

If anyone else has general advice on propagation eg about preventing damping off, I would love to hear from you,

## FINANCIAL REPORT

### FEBRUARY 1993

Income		Expenditure	
Subscriptions	\$185.00	Newsletter Expenses	180.00
Donations	55.00	Postage	103.65
	\$240.00	Stationery	2.00
			<u>\$285.65</u>
		Balance on Hand 26.2.92	<u>\$753.74</u>

## OFFICE BEARERS

**Leader:** Peter Olde, 138 Fowler Road, Illawong 2234. (02) 543 2242

**Treasurer and Newsletter Editor:** Christine Guthrie, 32 Blanche Street, Oatley 2223. (02) 579 4093

**Curator of Living Collection & Herbarium:** Ray Brown, 29 Gwythir Avenue, Bulli 2516. (042) 84 9216

**Seed Bank:** Judy Smith, 15 Cromdale Street, Mortdale 2223 (02) 579 1455

**Cuttings Exchange:** Hessell Saunders, Box 31, P.O. Bulli 2516.

\* \* \* \* \*

If a cross appears in the box, your subscription of \$5.00 is due. Please send to the Treasurer, Christine Guthrie, 32 Blanche Street, Oatley 2223. Please make all cheques payable to the Grevillea Study Group.

1992



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