Association of Societies for Growing Australian Plants

GREVILLEA STUDY GROUP

October 2001

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Newsletter Nº 60

NSW Programme of Events 2001/02

Due to circumstances beyond my control, we have had to alter the programme. Particular attention should be paid to the change to Don Burke's garden visit.

Any member of the Australian Plant Society is invited to attend any the activities of the Grevillea Study Group during the coming year. Please advise your intentions to the Leader Peter Olde by phone on 9543 2242, by fax on 9541 0796 or by email to petero@australians.com.

There will be plants for sale and a plant raffle at each meeting.

Programme Change

Please note that the visit to Don Burke's garden on October 13 has been deferred till next spring.
Don advises that because of the warm winter most of his plants will have finished flowering by this date.
Furthermore workmen have inadvertently damaged some of the garden during construction works

Fri Nov 2 - Mon Nov 5, Field Trip

Wagga and Riverina District

Details on page 2

Sunday Feb 11, 2002 9.30am

Venue: Grevillea Park, Bulli
Subject:**The Art of Pruning Grevilleas**
Speaker:Ray Brown

Sunday March 10, 2002 10 a.m.

Venue: Mt Annan Botanic Garden
Subject:**Small Grevilleas for the Home Garden**
Speaker:TBA

Sat - Sun April 21-22, 2002

Autumn Plant Sale

Victoria Chapter Excursions

NOTE: REVISED INSTRUCTIONS and NEW ITINERARY !!

Participants please contact Max McDowall 9850 3411 by previous Sunday to receive further details of itinerary, etc., and to organise plant and cutting swaps.

November 5th

Participate in Riverina Field Trip organised by NSW.

SGAP (QLD REGION) INC. - Grevillea Study Group

Morning tea at 9.30 am, meetings commence at 10.00 am. For more information contact Merv Hodge (07) 5546 3322.

SUNDAY 28 OCTOBER

Venue Home of Gordon & Maria Reynolds, Keys Road, Hampton 4350
Phone (07) 4697 9107
Subject Grevilleas for frosty conditions.

SUNDAY 25 NOVEMBER

Venue Home of Fred & Joy McKew, 50 Culgoa Crescent, Logan Village 4207 (UBD Map 303 H7)
Phone (07) 5546 8171
Subject Smoke and vermiculite effects.

SUNDAY 27 JANUARY 2002

Venue Home of Kerry & Annabel Rathie, 5 Salston Road, Greenbank 4124 (UBD Map 278 A5 or Map 277 R5)
Phone (07) 3200 0268
Subject Grevilleas suitable for heavy soils.

SUNDAY 31 MARCH 2002

Venue Home of Ian & Carolynn Waldron, 183 Clydesdale Road, Jimboomba 4280 (UBD Map 330 Q1)
Phone (07) 5546 9494
Subject TBA.

Phone the host of the meeting for detailed directions

We record here the death of the pioneering plantsman Dave Gordon, of Glenmorgan, Queensland who passed away recently at the age of 102. A full obituary will appear next newsletter.

INSIDE THIS ISSUE:

GROUP ACTIVITY

NSW/VIC Riverina Field Trip

Meet 12 noon on Friday Nov 2 at Ingalba Nature Reserve, 10 km west of Temora.

From Sydney, turn off to Temora after Yass. It will take about 5 hours to get there. From Sydney you need to leave at 7 am.

A normal sedan should be fine for most of the trip. However, Livingstone, Pulletop and Cocoparra NPs are 4 wheel drive or high clearance vehicles only. It is anticipated that a town or village will be nearby every night we camp out (for those who wish to use motels).

Please note that we may visit peoples property on the condition that National parks are not, repeat NOT informed of the plants we find there.

For further information contact Matt Hurst on 02 6925 1273.

(Those driving from Sydney to Temora may see ***Acacia baileyana*** in its natural and restricted habitat close to Temora.)

Rough Itinerary

Day 1 Friday

Ingalba NR ***Grev wiradjuri; G. floribunda*** single-stemmed***;*** ***G. floribunda*** lignotuberous.

Kamarah 3 km w towards Barellan

G. rosmarinifolia subsp glabella ?

Cocoparra NP

G. floribunda, G. anethifolia

Camp out here

Day 2 Saturday

Griffith region

G. ilicifolia the last surviving plant of the species in NSW.

Lockhardt

G. floribunda - large flower form

Kapooka near Wagga -

G. lanigera, G. rosmarinifolia ?wild

Livingstone NP

G. lanigera, G. polybractea, G. rosmarinifolia.
Sort out parentage of possible hybrid between the three species

Camp on the southern side

Day 3 Sunday

Head towards Holbrook stopping at Pulletop NP

G. polybractea / or ***G. alpina***

Then towards Bill and Joy Wearns property for ***G. alpina***, ***G. floribunda*** and to sort out several plants that cannot be keyed out (?hybrids) then on to Humula for ***G. ramosissima*** subsp. ***ramosissima***

Towards Tarcutta for small-flowered ***G. alpina*** and possibly ***G. lanigera***.

Time permitting to Gundagai area to look at newly discovered popn of ***G. wilkinsonii***.

Camp out

Day 4 Monday

Visit areas overlooked or not planned. Some other plants of note that we may see include

1. A prostrate form of ***Acacia paradoxa***.
2. A large area of ***Euc rossii*** with grass trees as the dominant understorey in flower.
3. A new possible new species of mintbush
4. Newly planted section of grevilleas at Galore Hill.
5. Pycnosorus sp in flower on road verges around the Collingullie area.
6. Attractive road verges between Barmedman and Griffith.
7. West-facing gully with tree ferns on Wearns property.

The Wagga group hopes that you will enjoy this field trip.

IN THE WILD

The 1999 Trip to Southwest WA - a Trip to Remember - PART ONE

Nell R Marriott

In October of 1999 Peter Olde and I had what to me must be one of the most memorable trips I have ever undertaken in the remarkable Western Australia. Peter had already been in the West for two weeks, doing preliminary fieldwork and identification in the Perth Herbarium (naming all the new specimens that the herbarium were unsure of). When I flew in Peter was buzzing about all the amazing new plants he had found already!!

However there was one Grevillea that had caught him unawares. On a trip around Mukinbudin with the Wonderful Mary Squires, (who with her husband has set up an indigenous nursery and set aside a magnificent area of undulating sand plain clothed with rare plants -more anon.) Peter was asked, when traveling down a back road "what is that Grevillea Peter?" With a cursory glance Peter stated, "why it is ***Grevillea aneura***", which this Grevillea certainly looked like superficially. However, after Peter realized that ***Grevillea aneura*** is confined to the southern wheat belt around Lake King, many hundreds of kms south of Mukinbudin, he examined the small specimen taken and realised that a new species had been found that had never before been collected.

Grevillea aneura (similar to new species found hundreds of km to the north.)

Central wheatbelt - a degraded area

With this in mind we decided that we had better get back in to this most easterly part of the central wheatbelt to have a closer look. Heading out east, we travelled through the tragically degraded and now almost destroyed heart of Western Australia's wheat bowl. The only remaining native vegetation was occasional half dead mallees or wattles and various other species. Practically everything was swamped by exotic annual grasses! To counter these weeds, the farmers and local government spray and grade the road verges until nothing native is left!! The local flora is gone; as have the birds and animals, and the breakdown of sustainable agriculture has well and truly set in. Salinity has already destroyed all the low-lying areas and is spreading rapidly!

Fortunately the further east we went, the more marginal the country became, and with less pressure from man's destructive habits, the better the natural environment became!! Nearing Mukinbudin we began passing through areas of mallee woodland, beautiful gravelly rises with their masses of tall scrub, as well as occasional areas of the once vast sandplain flora.

Just to the southeast of Mukinbudin, in an area where granite comes to the surface on Barbalbin North Rd, we found the rare ***Grevillea minutiflora*** and the even rarer ***Acacia denticulosa***. Not surprising that they are rare when you see what has been cleared!!

On arrival at Mukinbudin we found that the Squires were away. However we knew that we would be welcome to camp on their superb bush block to the north of the town.

Setting up camp in the dark, we discussed the itinerary we would try and keep to for the next few weeks; we had a huge area to cover, loads of leads to follow up and many Grevilleas to look for! !

There is still a vast amount of field work that is desperately needed in the West, and those of you who have seen the latest Flora of Australia will realize that not one scerrick of this has been done by the author of that dodgy document.

Our academic discussions were punctuated by regular attacks from the resident feral beehive in a nearby tree, so after working out a rough itinerary we hit the swags.

Grevillea eriobotrya close up of conflorescences The Grevillea Book II P.Olde & N. Marriott

Mary Squires' garden at Mukinbudin

Early the next morning we set off after a quick look around Mary's magnificent wildflower garden. This block had previously been rolled for cropping - not once but twice!! Still it has come back with massed displays of the region's flora.

Dominant in many areas was the spectacular large rich cream-flowered ***Grevillea eriobotrya***. This is a rare Priority 1. species, but is abundant here. Other Grevilleas we found included free flowering spreading specimens of ***Grevillea excelsior***, ***Grevillea eremophila***, ***Grevillea didymobotrya***, ***Grevillea apiciloba*** **subsp** ***apiciloba***, ***Grevillea huegelii***, ***Grevillea shuttleworthiana*** **subsp** ***shuttleworthiana***, ***Grevillea eryngioides*** and on occasional granite rises ***Grevillea magnifica*** **subsp** ***remota*** and ***Grevillea levis***.

IN THE WILD *(continued)*

As well there was a wealth of other spectacular sand plain flora - ***Boronia adansoniana*** with showy pink flowers, Hakeas, Banksias, Isopogon, ***Persoonia saundersiana***, pink Thryptomenes and many more.

It is a credit to Mary and her husband that they have set aside this area for the environment. They could have easily continued to clear it and make good profits from cropping!!

Our first new species

From the Squires' bush block we headed east to where we located the inland ***Grevillea aneura***. As soon as we saw it we realized that it was in fact a new species, one of the many we would find on this amazing trip!!

This new Grevillea has quite long pendulous deep, almost burgundy red inflorescences, set amongst deeply divided, slightly prickly grey-green leaves. It grows to around 1m x 1m and sadly is confined to a small population along this ONE roadside. Had the adjoining farmer decided to tidy his roadside we would never know that this new species ever existed! Just how many plants have been lost like this in the west we will never know!

New hybrids in Karalee area

There is an unconfirmed record of ***Grevillea plurijuga*** from near Karalee, which is a pumping station town on the Perth-Kalgoorlie pipeline. This site is well northwest of this species known distribution so we headed down south to see if we could find it. Unfortunately we didn't have a precise location so we drove around all the tracks we could find in a vain search.

No signs of ***Grevillea plurijuga*** but we did find several unusual new red flowered grevilleas, another new species we thought at first, however closer examination showed them to be beautiful natural hybrids between ***Grevillea oncogyne*** and ***Grevillea heugelii*** that were both growing nearby.

Heading on to Yellowdine on the Great Eastern Highway, we drove due south of the town on the Mt Palmer??Rd. We had not gone far before we came upon a lovely area of flat outcropping granite. Here we found the typical echidna-like prickly low plants of ***Grevillea tetrapleura*** as well as ***Grevillea acacioides***, ***Grevillea levis***, and a beautiful low pale yellow flowered Verticordia with long styles (*V. staminosa*?)

The typical echidna-like prickly low plants of ***Grevillea tetrapleura***

The Grevillea Book III, P. Olde & N.Marriott

Grevillea huegelii, close up of conflorescence of Glabrous-flowered form (C. Woolcock)
The Grevillea Book II

Field work pays off

Not much further south we made a significant collection of ***Grevillea huegelii*** here we found plants with silky perianths growing right beside specimens with glandular perianths. Normally this floral character is a diagnostic feature that has been used to separate populations of related taxa (eg ***G.sarissa***). However this site revealed that this is not a reliable character for separation of populations within this species. Only thorough fieldwork such as this reveals these important observations.

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Grevillea huegelii
Close up of conflorescence silky form (P.Olde)
The Grevillea Book II

IN THE WILD *(continued)*

(left)
Grevillea oncogyne
Flowering branch

(right)
Grevillea obliquistigma subsp. obliquistigma

The Grevillea Book III
P. Olde, N. Marriott

Continuing south we came upon an area of woodland with ***Grevillea oncogyne*** plants growing to several metres in height.

This is a hardy and attractive species, and one specimen we found was a spectacular display of bright red flowers.

The sandplain area or "kwongan"

West of Mt Palmer the vegetation opened out to sand plain or kwongan as it is known in the west. There was a massed display of heathland plants including the most beautiful ***Grevillea ceratocarpa*** specimens Peter and I had ever seen. These were silver-grey soft foliaged shrubs to 2m, with showy erect spikes of white flowers twice the length of any we have seen previously. Most likely it warrants recognition as a new subspecies. Not much further on we found ***Grevillea shuttleworthiana*** **subsp** ?? growing side-by-side with ***Grevillea ceratocarpa*** further proof (if any was needed) that McGillivray's lumping philosophy, like that of more recent experts lacked critical field research.

This region is one vast botanic paradise. Only the inroads of the mining industry mar the beauty of the region where rare and unusual plants abound.

Grevillea acuaria Soft-leaf form
E of Crossroads, Forrestiana WA (P.Olde)

On the Parker Range Rd at Mt Caudan we re-collected a distinct taxon in the ***Grevillea acuaria*** group. We first discovered this Grevillea in 1988 when we were researching for the Grevillea Books. Possibly the true ***Grevillea arida*** dismissed by McGillivray as synonymous with ***G. acuaria***, these plants were attractive grey-green leaved small shrubs to 0.5 x 1-2m with rod flowers and distinctly larger fruits than ***G. acuaria***.

In 1988 we found the true ***G. acuaria*** with its fine, bright green leaves growing sympatrically just down the road, but unfortunately we could not relocate them this time.

The Parker Range

A bit further down the track, the Parker Range rises from the surrounding woodland. Here we found again the distinct Parker Range form of ***Grevillea obliquistigma*** **subsp** ***obliquistigma***; this forms a showy green shrub to 1m with massed racemes of cream flowers that turn a most attractive pinky red on maturity.

Nearby the rare and beautiful ***Hakea pendans*** occurs. Also found here was a stunning new subspecies of ***Grevillea huegelii***.

This form's stunning glaucous blue-grey mats of dense, thorny foliage beset with bright yellow heads of flower. In the sparsely vegetated woodland they stood out in spectacular fashion from the brown stony soil. Here again we found both glandular and silky flowered forms growing together.

South of Mt Parker

On the Forrestania-Southern Cross Rd just south of Mt Parker, we found another distinct population of ***Grevillea acuaria***, this one forming low erect shrubs to 0.3m with glaucous blue-grey leaves.

Not far on we re-located ***Grevillea lissopleura***. This must surely be one of the most elusive Grevilleas in the west. It took at least four trips to the area in the 1980's by Peter and me before Peter re-located it in 1991.

This is its only known location, first collected in the early 1970's by the late Ken Newbey, and only then as it was in flower as he drove past!! However its location was recorded in kilometres. When we worked it out in miles, there it was.

Mt Holland

We then headed on to Mt Holland, to try and relocate ***Grevillea marriottii*** where I had originally discovered it while searching for ***Grevillea lissopleura***. Following a track east of the main road, we came upon an area of mixed heathland where we found ***Grevillea biformis*** **subsp** ***biformis***, ***Grevillea ceratocarpa*** and ***Grevillea shuttleworthiana*** **subsp** ***obovata*** all growing together.

Once again we had the evidence to show that "desk-top revisionists" lack the depth of knowledge needed to try and explain the complexities of nature. At the type location for ***Grevillea marriottii*** most plants found were old and half dead. Rather disturbing for such a rare species. However on the southern slopes of Mt Holland we found a wonderfully healthy colony growing in a gravel pit. Many of the plants at this site had quite attractive broad leaves, although I suspect that this may have been due to the favorable conditions in the disturbed soils at this site.

IN THE WILD *(continued)*

Crossroads area

Continuing south of Mt Holland towards the Crossroads, we came upon a large area of undulating gravelly plains that had been burnt several years ago. Here we found countless thousands of the supposedly rare ***Eremophila racemosa***.

Obviously this beautiful shrub is fire responsive, germinating in great numbers after fire, and then gradually dicing out and disappearing until the next wildfire. Most plants were bright pink flowered, however occasional cream specimens were seen. It would be interesting to see if seed from cultivated plants also germinated freely with smoke water treatment; I suspect so.

South of the Crossroads we found lovely plants of the white flowered ***Grevillea anethifolia***.

G. lullfitzii

Digger Rocks area

Not much further on at a place called "Digger Rocks" (where are the rocks??) we found the rare ***Grevillea lullfitzii*** growing in coarse laterite. This plant, like so many in the region has never been recorded at any other location. Also here we found beautiful specimens of ***Grevillea insignis*** **subsp** ***elliotii*** with pure white flowers that aged to a rose pink.

Unfortunately cuttings from this unusual form failed to strike. In the dense scrub at this site we also found the rare and beaut*iful* ***Dryandra viscida,*** so named from its sticky seed capsules.

Road widening destroys habitat

Sadly large areas of this unique flora are rapidly being destroyed by the vast mining activities that are now going on in this area. Evidence of this came when we headed west along a pipeline track in search of a beautiful new Grevillea that I found here the year before with Phillip Vaughan and John Cullen.

The roadside where the plants had originally been located was now widened, and with the widening went the new Grevilleas!! Despite thorough searches of the bush in the area and along the track in both directions no further plants were to be found.

Fortunately material collected the year before was successfully grafted and the plant, about to be published as a new species by Peter and I, is now in cultivation!! It is closely related to ***Grevillea incrassata***, a lovely bright yellow flowered shrub to 1m, and a species, which we found growing not much further down the track with ***Grevillea pilosa*** **subsp** ***pilosa***.

Also along this track in winter-wet Melaleuca scrub we found ***Grevillea decipiens***, a bushy shrub to 1m with dense simple leaves and relatively insignificant red flowers. In the same area we found the low shrubby form of ***Grevillea oncogyne*** that has simple to coarsely divided leaves and racemes of red or occasionally pink flowers.

Varley

From Digger Rocks we headed west towards Varley, where we found an unusual form of the rare ***Grevillea prostrata*** with larger than normal leaves and pinkish-white flowers. Here also was the extremely widespread ***Grevillea eryngioides*** with its beautiful glaucous blue-grey lobed leaves and wonderful suckering habit.

Holt Rock

Continuing west we stopped to admire the spectacularly large specimens of ***Grevillea magnifica subsp remota*** growing on and around Holt Rock. Many had leafless flowering racemes to 5m in height. How Makinson could lump this species back in with ***Grevillea petrophiloides*** is beyond me. There are so many characters that readily separate these two species. Once again a piece of revision done without ever seeing the species in the wild!!

This is a species that is always and only found on granite unlike ***Grevillea petrophiloides*** which is ALWAYS found on deep sand and never on granite intrusions, as we again observed as we passed Lily Macarthur Rock further to the west.

Not much further on we found numerous shrubs of ***Grevillea paniculata***, as well as compact specimens of ***Grevillea wittweri*** with its attractive large maroon-red toothbrush flowers.

Dragons Rock Nature Reserve

At Dragon Rocks Nature Reserve we scoured the bush for specimens of ***Grevillea cheilocarpa***. This is a beautiful new species with dense silver basal leaves and emergent floral branches topped with unusual pinkish-white flowers.

Despite the rich diversity of the nature reserve, the only specimens of this lovely Grevillea were to be found along the road verges, where they are obviously stimulated to germinate by the periodic grading of the roadsides.

Also at Dragon Rocks were numerous wonderful Dryandras including a superb new subspecies of ***Dryandra ferruginea***.

Newdegate

After camping in a gravel pit near Dragon Rocks we continued east and then south through Newdegate where we inspected the rare ***Grevillea involucrata***, surviving precariously along several roadsides.

Alkaline White Clay Soils

Further south we entered the Eucalypt woodlands region with their alkaline white clay soils. We soon came upon ***Grevillea pectinata***, a lover of these soils.

An interesting plant that we discovered south of Needilup we suspected to be an unusual hybrid between ***Grevillea pectinata*** and ***Grevillea newbeyi***, as both parents were growing nearby. It had numerous pinkish-red flowers and grew to around 1m.

In the Toompup district we found yet another form of ***Grevillea huegelii***; here they were open prostrate mats with attractive clusters of bright red flowers.

Also in this area we found attractive prostrate forms of ***Grevillea newbeyii***. We also found a specimen to about 1m with a mass of spectacular pinky-red flowers, and far showier than any plants of this species we have ever seen before.

Field Trip Report November 2000

P. Olde

The field trip that followed the Fred Rogers Seminar was attended by over 30 people and the convoy followed a somewhat circuitous route around the trails of outback Victoria. The outings began with a small convoy on a day trip of the areas surrounding and within the Grampian and Black Range on November 6.

First port of call was 0.8-3 km N from intersection Plantation Camp Ground near Halls Gap where we observed growing together ***G. gariwerdensis***, ***G. alpina***(Type form) and ***G. aquifolium***. Both ***G. alpina*** and the somewhat insignificant ***G. gariwerdensis*** were growing in the moist gutter beside the road. ***G. gariwerdensis*** here was a most delightful plant, scarcely a foot high and would make a lovely plant in the garden, requiring little room and with soft pink flowers.

From here we moved to Roses Gap where a most unusual Grevillea had been discovered around 1995 by an observant bushwalker (?name) who drew Neil Mariott's attention to it. It was a single plant with extraordinary (in a Grampians context) morphology. It was growing in a population of ***G. aquifolium*** yet had simple recurved, lanceolate leaves with an elongate tip and set very few flowers, the buds remaining dormant for several years. More will be written about this plant and whether it was an undescribed relictual species like ***G. williamsonii*** or whether simply a genetically aberrant ***G. aquifolium***. Neil had been observing the plant for over five years and had informed National Parks who had even gone so far as to have it examined by Melbourne Herbarium. Special provisions were in place to protect it as it occurred beside a walking track less than 100 m from the main road. To our horror on arrival the plant was found bulldozed out of the ground by ? fire crews working in the area some weeks before.

Somewhat saddened and annoyed (actually the words fury and frustration come more to mind) we moved on to the outskirts of Dimboola where we examined ***G. ilicifolia*** growing relatively abundantly in undisturbed bushland in alkaline sandy gravelly clay with limestone nodules. Flowers were perianth greenish, styles pinkish-red. Curiously no seedlings were seen here. This form of the species is relatively common and was seen also at our next stop in the Little Desert National Park where we had stopped to look at ***Daviesia pectinata***, a rare and endangered species.

We moved from here to the Salt Lake track for a look at the newly resurrected (taxonomically) ***G. rosmarinifolia*** **subsp.** ***glabella***. Again, location and growing conditions were both informative and unexpected. The plants were lignotuberous, light-green foliaged and growing in yellow sand over gravel under quite dense ***Melaleuca uncinata*** scrub. It is quite unusual to find grevilleas in dense scrub such as this as they tend to favour more open situations. The plants which scarcely exceeded 30 cm in height by 50 cm wide had finished flowering but were setting plenty of fruits.

Our next stop this day was on Grass Flat Road, near Mt Arapiles, north of Natimuk where we shared afternoon tea with a few plants of ***G. ilicifolia*** **var.** ***angustiloba*** growing in disturbed and undisturbed roadside bushland. Makinson (Fl. Aust.) claims that these plants are not from the type of that variety but both Neil and I feel he is incorrect on this point. The plants here have a scrambling nature and have deeply dissected, multiply divided leaves. Flowers are similar to those described for the species as above.

Grevillea aquifolium Cooack form with its distinctive tightly revolute leaf margins which is an adaptation to the dry conditions as this reduces the leaf surface exposed to the heat and sun
Grevillea Book II
P. Olde & N. Marriott

A little further along the road on Settlement-Cooak Road we found growing an endangered form of ***G. aquifolium***, (the so-called Cooak form) growing in Banksia scrub on fenced, private property (what is their future?). These plants are bean-pole in shape and exceed 3 m in height. They have strongly rolled and very distinctive leaves.

Next stop in the late afternoon was Jacka Flora Reserve on Natimuk-Edenhope Road where we located two lignotuberous species of Grevill*ea,* ***G.ilicifolia*** (prostrate x 1 m wide) and ***G.lavandulacea*** (a small mound 30 cm x 30 cm). Apart from scattered evidence, flowering had finished here too.

As darkness fell and twilight faded, we arrived appropriately at Quantong, to the cemetery no less where we began a search for ***G. rosmarinifolia*** **subsp.** ***glabella***. We eventually found it growing quite near the front gate through which we had entered but not before we had combed the place from back to front.

A suckering decumbent form of ***G. ilicifolia*** was quite common here too. Unfortunately the ***G. rosmarinifolia*** had finished flowering but was setting profuse amounts of fruit. ***G. ilicifolia*** had green perianth and pale pink styles. As the ghosts came rising up, we departed for home.

Next morning the convoy had expanded considerably (now 11 vehicles, one with caravan, one with trailer). The study group must examine ways of communicating so that what eventually happened (one vehicle lost) does not happen again.

We headed to Mt Langi Ghiran for a look at ***Grevillea montis-cole*** **subsp**. ***brevistyla***. This turned into a minor disaster after we headed down a somewhat narrow track which terminated where there was nowhere for everyone to park and the track to the summit was closed to vehicles. It would have meant a several hour walk. No way. We turned around and headed to the next place with apologies to the man with the caravan. No apologies to the man with the trailer - me.

We headed to another cemetery. Warrack this time. Wow. So many visitors to the dead you could hear them moan. Actually it was the group oohing and aahing over the ***G. alpina*** here. Magnificent lignotuberous specimens of the typical form with large bright flowers. The scrub here is cut down regularly in the cemetery grounds but the grevilleas obviously love it and spring back in full flower every year. Guess they have a bit of fertiliser to go on with.

IN THE WILD *(continued)*

Next we all hared off to the Ditch Camp in Mt Cole State Forest for a look at the very prickly holly-leaf ***Grevillea montis-cole*** **subsp.** ***montis-cole***. Boy, are those leaves prickly! It was growing in quite moist conditions in heavy shade. Profuse numbers of seedlings were found in the road gutter and ditch. The plants were bright green and the flowers had a greenish perianth with bright red styles. This is a quite low-growing taxon and scarcely reached 80 cm high here but spreading or rather scrambling up to a metre in width.

Next it was off to Beaufort for a look at ***G. floripendula*** - first to the Musical Gully population with both red and creamy style plants. These plants grow in harsh dry conditions as an understory in Eucalypt forest. It is a delicate species with a fine wiry peduncle which attaches the inflorescences to the branches. It makes a fine garden plant but is sometimes short-lived. Not far from here we visited the Ben Major form which looked substantially similar to the first form. Both populations had reasonable numbers.

West of Dunnolly in Forest Reserve on sandy-clay soil and gravel we visited a form of ***G. ilicifolia*** quite different to the one encountered north of Mt Arapiles, that I had not previously encountered. This is the most easterly population of the species and here it grows into a spreading mat 0.5 m high and up to 2 m wide. Flowers had a bluish perianth with yellowish-apricot styles. Occasional plants had pink styles.

East of Dunnolly on Cann's track we visited a population of the Goldfields Form of ***G. alpina*** with red and creamy-white flowers. These are single-stemmed plants up to 1 m high.

Next morning, after a memorable camp out, saw us at Maldon Historic Reserve on the Donkey Farm Track. Here beside a railway line we found the most minute plants of a white-flowered form of ***G. micrantha***, growing in moist black sand and scarcely 5-10 cm high. The plants are root-suckering and would make a delightful plant in the garden, taking up almost no room. The actual area of occurrence is open, tea-tree dominated heath but is adjacent to quite tall Eucalypt forest.

While here, we were confronted by a rail worker on his single vehicle rolling-stock, pumping along the rail line with nothing better to do than to question us about our right to be present. Apparently 20m from the rail line was too great a risk for him. He was given short shrift by all present and sent on his way with calls of affection.

We next visited ***Grevillea repens*** in all its glory in the Wombat SF near Muskvale. This is a beautiful trailing species with quite large tooth-brush flowers. We found both red and yellow-style forms and colour was quite bright in these flowers. It would make a terrific standard in the garden, if you are into that kind of horticulture. There were plenty of plants, some trailing over the embankment beside the track and disused railway line and elsewhere growing through the grass and ground litter of the forest. It grows in auriferous, gravelly yellow loam.

We next searched the Upper Loddon SF for ***G. obtecta*** but found scarcely any evidence for its existence - only a few plants.

G. alpina with pink and white flowers was seen here in relative abundance however. One hopes that ***G. obtecta*** is merely awaiting the next fire event but because of its scarcity at the next site (Friars Ridge Flora Reserve) I feel there is some cause for concern.

We shared a cuppa with ***G. obtecta*** and quietly moved on to James Creek (off Colban Creek) where we visited a small farm owned by Cath and David James with two small relictual populations of ***G. rosmarinifolia*** **subsp.** ***glabella***. The only surviving plants were those out of the sheep's range on steep hillside growing in granite crevices. The plants were c. 50 cm high, root-suckering, greyish-green foliage with cream and deep pink perianth and red styles.

In the late afternoon we arrived at Mandurang near the water aqueduct with plants of ***G. rosmarinifolia*** suckering lightly in the forest beside the stream. Plants here are of both the *glabella* form and *rosmarinifolia* form and make a nonsense of recognition of subsp. *glabella* on the grounds of foliage. The species is far more complex than that as McGillivray realised when he withdrew recognition of ***G. glabella*** in his revision.

We finalised the day near Bendigo with a visit to ***G. dryophylla*** which grows beside the highway on the outskirts of town. The greyish holly leaves of this species are quite prickly and the styles are yellow-cream.

After saying goodbye to our old friend Ian Evans, we made camp in Bendigo State Forest.

Next morning we met at the interesting Goldfields Revegetation Nursery at Strathfieldsaye. This nursery specialises in flora of the goldfields and had a wide range of indigenous and specialised plants including forms of ***G. rosmarinifolia*** and ***G. micrantha***.

From here we headed to Flora Hill Wildflower Drive, Bendigo. One plant of ***G. alpina*** that I saw here had tri-colour flowers, yellow & white ageing apricot to red - three colours on a single plant.

The walk was full of wildflowers of many species, both rare and common. Max McDowall has a full list of species seen in this area which both space and memory preclude me from enumerating.

In the Whipstick Forest on Skylark Road we found, after some difficulty, another low, clumping, divaricately-branched form of ***G. rosmarinifolia***. We could not relocate the unusual form of ***G. rosmarinifolia*** from which the cultivar ***G. glabella 'Limelight'*** was collected, it being an erect, virgate shrub to 2 m.

On the outskirts of the Whipstick in dry eucalypt forest with ***Melaleuca decussata***, ***M. wilsonii***, Philotheca, Westringia we found a small population of ***G. alpina*** **Goldfields Form** that had all-red flowers. These plants were quite vigorous growing to c. 0.5 m in height.

Finally however we did manage to find a small roadside population of the virgate form of ***G. rosmarinifolia*** (or is it **subsp**. ***glabella***?) not 100m from an old house in Bagshot Road North whose location we had secured from a local. Unfortunately we had spent half a day looking in the wrong direction. This certainly is a distinctive form with short leaves crowded together in bunches and few short side branches from the main stem. Leaves are rigid and pungent and the plant has a distinctive appearance, quite different from those now identifying as '***glabella***'.

Those of us who remained completed the day at Tooberac State Forest on the Seymour-Puckapunyal Road with a population of the small-flowered form of ***G. alpina***, one of the loveliest forms in the species. It has small orange and red flowers in bunches and they really shine out on the delicate plants on which they hang.

We spent the night in the nearby Mt Ida State forest under pine trees. That is until about 2 am when an almighty thunderstorm accompanied by rain and hail struck sending campers flying into the shelter shed. It washed out the last day of the trip by continuing into the early morning. The last day abandoned we felt that we had had a marvellous trip and interesting trip.I would like to thank Neil Marriott and Max McDowall for all the work they put in and for their great company.

Creating Gardens for Grevilleas

Paul Thompson July 2000 - edited for Study Group newsletter

Introduction

This paper presents many of the considerations and principles that designers deliberate with in planning a new garden. It raises the chance for including more than the obvious visual elements. The importance of informed maintenance is stressed. Methods, techniques and the questions of purpose are presented.

Defining the Purpose

Designing a new garden benefits from a strong clear purpose both functional and aesthetic. Such purpose often is a trial or display garden, or more simply a collection. This can be arranged in the age-old manner of a scientific link or botanical similarity or arranged so to present a pleasing visually stimulating composition. These approaches are not mutually exclusive. Your purpose may be to create beautiful pictures, satisfying views or perhaps present perfect specimens, whatever that may be.

The design must suit the commitment of care.

The design will benefit from a clear vision of a way to fulfill a strong purpose. This will be most successful when you have explored a range of concept options. When concepts are tested, challenged and hopefully simplified they will present strength of form that will carry over time. Remember however that an idea for any garden is only worthwhile if it can be cared for. The design must suit the commitment of care.

First decide what type of project it is

This new garden may be in the country or in the city, an industrial, public or private project. Different design approaches are needed as their underlying purpose and methods for establishment contrast.

Rural — The objective is one that conserves regional character and provision of habitat in a self-perpetuating manner. Rural design is largely utilitarian. Large urban restoration often has similar objectives.A rural based project may be informal and will need to be more ecologically appropriate than a city design.

Industrial — Designs are concerned with image & visual presentation, more order than style. It often involves visual protection and human comfort. Industrial landscape is concerned with sustainability, maintenance costs and corporate image. It is not common for them to be interested in the content per se. Industrial schemes are often utilitarian where the project defender is an ephemeral member of management and the rest are critics.

Public — Image, style, philosophy and context underlie the motivations for much public landscape. Character is created and design exploited. A public landscape has a chance of presenting a showpiece with a cultural dimension, a design story, and an image that goes beyond the obvious. Here is the greatest potential for the thematic, as the argument for its existence has been justified, argued and embraced by a diverse group.

Domestic — Opportunities and motivations are endless. A common concern lies in image as perceived by others. Many fine gardens are created as personal spaces concerned with exploring an individual private aesthetic. Residential gardens are composed of a constantly changing collection of plants. There are great challenges for the designer who dares to be different and wants an idea that will mature. Domestic gardens can have something of a philosophical basis yet are most commonly involved with the showy, the latest, the challenge or the gift from a friend. Whilst these are fine motivations and make interesting gardens they are not the best basis for an aesthetically harmonious landscape.

Know your material

In concept development it is invaluable to have a clear impression of growth potential and form for a broad plant palette of plants from which to choose. Familiarity will allow you to predict with some surety the success of your design. Leave little to chance, at least with the reliable framework planting.

Categorize your selection

To select plants for a new design one places the entire provisional list into different categories in order to perceive how many and how they can be used.

Place the entire list into different categories to perceive how many and how they can be used

This one can do in one's head on a small project, but when it is extensive or deals with unfamiliar material, charts are invaluable. Other people's charts or books can be a guide. The difference between opinion is instructive.

The clearest category is one of **size and form** such as tree, shrub, low cover, interpreted for the peculiarities of the site. It is useful to have a growth time in your situation for this category. I would suggest ten or fifteen years. In that time your selected plants may have reached a size that places them into one or more of six categories which are Tall Trees, Small Trees, Large Shrubs, Medium Shrubs, Small Shrubs and Low Cover.

This list can be further assessed according to **optimum soil and moisture and tolerance of extremes**. The same can be applied to **sunshine** and other environmental conditions such as **wind** and **frost**.

All of this comes before the visual categories of **texture** and **flower**. Remember the priority is for the plant to grow well after which you are concerned as to what it looks like.

…the priority is for the plant to grow well after which you are concerned as to what it looks like

Structure of growth is next. If you have an impression of the plant habit as being horizontally growing, weeping, vertical, rounded, vase shape, you can select with greater control. The **colour of the foliage** and indeed the texture are then factored into your selection.

If any two of the three categories of colour, texture and structure are compatible then usually the plants will look good together.

If any two of the three categories of colour, texture and structure are compatible then usually the plants will look good together. An example is if two rounded bushes with long thin foliage were planted together one of which is bright green and the other silver, then they would fit. Of course there are exceptions to this rule when it comes to strongly vertical and strongly weeping plants in particular. With exceptions, the balance of the individual masses of the plants becomes more important.

Repetitious planting

This guide to grouping is easy to follow when selecting for a repetitious design.

Repetitious planting often seen in the industrial or public landscape is easy to conceive yet a challenge to guarantee as a durable design without proper follow up. Repetitive planting schemes need to be designed so that inconsistent growth patterns or losses can be tolerated.

Designs that rely on mixed species present a different challenge in that they can easily become visually confusing unless composed with clear visual links of theme or form.

Mixed species plantings

Designs that rely on mixed species present a different challenge in that they can easily become visually confusing unless composed with clear visual links of theme or form. These may weave through the group ebbing and flowing as in nature or be a background, a surface against which the composition is presented.

It is my contention that this is the most satisfactory way when exercised with skill and care. First imagine the design with only the background or linking forms. When you are satisfied that this element works well as a design in itself then the additional plants become supplementary to the composition. The mixed species group can then contain plants that are new, untested, short term or slow without potentially diminishing the effect.

Gardens over time

Gardens are like a kinetic sculpture that is changing constantly. The aim is to produce is a garden that has merit at all stages of its development designed consistent with its maintenance regime.

Form at maturity

Designers are using plants everyday that have not been thoroughly tested in the conditions they are working with. A realization of that can inform the design and reduce disappointment. The best range of plants are usually found in the private gardens of nurseries. This is not only because of their searching for superior forms but because they frequently graze plants, removing growing tips for cuttings. Maintenance in the built landscape needs to deal with this as necessary. Maintenance needs to be strategic not frequent and never ignored.

Moisture requirement

With Grevilleas there is a generalisation that they prefer moderate moisture for a large part of the year yet can tolerate dry periods. Because plants withstand dryness, they have been used in areas that rarely get enough moisture hence they never look their best. This is also the case with the use of Callistemons. Nearly all of the Callistemons thrive on water yet commonly are planted in areas that get very little. As a result they simply exist instead of burgeoning. When one adds to that the need for most grevilleas to have a high degree of sunshine and a slightly acid pH for full potential then you have the main horticultural considerations.

Selection, placement and success is affected by when moisture is available, the hours of sunlight, the mean average temperature and the regional growth period.

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Texture

Texture is important and must be perceived as a combination of **foliage plus density**. The way light plays onto the plant alters the textural character. Most foliage has the appearance of being sharp and scratchy. This doesn't have as much general appeal as rounded or long broad foliage.

Open framed species attract criticism for being woody. If they had decorative trunks I imagine this wouldn't be a concern.

All of these characteristics can be put to advantage and planned for. They can be made to appeal through emphasis, diffusion or distraction. Using fine or needle foliage can present a neutral quality that allows emphasis to be placed on an important view or focal point. Plants that grow woody can be shaped and pruned as individuals or grouped together making the form the subject.

Colour of foliage

Colour of foliage can be a powerful element. The placement of foliage colour can set the mood in a most decisive manner. The grouping effect needs to be used with care. Some plants darken with age. Plants in polluted areas such as roadways collect grime. Colour like texture changes with the light whilst form varies less.

These are most of the elements to consider. Variations in growth time and the colours of flowers are omitted. Growth speed will influence placement or indeed inclusion at all. What a project may look like in 3,5,10,15,20 years requires experience, observation and growing to get meaningful perception. Flower in the total design is best treated as a bonus. The plant form is more important in landscape terms for it is with you all the time.

Flower in the total design is best treated as a bonus. The plant form is more important in landscape terms for it is with you all the time.

IN THE GARDEN *(continued)*

The Grevillea Garden

All of these principles are fundamental background involved in designing plantings for any garden or any landscape. It is not specific to grevilleas yet applies to them equally.

The question is what is peculiar to grevilleas that influences their use in design?

Generalizations are dangerous yet one could say that as a genus grevilleas are not long lived visually. They were some of the main species and hybrids that enthused the earliest members of the SGAP. They formed major components of the new public landscapes of the sixties and seventies. They grew well and looked horrid after about fifteen years. Hybrids such as Grevillea "Pink Pearl" and Grevillea "Poorinda Constance" are still in cultivation.

It is true to say that if we were to use these today we would place them more successfully than they were forty years ago. Of course now we wouldn't have them anywhere near bushland.

Questions to consider

To put this and more into practice it would be useful to imagine that you were engaged to produce a collection garden of all of the grevilleas in Australia. What might be some preliminary questions that will help generate a design?

- Where would such a garden be?
- Is it possible?
- Do we need different soils for the whole 250 - 300 species?
- Can it be made to look cohesive?
- Does that matter?
- What are the advantages of having them together?
- How much area do you need?
- Is it affordable and who would want to visit?
- Would species be mixed in with the hybrids?
  One could have a section where the major hybrids were planted next to their parent plants.

Should there be themes?

Themes give logic for design structure other than visual fit.

The stories will be of interest to other than the flower fanciers.

It only costs some thought and interpretation to add a powerful dimension. Themes can be the obvious ones like place of origin. Within those groups there can be sub themes.

Small groups may be of all the known variants of species. This technique is interesting, instructive and adds variation whilst being visually consistent.

Having a theme always helps the message of conservation. Rare and endangered species is a valuable grouping.

The placement of hybrids

Along with scientific organization, horticultural or functional groupings would be ideal, arranged as displays for garden purposes. A question that comes to mind is where hybrids fit in this collection which essentially is a conservation garden.

Are hybrids compatible with arboretums and Botanic Gardens?

Do free seeding plants present an unnecessary management problem?
Maybe they are in a separate category with their own story and particular care. They are the most dynamic of the genus that would ensure this garden would always be changing its content.

A horticultural garden would be composed of hedges, topiary, standards, and the best forms of the time for general use. Here the ordinary person, the casual visitor will find easy access to valuable information they can use. Given that grevilleas might not have a long useful life both of these gardens, the scientific and the horticultural, will need to be continually replenished. If this is so then the design must accommodate this possibility. A big advantage is setting the plants within a more static framework and the planting of long term durable species. The programming of replacements can be planned at the outset, propagation scheduled and costs allocated.

Added challenge in this grevillea garden is that the horticultural performance of many species and variants is only known from what can be extrapolated from their place of origin or from limited cultivation. What is difficult today can be easy tomorrow and vice versa. Any scientific garden is more reliant on this information than the more arbitrary horticultural garden. Given the space an approach would be to develop a garden in two stages with the first being a discrete summary or trial garden for the extensive collection in the second phase. In this way the scientific, horticultural and aesthetic arrangement can be perfected. The management will be more understood and success assured.

In the end what is this business of gardening with Australian plants all about? Is it about search for identity? Is it about being first on your street with the latest or rarest, or is it about raising awareness of the natural intrinsic nature of the remnants of the natural world around us? Through awareness and cultivation we can meet the conservation objectives of the beginnings of the SGAP when they espoused conservation through cultivation.

Section of Neil Marriott's garden in Stawell taken from different angles 1 year apart.

The Grevillea Book I P Olde & N. Marriott

HORTICULTURE

Preliminary Review of Grevillea Breeding and Development as a Cut Flower

conducted by the University of Sydney, Plant Breeding Institute at Cobbitty over the period June 2000-Jan 2001.

Ms Wendy Coppin, Technical Officer, PBI Cobbitty

Literature Review

Literature was widely sourced to produce a foundation for future research on Grevillea. Areas covered in this review were: General, Postharvest and Gene Expression, Plant Breeding and Genetics, Tissue Culture and Grafting.

Species Review

A database was compiled of Grevillea species that displayed potential for use in this breeding and development program. Data was sourced from literature, growers, floral specialists and researchers. Floral, foliage and agronomic attributes were considered.

Survey

A survey was sent out to 400 members of the Grevillea Study Group (GSG) and Australian Flora and Protea Growers Association (AFPGA). This survey has also been recently sent to 150 members of the Australian Native Flower Growers and Promoters (ANFGP). Responses came from almost every state in Australia (excluding the NT) and a few from overseas.

Respondents clearly thought Grevilleas have the potential to become a more popular cut flower (97%). Vase life/wilting was recognised as the greatest postharvest problem (76%), perianth drop the second (43%) and least important discolouration (3.4%) and uniformity (3.4%).

Other problems mentioned were: Bent stems, short stems, lack of terminal flowers on some species, propagation, parrots destroying flowers, root disease (Phytophthora) and Grevillea leaf minor.

Over half of respondents (55%) wanted to be further involved in this project.

Preliminary Vase Life Trial

Towards the end of November a preliminary vase life trial was conducted at the Illawarra Grevillea Park - Bulli, NSW. The flowering stems of eleven Grevillea species/cultivars were harvested and trialled for vase life in either ***Chrysal*** vase solution or water.

From this trial the following results were obtained: ***Chrysal*** extended the vase life of ten out of the eleven species/cultivars tested. ***G. sericea* subsp. *sericea*** displayed the longest vase life (12.75 days) and demonstrated good potential for use as fill in flower arrangements.

G. linearifolia also displayed potential for use as fill, though this species had a vase life (8.5 days) much shorter than ***G. sericea* subsp.*sericea***. ***"Fire Sprite"*** (***G. longistyla x G. venusta***) demonstrated potential as focal fill with larger showy flowers and an acceptable vase life (9.25 days).

As this trial was only preliminary, further studies need to be conducted to confirm these results and extend on the range of species/cultivars tested.

Group Vase Life Trial

This trial was conducted to obtain vase life data for a greater selection of Grevillea species/cultivars and to compare Grevillea vase life over a broader climate range.

A package containing vase solution and relevant information was distributed to select members of the Grevillea Study Group and AFPGA.

Although all data is yet to be compiled, results from this trial (and the preliminary vase life trial) suggest that group ***longistyla***, including species ***G. longistyla***, ***G. insignis***, ***G. georgeana*** and ***G. johnsonii***, is not greatly effected by perianth drop.

Future Research

Future research will extend the concentrate on the following areas.

- Field selections from the wild and other collection points.
- Follow up from the first survey, keeping co-operators informed of our progress.
- **Postharvest Trials**: Conduct more extensive postharvest trials to determine specific species/cultivars that have extended vase lives.
- **Breeding Program**: Begin a comprehensive breeding program that integrates species/cultivars with positive postharvest, floral and agronomic attributes.
- **Agronomic Research**: Develop novel pruning strategies to increase stem length/strength and flower production.
- Assess nutritional aspects for improving flower quality and vase life.

Grevillea georgeana
*(*left to right)
Flowers just before anthesis
Close-up of conflorescence
Unusual yellow-flowered variant in cultivation

The Grevillea Book II
Peter Olde and Neil Marriott

HORTICULTURE

Literature reviewed:

General

Benyon J. (1983) *Australian Native Cut Flowers*, Australian Plants, V12 (96): 166

Burke D. (1983) *Growing Grevilleas in Australia and New Zealand*, Kenthurst, NSW Kangaroo Press

Criley, R.A. & Parvin, P.E. (1993) *New Cut Foliages from Australia, New Zealand and South Africa*. Acta Horticulturae, 337: 95-98

Dupee S.A. (1980) *Development of Grevillea as Ornamentals*. Thesis (M.Sc.Agri), University of Sydney

Dupee, S. (1986) *The Production of Australia's Major Proteaceae as Florist Crops*. Acta Horticulturae, 185: 259-264

Elliot, R.W. & Jones, D. (1990) *Encyclopaedia of Australian Plants: Suitable for Cultivation.* Lothian Publishing Company, Port MelbourneFlower

Eport Council of Australia (FECA) website http://www.feca.org

Horsman, C. (2000) *Domestic Market Analysis for Wildflowers*. RIRDC Publication No. 00/42

Jones P.B. (1995) *New Ornamental Crops in Australia*. Acta Horticulturae, 397: 59-70

Karingal Consultants (RIRDC). (1997) *The Australian Wildflower Industry:* A Review — 2nd Edition. RIRDC, Canberra

Makinson R.O (2000) *Flora of Australia*. Vol 17A Proteaceae 2 Grevillea. Australian Biological Resources Study

McGillivray D.J. (1986) *New Names in Grevillea*. Castle Hill, NSW

McGillivray D.J. (1993) *Grevillea, Proteaceae: A Taxonomic revision*. Melbourne Uni Press, Carlton, Vic

Olde P.M. & Marriott N.R. (1994) *The Grevillea Book V.1,2 &3*. Kenthurst, NSW, Kangaroo Press RIRDC. (1994)

The Wildflower Industry: A Review, RIRDC Research Paper No 94/9

Worral, R.J. (2000) *The Australian Cutflower Industry*. Flowers 2000 Conference Proceedings August 2-6, Tumbi Umbi, NSW

Wrigley, J.W. (1989) *Banksias, Waratahs and Grevilleas and all other Plants in the Australian Proteaceae Family*. Sydney, NSW, Collins Australia

Wrigley, J.W. & Fagg, M. (1989) *Banksias, Waratahs and Grevilleas*. Collins, Sydney

Postharvest

Faragher, J.D. (1989) *A Review of Research on Postharvest Physiology and Horticulture of Australian Native Flowers*. Acta Horticulturae, 261: 249-256

Joyce, D.C., Meara, S.A., Hetherington, S.E, Jones, P. (2000) *Effect of Cold Storage on Cut Grevillea "Sylvia" Inflorescences*. Postharvest Biology and Technology, 18:1 49-56

Joyce, D.C., Beal, P. & Shorter, A.J. (1996) *Vase Life Characteristics of Selected Grevillea.* Australian Journal of Experimental Agriculture, 36:3 379-382

Joyce, D.C., Shorter, A.J., Joyce, P.A. & Beal, P.R. (1995) *Respiration and Ethylene Production by Harvested Grevillea "Sylvia" Flowers and Infloresences*. Acta Horticulturae, 405: 224-231

Joyce, D.C., Jones, R. & Faragher, J. (1993) *Postharvest Characteristics of Native Australian Flowers*. Postharvest News and Information, 4:2 61N-67N

Lacey, S.A. (1983) *Vase Life of Grevillea "Sandra Gordon"*. The Production and Marketing of Australian Wildflowers for Export (Proceedings) Univ. of Western Australia and Department of Agriculture, Perth, 111-113

Ligawa, L.K., Joyce, D.C. & Hetherington, S.E. (1997) *Exogenously Supplied Sucrose Improves the Postharvest Quality of Grevillea "Sylvia" Inflorescrnces.* Australian Journal of Experimental Agriculture, 37:7 809-816

Macnish, A., Joyce, D., Faragher, J., & Simons, D. (2000) *1-MCP: A New Anti-Ethylene Preservative.* Australian Horticulture, 98:4 17-22

Setyadjit. (2000) *Scenescence of Grevillea "Sylvia" Inflorescences after Harvest.* PhD Thesis, The university of Queensland, Gatton

Wills, R.B.H. (2000) *New Postharvest Alternatives to STS. Flowers* 2000 Conference Proceedings August 2-6, Tumbi Umbi, NSW

Postharvest and Gene Expression

Burchi, G, Mercuri, A, Deandreis, G, Schivia, T. (1993) *Preliminary Results of Molecular Studies on Senescence in Carnation Flowers Ageing "on Plant" or "in Vase"*:

2. *Changes in Polypeptide and Isoenzyme Patterns. Creating Genetic Variation in Ornamentals*. Proceedings of the XVIIth Symposium of the European Association for Research on Plant Breeding, EUCARPIA, Sanremo, Italy, 1-5 March 1993 229-240

Bovy, A.G, Angenent, G.C, Dons, H.J.M.& Altvorst, A.C.van. (1999) *Heterologous Expression of the Arobidopsis etr1-1 allele Inhibits the Senescence of Carnation Flowers*. Molecular Breeding, 5:4 301-308

Eijk, J.P.van. & Eikelboom, W. (1986) *Aspects of Breeding for Keeping Quality in Tulipa*. Acta Horticulturae, 181: 237-243

Einset, J.W.Kopperud, C. (1995) *Antisense Ethylene Genes for Begonia Flowers.* Acta Horticulturae, 405: 190-194

Have, A. ten. & Woltering, E.J. (1997) *Ethylene Biosynthetic Genes are Differentially Expressed During Carnation (Dianthus caryophyllus L.) Flower Senescence*. Plant Molecular Biology, 34:1, 89-7

Krahl, K.H. & Randle, W.M. *(1999) Genetics of Floral Longetivity in Petunia*. Hortscience, 34:2 339-340

Wernett, H.C, Wilfret, G.J. Sheehan, T.J, Lyrene, P.M, Martin, F.G, White, T.L, Powell, G.L. & Wilcox, C.J. (1996) *Postharvest Longevity of Cut Flower Gerbera*. II. *Heritability of Vase Life*. Journal of the American Society for Horticultural Science, 121:2 222-224

Woodson, W.R. (1991) *Gene Expression and Flower Scenescence. Genetics and Breeding of Ornamental Species*. Kluwer Academic Publishers, Dordrecht, 317-331

Woodson, W.R. (1993) *Gene Expresion and Flower Senescence-Related Genes*. Acta Horticulturae, 336: 41-46

Sections of this project will add to earlier Queensland post-harvest investigations of Grevillea and the Grevillea Study Group work on propagation (including grafting) and cultivation.

NEWS IN BRIEF

Best wishes for speedy recovery after recent visits to hospital go to two loyal stalwarts Hessell Saunders (NSW chapter) and Max McDowall (Vic chapter).

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Congratulations to Warren and Gloria Sheather whose Armidale garden reached the finals of the ABC Garden of the year competition. They were winners of the NSW section. The garden was filmed for the widely watched television show Gardening Australia.

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Neil Marriott's garden at Panrock Ridge Vic has been recognised as the official Australian registered collection of the genus Grevillea by the Ornamental Plant Conservation Association of Australia.

Bill Pilgrim advises that as ***Grevillea hilliana*** has recently been listed as an endangered species under the NSW Threatened Species Conservation Act (see article), the Department would be interested in any unknown stands of this Grevillea

.The Newsletter of the Threatened Species Network (TSN), "The Web" will soon be available in an electronic format each quarter. While Bill supports the TSN, he believes the legislation, and the various State and Federal organisations, should encourage the private growing of all our Native plants, provided the ones in the wild are not attacked indiscriminately.

Current legislation varies slightly from State to State and in some cases actively prohibits even the possession of endangered plant species. This ludicrous provision means that you could be savagely fined for having a species of this type in your garden. More information is needed on this legislation and how it affects growers in various states.

CONSERVATION

Two Endangered NSW Grevilleas

Two species of Grevillea found in NSW have been determined to be endangered species by the NSW Scientific Committee under the NSW Threatened Species Conservation Act 1995. Hopefully the listing of ***Grevillea hilliana*** and ***G. divaricata*** will assist in their protection. The determinations are as follows:

Grevillea hilliana flowers & foliage (M.Hodge)
The Grevillea Book II
PeterOlde & Neil Marriott

The Scientific Committee, established by the Threatened Species Conservation Act, has made a Final Determination to list the tree, ***Grevillea hilliana*** F. Muell. as an ENDANGERED SPECIES on Part 1 of Schedule 1 of the Act. Listing of Endangered Species is provided for by Part 2 of the Act.

The Scientific Committee has found that:

1. ***Grevillea hilliana*** (Proteaceae), is a tree 8-30 m high. The following description is taken in full from Makinson in Harden, G.J, Harden, D.W. and Godden, D.C. (eds) 2000, *Proteaceae of NSW*, p 149, UNSW Press. "Juvenile and intermediate leaves pinnatifid or pinnatisect with 3-10 lobes, rarely undivided or more divided, mostly 25-40 cm long and 15-30 cm wide; lobes more or less linear to lanceolate, 8-25 cm long, 10-50 mm wide; lower surface silky. Adult leaves either simple and lanceolate to oblong-elliptic, 9-24 cm long, 15-60 mm wide, or sometimes 4-6-lobed; lobes oblong to ovate, 6-12 cm long, 2-4 cm wide, margins recurved, lower surface silky. Conflorescences sometimes few-branched, 8-22 cm long, branches many-flowered, cylindrical. Perianth white to pale green, silky outside, glabrous or pubescent inside. Gynoecium 13-16 mm long, stipitate, glabrous; style white to pale green, pollen presenter very oblique. Follicle glabrous. Flowers mainly May-July." ***Grevillea hilliana*** is also known locally as White Yiel Yiel or White Silky Oak.
2. ***Grevillea hilliana*** grows in subtropical rainforest, often on basic igneous substrates. It is found north of Brunswick Heads on the north coast of NSW and in Queensland (Makinson in Harden *et al.* 2000). The only populations currently known in NSW are in the areas of Brunswick Heads and Tweed Heads, in small remnant areas of vegetation.
3. The number of known plants of ***Grevillea hilliana*** is low and is estimated to be less than 100 mature individuals.
4. ***Grevillea hilliana*** is only reserved in the Brunswick Heads Nature Reserve where a few trees are known. The other few known remaining areas are on private land and these are threatened with loss of habitat through land clearing. ***Grevillea hilliana*** is at risk of extinction in New South Wales due to its restricted distribution and very low population numbers.
5. In view of 2, 3 and 4 above the Scientific Committee is of the opinion that ***Grevillea hilliana*** is likely to become extinct in nature in NSW unless the circumstances and factors threatening its survival or evolutionary development cease to operate.

The Scientific Committee, established by the Threatened Species Conservation Act, has made a Final Determination to list ***Grevillea divaricata*** R.Br., a shrub as an ENDANGERED SPECIES on Part 1 of Schedule 1 of the Act. Listing is provided for by Part 2 of the Act.

The Scientific Committee has found that:

1. ***Grevillea divaricata*** R.Br. (Proteaceae) is described in the *Flora of Australia. Volume 17A. Proteaceae 2, Grevillea*. by Makinson (2000), from which the following is taken in full.
2. "Low shrub to ?40 cm tall. Leaves entire, well spaced along branchlets, spreading, linear, often gently curved, 0.8-1.3 cm long, 0.5-0.6 mm wide; margins revolute; upper surface scabrid; lower surface enclosed including midvein and 1-grooved, or rarely slightly exposed near leaf base. Conflorescence terminal, simple to 3-branched; unit conflorescence a decurved 1-4 flowered loose cluster, opening uncertain; floral rachis 2-6 mm long, glabrous. Flowers acroscopic. Flower colour: not known, probably red or red and cream. Perianth glabrous outside, bearded inside. Pistil c. 16 mm long; ovary shortly stipitate, glabrous or with a few ascending hairs ventrally on basal half; stipe swollen, c. 0.5 mm long, ventrally tomentose; style glabrous, slightly exserted from late bud; pollen-presenter lateral. Fruit and seed not known".
3. ***Grevillea divaricata*** has been considered as representing a depauperate plant of ***G. rosmarinifolia***, however, re-examination of the types indicates that while very closely related, it should be recognised as distinct (Makinson 2000). The differences between ***G. divaricata*** and ***G. rosmarinifolia*** are described in Makinson (2000).
4. ***Grevillea divaricata*** is only known from the Type collection made north of Bathurst. It was last collected in 1823.
5. In view of 2 and 3 above the Scientific Committee is of the opinion that ***Grevillea divaricata*** is likely to become extinct in nature in NSW unless the circumstances and factors threatening its survival or evolutionary development cease to operate.

HABITAT

Increasing the variety of birds in your garden

P. Olde

Urban gardens in cities throughout Australia are no longer attracting the variety of bird species that they once did. This particularly applies to the smaller, less aggressive birds.

Lovers of Grevillea have long planted members of the genus in their gardens because they bring the birds. I must confess that this was my introduction to the genus. However, it seems that this is a somewhat simplistic ideal because it fails to take account of bird dynamics and social structure. Perhaps we should be giving more consideration to the kind of birds the plants attract than to the actual species/hybrids that we plant.

In Sydney, birds that have declined include species such as Silvereyes, Eastern Spinebills and other various small honeyeaters. Larger species have increased including Wattle Birds, Pied Currawongs, Noisy Miners and Rainbow Lorikeets. The cause of bird decline in some species relates to the decline and increased distance of natural bushland areas from urbanised areas.

As urban development expands, fewer native birds seem to make the distance from the bush to garden. However, changes in garden structure, methods and plant choice directly affect the variety and composition of bird species in the garden. Current practices have resulted in an explosion of aggressive bird species and a reduction in smaller, less aggressive ones. The simplification of garden structure by the use of fewer, longer flowering plants (such as tropical Grevilleas) has created ideal conditions for more aggressive, territorial bird species such as Noisy Miners, Wattle Birds or New Holland Honeyeaters which actively chase other birds away.

Once they have found a habitat with abundant food that can easily be defended, they set about claiming it as their own and begin driving away all competitors. Not only that, instead of migrating to other areas as food sources dry up, they become sedentary, preventing other migratory species from dropping in for a fill up.

To redress the balance, we can reduce the size and amount of open area in the garden through which aggressive birds can mount their attacks. Break up the open spaces. Add smaller, pricklier species in clumps, and introduce some species which have flowers that produce less nectar as these can be probed in safety by smaller birds.

Eastern Spinebills for instance will use ***Grevillea mucronulata*** and ***Grevillea pimeleoides*** for nectar whereas larger birds do not. The nectar reward is only small but worthwhile for smaller birds, which are far more opportunistic, taking small doses where they can.

A mixture of tall and small plant species provides protection for small birds from the fast-flying, intimidatory tactics of Miners and others. These birds do not like to fly quickly through plants as they probably fear hitting their wings and thereby become less effective in marking out a territory.

Plan to cover the area from the ground (using ground covers) to the lower branches of taller plants using small, medium and tall sub-shrubs. Do not forget to plant some local species too as these are an important dynamic in any plant-bird interaction.

Vary the width of the garden. Narrow gardens offer less protection than wide ones.

Try to plan for at least one large, densely planted area. You just might find small birds nesting there.

Do not plant shrubs that set fleshy fruits as these are attractive to Pied Currawongs. This is one of our most aggressive bird species and is notorious for predating eggs and nestlings of smaller bird species.

Do not feed kookaburras as these also find small nestlings edible. They can easily be induced to a sedentary lifestyle too.

Avoid insecticides in the garden. A garden full of birds should not need it.

A bird bath can be a good thing provided it has clean, cool water and is set above ground or in a position that provides good visibility and warning from sudden attack by cats. Place it under a tree well away from the trunk or proximal to a dense grevillea such as ***G. shiressii***.

Birds love the sprinkler too especially in summer when they will dive among the foliage and water drops. However, artificial nectar feeders tend to attract aggressive bird species and seed trays may also attract introduced birds.

Food supply areas must be kept clean; if not, they can introduce disease to birds and may cause imbalances in their diets.

Birds Australia to launch an Endangered Species Appeal.

Birds Australia, which was founded in 1901, aims to protect native birds and their habitats through community education and involvement, research and on-the-ground recovery actions. The organisation has over 10,000 volunteers working in the field and at the research centres, a contribution that is worth $10.4 million per annum.

The organisation has launched an Endangered Species Appeal in response to figures now emerging from the Bird Atlas, a nation-wide survey to which over 8,000 volunteers contributed compares the distribution and abundance of bird species to the original survey, begun in 1978.

Atlas Project Co-ordinator Dr Geoff Barrett said "Preliminary results from Birds Australia's nation-wide survey Atlas show species such as the Scarlet Robin, the Brolga, the Superb Lyrebird and the Wedged-tailed Eagle have declined at rates that range from 30 to 40%. The nation's most iconic bird, the Emu, has declined by over 50%.

The news is not all bad however, with preliminary figures showing that generally honeyeaters, pigeons and wrens are doing well. "This trend can be attributed, to some extent, to the work carried out by conservation volunteers such as our 10,000 Birds Australia volunteers," said Dr Barrett."This confirms that the work that has been carried out in recent years is paying off."

Donations to the appeal can be made at any branch of the National Australia Bank, by phoning 1300 730 075 or at www.birdsaustralia.com.au or for more detailed information about species and bird conservation issues on a regional or state level please phone SUSIE GRANT on 03 988 22622 or 0410 476665.

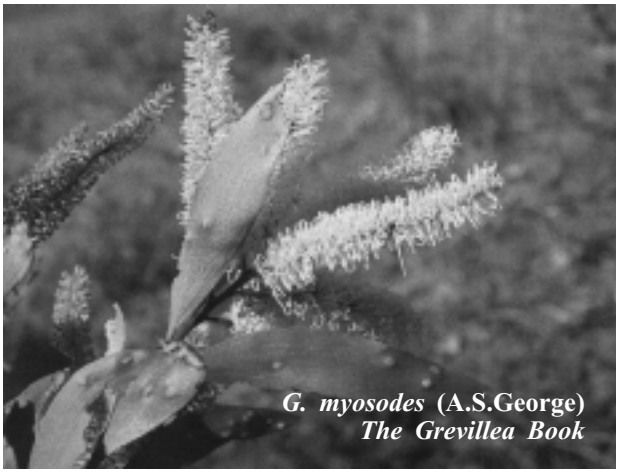
ACTIVITY REPORTS

NSW Garden Visits

On August 4-5, the Study Group held a weekend outing in the Newcastle area. Whatever way you look at it, the event was very poorly attended even by local people and I am now considering whether the NSW Chapter wishes to continue as an active group.

Four people including my wife and I met at the Newcastle Botanic Gardens where we were guided over the Grevillea collection by three people from the Newcastle region, two of whom were the curators of the garden.

I was really quite amazed at the number of unusual species growing there including ***G. myosodes*** and ***G. kenneallyi***, two species not widely seen elsewhere in cultivation. The standard of the collection was very high with a large range of species represented. The study group will make a donation of $100 worth of plants to the garden.



G. myosodes **(A.S.George)**
The Grevillea Book

This was followed by a visit to Darren & Louise Allen's garden at Abernethy. Word is out that Darren and Louise spent a frantic week in the garden weeding it for us but are now thankful that this brought forward their plans. The job had to be done one day. This garden is now only a shadow of what it once was and no doubt will be again. It certainly must have been a terrific show garden once as it still boasts many beautifully-grown plants and a large variety as well.

Leanne Pattinson's effort at Martinsville is no less brilliant, working in difficult conditions and displaying a wide range of beautifully grown plants. First sight of this garden can be quite a shock because it features large areas under freshly laid carpet over the ground (to control the weeds) that is delivered to her by her friendly carpet layer - old carpet being replaced by new. Her ingenuity and resourcefulness are producing a marvellous achievement in this delightful setting. I was particularly impressed by her specimens of ***Grevillea sericea subsp. sericea***.

The Study Group deeply appreciates the efforts made by these people to host our activity and their generosity in providing refreshments and hospitality. We are deeply embarrassed at the poor response to the activity and offer our apologies at the low numbers attending.

The following day saw the four of us joined at Jeremy Smith's Wildflower Farm at Somersby by two other members. Jeremy had cut short a social function to be there for us and had to return at the end. His generosity was deeply appreciated. Jeremy has great deal of knowledge to share about the cultivation of Australian plants generally. Perhaps one thing that became really clear from this visit was the resolution of the ***Grevillea buxifolia*** complex. This was resolved from a short bushwalk in native bushland on his property where a small-flower form and the large-flower form were growing more or less together in discrete populations without interbreeding.

We then proceeded to Craig Scott's East Coast Wildflower Farm on Mangrove Mountain. Craig is the driving force behind the local wildflower cut flower industry and grows some of the best native plants in the greater Sydney region. Craig had been attending a wedding in Sydney and had cut short his plans to be home and available for our visit. Thank you to both flower growers for their efforts on our behalf.

One of the benefits of this kind of activity is to see people growing plants in different circumstances, to learn how they do it and to share the knowledge with others. I feel that it is time for the members to decide what they want from the group and whether they want to be part of an active group. We need faces and bums on seats as it were if we are to maintain momentum and enthusiasm.

Study Group Bushwalk - Sunday 22 July 2001

Bruce Wallace

The bushwalk at Wedderburn on the 22/7/2001 was attended by myself, Gordon Meiklejohn and Roman Lichacz of Carlingford. The walk went down to Stokes Creek which runs into O'Hares Creek which is a tributary of the Georges River. Even though we had a small turnout the day was fruitful and enjoyable.

We found ***Grevilleas diffusa, longifolia, mucronulata, oleoides*** and ***sphacelata***.

G. diffusa, G. mucronulata and ***G. sphacelata*** were on the side of the track for about 3/4 of the way. ***G. longifolia*** and ***G. mucronulata*** were on the cliff overlooking the creek and ***G. oleoides*** was down at the creek edge. Apart from a variation in the size of the flower for ***G. sphacelata*** and a colour variation for ***G. longifolia*** (some had red flowers whilst others had what I would call a blonde colour flower) the other Grevilleas were pretty uniform without casting a hand lens over the plants though.

The walk would have been better one month later because there were a lot of grevillea flowers just in bud plus a lot of other stuff in bud. But there was a lot of Hakeas, Banksias, wattle and epacris in flower. The area at the creek was very tranquil and we had lunch before we went back.

TAXONOMY

Edited Internet discussion on wrongly labelled Grevilleas.

Wrongly labelled plants are one of the most vexatious problems in the nursery industry.

I know of many examples. Probably the worst is ***G stenomera***. What is known commercially as ***G stenomera*** is probably a ***G. thelemenniana***. How do we get it changed? The same thing happened to ***G curviloba***. For many years, it was ***G biternata***. Now at least there is a label with ***G curviloba (*****syn** ***biternata)***.

The only way I see to change this is for labels to be produced with the correct info. But this will be at the expense of the person producing them. I for one can't afford the thousand or so dollars to produce labels for all the incorrect ones. It then must be followed with a publicity campaign (more money) and nureries will probably still use the old labels.

Merv Hodge in the recent Study Group newsletter said he has seen ***G. 'Ned Kelly'*** labelled as Superb (?). That has happened because the nursery didn't have any Ned Kelly labels, and used what they had. It is usually not ignorance, just commercial convenience.

Thoughts anyone
John Sparrow

Commercially incorrect labels are a huge problem and inconvenience to customers … I often wonder why, in an age of increasing political correctness not to say litigiousness that there is so much mis-representation going on out there. Not keeping up with name-changes is one thing [who can?] but I too have come across the use of "near enough is good enough labels". Some cases have believed as long as the genus is right, the species doesn't matter!

Even this is better than the great majority of "supermarket nurseries" out there that have not the first idea about anything and cheerfully stick labels anywhere.

Mislabelling applies to all kinds of plants of course, not just natives. Nurseries do seem amazingly unregulated in these times of over-regulating. It must be super-frustrating for those nurseries that do the right thing, as it is in any occupation when you are being conscientious only to see so many others getting away with murder!

Margaret and Peter Moir
Olive Hill Farm, Margaret River, Western Australia.

Several years ago I arranged the printing of 35 Grevilleas labels (for grafted plants) thru Norfolk Press here in Brisbane. These labels have been used by several members of the Study Group. The main reason for having them done was the incorrect labels produced by Macbird, and also to provide a label for species that did not already have one.

The species were - ***agrifolia, angulata, asteriscosa, Austraflora Bon Accord, banyabba, calliantha, chrysophaea, commutata, decurrens, dryandri (white flower), dryandri subsp dryandri (pink & cream flower), exul, flexuosa, gillivrayii, glauca, helmsiae, hockingsii, iaspicula, insignis, latifolia, leptobotrys, leptopoda, leucoclada, mollis, miniata, obliquistigma, paradoxa, pectinata, pilosa subsp pilosa, prasina, refracta, scortechinii, spinosa, vestita, wickhamii subsp aprica (yellow flower)***.

Norfolk Press only needed a print run of 1000 labels per species which made it financially viable for the small group of people involved.

Heather Knowles

I realise that it is easy for non-commercial people to sit here and criticise and I have strong sympathies with the economics in the industry. However, there have been times when I have given the correct names and know that labels are available and the nurseries still will not act. I think most of the popular names would be available in any case.

G. stenomera

One possible way would be for the Study Group to approach both Macbird and Norwood and request a list of the labels that they do sell. All those with names incorrectly associated with the photos supplied could become an issue of mislabelling.

Then there is the problem of taxonomic disagreements. In the most recent Flora of Australia, there are at least six changes to our work with which I strongly disagree. Mostly, these are in non-commercial species and it gets down to a question of ranking. Old labels could continue in these cases. It is a question of following taxonomic change slowly, perhaps after discussion in a forum such as this.

Another way is to work relentlessly on the most intractible and clearly incorrect ones, the most obvious being ***G. stenomera*** and ***G. thelemanniana*** grey leaf prostrate form (now ***G. humifusa***).

In almost every case that I have seen, plants sold as ***G. stenomera*** are ***G. pinaster*** or a hybrid thereof. Macbird have a label for ***G. pinaster***. The real ***G. stenomera*** always has grey leaves with (mature) lobes at least 5 cm long or longer. Plants of ***G. pinaster*** with divided leaves are the problem. They have green leaves with lobes c. 1-2 cm long only. This, but not only this form of ***G. pinaster*** is widely sold in nurseries as ***G. stenomera***.

Grevillea pinaster, typical shrubby form

TAXONOMY

Some may be hybrids with this as the obvious parent (e.g. *G.*'Sid Reynolds').

One of the distinguishing features of ***G. stenomera*** is leaf lobes. Another is the grey foliage. Another is the much longer, paler inflorescence that is hidden within the bush, not the red-flowered one terminating the branches as in ***G. pinaster***. Not only do Macbird have a label for ***G. pinaster*** they also have a correct label for ***G. stenomera*** with the word graft written across the corner. They also have three labels with ***G. stenomera*** on them but with a photo of ***G. pinaster***.

The original misidentification was first caused by incompetent botanists mostly for the reason that the genus had not been sorted out before McGillivray's revision.

Almost all the Perth herbarium is, or rather was, mislabelled in the same way. The real ***G. stenomera*** was a rather rarely collected species and much confused by collectors and botanists alike. It was described by Mueller in Victoria from a specimen collected by Oldfield. The Type of ***G. stenomera*** also was not in PERTH but remained with Mueller at MEL (the Melbourne herbarium) and the description did not assist those trying to distinguish the two.

Furthermore, divided leaf forms of ***G. pinaster*** are not common in the wild. So the story goes on. There are legitimate reasons for the confusion in this case. Although there is a possibility that the divided-leaf form of ***G. pinaster*** will get a subspecific ranking in the future, you could continue to use the old nursery label of ***G. pinaster*** without too much argument from me.

There may be some confusion between ***Grevillea preissii*** subsp***.glabrilimba*** (*G.* Sea Spray or *G.* Magic Lantern are nursery names sometimes used) and ***G. humifusa***. ***G. humifusa*** has much more strongly secund inflorescences (i.e the flowers sit strongly to one side of the inflorescence like a toothbrush).

The perianth limb has a few scattered hairs. The branchlets are usually red, elongate and prostrate and have very long hairs in a rather open indumentum on the branchlets.

Peter Olde

On 10 March, I sent the following email to both Norwood and Macbird. I received all the labels from both companies and am in the process of checking them out. At least it is a start.

Dear sirs,

As a way of ensuring that plants are correctly labelled we are conducting a survey of labels in the genus Grevillea. Would it be possible to obtain a sample of each of your Grevillea labels? The survey is intended to assist both yourselves and the nursery industry by advising whether the plant names are correctly applied to the label picture and by providing useful information that could be incorporated when and if the labels are reprinted. The information provided would be available to yourselves free.

Yours sincerely
Peter M. Olde
Grevillea Study Group.
Australian Plants Society.

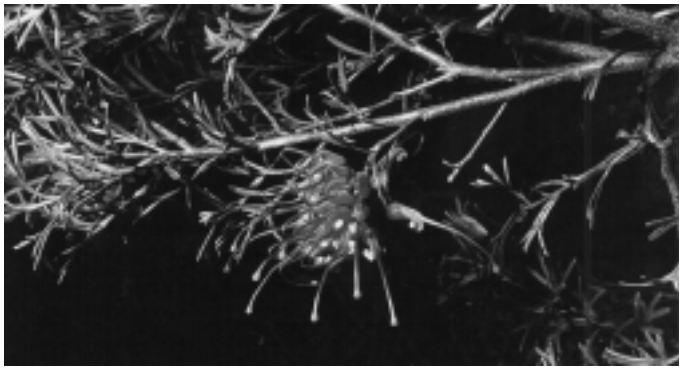
Grevillea thelemanniana

Peter Olde

There are two grey-leaf forms of what was once ***G. thelemanniana***.

Grevillea preissii subsp. glabrilimba, sometimes sold as ***G. Magic Dragon*** or ***G. Seaspray*** is a low-growing shrub from the limestone capstone east and south of Green Head. A feature of this plant is that it has quite glabrous flowers including the perianth limb and is a shrubby, lignotuberous species.

Grevillea humifusa is the name of the prostrate grey leaf plant often sold as ***G. thelemanniana prostrate*** or ***G. thelemanniana*** Grey Leaf Prostrate Form when it was included in that species. It is a completely prostrate plant with a perianth that has a few scattered hairs on the limb. It also has reddish branches that grow up to 3-4 metres long. The hairs on the stems also differ from those on ***G. preissii*** subsp. ***glabrilimba***.



Grevillea thelemanniana Conflorescences & foliage
(F & N Johnston) *The Grevillea Book III*

The soil in which ***G. fililoba*** grows is surprisingly heavy and appears to be rich, and possibly alkaline brown sandy loam. The area of its natural occurrence is heavily cropped and very few natural areas remain.

There are two 'Winpara' hybrids. ***Grevillea "Winpara Gem"*** arose in South Australia in the garden of Kay Bartlett where at least one of the parents is thought to be ***G. olivacea***. The second is thought to be ***G. pinaster***. Both 'Winpara' hybrids are seedlings. Actually I think the second, ***G."Winpara Gold"*** came from a second site in the Winpara area, from outside a nursing home where one of the applicants parents was in residence.

Full information on these hybrids can be got from Nellie Nursery, Mannum, S.A.

It is interesting that at the site where ***G. olivacea*** grows in the wild there are plants that closely resemble both hybrids both in flower colour and leaf shape. However, the second parent there is definitely ***G. preissii.*** subsp. ***glabrilimba***. You can see them on the Greenhead Rd c.30 km from the coast. There are only a few plants.

In case you are still wondering**.** ***Grevillea thelemanniana*** still exists as a species. Its area of occurrence is limited to a small area in the Perth region where it is severely endangered. ***Grevillea thelemanniana 'Baby'*** is a true form of the species.

Grevillea thelemanniana has no subspecies at present. It has tiny leaves c. 1 cm long, and always has a few simple leaves intermixed with the divided ones.

It makes a great rockery plant but some forms can grow quite large.

CHAT FROM THE NET

Spindly grevilleas

I am the proprietor of a wholesale propagation nursery near Brisbane. Does anyone have any clues about why some grevilleas such as the hybrid *Grev.'Red Hooks'*, go spindly?

John Sparrow

Some possible causes are poor nutrition or poor soils, lack of pruning, climatic unsuitability leading to fungal attack on leaves. Other suggestions welcome (Ed.)

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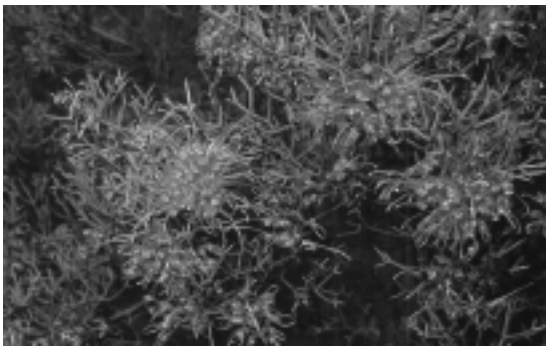
Bees & Pruning queries

I have a small and shady garden at home in Belrose (northern beaches of Sydney) with not much room (or sun) to grow much. Luckily I have a decent 'plot' which I have happily made use of at my 'in-laws' weekender in Kangaroo Valley (near Nowra on the south coast of NSW). I get down every couple of months to marvel at how well things are growing (especially the weeds!!), and count any losses (there aren't too many, happily!).

I have many Grevilleas growing (around 80 species and hybrids/cultivars), all doing wonderfully (except a sad looking ***G. iaspicula*** which is being shaded/crowded by a rampaging 'Ned Kelly' next to it).

My favourites would have to be: ***G. 'Ned Kelly***, ***G. 'Coconut Ice'***,***G.'Robyn Gordon'***, and ***G.'Superb'*** (especially!) which are always covered in flowers. Other favourites include ***G. speciosa*** and ***G.sericea*** (esp. the Collaroy Plateau cross, ***G. 'Evelyn's Coronet'*** (this is budding up now for another fine display!)***G. 'Long John'***, and (looking fantastic right now) a grafted ***G. dielsiana*** which has the most amazing coloured flowers: yellow and orange.



Grevillea dielsiana

A couple of queries

1. A ***G. 'John Evans'*** (apparently a ***rosmarinifolia*** cv.) grew very quickly and is now very leggy at the base. How heavily can I cut it back to give it new life?

My ***banksii*** hybrids are always covered in masses of bees. Is this unusual? (I've never seen bees on Grevilleas in Sydney). I'm wondering too if they would be keeping honeyeaters away. There are heaps of spinebills around, but they seem to prefer visiting other plants (eg; correas and banksias) in preference to these grevilleas.

Ben O'D
odbenjamin@yahoo.com

Obviously Ben is getting a lot of satisfaction from his plants. Can anyone help with his queries (Ed)

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Yellow leaves

My 2 "Caloundra Gems" and sole "Honey Gem" have grey mould like markings on the branches and the leaves are going yellow and brown and dropping. They were fine until about 3 months ago, I placed mulch in the garden in January(supposedly karri and peat mulch, but I doubt if it was true to name) which also killed a ***Banksia prionotes***, and a ***Banksia blechnifolia***. I have cleared all mulch from near the base of the grevilleas and cut back a lot of the affected branches. The plants are flowering but not profusely.I want to know if there is anything else I should do to bring them back to health, if anyone has any suggestions they would be most welcome

trhawkins@iprimus.com.au
Kenwick, Perth WA.

Sometimes as mulch rots it sucks the nutrients out of the ground.. If it is right up to the stem as well it can cause collar rot. I'd move the mulch a little bit away from the stem. I'd also put on a slow release fertilizer like osmocote for natives, and some iron chelates

David Lightfoot

Yellowing of the leaves may be caused by either lack of nutrients or iron deficiency .If the leaf vein is yellow but the leaf mostly green [on new growth with old growth mostly or all green] then iron is the problem. Treat with an application of iron. IRON CHELATES for POTS [including granulated iron] and SULPHATE OF IRON for plants in the ground. If the new leaves are reasonably green but the old leaves are yellowing and dropping then it could be due to nitrogen drawdown [usually from fresh mulch]and as David indicated use some fertiliser to rectify the nitrogen loss.

phil
ausplants@myrealbox.com

Is your soil sandy or loamy, acid or alkaline?

It could be phytophthora, possibly in the mulch, in which case drenching with a phosphonic acid product will help [can't hurt anyway.whatever. Real die-back country where you are].

It's also possible that the mulch had some sewage waste in it [it often does] which will cause phosphorous toxicity. I'm afraid I don't know howone cures that. Did any tomatoes come up in it? I kid you not, that's a sure sign. Some of those mulches are terrible, same with potting mixes. Maybe straight chipped green waste would be better in future. [I use straw, or grass clippings or whatever and don't have a problem, but I hatethose commercial ones]

If its sandy alkaline the iron sulphate will help, but usually the symptoms of alkalinity are just a yellowing of foliage, rather than that nasty sounding version you've got.

The only other possibility is that if you are on swampy gound, [which a lot of Kenwick formerly was] you might have some waterlogging.

If you eliminate those other possibilities I'd go with the die-back. You can get Phosject, Phossic and probably some other products, checkyour local supplier. I think Yates have something now as well. Just remember the phosphonic acid thing...don't let them sell you mancozeb or something!

Good luck
Margaret and Peter Moir
Olive Hill Farm

CHAT FROM THE NET

Grevillea bipinnatifida

Where we live sure is a Mecca for all lovers of the Proteaceae. I assume WA's infertile soils have encouraged these kinds of plants to flourish. I'm really excited that a local reveg nursery has given me a whole tray of ***Grevillea bipinnatifida*** that was excess to the needs of the Main Roads dept. I can plant them willy nilly in hedges and regen spots all over the farm and get a handle on its potential.

These were grown from cuttings, and the grower tells me that ***G. bipinnatifida*** is very tricky to get to strike and equally difficult from seed. Anybody got any experience?

Watch this space in 6 months for my report!

Margaret and Peter Moir, Olive Hill Farm
Margaret River, Western Australia.
www.wn.com.au/olivehill

Margaret is an enthusiastic member of the internet chat group yahoo groups and her website is worth a visit. Good luck with the bipinns Margaret. There are many forms. Maybe you could make a collection of the many different ones if they do well for you. I have information for you on this. (Ed.)

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The internet chat group is a good way to communicate with fellow grevillea enthusiasts from all around Australia. See section opposite on how to join. Membership is free.

Grevillea Email Group

This email group was begun by John and Ruth Sparrow from Queensland. Free membership.

To subscribe go to groups.yahoo.com and register, using the cyber-form provided. You must provide a user name and password as well as your email address to enable continuing access to the site which houses all emails and discussions to date.

You will receive a confirming email back and then you are able to access the site wherein you can select the groups you would like to subscribe. In this case search for "grevilleas" and then subscribe.

ON-LINE CONTACT

1. President's: email address: petero@australians.com
2. The email group grevilleas@yahoogroups.com
3. The URL of the Grevillea Study group website
http://grevilleastudygroup.homestead.com/first.html
4. The URL of the Illawarra Grevillea Park website
http://www.speedlink.com.au/users/ziebell/grevillea/
5. The URL of the Grevillea Page of the Australian Plants Society where you can read the .pdf (Acrobat Reader) copy of the newsletter and other grevillea information.
http://farrer.riv.csu.edu.au/ASGAP/greville.html

OFFICE BEARERS

Leader: Peter Olde, 138 Fowler Road, Illawong 2234. (02) 9543 2242; petero@australians.com

Treasurer and Newsletter Editor: Christine Guthrie, PO Box 275, Penshurst 2222. Phone/fax (02) 9579 4093

Curator of Living Collection: Neil Marriott, PO Box 107, Stawell Vic 3380

Curator of Grevillea Park Bulli: Ray Brown, 29 Gwythir Avenue, Bulli 2516. (02) 4284 9216

Seed Bank: Judy Smith, 15 Cromdale Street, Mortdale 2223 (02) 9579 1136

FINANCIAL REPORT

SEPTEMBER 2001

Income		Expenditure	
Subscriptions	$270.00	Newsletter Publishing	200.00
Donations	15.00	Postage	169.75
Interest	281.18	Bank Charges	9.71
Plant Sales	265.00		
	$831.18		$379.46

$10,441.89 in Interest Bearing Deposit for 6 months

Balance in Current Account as at 7/9/01 $11,341.07

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If a cross appears in the box, your subscription of $5.00 is due.
Please send to the Treasurer, Christine Guthrie, PO Box 275, Penshurst 2222.
Please make all cheques payable to the Grevillea Study Group.

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