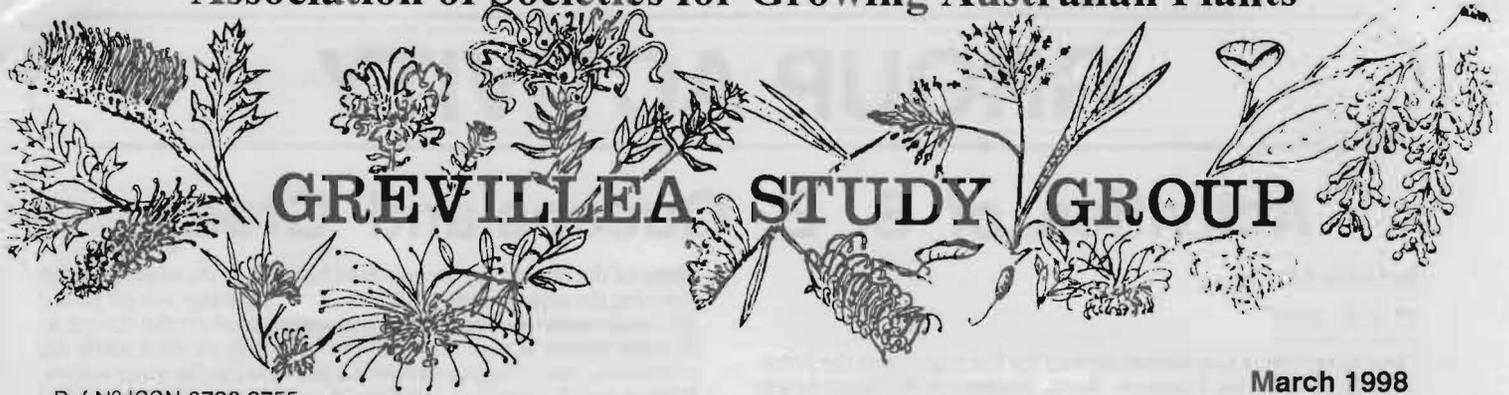


Association of Societies for Growing Australian Plants



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March 1998

Newsletter N° 49

Welcome to 1998 to all members and friends of the Grevillea Study Group. We have quite a large membership (about 250) and meetings are now held in three states (Queensland, N.S.W. and Tasmania). I am hoping that a Victorian chapter will get going in the near future.

A number of members of the study group are not financial, some stretching back several years. It is probably time for the list to be pruned and this may be your last newsletter. However, we would regret losing your participation and interest. Check the space on the front about your financial position.

The Autumn Plant Sale being organised at Mt. Annan is coming along very nicely. Don Burke has agreed to open the show and advertise it on his TV show. He will probably be giving a small talk on the Saturday as well.

Betty Rymer has agreed to mount a Proteaceae display in one of the Exhibition Rooms available to us. Thanks Betty. You have been a tireless worker in the promotion of Australian plants. We have nurserymen coming from as far afield as Queensland, Canberra, Victoria, with a number of small growers and other larger nurseries participating. Please come along if you are in town and offer to help. We especially need help in taking money on plant sales. New South Wales Region will not be holding its Spring Flower Show this year, so this will be your best opportunity to buy from a large range of plants at reasonable prices. It is also the best time to plant out your new purchases. So come along and bring a friend too.

NSW GROUP ACTIVITIES:

Sunday 1 March 1998

Venue: Mount Annan Botanic Garden

Subject: Tour of the new Grevillea planting.
Finalise arrangements for the Giant Plant Sale
Set programme for 1998.

Saturday & Sunday April 18-19

Giant Autumn Plant Sale & Art Show.

Set Up Friday April 17,
Pull Down Monday April 20

Sunday 7 June 1998

Venue: Home of Bruce Wallace
9 Naylor Place, Ingleburn.

Subject: Garden visit and plant identification using keys
Visit local reserve and examine populations of
G. mucronulata & others.
Analysis of the Autumn Plant Sale.

Sunday 2 August 1998

Venue & Subject to be decided

S.E. QLD GROUP MEETINGS

All meetings commence at 9.30 am unless otherwise notified. Further information and road directions contact Merv Hodge on (07) 5546 3322.

Sunday 29th March 1998

Venue: Home of Denis Cox & Jan Glazebrook
87 Daintree Drive, Logan Village 4207

Phone: (07) 5546 8590

Subject: Growing Grevilleas in sandstone

Sunday 31st May 1998

Venue: Home of Merv & Olwyn Hodge
81-89 Loganview Rd, Logan reserve 4133

Phone: (07) 5546 3322

Subject: Rejuvenating an old garden

Sunday 26th July 1998

Venue: Home of John & Ruth Sparrow
Newspaper Hill Rd (between Eumundi &
Kenilworth *see directions on p2*)

Phone: (07) 5447 9130

Subject: Running an Australian Plants Tubestock Nursery

Inaugural meeting of Victorian Group of the Grevillea Study Group

Saturday 4 April 1998 at 11.00am, Phillip Vaughan's Mt Cassell Nursery, Pomonal. Includes garden visits and organising a program for the rest of the year. There will be activities organised for the Sunday for members wishing to go to Pomonal for the weekend - BYO everything! For more details phone Neil Marriott on (03) 5356 2404.

GROUP ACTIVITY

Activities of S. E. Queensland Group

by Lorna Murray

27 July 1997

Over 40 members and visitors arrived for the meeting at the home of Heather Knowles, Ebenezer Road, Rosewood. We had a bright warm, sunny day, so the meeting was held in a shady part of the garden.

The meeting was opened by our local leader Merv Hodge. After the financial report was presented, the members resolved to buy a fax with answering machine for the Grevillea Study Group Treasurer and Newsletter Editor, Christine Guthrie. Specimens displayed included the hybrid *G. longistyla x venusta*, which is to be marketed as *G. "Firesprite"*.

The topic for the day was "Gardening under difficult conditions" and Heather opened the discussion by explaining the problems she faced on her block. Heather's land is day over coal, so all garden beds have had to be extensively built up. Composted horse manure was used in most cases, with some soil bought in for one bed when supplies of the composted horse manure were not available in sufficient quantities.

A major problem in recent years has been the availability of water, as the garden has to rely on dam water. During the drought the dam was very low and was dry twice, so no watering could be done. In spite of good mulching any grevilleas on their own roots, including many hybrids, died. *G. robusta* however withstands dry conditions quite well, and most plants grafted on to *G. robusta* survived the drought. Many of the alternative rootstocks would not be suitable for these conditions.

Another problem in this area is the occasional very severe frost, with temperatures down to minus 9°C. In spite of low temperatures at night daytime temperatures are quite warm, to 20°. Often there is a warm spell between frost periods or some rain, and the plants start growing again. When another frost arrives the fresh, soft new growth is very susceptible to the cold. Grevilleas found to be damaged included *G. aurea*, *G. decurrens* and *G. heliosperma*.

G. angulata was tipped but not severely damaged, while *G. formosa* was knocked and took 12 months to recover. *G. prasina* and *G. wickhamii* were burnt. Some members from Toowoomba reported that using an anti-transpirant reduced losses from frost. In August the garden is often subjected to strong westerly winds, and Heather is growing a windbreak to reduce this effect.

The problem of some species not being compatible with *G. robusta* was raised again and after further discussion it was decided that a questionnaire should be prepared to collect data from local members on the results obtained with grafted grevilleas. Information will need to be collected on a variety of factors, including soil type, amount of watering, rootstock used and other local conditions.

After the usual raffle was conducted, members inspected the gardens near Heather's residence. The planted area covers about 3/4 acre of the 10 acre property, and the first plantings were made 6 years ago. Water has been available this year, so that in spite of the difficulties experienced during this time the many grafted grevilleas all looked very healthy now.

24 August 1997

A gathering of members at the home of Ron and Elaine Jell at Clear Mountain enjoyed the brilliant spring day in this well-kept garden.

The topic for this meeting "Growing grevilleas on a steep slope" was addressed by Ron, who highlighted some of the problems they had experienced in getting their garden established on a fairly steep slope of Clear Mountain. The land initially was almost bare of any vegetation.

The difficulty of mowing on the slope showed the need for gardens, and the desire to encourage birds, to reduce noise without restricting sunlight and views and to avoid the introduction of extra soil led them to look at growing native plants. Some grevilleas came up by themselves on the steep slope, and this led to the planting of more grevillea species, so that now many grevilleas, mostly grafted, are being grown well.

Some of the difficulties encountered because of the slope included stopping the wheelbarrow, pots falling over, and tags lost off plants. To retain water around a plant rocks were used on the downside. A water system is now installed, but used only in particularly dry conditions. Ants clogging outlets is a problem for the water system. Putting mulch down is a problem. If cardboard is used the mulch slides. Storm rain can wash mulch and edging away, so heavy edges were put in. Forest litter is now being used as mulch, 3 in thick on cardboard. Once wet it seems to stay in place.

At the bottom of the bank boulders are placed. The area is very dry, difficult to mulch and there is a problem with black wattles, *Acacia leiocalyx*, springing up. Some rainforest trees are now planted in this area. Grassed areas are still maintained between the beds, and this has also encouraged different birds to these open areas, as well as providing firebreaks.

Following discussions, the usual plant raffle was held, and everyone then enjoyed inspecting the extensive garden.

26 October 1997

This meeting, attended by 44 members and 9 visitors, was held at the home of Ray and Gwen Norris at Capalaba. As the garden was to be in the Open Garden scheme the next weekend, it had had extra attention and was looking wonderful.

In general business, local leader Merv Hodge announced to the members that a Grevillea Study group meeting was to be held at his place on the Saturday after the 1999 ASGAP Conference in Brisbane. Following the discussion at the July meeting regarding a survey of the performance of grafted grevilleas in gardens, Jan Glazebrook handed to members a survey sheet to be completed as soon as possible. It was stated that *G. "Pink Parfait"*, with its tight head, was proving very suitable as a cut flower. There was discussion on the naming of the hybrid *G. longistyla x johnsonii* and the meeting advised that *G. "Long John"* is now the registered cultivar name.

The topic for discussion was "Techniques of constructing and maintaining a large garden" and Ray spoke to the group about his experiences.

He stopped mowing the area and initially some trees came up. Grevilleas, callistemons and melaleucas were planted with some rainforest trees down the back. These were watered by bucket from a drain until the dam was built. Logs from some large trees which were cut down were used as edging.

The house was built in 1990. Topsoil was moved off, fill put in and the topsoil later put over the bank at the back. Sub-soil from the construction of the swimming pool was put on the front garden. Ray shaped the paths and gardens and started planting a lot of plants grown from seed and cuttings of the plants at their former home at Burbank. Gradually the different areas were worked on and planted. The original lawn area at the back is now planted with lots of kangaroo paws and daisies. A lot of forest mulch was spread over the garden in 1994 and topped up since.

There has been considerable attention given to pruning plants. Grevilleas which have been pruned and responded well include *G. baileyana*, cut back regularly, *G. "Long John"*, cut back into hard wood, *G. decurrens* cut back to 2 feet now shot well, *G. miniata* cut back twice, *G. triloba* flowering well following pruning. *G. dielsiana* was cut back to 4 feet, but was slow to come back and *G. stenomera* is stationary after being cut back severely, although this grevillea responds well to light pruning.

ROAD DIRECTIONS FOR JULY MEETING

PS (To get to the Sparrows, proceed on the Bruce Hwy to approx 1km past the Eumundi turn-off. Turn left on Kenilworth Road and travel approx. 16km. Look for Cedar Creek sign on left and start to slow down. Approx 1km you turn right (old Mary Valley Highway, Skyring Creek Rd). Travel a couple of kms, go over floodway and then turn left into Newspaper Hill Road (a dirt road). Travel a few more kms. On left is a yellow and black "Children Crossing" road sign. Driveway is 100m past sign on right hand side. Take the right-hand driveway marked "Australia Park Nursery" - No Entry. Ignore sign and enter.

FIELD TRIP REPORTS

Day Trip along the Putty Road

P. Olde

The Sydney chapter of the Grevillea Study Group conducted two field trips in Spring 1997.

The first was a follow-up of the 1996 Safari which travelled along the Putty Road. The small party of explorers revisited our first stop at 3 km N of the turn-off to Glossodia in search of a form of *G. parviflora* which had been collected there in 1972. While we confirmed the presence of *G. phyllicoides* which has recently been returned to species rank, again we were unable to find the species being sought.

The presence of *G. phyllicoides* at this location represents an extension of range. We did find an old road which may have meant a re-alignment of the existing road. Although some road verges remain relatively pristine, much of the area has now been cleared to residential or the ubiquitous horse paddock.

From here we travelled along east Kurrajong Rd towards Sackville. On the corner of Beela Place we found a few plants of *G. mucronulata* and a large population of *G. buxifolia* race 'b' sensu McGillivray. Returning to the Putty Road, *G. buxifolia* race 'b' reappears only 5 km north of our first stop, indicating virtual sympatry of race 'b' and *G. phyllicoides*. We travelled west along Blaxland Ridge Road and Comleroy Rd to the entrance of Wollemi National Park. Race 'b' occurs continuously along this area. On Mountain Lagoon Rd we found the Blue Mountains Form of *G. sericea* ssp. *sericea*. This is a root-suckering taxon which could be easily detected along the road cuttings where it appeared.

We returned to the Putty Rd by travelling along the Colo River where we attempted to re-locate a previous collection

by Ray Brown of *G. diffusa*. We were again unsuccessful. Having a good day so far!

At 38.2 km N of the Colo River, we decided to pull over and search a low-lying area on the western side of the road for the elusive *G. parviflora*. After quite a long search during which numerous other interesting plants were found, I gave up. However, others had taken to looking on the higher ground to the east of the Putty Rd. This time persistence was rewarded. Tony Henderson made the discovery of a suckering population c. 30 cm high, not in flower, but fairly abundant in dry sclerophyll forest. Cuttings were collected one of which has subsequently flowered pink.

We continued on to Staircase Hill to examine *G. buxifolia* ssp. *ecorniculata* and *G. mucronulata* before turning back for home. The form of *G. mucronulata* in this area is quite low-growing and the almost yellow flowers occur well within the plant near the ground. The pollinator(s) could not be identified except that small honey-eaters might be a possibility.

I was particularly disappointed in the flannel flowers which created such an impression the previous year for their robust flower size and habit. This time they were mostly shrivelled and not at all thrifty.

The day was most enjoyable and we explored areas not previously examined. Overall, the trip which crossed three populations that were previously included in *G. buxifolia* showed that each of them should perhaps be regarded as equally distinct.

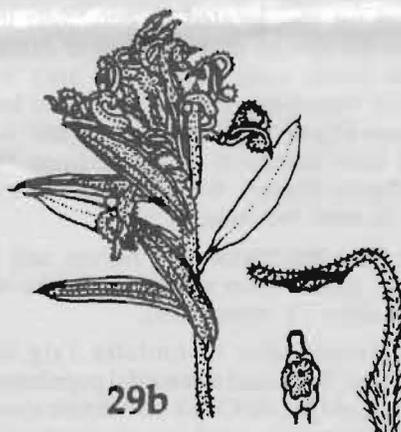
The Grevillea Safari 1997

P. Olde

We set off from Bulli on Friday morning, October 24, heading towards Yalwal dam in search of *G. arenaria*. We found several plants with green and pink flowers where the creek crosses the road and were satisfied at finding our quarry.

From here we headed towards Jervis Bay in search of *G. phyllicoides*. This species which is elsewhere confined to the upper and lower Blue Mountains has been recorded (a single collection in 1960) from Pt. Perpendicular, c. 1 mile N from the lighthouse. We searched this area for several hours but found no sign of it. Apart from this collection (by Constable), there has never been another sighting nor another collection in any of several flora surveys of the area.

I am convinced that this collection represents a mix-up. The location is swept by strong, salty winds and supports a very dense heath inimical to most Grevillea species, except *G. macleayana* which occurs here in good numbers as a physical dominant. *G. phyllicoides* would also be a dominant. It is far away from its recognised distribution and normal habitat. The Constable specimen is clearly *G. phyllicoides* and the label states that it is a bushy shrub 3 feet (1 m) high with greyish flowers and is frequent in open heath sandstone.



Grevillea phyllicoides

(taken from Gwen Harden's
"Flora of New South Wales" where it is listed as
Grevillea buxifolia subsp. *phyllicoides*.)

FIELD TRIP REPORTS (cont)

The possibility of its existence here cannot be ruled out as the area has large areas of sandstone but until confirmation is received, it must be considered unlikely.

We next travelled to Vincentia where *G. sphacelata* has been recorded and collected. Although we again were unsuccessful in locating it, the existence of the species at this location is not questioned as its distribution (Sydney to Conjola) overlaps the area.

It appears to be now rare in the area which is rapidly succumbing to development. I would like to spend more time searching this area as there are some good areas of bushland still extant. Our reason for looking for this otherwise common species is that specimens from Nowra to Conjola differ from the usual form of that species to the degree that Don McGillivray included them in *G. phyllicoides* because they have a spreading branchlet indumentum.

We travelled on to the Twelve Mile Road, Conjola where the species has been collected at a place called Granite Falls. The drive into this area (which requires a four-wheel drive vehicle and a forestry permit) was one of the highlights of the trip. The road was surrounded by swathes of pink-flowering boronia and white ricinocarpus and other plants flowering majestically. We drove as far as we could then walked down to the falls which afforded a magnificent high altitude view over the surrounding valleys. Right at the edge of the cliff where the falls cascade over a dizzy descent we found our plant and felt very pleased with ourselves. We also found a brilliantly coloured plant of *G. arenaria* with red and green flowers. Confirmation and re-collection of *G. sphacelata* confirms the form of the plant which was collected here by M. Heron and described by the Abbe Gandoger in 1919 as *G. scabrifolia*, which is currently (and erroneously) in synonymy under *G. phyllicoides*.

We spent our first night at a picnic site not far from this location. Next morning we headed further west towards Mt Tianjara in the heaths around which *G. buxifolia* s. str. has been collected. Search though we might, we could not confirm the existence of this species here. We did find magnificent plants of *G. baueri* ssp. *asperula* and a form of '*G. linearifolia*'.

Near Mt Tianjara we also located *G. patulifolia* in dense heath one of very few species that will grow in dense, moist heath. The most recent collection in this area by D. L. Loane occurred in November 1977 in heathland but other collections around Pigeon House which is not far away by direct travel have not been collected since 1917 'on the flats below Pigeon House'. We need to further explore this area which is very beautiful.

We headed out onto the highway at Milton and headed south to Moruya, inland from where grows the recently described *G. rhyolitica* (2 subspecies).

Subsp. rhyolitica occurs near Coondella Trig in steep mountainous country. We found a beautiful population which occurs on a tributary of Donald Creek on volcanic rocks. Most of the plants were around the creek but we also found plants well away from the water on higher ground. Flowers were bright red and the leaves bright green and only sparsely hairy. A photo of this subspecies can be seen in the Grevillea book vol 3:224 (185D) where it is treated as a form of *G. victoriae*.

It is a fine plant for horticulture and is widely grown at Mt. Annan where it was introduced to cultivation a few years ago.

Next morning we attempted to find *G. rhyolitica* ssp. *semivestita* which was recorded from the Araluen Valley where the holotype had most recently been collected in 1953. We did not hold out much hope but as we passed Cooper's Creek, there it was in full flower beside the main road! Sometimes collecting plants can be this easy! After picnics and tea and remonstrations from a recalcitrant land-owner (get off my land you! I own all this you know), we headed back to the highway and further south.

We turned off to Yowrie and headed towards the Wadbilliga River. Some 12 km along we found our quarry a particularly beautiful form of *G. miqueliana* which is undoubtedly a new species. Most of the plants were located on the dry hillsides above the river but the best plant was a magnificent specimen growing in deep sand on the river bank. A photo of this taxon can be seen in the Grevillea Book 3:32 (20B).

Next morning we travelled to Tura Beach, south of Tathra, one of the southern-most localities from where *G. mucronulata* has been collected. It occurs quite commonly in this area and in Bournda State Recreation Area. This appears to be a distinct form.

We moved quickly on towards Back Creek and an abandoned pyrophyllite mine around which grows another form of *G. miqueliana*, almost certainly representing a further distinct taxon with similar leaves to the Wadbilliga River plants but with much finer peduncles. It has scarlet flowers and a photo can be seen in Volume 3:32 (20C). This makes another fine garden plant. We spent quite a time here examining the plants before heading back to Yowaka via Nethercote. It was while crossing the Yowaka river here that Ray Brown spotted plants of *G. neurophylla* growing in the river bed. I call this the Rapids Grevillea because it is always found in the rocks of the river bed where there are rapids. It is root-suckering and has pale pinkish flowers. Actually, I think it may be an undescribed species and should be withdrawn from *G. neurophylla*.

We travelled to Broadwater SF picnic area where we again found this plant, growing in the rocks of the creek bed. After lunch we took off for Croajingalong National Park and a search to confirm the only Victorian population of *G. patulifolia*. While the maps showed good access, the reality proved greatly different. In some areas the floral scenery was spectacular with boronia and wedding bush being the main attraction. It was only at dusk that we managed to locate our target and confirm the existence of the species in this State. We found it on the Lakeview Track, a few km before 'Lakeview' in heavier soils in open sclerophyll forest with *Banksia serratifolia* and *Persoonia levis*. It had deep pink flowers and typically strongly pungent leaves. Its height was about 1.6 m, well above the height of New South Wales plants.

We spent the night beside the Imlay River in Newton's Picnic Area, setting up camp as usual in the dark.

In the morning we found that we had virtually parked right on top of *G. victoriae* var. *leptoneura* which has a red flower and purplish new growth. This taxon which might one day be recognised as a distinct species in its own right was first introduced to cultivation by Austriflora Nursery from a plant collected on the upper reaches of Murrumbidgee inlet.

FIELD TRIP REPORTS (cont)

Oh! and guess what was growing among the rocks of the creek at Imlay River, yep - our old friend the Rapids Grevillea. We headed along the Snowy Mountains Highway and stopped a few km later at White Rock Picnic Area. Guess what was in the creek here too. You're right! Rapids Grevillea again. In retrospect, this is where the safari should have ended because we had to travel quite a long way from here for our next plants.

We found *G. lanigera* with its deep pink and cream flowers suckering prolifically in low vegetation when we eventually entered the Snowy Mountains NP - near Providence Portal and later *G. australis* near the turn-off to Mt Selwyn almost in flower. We located a red and cream-flowered form of *G. rosmarinifolia* on the track down to Ravine on the road to Lob's Hole Camp but was otherwise very disappointed with this track which was badly degraded floristically. The bridge being washed out over the Goodradigbee River also prevented us getting to Lob's Hole Camp where we hoped to collect Rapids Grevillea again. We turned back and headed towards Tumut. At Tumut Pond, 57 km from Tumbarumba we located *G. rosmarinifolia* again in a population which extended along the road for over 50 km. We finally pulled up for the night at Batlow, this time in the late afternoon. Not satisfied with this two of the party headed off for Bago State Forest from where was recorded the newly described *G. oxyantha* ssp. *ecarinata*.

A few hours later, decidedly short of petrol and daylight, they discovered at Buddong Falls a beautiful population

of this subspecies with its orange-yellow multi-coloured flowers, a few of which were brought back to excite the exhausted ones who had luxuriated in an evening meal eaten in daylight. The plants were in abundance at the Falls and grow into large shrubs c. 4 m high.

The party set off early on the last day towards Tumut in search of the beautiful *G. wilkinsonii* which was found without difficulty. The species is regenerating well from seed, where over twenty seedlings were counted beside the road, most of which will not of course survive because they are growing only inches apart. I resisted a strong urge to pull a few out and replant them at a more appropriate distance from the parent. Other plantings by SGAP Canberra have not survived. *G. lanigera* was also suckering prolifically at this site.

The protected zone is in serious need of blackberry removal. We travelled back to Canberra via Micalong Creek Reserve, a further known location for *G. oxantha* ssp. *ecarinata* but we could not find it there. We ended up at Wee Jasper where we located some magnificent plants of *G. iaspicula* growing up to 5 m high on limestone outcrop and sinkholes. None in the party had previously seen this species in the wild and it quite surprised us with its vigorous habit and beautiful flowers in abundance.

Our final stop was at Mt Ainslie where we checked out *G. sp. aff. patulifolia*. I finally decided to leave this species in *G. patulifolia*.

CONSERVATION

Cryopreservation & other research on *Grevillea scapigera*

P. Olde

With thanks to Mark Richardson writing in *Danthonia* 3:2:6-7

Kings Park and Botanic Garden is continuing research into the use of cryopreservation for the long term storage of both seed and plant tissue.

This involves the storage of biological material at ultra low temperatures such as that of liquid nitrogen at -196°C. They have successfully cryopreserved shoot-tips of the endangered *Grevillea scapigera*. The tissue has been grown to plantlets on regenerative medium. No genetic changes in the regenerated material were shown by tests done.

Methods have also been developed for cryopreservation of mycorrhizal fungi from twenty different orchids and species of Epacridaceae and cryostorage of the seed of 68 species has been performed. It is estimated that using present procedures at least 40% of the rare or threatened species of Western Australia could be maintained in long-term storage.

Grevillea scapigera is also being artificially propagated by tissue culture and maintained as living stock in Kings Park's micropropagation unit. Material from this stock has already been used in two species recovery trials as a collaborative

effort between researchers and the local community. The aim of this work is the recreation of genetically sound, self-sustaining populations of *Grevillea scapigera*.

At one stage *Grevillea scapigera* was thought to be extinct until grafted material was located at the Royal Botanic Gardens in Sydney and repropagated in Perth. The original material was supplied by one of the members of the Grevillea Study Group from a collection in 1985 from one of the then few remaining plants near Corrigin.

Kings Park have also successfully trialled an intergraft of *G. flexuosa* on *G. robusta* rootstock with *G. scapigera* as scion. These plants have grown very successfully in trial beds at Perth. Some members of the Study Group have successfully reproduced this method commercially. I think this intergraft combination might also be very useful with *G. leptobotrys* scions.

While working on the Grevillea Book I was struck by the similarity of floral features of *G. scapigera* to *G. bracteosa*, another rare Grevillea species. This species grows extremely well on Grevillea "Royal Mantle". The thought has crossed my mind that this combination might also prove to be a useful intergraft in cultivating *G. scapigera*.

TAXONOMY

New Species of Grevillea (Part 2)

1996 *Grevillea phyllicoides* R. Br. reinstated

P. Olde

In a paper imaginatively entitled The Taxonomic Web of the Grey Spider Flower: *Grevillea buxifolia* (Proteaceae), *Telopea* 7(1):65-76, J. M. Hart and M. J. Henwood from the University of Sydney have found evidence to re-instate *G. phyllicoides* R. Br. sensu stricto to specific rank.

Recent History: McGillivray (1993) identified 5 races spread among 3 subspecies in a conceptually broad *Grevillea buxifolia* after previously (1986) reducing both *G. phyllicoides* and *G. sphacelata* to sub-specific rank. *G. buxifolia* ssp. *buxifolia* consisted of two races, 'a' and 'c', ssp. *phyllicoides* had two races 'b' and 'd' and ssp. *sphacelata* coincided with race 'e'. McGillivray also identified a number of intermediates between the races which he was unable to assign to any subspecies.

In 1994, Olde & Marriott reinstated *G. sphacelata* to specific rank and removed race 'a' from ssp. *buxifolia*, recognising it as a separate subspecies *G. buxifolia* subsp. *ecorniculata*.

Hart & Henwood set out to clarify the taxonomic position of McGillivray's intermediate individuals using principal component analysis and cluster analysis, and in so doing reassess the status of the currently recognised taxa. They examined 35 character states, some of them not examined before, including petiole indumentum, leaf area, aspect ratio (the ratio of leaf length to leaf width) leaf circularity and rectangularity and external leaf perimeter.

Ordination of the Principal Component Analysis showed that there were four taxa and that one of these was race 'd' of McGillivray, *G. phyllicoides* s. str. Accordingly they have reinstated this race to specific rank. The principal identifying feature is the abaxial leaf indumentum which consists of long, erect hairs rising from the lamina. Race 'b' has been transferred to *G. buxifolia* ssp. *buxifolia*.

Commentary: I regret to say that reinstatement of *G. phyllicoides* to specific rank is about the only thing in this paper with which I can agree.

The character state used to define the newly resurrected species (long, erect hairs on the leaf undersurface) is quite strong and differs from other elements included by them in ssp. *buxifolia* which have a strongly matted indumentum on the leaf undersurface. However, there are other features, especially the length and orientation of the stylar appendage and shape of the pollen-presenter which are also very significant for this species. One of the most unfortunate failings of this paper is that it fails to fully circumscribe *G. phyllicoides* and we are left to wonder at how most of the 35 character states examined apply to this new species and what the other character states used by McGillivray and Olde & Marriott now are for this species.

The paper also fails to re-circumscribe *G. sphacelata*, after including in it a number of specimens which McGillivray

had identified as *G. phyllicoides*. One of these from Conjola is the holotype of *G. scabrifolia* Gandoger which Hart & Henwood have incorrectly retained under synonymy in *G. phyllicoides*. Two other collections from Conjola have been included in *G. sphacelata* which to now has been defined by its silky leaf undersurface and branchlets.

I agree with their decision to include the south coast specimens in *G. sphacelata* but neither the branchlet indumentum which is spreading nor the abaxial leaf indumentum which is openly tomentose with ascending trichomes, is silky on these specimens.

Furthermore, because the branchlet indumentum is spreading on these specimens they cannot be correctly identified using the key provided by Hart & Henwood.

Notwithstanding the results of their own analyses which clearly show that there are four taxa worthy of equal standing, one of them being race 'a' *G. buxifolia* ssp. *ecorniculata*, the authors have elected to retain one, race 'a', as a subspecies. In other words, no real grounds are given for resurrecting *G. phyllicoides* to specific rank and leaving ssp. *ecorniculata* as a subspecies. I strongly feel that this race should have also been re-ranked to species.

The authors have also transferred race 'b' from ssp. *phyllicoides* into ssp. *buxifolia*. As a result we are left with an agglomeration of three races, 'a', 'b', 'c' which, apart from the indumentum of the leaf undersurface, in combination fail to provide a single distinguishing feature or quintessential element which can be called *G. buxifolia*. Even the leaf indumentum is closely approached by the indumentum of the southern populations of *G. sphacelata*. Indeed, there are more significant differences between the three races of *G. buxifolia* as it is now constituted than there is between *G. buxifolia* s. lat. and the two most closely related species, *G. sphacelata* and *G. phyllicoides*.

The decision to transfer race 'b' into *G. buxifolia* ssp. *buxifolia* is also debatable. McGillivray recognised this race as sufficiently distinct to include it in a separate subspecies. My personal opinion now is that this race, like all McGillivray's races, should be recognised as a distinct species or at the very least as a formally recognised subspecies.

The authors state that all the unassigned specimens of *G. buxifolia* sensu McGillivray belong in ssp. *buxifolia*, i.e. now consisting of races 'b' and 'c' in combination. My examination of the unassigned specimens showed that at least one of them, Cambage 1248, clearly belongs in race 'd', the newly resurrected *G. phyllicoides*.

While examining the specimens used in the study I found clear evidence indicating that *G. phyllicoides* will need a name change. More about this at another time.

The SE Queensland Group of the Grevillea Study Group has kindly donated a FAX/Answering machine to the Grevillea Study Group. Newsletter articles, change of address etc. can now be sent by FAX to Christine Guthrie on (02) 9579 4093.



IN YOUR GARDEN



Grevillea 'Long John'

by Neil R. Marriott

This is the officially registered name with the Australian Cultivar Registration Authority, for the Grevillea sold for many years in Victoria and southern NSW as *G. longistyla*. It has also been sold incorrectly in Queensland and Sydney as *G. 'Elegance'* - this is an illegal name as there is already registered *G. 'Poorinda Elegance'*.

G. 'Long John' was registered by the Grevillea Study Group in September 1997. Discussions with Rodger Elliot lead us to believe that it arose as a chance seedling in a batch of *G. longistyla* seedlings raised by Rodger when he and Gwen owned Austraflorea Nursery in the early 1970's. Studies of the plant clearly show that it is a hybrid between *G. longistyla* and its close relative *G. johnsonii*. I have raised numer-

ous similar hybrids in batches of *G. longistyla* seed that I have sown although none of mine are as attractive as *G. 'Long John'*.

The name 'Long John' was suggested by Merv Hodge and is excellent, as it is catchy, while at the same time providing evidence of both of its parents. Gardeners and nurserymen are urged to adopt this new name immediately.

Observations on Seed Collecting of Grevilleas

by Neil R. Marriott

I can remember many years ago while in Western Australia, Eileen Croxford at Albany stated that in order to ensure that Grevillea seed is mature it is essential that the follicle turns a 'biscuit' colour before picking it.

As a general rule of thumb this is quite correct, however while collecting Grevillea seed for our nursery over the last month I have noted that there are a number of exceptions to this.

Grevillea wilkinsonii for example shows no colour change in the follicles at the time of release of the seed. I have noted the same feature in *Grevillea maccutcheonii* although it normally becomes slightly paler green at maturity.

Grevillea flexuosa is interesting in that it also becomes paler, losing practically all its chlorophyll to become a very pale creamy green just before

it turns to the typical 'biscuit' colour. Perhaps this is an adaptation to avoid nutrient loss from the mature follicles, just as deciduous trees extract the chlorophyll out of their leaves prior to their fall in autumn. Whatever the reason, it gives the collector a far greater opportunity to collect mature follicles.

Grevillea superba on the other hand turns darker and darker on maturity, being almost black at dehiscion. *G. johnsonii* is similar, however its follicles lose their chlorophyll and become pale on the lower surface while remaining bronze-red on the upper surface. They then turn a dark grey as they open.

These few examples show that a little knowledge of each species is helpful when collecting their seed. It also shows how much more we can learn about Grevilleas by having them in

The Grevillea Book Volume 4 - The Cultivars

by Neil Marriott

Peter and I have been working steadily on this publication over the last couple of years. It has been a bigger job than we realised as there are just so many cultivars these days.

As a result we will not be able to include every cultivar - many are inferior, many are unregistered with PBR or ACRA, and many are now unavailable in the nursery trade or from collectors.

I therefore request any members who are growing, or know of a Grevillea cultivar that is not presently registered, to contact me ASAP. Through the Study Group I can get any new

Grevillea cultivars registered free of charge (normally \$50 each) through the Australian Cultivar Registration Authority.

Also if you have any good colour slides of Grevillea cultivars that we could use in the book, or any cultivation information on any Grevillea cultivars, this would be greatly appreciated. Please send direct to me at Box 107, STAWELL 3380. All slides and assistance will be acknowledged in the book which should be out by Spring 1999. Any members attending the Autumn Plant Sale at Mt Annan could bring slides, cultivation notes etc as I will be presenting several talks on that weekend.

The Grevillea Park, Bulli

Opening Dates for 1998

- 25th, 26th April
- 2nd, 3rd May
- 19th, 20th July
- 26th, 27th July
- 19th, 20th September
- 26th, 27th September

The park is open from 10am to 4pm on the above dates.

Volunteers from the Grevillea Park Society Inc, Illawarra SGAP (particularly Mrs Evelyn van Ede), and members of local garden clubs help staff the Park on the day.

Special Openings for Groups: Special openings for tours from groups (such as bus tours by Garden Clubs) can be arranged.

Location

The park is located at the rear of the Bulli Showground, Pacific Highway, Bulli. (Turn at the Woonona-Bulli Sports Club, just south of Slacky Creek). Bulli is one of the northern suburbs of Wollongong, and is just a 1 hour drive south of Sydney. The Park is a short walk north of Bulli railway station (check the timetables).

CUTTING EXCHANGE

Cutting material is available to financial members only from Dave Mason, Box 94 Coraki 2471.

Hundreds of species available!

Please contact me, I may have the plant you require. The cost is \$6.50, payable with order, which covers the cost of packing and return via Express Post.

PROPAGATION

The Seed Bank

by Judy Smith

A big thank you to Heather Clarke from Hunter Region Botanic Gardens and Pip Gibian for donations of seed.

There are not vast amounts of seed, so the first people to respond will receive seeds. To obtain free seed please send a self-addressed envelope with a 70 cent stamp to Judy Smith, 15 Cromdale Street, Mortdale 2223.

G. acrobotrya
G. asplenifolia

G. banksii red - grey leaf form
G. beadleana
G. bedgoodiana
G. bipinnatifida
G. cv. "Cascade"
G. dielsiana
G. endlicherana
G. fililoba
G. flexuosa

G. hodgei (syn. *whiteana*)
G. johnsonii
G. juniperina (red upright)
G. longistyla
G. macleayana
G. masonii
G. nana ssp. *nana*
G. petrophiloides

G. planerophlebia
G. rivularis
G. sericea (pale pink)
G. thelemanniana
G. trifida (divaricate leaf form)
G. triloba
G. venusta

Help Needed

Steven Prowse, Tropical Grevilleas Nursery, Gordonvale

Thanks to the inspiration of "The Grevillea Book" Vols 1-3 I have embarked on a new journey. I am developing a collection of tropical Grevilleas on my small acreage and am utilising my nursery more and more for propagation and promotion of the tropical Grevilleas.

I need the help of fellow grevilleaphiles and perhaps fellow members of the Grevillea Study Group who can supply plants or seed of the following Grevillea species which I am having great difficulty in obtaining.

If you can help please contact me at PO Box 648 GORDONVALE Q 4865.

The list of Grevillea sp. I am seeking is as follows:
G. adenotricha, *G. cunninghamii*, *G. donaldiana*, *G. dryandri* ssp. *dryandri* (white flowered form), *G. eriostachya* (from most northern and humid province), *G. exul*, *G. exul* ssp. *rubiginosa*, *G. gillivrayi* - all colour forms, *G. latifolia*, *G. microcarpa*, *G. miniata*, *G. psilantha*, *G. refracta* ssp. *glandulifera*, *G. velutinella*, *G. wickhamii* ssp. *wickhamii*, *G. wickhamii* ssp. *wickhamii* x *agrifolia*

OFFICE BEARERS

Leader: Peter Olde, 138 Fowler Road, Illawong 2234. (02) 9543 2242

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

Curator of Living Collection & Herbarium: Ray Brown, 29 Gwythir Avenue, Bulli 2516. (02) 4284 9216

Seed Bank: Judy Smith, 15 Cromdale Street, Mortdale 2223 (02) 9579 1455

Cuttings Exchange: Dave Mason, Box 94, Coraki, 2471. (02) 6683 2583

FINANCIAL REPORT

	Income	FEBRUARY 1998	Expenditure	
Subscriptions	\$220.00		Newsletter Publishing	200.00
NSW Exhibition	158.16		Postage	107.60
Interest	0.14		Bank Charges	5.32
	<u>\$378.30</u>			<u>\$312.92</u>
Balance on Hand	13.2.98	\$567.58		

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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