

# **GSG Vic Programme 2017**

Leader: Neil Marriott

693 Panrock Reservoir Rd, Stawell, Vic. 3380 p 03 5356 2404 or 0458 177 989 e neil@whitegumsaustralia.com

Contact Neil for queries about program for the year. Any members who would like to visit the official collection, obtain cutting material or seed, assist in its maintenance, and stay in our cottage for a few days are invited to contact Neil.

See page 3 for details on Victorian activities.

#### **GSG Living Collection**

There has been further extensive planting of the collection, with the development of a South Australian Grevillea bed, a *Grevillea alpina* hill, many areas of Western Australian Grevilleas and a lovely NSW Grevillea bed. Any volunteer help would be greatly appreciated as the garden is now getting just too much to care for alone. Special thanks must go to those members who have donated plants recently to the collection: Brian Weir, Graeme Woods, Phil Vaughan, Neville Collier, Dave Binch, Barry Teague, Mike Williams, Humphris Nursery and Kuranga Nursery. Any members wishing to get seed or cutting material are most welcome – come and have a look around and collect your own.

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# **GSG NSW Programme 2017**

For details contact Peter Olde 02 4659 6598.

# GSG SE Qld Programme 2017

Meetings are usually held on the last Sunday of the even months. We meet for a communal morning tea at 9.30am after which the meetings commence at 10.00am. Visitors are always welcome. For more information or to check venues etc please contact Ross Reddick on 0405 510 459 or Denis Cox on (07) 5546 8590 as changes can occur.

Sunday, 26 February

VENUE: Bev & Bill Weir's

151 Warriewood St, Chandler, 4151

(to be confirmed)

SUBJECT: Small white flowering Grevilleas with

different petal arrangements by Denis Cox

TIME: 9:30am for 10am meeting

Sunday, 30 April

**VENUE:** Proposal for a Mole River Nursery Trip

with the possibility of revisiting the sites of *Grevillea scortecchini, acanthifolia* and *juniperina* on the Saturday; overnighting at Tenterfield; and visiting the Nursery on

the Sunday

Sunday, 25 June

**VENUE:** At the home of Fran and Jim Standing

Mount Clunie, Mount Clunie Road,

Woodenbong, NSW 2476

SUBJECT: TBA

**PHONE:** (07) 4666 5118

TIME: 9:30am for 10am meeting

Special thanks to the NSW chapter for this edition of the newsletter. Victorian members, please note deadlines on back page for the following newsletter.

Our last newsletter for the year. Can I wish you all season's greetings and hopes for a renewed love affair with Grevillea in the New Year.

During the last spring I travelled to the tip of Australia on a trip to Cape York. It was on the bucket list. This magnificent area is much less daunting these days and I will give a report on the grevilleas encountered in a newsletter next year. One of the highlights was a visit to the magnificent rainforest garden of Garry and Nada Sankowsky at Tolga on the Atherton Tableland where my wife and I were treated to the great hospitality and shared enthusiasm for Australian plants, especially ferns and rainforest Proteaceae. There Garry informed me about the death of Ann Radke, about which I was completely ignorant. I have compiled a short obituary for the newsletter. My wife and I visited their Yuruga nursery many years ago and shared a cup of tea with them and a chat. They were both great and committed enthusiasts.

During October, Ray Brown and I undertook a study trip to the north coast of New South Wales to look closely at *Grevillea humilis*. On the trip we noted, from a serendipitous meeting, a new location for *Grevillea quadricauda* near Grafton, 10 plants right where the extensions to the Pacific Highway are planned. We hope that they can be conserved.

Grevillea humilis, with three subspecies, is a very interesting species. In a rugged reserve in the township of Angourie, we even found a yellow-flowered variety! We also spent a day searching the forest around New Italy where we once collected *G. humilis* subsp. *lucens* beside the existing Pacific Highway, but which road widening appears to have claimed. We found a new population in the Tabbimobile Swamp Recreation Area. A report will appear next year.

In this issue we have some more information on the early cultivation of Australian Plants written by Tony Cavanagh. This and other historic articles written by Tony (which you can now read online) bring a completely new perspective to the horticulture of Grevillea. I have a further article in preparation on this interesting subject for publication in the new year. I also want to thank John Knight and Mark Noake for an interesting day in search of Grevillea arenaria on the south coast on 31 October. My lack of fitness and advancing age caused some consternation when we came out from a tough bush-bash walk onto an unfamiliar track quite distant from where we had parked the car. Fortunately John still has some of the necessary fitness which got us out of trouble. I hope to submit a paper on this species early next year.

Neil Marriott, Victoria

# Victorian Chapter news

# Grevillea Crawl, Bendigo

Ably lead by Ian Evans, we had a wonderful weekend touring the district and visiting several wonderful native gardens. A full report will be in the next newsletter.

#### **The Living Collection**

Following years of drought conditions, this year we have had huge rains, filling our dams and springs and replenishing the subsoil. The Grevilleas have responded with superb growth and are now currently flowering heavily. Over 100 new Grevilleas were planted in the autumnwinter and all are now thriving. Special thanks must go to Mark Noake who has very kindly donated a large collection of south coast NSW

Grevillea plants and cuttings. Also thanks to Phil Vaughan, Neville Collier, Brian Weir, Mt Annan BG and Dave Handscombe for donations of new Grevilleas for the collection.

#### **Next Newsletter**

It is Victoria's turn to produce the next newsletter, so please put pen to paper and tell us of your successes/failures with the growing of your Grevilleas, discoveries in the bush etc. Please send articles to Neil Marriott.

# Vale Ann Radke B Sc (Hons) Dip Ed, Adv Dip Horticulture (1953–2015)

Ann Beatrice RADKE died on the 29th April, 2015, aged 62 years, after contracting an aggressive form of cancer which killed her in less than a year. Peter, her husband, and Ann were the proprietors of Yuruga Nursery, Walkamin, in far north Queensland which they opened in 1979 and from which they introduced thousands of tropical native species to cultivation, many of them rare and endangered. It has been said that more than half the native plants at their nursery would never have been propagated or sold commercially had it not been for the passion and enterprise of Peter and Ann Radke. Sadly, their unrivalled knowledge of native species and propagation by tissue culture was not enough to save the business, which was sold recently by liquidators. This was a devastating end to almost 40 years of business, in which they had invested all their assets, and came on top of Ann's sudden illness and passing. Fortunately the new owner is interested in maintaining this important nursery and it remains open for business. My wife and I visited it in September 2016 and we hope it continues to thrive. Clonal Solutions Australia, the tissue culture enterprise they developed and owned, won the 2014 TNQ20 Tropical Innovation of the Year award for their work with elite genetics in crops in agriculture, forestry, biofuels and horticulture.

Ann and Peter had a great passion for the Proteaceae, grevilleas in particular, and sold over thirty species and cultivars at the nursery. Ann also wrote several articles for the GSG newsletter, the last on *Grevillea decora*. Peter has apparently returned to a bush-lovers retreat and aims in retirement to visit all the places in Queensland they explored in their youth. We wish you well Peter and thank you both for your astonishing contribution to Australian tropical plants.

https://soundcloud.com/612abcbrisbane/native-plant-pioneer-peter-radke-talks-life-loss-and-his-legacy

Radke P. & A. and Sankowsky G. (1990) Native Plants for North Queensland.



# Illawarra Grevillea Park NEXT OPEN DAYS 2017

May 6, 7, 13, 14

Opening hrs are 10am - 4pm

#### Location

The Park is located at the rear of Bulli Showground, Princess Highway, Bulli.

#### Admission

\$5 adults, children with adults are free

email info@grevilleapark.org or visit www.grevilleapark.org

## More on Grevillea montana

Subsequent to my article last newsletter, asserting 1822 as the date of introduction to horticulture in England for Grevillea montana, I have come upon not one but three references that give the date as 1803, as reported by Cavanagh (1984: 11). The two references are Sweet (1830), Sweet & Don (1839: 588) and Donn (1845: 64). In some ways all of these references are curious. In an earlier reference, Sweet (1827: 490) gives the date of introduction as 1824. Sweet (1830: 446) gives 1803 (I misread the abbreviations for a single unbroken line at the this reference, which equals 'ditto as above', not 'unknown'). Likewise Donn, in an earlier reference (1831: 38) gives 1824 but in 1845 gives 1803 as the date. What made them both change their mind is uncertain. However, if we assume the correctness of their identification, which is far from certain, it seems that G. montana may have been introduced twice, not persisting long after either introduction. None of the horticultural magazines featured this species and it was clearly poorly known.

George Caley was with Barrallier during the exploration of the Coal River in 1802. He sent his material dutifully to Banks and we can assume that either he or Barrallier were the collectors of any introduction given as 1803. It is also believed

that Barrallier gave all his collections to Caley. It is unclear if material was propagated from these collections because *G. montana* was not listed in cultivation at Kew in 1810.

The second introduction must date from Cunningham's exploration at Bulga Rd., 'towards Hunter's River' in 1825 whereby in March Cunningham returned to the Hunter via John Howe's overland route from Richmond (i.e. the Putty Road) and thereafter spent some time in the upper Hunter valley. Cunningham's manuscript name for this collection was *Grevillea uniflora*. It should be noted that Cunningham's trip postdates the alleged years of the second introduction, 1822 and 1824, even if the collection date and the year of introduction were somehow confused.

Although Robert Sweet was a capable nurseryman and botanist, it remains unclear whether the horticultural introduction and Robert Brown's species are the same. In 1870, Bentham described *G. montana* in terms of the morphology of *G. ferruginea* with which he confused it, leading to the latter species being synonymised incorrectly under it and being left off flora lists of New South Wales from that time. The two species are quite different from each other.

Peter Olde, NSW

# Grevilleas cultivated by Baron Charles von Hügel in 1831 in his garden at Heitzing, Austria

Among the MacArthur Papers in the Mitchell Library, Sydney, there is a small book [A2948] in which are pasted cut-up pages of Hügel's 1831 catalogue, which lists the plants cultivated in his glass houses.

The Grevillea species listed are

- G. acanthifolia
- G. acuminata
- G. baueri
- G. buxifolia
- G. concinna
- G. juniperina

- G. linearis
- G. mucronulata
- G. pinifolia (?pinaster)
- G. pubescens
- G. punicea
- G. rosmarinifolia
- G. sericea
- G. sulphurea

Hugel C. (1831) Catalogue des plants cultivees dans les conservatoires du Baron Charles de Hugel, Hertzing No 27.

# The introduction of Grevilleas to England and Europe – an Update

The publication of the Anniversary Issue of the Grevillea Study Group Newsletter seems as good a time as any to bring up to date the list of Grevilleas that were cultivated in England and Europe in the 18th and 19th centuries. Peter has recently updated the listing of current Grevillea names (now 377 species and 99 sub species, will it ever end?) and I have found some more information about Grevilleas grown in the Netherlands during the 1850s-60s and also in Florence in Italy in the mid to late 1800s. Long term readers may know that I have produced similar lists for England in an article in NL 10 which was updated in NL 46 to incorporate the latest findings following publication of The Grevillea Book so this one should be the last. The caveats which applied in the NL 46 article still apply -

"There are sure to have been other species introduced which were not recorded or ones which never flowered and hence could not be identified with certainty. It is also quite probable that some were misidentified, eg ? G. vestita which one source gave as having purple flowers! Other species such as G. ilicifolia and G. acanthifolia were often confused. Then again, plants were often introduced under pseudo-scientific or horticultural names and unless a type specimen survived (highly unlikely for garden plants), or it was illustrated and the illustration had sufficient diagnostic details, it is nearly impossible to identify such plants. Finally, and Peter and Neil discuss the name changes that have occurred in Grevillea very well in their first chapter, there were many other names used for Grevillea so it highly likely that I have missed plants through not checking all possible sources.

The list of *Grevillea* synonyms given previously is here updated and errors corrected, thanks to the *Grevillea* revision of D.J. McGillivray (1993). The genus *Grevillea*, first with the spelling of *Grevillia* thanks to R.A. Salisbury in Knight (1809), has been conserved as *Grevillea* R.Br. ex Knight. Many of *Grevillea* species at some stage have been included in many different genera. These are *Anadenia* R.Br., *Conogyne* (R.Br.) Spach, *Cycloptera* (R.Br.) Spach, *Embothrium* J.R.Forst & G.Forst., Eriostylis (R.Br.) Spach, Hakea Schrad. et J. Wendl., Lysanthe Salisb., *Lissostylis* (R.Br.) Spach, *Manglesia* Endl., *Plagiopoda* (R.Br.) Spach, *Ptychocharpa* (R.Br.) Spach, *Stylurus* Salisb. Frequently these generic

names (e.g. *Manglesia*) continued to be used long after botanists had decided to refer them to synonymy.

Hakea lorea (R.Br.) R.Br. was first described in the genus Grevillea by Robert Brown. Grevillea bailevana McGill. was first described as Kermadecia pinnatifida F.M.Bailey. Grevillea pilulifera was first described by Lindley as Hakea pilulifera Lindl. In 1855, C.F. Meisner suggested that his Grevillea ?cynanchicarpa really belonged in a new genus, for which he proposed the name Fitchia. However, when William Hooker apprised him of the fact that there was already a genus in the Asteraceae named Fitchia, he replied with the new suggestion of Molloya. The species was known as Molloya cynanchicarpa from 1856 until Mueller (1871) transferred it to Strangea, as S. cynanchicarpa (Meisn.) F.Muell. Molloya therefore is not a synonym of Grevillea.

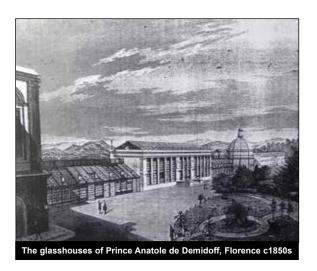
I mentioned above that I have also located or been given lists for a garden in Florence, Italy and the Netherlands where Grevilleas were grown. The garden in Florence was owned by the Russian Prince Anatole de Demidoff who maintained a large estate, San Donato, with extensive landscaping and five impressive glasshouses. Most if not all the glasshouses and many of the plants in them were transported from the garden of Baron Karl von Hügel in Vienna around 1848. The full story of this unusual transaction is well told by Peter and Neil in Vol. 1 of The Grevillea Book (p. 113). I have also located a picture of the glasshouses which is attached. It seems that the only grevilleas surviving when the property was sold in 1880 were G. longifolia, G. robusta, G. rosmarinifolia and "splendens" (G. preissii). The details of grevilleas being grown in the Netherlands were provided by Liesbeth Uttewaal (member of the Dryandra Study Group who lives there and grows a wide range of Australian plants very successfully in modern glasshouses). They were extracted from the Exhibition Lists of the Society for Agriculture and Herbology in Utrecht for the period 1843 to 1854 and cover plant displayed in flower at the semi annual Exhibitions of the Society in Utrecht and Haarlem. Most of the exhibitors were "florists" and nurserymen and the fact that some species were shown in up to six or more shows, often from different exhibitors, indicates that some species were apparently readily available.

Name	<b>Year</b> Intro	Name used (if different to 1)	England	Netherlands (date 1st shown)	Florence	Other
acanthifolia s. acan	1822				(1850s)	□(3)
agrifolia	1821	aquifolia				
alpina	1856	alpestris				□(10)
annulifera	1880					
arenaria s. arenaria	1803					
arenaria s. canescen	1822	cineria				
aspera	1824					
asplenifolia	1806					
banksii	1856	fosteri				□(9)
baueri s. baueri	1822	pubescens		□(1844)		□(3,6)
bipinnatifida	1837	Anadenia caleyi		□(1851)		□(5)
buxifolia s. buxifolia	1792	Embothrium bux				□(1,3)
caleyi	1829	blechnifolia				□(5)
concinna s. concinna	1824					□(3)
crithmifolia	1840	G. sternbergiana				□(5)
curviloba s. curviloba	1839	lawrenceana				□(8)
drummondii	1858					
x ericifolia	1878					
eriostachya	1839					
?exul	1850					
fasciculata	1872					□(2)
flexuosa	1836	Anadenia flexu				
floribunda	1835	ferruginea		□(1851)		
x gaudichaudi	1823					
gillivrayi	1854					
glauca	1821	gibbosa				
hilliana	1862					□(11)
il(l)icifolia	1834	?acanthifolia				□(6)
intricata	1870					□(12)
juniperina	1822?20					□(3,6)
juniperina form "sulphurea"	1823			□(1847)		□(3,8)
lavandulacea	1850	rosea				
linearifolia	1792	Embothrium lineare				□(1,3)
longifolia	1840	?asplenifolia				□(5)
manglesii s. manglesii	1836	Mang glabrata & Anad mang		□(1843)		
mang s. ornithopoda	1850					check
montana	1803					

mucronulata	1805	acuminata, & Lysanthe stylosa, L. podalyriaefolia		□(3)
oleoides	1917			
parallela	?1821	ceratophylla	□(1851)	
parviflora	1824			
phylicoides	1802	Stylurus collina		
preissii	1838			□(7)
pulchella	1824			
quercifolia	1838	G. brachyantha		
refracta	?1821	heterophylla		
robusta	1829/30		□(1843)	
rosmarinifolia	1824			□(3,6,8)
sericea	1792	Embothrium sericeum	□(1851)	□(1,3)
speciosa	1809	punicea	□(1846)	□(3)
sphacelata	1825			
synapheae s. synapheae	1836	Anadenia gracilis		
tenuiflora	1836	Manglesia tenuiflora		
tetragonoloba	1836	hookeriana		
thelemanniana	1837/38			□(4,8)
tripartita s. macrostylis	1868	macrostylis		
?vestita	c1834	G. manglesii Hort.		□(4,5)

NOTES: (Based on observations in The Grevillea Book Vol. 1)

- G. sericea was also cultivated in Berlin (1809), Paris (1817) and Amsterdam (1822).
   G. buxifolia and G. linearifolia were also grown in Berlin from 1821.
- (2) Possibly a form was grown in Vienna pre 1840 (P. 111).
- (3) Listed in Karl von Hügel's catalogue of 1831 for his garden in Vienna.
- (4) Raised in Vienna from seed collected by Hügel in WA c. 1833.
- (5) Being grown by Hügel in Vienna by 1840.
- (6) Being grown in Dusseldorf, Germany in 1834.
- (7) Offered for sale in France, Germany and Belgium by 1845.
- (8) Growing in St. Petersburg, Russia in 1860.
- (9) Grown in Glasnevin B.G., Ireland first, then England in 1868.
- (10) Also grown in Italy and France up to the 1860s, currently England.
- (11) Still grown in England in warm, temperate houses.
- (12) Also grown in Paris in 1900.



# Grevillea aspleniifolia

On a recent trip to Yerranderie I was delighted to come across a population of *Grevillea aspleniifolia* in full flower on the summit of Yerranderie Peak. I assumed, like it's close relative *G. longifolia* that I am familiar with in Sutherland Shire, it would have grown in a sheltered, moist location. It was instead growing in a very exposed location in skeletal sandy soil. Most of the plants were under 2 m high.

Yerranderie Regional Park is located near Kanangra-Boyd National Park, NSW and is popular for its mining heritage, forgotten ghost town, bushwalking tracks and old silver mine relics. The former mining settlement turned ghost town is nestled within a vast and rugged wilderness landscape.

Yerranderie was formerly a silver mining town of 2000 people, but the mining industry collapsed in 1927, and the town was cut off from direct access from Sydney by the establishment of the Warragamba Dam and Lake Burragorang in 1959. The Yerranderie Post Office opened on 1 November 1899 and closed in 1958. The township was established on the slopes north of Yerranderrie Peak, which is the remains of a volcanic dyke and the source of the mineral wealth of the area.

A description of *G. aspleniifolia* according to data derived from Flora of Australia Volumes 16 (1995), 17A (2000) and 17B (1999), products of ABRS, ©Commonwealth of Australia:

Shrub 1-5 m high, to 4 m across. Leaves linear to narrowly ovate, 15-25 cm long, 3-15 (-25) mm wide, usually coarsely and irregularly toothed or serrate, sometimes almost entire; teeth subtriangular, not pungent; margins recurved to revolute; lower surface usually partly exposed, densely tomentose with curled hairs. Unit conflorescence erect, secund; floral rachises 30-50 (-100) mm long. Flower colour: perianth purplish with a grey to white indumentum; style pink to purplish pink with a green tip. Perianth villous to subsericeous outside. Pistil (10.5-) 15-25 mm long; ovary stipitate; style glabrous. Follicle 11-12 mm long, sericeous. Occurs in eastern N.S.W., in the southern Blue Mtns and Woronora Plateau, and S to Bungonia; mainly along the Nattai, Wollondilly, Kowmung, Cox's and Woronora Rivers. Grows in eucalypt woodland, usually on slopes or ridges in open

rocky situations, in skeletal sandy or loam soils on sandstone or shale. Flowers mainly July-Nov.

G. aspleniifolia is sometimes confused with G. longifolia, which has subsericeous branchlets angular in cross-section, and a sericeous leaf under-surface. G. aspleniifolia has tomentose branches rounded or very slightly angular in cross-section, and the lower surface of the leaf tomentose with curled hairs. G. longifolia was formerly known as G. aspleniifolia var longifola.

*G. aspleniifolia* is a hardy plant in cultivation surviving extended, dry periods and tolerating frost. It prefers a well drained acidic sand or loam in full sun. Prune regularly to maintain a tidy, dense shape and encourage attractive pinkish new growth.





#### Grevillea wilkinsonii

An excellent article written by Nikki Taws for the *Australian Conservation Newsletter* is summarised with additional biographical notes on its discoverer.

The endangered Tumut Grevillea, Grevillea wilkinsonii is found only along a 20 km length of the Goobarragandra River near Tumut, N.S.W., and in one small population of seven individuals near Gundagai (NPWS 2001). This species is currently listed as Endangered on both the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 and the NSW Threatened Species Conservation Act 1995. When the species was described in 1993 it was known from only two populations, one on public land (Travelling Stock Reserve) and the other on private property c. 3.5 km downstream. Early conservation activities for this species included fencing part of the TSR containing G. wilkinsonii, taking cuttings from plants at both known sites, and re-introducing propagated plants near the first site and at a picnic area a short distance upstream.

An initial survey to measure the size and age structure of the natural population was undertaken in 1993. Landholders were contacted initially by telephone, then visited in person to seek permission to look for the Grevillea. The survey covered 27 km of the Goobarragandra River (plus other tributaries) however, the Tumut Grevillea was only found along a 4.5 km stretch of the river. All but one of the landholders cooperated in allowing access to survey the river banks. At a public meeting of 30 landholders in 1993, thirteen indicated interest in having plantings of Tumut Grevillea reintroduced onto their land.

From this first survey the population of Tumut Grevillea was estimated at 620, of which only about 25% were classed as adult, that is, greater than 1 m tall and with evidence of reproductivity. Threats to the species included flooding, stock browsing, fire, and competition from weeds and dense native shrub growth.

The original population was re-surveyed in 1998, this time with access to all private properties. All plants were recorded, mapped and photo points established at 13 separate colonies. Each plant was classed into one of three size categories; seedling (0.1-0.2 m), mid-sized (0.2-

1.0 m) or adult (>1 m). Size was considered to be more important than age when classifying plants because those under 1 m tend to have few flowers, regardless of age. A total of 644 plants were counted, 46% of which were in the adult class. The planted specimens were also surveyed. These showed high survival rates but no seedlings were found to have recruited from these plants. The main impacts noted on the population in the five years since the initial survey were browsing damage by stock, and competition from vigorous native shrub growth and introduced weeds.

A third survey of the population was carried out in 2008 taking in an additional small colony which had been located in the intervening 10 years, 5 km downstream of the main distribution. The full 11 km length of the river between the upstream and downstream colonies was surveyed to investigate known colonies and to check for new ones. Four small new colonies were located within the original range. In order to determine the contribution of reintroduced plantings, colonies established between 1993 and 2006 at three sites within the natural distribution of the species were also monitored.

In 2008 the total number of Tumut Grevillea in the natural colonies was 514 with a size structure ratio of 19:25:56 percent (seedling: mid-sized: adults). This represented a decline of 130 plants from 1998. Most of the reduction occurred in the mid-sized class. However, at the reintroduced planting sites, a total of 251 plants were counted and mapped. The size structure ratio of 13:49:38 percent revealed that recruitment from these propagated plants had occurred. With the addition of 40 plants found at the four new sites, the total Tumut Grevillea population (encompassing 20 colonies) stood at 805.

Between September and December 2010 a series of major floods were experienced along the Goobarragandra River, causing stream bank erosion and damage to riparian vegetation within the distribution of the Tumut Grevillea. In early 2011 a survey was undertaken to assess the extent of flood damage to the Grevillea population.

Results from the survey found a total of 900 Tumut Grevillea in 19 colonies (one colony consisting of a single large plant could not be found). This was an increase of 12% on the 2008 total. Numbers within the original natural colonies had declined from 644 plants in 1998 to 514 in 2008 and then to 399 in 2011. This 22% reduction in population size between the 2008 and 2011 survey is likely to be attributable to the 2010 floods. The greatest impact of flooding was noted in the sub-adult group, with 35% fewer mid-size plants and 48% fewer seedlings.

Despite the magnitude of the floods, monitoring revealed that adult plants seemed resilient to flood disturbance, with only an 8% reduction in numbers. Most of this loss occurred at a single site, while declines at other sites seemed attributable to other factors such as inadvertent herbicide spraying. Many adult plants were noted to have been damaged by the battering of floodwaters or from being smothered with flood debris, however, most showed signs of recovery through re-sprouting from branches or from the base of canopies. Based on observations from the post-flood survey, disturbances such as those experienced in 2010 pose a sporadic threat to the Tumut Grevillea, and are more likely to impact on sub-adult plants in the population. Despite this, floods may also create new opportunities for recruitment by removing competing vegetation, creating bare earth and depositing sand and soil. Continued monitoring of these sites will be important to determine when recruitment occurs in the natural colonies or at new locations within the riparian range of the species.

On-going monitoring of the Tumut Grevillea along the Goobarragandra River has been essential in assessing its range and the development. It has also revealed that the overall increase in population size between 2008 and 2011 (from 805 to 900 plants) was the result of recruitment occurring predominately within the three reintroduced planting sites. This suggests that the establishment of new colonies of Tumut Grevillea by tubestock plantings is one means of promoting the conservation of this species.

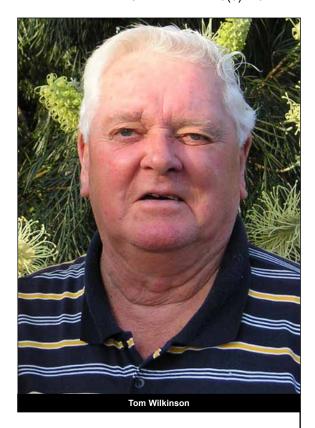
Grevillea wilkinsonii was discovered in 1982 by local naturalist and dairy-farmer Frederick Thomas (Tom) Wilkinson. Tom's daughter, Chris Hastir, informed me that her father was born on 13 April 1921, died 16 November 2010 at Bupa Nursing Home in Tumut. During WW2 he worked at the De Havilland Aircraft Factory

in Bankstown making tiger moth aircraft, after which he came back to the family dairy farm at the top end of the Blowering Valley ("Hillview", Yellowin), between Batlow and Talbingo. The family lived there until 1966 when the land in the valley was resumed to make way for the Blowering Dam. They moved into Tumut and her father lived there until his 80th birthday. He was a passionate bushwalker, loved native plants (knew the scientific names of very many of them), loved fishing and the outdoors. On one of his walks along the Goobarragandra River, north of Tumut, he wondered about the identity of a Grevillea he saw. He collected a piece and sent it to Canberra Botanic Gardens for identification. After some time it was realised the specimen was from a new species. An expedition was mounted to collect a type specimen in 1991. Tom Wilkinson is buried in the Tumut cemetery.'

#### References

NSW National Parks and Wildlife Service (2001) Approved Recovery Plan for the Tumut Grevillea (*Grevillea wilkinsonii*). (NSW National Parks and Wildlife Service: Hurstville NSW).

Taws N. (2011) Monitoring the endangered Tumut Grevillea (*Grevillea wilkinsonii* R.O. Makinson). Australasian Plant Conservation 20(3): 10–12.



# Grevillea Spider Mist - ACRA 1539

It was about 6 years ago when my Grevillea Fireworks went off with a banger... or should that be 'bunger'? Anyhow, it died. This seems to be a pretty common event in Sydney with this *G. alpina* hybrid with apologies to Peter Ollerenshaw. But then I thought there was a resurrection when some new growth appeared near the yet to be removed remains of Fireworks. But the foliage was obviously different so I bided my time.



In the ensuing 3 years or so that new growth became a substantial shrub and when it flowered for the first time a couple of years ago, I started to get excited. Not only did the plant have lovely soft bluish/grey older foliage with contrasting light green new growth but it held its red and cream 'spider' flowers well out from the foliage. What's more, the foliage was dense to the ground and it seemed to me to have great potential as a hedging plant. Needless to say, I called upon my good mate, Peter Olde to lend a hand in deciding just who were mum and dad. It really wasn't too difficult (without wishing to detract from Peter's expertise) to decide it was a hybrid between Fireworks and a nearby *G.arenaria*.



Only in the last 12 months or so I embarked on the process of registering the plant with ACRA with the name I decided upon, *Grevillea* Spider Mist. While I now have several growing in my garden at Westleigh in north-western Sydney, the original plant is now around 1.5m high and right now (June 2016) is covered in buds once again. The flowering period would only be around 6 weeks but it's a beauty as hopefully these photos show. It gives all the indications of being a very hardy plant for Sydney conditions. Propagation is fairly easy from semi-hardwood cuttings although often the base rots off in my experience with roots forming further up the stem. I expect to have plenty of plants available in tumblers by around the end of this year, 2016.

# Some notes from the gardener: Design and landscaping

It is sometimes easier to landscape a large garden than a small one as you can create or leave a distant vista then block out the beginning of that vista until you go round the next corner and another vista appears, or arrive at another garden room as the path leads through a hedge or round the next corner that leads down to another path. I think that there should always be many areas in the garden that you cannot see all at the one time.

Where possible try and build raised garden beds, especially for native plants, to at least  $\frac{1}{2}$  a metre. When building a large garden even using a heavy clay as a base is not a problem as long as there is at least 15 cm of soil. The best outcome for all plants is that the whole area be disturbed by digging the garden over if you cannot raise the level of the garden. At Burrendong Arboretum where it is quite dry for long periods the plants do better where the garden bed has been raised.

In the larger garden when creating large curved sweeps around a garden bed I always try and use some straight lines in the sweep which slows the formality and creates the allusion that the garden is larger is than it is.

To show native plants off to their best in a garden setting I prefer to finish off with an edge whether it be a timber, brick or lawn. When there is lawn, a 8cm deep, 45 degree edge to the garden will define it.

#### A few tips

- **a.** Square timber, like sleepers, should always be put in level.
- **b.** If you have gone to the trouble of building a dry stone wall make sure the front and top look good, and is not just a heap of stones.
- **c.** Dry stone steps in the garden look stunning and functional. You may only need one step to create that next level.
- **d.** When paving I use a hand lawn leveler and screed to prepare as much of the area as possible before starting to lay pavers and use weed mat or plastic underneath pavers even after compacting. The plastic will help stop the ants moving the sand from under the bricks. Always use a string line to start the first row.
- **e.** The bigger the rock the better if you can afford it. It is always better to have a few larger rocks than a heap of small ones. It looks a lot better to have no

rocks at all than to have lots of small ones scattered all over the place.

- **f.** Do not place rows of single of rocks or hounds tooths around a garden as an edge. It is better to have none.
- **g.** When using pebbles always lay them on weed mat, which will help at a later time when you want to clean or remove them.
- **h.** Sometimes rather than just go and buy different materials such as pavers or pebbles take a sample home and see if they work. Think about not including too many different types of hard landscape materials as it can turn into itty-bitty clutter very easily.

#### Planting out

Although you try to place plants to be planted with the highest at the back lowest in the front and not too close together there are always the ones that grow too big or they die.

- **a.** When planting into virgin soil dig over an area at least three times the size of the pot the plant is in and the hole needs to be a little deeper that the depth of the pot. If the soil is hard digging loosen the bottom and sides with a crow bar. There was a study that said that you can plant into holes dug with a mechanical posthole borer and this did not affect the growth of the plant but in heavy clay soils the water does not drain well at all.
- **b.** Some years ago I was at the Qld property of Dave Gordon, the breeder of *Grevillea* 'Robyn Gordon' who named the plant after his daughter. The plant itself germinated near *Grevillea banksii* and *G. bipinnatifida* as he had planted his Grevilleas in alphabetical order. At the time he was 90 years old and he told me of his plans for the next ten years and he did live till he was 100. On this rocky outcrop near the house he showed me how he was forcing a crowbar between the rocks and dropping plants into them. The plants, he said, survived the best there as the roots went down under the rocks where there was moisture and a cool root run.
- **c.** The next step is to fill the hole to the top with water and let it soak in. If the surrounding soil is dry you may need to fill it several times.
- **d.** While waiting for the water to soak away put some fertiliser in the hole and over the soil which is to go back into the hole. During drought times at

this stage I will also use water crystals, premixed of course, otherwise plants do look funny a few inches out of the ground the next morning.

- e. The most common problem I see after planting out is the number of dead plants a week after planting. All plants in modern potting mixes in a nursery situation are watered daily and are hard to wet when dry. Just remember that if you plant a dry root ball, water will not penetrate it after the soil has been placed back in the hole and the plant can die within a few days. Make sure the plant is well watered before planting. If in doubt soak the plant in a bucket of water with Seasol added and wait for the pot to sink to the bottom of the bucket.
- f. When planting make sure there is a good size bowl around the plant so it can be watered again. There is nothing worse than trying to water the second time and the water just runs away. At this first watering, fill the bowl two to three times and after that drains away, carefully firm the soil around the plant with your foot especially during drought or if the back fill material is lumpy. I prefer to just use the cut of end of the hose without any nozzle when watering as you have much more control of where the water is going.
- **g.** If a plant needs a stake then use one, especially grafted plants, as it does not make the plant weaker. Although a lot of grafted plants are grafted onto strong understock, the understock becomes weaker after grafting. Keep the stake no higher than the plant even though you may need to replace it with a taller one later.

#### Mulching

- **a.** I like to mulch after the second watering so that you are assured that the plant got a good watering in because once the mulch goes on you are only hoping that the water is not running away from the plant.
- b. Mulch is used to discourage weeds and reduce the need to water. Over a period of time most wood and leaf litter thatches, which does stop water from getting to the plants. During dry times hand water as sprinklers only wet the mulch. Of the various mulches, the old type of chunky pine bark used to work well and the newer pine chip used in the Sydney basin seems not to have many problems yet. Wood chip and leaf litter is not great, as it breaks down too fast but if you get it for nothing then you tend to use it. The best I've used in the Sydney basin is hardwood chip which is hard to acquire and expensive. The decomposed granite used in this

part of Australia I like but the weed problem may be a nightmare.

- **c.** Some mulch deposits a lot of phosphorus as it breaks down causing problems that change the soil make up. Using sulphate of iron and sulfate of potash can sometimes alleviate the problem.
- **d.** Be aware when getting mulch from the mulch pile, as there are problems especially with mulch from Liquidambar trees. There have been times when we have been putting mulch into buckets and the steam from the cooking mulch takes your breath away.
- **e.** When I move mulch from the mulch pile to the garden I fill 15 inch plastic plant buckets, load them onto a trolley or ute and take them to the garden bed where the mulch is placed leaving no mess.

#### Maintenance

- **a.** Where possible I think you should spray with an insecticide or miticide at least once a year as native plants suffer just as much and sometimes even more than European plants from lace bug, red spider mite and white fly.
- **b.** When buying a spray unit for weed killing try and get an extra long wand with a large spray droplet which will reduce spray drift which is a big problem with a lot of plants.
- **c.** I do not hand weed for at least a week or so after spraying as every time you pull a weed up through the mulch you bring up soil with weed seed in it. Always place weeds straight into a bucket or garbage bag and take it off site or put into a rubbish bin as weeds pulled out with seed still on them and left on the garden bed will drop their seed within minutes.
- **d.** Use a garden edge to keep plants off lawns, leaving a gap of 15cm between plants and the garden edge. When using a brush cutter I use a large line, turn the brush cutter over and walk backwards for control. Always empty petrol back into the petrol can unless storing level as they always leak. When edging I trim the edge, then trim the lawn to give a pillow effect.
- **e.** To get the perfect finish to the lawn, cut the first run around the garden edge one notch lower than the rest of the lawn. On smaller grassed areas cutting the grass twice in different directions will surprise you at how good it looks as most motor mowers do not cut level.

**f.** One of the great helpers in the garden now days is the air blower which is used for moving leaves from garden beds and paths and dry cut grass from lawns. Where possible do not buy electric or two stroke air blowers if you have neighbours as four stoke blowers are quieter and not much dearer and I do not wear earmuffs with a four stroke.

#### Pruning

- **a.** Where we plant to display plants a lot of the time we tend to over plant because we underestimate the size or we just have too many plants for the size of the garden. After planting out and watering in I like to start and shape the plant with a light prune to get the plant growing quicker and bushier. There are exceptions as some plants in the long term tend that fall apart because they need a trunk before they branch as in *G. decora*.
- **b.** Some plants such as most of the Prostantheras need shaping throughout the year to stop them going leggy and save having to replace them so often. We most probably should be treating most native plants this way.
- **c.** Usually around the end of October and onwards I like to prune all the *G.* 'Robyn Gordon' group of hybrids down to below a metre and the *G.* 'Bulli Beauty' group of hybrids pruned down to chest height. Other hybrids not in those groups such as *G. elegance* can be severely pruned each year.
- **d.** After a number of years with nearly all the tropical hybrids that have over grown and gone woody with just the foliage and flowers on top of the plant, heavier pruning can be done. The *G.* 'Robyn Gordon' group can be pruned down to 30cm and the *G.* 'Moonlight' type down to half a metre. You do not need to leave any foliage as they all have epicormic buds for them to reshoot through the bark.
- **e.** There are some straight species with epicormic buds, such as *G. johnsonii*. Which can also be heavily pruned. There are most probably many more that have yet to be tried. If you are not sure a plant is going to respond to a heavy prune, cut the back half of the bush into hardwood and see what happens. If those cut branches shoot away you can then cut the rest of the plant to the same level or remove the whole plant if it is really daggy.
- **f.** I have noted that there are quite a few species that can have a good hair cut once or twice and then the third or forth time they will sulk sometimes for one or two years.

- **g.** After pruning with a hedge trimmer you need to prune all the firm stubs to 3-5cm below where the hedge trimmer's level was so the plant shoots away evenly all over
- **h.** Some foliage tears with the hedge trimmer and has to be recut by hand or only hand pruned.
- i. If you prune hedges cut them level using string lines.
- **j.** If using motorised or electric hedge trimmers be careful they bite and the electric ones cut cables.
- **k.** Prune Grevillea standards from up inside close to where is it grafted before you cut any of the length from the skirt.
- I. When pruning a plant to shape, cut small pieces at a time as you cannot put it back if you cut too much off. When pruning large branches or dead twigs remove flush against the stem or trunk. Never leave stubs on trees or branches especially from ground level to two and a half metres oryou can lose an eye if walked into.
- **m.** After cutting off large limbs, if the bare cut stands out too much, then pick up a hand full of soil and rub it over the cut, I have yet to see a tree die from it.
- **n.** I cut trees and shrubs off at ground level and let the bugs rot the stumps. It saves a lot of work.
- **o.** Two to three hand pole saws joined together get you a long way up the tree for pruning.
- **p.** Never used ladders against trees when pruning. Either have a professional climb the tree or leave it alone. The powered pole saw as well as the hand pole saws are great but do not cut over 60% as the cut material will fall on you.
- **q.** The tungsten tipped brush cutter blade is worth the money as it stays sharp.
- **r.** Another great garden tool is the McLeod Tool or firefighting hoe with a hoe on one side and teeth on the other. You will very rarely use a rake again.
- s. To make a garden look good remove dead branches and plants, and keep the place tidy as your eyes will always go to the dead branch you missed. If I noticed it everyone does and that takes away from the wow factor that you have worked so hard to achieve. Where gardens have eucalypts dropping sticks and leaves on them I will also go to the trouble of occasionally raking the sticks off with a light rake or pitch fork then blowing the leaves off or to the back of the garden, even on gardens that have been mulched.

# Seed bank

#### **Matt Hurst**

37 Heydon Ave, Wagga Wagga 2650 NSW Phone (02) 6925 1273

#### Please include a stamped self addressed envelope.

#### \$1.50 + s.a.e.

\$1.50 + S.a.e.	
Grevillea aurea	Grevillea nana
Grevillea baileyana	ssp <i>abbreviata</i>
Grevillea banksii alba	Grevillea newbeyi
prostrate	Grevillea nudiflora
Grevillea biternata	Grevillea occidentalis
Grevillea	Grevillea paniculata
candelabroides	Grevillea paradoxa (Itd)
Grevillea crithmifolia	Grevillea pilulifera
Grevillea decora	Grevillea polybotrya
Grevillea decurrens	Grevillea preissii
Grevillea eriobotrya	Grevillea pteridifolia
Grevillea eriostachya	Grevillea pulchella
Grevillea excelsior	Grevillea refracta
Grevillea floribunda	Grevillea ramosissima
ex Coonabarabran	Grevillea ramosissima
Grevillea glauca	ssp ramosissima
Grevillea johnsonii (ltd)	Grevillea stenobotrya
Grevillea juncifolia	Grevillea striata (Itd)
Grevillea leucopteris	Grevillea superba
Grevillea longistyla	Grevillea synapheae
Grevillea magnifica	Grevillea teretifolia
Grevillea magnifica	Grevillea tetragonoloba
ssp <i>magnifica</i>	Grevillea triloba
Grevillea manglesii	Grevillea triternata
ssp <i>manglesii</i> (ltd)	Grevillea vestita
Grevillea monticola	Grevillea wickamii
	ssp <i>aprica</i>
	Grevillea wilsonii

Direct deposits can be made into the Grevillea Study Group account

# BSB 112-879 Account Number 016526630

(St George Bank).

Please notifiy the Treasurer of transfer by email (bruce.moffatt@tpg.com.au)

monune pg.com.c

or by post to Grevillea Study Group, 32 Blanche St Oatley, NSW 2223

#### Free + s.a.e.

Grevillea banksii prostrate white
Grevillea banksii prostrate red

Grevillea banksii prostrate red ex 1770

Grevillea bracteosa Grevillea glauca Grevillea juncifolia

Grevillea johnsonii red flowers

Grevillea longistyla
Grevillea leucopteris
Grevillea magnifica
Grevillea 'Moonlight'
Grevillea petrophiloides
Grevillea plurijuga
Grevillea ramosissima
Grevillea robusta
Grevillea stenobotrya

Please note: seed from hybrid -substitute -cultivated plants does not necessarily come true to type.

# Fresh stocks of garden seed are desperately needed as most species are almost out of seed.

Can members asking for seed please give an alternative list in case some species are no longer in stock. It is preferred if requests are sent with a small padded post pack. It costs less to send at approx \$1.50 per letter than padding an envelope at \$2.00 each or more so the seed will survive the trip down the sorting rollers. It's a good idea to send extra stamps with requests as extra postage is usually needed to be paid with almost every request. Leftover stamps would be sent back with your seed.

# Financial report - June 2016

Income			
Subscriptions	\$264.00		
Interest	0.27		
	\$264.27		
Expenditure			
Newsletter publishing	\$240.00		
Printing	126.65		
Postage	63.00		
	\$429.65		

Amount in interest bearing deposit till 28/3/2017 **\$19,220.18** 

Balance in current account 28/11/2016 **\$1,430.60** 

Balance in business cheque account 28/11/16 **\$37.67** 

# Deadline for articles for the next newsletter is 31 January 2017, please send your articles to <a href="mailto:peter.olde@exemail.com.au">peter.olde@exemail.com.au</a> before this date.

If a cross appears in the box, your subscription is due.

Please send to the Treasurer, Christine Guthrie, 32 Blanche Street, Oatley 2223.

Please make all cheques payable to the Grevillea Study Group.

2015 2016

If a cross appears in both boxes this will be your last newsletter.

## Office bearers

#### Leader

Peter Olde

140 Russell Lane, Oakdale NSW 2570

**p** (02) 4659 6598

e peter.olde@exemail.com.au

#### Treasurer and newsletter editor

Christine Guthrie

32 Blanche Street, Oatley NSW 2223

**p** (02) 9579 4093

e bruce.moffatt@tpg.com.au

# **Curator of Living Collection**

Neil Marriott

PO Box 107, Stawell Vic 3380

**p** (03) 5356 2404 or 0458 177 989

e neil@whitegumsaustralia.com

#### Curator of Illawarra Grevillea Park, Bulli

Ray Brown 29 Gwythir Avenue, Bulli NSW 2516

**p** (02) 4284 9216

# **Curator of Seed Bank**

Matt Hurst

37 Heydon Ave, Wagga Wagga 2650 NSW **p** (02) 6925 1273

## Online contact

- 1. President's email address peter.olde@exemail.com.au
- 2. URL for Grevillea Study Group website <a href="http://anpsa.org.au/grevSG/">http://anpsa.org.au/grevSG/</a>

#### Membership fees

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