

GREVILLEA STUDY GROUP

Newsletter No. 10

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By the time you receive this newsletter I will be at the Melbourne Wildflower Exhibition with our display. I would like to record my thanks in anticipation to Bill Molyneux who rang to offer the hospitality of Austraflorea Nursery in providing plants for the Grevillea Display. If you happen to be in Melbourne for the Show, please come up and make yourself known, bring any bits for identification (I'll do my best) and offer to show me around your collection.

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NEXT MEETING: The next Study Group meeting will be held on Saturday September 8 at Sid Cadwell's private plant arboretum, Rylestone. People interested in looking over this superb collection of grevilleas and other plants growing on sand should ring and advise their likely attendance. Otherwise meet at 9.30 a.m. where the tar road becomes a dirt road, Bylong Road, RYLESTONE N.S.W. This is about ten miles from Rylestone on the road to BYLONG. Just keep driving till the tar road stops and becomes a dirt road. People coming from Sydney should leave about 5.30 to 6 a.m.

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LAST MEETING: Our last meeting at Burrendong proved to be most interesting. The business meeting elected Christine Guthrie 32 Blanche Street OATLEY N.S.W. as the Study Group Treasurer. I am especially grateful to Christine for her offer of help as this will take an enormous workload off my shoulders and perhaps allow me to improve my rate of correspondence. Please forward any future fees to her direct. The seed bank curator voiced concern at what appears to be a collection syndrome developing. Please restrict your requests to six varieties and do not order unless you intend to use the seed immediately. It is important for people to realise that most grevillea seed is limited and should be sown fresh for best results. The resultant plants should be distributed as widely as possible preferably free. You are asked to remember to collect more seed when the time is ripe later in the year and forward it to Phil Congdon, 79 The Crescent, HELENSBURGH N.S.W. 2508. Our stocks are very low at present. Phil is making up a collection of seed and pods for display at the Sydney Wildflower Exhibition later this year. When collecting seed why not forward a few pods as well. Members who order seed are asked to give a report on its viability. We are especially interested to know if the seed we sell is not viable so that it can be withdrawn from sale. We will put it in the free seed list. Maybe someone will strike it lucky and get a plant or two.

Following the meeting we did a car tour of the Arboretum and stopped off to check out some of the grevilleas. For me, the most impressive are the plants of G. asteriscosa which are enormous. This species is quite difficult to propagate and rare in cultivation. What a beast of a plant though. Certainly I would not like to fall into the middle of it. Nearby were large plants of G. insignis, G. patentiloba and G. vestita which was madly suckering in all directions including uphill.

Over near the boundary fence was a solitary plant of G. petrophiloides which had flowered and has been growing slowly there for about five years. The plant looked in excellent health and is one of only a few I know to be in cultivation ungrafted. Nearby were some large plants of G. obtusiflora and G. floribunda. There were two low growing forms of this species from the Goonoo Forest area as well as upright forms. A large clump of G. argyrophylla was also doing well here. Around the shade house, there were many plants. An attractive patch of G. wilsonii, G. nudiflora including a grey foliage form, and G. ilicifolia were but a few species worthy of comment. These plants were outside the proper grevillea area which now contains an enormous number of plants of many species. Many of them are still small but very healthy including G. erinacea, G. fulgens, G. apiculoba, G. brachystylis and even many Queensland species such as G. sp. nova Coochin Hills, G. pteridifolia, G. venusta and G. banksii prostrate. Members are urged to support arboreta such as Burrendong as a plant resource centre by sending cutting material of any rare or unusual species. Endangered species are especially propagated and grown in large numbers wherever cutting material is available. One new introduction to the arboretum which really took everyone's breath away were small plants of G. ninghanensis which had been sent to Peter Althofer by Harvey Shaw. The foliage was a blue colour and the large red flower clusters set against it were really outstanding. We hope they grow for you Peter.

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#### RECOGNITION OF THE STATUS OF THE BULLI COLLECTION

Our plants at Bulli have received an acknowledgement from the Royal Australian Institute of Parks and Recreation. They have received a Management Classification 6 in a Study of Australian Plants in Botanic Gardens and Arboreta. This classification recognises the significant role played by our collection in the existing national collection. Classification 6 indicates it is a "Private Collection of species NOT well represented in Government managed collections". It is hoped that this inclusion will lead to a closer liaison between us and the botanic gardens and other arboreta throughout Australia.

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#### GREVILLEA PARVIFLORA

I have received a letter from Don McGillivray stating that a specimen in Canberra Botanic Gardens herbarium labelled Grevillea parviflora cultivated by Bro. Pat Stanley, Canisius College PYMBLE NS.W.- origin Quantong Cemetery near Horsham Vic. is actually a specimen of G. costata native to the Murchison River area of W.A. The Quantong cemetery does not appear now to contain any specimens of G. parviflora despite many searches by interested persons. The point is did it ever exist? Some say not. Doubt persists. If anyone can verify the previous existence of this species at Quantong, could they please contact me or Don McGillivray direct at the N.S.W. Herbarium, Mrs. MacQuaries Road, SYDNEY 2000 We would be even more delighted if someone was actually growing a plant which had its origin there, and could supply a specimen.

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#### P R O J E C T S

Some members, be they ever so few, have expressed interest in doing something for the Group. Some ideas listed below might attract someone. I would like to start a herbarium of dried specimens for use by the study group. Would anyone from Sydney be interested in undertaking such a project for starters?

STATE LEADERS

I would like to establish a Group Leader in the Capital cities who would be prepared to replicate the Bulli collection in pots, hold it and maintain it. Probably this would need to be someone associated with a nursery, with about 50 square metres of space. We would supply struck tubes on a priority basis to these people to grow on for exhibition, propagation and distribution. Not all species have a commercial value but need to be held as a central resource for distribution and exhibition. Priorities would be a need to maintain a list of plants held, plants under propagation, another priority would be the propagation and distribution of rare and endangered species. Other members might hopefully be willing to assist in the maintenance of the collection in return for cutting material and plants.

Photography

STUDY AND COLLECTION OF SPECIES VARIATIONS

I am interested in people willing to assist in a study of the following species, W.A. G. hookeriana, G. leptobotrys, G. thelemanniana, NSW G. buxifolia, G. sphacelata, G. mucronulata/cinerea, G. obtusiflora, N.T. G. angulata, G. alexandri, Vic. G. sp nova FRYERSTOWN, G. parviflora old. G. pteridifolia.

PHOTOGRAPHS

If you take any photos of grevilleas why not donate an original to the study group. We would use good photographs of any species.

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SYDNEY WILDFLOWER EXHIBITION

I made an error in the last newsletter as to the date of this exhibition. It will be held on October 12/13. Set up will be on Friday Oct. 11, pull down Sunday Oct. 13 5 p.m. Your assistance would be greatly appreciated. Don't forget to bring potted flowering specimens or foliage specimens as the exhibition time may mean few grevilleas in good flower.

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PLANT STUDIES

- G. alpina Mr. D. Shiells 16 Morrish Rd., SHEPPARTON 3630  
Mr. J. Knight 23 Hodsdon Rd., WARRANDYTE Vic. 3113  
This study is coming along very well. A full report will be issued shortly.
- G. australis Mrs. J. Closs 7 Vyella Court AUSTENS FERRY 7011  
New Study. Jeanette has agreed to collect the Tasmanian forms and would be interested to receive all the forms from the mainland. The form from Kanangra Walls N.S.W. has now been reclassified under G. parviflora.
- G. awuifolium Mr. N. Marriott P.O. Box 107 STAWELL Vic. 3377  
Study well in hand. All forms are now being collected and being propagated.
- G. capitellata P. Olde. Report to follow. Most forms collected.
- G. lanigera Mr. T. Cavanagh 16 Woodlands Drive OCEAN GROVE Vic. 3226. New Study. List of all locations from Revision manuscript donated by D. McGillivray and forwarded to Tony who now wonders if this might be a pretty big job. Any willing assistants?

G. lavandulacea Mrs. Phyllis Dadswell 10 Duffield Street GAWLER S.A. New Leader. Due to ill health Glyn Sago has had to hand over this study. The following consists of two reports issued by him before he had to stop.

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G. LAVANDULACEA

Reports from Glyn Sago

BILLYWING FORM Height 70 cm. Width 1.5 metres. Foliage grey/green rather dense arching or cascading branches. Short lateral shoots - numerous. Flowers terminally on laterals mid spring. Leaf 15 cm long 18mm wide. Revolute and pointed. Plant collected on Henty Highway Vic. between Woolhpooer and Glenisla.

BLACK RANGE FORM Variable from almost prostrate to 1.2 metres nearly up-right. Form I grow has grey/green foliage, with a rather open upright habit. Can be made denser with tip-pruning. Short lateral branches. Terminal flowers on laterals early Spring. Leaf 10 cm long 20 mm wide. Revolute and pointed. Plant collected Brimpaen-East Telangatuk road.

DERGHOLM FORM 70 cm high, 1 metre wide. Foliage grey/green rather sparse. Fairly long lateral shoots. Flowers along laterals for most of Spring. Leaves 14 cm long 10 mm wide. Revolute and pointed. Plant bought from Brian Lacey Picanninny Nursery. Dunkeld Vic.

DESERT CAMP FORM Height 30 cm width 80 cm. Foliage slightly grey/green. Short lateral shoots. Flowers terminally on laterals in mid-Spring. Not as floriferous as most other forms. Leaves 20 cm long 15 mm wide. Revolute and pointed. Plant collected between Padthaway and Desert Camp in S.A.

PENOLA FORM 1.2 metres by 2 metres. Foliage very grey/green. Laterals medium length packed along the branches. Prolific flowers, terminally on laterals in late spring. Leaf 15 cm long 20 mm wide revolute and pointed. Plant bought from Peg McAllister. Break-o-Day Nursery, Bex Hill Vic.

TANUNDA S.A. FORM Height 20 cm width 1 metre. Almost prostrate. Good rockery plant. Foliage very grey/green. Laterals extremely short-making leaves almost stem clasping. Flowers prolific along branches for most of spring. Leaves 12 cm long 18 mm wide. Revolute and pointed. Plant bought from Break-of-Day Nursery.

WOAKWINE S.A. FORM Height 20 cm width 1 metre. Foliage green. almost stem clasping. Has not flowered for me yet. Leaves 7 cm long 10 mm wide. Revolute, pointed and slightly recurved. Plant bought from Neville Bonney, Nangula Nursery, Millicent S.A.

I know of two more forms that come from the Big Desert of Victoria one a suckering form. Also a very small form that comes from Wombalano in Victoria. Neville Bonney has a white flowered form (but I don't know where it comes from) from Mt. Arkaroola in Flinders Ranges.

CHETWYND FOREST FORM 20 cm x 1 metre. Foliage green - revolute and pointed. Terminal flowers on short lateral shoots. Late winter and spring. Very showy.

CASTERTON FORM 30 cm x 30 cm.. Foliage slightly grey/green upper white underneath. Small compact shrub with bright red terminal flowers on short laterals winter and spring. On roadside between Strathdownie and Merino 12 km from Caskahess.

NEWMAN'S ROAD FORM 60 cm x 1 metre. Grey/green foliage. Leaves 12 mm x 2 mm pointed. Red flowers on short laterals in abundance. Shrub forms a rounded shrub and is one of the best lavandulacea I have seen - like a miniature form of the Penola variety. Very close to Lindsay on Vic.S.A. border.

WOMBELANO FORM 30 cm x 60 cm Open straggly shrub with green/grey foliage 12 mm x 3 mm revolute and pointed. Bright red terminal flowers winter and early spring. On roadside between Wombelano and Douglass in Victoria,

BIG DESERT FORM 50 cm x 50 cm Sparse open shrub with green/grey foliage. Bright red flowers on short laterals winter and spring. Very common on Murrayville track north of the Broken Bucket tank.

BIG DESERT - SUCKERING FORM 30 cm x 20 cm. Grey/green foliage 12 mm x 2 mm. Suckering clumps occur about every 50 cm and are usually in a straight line. Bright red flowers in winter and early spring. Common north and west of Broken Bucket tank and north of Telopea Downs.

\* \* \* \* \*

G. ROSMARINIFOLIA/GLABELLA

Mr. A. Foster  
40 Fairfax Road WARNERS BAY 2282

"I have always felt G. rosmarinifolia is a beautiful species only being spoiled by the common garden form" N. Marriott pers. comm.

When I approached Alan Foster with this big study, he began by issuing a report within three weeks on this species gleaned from every publication he could lay his hands on. I have printed the report although it is rough to show what can be done. The report was reviewed by Neil Marriott who has already sent cuttings to Alan of all species and forms he is growing.

G. ros. (Edinburgh Gardens) Wild species now extinct. Re-discovered in Edinburgh Botanical Gardens. Grey leaves, red fls.

G. ros. nana Common nursery plant. Origin uncertain. Dwarf

G. ros. upright Ordinary Garden form. Pink and cream fls. Crooked River

G. ros. Mt. Cole Form with broad leaves.

G. ros. Beechworth Dwarf form with pure red fls. Very showy. 0.5m x 1m

G. ros. Little Desert Fine foliage with showy prominent fls. orange-scarlet in colour. Quite variable in flower colour and form. Small low form sold as G. 'Desert Flame' 50cms - 1m x 50cms - 1m

G. ros. Bendigo Non vigorous suckering form.

G. ros Penola Springs Dark leaf form to 0.6m with deep red fls. Sometimes sold as Findleys Pride.

G. ros. Hurstbridge. Grey foliage form to 1m. Glyn Sago's son did research into this population and discovered that many are hybrids between G. ros. and G. lanigera

G. ros. syn ericifolia Low dwarf plant. Origin uncertain. Very attractive. light pink and cream fls.

G. ros. Whipstick Fine foliage. Dull red and green fls. 1-2m x 1m. Yellow form of this population exists.

G. ros. Hepburn Dwarf form. Variable in leaf and flower colour. Yellow selection often sold as G. 'lutea' 0.4m x 0.5

G. ros. West Vic. Form collected by Fred Rogers.

G. ros. "williamsii" Form grown at Burrendong. Origin uncertain. Bright red flrs. Broad leaves/green.

G. glabella Lara Dwarf. Naturally occurring form collected by David Jones at 1.5 kms east of Lara Vic. in 1969. Small compact bush, grey leaves, red fls.

G. glabella LIMELIGHT. Naturally occurring form selected by David Jones 32kms N.E. Bendigo in 1972. Lime green fls in winter. This is an uncommon variation of G. ros. Whipstock form and is identical in every other respect.

G. glabella Makie

G. glabella Rankin Springs. Sometimes known as G. 'rankinsii'. 1m x 1m.  
Fine foliage, red fls.

G. glabella VECTIS 0.6m x 1m. Cascading and semi-prostrate, bright red fls.  
thin needle steel grey foliage. This form is now found only in the Quantong  
cemetery but at this location it is not as big as listed above, being only  
0.4m x 0.4m

G. glabella CBG Fine needle leaves, small pink fls. 0.4m x 2m.

G. glabella syn G. angustissima) Growing at Burrendong arboretum. Believed to  
have been collected in S.A. Short narrow leaves. Pink and cream fls.

Many thanks Alan. This report was compiled by an inexperienced person at  
his first attempt. No doubt it is only the beginning of a long saga. Would any  
one be able to add any more to the body of information or correct any errors  
that may be apparent. Alan would appreciate cutting material of all forms  
mentioned sent Priority Paid to his address before October. The Study Group  
will pay postage costs.

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PLANT STUDIES cont'd

G. polybractea Mr. N. Bone 21 Vickers Street KIALLA Vic 3631  
New study just begun.

G. victoriae Mr. Andy Russell "Buronga" COOTAMUNDRA NSW 2590  
Mr. Peter Vaughan Lot 5 Anderson Rd. BERKELEY  
VALE NSW 2259. New study. No report to hand.

G. baueri Dr. W. Marsh 21 Faraday St., MITTAGONG NSW 2575.  
New study. No report to hand.

G. speciosa/oleoides Mrs. & Mr. T. Gibian 37 Carters Rd., DURAL  
2158. No report to hand.

G. sericea Mr. P. Congdon 79 The Crescent HELENSBURGH NSW 2508

G. ilicifolia Mr. N. Marriott. Short report to hand but unable  
to publish due to a technical hitch. I can't  
find it.

Once again, my sincerest thanks to these volunteers who are  
really doing their bit. Special thanks to Glyn Sago who has had  
to hand over the reins. We certainly appreciate all you have done  
for us. Any reader who has a form or knows of one of the species  
under study, why not contact the study leader and let him/her know.  
It will be most appreciated.

SHORT HISTORY OF THE CULTIVATION OF GREVILLEA IN ENGLAND

BY TONY CAVANAGH  
OCEAN GROVE VICTORIA

Grevilleas were among the early introductions from Australia  
to European Botanic Gardens and to private nurserymen. According  
to contemporary records I have been able to examine, while only 3  
species were grown before 1800, a further seven became available  
over the period 1800-1820. The 'boom' years were between 1820 and  
1840 when largely through the efforts of Alan Cunningham, Banksian  
collector in New South Wales, some 28 new species were introduced.  
Additional plants were cultivated spasmodically over the interven-  
ing years to well into this century, and many species were reintro-  
duced, but the passion for collecting new and exotic species, so  
evident in the early part of the 19th century had evaporated.  
Nevertheless a few Grevilleas are still grown today at Kew, at the  
Royal Horticultural Society's garden at Wisley and even outdoors in  
southern England and in France, eg., Don McGillivray (1975) mentions  
that bunches of the decorative foliage of G. longifolia can be  
purchased in London at Christmas, the source being cultivated plants  
from England and France.

Tracking down what Australian plants were grown in Europe is a fascinating and absorbing subject but it has its frustrations. Many of the species names have now been changed, some plants were introduced under pseudo-scientific names which are not now recognised and are little better than horticultural or cultivar names, and the details given in the literature are all too often vague or occasionally contradictory. Hence this article is really only an introduction to a vast but largely unstudied area. It is as correct as I can make it with our present knowledge but I would appreciate receiving information on species I have missed, other references, and, in particular, correction of errors. The history of cultivation is intimately tied up with the history of botanical exploration in Australia; hence it is necessary, before discussing the plants themselves, to consider briefly some aspects of the early collection of Australian plants and especially the role played by Sir Joseph Banks.

#### HISTORY:

Joseph Banks and Daniel Solander on Captain Cook's first voyage (1768-1771) collected large quantities of botanical specimens (most of which were not described until many years later) and some seed. The variety of seeds was apparently not great as I can trace only two Australian species which are attributable to Banks from this voyage - Casuarina torulosa (introduced in 1772) and C. stricta (introduced 1775). These have the honour of being the first Aust. plants grown in England or Europe. In 1772, Banks was appointed director of the Royal Gardens at Kew and in 1778, Banks was elected President of the Royal Society, a position he held until his death in June 1820. Clearly, these positions gave him great influence and he set to work to stock the Kings garden with exotic flora from all over the world. His contact with Australia ensured that he maintained an active interest in a country whose settlement he had so strongly advocated, and Governor Phillip, from the founding of New South Wales in 1788, sent back both seeds and plants to Banks. Somewhat surprisingly, there was not a botanist, naturalist or recognised gardener with the First Fleet, a fact which is hard to understand in view of the considerable quantities of seeds and plants which were brought out to help establish the infant colony. However, people such as the Colonial Chaplain, Reverend Richard Johnson and Surgeon-General John White collected plants and animals which were sent to Banks and others in England.

In 1791, Banks appointed the superintendent of convicts, David Burton at 20 pounds a year to collect seeds, living plants and specimens which were to be exclusively supplied to Banks. Unfortunately, Burton was accidentally killed on a duck hunting expedition in 1792 and it wasn't until 1800 that the next official Banksian collector arrived, the rather prickly George Caley. He was to do much in the next 10 years to increase Europe's knowledge of Australian plants through the supply of living material and seeds.

The greatest (and last) Banksian collector was the famous Alan Cunningham who despite various brushes with officialdom did so much to increase our knowledge of the Australian flora through his expeditions and writings. Appointed in 1816, he died in 1839, being responsible in the intervening years for supplying to Europe seeds of a large number of species including at least 16 Grevilleas. He also described many new plants, among the Grevilleas G. rosmarinifolia and G. wilsonii being two of the best known.

While most material went to Banks and was distributed by him to various Botanical gardens such as Kew and Cambridge and to a select few of the Kings favourites, right from the outset there existed an extensive clandestine trade in botanical and zoological specimens and seed; Banks' desire for a monopoly probably ensured that Naval and military officers, even convicts, apparently found a ready market for the curiosities of New Holland. An interesting figure of this period is the Scotsman William Paterson, who, though a soldier and later a Colonel in the New South Wales Corps, had from an early age studied botany extensively. It is believed his appointment to the New South Wales Corps was due to Banks'

influence and probably in return, Banks expected to receive seeds and specimens from New South Wales. Paterson arrived in Sydney on October 16 aboard the 'Admiral Barrington' and embarked on the 'Atlantic' for Norfolk Island with the Island Governor Phillip Gidley King on October 25. He apparently made the most of his 9 days in Sydney and collected seed and specimens which were forwarded to Banks and apparently to private nurserymen. Andrews Botanists Repository (an early botanical publication) has a tantalising comment in 1800 when describing Embothrium sericeum (now G. sericea) " . . . About the end of the year 1791, the seeds of this plant with many others were received by Messrs. Lee and Kennedy of Hammersmith, and transmitted to them from New South Wales by Colonel Paterson . . ." Paterson collected extensively on Norfolk Island and later in New South Wales and Tasmania and was eventually to become Acting Governor of New South Wales on two occasions - a job he did much less successfully than his botanising. His importance to our story is that he introduced the first three Grevilleas to be grown in England:

G. buxifolia (1791) via Lee and Kennedy

G. linearifolia (1791) via Sir Joseph Banks

G. sericea (1791) via Lee and Kennedy

G. buxifolia was probably the first to be flowered - in 1795 at Lee and Kennedy's nursery.

THE PLANTS THEMSELVES:

A full list of Grevilleas grown in Europe, together with their dates of introduction, is given in Table I. There were approximately 49 species involved, though because of the variety of names employed by different authorities, approximately 72 separate entries have been made. In some cases, it has been possible to determine who the seed supplier was and this information is given below.

SUPPLIER	SPECIES	DATE
Paterson	buxifolia	1791
	linearifolia	1791
	sericea	1791
Caley	arenaria	1803
	asplenifolia	1806
	cinerea (as? stylosa)	
	probably <u>G. mucronulata</u> form	1809
	<u>mucronulata</u> (also as <u>acuminata</u> )	1809/1805
	? <u>montana</u> (may be <u>G. arenaria</u> )	1803
Cunningham	acanthifolia	1823
	aquifolium	1820
	agrifolia	1820
	baueri (also as pubescens)	1823
	caleyi	1830
	cinerea	1822
	gaudichaudi	1823
	juniperina	1821
	juniperina var sulphurea	1823
	? <u>montana</u> (as <u>ferruginea</u> )	1837
	parviflora	1824
	phyllicoides	1823/1825
	robusta	1830
	rosmarinifolia	1824
speciosa	1822	
sphacelata	1825	

There are five additional undetermined species that Cunningham may have introduced:

'berberifolia'	1823
'Flindersii'	1823
'mucronifolia'	1824
'podocarpifolia'	1823/1824
'trifurcata'	1821/1823



LATER COLLECTORS:

Some 38 or 39 *Grevillea* species had been introduced by 1840 but in the second half of the century, interest in Australian and South African Proteaceae declined and new species made much more spasmodic appearances. After I had compiled the list in Table I, I was struck by the relative paucity of Western and Northern Australian plants and their relative lateness of introduction. This reflects the isolation and slowness of exploration of these areas rather than any preference for Eastern species as the floristic magnificence of the Western species is well known and was certainly appreciated by collectors such as Drummond and Preiss. The earliest western species were *G. aspera*, *G. concinna* and *G. pulchella* which were almost certainly collected by William Baxter on the south coast in 1823/1824. In the late 1830's *G. bipinnatifida* (1837) *G. crithmifolia* (1840), *G. flexuosa* (1840), *G. glabrata* (1837) and *G. thelemanniana* (1838) made their appearance. The Austrian Baron Karl von Huegel, who visited Perth and King George Sound in 1833-1834, was probably responsible for these. The main evidence I have for this view is that they were among the plants growing in Prince de Demidoff's garden near Florence, Italy in the 1850's (Prince de Demidoff purchased many of the plants from Baron von Huegel's garden in Vienna when this was sold around 1848). James Drummond then enters the picture but despite his love for the Proteaceae, he only appears to have supplied seeds of a few new species including *G. eriostachya* (1845) and possibly *G. quercifolia* (1845). In the Eastern states, Von Mueller at Melbourne and Schomburgk at the Adelaide Botanic Gardens forwarded seeds and plants including *G. annulifera* (approx. 1880), *G. ericifolia* (1868) and *G. macrostylis* (approx. 1868), while early Australian seed companies were also involved, eg., seed of *G. oleoides* was purchased by Kew in 1917 from J. Staer and Company Wahroonga. Guilfoyle at Melbourne continued von Muellers work (he introduced *G. hookeriana* in about 1885) and several private individuals also played a part. At least one interesting hybrid resulted from the growing of Australian *Grevilleas* in England - *G. X semperflorens* which originated as a cross between *G. thelemanniana* and *G. juniperina* var *sulphurea*. It forms a much branched shrub to 2m and with its yellow-green flowers, looks most attractive. I wonder if it is grown in Australia?

CULTIVATION:

*Grevilleas* were popular glasshouse (and outdoors) subjects because they were usually hardy and formed neat and compact pot plants. A number also flowered in winter when little other colour was available. They were described as growing easily in " . . . equal mixtures of loam, peat and sand . . . " while " . . . ripened cuttings root without difficulty under a hand glass . . . " " . . . seeds often ripen in abundance on some species from which young plants may be obtained . . . "

While most *Grevilleas* were glasshouse or conservatory plants (ie., they were grown under glass for at least the worst of the winter) some proved very hardy and could be grown out of doors. Thus a plant of the type form of *G. rosmarinifolia*, which had not been collected since 1822, was located in the Edinburgh Botanic Gardens growing outside against a building (McGillivray 1975). Other hardy species included *G. longifolia* (previously mentioned) and and *G. juniperina* form *sulphurea* which is " . . . one of the hardiest members of the genus in cultivation in the British Isles, thriving in favoured positions out of doors in the south-west and as far east as Sussex and South Surrey . . . "

The loss of interest in Australian plants including *Grevilleas* after the 1840's had its origins in two main events: a change in peoples tastes and gardening fashions and a consequent change in glasshouse design and function. The days were passing when gentleman gardeners maintained glasshouses packed with exotic material from around the world. Instead fashions turned to fancy floral beds, the growing of smaller and easier-to-cultivate specimens and, most importantly, the growing of ferns and tropical softwood plants. The latter activity became all the rage and glasshouses were modified accordingly. Heavy watering was necessary

and drainage of soils in the pots was not regarded as important - moreover, the ferns and softwooded plants required a high humidity " . . . that is the death of the Proteas from the Cape and the Banksias from Australia . . . " Kew Gardens apparently used dry flue heating into the 1850's and Proteaceous plants lasted longer there than in most other gardens. Indeed some were at least 50 yrs. old as pot plants in 1856 while several Banksias grew to the stature of small trees in the Kew conservatories. The Kew collection of Proteaceae reached its peak in the period up to 1864 when some 154 species of Australian and Cape plants were being grown. By 1889, it had declined to about 120, largely because of a reduction in the number of Cape Plants. It would be interesting to know how many Proteaceae are grown at Kew today.

COMMENTS ON SOME OF THE PLANTS:

Grevilleas figured prominently in horticultural magazines of last century, notably in Curtis' Botanical Magazine, Loddiges Botanical Cabinet and Andrews Botanists Repository. Most articles discussed propagation and cultivation of each species and usually featured a full colour reproduction of a flowering specimen. Some of these are beautifully executed, the illustration in Curtis' of *G.intricata* (t 5919) being particularly graphic. From these articles we can also learn much about the interest taken in our plants and the following extracts from the pen of Sir Joseph Dalton Hooker, Director of Kew, reveal the esteem in which he held Australian Grevilleas:

"Amongst the most graceful (of ornamental plants) is *G.robusta* which is perhaps the most widely used 'foliage plant' for table decoration that ever was introduced into Europe". (Curtis Bot.Mag., t 6879, 1886).

On *G.ericifolia* (now *rosmarinifolia*)

" . . . it is a very attractive ornament in both the conservatory and the temperate house . . . and is an example of the . . . vast number of beautiful and interesting greenhouse plants till to be introduced into cultivation from Australia whose once-prized relatives have been elbowed out of cultivation by soft-wooded greenhouse plants of greater show but less grace and interest . . . " (Curtis Bot. Mag., t 6361. 1878).

In 1889, he was to write (Curtis Bot.Mag., t 7070) " . . . it is much to be wished that the cultivation of the more beautiful and singular Proteaceae of the Cape and Australia which may be said to have been in abeyance for nearly a century, should be resumed . . . ". Regrettably, Hooker's words were not heeded and, as far as I can ascertain, very few Australian Proteaceae are grown in Europe today.

CONCLUSION:

In this article, I have attempted to present an outline of just a few aspects of the cultivation of Grevilleas in England and Europe. It is a vast and virtually unexplored area and so far we have only scratched the surface. Approximately 49 species spread over some 72 introductions were grown in England to about 1920. For many of these plants we know little beyond their date of introduction and perhaps flowering time; I have no records of the life span of individual plants. The fact that so many Grevilleas could apparently be grown as pot plants under the relatively unfavourable conditions of English glasshouses perhaps points the way to cultivation of some of the more trouble some species in Australia.

GREVILLEAS CULTIVATED IN ENGLAND

<u>SPECIES</u>	<u>INTRODUCED</u>	<u>FLR.TIME</u>	<u>SPECIES</u>	<u>INTRODUCED</u>	<u>FLR. TIME</u>
acanthifolia	1823/1824	May-Aug.	linearifolia	1791	Apr-Sept,
agrifolia	1820		var alba )		
alpina (as alpestris)	1856	May-June	var incarnata )		as for linearifolia
annulifera	1880	July	(as riparia)	1791	Apr-Sept
aquifolium	1820	July	(as stricta)	1791/1820	Apr-Sept.
arenaria	1803	Apr-Sept	macrostylis	1868	-
(as canescens)	1824	Apr-Sept	montana (#)	1803/1822	Apr-Sept
aspera	1824	June	(as ferruginea	1837	June
asplenifolia	1806	July	"mucronifolia"(*)	1824	Apr-Sept
banksii	1868	August	mucronulata	1809	Apr-Sept
baueri	1823-1824	Apr-Sept	(as acuminata	1805	Apr-Sept
(as pubescens)	1822	Apr-Sept	(as podalyriaefolia)	1821	May-Aug
"berberifolia" (*)	1821/1823	May-Aug	oleoides	1917	-
bipinnatifida	1837	July	ornithopoda	1900	--
buxifolia	1791	Feb-Sept	parviflora	1824	Apr-May
(as collina)	1802/1812	May-Aug	phylicoides	1823-1825	Apr-Aug
caleiyi	1830	May-Aug	"podocarpifolia" (*)	1824	June
(also as blechnifolia)	1830	May-Aug	pulchella	1824	June-July
cineria (@)	1822	Apr-Sept	quercifolia		
cinna	1824	Mar-Aug	(as brachyantha)	1845	July
cinchmifolia	1840	-	robusta	1829/1839	June-Sept
drummondii	1859	June	refracta		
ericifolia	1878	winter	(as ceratophylla)	1839	June
eristachya	?1809/1845	June	rosmarinifolia	1824	Apr-Aug
fasciculata	1873	-	sericea	1791	Apr-Sept
flexuosa	1840		(as planifolia)	1823	June
"Flindersii" (*)	1824	June	(as dubia)	1820/1822	Apr-Sept
gaudichaudi	1823	May-Aug	speciosa		
glabrata	1838	May	(as punicea)	1822	Apr-Sept
(as Manglesia glabrata)	1838	Mar-June	sphacelata	1825	Apr-Aug
(as Anadenia manglesii)	1836	Mar-June	stylosa (?cinerea)	1809	June
glauca (as gibbosa)	1821	July	thelmanniana	1838	Spring
"Lawrenciana" (*)	-	July	(also as Preissei)		
hilliana	1897	-	"trifurcata" (*)	1821/1823	June
hookeriana	1886	--	"trinervis" (+)	1845	June-Aug
intricata	1871		vestita (X)	-	May
juniperina	1822	Apr-May	(as Manglesia vestita		
"var sulphurea	1823/1824	Apr-Sept	synapheae	-	-
mandulaceae			tenuifolia	-	-
(as rosea)	1850	May-July			

NOTES: (+) now a form of *G. juniperina*  
 (X) identification of this is doubtful as flower colour is listed as purple  
 (\*) these are believed to be horticultural names only, not un-named species.  
 (#) probably *G. mucronulata* form  
 (@) may be *G. arenaria*.

\* \* \* \* \*

TIPS ON SEED RAISING

I.R. DIXON Hort. Advisor  
 KINGS PARK AND BOTANIC GARDEN

The following observations over the last 8 years may be of interest to you. I should probably mention the reason for the observations was, I could never rely on a good germination of *Grevillea bipinnatifida* seed. One year it would be 2 or 3 % the next 40 or 50 %, a major problem was rotting seed.

Certain groups of 2 or 3 plants growing together in cultivation at the Zoological Gardens, South Perth and here in Kings Park Botanic Garden, produce numerous seedlings every year under the bushes or around the bushes. Seedlings always appear in mid-winter, earlier if regularly watered, seed usually germinates right on top of the soil, sometimes there is a little leaf mould or in some cases a thin layer of old sawdust on top of the soil.

CON'TD

It may be worth noting by the appearance of the germinating seed it always appears to be fairly fresh, probably only up to a few months old. Only plants which are in an area which gets fairly moist during the winter seem to have the seedlings germinating around them. What significance this had I do not know, be it leaching the seed, extra moisture, or if indeed these plants tend to produce more viable seed. However, I have observed many other plants which produce good viable seed but no seedlings.

\* \* \* \* \*

PRE-TREATMENT AND GERMINATION REQUIREMENTS  
OF GREVILLEA BRACTEOSA

I.R. DIXON

An open shrub usually 1 to 1.5m high with pink flowers in rounded heads occurring from August to October. The attractive linear medium green leaves are about 7 cm long and blend in well with the flowers. In its natural habitat eg. North of Geraldton it grows on sandy lateritic soil and has a restricted distribution. Fresh seed sown in the conventional manner in the autumn with no pretreatment failed to germinate the first season of sowing or the second season after a baking in the full sun during the summer.

Two year old untreated seed sown in the autumn failed to germinate.'

Two year old seed scarified just before sowing and sown on the same day as the untreated seed gave a germination rate of 71%. The best method of scarification was to lay the seed, rounded or convex side downwards, place a finger on the seed and break a portion, running lengthwise, off with the blade of a knife. Cutting off this portion rather than breaking it off, caused too much damage to the seed.

Cutting or breaking a portion off the end of the seed gave poor results, 4% germination, this method may have slightly damaged the seed, but the damage was not apparent during the treatment.

After scarifying the seed were soaked in unsterilised warm water for half hour, then immediately sown and placed in a coldframe with polythene and newspaper on top. First emergence of the seedlings was in 15 days, the last seedling germinated three weeks later.

The usual pricking out mix was used, seedlings were pricked out when one day old. The tap root even at this stage was long and brittle. Several seedlings were lost through damping off disease.

\* \* \* \* \*

FINANCIAL REPORT 31 July 1984

Balance as at 13.10.83		\$409.74
Subscriptions, Donations, Seed purchases		355.73
Interest received		13.10
Newsletter expenses	206.64	
Care of Bulli Grevillea Collection )	100.00	
Labour for weeding, fertilisers, etc.)		
	<u>\$306.64</u>	<u>\$778.57</u>
 BALANCE		 \$471.93
Add C. Guthrie New Treasurer account		<u>112.60</u>
	<u>TOTAL</u>	<u>\$584.53</u>

BURRENDONG GREVILLEAS cont'd from last newsletter:

G. barklyana First planted in 1966 and 1968. Short lived in unsuitable situation. Plantings of 1970 in new location were more successful. Needs summer watering to keep this species growing. The Victorian form of G. barklyana has been able to cope better, growing to 3m and flourishing.

G. baueri 1970 plantings were successful but growth was slow. Needs supplementary water to survive.

G. bipinnatifida First planted in 1967. Grew slowly and flowered for a number of years. Clay based soil and competition from heavy weed growth hastened its demise. Later plantings in better drained area are more successful.

G. biternata A very hardy plant that has established well in various locations. Begins life as a prostrate plant later sending up erect flowering stems to 2m. A very showy species with a life of 10 to 15 years.

G. brachystylis Slow to establish. Both prostrate and upright forms grow easily from cuttings.

G. brevicuspis Has established well in various locations. Resents poor drainage.

G. brownii A winter flowering species that is quite hardy. Upright and decumbent forms established well. Flowers profusely.

G. buxifolia Establishes well but life expectancy is short. Needs to be replaced periodically.

G. caleyi Early plantings failed. Single plant in 1980 is doing well. More planted in 1984 are shaping well.

G. candelabroides Planting of 1983 reduced to one plant which is doing well, Resents overwatering in Summer months.

G. capitellata Four forms of this species have been established. The Holdsworthy form has adapted extremely well.

G. chrysophaea Tends to be short-lived, but performs well. Needs to be replaced regularly.

G. concinna Newly planted but appears to be establishing well.

G. costata Another new addition doing well.

G. crithmifolia Original planting of 1970 thriving. Has grown to 1.5 x 1.5 m. Produces masses of flowers and seed. A prostrate form is also thriving.

G. didymobotrya First planting in 1975 failed. 1983 and 84 plantings doing well.

G. dielsiana Has been a difficult species to grow here. Plants reach flowering size but then tend to deteriorate.

G. diminuta This species is thriving but Summer heat prevents it from flowering well.

G. dimorpha Establishing slowly. New planting are flowering well and should perform better in their new locations.

G. disjuncta Has established well in display beds. New plantings in field conditions are also showing promise.

SEED BANK

All requests for seed and donations should be sent direct to  
Mr. PHIL CONGDON 79 The Crescent Helensburgh NSW 2508

SEED FOR SALE This selection costs \$0.50 packet plus \$1 postage/  
packing or supply your own stamped self addressed  
envelope.

- |                           |                  |
|---------------------------|------------------|
| G. biternata              | G. paniculata    |
| G. crithmifolia           | G. pilulifera    |
| G. crithmifolia prostrata | G. pinaster      |
| G. drummondii             | G. pteridifolia  |
| G. decora                 | G. pyramidalis   |
| G. diversifolia           | G. robusta       |
| G. endlicheriana          | G. synapheae     |
| G. excelsior              | G. thelemanniana |
| G. hookeriana             | G. vestita       |
| G. leucopteris            | G. wilsonii      |
| G. macrostylis            | G. striata       |
| G. obliquistigma          |                  |

FREE SEED TO (50¢ packet as above to passive members) plus \$1  
ACTIVE MEMBERS postage/packing or supply your own stamped self  
addressed envelope.

- |                   |                                |
|-------------------|--------------------------------|
| G. anethifolia    | G. longistyla                  |
| G. arenaria       | G. platypoda                   |
| G. banksii        | G. pteridifolia                |
| G. banksii alba   | G. polybotrya                  |
| G. barklyana      | G. pterosperma                 |
| G. bipinnatifida  | G. pulchella                   |
| G. buxifolia      | G. refracta                    |
| G. candelabroides | G. robusta                     |
| G. crithmifolia   | G. sessilis                    |
| G. dryandri       | G. scortechini                 |
| G. dryandri PINK  | G. sp. nova Burra Range Hybrid |
| G. dryandri RED   | G. sp nova Coochin Hills       |
| G. eriostachya    | G. sp nova Ferguson River N.T. |
| G. floribunda     | G. stenomera (?pinaster)       |
| G. glabrata       | G. triloba                     |
| G. glauca         | G. trifida Low cascading form  |
| G. glossadenia    | G. tripartita                  |
| G. ilicifolia     | G. venusta                     |
| G. insignis       | G. wickhamii                   |
| G. integrifolia   |                                |

\* \* \* \* \*

1983 UNPAID

1984 UNPAID

A tick here means  
this is your last  
newsletter.

AND FINALLY,

On a recent rip to the native garden of Frank Alley at London-  
derry I was somewhat surprised when I was shown his technique for  
weed control. The soil had been pushed up into mounds about 1m high  
and covered with black plastic. If you had asked me, I would have  
said that black plastic was thoroughly discredited due to its  
propensity for souring the soil. Although in this case the plastic  
had been forked after about 6 months which has increased aeration,  
I was more than surprised at the number of difficult species growing  
well including W.A. Banksias. Perhaps we should rethink the  
application of plastic tjmounded soil especially in weed prone areas.

See you at Sid's

PETER O.