

Association of Societies for Growing Australian Plants



Ref No. ISSN 0725-8755

Newsletter No. 81 – October 2008

Newsletter No. 81

GSG NSW Programme 2008

For more details contact **Peter Olde** 02 4659 6598. Meet at 9.30am to commence at 10.00am for all meetings unless stated otherwise.

Friday, 10 October – Monday, 13 October

VENUE: Annual Field Trip & Grevillea Crawl
TIME: Meet 10am at Information centre on Newell Highway, south-east of Gilgandra (c. 800m before bridge over Castlereagh River). First stop Gilgandra Flora Reserve. Caravan park east side of river for those arriving Thursday night.

PHONE: Leader Anthony O'Halloran: 02 4447 8210

SUBJECT: Field trip through the Goonoo Goonoo Forest and Pilliga Scrub.

DETAILS: Accommodation (Friday night) in restored railway carriages at Binnaway 6844 1044. Cost \$25 each twin share includes breaky.

Species we hope to see include *Grevillea arenaria* ssp. *canescens* (several forms), *G. floribunda* ssp. *floribunda* (several forms and flower colours), *G. triternata*, *G. ramosissima* ssp. *ramosissima*; *Banksia marginata*; *Persoonia cuspidifera*, *curviloba*, *sericea*, *rigida* (plus hybrids between all of them); *Isopogon petiolaris*; *Zieria ingramii* (rare, 7 plants); *Boronia glabra*, *pinnata*, *rosmarinifolia*, *warrumbunglensis*, *?anethifolia*; *Cooperookia barbata*; *Prostanthera howellii*; *Goodenia fascicularis*, *macbarronii*, *hederacea*, *glabra*, *cycloptera*, *pusillifera*, *heterophylla*; *Kennedyia procurrens* (fantastic); *Ricinocarpus bowmanii*; *Phebalium nottii*; orchids aplenty etc etc.

Bush camping, 4WD vehicles recommended due to recent road wash-outs.

Sunday, 30 November

VENUE: Suellen & Brian Harris, 14 McArthur Drive, Falls Creek via Nowra

TIME: 11am

PHONE: 02 4447 8210 or s-harris@wix.com.au

DETAILS: End of year christmas function.

Inside this issue:

- New Species in Flora of Australia Vol 17a
- In Pursuit of the Historical *Grevillea sericea* (Sm.) R. Br.
- Information on Rat Poison ... and more....

GSG VIC Programme 2008

For more details contact **Neil Marriott** (Vic Leader), on (03) 5577 2592 (Mon–Fri), (03) 5356 2404 (Fri night–Sun 5pm), or email at neilm@vic.chariot.net.au (Dunkeld), neilm@netconnect.com.au (Stawell).

Despite extensive effort on behalf of Max McDowall to get members along to Vic Chapter excursions, there has been a very disappointing response. As a result Max has decided to resign from this role and we have decided to put the Vic chapter into recess until further notice.

GSG S.E. QLD Programme 2008

Morning tea at 9.30am, meetings commence at 10.00am. For more information contact **Noreen Baxter** on (07) 3202 5008 or **Beverley Leggett** on (07) 3870 8517.

Sunday, 26 October

VENUE: Fran & Jim Standing, Mt. Clunie Cabins, Mt. Clunie Road, Woodenbong, NSW 2476

PHONE: (07) 4666 5118

SUBJECT: Grevilleas within 200km of Brisbane.

Sunday, 30 November

VENUE: Merv. & Olwyn Hodge, 81-81 Loganview Rd, Logan Reserve, 4133

PHONE: (07) 5546 3322

SUBJECT: Review of survival of grevilleas following wet summer.

GSG S.E. QLD Programme 2009

Sunday, 22 February

VENUE: Bernard & Rona Wilson, 120 Avalon Rd, Sheldon, 4157

PHONE: (07) 3206 3399

SUBJECT: To be decided.

Sunday, 26 April

VENUE: Laylee Purchase, 41 Rocklyn Street, Toowoomba, 4350

PHONE: (07) 4630 2211

SUBJECT: Grevilleas of the Canning Stock Route.

Autumn Plant Sale ends

I have taken the decision to end the Autumn Plant Sales run by the Grevillea Study Group after 11 years. The reality is that the group is such a small group that even with the generous outside assistance of volunteers from the Australian Plant Society, it has become increasingly difficult to obtain volunteers willing to assist with the numerous jobs on the days we are open. Planning for the event usually takes me a full month when I must personally devote all my time to planning and organising plus additional ongoing time throughout the year. Unfortunately this has been at the expense of my research and other activities and I have determined to prevent this from happening again until my self-imposed work-load has been reduced.

I would like to thank all the members of the group, the media personalities Don Burke and Angus Stewart who so generously donate their time and services, the group members and friends who so generously weigh in with their help. I will certainly miss the camaraderie that the weekend engenders between my friends in the Australian plant environment, both inside and outside the Australian Plant Society, and especially the nurserymen who have so generously supported the event.

I am hoping that within a few years we can re-birth the event in some way different to the previous one but at this stage it remains unclear. In the meantime, I must apply myself to clearing the unsold plants and to applying the funds raised to appropriate causes.

Thank you to all once again.

New Species in Flora of Australia Vol 17a

This article will summarise the remaining new species from New South Wales in the Flora of Australia, published in 2000. The first is the reinstated recognition of *Grevillea glabella* R. Br. as a subspecies.

Grevillea rosmarinifolia A. Cunningham subsp. ***glabella*** (R. Br.) Makinson. There is little doubt that the plant collected by Allan Cunningham on Oxley's first expedition in 1817 was a new taxon. Its name and description were not formally published until 1830 by Robert Brown, well after Cunningham had discovered and named *Grevillea rosmarinifolia*, collected by himself on the Cox's River in 1822 and named in 1825. The plant in question was first named *Grevillea glabella* by Brown. There have been many names given to other populations of *Grevillea rosmarinifolia*, mainly by Meisner. Among them are the names of *Grevillea latrobei*, *Grevillea nutans*. *Grevillea divaricata* R. Br. was also among them but has been recognised as a distinct species in the Flora. They all have very similar flowers. Recognition of *Grevillea glabella* as a subspecies in the Flora is perhaps a little premature, given that the species as a whole (*Grevillea rosmarinifolia*) remains a conglomerate of numerous variable populations that have not been resolved taxonomically. In fact, *Grevillea glabella* seems morphologically closer to *Grevillea divaricata* than the typical form of *Grevillea rosmarinifolia* as we know it from the type specimen. Indeed, names applied

by Meisner cannot be ruled out at this stage in any future revision. However, in all likelihood, the name of subsp. *glabella* will stand the test of time and is accepted provisionally by me, pending a full revision of the complex. It can be applied to 'those populations with a dense foliage of very fine leaves, occurring in sandy soils in mallee or mallee-shrub communities.' Populations that fit this criterion occur in western New South Wales in the Griffith area. Plants from the Tumbarumba area would also be included. Similar taxa in the Little Desert area of western Victoria are also cited as is a population from Serviceton near the S.A. border. Plants from the Bendigo area are not included.

Grevillea juniperina R. Br. The revision of *G. juniperina* has been thorough, and is perhaps what should have happened with *Grevillea rosmarinifolia* before subsp. *glabella* was recognised. With the exception of subsp. *sulphurea*, all taxa appear prima facie to be acceptable although proper testing must be concluded before they can be accepted. The species is divided principally on the indumentum of the outer perianth surface and the perianth limb. You will definitely need a hand lens or microscope to work it out but it is fairly simple. The first to be eliminated is subsp. *villosa* being the only one to have long, shaggy hairs on the limb. You next need to look at the outer surface of the flowers and search for a two-state indumentum of short erect hairs intermixed with long.

continued >

If there are short hairs in the indumentum two more subspecies are met with. Both subsp. *amphitricha* and subsp. *sulphurea* have minute, erect, simple hairs interspersed in the indumentum. They can be further separated from each other on the following characters:

Prostrate to spreading habit; leaves with a dense appressed indumentum over the whole lower surface; juvenile leaves < half the length of the adult leaf

subsp. *amphitricha*

Ascending to erect habit with erect columnar branches to 2m tall, rarely prostrate; adult leaves with a sparse to dense indumentum on the lower surface; juvenile leaves as long as the adult

subsp. *sulphurea*

The absence of short hairs on the outer surface of the perianth leads you to three potential subspecies separated on the basis of their leaves. You must next examine the shape of the leaf.

There are two subspecies with elliptic, narrow-elliptic or ovate leaves

If the leaves are mostly 10–20mm long, 1.5–2.5mm wide; spreading shrub to 2m.; flowers usually yellow or orange; innermost pair of lateral veins on upper surface of leaves joining the midvein at c. 90° at extreme base of leaf

subsp. *trinervis*.

If the leaves are mostly 15–35mm long, 2–6mm wide; prostrate to low spreading habit; flowers usually red; the innermost pair of lateral veins on upper surface of leaves joining the midvein at an acute angle just above the leaf base

subsp. *allojohnsonii*.

There are three subspecies recognised with linear, sublinear or acicular-subulate (very narrow) leaves

If the leaves are < 1mm wide there are two subspecies to separate using the following key:-

1. Upper leaf surface with three prominent longitudinal veins; adult leaf angularly deltoid to trigonous in cross-section, not adaxially convex-rounded; leaf margins angularly revolute or refracted; low spreading shrub to 1 (rarely 1.5)m tall

subsp. *juniperina*

2. Upper leaf surface with only the midvein evident or if intramarginal veins evident then the latter not prominent; adult leaf usually rounded

(adaxially convex) in crosssection or sometimes angularly deltoid; leaf margins smoothly to angularly revolute; ascending to erect shrub with columnar branches to 2m tall, or rarely prostrate

subsp. *sulphurea*

If the leaves are >1mm wide, there are two subspecies to separate using the following key:-

1. Robust shrub 1–3m tall, with strong erect central stem at base and many spreading to ascending lateral branches; leaves angularly deltoid to trigonous in cross-section (not smoothly convex); upper leaf surface with 1–3 prominent longitudinal veins; lower surface with a dense appressed indumentum; flowers red or rarely pink

subsp. *fortis*

2. Sprawling or weakly erect shrub with main branches spreading at ground level and then ascending or erect-columnar, to 2m tall; leaves usually markedly rounded-convex in cross-section; upper leaf surface with 1–3 veins visible but usually scarcely prominent; lower surface with a dense to sparse appressed indumentum; flowers dull yellow or orange

subsp. *sulphurea*

The separation of subsp. *sulphurea* is somewhat artificial, especially since a number of specimens do not have erect hairs on the outer perianth and must be separated on other characters, many of which overlap with yet other subspecies. Makinson himself states (P. 214) 'given the apparent intergradation, and the variation, within this subspecies, its delimitation should be regarded as provisional'. Try though you might, nature does not always accommodate us with neat boxes into which we can fit taxa. On the other hand, subsp. *sulphurea* is thought to be extinct and is unlikely to be the plant collected which much reduces the difficulties associated with identification.

The *Speciosa* subgroup

G. juniperina R. Br. subsp. *juniperina*

G. juniperina subsp. *trinervis* (R.Br.) Makinson

G. juniperina subsp. *allojohnsonii* Makinson

G. juniperina subsp. *amphitricha* Makinson

G. juniperina subsp. *fortis* Makinson

G. juniperina subsp. *villosa* Makinson

G. juniperina subsp. *sulphurea* (A. Cunn.) Makinson

In Pursuit of the Historical *Grevillea sericea* (Sm.) R. Br.

Part 1

My (JW) interest in history and the life of **George Caley** in particular, led me one day, in November 1985, to a search for George Caley's 'Thick Brush Hill', a landmark named by him on his 'Journey to the Sea' in February 1805. Caley had been collecting plants, birds and animals in the colony since his arrival at Port Jackson in 1800, where he had been sent in the employ of Sir Joseph Banks. Not long after his arrival, he settled in Parramatta, not far from the holdings of John & Elizabeth MacArthur whose sheep ultimately roamed over most of the land from Mobbs Hill to the Golf Links and well westward of Pennant Hills Road. By this time, Macarthur had bought and amalgamated many of the small farms that had been established in the district earlier, later exchanging them for land in the Camden district.

According to his diary, Caley set out from Macarthur's farm at Pennant Hills on Monday 18th February 1805. He headed east north-east. As he approached the coast, the date not precisely recorded, he collected near a place he called 'Seasight Hill', later established as near Belrose, a *Grevillea* to which he gave the name 'E. [Embothrium] pinnatum'. Robert Brown, after first giving consideration to the name '*Grevillea blechnifolia*', a name recorded on several specimen sheets at the time, ultimately named this plant ***Grevillea caleyi*** in his honour, (Brown 1830: 22). Brown had a great admiration for Caley and had collected with him while in Australia in 1802. He wrote '*Grevillea* is probably the most extensive genus of Proteaceae in New Holland. Besides the Proteaceae described or noticed in this paper, I am acquainted with several very beautiful species chiefly of *Grevillea* and *Persoonia*, discovered in New Holland by Mr George Caley, a most assiduous and accurate botanist, who, under the patronage of Sir Joseph Banks, has for upwards of eight years been engaged in examining the plants of New South Wales, and whose numerous discoveries will, it is hoped, be soon given to the public, either by himself, or in such a manner as to obtain for him that reputation among botanists to which he is well entitled.' (Brown 1810a: 170).

Another of Caley's collecting localities on this day was 'Thick Brush Hill'. Here he collected several other *Grevillea* specimens, now held in the Natural History Museum, London, (BM), among them a plant with lilac flowers and another with cerise flowers. These specimens were examined by me (JW) in 1987. On one collection, determined as *Grevillea speciosa* by D.J. McGillivray in 1976, Caley had recorded *Feb 21, 1805. Fl inclining to scarlet. Journey to the sea, 1805*'. On another, determined similarly as *Grevillea sericea*, Caley's label states '*Journey to the Sea, Feb 21st, 1805. fl lilac*'.

Where precisely was George Caley's 'Thick Brush Hill'? Our initial guess was that it referred to the elevated land to the south of what was once the Narrabeen National Fitness Camp, now known as the Sydney Academy of Sport and Recreation. Of particular interest on that hill was an abundance of *Grevillea* plants with flowers of an unusual colour – cerise, rather than red or pink. However, after consultation with Alan Andrews, a Caley enthusiast of long standing, and a more careful study of Caley's map, we (JW TE & AA) three ascended the hill to the north of Middle Creek, north-west of Narrabeen Lagoon. From this hill the bearing Caley gave to Seasight Hill (Belrose) best fitted. Furthermore, the *Grevillea* plants in this area showed the same variety of colours as observed on the hill behind the Fitness Camp. Indeed, the flower colours ranged between the red of *Grevillea speciosa* and the pale pink of *Grevillea sericea*. This confirmed our determination that this was Caley's 'Thick Brush Hill'.

Caley's journal indicates that his Journey to the Sea concluded on Wednesday 20th February 1805, when he walked around Narrabeen Lagoon near present-day Narrabeen beach. The discrepancy between the date on one specimen cited above as Feb 21st is explained possibly by his specimen notes being written up later. The expedition marked the first venture by European man into the area. It has subsequently been determined that the plants recorded and collected by Caley were from a hybrid swarm between *Grevillea speciosa* and *Grevillea sericea*. A plant sold commercially today as *Grevillea* 'Collaroy Plateau' was selected from this population. The importance of this is that this is the first record of

continued >

a naturally occurring hybrid *Grevillea* population, pre-existing interference to the environment by European man or the presence of European honey bees. In other cases, hybridisation of naturally occurring species has been caused apparently by disturbance of the natural environment. In this case, it is unclear why the species barrier had broken down. *Grevillea speciosa* is a bird-pollinated species whereas *Grevillea sericea* is insect-pollinated. Although the European honey bee is very active on flowers of *Grevillea sericea* in modern times, another pollinating vector must be considered when assessing the way these two species hybridised before its arrival.

Some years later, influenced by Caley's discoveries and motivated by an interest in the people who had been involved in the story of the Australian genus *Grevillea*, we decided to embark on the historical pursuit of one plant, *Grevillea sericea*, conjointly the first *Grevillea*, along with *Grevillea buxifolia*, to be formally named. It was hoped that the excellent and comprehensive works published by Don McGillivray, Bob Makinson, Peter Olde and Neil Marriott would inform our study. A history of even one single flowering plant in Australia (or any country) involves a number of aspects such as taxonomy, nomenclature, distribution, phenology, biogeography, Aboriginal usage and names, the early European botanists and collectors, and the personalities involved in that pursuit, as well as the continuing study by dedicated botanists right up to the present time.

Grevillea sericea is not an endangered or vulnerable species even though its habitat has been greatly diminished by European settlement since 1788. It flowers all months, but mainly August–December. The Sydney aborigines who occupied the lands where *Grevillea sericea* occurs seem to have had limited or no use for the local grevilleas. Certainly no name has been given for *Grevillea sericea* by early linguists, few though they were, recording the Aboriginal language. These lists are now available online through the State Library of New South Wales website. For the Dharawal people, much of their essential survival needs were met by the produce of the sea and land animals. From this it can be assumed with a fair degree of certainty that the plant did not form an important part of aboriginal culture. Aboriginal names for plants lacking importance to their culture were sometimes generic rather than specific. No names have been recorded for any of the local

Sydney grevilleas and even a possible generic name sadly has been lost. Too small for firewood, lacking nectar useful to sweeten drinking water, and without any other apparent economic value, *Grevillea sericea* was mostly ignored by them.

The first Europeans placed the Australian members of the Proteaceae in the South American genus *Embothrium*, a genus erected in 1776 by father and son botanists **J.R & J.G.A. Forster**. Opinion on this was later divided. The presence of **Joseph Banks** and **Daniel Solander** with Lt. James Cook in 1770 when the east coast of Australia was discovered saw members of the genus *Grevillea* collected for the first time. Banks collected *Grevillea mucronulata* at Botany Bay in April 1770. Three other species, *Grevillea pteridifolia*, *Grevillea glauca* and *Grevillea parallela* were collected in June at Endeavour River. More collections (same species) were made in August at Lookout Point, Cape Fear and Possession Island. Solander recognised, even in 1770, the similarity of the flowers to the South African Proteaceae that he had seen earlier on the voyage. He unofficially named members of the genus *Grevillea* 'Leucadendroides'. Solander's manuscript name is also recorded on Sydney Parkinson's four illustrations of *Grevillea* species. These four plants were not formally named until 1810 by Robert Brown who placed them in *Grevillea*. The 'magnum opus' planned by Banks to illustrate and describe all the new species on his voyage did not eventuate in his lifetime but was eventually published in 34 volumes as a commemorative edition (Solander et al. 1980–1990).

John White. The next plant collections from Australia came as a result of the establishment of a penal colony at Port Jackson in 1788, the year of the arrival of the First Fleet. John White (?1756–1832) was Surgeon-General to the First Fleet, and was responsible for many of the first plant collections made in Sydney. Before leaving London, White had arranged with his friend, Thomas Wilson, to provide material for a book about New South Wales and its plants and animals, a task which he finished during 1788. On 24 August 1788, White recorded 'During our return [from Broken Bay] we picked up, in the distance of about half a mile, twenty-five flowers of plants and shrubs of different genera and species, specimens of which I have transmitted to Mr Wilson, particularly Red Gum Tree.'

continued >

According to Alex Chisholm, the editor of the facsimile edition (1962), White 'does not appear to have had any training in natural history, but, in order to oblige a friend, he rendered very useful service by collecting, during exploratory journeys and in individual wanderings, many of the 'non-descript productions' of a strange land. It would seem, indeed, that he devoted a great deal of time – almost every daylight hour that could be spared from professional work – to the gathering of plants, mammals, birds, reptiles, fishes, shells, and insects.'

Wilson edited the journal, and secured the co-operation of three eminent scientists to describe his specimens, plants by **[Sir] James Edward Smith** (1759–1828), mammals by John Hunter (1737–1821), other animals by George Shaw (1751–1813). He also hired artists to make drawings of specimens for the book. White's 'Journal of a Voyage to New South Wales' was published in 1790, with seven new plant species described by Smith. The journal contained descriptions of climate, terrain, animals and plants. Specimens sent to London in late 1788 by White are to be found today in James Smith's herbarium, to whom they had been given by Wilson. Duplicate material is held in other herbaria at Liverpool Museum, UK (LIV), Conservatoire et Jardin Botanique, Geneve, Switzerland (G), Harvard University USA (GH) Sydney (NSW) and the Botany Department, Academy of Natural Sciences, Philadelphia, Pennsylvania, USA (PH).

Smith's Herbarium

The herbarium of James Edward Smith, the Smithian Herbarium, is housed in the offices of the Linnean Society of London, Burlington House, Piccadilly. In this collection one can find three different plants under Item 161, *Embothrium*:

- 0161_6 *E. sericeum* [m. Sm.]
Grevillea punicea Br. Prod. n.1.
 New South Wales,
 Mr. White 1793
- 0161_7 *E. sericeum* [m. Sm.]
 Andr. t. 100 New South Wales,
 Mr White, 1793
Grevillea sericea Br. Prod. n. 3.
- 0161_8 *E. sericeum* [m. Sm.]
 New South Wales,
 Mr White, 1793
E. lineare Andr. t. 272
Grevillea linearis Br. Prod. n. 4.

James Edward Smith. James Smith was born into wealth and after training in medicine, from a young age developed an interest in natural history. In 1783, he purchased the entire collection of books, manuscripts and specimens of the Swedish natural historian and botanist Carolus Linnaeus, following the death of his son Carolus Linnaeus the Younger. In 1788 he founded and became first president of the Linnean Society of London, remaining its president until his death. Smith was a productive and capable botanist and entomologist. His association with the publisher and engraver/illustrator James Sowerby produced in 1793–95 the first work on the Australian Flora entitled 'A Specimen of the Botany of New Holland'. This was originally published in parts together with Zoology of New Holland by George Shaw. The title of the combined work is: Zoology and botany of New Holland and the isles adjacent. In Volume 3: 25–30, published in 1794, Smith described the first two plants that would later be referred to *Grevillea*, *Embothrium sericeum* and *Embothrium buxifolium*. Both species were named from specimens given to him by Wilson and collected by John White.



James Edward Smith

continued >

In describing *Embothrium sericeum*, Smith gave the following species characters.

SPEC. CHAR. E. *foliis ternatis integerrimis revilutis subtus sericeis, spica recurva, fructu tuberculato glabro.*

Leaves ternate, entire, revolute, silky beneath. Spike recurved. Fruit tuberculated, not downy.

'THIS shrub is said to form a bush four or five feet in Height. Our knowledge of it is entirely from dried specimens and drawings, for it has not yet been raised from any seeds brought to Europe. In New South Wales it should seem to be not uncommon, flowering in October.

The *root* is perennial, thick and woody. *Stem* very much branched even from the bottom, round, the younger branches angular; and clothed with fine silky down, as are likewise the flowerstalks, corollae, and backs of the leaves. The *leaves* are for the most part ternate, covering the branches without any order, nearly sessile, the uppermost, or those that grow on the weaker branches, being simple. Their form is mostly elliptical, sometimes linear, always tipped with a minute very sharp point, entire, revolute, three-nerved, and veiny, the lateral nerves running in a very peculiar manner very near the margin and along the sharp edge made by its being turned in; upper surface bright green, smooth, and naked. *Stipulae* none. *Spikes* terminal, solitary, short and dense, recurved, simple. *Flowers* on shortish, alternate, solitary, simple footstalks, all directed upwards, without *bractae* or *involucra*. Corolla rose-coloured, silky without, clothed partly with very dense erect hairs within, and split about half way down into four segments. *Antherae* small, yellowish, sessile in the hollow tips of the corolla, as in other species of this genus. *Germs* oval, green; *style* smooth, red; *stigma* hemispherical, smooth. *Follicle* oval, black, tuberculated, destitute of hair or down, brown within. *Seeds* two, flattish, attached by a very short wing to the upper end of the follicle.

In choosing the epithet perhaps Smith knew of the ancient Greek and Roman word 'Seres' the name for the north-western part of China, and its inhabitants, meaning of 'of silk', or 'land where silk comes from' and is thought to derive from the Chinese word for silk, 'si'. It is itself at the origin of the Latin word for silk, 'serica', and in the epithet alludes to the silky hairs on the plant, particularly the undersurface of the leaf.

Smith divided White's specimens of '*Embothrium sericeum*' into three varieties, later to be recognised as three distinct species. 'There are three very remarkable varieties of this species, viz.', he wrote, perhaps presciently, anticipating the taxonomic difficulties that would surround this and related species over the next 200 years.

α minor. This is its most frequent appearance and is what we have principally represented in the figure (ed. now *Grevillea sericea* (Sm) R. Br.).

β major. In all parts twice as large, and somewhat less silky. (ed. now *Grevillea speciosa* (Knight) McGillivray).

§ angustifolium. With very long and linear leaves, and flowers like var. α (ed. now = *Grevillea linearifolia* (Cav.) Druce).

In November 1800 George Caley wrote this note about one of his collected specimens: '*Embothrium sericeum* var. *angustifolium*. Agrees both with the description and figure in Dr Smith's Botany of New Holland, excepting that in this the flowers are white, whereas in the other they are said to be of a rose colour.'

The description is accompanied on Page 28 by an illustration. James Sowerby prepared the engravings, based on the plant specimens and drawings done in Australia. It is thought by some that Thomas Watling (1762–?1810), a convict artist of some ability who arrived in 1792 and was assigned to White, may have done the original artwork. Some of his drawings at the Natural History Museum, London, can be identified as probably assisting Sowerby in his interpretation of the plant's colour and form. From the most attentive consideration it appears these, however different in appearance and even in the figure of their leaves, are really not specifically distinct, were Smith's concluding comments.

For its time, Smith's description of *Embothrium sericeum* was extremely comprehensive and detailed, certainly better than anything produced by Robert Brown for any species of *Grevillea*, though perhaps lacking the insight and species concepts of that great man.

Unaware of the work of Smith, and using a completely different source (the collections of Luis Née), Antonio Jose **Cavanilles** also included the same three species in *Embothrium*. Née's collections were made in 1793 when two

continued >

Spanish ships commanded by Don Alejandro Malaspina and Don José Bustamante visited Port Jackson on 13 March, remaining there 27 days. A report of this visit was sent in a despatch to London by Lieut. Governor Grose on 19 April 1793. Cavanilles described and named what today we know as *Grevillea sericea*, *Embothrium cytisoides* (Cavanilles 1798:4:60, t. 386 fig. 2). In the world of botany, priority in naming goes to the first published name, in consequence of which Cavanilles' name for *Grevillea sericea* is now treated as a synonym. However, Cavanilles' *Embothrium linearefolium*, now *Grevillea linearifolia* (Cav.) Druce has priority over Brown's *Grevillea linearis* (J. Kennedy) R. Br., first published as *Embothrium lineare* in 1803 (Kennedy 1803: t.272), because the name was published earlier (1798) than either Kennedy's or Brown's.

In parallel with the botanical world, the horticultural world also had a great interest in the Australian flora. According to the nurseryman John Kennedy (Kennedy 1800: t 100), *Embothrium sericeum* was introduced to cultivation in England between 1791–1792 as a result of the seed collections of **Colonel William Paterson** (1755–1810). Paterson arrived in Port Jackson in October 1791 and nine days later was sent to Norfolk Island, returning to New South Wales in March 1793. If he did collect seeds during that short stay, their despatch could only have been via the *Supply* which left Sydney on 26 November 1791, reaching England on 21 April 1792 (Cavanagh 1990). By 1808, most botanists, including Jonas Dryander (1748–1810), Robert Brown (1173–1858), R.A. Salisbury (1761–1829) and James Smith were agreed that *Embothrium* was not an appropriate genus in which taxa now referable to *Grevillea* were best placed.

One person who was greatly influenced by the plants in cultivation was the botanist, **Richard A. Salisbury**. Writing [almost] anonymously in the work of Joseph Knight (Knight (& Salisbury) 1809), ostensibly a work on cultivation, Salisbury published three new genera, *Lysanthe*, *Stylurus*, and *Grevillia* R. Br. The first two genera were originally conceived and erected by Salisbury himself. Into his genus *Lysanthe* Salisb., he placed among others (Knight 1809:118), Smith's *Embothrium sericeum* var. α *minor*, creating the name *Lysanthe sericea* (Sm.) Salis. & Knight, as well as *Lysanthe speciosa* Salis. & Knight – but not acknowledging or realising it was the same as Smith's *Embothrium sericeum* var. β *major*,

and *Lysanthe linearifolia* (Cav.) Salis. & Knight in which he not only recognised the priority of Cavanilles epithet but added two varieties based on flower colour, the first the very faintest purple, the second a clear purple. (These colours are not clearly recognisable in *Grevillea linearifolia* which has white or pink flowers with darker tinges).

Variet. α : *Petala pallidissime purpurea*.
 β : *Petala purpurea*.

Interestingly Salisbury also recognised *Lysanthe riparia* Knight & Salisb., a plant of which had been cultivated from seed collected also by Paterson, almost certainly on the Grose River. Unfortunately there is no representative specimen of the Paterson collection and the plant cannot be identified with certainty, in consequence of which Salisbury's name has been treated as a name of uncertain application and he has not subsequently been credited with any authority for the name. After giving a short Latin description of *Lysanthe riparia*, this is what Salisbury wrote (Pp. 118–119): Riparia River-side Lysanthe. Confounded with the following [*Lysanthe linariaefolia*], but very distinct, and more likely to damp off in winter, so that it is now scarce, though many plants were raised by Messrs Lee and Kennedy in 1791. It grows wild near Port Jackson, and may be propagated by cuttings as well as seeds, which ripened abundantly at Clapham in 1807. Leaves 2/3 to one line broad, 2 1/2 inches long: from being so narrow, their lateral nerves running along the reduplication may be easily overlooked, but are very evident in living specimens. Beard of the petals exceedingly thin beyond the pericarpium. [ovary]'

Salisbury also recognised, obviously without seeing a specimen, Cavanilles' name for *Grevillea sericea* by describing *Lysanthe cytisifolia* (Cav.) Salis. & Knight (ibid: 119). He then compounded his ignorance by referring to synonymy under it *Embothrium sericeum* as it had been treated by two other horticultural authors, Kennedy (Kennedy 1800: 100) and Sims (Sims 1805: 862), both of whom even illustrated the plant. It is difficult to know why Salisbury considered that the plants illustrated by Kennedy and Sims were more allied to Cavanilles *Embothrium cytisifolia* than Smith's *Embothrium sericeum*. Salisbury described it as having leaves 2–3 lines long and 9–12 wide, narrow lanceolate, the beard on the petals stopping at the ovary

continued >

('barba petalorum ad pericarpium desinente') and the margin of the torus strongly prominent ('tori margine valde prominente'). These are also characters of *Grevillea sericea* and furthermore Cavanilles never mentioned them.

Salisbury was the first to publish the genus *Grevillea*, spelt *Grevillia*. It is certain that Salisbury 'borrowed' the name from Brown after sitting and listening to his reading before the Linnean Society in 1809. He even attributed the name to him in his work so he was not trying to steal it but his application of it was entirely different to that of Brown, being restricted to a few species only. By the way, there is convincing evidence that Brown first received a suggestion from Dryander about this name before adopting it in 1810 and that he had no greater claim to it than Salisbury. Salisbury's three genera included different species of taxa now referable to *Grevillea* as we know it today. It is possible, after DNA studies currently in progress are assessed, that one or more of these names may have to be resurrected if it is decided that the genus *Grevillea* is not monophyletic and new genera are created.

The real leap in knowledge about Australian flora came after the extended visit of the great **Robert Brown** to Australia's shores between 1801–1805. Brown wrote in his diary, in the South Atlantic Ocean, on his way to New Holland, 14 September 1801: 'From 9 till 2 employed in examining Specimens of New Holland Plants. *Embothrium buxifolium*. *E. sericeum* Smith. *E. linearifolium* Cav.' (Vallance et al. 2001: 65). While in Australia, he collected widely in the Sydney region especially in the first half of 1802 and the last half 1804 and early 1805. On his return to England in 1805 Brown began writing up his work, first reading a paper to the Linnean Society in 1809 and then publishing it in 1810 (Brown 1810a), along with a commercial publication on the Australian flora in the same year (Brown 1810b). In these works Brown erected two genera in which all of the *Grevillea* species known today have been recognised. By far the largest and ultimately the only accepted genus was *Grevillea*. Not only did Brown recognise *Grevillea sericea* (Sm.) R.Br. but two other species, *Grevillea riparia* R. Br. and *Grevillea stricta* R. Br., distinguishing them on the basis of the leaf veins, 'scabris denticulatis' in the former and 'laevibus' (smooth) in the latter. McGillivray

(1993: 340) reduced both to synonymy under *Grevillea sericea*. Both of these species Brown collected either personally or with the help of others, among them George Caley, without giving due credit. The most likely source of the name 'riparia' is from its horticultural history, probably from Colonel Paterson who remitted seeds or less likely from Lee and Kennedy who grew it.

Brown also recognised Smith's two varieties of *Embothrium sericeum*, var. *major* and var. *angustifolia* as distinct species, providing the names respectively *Grevillea punicea* R. Br. and *G. linearis* (Kennedy) R.Br. though in the latter case the prior publication by Kennedy was not acknowledged in the authority by Brown. Worse than that, Cavanilles name '*linearifolia*' had priority and was completely overlooked by Brown. Salisbury on the other hand did acknowledge it. A kind interpretation of Brown's error would that it was a simple mistake, though it is hard to reconcile it with the vindictive attitude of Brown and the botanical establishment towards Salisbury, who miscalculated publication dates (see below).

Later botanists, such as Professor **Carl Meisner** who examined both Smith's and Brown's specimens, continued recognition of Brown's species, albeit with reservations. Salisbury's names and the nomenclatural priority they deserved were ignored by the botanical establishment after they accused him, perhaps unfairly, of plagiarising some of Brown's work by publishing before him after listening to Brown's public discourse on the Proteaceae in 1809. From this Salisbury took up some of the names in Brown's paper. He may not however have anticipated that Knight's work would be published before that of Brown's. Salisbury from that time was *persona non grata* (including even to the time of Bentham and later) even though the great part of the work published in Knight does not remotely resemble Brown's. Furthermore, as Olde & Marriott have pointed out, Brown was not above doing the same thing vis a vis Salisbury. (Olde & Marriott 1994: 23). Salisbury never published anything afterwards.

About *Grevillea stricta* Meisner observed ...*Excepto habitu stricto rigidiore et foliis margine scabris omnia fere G. linearis* (Meisner 1856: 356).

continued >

Basically translated from the latin the statement says it was scarcely distinct from *Grevillea linearis* (syn. *Grevillea linearifolia*) except in its more rigid, erect habit and the scabrous margins of the leaves. Meisner (1856: 356) expressed similar doubts about *Grevillea riparia*, stating however that it too was perhaps a variety of *Grevillea linearis*. In 1870, the great **George Bentham** referred both *Grevillea riparia* and *Grevillea stricta* to synonymy under *Grevillea linearis*, thereby not only failing to recognise the priority of Cavanilles name '*linearifolia*' for the species but demonstrating yet again the taxonomic difficulties associated with *Grevillea sericea* and its close relatives. The matter was further clouded by Bentham including *Grevillea diffusa* Sieber ex Sprengel as a variety of *Grevillea sericea*. (Bentham 1870 (5): 470). *Grevillea diffusa* is now recognised as a distinct and separate species. The confusion begs the question, not explored here, about what characters Brown, Salisbury, Meisner and Bentham saw as fundamental to *Grevillea sericea*, and the other related species mentioned as well. It was not until 1917 that George Claridge Druce (1850 – 1932), an English chemist and botanist, published the new combination *Grevillea linearifolia* (Cav.) Druce, from which time this name gained full acceptance.

Thereafter botany of the genus *Grevillea* stagnated until 1949. The question of priority raised its head again. Priority rules said the generic name should be spelt *Grevillia* following Salisbury because, notwithstanding the personal acrimony and injustice, it had been published first, not *Grevillea* as had been adopted since Brown (1810). However, the Committee for Spermatophytes decided to conserve the Brown spelling, perhaps acknowledging, like Salisbury did, that it was Brown's name, and to change it would achieve very little.

The appearance of **D. 'Don' J. McGillivray** on the botanical scene at the herbarium of New South Wales quickly saw at least one necessary rectification. In 1975, McGillivray recognised the priority of Salisbury's name '*speciosa*' over Brown's '*punicea*' and changed the name of the relevant species to *Grevillea speciosa* (Knight) McGillivray (McGillivray 1975: 24).

Perhaps the most important contribution to the taxonomy of this group came in 1993 when, for the first time, McGillivray proposed clear principles through which the closely related species *Grevillea linearifolia* and *Grevillea sericea* could be identified with certainty and separated from each other by means of a detailed description and key. According to McGillivray (1993: 340) the characters defining *Grevillea sericea*, after measurement of scores of specimens, are:-

- pistil length 14–19 mm long.
- style more or less evenly curved to noticeably bent c. 2–4 mm from the apex.
- flowers pink to mauvish or purplish pink or rarely white.
- leaves elliptical to oblong-elliptical or narrowly so, narrowly obovate, sublinear, or obovate.
- the most strongly evident part of the beard on the inside of the perianth situated at or slightly above the midpoint between the torus and the curve.

In this work, McGillivray selected a lectotype of *Grevillea sericea* from among the specimens collected by John White in the Smith herbarium (McGill.: 441). Types were also lectotypified for *Grevillea riparia* and *Grevillea stricta*. (A lectotype is a specimen or illustration selected from among those cited with the original description to serve in place of a holotype where the holotype is missing or destroyed, or where no holotype was designated. The aim of selecting a type is to link with certainty the application of the name to a designated specimen representing it.)

McGillivray transferred both *Grevillea riparia* and *Grevillea stricta* to synonymy under *Grevillea sericea* (McGillivray 1993: 441). However, by including *Grevillea dimorpha* F. Muell. and *Grevillea oleoides* Sieber ex Schultes & Schultes f. as subspecies of *Grevillea speciosa* and by leaving *G. linearifolia* as an unresolved complex that included in synonymy *G. halmaturina* Tate, *G. leiophylla* F. Muell. ex Benth. and *G. parviflora* R. Br., *G. patulifolia* Gand. along with more than 10 other populations, unexplained specimens, more questions were raised than were solved. The proposed broad-concept treatments did not stand for long, though they served as a very useful first-step taxonomy.

part 2 continued in next newsletter
– see over page for bibliography.

Bibliography

- Andrews, Alan E. (1984) *The Devil's Wilderness*. (Blubber Press: Hobart).
- Beadle N, Evans, Carolin (1973) *Flora of the Sydney Region*. (Reed: Artarmon).
- Bentham, G. (1863-70) *Flora Australiensis*. Vols I-5 (Reeve & Co.: London).
- Brown, R (1810a) On the Proteaceae of Jussieu. *Trans. Linn. Soc.* 10: 15-226.
- Brown, R. (1810b) *Prodromus Florae Novae Hollandiae et Insulae Van Dieman* (Johnson: London).
- (Brown, R. (1830) *Supplementum Primum Prodromi Florae Novae Hollandiae*. (Taylor: London).
- Cavanagh, A. (1990) Australian plants cultivated in England, 1771-1800 in *History of Systematic Botany in Australasia* (ASBS:South Yarra, Vic).
- Cavanilles A.J. (1798), *Icones et Descriptiones Plantarum...* 4: 59-60, Madrid.
- Druce, G.C. (1917) Nomenclatural Notes.... *Botanical Society & Exchange Club of the British Isles* 4(5), suppl. 2: 625.
- Field, B. (1825) 'Geographical Memoirs on New South Wales' (John Murray: London).
- Forster, J. R & Forster, J. G. A. (1776) *Characteres Genera Plantarum* 15. (London).
- Gilbert, L. A. (2001) 'The Little Giant - The Life and Work of Joseph Henry Maiden' (Kardoorair Press: Armidale, N.S.W).
- Gilbert, L. A. (1986) *The Royal Botanic Gardens Sydney* (Oxford University Press: Melbourne).
- Jacobs S.W.L. & Pickard, J. (1981) *Plants of New South Wales*. (D.West: Sydney).
- Hewson, H. (1999) '300 Years of Botanical Illustration' CSIRO, Collingwood, Victoria.
- Kennedy, J. (1800) *Embothrium sericeum*. *Botanists Repository* 2: t.100 (T. Bensley: London).
- Kennedy, J. (1803) *Embothrium lineare*. *Botanists Repository* 4: t.272 (T. Bensley: London).
- Knight, J. (& Salisbury, R.A.) (1809) *On the Cultivation of the Plants belonging to the Natural Order of Proteaceae*. (William Savage: London).
- Makinson R. (2000) *Grevillea*. *Flora of Australia Volume 17A* (ABRS:)
- McGillivray, D.J. (1975) *Australian Proteaceae: new taxa and notes*. *Telopea* 1: 19-32.
- McGillivray, D. J., assisted by R. O. Makinson (1993) *Grevillea*. (Melbourne University Press: Carlton).
- Meiser, C. (1856) *Proteaceae*. in A.P.de Candolle, *Prodromus Systematis Naturalis Regni Vegetabilis* 14: 349-393 (Treuttel & Würtz: Paris).
- Olde, P. & Marriott, N. (1994-1995) 'The Grevillea Book' Vols 1-3. (Kangaroo Press: Kenthurst, Australia).
- Sims, J. (1805) *Embothrium sericeum*. *Curtis' Botanical Magazine* n. 862.
- Smith, J. E. (1793-95) 'A Specimen of the Botany of New Holland' (J. Sowerby: London).
- Solander, D., Parkinson, S., & Banks, J., (1980-1990) *Banks' Florilegium*. 34 volumes. (Alecto Historical Editions & British Museum of Natural History: London)
- Vallance, T.G., Moore, D.T., Groves, E. W. (2001), "Nature 's Investigator": The diary of Robert Brown, 1801-1805 (ABRS:Canberra).
- Webb, J. (1995) *George Caley*. (Surrey Beatty: Chipping Norton)
- White, J. (1790) 'Journal of a Voyage to New South Wales' (J. Debrett: London)
- White, J. (1790) 'Journal of a Voyage to New South Wales', facsimile edition of 1962, (Angus & Robertson: Sydney).

Direct deposits can be made into the Grevillea Study Group account

BSB 112-879

Account Number 016526630

(St George Bank).

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

or by post to
**Grevillea Study Group,
PO Box 275 Penshurst NSW 2222**

Pronunciation of Botanical Latin

Response to Eleanor Handreck's comments in Issue 80 on my article in Issue 79.

My original article presented the internationally-recognised, reformed academic pronunciation of Latin as taught in schools and universities and as given in Stearn's 'Botanical Latin' for the pronunciation of botanical names. I offered linguistic and cultural arguments in support of the use of this pronunciation and in criticism of the various anglicised systems proposed and/or used among the various anglophone botanical and horticultural communities.

Instead of debating these issues directly, Eleanor Handreck, citing authors who support anglicisation, chose to dispute certain correct reformed academic pronunciations which I gave in my article for the Latin diphthongs **ae** and **oe**, and of **c** (= 'k') before **e**, **i**, **y**, **ae** and **oe**. Of course she is entitled to prefer the anglicised pronunciations systems to the academic one, but she should say so at the outset, and make a proper case for her opinion, instead of just appealing to authority. (One of my main objections to anglicised pronunciations is the reduction of so many different vowels and vowel clusters like **ae**, **oe**, **ea** and **eaē** to the sound **E** - the same sound as Latin *i*). However, I do agree with Eleanor that, unlike most botanical names, certain words in common use in English like haemoglobin, encyclopaedia, oesophagus, and some generic names like acacia have established anglicised pronunciations.

The issue of silent initial consonants in words beginning **cn**, **ct**, **pt**, **ps** etc. is likewise a matter of anglicisation - they would not be silent in the reformed academic pronunciations. To state that these combinations are 'unpronounceable' is to beg the question, We have no trouble in pronouncing them in words like acne, act, apt, tops, and even manage to say "p'tosspr'm" and "c'toneaster". The Greeks have the letter ψ ('Psi') and my old Concise Oxford gave alternative pronunciations for **psychology** with the **p** either silent or sounded (as in French). The Germans have their **knabe** (= boy) and the Sydney Zoo has a baby polar bear called 'Knut' which 7TV presenter Koch pronounced without difficulty. Some cannot even manage to pronounce the consonant clusters in English words like asthma, vulnerable, February, asphalt, calculate, solve, solder, nuclear, antarctic, interesting, etc.

The comments on my pronunciations for **j** and **w** are taken out of context. Where they occur in Botanical names derived from European surnames names they should be pronounced like the surname of the person so honoured. Most authors agree on this. The letter **j** has also been used by some Europeans as a variant of the Latin *i*, especially (like our **y**) at the beginning of a word, and in the academic reformed pronunciation should be pronounced like the English **y** in yes. The few words likely to be in contention would be **Jasminum**, **Juncus** (and derivatives like **juncifolia**), **Buddleja** and **lelostyla** (which I have always heard pronounced 'buddleia' and 'lelostyla').

Stearn's advice can be taken as supportive of either system, but I consider that he downplays the importance of spoken botanical Latin. I also consider that in the multicultural environment of Australia and the European Union, and in modern international broadcasts and at conferences, anglicisation of foreign words, including Latin ones, is no longer culturally appropriate. Because the APS has long supported the use of scientific names for Australian plants, we can thereby help promote the current revival of interest in learning foreign languages and Latin in particular.

Baines (in Australian Plant Genera) made some effort to address the issues, but argued that whatever system one used should be fully consistent, and so advocated the support of complete anglicisation of Botanical names. However, as shown in my tables, Australians already use some of the reformed academic pronunciations for long **i** and **a** in the endings of words like **costata**, **hookeriana**, **vestita**, **collina** - not as in potato and China as Baines and others have recommended. In fact, I was gratified to read in the third edition of Plant Names (2007), that the authors Lumley, Spencer and Cross, while advocating anglicisation, now support the academic pronunciation of the long Latin **a** as in **father** - not as in **made** as they did in the first edition.

Grevilleas in Galore Hill nature reserve

Anyone working in a retail nursery will have this conversation with a customer eventually.

Customer: I'm looking for a plant but I don't know what it's called.

Staff: can you describe it for me.

Customer: well its got green leaves.

After having this conversation more than once in the last four years I was presently surprised when a customer specifically asked for *Grevillea magnifica* or *Grevillea petrophiloides*. The customer explained that he had visited recently visited Galore Hill nature reserve near Lockhart, which is approx 50km west of Wagga. The study group visited here during the 2001 Grevillea crawl.

His interest in these plants was due to the fantastic flowering display they were producing despite the very dry conditions. As I had not visited these plantings for some years I decided to check on the general condition of the plants and try to obtain seed, cuttings or seedlings.

Driving through the dry countryside looking at the failed crops I couldn't but help wonder as to the accuracy of the customers description of the grevilleas. In fact as I drove through the reserve and looked at the other plantings and the surrounding bush land I felt very worried as to what I would find.

On arrival it was quite obvious the description of the plants was quite understated. Standing out like beacons were *G. magnifica*, *G. petrophiloides* and *Grevillea oligomera* in full stunning flower. Or in the words of a friend "they are going off like a frog in a sock". Each species has a distinct flower colour, form, leaf colour that is quite obvious when grown together. I liked very much the form and colour of *G. oligomera*.

On closer inspection of the plantings it was obvious that nearly all the eastern grevilleas were dead including locals like *Grevillea floribunda* and *Grevillea wilkinsonii*. Only a few *Grevillea rosmarinifolia* hybrids were still barely alive.

Along with the already mentioned species the following western species are worthy of mention. *Grevillea intricata* although heavily pruned back to less than 40cm high looked very healthy and flowering well.

Grevillea corrugata is huge, fully 3m high and wide with masses of fresh new growth and not very spiky. Both *Grevillea tetragonoloba* and *Grevillea rigida* were putting on a great display and looked very healthy. *Grevillea insignis*, *Grevillea obliquistigma*, *Grevillea calliantha* and *Grevillea fililoba* were doing well with the last species growing there for many years.

I managed to get lots of cutting material from several species mostly from the first three mentioned species. I was very surprised that any of the grevilleas had put on new growth given the serious lack of rain in the region.

If any study group member is in the area I recommend a visit, as the reserve has some very interesting flora.

As a postscript to my article on searching for *Grevillea anethifolia* a friend was telling me of his new truck-driving job. He told me that he visits all those areas mentioned in the article and all the areas to the north I was unable to get to. This sounds like problem solved until I mention that he doesn't know a rose from a bottlebrush. So if any group member is driving on the Kidman way to Cobar or in the Condoblin area and points west then please keep an eye out.

Recently I was putting some garbage out when as I went past my large *Grevillea wilkinsonii* in full smelly bloom I noticed the bush covered in bogong moths obviously pollinating the flowers.



Grevillea magnifica (P. Olde) The Grevillea Book Vol 3

Rats to that

I was working on a garden in Cardiff last week when suddenly a Tawny Frogmouth (night bird) fell out of the tree next to us screaming and throwing its head back and rolling its eyes in pain. It screamed in pain, and screamed very loudly for the whole 20 minutes or so it took for us to pick it up and take it to the nearby vet. The vet said she'd call the native experts – wildlife carers. She said it looked thin but had no broken bones or obvious injury. It was most likely poisoned by rodent or cockroach bait poison.

Then I just read the February Landcarer newsletter. Apparently there are some people upset because they found some other animals poisoned recently too – at Green Point Foreshore Reserve, they found “a Masked Owl, Kookaburras and Ravens”, and at Valentine, “a 1.5metre Diamond Python” – all apparently poisoned by mouse and rat baits.

Rodenticides are dangerous. I have read that apparently, in America, 14% of human deaths relating to toxins were due to rat poisons. But wildlife are also poisoned from it when they see a mouse, rat, or cockroach running around and eat it – unbeknowns to them that it has been eating a poison – and probably even more easy to catch!

All rat poisons are dangerous but some are worse than others. Most are based on anticoagulants and are of 2 basic types – multi-feed (eg. the chemical warfarin (Ratsak), and coumatetralyl (Racumin); and single-feed rodenticides (eg. brodifacoum (Talon), bromadiolone (Bromakil).

Brodifacoum (single feed) is about 40 times more potent than warfarin and can easily kill a owl that eats the mouse or rat – and even fish if it gets into a stream or pond. It is also a highly cumulative poison.

Signs of poisoning include: anaemia from blood loss over several days; bloodstained faeces, blood appearing in the saliva or appearing from the nose, breathlessness from blood pooling in the chest cavity; weakness; crying out in pain, and convulsions.

Information offered at http://en.wikipedia.org/wiki/Rat_poison includes:

Traps such as the old wooden traps, cages, and drums where they fall in with a 'see-saw' added. An alternative is the use of biological, non-toxic, yet lethal baits, consisting of anhydrous powdered maize/corn cobs, containing high fractions (over 40%) of β -cellulose, which is incorporated into a solid, gastric-resistant matrix, that is dissolved in the gut. The β -cellulose anhydrous powder released in the gut of the rodent disrupts water and electrolyte balance and so kills the rodent. This material is commonly formulated with taste and flavour additives to increase its palatability, and is compressed into granulate of appropriate size (granules of bigger size for rats, smaller granules for mice). This material is completely non-toxic, leaves no harmful residues, is environmentally friendly and accidental ingestion of it by pets or children is simply treated by giving laxatives, plenty of water and electrolytes. Dead rodents killed by this mean pose no risk of secondary poisoning.

Newer rodenticides have been developed to work with by reducing the sperm count in males to deprive them of the ability to procreate rather than to kill rodents outright. They are usually administered in the breeding seasons of most rodents.

Of course, the best idea is to eliminate the problem in the first place by making sure rats and mice can't get to where you don't want them, by keeping all food scraps in tight containers they can't get to, and by making sure your compost bins are buried very deeply so they can't tunnel under.

Landcare will issue fact sheets soon.

Kind regards,

Maree McCarthy

P: 4943 0305 M: 0410 405 815

Nature's Magic Garden Designs
'Supporting Earth to sing her songs'

Effects of Fire in Stawell

Our block at Stawell was burnt out a couple of years ago and it will take a long time to recover. The fire crew bulldozed a break the length of the block to protect a settlement of houses on that side which may have saved them but my Banksias, Hakeas etc were bulldozed bare rooted on tops of heaps of soil.

A couple of weeks later our neighbours saw smoke from a smouldering tree and called the fire crew in again and they drove over and killed a couple of *Grevillea sarissa* that I had which were in an open patch and unburnt. I got these plants from David Shiells some years ago and although they survived the fire they did not survive the fire crew.



Grevillea sarissa (F. & N. Johnston) The Grevillea Book Vol 3

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.

<i>Grevillea armigera</i>	<i>Grevillea monticola</i>
<i>Grevillea aurea</i>	<i>Grevillea nudiflora</i>
<i>Grevillea baileyana</i>	<i>Grevillea paniculata</i>
<i>Grevillea bipinnatifida</i>	<i>Grevillea petrophiloides</i>
<i>Grevillea candelabroides</i>	<i>Grevillea polybotrya</i>
<i>Grevillea drummondii</i>	<i>Grevillea pteridifolia</i>
<i>Grevillea excelsior</i>	<i>Grevillea pulchella</i>
<i>Grevillea decora</i>	<i>Grevillea refracta</i>
<i>Grevillea floribunda</i>	<i>Grevillea superba</i>
<i>Grevillea glauca</i>	<i>Grevillea teretifolia</i>
<i>Grevillea goodii</i>	<i>Grevillea tetragonoloba</i>
<i>Grevillea johnsonii</i>	<i>Grevillea triloba</i>
<i>Grevillea juncifolia</i>	<i>Grevillea wickamii</i> ssp
<i>Grevillea leucopteris</i>	<i>aprica</i>
<i>Grevillea longistyla</i>	<i>Grevillea wilsonii</i>
<i>Grevillea magnifica</i> ssp	
<i>magnifica</i>	

Free + s.a.e.

<i>Grevillea banksii</i>	<i>Grevillea leucopteris</i>
– grey leaf form	<i>Grevillea longistyla</i>
<i>Grevillea banksii</i>	<i>Grevillea</i> 'Moonlight'
– red tree form	<i>Grevillea</i> 'Moonlight x
<i>Grevillea banksii</i>	Ivanhoe'?
– red prostrate	<i>Grevillea petrophiloides</i>
<i>Grevillea Bon Accord</i>	<i>Grevillea plurijuga</i>
<i>Grevillea caleyi</i>	<i>Grevillea robusta</i>
<i>Grevillea endlicheriana</i>	<i>Grevillea</i> 'Sandra Gordon'
<i>Grevillea floribunda</i>	<i>Grevillea superba</i>
– ex The Rock NSW	<i>Grevillea stenobotrya</i>
<i>Grevillea johnsonii</i>	<i>Grevillea treueriana</i>
<i>Grevillea johnsonii</i> 'Orange'	<i>Grevillea wilsonii</i>

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

Garden seed is desperately needed for the seed store so anything members can provide will be greatly appreciated. Just a reminder, a small post pack will survive the 80 metre stretch of sorting rollers much better than an envelope with seed wrapped in bubble wrap packing.

Financial Report – October 2008**Income**

Subscriptions	\$385.00
Plant sales	2,354.00
Donations	175.00
Interest	40.98
Seeds	21.50

\$2,976.48

Expenditure

Newsletter publishing	\$270.00
Printing	428.05
Postage	140.15
Bank fees	2.50

\$710.70

Amount in Interest Bearing Deposit till 30/6/09
\$22,779.13

Balance in Current Account 23/9/08
\$6,625.89

Balance in Business Cheque Account 22/9/08
\$10,815.27

Office Bearers**Leader**

Peter Olde
 140 Russell Lane, Oakdale NSW 2570
 Phone (02) 4659 6598
 Email peter.olde@exemail.com.au

Treasurer and Newsletter Editor

Christine Guthrie
 PO Box 275, Penhurst NSW 2222
 Phone / Fax (02) 9579 4093

Curator of Living Collection

Neil Marriott
 PO Box 107, Stawell Vic 3380

Curator of Grevillea Park Bulli

Ray Brown
 29 Gwythir Avenue, Bulli NSW 2516
 Phone (02) 4284 9216

Curator of Seed Bank

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

Email Group

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

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

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

Following this you will receive the latest emails regularly in your email to which you can respond. This is a good way to encourage new growers and those interested in the genus.

Postmessage: grevilleas@yahoogroups.com

Subscribe: grevilleas-subscribe@yahoo.com

Unsubscribe: grevilleas-unsubscribe@yahoo.com

List owner: grevilleas-owner@yahoo.com

URL to this page: <http://groups.yahoo.com/group/grevilleas>

Online Contact

1. President's email address
peter.olde@exemail.com.au
2. The email group
grevilleas@yahoogroups.com
3. URL for Grevillea Study Group website
<http://users.bigpond.net.au/macarthuraps/grevillea%20study%20group.html>

Deadline for articles for the next newsletter is 30 September 2008, please send your articles to peter.olde@exemail.com.au before this date.

If a cross appears in the box, your subscription of \$5.00 is due.

Please send to the Treasurer, Christine Guthrie, PO Box 275, Penhurst 2222.

Please make all cheques payable to the Grevillea Study Group.

2007

2008

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