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Front and back covers: *Eremophila flaccida*. Photo: Maree Goods

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Australian Plants articles

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Contributions and offers to produce an issue are welcome. Please contact:

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Introduction

John Aitken, Editor, Australian Plants.

Australian Plants provides an excellent forum for the exchange of knowledge between those who have an interest in, and a passion for Australian native plants. It also enables contributors to share their expertise and experiences in propagating, conserving and growing Australian flora.

I am always impressed by the depth of knowledge that many members of the different Regions affiliated with the Australian Native Plants Society (ANPSA) have of Australian native plants. The majority of contributors to this journal have no formal training in botany, but, rather, are 'self taught'. They have acquired their knowledge and expertise through personal experience, which has been driven by their passion for Australian native plants and they freely share their experiences and expertise with others. All the articles in this issue have been written by such people and I am sure that you will agree with me that each author has made a valuable contribution to our understanding about the plants, geographical areas and issues that they addressed in their articles.

Contributions, no matter how significant or insignificant you may feel them to be, are always welcome. Can I encourage you to think very seriously about supporting your journal in this way? For many years, we have relied on excellent articles by a variety of authors. It would be wonderful if there were more contributors who could share their enthusiasm and knowledge with others. If you are interested in writing articles please contact us at edap@ausplants-nsw.org.au for more information.

In this issue, Charles Farrugia and Maree Goods share their experiences in growing the desert loving eremophilas under very contrasting climatic conditions. Margaret Bradhurst and Doug Rickard write about the delights of the flora on Kangaroo Island, South Australia. Although they only spent four days there, they discovered a plethora of plants which challenged them to revisit the Island in the future to further explore its beauty. Lloyd Hedges has a passion for the Channel Country in south western Queensland. He has spent much time exploring the area, both in the dry and wet seasons. In his article, Lloyd introduces us to this magnificent part of Australia and its diverse flora. Most of us know that the genus, *Banksia* was named after Sir Joseph Banks. Not many of us, however, know who the genus *Boronia* was named after. In his article, Dick Burns introduces us to the obscure Francesco Borone after whom the genus was named in his honour after he was killed falling out of a window.



Growing eremophilas in Western Sydney

Charles Farrugia

Charles has been a member of the Australian Plants Society NSW for 30 years and is an active member of the Eremophila Study Group. His garden in Western Sydney, NSW, contains over 80 different species of eremophilas, which are growing successfully despite Sydney's summer humidity.

Eremophila means 'desert loving' and this genus is typically found in arid and semi arid regions of all mainland states. They grow in a variety of soil, some in heavy clay subject to periodical flooding after irregular rainfall. Others grow on the crest of sand dunes but most prefer loamy soils with varying degrees of sand and clay. Their habitat is harsh, typically with very hot summers and long dry periods.

Eremophilas vary in size from very small prostrate ones to small trees. Their foliage varies from silver-grey to dark green and it has been said that they have the greatest diversity of foliage of any genus in Australia, ranging from broad to narrow and from viscid to woolly. Their floral colour range includes all shades of red, blue, pink, purple, yellow and white. They also attract insects and birds to the garden.

Contrary to widely held beliefs, quite a few species of eremophilas can be grown in the Sydney region as long as there is good drainage, good air movement and at least 5-6 hours of sun. Most of the *Eremophila maculata* forms, along with a lot of *Eremophila glabra* forms, can be easily established in Sydney gardens. There are quite a few other eremophila species that can be grown too. Many eremophila species need to be grafted for them to handle Sydney's climatic conditions. They are normally grafted onto *Myoporum* rootstock.



Eremophila maculata red and yellow forms

Photos: Brian Walters



Charles and Leonie Farrugia's front garden in Western Sydney, NSW, where 80 different species and types of eremophila are being successfully grown.

Photo: Charles Farrugia

Growing, planting and caring for Eremophilas in our garden

Here at Seven Hills, in Sydney's western suburbs, we are on a sloping, east facing suburban block with clay soil and we have about eighty seven eremophila species and hybrids. A lot of these are grafted, others grow on their own roots.

Most of our eremophilas are grown or grafted from cuttings kindly sent to us by interstate members of the Eremophila Study Group. Once the cuttings/grafts have taken they are hardened for about 3 weeks in a semi-shade location and then potted into 14 cm pots. The medium used is native plants potting mix, mixed 2:1 with cow manure, plus some dolomite and blood and bone. A spoonful of Osmocote Plus is also added. Once the plants are showing good healthy growth they are planted in the garden. This is done during late summer or late winter.

Before the plant is planted, the planting hole is flooded with water. Once the water has drained out, the plant is planted about 2-3 cm below the ground level. More fertiliser is sprinkled around the plant and then it is watered in. The area is then covered with mulch – gravel around the stem, and leaves and grass mulch on the outside area. This is the last

time our eremophilas are fertilised or watered until desperation point is reached in times of drought. When the ground is too dry and the eremophilas are looking stressed, then enviro-friendly grey water is pumped straight from the washing machine to different sections of the garden. Sometimes, up to three loads of washing machine water goes onto one area. The response from the eremophilas is almost instant with flushes of new growth and even some flowers later on.

Some favourites

Eremophila denticulata ssp *trisulcata* is the most important species in our garden. It grows on its own roots and is so easy to strike that if a cutting is left sitting in a container with water, within 4 to 5 weeks it will form a root system. This Western Australian eremophila was acquired when we visited an Eremophila Study Group member's property in Dubbo, NSW. At the peak of the drought, this eremophila was growing in rock-hard, dry clay soil when everything else around it looked stressed or was dead. Some of the species/hybrids that have been successfully grafted on to this rootstock are *E. denticulata*, *E. nivea*, *E. tetraptera*, *E. lactea*, *E. ionantha* x *E. caerulea*, *E. freelingii* and *E. splendens*.

Unfortunately many of our favourite species are among those that are hard to maintain in the Sydney region. These all have very attractive, grey leaves and large blue flowers and need to be grafted.

- *E. fasciata* – from Western Central WA and grows to over 1 m high. It has grey-green leaves and blue flowers.
- *E. hygrophana* – from the arid regions of central WA, Northern S.A. and Southern N.T. It is a low shrub, which grows to 0.75 m, with hairy grey-green leaves and blue flowers.
- *E. mackinlayi* – from Western Central WA, which grows to 1.5 m high and has hairy green-grey leaves and purple flowers.
- *E. warnesii* – from the arid regions of Western Central WA that grows to 1 m high with hairy silver-grey leaves and lilac flowers.

As these species have very hairy leaves they cannot tolerate wet foliage, which can cause quite a bit of dieback from fungus. If the plant is well established it will usually make new growth below the damaged section but may need pruning to tidy it up. The best location to grow these species is a sunny position with very good airflow, although we have an *E. fasciata* and *E. hygrophana* in an area where during the winter months they are in shade from early afternoon onwards. These species can also be grown in large pots where they can be moved into a sheltered location when rain threatens.



E. fasciata
Photo: Andrew Harvie



E. fasciata bush
Photo: Charles Farrugia



E. warnesii
Photo: Maree Goods



Non-grafted plants

Some of the hardier non-grafted species/hybrids that seem to handle any climatic conditions include:

- *E. dempsteri* from WA – a broom like shrub that grows 1.5m to 2m – is quite outstanding when in full bloom covered in small white flowers.
- *E. dichroantha* from WA – another upright broom like shrub up to 2m., with green leaves and small purple flowers.
- *E. divaricata* x *E. polyclada* ('Summertime Blue') – this is quite an attractive shrub with dark green leaves and lilac flowers.
- *E. glabra* 'Arrow' – a cultivar that is extremely hardy on its own roots or grafted. It was obtained from WA as a cutting. It has bright green leaves and golden-yellow flowers on and off during the year but mainly through spring and summer. It grows 1.5 m to 2 m and can handle heavy pruning. The grafted species is a lot more vigorous then the non-grafted one.
- *E. gilesii* x *E. latrobei* ('Yana Road') – from Central Western Qld. It has grey-green leaves and bright pink flowers and mainly flowers from spring to early summer. It is a grafted plant in our garden and seems to be in flower for the best part of the year. It is much appreciated by the Noisy Miners.
- *E. laanii* – a very hardy species that has various forms of white, crimson and pink flowers. It can grow up to 3 m and can become very tangled. Heavy pruning will stimulate fresh growth.

Grafted Eremophilas

- *E. bowmanii* ssp *latifolia* – from northern SA, southern Qld and north-west NSW. It grows to about 1.5 m high and has grey leaves with mauve flowers.
- *E. bowmanii* ssp *nutans* – a small compact shrub that hardly needs pruning.
- *E. glandulifera* – from central WA. This plant is an upright shrub to 1.5 m high with grey leaves and pink flowers. Flowering is during winter to early spring. It is a really outstanding grey-leaved species that can become leggy if not pruned. It responds well to having about 10 cm taken off the top.
- *E. muelleriana* – from western central WA. This species grows to 2 m high and has grey-green hairy leaves, with golden-coloured young growth and deep purple to black flowers.



E. bowmanii ssp *latifolia*
Photo: Keith Boschen



E. glabra subsp *tomentosa*, Grey Ghost
Photo: Andrew Harvie



E. divaricata x *E. polyclada*, Summertime Blue
Photo: Maree Goods



- *E. pantonii* – from central and southern WA. It grows to about 1.5m high and is a broom like shrub with silver-grey leaves and pale lilac to purple flowers.
- *E. pterocarpa* – from central WA. It is a compact shrub, growing to 2 m, with silver-grey leaves and pale pink flowers.



E. muelleriana
Photo: Maree Goods



E. pterocarpa
Photo: Maree Goods

- *E. splendens* – from western central WA. It has oval, hairy, olive-green leaves and orange-red flowers. This has to be one of the hardiest grafted eremophilas in our garden. Although this is a hairy plant, which means problems during rainy periods, it handles anything that Sydney climate throws at it. It responds very well to good rainfall with an abundance of new growth. However, it needs to be pruned hard to keep it in shape.
- *E. youngii* – from central and southern WA and NT. It is an upright plant, growing to 2 m high, with silver-grey leaves and brick-red flowers.
- *E. youngii ssp lepidota* – pink flowers.

The latest addition to our garden is a grafted *E. acrida*. This species is found in southern NT and the southern portions of western Queensland.

It has hairy bright green leaves and white flowers. Since planted in the garden, this plant has quickly spread to about 1 m and is 0.75 m high. This species is giving indications that it could be another eremophila that could handle Sydney's weather conditions.



E. splendens
Photo: Andrew Harvie



E. youngii
Photo: Andrew Harvie



E. subteretifolia
Photo: Maree Goods



Prostrate Eremophilas

Some prostrate eremophilas look outstanding scrambling over rocks or covering a rock face. Suggested ground-hugging species for such a purpose include:

- *E. debilis* – the only eremophila endemic to the Sydney region, with bright green leaves and white or lilac flowers. This species seems to prefer a semi-shade or broken shade situation. Also, this is the only eremophila we had natural germination from, albeit three seedlings.
- *E. glabra* – prostrate with small green leaves and red flowers.
- *E. glabra* 'Kalbarri Carpet' with silver-grey leaves and golden-yellow flowers
- *E. glabra* 'Mingenew Gold' with bright green leaves and yellow flowers. It can grow 3 to 4 m wide.
- *E. prostrata* is a grafted prostrate species from Southern NT with upright green leaves and purple flowers.
- *E. subteretifolia* – from Southern WA. It has narrow green leaves and orange-red flowers.

In this article, I have only mentioned eremophilas that I consider have been “road tested” for the Sydney region.

Eremophila Study Group

Anyone interested in learning more about this fascinating genus should consider joining the Eremophila Study Group.

For further information, contact the group leader:

Colin Jennings, 4 Kinnaird Cres, Highbury SA 5089

Email: cje97694@bigpond.net.au ☎ (08) 8264 6490



Maree Goods

Maree is a Life Member of the Wimmera Growers of Australian Plants and a member of the Australian Eremophila Study Group. Maree and her husband, Graham, have been growing native plants for 37 years. She is a co-author of “Australia’s Eremophilas changing gardens for a changing climate”

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It is dry and still, with hardly a breath of air and the mirage shimmers on the horizon. What leaves are left on the shrubs are crisp, or drooping to avoid losing any more moisture. There are no flowers and have not been for several months. The ground is parched and hot to walk on. A willy willy picks up and breaks the silence as it increases speed stirring up the dry leaves, twigs and grass. As it passes, there is a narrow path of disturbance, then it all settles down quietly back to the same old scene. This can go on for days with the occasional break in the weather of lower temperatures for a day or two, before it heats up again.

Top of this page: *E. nivea* x *E. drummondii* shrub growing in Maree and Graham Goods’ garden, on the Wimmera Plains, which is north of Horsham, Victoria. Photo: Maree Goods.



This scene could be either in our garden on the Wimmera Plains in central western Victoria, or out in the arid lands of Australia. The difference between the two scenes is that ours has farm buildings and a home that is lived in, surrounded by a garden with acacias, sennas, and a eucalypt or two that have survived 12 years of below average rainfall. Many of the correas and other genera have died because they cannot survive without any supplementary watering. Even our local indigenous bulloke, *Allocasuarina lehmanniana*, is suffering from the dry. However, all is not lost. Eremophilas have taken a hold in our garden and as my husband, Graham, has often remarked, “We are overrun with them”. Despite this comment, I often hear him telling friends how tough eremophilas are and they are the only plants that flower during a drought.

The only water our garden has seen for the last two summers, is what has fallen out of the sky, or what has been caught in the rainwater tanks over the winter and from the occasional summer thunderstorm. I start the morning with my daily exercise of carting water from one tank at the back of the house to anywhere in the garden that needs a drink. I do have a system, which is working from one side of the house, round to the front, to the other side, and beyond. Our garden does stretch out beyond a normal sized suburban block. The hoses have been put away and two “trusty” nine litre buckets are used to carry water to eremophilas in need of saving, which are mostly those that are under six to nine months old. Most of the older eremophilas are sufficiently established to survive without any supplementary watering.

What we have in our dry, that is, very low water garden, is a very similar scenario to where eremophilas grow naturally in the drier regions of Australia. In the wild, the young plants which survive are those that have enough rain for them to get their roots down into the subsoil. During the long, dry periods, the more mature plants have an amazing ability to hibernate or go into dormancy until it rains, and then they flourish. They also have their own microsystems, which are another subject and a very complex one. Our travels throughout many parts of the arid lands of Australia have given us the opportunity to observe eremophilas in their natural habitat and to understand why they behave as they do in our garden.

Another reason for travelling outback is to collect material for pressing for reference or identification, and for propagation, as new eremophilas are still being discovered and whilst native plant enthusiasts have been growing some species of *Eremophila* for a few years, they are very new to the average garden. Any collecting has to be done by permit and a report provided, often to two different bodies. Three to four pieces, 10



E. neglecta



E. calorhabdos



E. fraseri

All photos on this page by Maree Goods



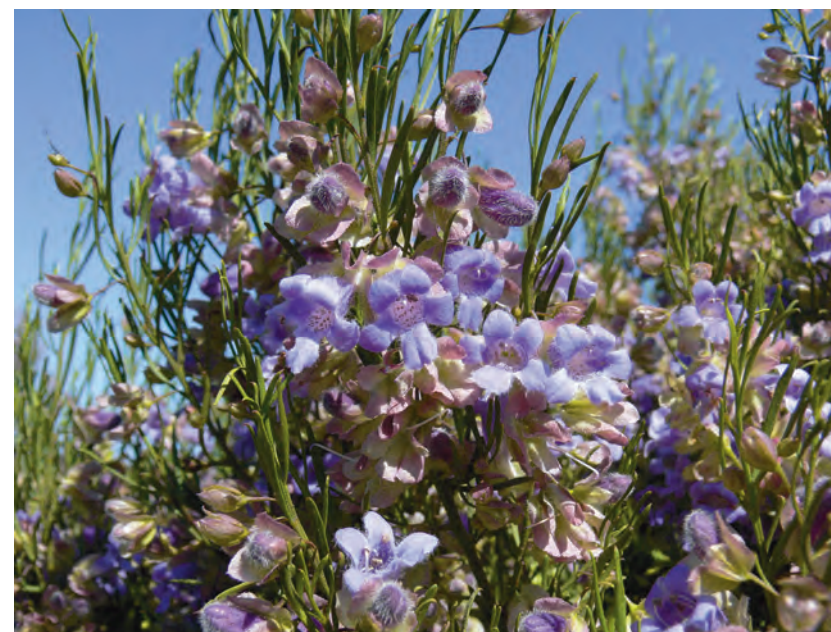
to 20 cm long from each plant, including any variations, are all that is necessary for pressing. If there are only one or two shrubs of a species, only two or three small pieces are taken as preservation of a species takes precedence.

The pressings are immediately stuck on to an A4 sheet with magic tape, which peels off the dried plant without causing any damage. The A4 sheet is dated, given a number, species name (if known), GPS position, soil type and surrounding vegetation.

I take photos with my digital camera and the photo numbers are recorded on the A4 sheet. The sheet and pressings are then placed in a discarded yellow pages telephone book, which is quite adequate and takes up less room than a press. Fruit is put in an envelope and the same number written on it. Propagating material is wrapped in slightly damp newspaper with the same number, GPS and name written on it in texta. All information must correspond for cross-checking when we arrive home. It is then placed in a fruit and vegetable storage bag (from supermarkets) and put into the 12-volt car fridge. This method of storing *eremophila* propagating material can be used any time, such as when collecting from a friend's garden. This is an exciting part of living in Australia because it is one of the few places in the world where we can explore and discover new species, bring them into cultivation, trial them, and eventually introduce them, not only to gardens in Australia, but also to the world. Many of our species of *Eremophila* are now being successfully grown overseas.

I find it good to share my material with other propagators. This spreads the risk and because each person's propagating techniques and systems are slightly different, this allows the greatest chance of getting cuttings to strike, or grafting to take. Most growers will normally graft the initial material because the success rate is higher and once material is available from young grafted plants, cuttings are tried. Even when I am given *eremophila* material of excellent condition out of a garden of a fellow grower, I always graft the first two or three pieces, and any material left over is used for cuttings.

There is a great sense of satisfaction bringing material from the wild, growing it and then sharing the plants with fellow growers. Some plants may go interstate and before long information on growth rate, type of soil plants are growing in, how often, if any, supplementary watering is used, and other information, starts to filter back. This has been one of the greatest attributes of the *Eremophila* Study Group, for members have been so willing to share and be involved in such pioneering work. The same can probably be said for any study group.



E. aureivisca

Photo: Keith Boschen



E. platycalyx

Photo: Maree Goods



I cannot say when the flowering season for eremophilas begins because I can usually walk around the garden any time of the year and there will be always be some in flower, perhaps not profusely but enough to add some colour. We had 26 mm of rain in a thunderstorm in January 2008 and three weeks later *E. mitchellii* was in full flower.

It had flowered profusely in October the previous year and four months later it was doing the same. This is often the case with eremophilas; they are opportunistic. The buds set and they remain in the leaf axils for many months, sometimes up to two or three years if it is too dry. Once it rains, or the plant receives a supplementary watering, the buds begin to expand and burst into flower within a few weeks. Flowering often continues if conditions remain ideal. In 2005 we planned to go to Rudall River National Park in Western Australia. We were planning to be there in August and I began the process of applying for a permit in April. The Department of Conservation and Land Management, as it was then known, advised us that it would be best to travel elsewhere because conditions were so bad. They did offer us some alternatives to consider. We were not leaving until July so we kept our options open. In June, Rudall River NP received 100 mm of rain and six weeks later when we were there, we found *E. pensilis*, a reasonably new plant in cultivation, and *E. latrobei* subsp. *filiformis* in excellent condition and in full flower. From reports, *E. pensilis* continued to flower till the following November due to mild conditions. From that trip we brought home some material of *E. pensilis* to propagate. Today we have a very small, but healthy plant growing, but a different form, which had previously been tried in cultivation. Just recently, after a long dry summer, I gave it a bucket of water and three weeks later it put on some new growth and a few flowers. Sometimes it does not take much for eremophilas to respond. We can think they look terrible, but all they are doing is protecting themselves from our harsh climatic conditions.

Some plants, I have found that do not seem to suffer at all from our hot, dry summers are the lovely, dense *E. caperata* with its delicate, pale pink flowers in early summer, *E. 'sulcata'*, which flowers around the same time and just as prolifically, and *E. falcata* which comes in various shades of pink or white. *E. calorhabdos* is wonderful in the garden with its long stems often curving in an arc under the weight of a honeyeater or rosella in search of its daily feed of nectar from the bright, pink flowers. For flowers over Christmas, *E. polyclada* with its white lilac-tinged flowers, and the taller, majestic shrub of *E. arbuscula* with its delicate cream flowers along the branches are delightful. Some of the species that flower earlier and are magic in the garden are *E. drummondii* with



E. latrobei subsp. *filiformis*.

Photo: Maree Goods



E. polyclada

Photo: Keith Boschen



its shades of mostly blue but sometimes white or pink flowers, and any of the forms of *E. maculata* and *E. glabra*. *E. glabra* varies from a prostrate plant to two to three metres high, with foliage from bright green to silver-grey, and flowers of yellow, orange, green or shades of red. This species could be planted throughout a garden, because it is so variable and normally very hardy.



E. hygrophana shrub growing happily in the Goods' garden.
Photo: Maree Goods

Another of my favourites is *E. platycalyx*, for the flowers, consisting of the corolla and the sepals are extremely colourful, with the sepals deepening in colour, often to a deep pink, after the corolla has fallen. From a distance you could be excused if you thought it was still in full flower. Other species that have the same attribute are *E. cuneifolia*. ("Wow", this is one species everyone wants to grow.) *E. aureivisca*, *E. flaccida*, and *E. fraseri*.

Eremophilas are an exciting genus and we have enjoyed learning about them and sharing with others. The last decade of drought has made it more important to share our knowledge with gardeners everywhere, so that others can also have a colourful garden in a very dry climate. A suitable eremophila can be found to thrive in just about any situation but it is important to choose the right species, and to water and prune it appropriately.

Editor's comment

An excellent reference book, which is intended to assist any gardener to grow eremophilas successfully, is '*Australia's Eremophilas changing gardens for a changing climate*' by Norma Boschen, Maree Goods and Russell Wait. This book includes 272 pages of information on the cultivation and tips for growing and propagating most of the described species and 510 coloured photographs. Copies of this book are still available and enquiries can be made either by email at eremophilas@skymesh.com.au or by phone on (03) 5383 2229.



E. glabra orange flowers
Photo: Maree Goods



E. maculata
Photo: Keith Boschen



Endemic plants of Kangaroo Island

Doug Rickard

During his working life Doug was an instrumentation and control engineer. After he retired, he joined the Australian Plants Society, NSW to learn more about the flora of his local area. He has since photographed many of the native plants in the Sydney area and has travelled extensively to photograph plants in other parts of Australia.

Two things really impressed me about Kangaroo Island: one was the way the South Australian (SA) Government, the SA National Parks and Wildlife Service and the local inhabitants are striving to protect the island's large areas of unspoilt wilderness and its unique flora and fauna, the other was the sheer size of the place. Kangaroo Island is bigger than most people realise – it is 155km east to west and 55km north to south at its widest point. This makes it the third largest island off the Australian coast (only Tasmania and Melville Island are bigger).

Kangaroo Island separated from the rest of Australia about 8,900 years ago, which is long enough for some of the flora and fauna on the island to start to evolve away from those on the mainland. An example of a species that is in the process of continuing to evolve in isolation is *Lasiopetalum schulzenii*, the Drooping Velvet Bush. The Kangaroo Island form of this plant has narrower leaves than those on the mainland. Another local subspecies that differs from the plants that grow on the mainland is *Zieria veronicea ssp. insularis*, the local form of the Pink Zieria.



Above: *Lasiopetalum schulzenii*
Left: *Zieria veronicea ssp. insularis*.
Photos: Margaret Bradhurst

It is known that some of the species that once existed on the island have died out, whereas they still flourish on the mainland. Conversely, it is possible that this isolation has enabled some species to survive on the island after those on the mainland died out.

We were surprised at the diversity of the flora – 891 native plant species have been recorded on the island. Over 400 of these are found in the Flinders Chase National Park at the western end of the island, making it the most representative area of original flora. Because of its isolation from the mainland, Kangaroo Island has 46 endemic plant species. There are others that are found only on the island and on the nearby tip of the Fleurieu Peninsula.

In spite of the great work being done to protect the native species of the island, a number of the ecosystems and individual species are either under threat or are listed as endangered. The main threats are in the east of the island where most of the 4,400 population live and where the majority of the island's agriculture is concentrated. The principal problems faced by the flora on the island are:

- Loss of habitat – particularly as the result of agricultural land clearance.
- Stock grazing on private land.
- Soil disturbance due to road works, etc – particularly where an isolated population is near to a road.
- Fire – mainly due to its too frequent occurrence, but in some cases it can be the lack of fire.
- The spread of fertilisers from agricultural land adjacent to areas of native vegetation.
- The impact of *Phytophthora cinnamomi* dieback.

With species that are only found in one or two locations on the island, any one of the above can be catastrophic.

In some areas you can add to the above list the effects of overgrazing by the burgeoning koala population. High numbers of this introduced species have had a significant effect on a number of Eucalypts. Although the affected trees are not endemic to Kangaroo Island, they form an essential part of the ecosystems in a number of locations. Particularly threatened is *Eucalyptus viminalis ssp. cygnetensis*, the Rough-barked Manna Gum, which is the koala's favoured food source. A management program that was started in early 1997 involving the sterilisation and translocation of some koalas has resulted in some trees in heavily browsed areas showing signs of recovery. *E. fasciculosa* and *E. ovata* are two other species that have suffered from over grazing by koalas.



Excluding grasses, sedges, rushes and ferns, the following species are endemic to Kangaroo Island – the 10 highlighted in red being those listed as vulnerable or endangered:

Acacia myrtifolia var. *angustifolia*
Achnophora tatei
Acrotriche halmaturina
Adenanthos macropodiana
Allocasuarina muelleriana var. *notocolpica*
Asperula euryphylla* var. *tetraphylla
Bertya rotundifolia
Beyeria subtexta
Brachyloma ericoides var. *bicolour*
Calytrix smeatoniana
Cheiranthra volubilis
Correa calycina* var. *halmaturorum
Correa reflexa var. *nummulariifolia*
Cryptandra waterhousii
Dampiera lanceolata var. *insularis*
Eucalyptus remota
Grevillea muricata
Grevillea quinquinervis
Grevillea rogersii
Hakea aenigma
Irenepharsus phasmatodes
Logania insularis
Olearia ciliata var. *squamifolia*
Olearia microdisca
Petrophile multisecta
Lasiopetalum schulzenii (K.I. form)
Leionema equestre
Pimelea macrostega
Platysace heterophylla var. *tepperi*
Pultenaea insularis
Pultenaea species 'A'
Pultenaea teretifolia var. *brachyphylla*
Pultenaea trifida
Pultenaea villifera* var. *glabrescens
Spyridium bifidum var. *integrifolium*
Spyridium eriocephalum* var. *glabrisepalum
Spyridium halmaturinum var. *integrifolium*
Spyridium halmaturinum var. *scabridum*
Stylidium tepperianum
Tetratheca halmaturina (see below)
Tetratheca insularis
Ziera veronicea

Narrow-leaf Myrtle Wattle
King Island (K.I.) Daisy
K.I. Ground Berry
K.I. Silver Bush
K.I. She-oak
Broad-leaved Woodruff
K.I. Bertya
K.I. Turpentine Bush
K.I. Brush-heath
K.I. Fringe-myrtle
Twining Finger-flower
de Mole River Correa
Round-leaf Correa
Long-leaved Cryptandra
K.I. Dampiera
K.I. Mallee-ash
Rough-leaved Grevillea
Five-veined Grevillea
Rogers Grevillea
Flat-leaved Hakea
Fire-growing Irenepharsus
K.I. Logania
K.I. Fringed Daisy-bush
Small-flowered Olearia
K.I. Conesticks
Drooping Velvet Bush
K.I. Phebalium
Big-headed Rice-flower
K.I. Platysace
Beyeria Bush-pea
Scrambling Bush-pea
Needle-leaf Bush-pea
K.I. Bush-pea
Splendid Bush-pea
Forked Spyridium
MacGillivray Spyridium
K.I. Spyridium
K.I. Spyridium
K.I. Triggerplant
Leafless Pink Bells
Pink Eyes
K.I. Pink Ziera

Particularly vulnerable is the rare white form of *Tetratheca halmaturina* that is only found at one location near Mount Taylor.



Acacia myrtifolia var. *angustifolia*,
Narrow-leaf Myrtle Wattle
Photo: Doug Rickard



Grevillea quinquinervis,
Five-veined Grevillea
Photo: Doug Rickard



Tetratheca halmaturina,
Leafless Pink Bells
Photo: Margaret Bradhurst



Adenanthos macropodiana,
Kangaroo Island Silver Bush
Photo: Margaret Bradhurst



About 27% (or nearly 120,000ha) of the total area of Kangaroo Island is now included in conservation areas managed by National Parks & Wildlife SA. In addition, more than 100 other sites (over 24,000ha) are covered by Heritage Agreements on private land. So the future of the endemic plants on the island appears to be in good hands. However, I am sure that the folk in the NPWSA will be quick to tell you that there are still many challenges ahead.

References

The most useful of the many sources we referred to were:

1. *A Report to the National Land and Water Resources Audit, Conservation Strategy Case Study, Kangaroo Island Subregion, S.A.*, Nick Neagle, National Parks and Wildlife SA, 2002.
2. *It's Blue With Five Petals*, Kangaroo Island Field Guide, Ann Prescott, Adelaide SA. 1995
3. *Kangaroo Island Native Plants*, Ivan & Bev Holliday & Dean Overton, Swift Printing, Adelaide SA, 2003.
4. *Plant Lists, Kangaroo Island National & Conservation Parks*, National Parks and Wildlife SA.



Petrophile multisecta, Kangaroo Island Conesticks
Photo: Doug Rickard



Bertya rotundifolia, Kangaroo Island Bertya
Photo: Margaret Bradhurst

Orchids of Kangaroo Island

Margaret Bradhurst

Margaret has had a lifetime interest in native orchids and is a very keen photographer of native plants.

Photos: All photos by Margaret Bradhurst, except Caladenia sanguinea and Microtis arenaria, which are by Doug Rickard.

Filed away in my cabinet I had kept a list of over 60 orchids that had been recorded on Kangaroo Island. When the opportunity to visit South Australia came along, Kangaroo Island just had to be on the itinerary. It didn't disappoint.

I knew very little about Kangaroo Island, apart from the fact that Sea Lions and New Zealand Fur Seals were a major attraction. With an interest in all native plants, but particularly orchids, I was surprised to find how many different species of native plants grew on the island, and just how big the island was. After arriving by car on the ferry at Penneshaw, we soon realised that we would be doing a lot of driving if we wanted to explore the whole island in the four days available.

So where to start looking for orchids?

There are numerous Conservation Parks on Kangaroo Island, some are only quite small, but nevertheless orchids can still be found there. The smaller ones include Dudley, Baudin and Beyerie Conservation Parks on the eastern end of the island and the Vivonne Bay and Kelly Hill Conservation Parks on the southern side. Kelly Hill has about 23 species of orchids recorded while the far larger Flinders Chase National Park on the western end of the island nearby has over 30. The Stokes Bay Bush Garden on the northern side of the island is also worth a visit because native orchids can be seen growing in areas of natural bushland throughout the Garden and on the roadsides nearby. We found that the roadside edges throughout the island were good hunting grounds both for orchids and for many other native plant species.

It did not take us long after arriving on the island to find our first orchids by the roadside, not far out of Penneshaw.

A few of the many orchids that grow on Kangaroo Island are:

Caladenia sanguinea – Red Spider Orchid

A very distinctive species with long narrow dark-red to maroon petals and sepals with thread-like tips. They can have one or two flowers. We found this species in two locations including the roadside near Penneshaw and in Dudley Conservation Park.



***Caladenia valida* – Robust Spider Orchid**

This species is uncommon on the island so we were lucky to find several plants flowering in the Stokes Bay area. The petals and sepals are held quite stiffly and they have dark reddish clubs on the tips.



Caladenia sanguinea, Red Spider Orchid



Caladenia valida, Robust Spider Orchid

***Caladenia tensa* – Common Green-comb Spider Orchid**

Caladenia tensa is one of the many Green-comb Spider Orchids found in the southern states. Its labellum is edged with long very distinctive thin green teeth. Its petals and sepals have a central red stripe and thin yellowish clubs at their tips. Again, we found it on the roadside near Penneshaw.

***Caladenia carnea* var. *carnea* – Pink Fingers**

We found this orchid in a variety of habitats, its pale to bright pink petals and sepals spreading out like fingers on a hand. The three I photographed were growing amongst the gravel on the edge of Hog's Bay Road.

***Calochilus robertsonii* – Common Beard Orchid or Purple Beard Orchid**

Calochilus robertsonii seems to be the only bearded orchid recorded on Kangaroo Island. We found it in flower in just the one location in the Stokes Bay area. The 'beard' with its glistening reddish-purple hairs is the labellum and at the base of the labellum is a mass of small rounded purple calli.



Above: *Caladenia carnea* var. *carnea*, Pink fingers
Left: *Caladenia tensa*



Calochilus robertsonii, Common Beard Orchid



Diuris orientis, Donkey Orchid

***Diuris orientis* – Donkey Orchid**

The yellow *Diuris* or Donkey Orchids always add a splash of colour to the bush and we found many sites where *Diuris orientis* was in full flower. They have quite a stout stem 10-40cm in height and can have one to six yellow flowers with light brown markings. Their lateral sepals are often crossed under the flower. *Diuris* flowers are said to mimic some



of the yellow pea flowers to attract their pollinator which is deceived into thinking it is going to receive nectar from the flower.

***Leptoceras menziesii* – Rabbit Orchid**

Leptoceras menziesii is not found in NSW, so it was a particular delight to find it flowering on Kangaroo Island. Its two red-tipped petals stand erect, resembling rabbit ears. The two white lateral sepals either project forward or curl below the labellum whilst its dorsal sepal is hooded over the labellum. The specimens we found in the American River area were only about 6cm tall.

***Pterostylis pedunculata* – Maroonhood**

Our visit to Kangaroo Island was a little late in the season for most of the *Pterostylis* (Greenhood orchids) to be flowering, except for *Pterostylis pedunculata* which we found in a number of locations. A colony-former, it has a basal rosette of leaves. Its green flower has a brownish-red horizontal hood and two fine erect lateral sepals pointing up beyond the flower.

Some of the other Greenhoods on the island include *Pterostylis plumosa* (Bearded Greenhood), *Pterostylis sanguinea* (Banded Greenhood), *Pterostylis nana* (Dwarf or Snail Greenhood) and *Pterostylis nutans* (Nodding Greenhood).

***Thelymitra* – Sun Orchids**

Thelymitra or Sun Orchids are quite well represented on Kangaroo Island, but they need warm or hot sunny weather before they open their flowers fully. If the weather conditions are not right they remain closed. Some Sun Orchids are self-pollinating under these conditions. Cool windy weather during our stay meant that the only Sun Orchid we saw in full flower was *Thelymitra antennifera*.

***Thelymitra antennifera* – Rabbits Ears**

Each species of *Thelymitra* has its own distinctive column in the centre of the flower. The column of *Thelymitra antennifera* has two small prominent brown or red structures which resemble rabbit ears. The yellow flowers have a simple unadorned labellum which looks no different from the other sepals and petals.

Other *Thelymitra* orchids recorded from Kangaroo Island include: *Thelymitra aristata* (Great Sun Orchid), *Thelymitra flexuosa* (Twisted Sun Orchid), *Thelymitra benthamiana* (Leopard Sun Orchid), *Thelymitra luteocilium* (Early Pink Sun Orchid), *Thelymitra nuda* (Scented Sun Orchid), *Thelymitra pauciflora* (Slender Sun Orchid).



Pterostylis pedunculata, Maroonhood



Thelymitra antennifera, Rabbit ears



Leptoceras menziesii, Rabbit Orchid



***Microtis arenaria* – Sand Hill Onion Orchid**

Microtis arenaria is the most common and widespread of the Onion Orchids on Kangaroo Island and occurs in a variety of habitats, including sandhills (hence the common name). We found a group of them flowering by the side of the road not far from Penneshaw, then found several more in other locations. A hand lens is needed to identify Onion Orchid flowers because they are so tiny. In fact they have the smallest flowers in the orchid world. With *Microtis arenaria* the hood of each flower has a tiny upturned tip. Other species have been recorded on the island including *Microtis orbicularis*.

Some orchids we didn't find in flower:

***Caladenia latifolia* – Pink Fairies**

Caladenia latifolia is another pink spring-flowering *Caladenia* species. Although we did not find any in flower, it has been recorded from coastal and inland areas in a variety of habitats.

***Corybas* – Helmet Orchids**

In some areas we saw colonies of small rounded to heart-shaped leaves covering the ground. These belonged to the *Corybas* or Helmet Orchids that flower in winter or early spring. Their reddish-purple flowers are only 2-3cm tall, but after flowering their stems elongate considerably to aid seed dispersal.

Four species of Helmet Orchids have been recorded on Kangaroo Island: *Corybas despectans* (Tiny Helmet Orchid), *Corybas expansus* (Flared Helmet Orchid), *Corybas dilitatus* (Veined Helmet Orchid) and *Corybas incurvus* (Slaty Helmet Orchid).

***Cryptostylis subulata* – Large Tongue Orchid**

Cryptostylis subulata is extremely rare on Kangaroo Island. As it would normally flower during the summer months, we did not actually find it. However, of interest is the common name. I know it as the Large Tongue Orchid, other states refer to it as the Cow Orchid or Ducksbill Orchid. In my Kangaroo Island Field Guide, it is the Moose Orchid. It does illustrate the importance of using botanical names when we talk about native orchids and other native plants – at least we then know what we are all referring to!

***Pyrorchis nigricans* – Red Beak Orchid**

We saw some of the large flat heart-shaped leaves of the Red Beak Orchid but no flowers. The species name *Pyrorchis* meaning “fire” refers to the fact that they usually need fire to stimulate them into flower.



Caladenia latifolia, Pink Fairies



Cryptostylis subulata, Large Tongue Orchid, Cow Orchid, Ducksbill Orchid or Moose Orchid



Microtis arenaria, Sand Hill Onion Orchid



There are many more orchids to find

Different people over the years have searched the island for orchids and have made very useful lists. Today, the lists are a little difficult to follow because of recent name changes and loss of some species due to loss of habitat. Not having experienced Kangaroo Island orchids before, we hope that we were able to correctly identify those orchids that we saw. We are looking forward to a return visit in the near future to explore further and add to our list of Orchids of Kangaroo Island.

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1. *It's Blue With Five Petals*, Kangaroo Island Field Guide, Ann Prescott, Adelaide SA 1995.
2. *A Complete Guide to Native Orchids of Australia*, David L. Jones, Reed New Holland, 2006.
3. *Plant Lists, Kangaroo Island National & Conservation Parks*, National Parks and Wildlife SA.
4. Bob Bates, *Native Orchids of South Australia CD*, Edition 3, NOSSA 2009

Indigenous Orchid Study Group

Anyone interested in learning more about Australian native orchids should consider joining the Indigenous Orchid Study Group.

For further information, contact the group leaders:

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The Channel Country, Queensland – An introduction

Article and photos by Lloyd Hedges

Lloyd is a former industrial chemist with a passion for Australian native plants. Lloyd has a special interest in the Channel Country, Queensland, as his wife, Mary is a descendant of the Duracks, one of the major pioneering families of the area.

The Channel Country is located in the remote south west of Queensland and forms the mid regions of Australia's major internally draining river systems, on their way towards Lake Eyre. It features an arid landscape with a series of ancient flood plains formed from rivers which flow only intermittently. The principal rivers are the Georgina River, Coopers Creek and the Diamantina River. When there is sufficient rainfall in their catchment areas these rivers flow into Lake Eyre. Every decade or so, when a tropical cyclone pushes inland, the Channel Country features in news bulletins underneath the headline, "Australia's Dead Heart turns into an Inland Sea".

In this area, the land is so flat, a relief of around 1 in 10,000 (100mm in 1km) in places, that the rivers flood out over the plains into a complex assemblage of ephemeral channels, waterholes, back swamps and lakes. At its widest, the Cooper is spread over a floodplain 80kms wide and the Georgina/Diamantina 30kms.

It is this asymmetric cycle of occasional floods and extended droughts that influences all life in this region. It is to this flip-flop between excess and insufficiency that all life must adapt.





The Rivers

The catchment area for Coopers Creek and the Diamantina-Georgina rivers extends far to the north, into the Northern Territory near Camooweal in the case of the Georgina and to the western slopes of the Dividing Range near Hughenden, in the case of the Cooper.

Water from the monsoons that drench northern Australia most summers occasionally reach the northern parts of the watershed and pulse down these river systems. In this area the annual rainfall is a highly erratic 150–250 mm, but the annual evaporation rate is a horrendous three metres. The loss of water through absorption and evaporation results in the rivers' shrinking the further they go. This is the reason that the Thompson and Barcoo Rivers join together to become Coopers Creek and it is the reason Lake Eyre fills so seldom.

Until 50,000 years ago, when Australia was wetter, the rivers were energetic enough to carry sand and even gravel; these days they just carry silt and clay. This silt and clay is gradually swamping the dune fields on the floodplain. On the Cooper, this mud is 2 – 8 metres deep and much of it consists of clays that shrink and crack as they dry. This has obvious implications for the plants of the region.

The Land

While the channels are the defining feature of the area, it is the dune fields and the vast sand, gravel and gibber plains they flow through that make up most of the Channel Country. Projecting into these are low hill country and mesa remnants of sedimentary rocks laid down by the inland sea of the Mesozoic era.



Aerial view of a portion of the Channel Country

The Flora

The floral description of the majority of the area is mixed herblands, an inadequate description, but to come up with a term to describe the variability of the flora in time and place is a challenge.

Owing to the hostile conditions in average seasons the flora is usually sparse apart from the perennials surrounding the few permanent waterholes and the channels.

The population on the waterholes is dominated by River Red Gums (*Eucalyptus camuldulensis*) and Coolibahs (*Eucalyptus coolibah*) with the River Reds dominant on coarse sediments and Coolibahs on fine. Other common species include River Coobah (*Acacia stenophylla*) and the hemiparasitic Sandalwood (*Santalum lanceolatum*). Lignum (*Muehlenbeckia florulenta*) can form substantial tangled barriers along the water's edge and wherever water lies for long periods.

When rain comes or a flood pulse from the north inundates the channels and flood plains, they explode to life. Some of the pea plants such as Cooper Clover (*Trigonella suavissima*) and Georgina Lucerne (*Cullen australasicum*) turn this area from desert into a fine stock-fattening area. The ephemeral forbs such as Scented Cress (*Harmsidoxa puberula*) and Yellow Cress (*Arabidella nasturtium*) can cover the deep alluvial soils in a sweet-scented display that is unforgettable.

These plants flower and seed quickly before the water dries up, leaving behind a seed-bank that may remain in the soil for a decade before another flood germinates it. In some ways, it would give a better perspective to think of the seed as being the normal state and the plant as a modification for reproduction when conditions are favourable.



Coopers Creek floodplain

Up to a metre deep under these soils lies a group of plants that have a different survival strategy. The Murray Lily (*Crinum flaccidum*) makes great use of its contractile roots to hide from the environmental extremes. When the flood waters reach the bulbs of this, or the Yellow Garland Lily (*Calostemma luteum*), the plants shoot and can be flowering within a week. As the waters recede the large flowers of Native Hollyhock (*Malva preissiana*) tower above the herb field.



The red sand dunes support a surprising amount of flora, considering their height above any possible water table. A couple of crotonias: the Regal Bird Flower (*C. cunninghamii*) and Grey Rattlepod (*C. dissitiflora*) along with the ultra tough Sandhill cane grass (*Zygochloa paradoxa*) are particularly common.



Above: *Malva preissiana*
Left: *Calostemma luteum*

The Sandhill Wattle (*Acacia ligulata*) is a showy plant that often grows in the dune sides. The silver/white flowers of the Tangled Mulla Mulla (*Ptilotus latifolius*) against the red of the sand is a photographer's delight. The Sandhill Grevillea (*G. stenobotrya*) is another stunner when in flower.

A plant community featuring Spinifex under scattered Hakeas, such as the Bootlace Hakea (*Hakea chordophylla*) and the eye-catching Honeysuckle Grevillea (*Grevillea juncifolia*) are a feature of the higher, red sandy plains.

The very cosmopolitan daisy family (*Asteraceae*) is present through out the region. They are so common in favourable conditions I would not hazard a guess at the number of genera, let alone species. The White Paper Daisy (*Rhodanthe floribunda*) is common in many communities; on the gibber plains at times they may be the only plants visible.

Annual Yellowtop (*Senecio gregorii*) is one that occurs among the gibbers, as well as on the dunes where they are often mixed with Poached-egg Daisy (*Polycalymma stuartii*).



Ptilotus latifolius, Tangled Mulla Mulla



Senecio gregorii, Annual Yellowtop



Grevillea juncifolia, Honeysuckle Grevillea



Crotolaria cunninghamii

Acacia shrublands project into the region and are the dominant genus amongst the perennials.

Mulga (*Acacia aneura*) is plentiful on the eastern edge on the rocks and red sands, often over sennas, such as the various varieties of (*Senna artemesioides*) and eremophilas, such as the Silver Turkey Bush (*Eremophila bowmanii*).



Gidyea or Stinking wattle (*Acacia cambagei*) also known as Gidgee, (take your pick of the spellings), is found mainly on the clay and more mineralised soils. It gets its common name from the odour it gives off in humid weather; I would describe it as smelling like a gas leak. On the Georgina, it is largely replaced by Georgina Gidyea (*Acacia georginae*) a plant that is occasionally and unpredictably poisonous to animals. It is difficult to tell the two Gidyeas apart.



Acacia cambagei, Gidyea, Gidgee or Stinking wattle

These arid land wattles are different beasts to the coastal species. Whereas the coastal wattles are a rapid growing, profligate flowering and seeding, short-lived species, with timber that returns to the soil even faster than it grew out of it, the inland species are slow growers, long-lived, occasional flowerers, with hard, dense timber that can survive for a century as a fence post.

The Channel Country, its landforms, its flora, its birds and animals, along with its people and life style, still hold a fascination for me today, thirty years after I first set eyes on it. I think it is the variability; at times the rocks in the baked and bare soil seem like the protruding ribs of a starving land; at other times there is no trace of them beneath metre-high grasses or a soft cloak of many colours.

A tale of commitment, tribute and interconnections through tragedy

Francesco Borone, James Edward Smith, The First Fleet and Boronia

Dick Burns

Dick is a Life Member of the Australian Plants Society Tasmania Inc. He is also Curator for the Tasmanian Section of the Tasmanian Arboretum.

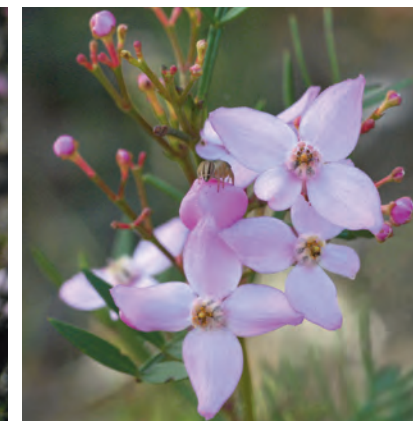
This is an expanded version of the article originally published in Eucryphia, the newsletter of the Australian Plants Society Tasmania Inc., Vol 18 No 7.

A series of interpretive panels on plant names and people they commemorate has been prepared for the Tasmanian Section of the Tasmanian Arboretum, near Devonport. (See *Australian Plants* Vol 23 No. 185, Dec 2005, pp 167-173). The fifteen or so panels reflect the diversity of people involved in the collecting and taxonomy of plants, from the 'father' of taxonomy, Carl Linnaeus snr. (*Casuarina/Allocasuarina*) to explorer/collectors, including of course Joseph Banks (*Banksia serrata*), colonial collectors such as Ronald Campbell Gunn (*Eucalyptus gunnii*) and Robert W Lawrence (*Spyridium lawrencei*), botanists including Winifred Curtis (*Richea X curtisiae*) and supporters such as Sir John Franklin (*Lagarostrobos franklinii*). Each panel will be A4 size and placed adjacent to the plant. The cost of preparing the panels is being supported by a grant from the Australian Plants Society Tasmania Inc.

One I chose concerns *Boronia citriodora*.



Boronia citriodora
Photo: Dick Burns



Boronia pinnata, the first Australian Boronia to be identified and named in 1798.
Photo: Margaret Bradhurst



The genus was named for Francesco Borone (1769–1794). His unfortunate and early demise has always provided a bit of interest when I've been guiding on bus tours around Tasmania and Western Australia. He died from defenestration, that is, he fell out of a window; that's been just about all my books told me. One suggested cause was that he'd been leaning out of the window to tend a window box; another involved hot Italian blood and a Don Giovanni-type leap that went wrong. So I tried the internet: everyone else raves about the information super-highway and such. Not so in this case (and others in the series). I did find a 'Francesco Borone', but it was a different one and a hundred or so years too late. I finally remembered that in Tasmania we have the Boronia expert, Marco Duretto of the Tasmanian Herbarium. Marco has a copy of the 1798 paper in which English botanist James Edward Smith named *Boronia* and kindly sent me a photocopy. I was now able to follow a paper trail through Borone, Smith and the source of the type specimen. So here's the story.



Sir James Edward Smith, (1759-1828)
Image: www.anbg.gov.au

Francesco Borone was born on 6 April 1769, in Milan, Italy. J E Smith, as part of the tribute to Borone in his paper, said:

'An active enquiring mind led him at an early age from his native country; and his talents . . . were easily turned to natural history. His accuracy of discrimination, with regard not only to the appearance, but even the technical characters, of plants has not often been exceeded. His ardour kept pace with his abilities.'

Francesco was Smith's assistant during a botany expedition in Europe in 1787. Following that, he was assistant to Swedish botanist Adam Afzelius in Sierra Leone. Starting in 1792, Afzelius spent some years on the west African coast. Here Smith notes that Borone was 'overcoming difficulties apparently insurmountable'. His last collecting expedition was to Greece with Dr John Sibthorp, Professor of Botany at Oxford University. Dr Sibthorp reported in a letter dated 1 November 1794, that the party had come from Constantinople to Athens. Francesco had recovered from an 'intermittent fever' and

'on the evening of his unhappy fate was unusually gay, singing to a tune that Arakiel, Mr. Hawkin's servant, played upon the

guitar. A little after midnight [of 20 October] we were waked out of our sleep by the cries of Francesco, who had fallen out of the window of the chamber where he slept with Arakiel.'

Borone died soon after his friends reached him. In an attempt to revive Borone, the botanists attempted to bleed him. We now know that bleeding a patient is more likely to worsen the situation.

Borone had no broken bones but had extensive bruising. The window from which he fell was about 6m above the street and was so narrow that he would have had to squeeze through, after stepping up to it via a box noted nearby. Dr Sibthorp suggested Borone may have sleepwalked or mistaken the window for a door that led from the room to a balcony. The sleepwalking sounds unlikely to me. Sadly, the normal explanation that follows a night of conviviality makes more sense: that young Francesco woke with a befuddled head and either nausea or a tight bladder, rushed to the closest portal and overbalanced.

Borone was buried in Athens. The tributes that come forward for the young man included two poems that were included in Smith's paper on naming *Boronia*. This is one.

Sonnet to Dr. Smith on the Genus *Boronia*
By George Shaw, M.D. F.R.S. F.L.S.

*YON Flower, mild patron of the hapless Youth,
To distant times shall guards BORONE'S name:
Thy friendship, guided by the voice of Truth,
Hath given to humble Worth its modest claim.*

*So Phoebus, skilled in all the forms that breathe
Their balmy sweets in richest hues arrayed,
Grieved at soft Hyacinth's disastrous death,
Inscribed a blossom to his gentle shade.*

*From the struck lyre, in melancholy strain, All softly
trembled a celestial tone,
That, breathing rapture o'er the list'ning plain,
Call'd from the verdant soil a plant unknown;
And, sad memorial of the fatal hour!
Raised, to record his name, a purple flower.*

(Phoebus, the Sun-god, also called Apollo, had high regard for a young prince Hyacinthus. When Hyacinthus was killed by a discus, Apollo/Phoebus caused the flower we call hyacinth to spring from his spilled blood.)



Tragedy continued to dog the expedition with two more deaths, including that of Dr Sibthorp. Smith does not say what the difficulties encountered on the Afzelius trip were, but there may have been something more personal behind the statement. Adam Afzelius (1750–1837) was based in Uppsala which was the home base for Carl Linnaeus (1707–1778) and his son, also Carl (1741–1783). Linnaeus Snr. devised the binomial or two-word system for naming plants based on sexual characteristics that we all use now. Sir Joseph Banks was an early champion, and James Edward Smith was a friend of Banks.

Linnaeus Snr. left to his son 9,000 plant specimens, along with many animal specimens and an extensive library. When Carl Jnr. died five years after his father, the family offered the collection for sale. Swedish authorities did not respond, so the collection was offered to Banks.



Adam Afzelius (1750–1837)
Image: en.wikipedia.org

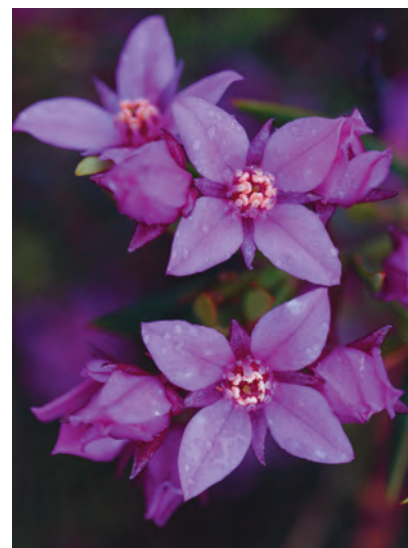


Sir Joseph Banks (1743–1820)
Image: csupomona.edu

Smith was having breakfast with Banks when the letter arrived. The 24 year-old Smith convinced his wealthy father to purchase the library and collections. It was only when the packed boxes were being shipped that the Swedes realised what they were losing; Smith installed the collections in London and founded the Linnean Society.

He then devoted his life to botany, adding another 18,000 specimens to the plant collection. Smith is recognised via *Smithia*, a northern Australia/Asian genus in Fabaceae and the lilly-pilly, *Acmena smithii*.

Some other Boronias



B. parvifolia
Photo: Bruce Cooper



B. serrulata
Photo: Bruce Cooper



Above: *B. pulchella*
Photo: Margaret Bradhurst

Left: *B. ledifolia*
Photo: Bruce Cooper



When I was preparing the panel for the great botanical artist, Ferdinand Bauer (*Bauera rubioides*), I found that he had also travelled with Sibthorp around the Mediterranean. He was not present when Borone died, but was in England preparing what some regard as his greatest work, drawings of the plants and animals previously collected, for Sibthorp's *Flora graeca* and *Fauna graeca*. Around the time that Smith was making his purchase, Britain was looking for somewhere for its convicts and Joseph Banks suggested Botany Bay. John White, a thirty-year old navy surgeon, was appointed surgeon-general to the First Fleet. He sent many botanical specimens and seeds from around Sydney to England. Smith named and described several of these, including *Boronia*, as already noted, in 1798. The first to be named was *Boronia pinnata*, described from the dry Sydney specimens, but also from live garden plants already being grown in English greenhouses.

Smith reported that the '*species flowered for the first time in Europe at Messrs. Lee and Kennedy's [nursery] in the Spring of 1795*' from seed possibly sent by White. Governor Phillip employed people, including convicts, to collect seed. The first batch of seeds from the colony arrived in England on 25 March 1789. These were distributed among Banks, Kew Gardens and Lee and Kennedy, who ran a plant nursery in Hammersmith. James Lee incidentally, is credited with the first English translation of Carl Linnaeus' ideas on plant taxonomy.

Smith said of Francesco Borone '*he never by his own fault disappointed any expectations that were formed of his head or his heart*'. When praise is required, what else need be said?

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