



# Newsletter

## April 2019

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### Study Group Expectations

*Royce Raleigh*

Welcome to this our first Newsletter of the reformed Goodeniaceae Study Group and like all Newsletters it will only be as good as contributions that members make to Maree, our Newsletter Editor.

We would like all members to set out their expectations of what they would like to see the study group achieve.

I have an AmScope microscope with a camera attached, and although I am still learning to use it, I am hoping that it will prove very useful. It magnifies up to 100 times.

My first thoughts are that I would like to:

- Develop a photographic record of identification characteristics of as many species as possible, so that we can confidently name species.
- Learn more on the cultivation requirements of species.
- Develop a comprehensive list of species being grown and in what conditions.
- Enable the introduction of new species into cultivation.
- Ensure that species currently limited in cultivation are more widely distributed.
- Set up a process whereby cuttings/plants can readily be distributed.
- Be able to name all my currently unnamed species.

Let us know what you would like.

Please also consider the types of articles that you would like to see in future newsletters, and the contribution you may be able to make for the benefit of us all.

Please let Royce know your thoughts:

**Email:** [goodeniaceastudygroup@gmail.com](mailto:goodeniaceastudygroup@gmail.com)

### Next Newsletter

The next newsletter will be published sometime in November 2019.

We would love to hear from you and in particular if you have any photos for the photographic record of Goodeniaceae species suitable for identification purposes. It would be great to build on the already published photo-guides which were made available at the 12th FJC Rogers Seminar 2018 - Goodeniaceae. We will be able to add pages to the end of each Newsletter. You will then be able to extract them from the newsletter and add to the photo-guides which most of you will already have. For those who do not have the photo-guides please contact Maree on [goodeniaceastudygroup@gmail.com](mailto:goodeniaceastudygroup@gmail.com).

### Goodeniaceae Study Group

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### Funding for

### Goodeniaceae Study Group

As a result of the Seminar the Goodeniaceae Study Group was reformed. The Study Group will operate via email with no fees but it will require some money from time to time.

The organising committee of the 12th FJC Rogers Seminar agreed that \$2,000 be allocated to the Goodeniaceae Study Group.

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# My Interest in Goodeniaceae

Text and Photo: Royce Raleigh

I thought that perhaps I could outline how my interest in Native Plants, particularly Goodeniaceae, has developed over the years.

In 1967 Jeanne & I went to a Native Flower Show hosted by the Blackburn Tree Preservation Society in Melbourne and there met Fred Rogers who invited us to join the Society for Growing Australian Plants Maroondah Group.

Before Jeanne & I moved to Wartook we lived at Montrose in Melbourne and in the late 1960's were members of Maroondah APS Group. At that time, I was the one who propagated (mainly Hakeas from seed and other plants from cuttings) and looked after the native garden that we started. Jeanne at this stage, also an enthusiastic gardener, was interested in native plants, but still very keen on the plants from her English heritage

Our garden at Montrose was one and a half acres and plants were obtained from general nurseries. Many very interesting plants were obtained from Maroondah APS Group propagators and from regular visits to Rodger and Gwen Elliot's Austrafloora Nursery – particularly their 'Collector's Corner'. By 1973 I had developed a collection of over 90 Hakeas and a good range of other species. The garden was being visited by other Australian Plant Society Groups.

In 1974 we moved to Wartook, close to the Grampians, with 600 plants in pots. There were a number of Goodeniaceae plants, mainly Lechenaultia's and a few Dampiera's. Royce took up a teaching position in Horsham.

In 1975 we travelled as a family (3 young children) on a 13week camping trip through Western Australia (Long Service Leave). We very quickly were blown away by the colour and diversity of the WA flora. At one stage on the trip we came across a paddock that a farmer had cleared, and it was a sea of blue – Lechenaultia biloba. Jeanne commented –“Can we grow this at Wartook?” I said yes because I had been growing it in Melbourne. After seeing so much blue everywhere we camped, we both fell in love with the beautiful blues of the Lechenaultia's and Dampiera's.

Our interest in Goodeniaceae was really stimulated when in November 1975 Maroondah APS Group featured a Goodeniaceae family weekend at Karwarra Gardens in the Dandenongs. On Friday evening a panel of members spoke on different genera. Trevor Blake took Lechenaultia, Ross McDonald – Goodenia, Natalie Peate – Scaevola, David Jones – Dampiera. On the Sunday afternoon at Karwarra Gardens, Rodger Elliot spoke on cultivation of the family while Fred Smith and Don Dower discussed propagation. A booklet was produced for this weekend and tube plants were sold. I came home with about 50 and my collection of Goodeniaceae soon expanded.

Jeanne soon got into propagating with enthusiasm after our WA trip. I soon had a glasshouse, corflute house and heated misting frame. The garden expanded rapidly through the late 70's and by 1981 it was its current area of about 5 acres. Jeanne has done almost all of the propagating since the late 1970's.

After joining Australia's Open Garden Scheme we soon gained a reputation as the “blue garden” as we had built up a large number of Dampiera's and lots of different variations of blue in the many Lechenaultia biloba's that we were growing.

During the 1980's and 90's, we had numerous trips to the West and continued to add to our collection of plants from



Wartook Gardens Pool Garden October 2008.

Goodeniaceae family as well as many other genera. We have continued trips to WA but collecting plants to add to our collection is now very difficult.

We are hoping that through the Study Group we will manage to get many more species into cultivation, and enable names to be put to many of our currently un-named species.

## Distribution of Surplus From 12th FJC Rogers Seminar 2018

At our Final Committee meeting on Thursday 20th February 2019 distribution of the Surplus from the FJC Rogers Seminar 2018 was determined. After the Seminar it was felt by a number of Committee members that the momentum of the Seminar should be added to by helping further the research work being carried out on the Goodeniaceae family. Dr Kelly Shepherd had put a proposal to the the committee asking for \$5,000 for a *Goodenia pinnatifida* Project and this was supported unanimously.

Royce Raleigh let Kelly know that the funds had been approved by the Committee and this was her response.

*Dear Royce,*

*We are really delighted that the FJC Rogers Seminar Committee has awarded us this very generous grant. It is wonderful that this kind of research is seen as worthwhile and of interest to the community. It really is a fantastic endorsement! We look forward to working with the Goodeniceae Study Group as well.*

*Rachel and I are in discussion about the DNA sequencing and it is looking like we will aim for a focused period of work in January-February 2020 so it is unlikely we will be purchasing any kits etc. until the end of the year (and so will keep the money in your account for the time being).*

*Thanks again.*

*All the very best,  
Kelly.*

*Dr Kelly A. Shepherd  
Senior Research Scientist I Managing Editor for Nuytsia  
Western Australian Herbarium”*

# Dr Kelly Shepherd's Proposal for funding which was put to the 12th FJC Rogers Seminar Committee

Taxonomic resolution of new species allied to *Goodenia pinnatifida* using molecules and morphology  
Neville Walsh<sup>1</sup>, Brendan Lepschi<sup>2</sup>, Rachel Jabaily<sup>3</sup> and Kelly Shepherd<sup>4,5</sup>

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## Background

New plants are being discovered and described every year in Australia, but many more potentially new species remain unresolved. This may be due to these plants being poorly understood because collections available for study are limited or their relationship to allied species is not fully clarified. Indeed, there may be confusion around the definition of known species, particularly in groups that are widespread and morphologically variable. Without a clear understanding of species' boundaries, it is difficult to confirm if morphologically variable populations represent new taxonomic entities or simply ecological variation across different biomes. Consequently, any taxonomic study must analyse the whole group, focusing attention on closely related species to ensure that new taxa can be morphologically discriminated from close relatives.

Through our ongoing research we now have a clearer understanding of broad relationships within the genus *Goodenia*; however, it is clear there is still a great deal to understand within various complexes. *Goodenia pinnatifida* and allied species represent one such group (Figure 1). Species within this complex are widespread and may be found across several Australian states (Figure 2). We have found there is considerable morphological (and molecular) variation within some species and this variation may in fact represent potentially new but as yet unrecognised taxa (species or subspecies). As an example, the distribution of *G. pusilliflora* (Figure 2) raises the question – are the Western Australian populations morphologically and genetically the same as those from eastern Australia given the disjunct distribution or do they perhaps represent two entities? This is the kind of question we aim to answer when undertaking a detailed taxonomic study of a group.

To further complicate the issue, it is apparent that our understanding of what represents the 'typical' form of some known species may be wrong. For instance, examination of early Australian collections lodged at the Natural History Museum in the UK has revealed that our concept of the widespread Western Australian species *G. mimuloides* has been misapplied. It is now evident that what botanists believed was *G. mimuloides* is in fact an unnamed new species, while a small number of specimens of what we thought

are limited or their relationship to allied species is not fully clarified. Indeed, there may be confusion around the definition of known species, particularly in groups that are widespread and morphologically variable. Without a clear understanding of species' boundaries, it is difficult to confirm if morphologically variable populations represent new taxonomic entities or simply ecological variation across different biomes. Consequently, any taxonomic study must analyse the whole group, focusing attention on closely related species to ensure that new taxa can be morphologically discriminated from close relatives.

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Thankfully we can build on the framework that we have already established to produce more detailed molecular phylogenetic (evolutionary) trees to help solve species-level problems. By employing powerful molecular DNA sequencing techniques in conjunction with a thorough taxonomic study we can confirm if plants within the *G. pinnatifida* complex that appear morphologically variable are also genetically unique. It is hoped that by establishing common garden experiments we can independently test if the morphological variation we observe is due to genetic differences or simply plants responding to local growing conditions.

## Project scope

We aim to undertake a detailed taxonomic study of *Goodenia pinnatifida* (1,530 specimens available in Australian collections), *G. jaurdiensis* (9 specimens), *G. mimuloides* (223 specimens), *G. pusilliflora* (705 specimens),

*G. heatheriana* (9 specimens), *G. lobata* (23 specimens), *G. salina* (11 specimens) and *G. integerrima* (14 specimens) in order to resolve the status of each species and the presence of any potentially new 'unknown' species. This study will also utilise both molecular sequencing and common garden experiments to provide data to clarify relationships and delimit taxa across the complex.

#### *Herbarium study and field work*

We will examine herbarium collections of the target species held at the Western Australian Herbarium (Kelly Shepherd), Australian National Herbarium (Brendan Lepschi) and the National Herbarium of Victoria (Neville Walsh) and liaise with local experts in South Australia. This will help us finalise suitable localities to collect and photograph plants in the field, which will be undertaken during spring 2019 in Canberra, New South Wales, Victoria, and Western Australia.

Sampling will include the collection of herbarium vouchers for taxonomic study, leaf samples for DNA extraction and, where appropriate, cuttings to establish living collections of plants. It is hoped that we will be able to work with the Goodeniaceae Study Group that was established after the 2018 FJC Rogers Seminar in Horsham to establish common garden experiments from these living plants.

#### Funding support request for molecular sequencing

A total of \$5,000 is requested for molecular sequencing of vouchers to cover the cost of DNA extraction kits, gel visualisation, PCR reagents and sequencing reagents. These data will result in a more comprehensive molecular phylogeny to test species boundaries within the *G. pinnatifida* complex.

It is difficult at this stage to determine how many samples will be sequenced as this depends on our findings from the taxonomic work and success of the spring field season. We propose that, should there be any surplus funds, these be utilised to sequence species from the genus *Dampiera*; a genus that has been largely overlooked to date as approximately only one third of species have been sequenced. A well-sampled molecular phylogeny for *Dampiera* will provide a platform for future taxonomic work on the genus, much like what we are now aiming to undertake with the *G. pinnatifida* complex.

#### **In-kind support**

Funding to cover staff time to undertake field work, examine collections in herbaria, undertake molecular lab work, analyse the data, and produce publication(s) will be supplied by our respective institutions. Cash funding will also be supplied to cover flights, vehicle hire, and accommodation representing a significant amount of in-kind investment for this project.

#### **Outputs**

A final report summarising the results from the funded molecular sequencing work will be provided to the FJC Rogers Seminar Committee (likely towards the end of 2020).

#### **Acknowledgement**

The FJC Rogers Seminar Committee will be formally acknowledged as supporting our research in all publications that flow from this work.



Figure 2. Distribution of *Goodenia pinnatifida*, one of the most widespread species in the genus (left), and *G. pusilliflora* (right) highlighting its disjunct east-west distribution. Maps from the Australasian Virtual Herbarium <https://avh.ala.org.au>

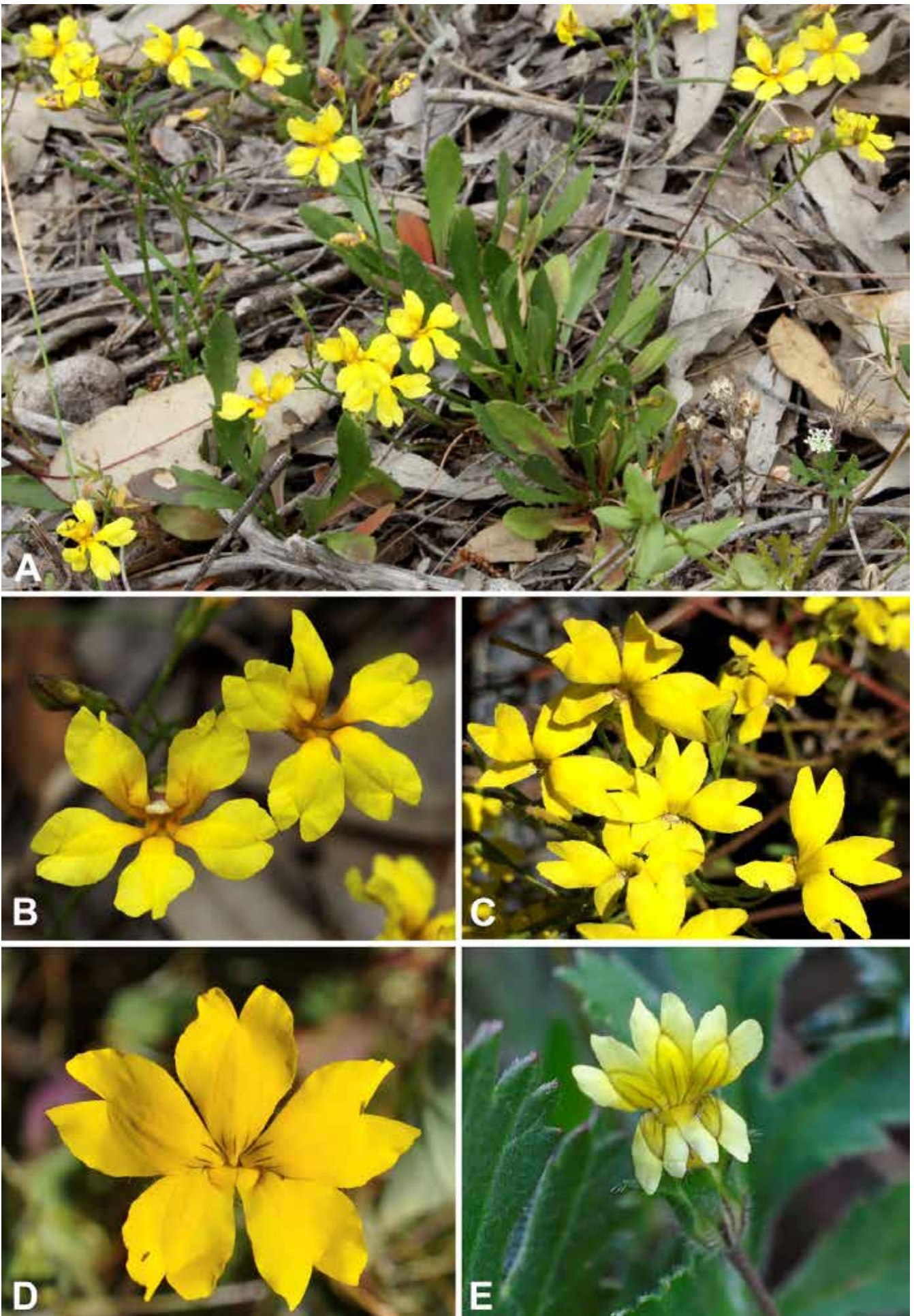


Figure 1. The *Goodenia pinnatifida* complex. *Goodenia pinnatifida* 'WA typical form' (A, B). *Goodenia* aff. *pinnatifida* 'Vic atypical form' (C); *Goodenia* aff. *mimuloides* 'large flower form' (D); *Goodenia* aff. *pusilliflora* 'non-notched indusium' (E). Vouchers: K.A. Shepherd KS1566 (A, B); N.G. Walsh s.n. (C); K.A. Shepherd KS1550 (D); K.A. Shepherd KS1552 (E). Images by K.A. Shepherd (A–C) and A. Gardner (D, E).

# Lechenaultias we used to Grow

Text and Photos: Royce Raleigh

After the November 1975 Maroondah APS Group Goodeniaceae weekend these unusual Lechenaultias were well known and were available to enthusiasts, but today *L. superba* is often the only one of these that can be accessed.

These are some that we purchased as tubes at the 1975 weekend. Information on these plants has been taken from the booklet on Goodeniaceae produced at that time.

***Lechenaultia acutiloba*** An erect or diffuse shrub growing usually to about 30cm in the Eyre district in either open or sheltered positions. Flowers are greenish yellow with blue lobes, 2cm long. It blooms in October November. It propagates easily from cuttings, and flowers in 2 years from seed. It does well in a sandy loam with added compost in dappled shade. From WA, it grows naturally in laterite gravel and sand areas which receive some moisture.

At Wartook we only kept this alive for a short time.

***Lechenaultia chlorantha*** A low diffuse much-branched shrub with the habit of *L. formosa* but with finer leaves 5-10mm long, growing to about 30cm. Flowers are green/blue or green in August. It occurs in the Irwin district, at the Murchison River, especially on rocky ledges. Knowledge of this plant in cultivation is unreliable. From WA.

At Wartook we kept this plant alive for a few years growing in a raised bed sheltered by a large bottlebrush. Severe frost eventually killed it.

We have not seen this plant since the late 1970's.

***Lechenaultia hirsuta*** A low straggling shrub with rigid hairs, either prostrate or up to 70cm. Flowers are red or intensely scarlet from September to January. It occurs in sand heath between Hill river and Shark Bay in the Irwin and Darling Districts. From WA full sun.

At Wartook we were unable to keep this alive because of our severe frosts. We have a small plant to try again.



***Lechenaultia laricina*** An erect bushy shrub, usually growing to 50cm of more upright habit than *L. formosa*. Prostrate form also. Flowers are red throughout September and October. It occurs in sandy country in the Coolgardie district, Swan River and Darling Range. It tolerates shade and appreciates some moisture. From WA.

At Wartook we kept this plant alive for almost 13 years. Growing in raised bed by the carport where it made a great display every year. We eventually lost it when the soil became too dry. It disappeared from the Nursery trade many years ago however we have recently obtained this plant again from an enthusiast.



***Lechenaultia linarioides*** A many branched tangled shrub usually growing to about 1m but which may be prostrate – not as attractive as most other species. Flowers are large, often terminal in a leafy corymb. They are multicoloured, the upper corolla lobes are usually reddish with the wings yellow, but other flowers include brown and white colouring. Blooms from June to November. It occurs along the Swan River, Murchison River, Champion and Dirk Hartog Islands. It is a coastal plant and prefers open conditions, with a sandy soil and some alkalinity. In cultivation it should not be given fertiliser or overwatered during the summer. From WA, warm sandy soils with good to fair drainage. Full to partial sun.

At Wartook we grew this species from seed in the late 1970s and the plant grew well for 4-5 years before succumbing to very severe frost in the 1982-3 drought. At present we have a couple of very small plants.

***Lechenaultia superba*** A bushy shrub to 70cm which grows in thick scrub country on a few quartzite hills in the eastern end of the Barren Ranges and at Phillips River. Flowers are large (about 25mm), yellow or red/orange. It blooms in January February and again from May to September, but it may flower erratically all year. The leaves are 2cm long. It is easy and hardy in cultivation, but needs a well-drained soil. A gravel and sand mixture has been shown to particularly suit it, with a south easterly aspect under light top shade. From WA

At Wartook we recently lost our original plant that was close to 40 years old growing under the shade of a large bottlebrush. We do now have other plants.

***Lechenaultia tubiflora*** A variable plant both in habit and flower colour. It forms a bushy shrub, either tufted and low or up to 1.2m high. Flower are green/orange, yellow, crimson, cream, white or red and it blooms from September to December. It occurs in King George's Sound and adjoining districts eastward to the Fitzgerald River in sand heath country. It is also found inland towards Tammin, near Moora and the Stirling Ranges, in white sand. In cultivation it strikes readily from cuttings, but it needs summer watering. From WA, well drained, sunny position.

At Wartook we kept a red flowered form growing for a number of years but lost it in the 1982-3 drought. We have just got hold of a cream flowered prostrate form.

## Emails from Members

**Neil and Wendy Marriott**

17 December 2018

We are thrilled to have the Study Group up and running again after such a long break!! Our Goodeniaceae are currently thriving following 59mm of beautiful rain last week, with many coming in to flower again, including a fabulous show from our *Goodenia albiflora*'s!!

**Kevin Sparrow**

5 January 2019

I am wondering if anyone can identify a *Scaevola* that has been growing at Swan Reserve for a long time? I have been right through the photo-guides on the memory stick from the FJC Rogers Seminar. I could not find this *Scaevola* on it though. It looks initially like *S. calendulaceae* but when you have a good look at it, it is different. Flowers are on separate stems while for *S. calendulaceae* they are in the leaf axils. It is also a bit finer in leaves and stem. Flower color is a paler light blue as well, otherwise looks very similar.

Any ideas welcome. Email: [ksparrow93@gmail.com](mailto:ksparrow93@gmail.com)



*Goodenia humilis* growing in a garden with scoria mulch. The plant gets watered every 10 days during the dry months of the year.



*Goodenia varia* prostrate form in garden in Horsham. It was planted in a new garden bed with a dripper system under the mulch during April 2018. It is now nearly two metres across.



## Darwin's Letters

Kelly Shepherd, the keynote speaker at the recent 12th FJC Roger's Seminar 2018 - Goodeniaceae, has provided us with some links on Darwin and his early writings on Goodeniaceae particularly *Leschenaultia* (the old spelling of the genus), *Scaevola* etc.

You can go and read Darwin's letters directly (fascinating reading!) via the web site: <https://www.darwinproject.ac.uk> simply search under *Leschenaultia* (the old spelling of the genus) *Scaevola* etc.

With this newsletter you will also be emailed the two pdf files on this subject.

Darwin, C. (1861). Cross-breeding in plants—fertilisation of *Leschenaultia formosa*. *Journal of horticulture and cottage gardener* 10: 151.

Darwin, C.R. (1871). On the fertilization of *Leschenaultia*. *Gardeners' Chronicle and Agricultural Gazette*, London. p. 1166.

Kelly has also given us the link to the Biodiversity heritage Library <https://www.biodiversitylibrary.org/> which she says has many other old references.



## Leaf Cutting Results from Members

### Bruce Schroder

Email 24 October 2018

I have just taken leaf cuttings of 2 lechenaultias (*hirsuta* & *stenosephala*), *Goodenia willisiana* & *Stylidium soboliferum* plus some tip cuttings of *Lechenaultia formosa* 'Scarlet O'hara'. Wish me luck!

Email 23 October 2018

Rooted leaf cuttings of *Goodenia willisiana* and *Goodenia leuoclada* as well as a normal cutting of *G. leuoclada*. The leaf cuttings of the *G. willisiana* were taken as soon as I got back from the seminar (24/10/18) and the pictures were taken 11/11/18. The *G. leuoclada* were a little older than that.



Roots on leaf cuttings of *Goodenia leuoclada*.



Roots on leaf cuttings of *Goodenia willisiana*.



Roots on normal cutting of *Goodenia leuoclada*.



Roots on leaf cuttings of *Goodenia willisiana*.

All photos by Bruce Schroder.



## Jeanne Raleigh

23 November 2018

I potted up two leaf cuttings of a *Scaevola ameula* after three months. Both leaves had many, many roots about six inches long.

## Maree Goods

2 December 2018

I have potted on one leaf cutting and one normal cutting of *Goodenia geniculata* on 27 October 2018, one week after the FJC Rogers Seminar 2018 on Goodeniaceae. The roots were much the same on both pieces, about 4cm long. I am still waiting for more to root.



Leaf cutting on left. Normal cutting on right.

28 March 2019

No more leaves struck but both of the above plants are doing well, even though the normal cutting plant has grown much stronger than the leaf cutting. Leaf cutting has been a bit yellow but the new shoots are green.



Normal cutting on left. Leaf cutting on right.

## Ian Evans

29 January 2019

*Dampiera eriocephala* leaf cuttings that I took in March 2018, they formed roots but sat until November before shoots appeared.



## Maree Goods

19 January 2019

I took several leaf cuttings of *Goodenia varia* prostrate on 15 December 2018. This time I cut off the bottom quarter of the leaf. Previously I had always left the petiole. I guess I couldn't believe that only a small section of a leaf would strike. How wrong I was. On 10 January 2019 I potted on four leaf cuttings, one had died and the other did not have any roots. In the meantime the one remaining leaf developed roots and I potted it up on 18 January 2019.



*Goodenia varia* prostrate leaf cutting with roots. The bottom quarter of the leaves had been cut off and dipped into purple clonex. I noticed a root coming out of the bottom of the cutting pot less than four weeks later.



New shoot 28 March 2019



Above & below: Same shoots 19 April 2019.



# Propagating Two *Goodenia* species from Seed and Some Marvellous Possibilities!

Text and Photos: Rodger Elliot

For many people most members of the family Goodeniaceae can pose a few problems when trying to germinate their seed. However there is at least one bit of good news!

Of all the Goodeniaceae genera it seems that *Goodenia* species are among the easiest to germinate from seed. Many annual species will germinate readily without any special presowing treatment. A good couple of semi-woody species to try from seed are the Mountain Primrose or Large-flowered *Goodenia*, *G. grandiflora* and the Hop *Goodenia*, *G. ovata*.

So why not give it a go! Keep in mind that it is usually much more success with fresh seed or seed that has not been stored for more than a year.



A *Goodenia ovata* seedling with a wonderful floral display in a Heathmont, Victoria garden.

Some people may say why bother growing *G. grandiflora* and *G. ovata* from seed. They are very easy to propagate from cuttings and this method will provide the characteristics of the same parent from which you collected the cuttings.

However there are other exciting reasons for growing Goodenias from seed.

The great thing about many *Goodenia* species is that seed production can be prolific. The fruits of *Goodenia* species are mainly 2- or 4-valved capsules. You will need to train your eye and keep a relatively constant vigil on the fruits. As they begin to ripen, this is indicated in most species by the brownish appearance of the fruits. The capsules begin to split and the seed is exposed and can begin to be shed. That is the time to collect the fruits and put them plus a written label with name and date etc. in a closed dry paper bag and place the bag in a warmish location. Seed of species such as *G. grandiflora* and *G. ovata* are flat and usually have a surrounding small thin wing.

Propagating *G. ovata* from seed that has been collected from one of the number of prostrate variants that are available these days may allow you to choose plants that develop differing growth habits that may have excellent attributes for cultivation.

About 10 years ago I germinated seed that was harvested from a number of prostrate to low mounding variants of *G. ovata*. I was able to select a number of variants from a batch of seedlings for cultivation trials. One specific characteristic I was hoping to gain in these new seedlings was for them



A selection of *Goodenia ovata* seedlings (note the foliage variation) in the company of a *Scaevola albida* seedling.

to have branches that retained healthy leaves even when old. Plants with central growth with dead leaves are Ok for revegetation projects but not really ideal for gardens!

There were some promising plants gained from the trials but there is still plenty of opportunity to undertake further cultivation trials. One of the best commercial selections available so far is *G. ovata* 'Gold Cover' which Angus Stewart introduced. Maybe it could be worth harvesting seed from 'Gold Cover' and see if some worthy plants can be raised from such parentage.

For those enthusiasts who would rather be involved with something more grandiose than *G. ovata*, you could think about what you may be able to do with *G. grandiflora*, which certainly merits greater attention for cultivation.

*G. grandiflora* occurs over a wide range of habitats in Qld, NSW, WA and NT, where plants may occur in somewhat exposed and rocky sites to those that are semi-shaded and in forests. Plants can grow from about 0.5 m to 2 m tall and the flowers of to about 3 cm across can be white, cream, pale mauve, mauve, bluish or yellow with purple-stripes. An added bonus is that flowers are fragrant! There is a wonderful array of variation that may just be what's needed to enable some marvelous plants become available for our gardens.



This single pale mauve flower of *Goodenia grandiflora* also shows some pollen which has been deposited from the purplish indusium.



Above: As some *Goodenia grandiflora* flowers mature they can gain purple to brownish purple markings in the throat or as lines on the corolla lobes.

Left: An example of a yellow-flowered selection of *Goodenia grandiflora*; note the prominent indusium with their whitish hairs.

This species can be a prolific seeder and germination of seed is usually not problematic. Therefore *G. grandiflora* is certainly an ideal candidate for some breeding experimentation. A simple way to begin such a project is to place plants of a number of variable selections in close proximity either in containers or plant them in freely draining soils. A sunny or semi-shaded site should be suitable.

You can let visiting insects do the work of pollinating flowers or you could learn more about the sexual status of the flowers (they actually change sex along the way!) and begin gathering pollen from the sizeable indusium and hand pollinate flowers at the right stage. What an exciting challenge!!

Once seed is mature it will start to be shed from the oblong fruits and you can collect it and sow it immediately. We have had seed germinate readily below the plants in containers. Once the seedlings are about 1 cm tall they can be transplanted into small pots and eventually transferred to larger pots or planted in the garden.

Flowering often occurs in the first season and then you can undertake selection of plants because of their appealing ornamental attributes that may warrant further trialing to ascertain whether there is a plant that would prove to be suitable for cultivation!

Make sure that you let Maree know what results you have with either *G. grandiflora* or *G. ovata* or both of these attractive species so that a report on breeding and selection results can be provided in the Newsletter.

NOTE: Please let me know how you go on any species of Goodeniaceae grown from seed. This will be an exciting challenge to us all. Email your results (good or bad) to: [goodeniaceastudygroup@gmail.com](mailto:goodeniaceastudygroup@gmail.com)



Flowers of a prostrate seedling selection of *Goodenia ovata*.



A *Goodenia grandiflora* flower which is cream with pale mauve markings.

# Goodeniaceae starring on the NSW South Coast

Text and Photos: Catriona Bate and Phil Trickett

Like others we returned from the FJC Rogers Seminar on Goodeniaceae in Horsham last year with the car full of goodies for our garden. The plant sale offered such a great range of exciting species it was difficult to resist. All went in fairly promptly (a big job!) and we are pleased to say that although we have lost some plants, overall our purchases are going very well. Here is our report.

Over the years we have had success at our place with mounding plants of *Scaevola albida* and spreading specimens of *Scaevola aemula*. The latter came from the NSW north coast where it grows in rocky coastal conditions – for us it grows much larger and is a great low filler in the garden although it lasts only a few years. We have also grown prostrate *Goodenia ovata* very successfully – so well in fact that both plants grew too large and eventually had to be removed. *Dampiera diversifolia* also grew very well for many years, spreading beautifully on a slope but eventually began to look too daggy and so was also removed.



*Scaevola aemula*, NSW north coast form.

So we were pretty confident our purchases would do well but as our volcanic soil here on the South Coast of NSW near Milton tends to retain water we tried to go for species which might cope with dampish conditions. We love lechenaultias but find only the blue *L. biloba* grows well for us – that didn't stop us buying several different colours. Suckering species, particularly dampieras were recommended for damper situations so we included some of those. We bought a few scaevolias but concentrated on less familiar or different forms of dampieras and goodenias.

At the seminar we admired the display in pots as well as in Gwen & Rodger Elliott's beautiful photos. We have tended to avoid pots in our garden as our plants survive best in the ground. They don't require watering here, meaning we can go away without worrying about our plantings. However, seeing more lovely pots of Goodeniaceae at Maree and Graham Goods' place reminded us of the several half wine barrels and large terracotta pot sitting empty at home. A succession of previous occupants had decided our neglect was objectionable and given up the ghost. We decided this might be a good place to try Goodeniaceae species which like drier conditions. They must be pretty tough as they are still alive and well and looking fabulous. We didn't even refresh the potting media. A big ask but there has been a bit of natural rainfall to make up for us not watering. They include: *Scaevola aemula* (Grampians form), *Dampiera*

*purpurea*, *Dampiera altissima* (flowering), *Dampiera sericantha* and *Lechenaultia* 'Ultra Violet', 'Lola' and *superba* (last two flowering).



*Lechenaultia* 'Lola' growing in a tub.



*Dampiera purpurea* and *altissima* growing in a tub.

In the garden itself, many species are booming (to use Phil's terminology). Of note are *Dampiera purpurea*, *Goodenia ovata*, *Scaevola porocarya*, *Lechenaultia* 'Big Blue' and *Goodenia macmillanii*. The latter has lovely large pink flowers.

Surprisingly a number of species from dry areas are also doing well in the ground. For example, *Dampiera dysantha* from Stawell, *Goodenia varia* from Little Desert, prostrate *Goodenia varia* from Kangaroo Island and *Goodenia ovata* from Mt Arapiles, which is loving a dry spot near a giant old wattle tree. Other species appreciating this dry spot are *Dampiera* sp. B and a flat *Scaevola albida* 'Flat Mat'.

Another surprise has been the performance of Goodeniaceae in very wet spots. As noted, we tried to put species more tolerant of moisture in these positions. Those doing well include *Goodenias humilis* and *viscida* (both flowering), *Lechenaultia* 'Ultra Violet' and a matting goodenia we have lost the name of.

A few plants have suffered from the local wildlife. Two red-necked wallabies which have taken up residence here like the flavour of *Dampieras linearis* and *dysantha* as well as *Scaevola globulifera*. The *Goodenia varia* from Kangaroo Island has attracted an insect which has taken little round holes out of its leaves – possibly a native leaf cutter bee taking material to make its nest. It looks like it has used a hole punch.



*Goodenia viscida* growing a wet area.



*Goodenia elongata* growing in a wet area.



*Goodenia macmillanii*.



*Scaevola* forming a large mat in the garden.

# Goodeniaceae in a Garden on the Wimmera Plains

Text and Photos: Maree Goods

We live 30 kilometres north of Horsham on the Wimmera Plains. Our average rainfall is 350mms and it falls mostly in the winter and spring. We do get the odd summer storm which can deposit a large amount of rain for our area but that is very rare.

The 12th FJC Rogers Seminar was over and I decided to plant some of the leftover plants from the sale into our garden. I must admit I have not had much success growing Goodeniaceae in the past due to our very hot, dry summers. They do okay over the cooler months but once it gets hot, they die off.

The first thing I did was look for a spot where the plants would get good shelter, some morning sun and more water than I normally would give the plants in our garden. I chose a spot under a large *Acacia argyrophylla* from which we had cut away the lower branches. We already had a *Goodenia macmillanii* growing there, which was over 12 months old and doing quite well. It had survived the previous summer without any setbacks.

I planted two plants of *Scaevola albida* pink, one *Dampiera alata*, one *D trigona*, three *D altissima* and one *Scaevola aemula* NSW form. Yes, I did have to give them a good watering once a week. I must say the *Acacia argyrophylla* didn't mind the extra water either. I do wonder

if I will kill it with too much water but so far so good. All are doing well at this stage and one of the pink *Scaevola albida* flowered for several months.

Our rainfall over this period was 72mm in December, 1mm in January, 11mms February, 4mms March and 1mm so far this month. The rainfall in December was very welcome and has helped the garden throughout this summer.

My other success is *Goodenia glauca*. It is in a different spot in the garden in full sun but once again it does receive some supplementary water. Probably not as much as those plants under the *Acacia*. It was planted early in 2018 and is now suckering nicely. It looks like it will prove a reliable plant in our garden. Since the Seminar I have planted more and all are starting to sucker.



*Scaevola albida* - pink form.



*Goodenia macmillanii*.



*Goodenia glauca* suckering.



*Goodenia glauca* in flower.