

fAustralian Native Plants Society (Australia) (ANPSA)

Eremophila Study Group Newsletter No. 132

September 2021



***E. 'Walpy Val'* in Jocelyn Lindner's garden – a likely hybrid of *E. glabra* and *E. maculata*,
0.8m x 3m, 12 years old**

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Letter from the Editor

Well, we have another packed newsletter, and so soon after the last one! There is so much happening in Eremophila-land at the moment: two new magnificent books (page 3), scientific publications leading to new knowledge (this page), and we have exciting progress in our own research plans (page 4).

In relation to the books, can I point out that both authors have been working on these for a long time and have spent not only countless hours but lots of their own money funding the publications. **PLEASE SUPPORT THEM BY BUYING A COPY!! (and tell your friends).**

The Queensland group also organised a great field trip to Myall Park Botanic Gardens. Tom and I managed to attend this, dodging lockdowns and locked borders (legally!). I have written up our trip (page 10), and Noreen Baxter has provided a fabulous, detailed report on the Myall Park event as well (page 15).

I also managed to write up the fertiliser survey I promised from last newsletter (page 5) – thanks for your patience in waiting for this.

All this other activity has meant I haven't had time to prepare a Feature Species for this edition (*E. laanii*) – I will hold that over for the next issue. Expect a survey soon!

Thanks to everyone who has been contributing and participating in the Study Group – it makes such a big difference. Members with all levels of knowledge can make a real difference here, and of course many hands make light work!

Thanks to all who have renewed memberships for 2021-22. I have presented the accounts for 2020-21 on page 22. Reporting to members is an important aspect of my role – please ask any questions you want about our finances.

Happy reading! and stay safe everyone



Lyndal Thorburn
Leader and Editor



Eremophilas in the News

Native Plants Queensland republished an old 1983 article on Eremophila, by David Hocking, in their March 2021 newsletter. While we appreciate the attention, things have moved along considerably since then and I couldn't resist writing to them to tell them what had changed. They have now published that as an article in their June newsletter.

What's New in the Study Group

Scientific Publications

We have had a plethora of scientific publications about Eremophila in recent months, courtesy of Rachael Fowler.

Molecular Phylogeny of Myoporeae

Her major paper *Molecular Phylogeny of tribe Myoporeae (Scrophulariaceae) using nuclear ribosomal DNA: Generic relationships and evidence for major clades* was published in *Taxon* 70(3), January 2021:570-588. This research paper is a major publication from her PhD thesis, through which she completed genetic testing of 205 of the (then) 233 formally described species of Eremophila and 28 species of related genera in the rest of the family.

Rachael found that all the other species of Myoporeae (i.e. *Bontia*, *Calamphoreus*, *Myoporum*, *Diocerea* and *Glycocystis*) belong within Eremophila. Several steps are needed before any official names can be changed, but the first steps suggested are that *Calamphoreus* and *Diocerea* should be placed within Eremophila, and *Pentacoelium* should be placed within *Myoporum*. More research is needed on the other three genera to determine their correct positions in the family.

Rachael also grouped Eremophila species into four major clades and 18 sub-clades. Clades group genetically closely-related species together in ways which are sometimes quite different to how they are grouped by appearance alone. Readers won't be surprised, for example, to find that *E. glabra* is close to *E. hillii* (both in Section *Stenochilis* under Chinnock's taxonomy), or that *E. undulata* is closely related

to *E. serrulata*, both being in Sect. Virides. However, the genetic distance between many of the species currently placed into Sect. Australophilae (e.g. *E. microtheca*, *E. densifolia*) is surprising.

Plastid Phylogenomic Analysis

Rachael is also lead author on paper in *Plant Systematics and Evolution* 2020:306-52 on using plastomes to assess relationships within tribe Myoporeae. “Plastome” describes the total genetic information held in plastids, which are circles of DNA in plant cells and are believed to be derived from cyanobacteria. Chloroplasts, which provide plant photosynthesis, and chromoplasts, which synthesise and store pigments, are also examples of plant plastids.

In this paper, the authors focussed on Type species of the genera in tribe Myoporeae. The analysis supported the contention that all genera in this tribe are actually one genus and are separate to *Leucophylla*. They concluded that *Calamphoreus*, *Diocerea*, *Glycocystis* and *Eremophila* are a single lineage.

Navigating through chemical space and evolutionary time with Eremophila

Oliver Gericke, Rachael Fowler *et al* have a preprint available of their article on interpreting *Eremophila* evolution through genetic lineages and chemical diversity of 291 leaf samples from across Australia. They integrated information about leaf resin, hairiness, pollination, geographical distribution, and medicinal properties (Aboriginal uses) and compared it to 76 reference compounds.

They found that chemical families were associated with phylogenetic clades (in line with the molecular phylogeny work). They showed that clades A to G have mainly non-arid origins (despite where they grow today). Clade H is the only one with an arid origin, and that is relatively recent. Clade H species also have leaf resins with novel diterpenoids and serrulatanes, which may act protect against water evaporation, pathogens (hence their anti-bacterial properties) and sun damage.

Books

The revised Brown/Buirchell *Field Guide to the Eremophila of WA* is available from Andrew Brown by emailing watscu01@gmail.com.



And, since the last newsletter, Russell Wait’s book *Growing Eremophila* has also been published. Members were sent an email in July, letting them know that the member price is \$75 and RRP is \$80. Email the Editor to register interest if you want the member price; or you can email Russell direct on eremophilabook@gmail.com to skip the discount. Postage depends on the number purchased but is ~\$15 for one copy.



New members

Welcome to Kim Cruickshank (Vic).

Exciting news on our Research Plans!

Following the issue of our Call for Expressions of Interest, we received four proposals from universities for our planned Australian Research Council grant application to study *Eremophila* germination. Hans Griesser and I reviewed the applications and we are now working with the University of Queensland to develop a project application for funding from 2022.

The **aims** of the project are:

- To identify *Eremophila* species that are suitable for land rehabilitation;
- To study quantitative and qualitative traits of selected species and key physiological mechanisms that reduce or induce seed germination;
- To increase our understanding of environmental and genetic regulation of seed germination for *Eremophila*;
- To understand how seed for selected species responds to changing climatic conditions;
- To develop field-applicable techniques to improve seed germination and seedling establishment of selected species that can be used in mass propagation systems

In **Year 1**, seed fill and germinability will be tested in the laboratory and, where the germination and/or vigour is low, the physical, chemical and/or molecular mechanisms causing poor germination and/or establishment will be investigated. In **Year 2**, seed will be treated and tested under controlled conditions to predict germination and seedling establishment responses to climate variations, such as heat and erratic rainfall. In **Years 3 and 4**, initial outcomes will be validated in greenhouse studies and field trials.

Chemical changes in seeds during germination under diverse conditions, plus those associated with poor or failed germination, will be identified and characterised. Seeds from different locations will be included to cross check the efficacy of the developed techniques. The work will also draw on recent studies of

Eremophila molecular phylogeny and evolution by the University of Melbourne and international teams.

The University of Queensland (UQ) is the technical leader for this project. UQ has excellent facilities: at Gatton there is a fully equipped seed biology laboratory, including an x-ray machine, thermal gradient bars, growth chambers with CO₂ capability, germination incubators, a seed storage facility, seed cleaning apparatus and environment-controlled greenhouses. At St Lucia the molecular biosciences lab contains equipment for identifying and quantifying proteins and understanding their stability and activity.

Understanding the environmental and genetic mechanisms that control seed germination would enable the development of protocols for successful mass production of seedlings, which has important implications for both seed banking and revegetation projects. The development of fruit harvesting and seed storage protocols for these and other desert plants is also required if mass propagation by seed is to be achieved. Seed responses to long-term storage also needs to be understood for seed banking and maintenance of germplasm, which is becoming increasingly important with the high frequency of extreme weather events.

As part of the proposal development, the University is completing some early work on water absorption by fruit. Members will have received an email asking them to provide fruit from their garden plants. Half a dozen members have already provided 79 batches with 3,800 seeds of 63 species already! These have been used for preliminary testing and the university is now setting up replicates for larger volumes of at least 100 fruit (see email sent with this NL).

PLEASE HELP BY SENDING FRUIT (batches of 100 only, now) TO:

Ms Fernanda Caro Beveridge
Building 8143, SAFS
University of Queensland
Gatton Qld 4343

Refer to email for labelling/packaging details



Fertiliser survey

Lyndal Thorburn

The fertiliser survey was conducted in 2021 in response to an article written by Alan Lacey in the March 2021 newsletter (NL130) about his experiences with using fertilisers on Eremophila. The article revealed that many fertilisers which are marketed as suitable for native plants (which can't tolerate high levels of phosphorus) have their phosphorus supplied by urea – this is very soluble and can release phosphorus quickly, leading to a short term “phosphorus hit” which in fact is not very good for natives and can kill them.

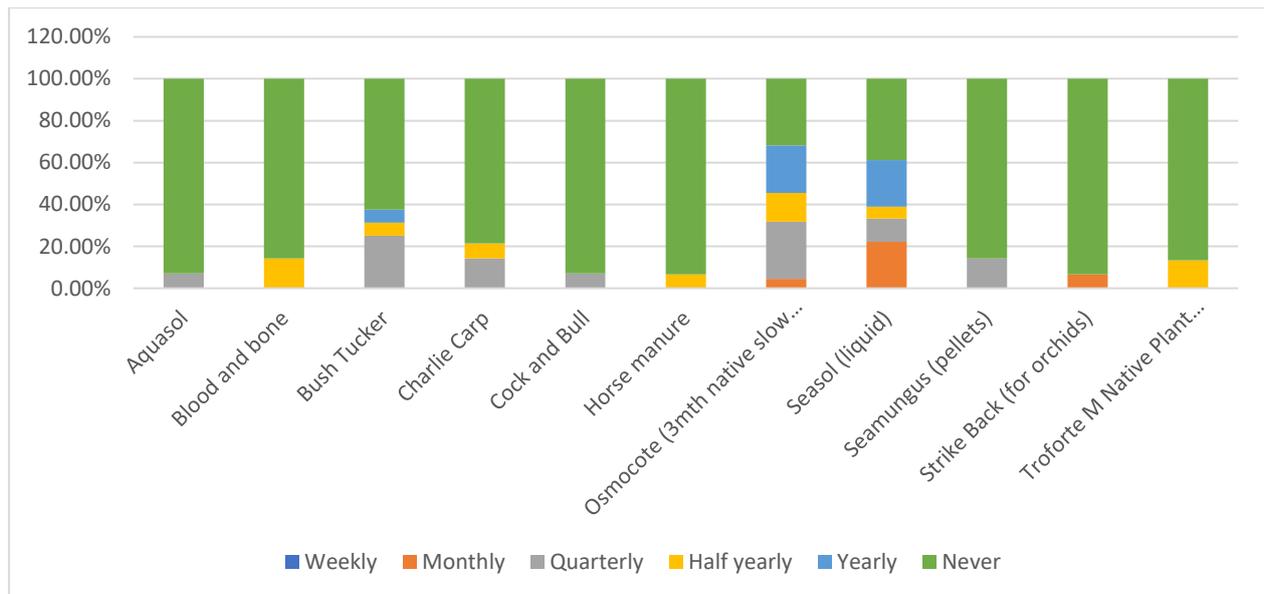
The survey asked about members' use of a range of commercial fertilisers. This analysis only reports on those which were used by at least one respondent.¹

The survey asked about fertilising of plants in pots separately to those in the ground.

Fertilising plants in pots

The most frequently used fertiliser for plants in pots were Osmocote (native slow release) and Seasol (which is a root growth promoter). No-one fertilised weekly, but Seasol was used monthly by 20% of respondents. Osmocote was used quarterly by 27% of respondents, half yearly by 14% of respondents and yearly by 23% of respondents (Figure 1)

Figure 1 – Brand of fertiliser and frequency of use – plants in pots



Fertilising plants in the ground

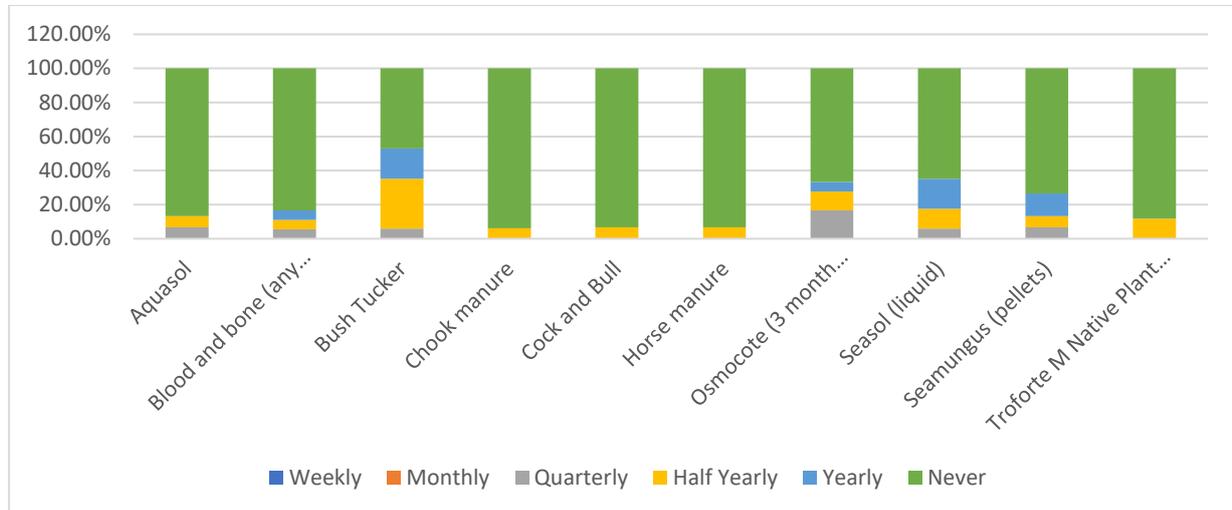
The most frequently used fertiliser for plants in the ground was Bush Tucker, followed by Seasol, Osmocote (native slow release) and Seamungus pellets.

No-one fertilised weekly or monthly, but Osmocote was used quarterly by 16% of respondents. Several other fertilisers (Aquasol, blood and bone, Seasol and Seamungus) were used quarterly by ~6% of respondents.

¹ Those which were included in the survey but which were subsequently excluded because they were not used by respondents were: chook manure, Multi-Gro, Grow Biofertilizer, RichGro Organics Native Fertiliser, Searles Kickalong Organic Fertiliser, Searles Native Plant Food, sheep manure, Terra Firma Native Fertiliser

By far the most popular fertiliser, however, was Bush Tucker, which was used by 29% of respondents half yearly and a further 17% annually (one respondent said it had to be applied “carefully”). For half-yearly application, Osmocote, Seasol and Troforte were each used (separately) by 11% of respondents. These results are summarised in Figure 2.

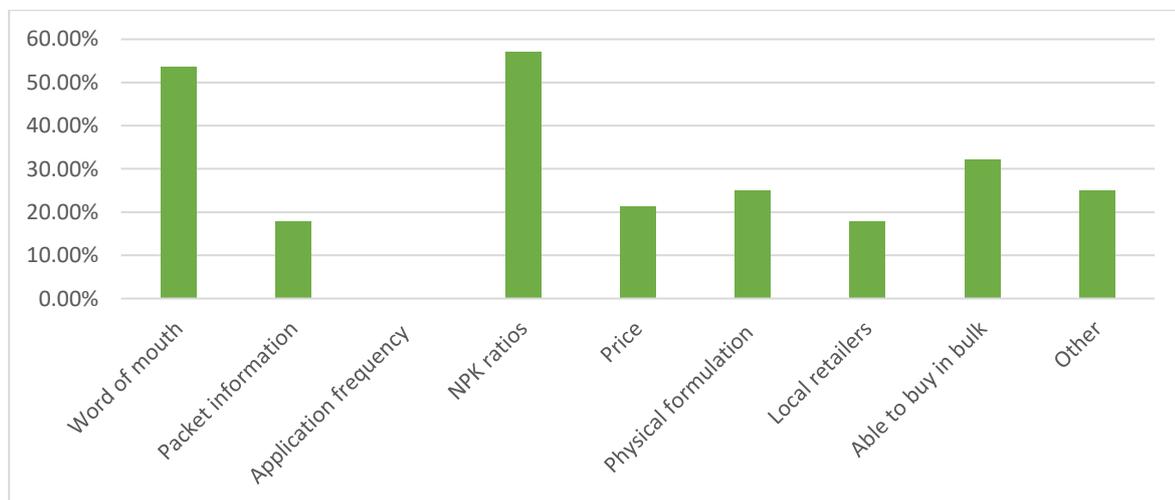
Figure 2 – Brand of fertiliser and frequency of use – plants in ground



Deciding on a fertiliser

Respondents were asked about how they decided what fertiliser to use. The main guides were NPK ratios (57%) and word of mouth (54%), followed by the availability of fertilisers in bulk (32%) and physical formulation (25%) (pellets vs powder vs liquid (Figure 3). No-one chose their fertiliser because of the frequency of application recommended on the packet.

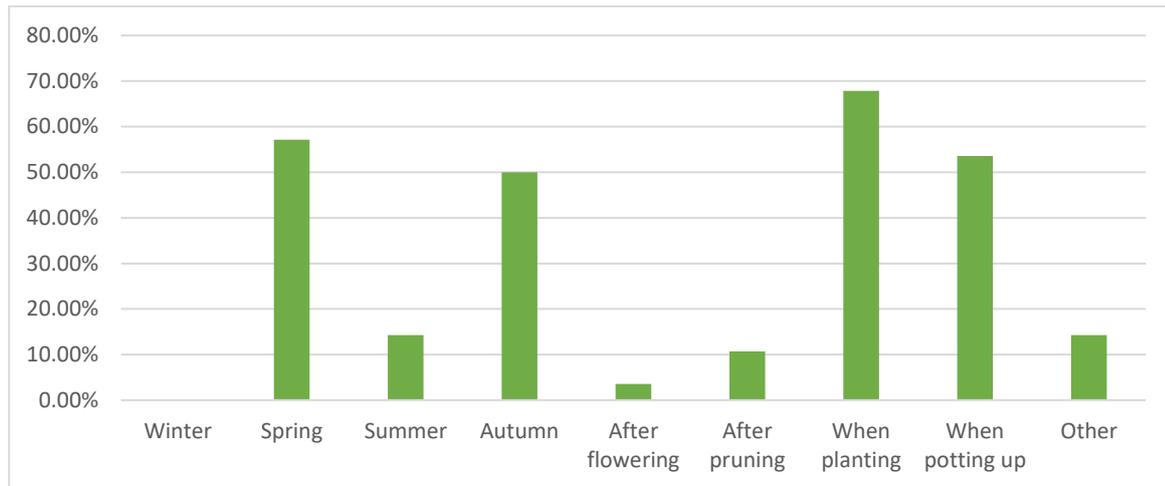
Figure 3 – Reasons for choosing fertiliser



Time of year

The final question was on the time of year that plants were fertilised. Respondents favoured spring (57%) and autumn (50%). Unsurprisingly, these times of year probably align with most activity in the garden – shown also by 68% of respondents fertilising at the time of planting and 54% at the time of potting up (Figure 4).

Figure 4 – Timing of fertilising

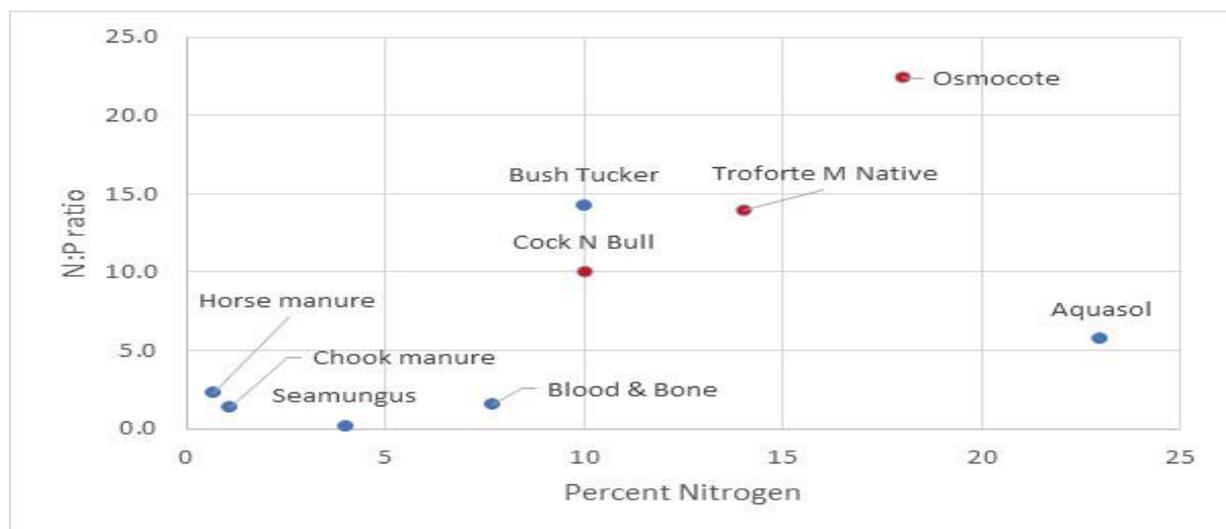


Product analysis

Table 1 (over) shows the components of the fertilisers used by respondents. Precise information on the proportions of nitrogen (N) to phosphorus (P) to potassium (K) is usually available but details on the contribution of particular ingredients can be difficult to come by – actual proportions are concealed by providing only a range of percentages for the major components (e.g. urea 30%-60%).

Natives don't tolerate high phosphorus levels – less than 3% is recommended (some genera tolerate more than others). However, native plants still need Nitrogen, which should be at least 10% of any fertiliser. This means the ideal N:P ratio is more than 3:1. Excluding Seasol, those fertilisers that have more than 10% Nitrogen plus an N:P ratio of more than 3.3 are Bush Tucker, Cock N Bull, Osmocote and Troforte M Native. However, Cock N Bull seems to have an unacceptably high percentage nitrogen provided by urea. Those marked with red dots in Figure 5 are those most suitable (Bush Tucker loses out because of its high percentage of nitrogen from urea).

Figure 5 – Which fertiliser is ideal?



The full analysis for each of the fertilisers used as respondents is shown in Table 1. They are organised alphabetically and include chicken and horse manure as they are ingredients in some of the other products.

Table 1 – NPK ratios and sources

| Brand | N:P:K percent | | | Overall N:P | %N fr. Urea | Main Ingredients and comments |
|-----------------------------|---------------|-------|------|-------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | | | |
| Aquasol | 23% | 4% | 14% | 5.75:1 | 92% | Urea 30%-60%, ammonium phosphate |
| Bush Tucker | 10% | 0.7% | 8% | 11.4:1 | 90% | Chicken manure 30%-60%, ammonium sulphate 30%-60%, potassium sulphate 10%-30%. Label notes manufacturing “locks up” phosphorus |
| Blood and Bone* | 7.7% | 5% | 1.2% | 1.5:1 | 0% | Animal blood (dried and ground), hoof/bone meal (ground and steamed). Phosphorus only comes from the bone meal. Commercial mixes can include 10%-30% sand |
| Chicken manure ² | 1.1% | 0.8% | 0.5% | 1.4:1 | 70% | Chicken manure (note relatively high N:P ratio) |
| Cock N Bull | 10% | 1% | 8% | 10:1 | >50% | Chicken and cow manure (latter has NPK of 3%:2%:1%) |
| Horse manure | 0.7% | 0.3% | 0.6% | 2.3:1 | 50% | Horse manure |
| Osmocote** | 18% | 0.8% | 7.3% | 22.5:1 | 30%-60% | Urea, potassium sulphate. Coated – even release over 6mths |
| Seasol | 0.1% | 0.01% | 1.5% | 10:1 | 0% | Kelp. Not a fertiliser – marginal nitrogen and phosphorus content |
| Seamungus | 4% | 1% | 1.5% | 4:1 | >40% | Chicken manure 60-70%, seaweed 10-20%, coal 5-10%, fish meal 1-5% |
| Troforte M Native | 14% | 1% | 4% | 14:1 | 12% | Engineered mineral base + 24-30 strains of soil microbes |

Source: Materials Safety Data Sheets for each product, product labels, web searching
* Yates brand used for comparison **3 monthly native

Conclusions

Many of us are “blessed” with nutrient-poor soils. It is important to use the fertilisers that provides enough Nitrogen, without overloading with Phosphorus. While horse and chicken manure and blood and bone mixes have low P, they don’t appear to have enough N to be good fertilisers (however, they may provide other benefits including microbes and can be added to compost). It looks as if Cock N Bull, Osmocote native slow release and Troforte M Native provide the best balance. Using Aquasol does not seem to be a good idea, unless it is used in a more dilute mix, to avoid overdosing with Phosphorus.

If anyone has any other suggestions about good fertilisers that I didn’t include in my original survey I am happy to publish comments in the next Newsletter.

² There is a useful list of NPK ratios for all sorts of natural fertilisers at <https://www.allotment-garden.org/composts-fertilisers/npk-nutritional-values-animal-manures-compost/>

Eremophila plantings along the Mallee Highway west of Ouyen

Jocelyn Lindner

The potential for the use of *Eremophilas* for town and garden plantings in this area has been recognised for many years. *Eremophila longifolia* and a number of forms of *E. glabra* grow naturally along the Mallee highway between Ouyen and Pinnaroo. *Myoporum parvifolium* and *M. brevipes* can also be found (the latter is only in one spot west of Boinka). Other species of *Eremophila* that grow in the Mallee are *E. maculata*, *E. crassifolia* and *E. divaricata*.

In the early 1990's The Walpeup Dryland Garden was established and the use of *Eremophila* here clearly illustrates their tolerance to drought. *E. maculata*, in particular, has performed well. Because of water restrictions no water was applied from 2007-2010 and only the most drought-tolerant survived, including most *Eremophila*.

The majority of *Eremophila* in the garden are *E. maculata* which were grown from seed by the late Frank Fitzpatrick over a period of 20 years. Frank named each one with the prefix Walpy. One species that stands out is Walpy Val, an *E. maculata* x *E. glabra* cross which appears to be very similar to that now registered as Mallee Lipstick (see cover). Sixty-four different *Eremophila* that he grew are listed in the Booklet "*Eremophilas – Walpy Grown by Frank Fitzpatrick 1987-2006*" The Booklet was published by the "Greening the Line Committee" of the Mildura Rural City Council.

The purpose of the booklet was to recognise and record the contribution made by Frank Fitzpatrick to the Walpeup Dryland Garden. Only a small number of copies was printed.

Shortly after the establishment of the Walpeup Dry Land Garden, the Greening the Line Committee of the Mildura Rural City Council instigated the planting of *Eremophila* in Murrayville, Cowangie and Underbool. These beds are clearly marked to encourage locals and visitors to learn about them.

I have propagated and supplied most of the plants in the Murrayville and Cowangie beds. Last year a number of plants in the Murrayville mound had to be replaced. We have not planted many *E. maculata* in these beds as they are well represented at Walpeup. Unfortunately, a several plants in the Murrayville bed were lost in recent years. Replanting took place last year.

Eremophilas are used widely throughout the Mildura Rural City Council area; the ground covers in particular are in wide use.

The picture below shows the *Eremophila* bed at Walpeup Dryland Garden.



Barossa Bush Gardens

Hans Griesser

On Saturday 10 July, members of the Para Districts Group, including Ken Warnes and Ross Dawkins (who are members of the ESG), attended a working bee at the Barossa Bush Gardens to refresh the *Eremophila* plantations.

We initially established it more than 10 years ago as a showpiece for showing locals what great gardening plants this genus offers. Over the years, it became a bit neglected, and some plants died. So we pruned, removed, and planted new plants. It looks a treat now (group below).



L to R: Ross Dawkins, Trevor Waldhuter, Robert McGregor, Bob Wallace, Hans Griesser, Ken Warnes, Hannes Griesser, Anne Peaston

How to Kill an Eremophila

Last newsletter I asked about Eremophila that wouldn't tolerate pruning back to below the leaves (death ensuing rapidly). I have the beginnings of a list here, thanks to contributions from Linda Mason, John Elton and Tim Wood:

E. calorhabdos

E. lucida

E. oldfieldii ssp. *subangustifolia*

E. viscida

John Elton has killed grafted *E. muelleriana* and *E. christophorii* after a hard prune, despite reading that they don't mind the same treatment if ungrafted. The understock continued to grow – of course!!!

Tim Wood (SA) says he has most difficulty pruning broom shaped Eremophila, both from an aesthetic point of view as well as not knowing how low to go. His problems have included *E. complanata*, which should be pruned early. Several got too straggly and pruning has seen their demise. He has had the same problem with *E. lehmanniana*. Others he finds challenging to prune include *E. drummondii* x *nivea* 'Eyre Princess', *E. dichroantha*, upright forms of *E. drummondii*, *E. succinea* and Eremophila Stirling North. The latter is a hybrid between *E. longifolia* and *E. scoparia*, found north of Port Augusta where both species grow naturally (pic below).



Tim and his wife Sandy generally prune after flowering, at any time the plant is in a growth spurt, which for their garden in Kadina SA means they start in March and often keep trimming until Christmas.

Hunting Eremophila in Western NSW and SW Queensland

Lyndal Thorburn

The Queensland sub-group managed to hold its Myall Park Botanic Garden meeting in July, dodging COVID lockdowns. Tom and I decided to attend and travel through part of the area which we had hoped to visit in May last year, at about the time that COVID first struck and stymied our plans. Our route this year took us from Queanbeyan to Cobar, Bourke, Charleville, Carnarvon Gorge National Park, Myall Park, Lightning Ridge, Coonabarabran, Parkes and then home (we had to skip Orange because of the lockdown there in late July). We stayed at least 2 nights in each location to give us plenty of time to look around.

We wanted to find Eremophila growing wild along the way. We used Ken Warnes' excellent guide to Eremophilas in Western NSW, written to help people on the way to Queensland for our national meeting in 2019, and published in Newsletter 124. Prior to this trip, we had been singularly unsuccessful in finding Eremophila on our travels, but I am pleased to say we had more luck this time.

Our first stop was Cobar. We stopped next to some likely scrub along the road SE of Cobar, through Candelabo, and found *E. desertii* in flower (below).



Ken had written that *E. serrulata* was to be found east of Cobar itself. We found plenty (pic next page) just south, on Fort Bourke Hill Lookout, with *Myoporum montanum*.



guides but a wonderful source of water and birds, only 4km south of the town centre.

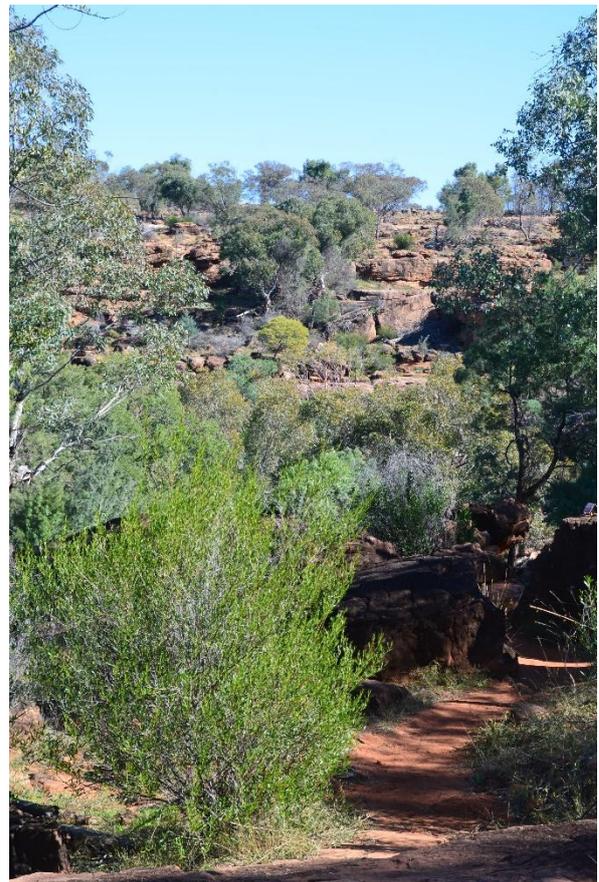
Cobar had a lot of Wilga (*Geijera parviflora*), which turns out to look rather like *E. bignoniiflora* when travelling along the highway at speed. This was a feature of much of our trip and we stopped many times thinking we had come upon a nice Eremophila clump, only to discover it was yet more Wilga.

From Cobar we travelled north to Bourke, stopping at Gundabooka National Park *en route*. We drove to the Aboriginal art site in the SE corner of the park and walked to the art gallery (pic of walking track below). No Eremophila there (at least that we saw) but there were elderly *Geijera* with massive trunks in the picnic area, and giant flowering *Pandorea* climbing over anything it could grab.



We also stopped on rough ground opposite the turnoff to Fort Bourke, along the highway between Cobar and Griffith. At this site, in addition to *E. serrulata*, we found what looked like *E. longifolia*, growing in

clumps from suckers.



On the way back to the park entrance we stopped a couple of kilometres south of the turnoff to the rock art drive and found *E. longifolia* again, and a sole specimen of *E. bowmanii* ssp. *bowmanii*. Nothing was in flower.

Newey Reservoir turned out to be a great find in Cobar – not mentioned in most of the local tour

On our full day I Bourke I had intended we drive to Toorale National Park, as well as see the sights around the town. Navigational defectiveness saw me guide us instead down the Louth Road, with Gundabooka on both sides of the road again. We lost count of the number of goats we saw along this road. We stopped at the Yanda camp ground and my poor directions became fortuitous when we found large clumps of *E. bignoniiflora* right where Ken said they would be, on the floodouts of the Darling River (below).



The massive rains in March had brought the river up and, while it was a healthy 4m deep now, back then it was a further 7m deep and had broken its banks. The effects of that were showing with bright green many metres away from the main river channel (see pic below).



We continued south, but then started debating whether we could cross the river at Louth and go back to Bourke via Toorale, with our two maps giving us different information, and no phone signal to consult online sources.

In the end we turned around and retreated to Bourke, as we had to be back in time for our river cruise! On the way we also called into the Bourke Outback Experience and were pleased to see Eremophilas used in plantings around this relatively new building (something of a contrast to the Crepe Myrtles and roses plentiful around Bourke's main street).



Our journey north continued the next day, to Charleville via Cunnamulla.

At Cunnamulla we did the Wyandra River Walk along the Warrego River and again were rewarded with *E. bignoniiflora*. Some of these had a few flowers – pink outside and cream inside with spots. One particularly large plant (below and over) also had hundreds of fruit, but it was the only one.





So onto Charleville we went, being deceived occasionally by Wilga-that-look-like-*E. bignoniiflora* along the way. Charleville also had an impressive river walk (the Warrego again – who knew it was so big!!) (below), but we saw no *Eremophila*.



However, at the Graham Andrews Parklands there were several enormous *E. maculata* (below) in full flower.



At the time, we were unaware of stands of *E. oppositifolia* west of the town, so we missed them.

From Charleville we headed east to Mitchell, where we found Tregole National Park, about 11km south of the town (pic next column).



This ex-farm protects remnant rainforest with Ooline trees which also act as hosts for large clumps of *Cymbidium canaliculatum* (pic below). We walked a self-guided circuit with lots of interesting genera (most of which we hadn't heard of) clearly labelled.



We found two *Eremophila* species here – *E. mitchellii*, notable for its tall stature and rough trunk, and *E. maculata*. Most of these *Eremophila* were at the back of the picnic area at the start of the walking track (anti-clockwise).

From Mitchell we turned north, heading to Forest Vale on a rather narrow road, then east to Injune and then north again to Carnarvon Gorge. Our destination definitely wasn't *Eremophila* country, but on the way we stopped off to admire Major Mitchell's historic camp site from 1846, and found more *E. mitchellii* (pic over). I started to realise the link between the species name and this location!



At Lightning Ridge we followed a self-guided plant tour, which took us north, south and through the town. Some of the guide was out of date, but were, nevertheless, successfully directed to a large *E. polyclada* in the scrub just west of the main town. This must have covered at least 80 square metres (12m along one side).

The next few days were taken up with rainforest and interesting birds and mammals (including bettongs!). We then headed off to Myall Park via Roma and Surat. I noted, arriving in Roma from the north, that *E. polyclada* had been used as median strip plantings.



About 50km north of Surat we stopped at a likely looking site and again found *E. maculata* and *E. mitchellii*, under a stand of native Bauhinia. Then on to Myall Park, which has been written up magnificently by Noreen Baxter elsewhere in this newsletter. Myall Park also has *E. mitchellii* growing naturally in its grounds.

There were many *E. maculata* nearby, all in full flower (below). Around town *E. mitchellii*, *M. montanum* and *E. desertii* were also prevalent.

After Myall Park we turned south, heading for Lightning Ridge. The first section of this day's driving took us east to Meandarra, then south through Westmar and south-west from there to St George. The latter road turned out to be very interesting, with swathes of *Newcastelia* sp. in flower along the roadside – very reminiscent of WA. *E. mitchellii* grew all through this area.



Once across the NSW border at Hebel (passing a very bored policeman, sitting on the side of the road to stop errant NSW people border running), but before Alford, I realised that the Wilga I'd been gazing at had large flowers and that we were looking at *E. bignoniiflora* again. When we stopped, we found many plants in flower, pink and cream like in Queensland. Nowhere near a river this time, however. There were also *E. maculata* hiding at the base, one or two in flower (at last! – see next column).

Our next stop was Coonabarabran via Burren Junction and Baradine, with stops to admire more *E. mitchellii*. From Baradine we drove to the Sculptures in the Scrub within Timmallallie National Park. There were lots and lots of magnificent wildflowers on the largely sandstone soils of this walk, already in spring flower (no Eremophila!). It had rained recently,

so we couldn't reach the Salt Caves. However, that left us enough time to call in at Sandstone Cave on our way south to Coonabarabran, where we intended to stay 3 nights.

As we drove south it became colder and more miserable! During our time away, Queanbeyan had had two weeks of temperatures rarely exceeding 8°C and lots of rain, and we started to greet this horrible weather as we motored south. Coona felt cold after the balmy 15+ °C further north. After some astronomical diversions at Siding Spring, we had planned to hunt for *E. debile* in the Warrumbungle National Park but were blocked from most of the short walks by high creeks. At about the same time, Orange and Cabonne went into COVID lockdown, so we also started to worry about getting back home.

We had planned to spend our last full day at Coona with Anthony and Annabelle from Bilby Blooms, but instead we spent the morning there and drove to Parkes for the night, to arrive home a day early. Anthony explained how to find *E. debile* – the key being that they grow under *Eucalyptus alpens* (White Box), which itself grows on granite ridges from past volcanic eruptions. So my attempts of the previous day had been totally in the wrong location.

When we finished admiring their flower plantation and nursery (and had discussed the mouse plague at length), Anthony took us to a stand of White Box on the Mendooran Road – and lo and behold, dozens of *E. debile* (below)!



I later found my very own patch (much less healthy), further south towards Dunedoo. We arrived home safe and sound, very satisfied by our successes in wild *Eremophila* hunting (but less impressed by our cold house!).

Myall Park Botanic Garden 16 – 19 July 2021

Noreen Baxter

Background: At the ESG Queensland meeting 10 October 2020, ESG member Dick Harding discussed the restoration/revival work he was planning for the *Eremophila* beds in the Myall Park Botanic Garden and asked to liaise with the Group about the project. This generated considerable discussion. With the exception of Dick, no members had visited MPBG in recent years and most had never been there, so it was decided to call for interested members to participate in a weekend trip to the site, which is about a five-hour drive from Brisbane.

The MPBG Board offered the group free onsite accommodation – Avochie Cottage (below, pic by Lyndal Thorburn) and the Shearers' Quarters) – plus camping sites for volunteers.



In return, the ESG members offered to source some *Eremophila* plants to get the project started. Members were all invited to participate. As with any group trip, numbers fluctuated, and the final count of participants was 15 for the complete weekend, and two for one night only.

The weather had been kind to the area and to us. After years of drought there had been reasonable recent rains so the ground was about as good as it could be, not too wet to work and certainly not dry. The introduced *Eremophilas* already in the gardens appeared to have enjoyed the rain and many seedlings, including possible hybrids, were seen over the weekend.

On Friday afternoon Dick took the early arrivals out to a site where there were some *Eremophila duttonii* plants. These appeared to be offspring of the original plantings and it was a delight to

find seedlings emerging under some of the bushes. Then it was back to the accommodation to greet the others as they arrived nicely in time for “Happy Hour”, BBQ and bed.

Participants were Dick Harding, our MPBG contact; Lyndal Thorburn and Tom Jordan who travelled up from Queanbeyan; Darell and Pamela Fletcher; Peter Bevan; Carol Cave; Chris and Ross Reddick; Ray and Noreen Baxter; Denis Cox and Jan Glazebrook accompanied by Jan’s daughter Julie and her partner Miriam; with Janet and Jim Flannigan joining the group Saturday afternoon/Sunday morning. The group photo is below, pic by Carol Cave.



Participants, including Darell and Pam, Jan and Denis, Dick, Noreen and Ray, Peter Bevan through Pete’s Hobby Nursery and the Eremophila Study Group itself (via ANPS Canberra) contributed an assortment of Eremophila plants for the project, with the total numbering just under 120 plants.

At the site, plans for the work involved were considered and discussed. On Friday night the question was how the team could get all those plants in the ground over the weekend: Jan was supremely confident that we could and still have time to enjoy MPBG.

At 08:30 on Saturday the group commenced work. Quite naturally, there was a bit of confusion in the beginning, but in no time at all the team developed a rapid work rhythm that got the job done, with time left to enjoy MPBG just as Jan had planned.

The site was a short distance from the workshop and sheds so firstly all the tools required had to be brought to the site. Then the work flowed. As each task got established Jan organised a person

or a team to move into the next task so the work flowed smoothly. The steps were:

1. Dick marked out the future paths;
2. Plants were positioned: ground covers closest to the path, taller plants behind;
3. Holes were dug: using a battery operated auger, each hole had to be 2 to 3 times wider than the pot so the auger was used to dig a triangle of holes (Julie digging holes, below, watched by Tom – pic Chris Reddick);



4. Fertiliser: As there was a choice of Blood and Bone or Osmocote it was decided to do a study of which type got the best results, so the plants were given either Blood and Bone, or Osmocote or half and half B/B & O;
5. Planting (Chris, Ross, Denis, Tom and Darell – pic Chris Reddick);



6. Inserting “label post” with a sledgehammer;
7. Labelling: two types were used a) a metal strip that had to be etched with the name and inserted into a grooved post, and a Corflute name card held in place by a heavy wire staple beside each specimen (Pam & Miriam labelling, below – pic Chris Reddick);



8. Watering each plant (Darell and Chris);



9. Mulching;

10. Finally finishing off under Dick's instructions and assisting him:

- a) A team made approximately 110 wire mesh plant protectors; transported them to the site; and placed one around each plant;
- b) Installing the irrigation pipes;
- c) Irrigation: laying of about 300 metres of irrigation pipe around the site, inserting a dripper at each plant and positioning the wire mesh over the irrigation pipe and around the plant and then fixing in position with heavy wire staples (finished area below, pic by Lyndal).



Almost all the plants were in the ground on Saturday, so on Sunday morning the team had to plant the remaining 11 plants, complete the mulching, watering, check the irrigation system and tidy up.

Despite what seemed and sounded like a monumental gardening effort, it took only four scheduled gardening sessions of approximately four hours on Saturday morning; one hour Saturday afternoon; two hours on Sunday morning; and 1.5 hours Sunday afternoon totalling roughly 122 person work hours. However, the actual hours worked would have been more, as Dick kept working on the irrigation often assisted by one or two helpers while some of us enjoyed the free time.

At 14:00 Saturday the Caretaker's wife opened the Gallery for the group so everyone could enjoy the history of the gardens and admire the botanical artwork of Robyn Gordon.



Of course, everyone also checked out the gardens around the Gallery and many tested their musical skills on the "Thongaphone", including our resident musicians, Chris Reddick, who patted a couple of tubes first then played "Waltzing Matilda", and Tom Jordan, who played "Twinkle Twinkle Little Star".

We also toured the seedbank, which had *Eremophila bignoniiflora* fruit dating back to 1956! Below is Dick Harding in front of the beautiful Silky Oak drawers holding the seedbank (pic Lyndal Thorburn).



After Morning tea on Sunday some folk started out to do the full circular walk, by foot or by car. The walkers took so long to reach the Grevillea garden that it was time to head back to base for lunch. Along the roadside, we enjoyed finding a patch of *E. gilesii*, with seedlings. A bit further along and some distance off the road were two separate stands of *E. bowmanii ssp nutans* and *latifolia* hybrids (below, pic Chris Reddick).



In the first clump there was also an *E. linsmithii* (pic below, Chris Reddick) and in the second stand an *E. latrobei*. At various points along the walk were *E. granitica*, *E. forrestii*, and *E. desertii*.



Throughout the weekend all the team, orchestrated by Jan and Lyndal, worked so well maximising all the various talents to get the best results. However, there was sufficient free time for everyone to follow their own interests from photography to bird watching (some folk even saw Brolgas) or to enjoy the peace of the bush: no planes, no noisy traffic, no TV, no COVID.

On our final (Sunday) night everyone went into Glenmorgan to the Bottle Tree Hotel for “Pizza Night” then back to base where most of the group enjoyed an early night after a very busy, exhausting and enjoyable weekend (pic Chris Reddick).



Only two questions remain unanswered at this point: Who does the follow up trip/s and when?

Tiger Moths Attack

Mike and Cathy Beamish

Generally speaking, our *Eremophila* are not doing well this year. The continuously damp and cold weather through summer and autumn and now into winter is taking its toll and we don't expect many *E. glabra* to survive through to warmer weather.

The only species which seems to be able to hold its own in our Latrobe Valley climate is *E. decipiens*: I have two plants out in the open, both cuttings from the original specimen, which collapsed last year. They are both slowly increasing in size and are maintaining their foliage while putting out a few flowers.

The *E. maculata* that is tucked under the eaves and facing north brick wall is doing well and is keeping the local honeyeaters interested, but the plant out in the main garden is defoliating and is looking very miserable indeed. The grafted *E. muelleriana* is also tucked up against the brick wall, which allows it to survive, but not without regular defoliation in the dampest weather.

Defoliation is not helped when a hungry caterpillar decides to browse the leaves as well! Over a 24-hour period this beastie cleaned up a section of stem about 150mm long, then disappeared to parts (or plants) unknown!

We are pretty sure the caterpillar, pictured below and next column, is the larva of the Dark-spotted Tiger Moth *Spilosoma canescens*, which is indigenous to the area, but the *Eremophila* is obviously not.



Adult pic above from <http://lepidoptera.butterflyhouse.com.au/arct/canescens.html>.

Myoporum as Edging

Lyndal Thorburn

I happened to be at the University of Canberra for an event on an April evening and passed through an area with relatively newly native plantings.

The University had used *Myoporum parvifolium* as a ground cover throughout this area and it had grown so well that it stood up some 10cm from ground level. The gardeners had run along with an edger and it formed a neat line along the footpath (pic below).



M. parvifolium is usually planted in the middle of beds so that its shoots reach out to touch the path at their tips. In this case, clearly, many plants had been set close to the path and had formed a low thicket which was emphasised by the close mowing.

Chasing *Eremophila delisseri*

Ken Warnes

I've been chasing up the S.A. collections of *E. delisseri* in an attempt to try and locate more living specimens. Bob Chinnock photographed specimens held at the Herbarium for me. Suddenly, a series of dates became evident when I combined certain of these with the collection of other species from along the railway. Throw in the knowledge that the Adelaide Botanic Garden (ABG) had been out there at that time and combine it all with Ron Hill's article in Australian Plants Vol.1 No. 10 March 1962 and I had a series of connections from 60 years ago.

How's this, keeping in mind that this is pre-Chinnock, so neither *E. hillii* nor *E. decussata* existed then? Shaw described *E. hillii* in 1967 from Wilson's collection. Chinnock described *E. decussata* from his own specimens in 1987. *E. delisseri* was collected 1km north of Cook R.S. by Paul Wilson on 16 September 1960. It was only one foot high. Russell and I were looking, when we were there in 2003, for a 3-4 foot shrub. Next time we'll lower our sights! *E. delisseri* was also collected twice 30kms north of Watson R.S. by H. Turner on 21 September 1960 – spindly specimens but clearly *E. delisseri*. It was also collected but not lodged by Ron Hill at Fisher R.S (not dated) – a single plant named as *E. battii* in Australian Plants but clearly *E. delisseri* from the line drawing.

E. hillii was collected 5km North of Ooldea by Paul Wilson on 20 September 1960. This became the Type Specimen for *E. hillii* in 1967. I reckon I know this population from my visit in 1969. It was also collected by D. Whibley 2km South of Ooldea on 21 September 1960. This is the more commonly visited site and is the home of the orange flowered form.

E. decussata was collected by Paul Wilson near Ooldea on 22 September 1960. To add to this Hill, in his article, listed *E. exotrachys* (now *E. platythamnus*), *E. battii* (which was incorrect – it does occur at Ooldea but is not recorded by this expedition), *E. willsii* (which would now be *E. willsii ssp integrifolia*), *E. latrobei*, *E. gilesii* (which was hopelessly wrong and almost certainly refers to *E. gibsonii*) and *E. goodwinii* (which was just as wrong – it was possibly *E. arenaria*). Also, *E. decipiens*, which Chinnock doesn't list as growing in S.A. Paul Wilson (chenopods) and David Whibley (Acacias) are well known botanists, Turner I don't know of. Ron Hill was 2IC at the ABG and was very supportive in the early days of the Study Group, but died of a heart attack at only 49 years of age.

The gap of 4 days could indicate that the party spent that time crawling along the rail track, which would explain the Fisher collection, or returned to the Eyre Hwy from Cook and then went back up to Ooldea from Yalata. The roads then were quite different and at best they probably only had short wheel-base Land Rovers. But they clearly travelled the road to Maralinga from Watson and Fisher is further west from Watson again. Remember that this is the period when they were still playing with their firecrackers out at Maralinga. The records of the trip could still be lodged somewhere at the ABG Office, but Bob didn't give me much hope of tracking them down. I was there in 1969 with Bruce Copley and in 2003 with Russell Wait so have a fair idea of the country.

Fascinating stuff indeed. At the conclusion of Ron's article in *Australian Plants* are some notes from a Mrs. C. Sinclair from Deniliquin, giving some experiences with *E. maculata* and *E. longifolia* with an Editor's note that she was prepared to set up a Group to further discuss the subject of Eremophilas. Don't think anything came of it, nothing that I know of anyway. But that's exactly how our Study Group came into being, with the same Editor stating at the end of an article which I submitted in 1971 that Ken Warnes was the Leader of the Eremophila Study Group. That's the first I knew about it, but this time the seed fell on more fertile ground and the rest is History as they say.

Don't know if this will help us find more *E. delisseri* but it has revealed some interesting records from early days.

ESG sub-group meetings

NSW

Face-to-face NSW events have been cancelled until further notice due to the Sydney COVID lockdown. However, Charles Farrugia has started a great online discussion on set topics over a set period. Members of the NSW sub-group can take part in the discussion as many times as they want – by email not by Zoom – and can send photos.

The first discussion ran from 22 August to 5 September and covered the best Eremophila to grow successfully in Sydney, focussing on soil type, moisture and water.

The second discussion is from 5 -19 September. The topic is general care (fertilising, pruning, mulching, sun).

Queensland

The Queensland sub-group is meeting on **2 October** at the home of **Laylee and Steve Purchase, 44 Rocklyn St Toowoomba**.

The Topic for discussion is hybrid Eremophilas. For more info contact Jan Glazebrook at [janglazebrook \(at\) gmail.com](mailto:janglazebrook@gmail.com).

South Australia

Tim Wood has circulated a notice regarding the planned SA subgroup meeting in September 2021. Covid has made planning a bit problematic and has stopped a few members from migrating West to see the wonderful display that a wet autumn and winter has given the Gascoyne, including an *E. cuneifolia* owned by Tim's sister. It was difficult to plan a group get together, but details have been confirmed and Ken Warnes will host the group. Members will inspect Ken's Eremophila planted area in near the silos before driving on to Ken's farm plantation.

Date: **Sunday 10 October 2021**
Meeting place: **Owen Silo art**. Lunch: **BYO**
RSVP: **by 3 October to drspock52 (at) gmail.com**

Please let Tim know what material you would like if you can attend, for a cutting swap.

The SA sub-group's autumn meeting, expected in late March/early April 2022, is going to be a Riverland experience thanks to Don and Chris Lill, who have a program that seems to need an overnight stay. There are several bush areas as well as their large plantation to see.

Victoria

The Victorians plan to hold a meeting on 27 November at Boort, north-west of Bendigo, Vic. For information contact Neil Duncan, [neilduncan61 \(at\) gmail.com](mailto:neilduncan61@gmail.com).

Day of the Species

For those tracking our involvement in the Day of the Species project, the coordinator Carmel Killen has secured another exhibition opportunity for the project's artworks at the Stanthorpe Regional Art Gallery (<https://thelifesustainable.us1.list-manage.com/track/click?u=5e55d0563e92b326f2923a970&id=fadfd7be25&e=f8e33ef281>). It is a small gallery and will be a very intimate experience of our threatened species.

In the spirit of eternal optimism, the exhibition will take place from 31 August to 19 September. She isn't even entertaining the idea that a certain pandemic may have plans to derail it! This will be the first public exhibition for the Day of the Species project. It will be open on National Threatened Species Day, 7 September.

From Your Letters

Jane Fountain (Qld): Thank you, Lyndal. What an amazing collection of information and excellent photos.

Jocelyn Lindner (Vic): The research activity is interesting and exciting. I have collected seeds of the following: *E. attenuata*, *E. denticulata*, *E. macdonnellii* (grey leaf form), *E. pantonii*, *E. polyclada* and *E. tetraptera*. I hope to post them tomorrow.

It was very dry here until July – up until then, we had only had 96mm of rain for the year and 50mm of that fell in early January. We then had

17 wet days up until 5 August. When the ground dries, I will collect more fruit. I haven't collected *E. maculata* and I guess the university would receive plenty of these. When it dries up, I will collect the local *E. glabra* which grows in amongst our remnant vegetation in our house yard.

Sandra McKenzie (SA): Thanks for another excellent newsletter. I provide a photo of my *E. cuneifolia* (pic below) with a query.

It is in full flower at present. However, this year 95% of the flowers have no corolla. Last year it was approximately 50% that had no corolla. I don't know if anyone else has had this problem but, if so, could you please let me know or where I may be able to find some information on how to rectify it?

As you can see it is growing in a pot, receives regular water, is fertilised twice a year in Spring and Autumn with Bush Tucker and an occasional (when I think of it) dose of Seasol.

One of our APS Yorke Peninsula group reckons it looks great without the corollas!! Do hope you can help. I look forward to your reply.



I couldn't answer Sandra's query – over to Study Group members to suggest the reason for the absence of corollas on her plant!!

Tony Porritt (NSW): We spent a month travelling in the Great Sandy, Gibson & Great Victoria deserts in June this year and saw several different species of Eremophila. This is one we saw at Mount Everard in the Gibson desert. Consensus after discussion among the Sydney sub-group is that it is *E. exilifolia*.



Ros Walcott (ACT): Congratulations on the latest ESG NL – it has so much information in it! I really enjoyed your article on Dave Bishop's garden in the latest Journal. It made me look back at the one he wrote about his garden in 2017, Garden Design Study Group NL 100, p.20 (<http://anpsa.org.au/design/design-news.html>). It is amazing what he has achieved in a short time. The growth on his *Eremophila* is tremendous.

Financial Report 2020-21

Study group member numbers have remained stable at about 160. The balance sheet and P&L as at 30 June 2021 are over the page.

The close of the financial year allows me to do a final reckoning for the Queensland event which dodged border closures in July/August 2020. We made a surplus of \$772.68, largely because Rachael Fowler couldn't make it in person and provider her presentation by Zoom – Qantas refunded us the cost of her tickets.

Job Profit & Loss Statement

July 2020 To June 2021

| Account Name | Selected Period | Year To Date |
|-------------------------------|-----------------|--------------|
| 2020 Gathering New Job | | |
| Income | | |
| Conference fees | \$4,305.00 | \$4,305.00 |
| Travel reimbursement | \$278.23 | \$278.23 |
| Total Income | \$4,583.23 | \$4,583.23 |
| Expense | | |
| Meeting Expenses | \$124.70 | \$124.70 |
| Conference fee refunds | \$149.30 | \$149.30 |
| Printing and photocopying | \$84.50 | \$84.50 |
| Stationery | \$25.94 | \$25.94 |
| Travel | \$278.23 | \$278.23 |
| Plants | \$26.00 | \$26.00 |
| Gifts | \$199.36 | \$199.36 |
| Accommodation | \$890.00 | \$890.00 |
| Meals | \$2,032.52 | \$2,032.52 |
| Total Expense | \$3,810.55 | \$3,810.55 |
| Net Profit/(Loss) | \$772.68 | \$772.68 |

Last financial year, we made a total surplus of \$2,411.26, being made up of the surplus from the 2020 meeting plus donations from Native Plant Wholesalers plus member fees. If our research project goes ahead, we will be spending some of this in the next few years.

Created: 13/08/2021 12:08

Eremophila Study Group

3 Considine Close
 Greenleigh NSW 2620

ABN: 56 654 053 676

Email: lthorburn@viria.com.au

Balance Sheet

As of June 2021

| Assets | |
|------------------------------------|-------------------|
| General Cheque Account | \$9,334.28 |
| Total Assets | \$9,334.28 |
| Liabilities | |
| ESG membership fees in advance | |
| Fees received in advance for 21-22 | \$460.00 |
| Fees received in advance for 22-23 | \$320.00 |
| Fees received in advance for 23-24 | \$160.00 |
| Fees received in advance for 24-25 | \$60.00 |
| Total Liabilities | \$1,000.00 |
| Net Assets | \$8,334.28 |
| Equity | |
| Retained Earnings | \$538.46 |
| Current Earnings | \$2,411.26 |
| Historical Balancing Account | \$5,384.56 |
| Total Equity | \$8,334.28 |

Created: 13/08/2021 12:11

Eremophila Study Group

3 Considine Close
 Greenleigh NSW 2620

ABN: 56 654 053 676

Email: lthorburn@viria.com.au

Profit & Loss Statement

July 2020 To June 2021

| Income | |
|----------------------------|-------------------|
| Memberships | \$805.00 |
| Conference fees | \$4,305.00 |
| Travel reimbursement | \$278.23 |
| Book sales | \$638.00 |
| Postage | \$154.35 |
| Propagation material sales | \$4.00 |
| Miscellaneous Income | \$151.60 |
| Cultivar use donations | \$675.00 |
| Total Income | \$7,011.18 |
| Cost Of Sales | |
| Postage supplies | \$44.05 |
| Publications cost price | \$297.00 |
| Total Cost Of Sales | \$341.05 |
| Gross Profit | \$6,670.13 |
| Expenses | |
| Meeting Expenses | \$124.70 |
| Conference fee refunds | \$349.30 |
| Printing and photocopying | \$156.40 |
| Postage | \$295.79 |
| Stationery | \$46.94 |
| Bookkeeping | \$120.00 |
| Software | \$192.00 |
| Travel | \$26.03 |
| Plants | \$26.00 |
| Accommodation | \$890.00 |
| Meals | \$2,032.52 |
| Total Expenses | \$4,259.68 |
| Operating Profit | \$2,410.45 |
| Other Income | |
| Bank interest | \$0.81 |
| Total Other Income | \$0.81 |
| Net Profit/(Loss) | \$2,411.26 |

About the Study Group

The Eremophila Study Group aims to further knowledge about the cultivation, propagation and conservation of the 200+ species of Eremophilas, an endemic genus of Australian plants. It is one of several Study Groups which operates under the auspices of the Australian Native Plants Society (Australia) (ANPSA).

SUBSCRIPTIONS

Membership is \$5 per annum. Subscriptions for a financial year can be sent by cheque posted to **3 Considine Close Greenleigh NSW 2620** or (preferably) paid by direct deposit into the Group's bank account:

BSB: 105-125

Bank name: **Bank of South Australia**

Account No.: 013 751 340

A/c name: **ASGAP Eremophila Study Group**

Please put your surname and state/group membership in direct deposit details

ANPSA policy is that regional groups pay for two subscriptions in recognition that Study Group material will be used by several group members

New members, please download the application form from our website and send with your cheque/transfer (details below) <http://anpsa.org.au/eremophilaSG/index.html>

Study Groups allow members with specific interests to develop that interest to the fullest extent and to contribute in a practical way to the body of knowledge on the Australian flora. Active members collect information on the genus and send their observations to the leader who collates and publishes the information, in a newsletter or in other Society publications. The Study Group can record any aspect of cultivation, propagation and ecology of the preferred genus. Study Groups are expected to publish at least two newsletters per year.

In addition to paying annual fees, members must also be members of an ANPSA-affiliated regional society (<http://anpsa.org.au/region.html>).

This Study Group aims to study the cultivation and propagation of the genus *Eremophila*; to expand cultivation of *Eremophila* in gardens; and to examine the growing requirements of the various species to improve their reliability.

Leader: Dr Lyndal Thorburn, Life Member of ANPS Canberra. Contact her through [lthorburn \(at\) viria.com.au](mailto:lthorburn@viria.com.au) or phone 0418 972 438. Address: 3 Considine Close Greenleigh NSW 2620

Honorary members: Ken Warnes and Russell Wait

Newsletters are available in Black and White by post and in COLOUR by email or CD.

For more general information about Study Groups, contact **Ms Jane Fountain** Coordinator, Study Groups, Australian Native Plants Society (Australia) ([jlfontain5 \(at\) gmail.com](mailto:jlfontain5@gmail.com))

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**NEXT NEWSLETTER when I have
enough for 24 pages but not before December 2021**