STEP Newsletter December 2018

Podolepis Jaceoides Showy Copper Wire Daisy

From the President

Thank you to all who were able to attend the Annual General Meeting, Sunday 25 November. We are pleased to welcome Jennie Widdowson as a new committee person as she brings considerable knowledge across a range of subjects and strong links to the guides of FNAC. A report on the AGM is included in this newsletter.

The prolonged dry weather restricted the usual Spring planting and our purchases from the ANPS plant sale were modest compared to previous years. Despite this, we were able to undertake some large-scale planting of *Lomandra* and a range of grasses (see items). At one working bee day in September, a team of 4-5 STEPpers transplanted grasses into larger pots and these have been given out to volunteers prepared to be "STEP-parents" (thank you Terry for this very clever name) for planting later in 2019.

Thank you to Max Bourke for his diligent and persistent efforts to control St John's Wort. It is quite disheartening to see patches of this weed in flower in places adjacent to Forest 20 This makes Max's work so much harder.

We are very happy to announce that our plans to construct a new shed are well under way. Terry Murphy, Bill Handke and Ross Dalton are to be thanked for their negotiations for this project. Thursday 22 November was old shed moving day (see item.) David Shorthouse and others have been liaising closely with NAC who will remove the old concrete pad, level the block and pour concrete for a new pad. This is scheduled to occur before Christmas so that the shed construction can begin in February.

The timely completion of this new "home" will start a year of celebrations for STEP 10th year since the first trees were planted. A plan for 2019 events is included in this newsletter.

At the end of what has been a very busy year, it is fitting that I pay tribute to everyone involved with the development and maintenance of our Regional Botanic Garden at Forest 20. To the staff at the many levels of NAC, to the Friends, to the volunteers and members, to our corporate supporters, to our plant suppliers, to the interest groups who utilise the resources STEP has to offer, you all contribute so much to the success of our endeavours and we thank you very much.

May 2019 bring you much happiness and fulfilment.

Judy Smith, President (STEP)

Call for donations for the new shed fit out

"In the last month our efforts to commission a new and enlarged shed at Forest 20 got us to the point where we have started to prepare the site in readiness for construction to start in finish in February 2019. The new shed is much larger (3 by 8 metres with a 4 by 6 open awning) than the one it replaces, which has served us since 2009. It will meet our needs for many years ahead and give us a more secure structure and more options for activities such as plant propagation, all weather operation and a place to store our expanding archives, printed material and of

course, our equipment. The shed will be completed in time for us to celebrate the 10th anniversary of planting our site, Forest 20 in the National Arboretum

In preparation for the new works we recently moved the old shed to temporary site to store our equipment. For a fun take on our efforts to move the shed, check out our Facebook Page, STEP Inc

The budget for the shed is close to $14,000. We will be using our cash and also drawn on funds that donated through the Friends of the National Arboretum, tax deductible facility. We have received support from the Australian Native Plant Society Canberra towards the construction cost and from The National Arboretum Canberra which is providing ground preparation and a concrete base for the shed. We appreciate this critical support from ANPS and the National Arboretum. In addition to meeting the construction costs shed, we will need money to it fit out with new shelving and to finance external features such as a rainwater tank.

This is a major expenditure for us. While we have funds to cover the cost, it will mean that we need to top up our cash reserves to ensure we have sufficient funds to assist us in supporting our ongoing activities and commitments. As noted above next year will be our 10th anniversary of planting which we plan to celebrate with a function in later March and other events during the year which will of course be additional costs to our usual expenditure.

Therefore we have decided to ask STEP members and others who may be willing, to make a donation to help out with funding the new shed and general support for STEP activities.

Those wishing to contribute can do so by electronic bank transfer to our Bank Australia account BSB 313-140 Account no 12067564, account name Southern Tablelands Ecosystems Park Inc. Those wishing to pay by cheque can make them out to Southern Tablelands Ecosystems Park Inc, at our postal address, Southern Tablelands Ecosystems Park Inc. PO Box 440, Jamison Centre, Macquarie 2614.

Shed in new position

To make a tax deductable donation to STEP visit the Friends of the National Arboretum Canberra website (www.nationalarboretum.act.gov.au), select donate and as a particular project select Southern Tablelands Ecosystem Park (STEP) Site. Payment may be made by credit card or by direct deposit or by cheque."

Report on the Annual General Meeting

Thank you to all who were able to attend our AGM 0n Sunday 25 November. The following people were elected:

Judy Smith (President)	David Shorthouse (Vice-President)
Ross Dalton (Treasurer)	Heather Green (Secretary)
Andrew Russell (Membership)	Terry Murphy
Bill Handke	Lainie Shorthouse
Elizabeth Minchin	Jennie Widdowson

We welcome Jennie to the Committee. She brings a wealth of knowledge along with strong links to the Guides of the Friends of the National Arboretum Canberra.

Planting for a Purpose

To complement the planting of the bush tucker garden, an area was prepared to create a mass planting of *Lomandra.* Over several weeks, clearing then deep digging of the soil was undertaken. The latter was a difficult task as the ground was extremely compacted. Over several weeks, water was run into planting trenches then the ground was dug over and topped with a thick layer of mulch. This made the planting process quite easy. We were able to source self-sown plants to fill up the rows and the eventual aim is to have a supply of these strappy plants for use in demonstrating indigenous techniques of basket weaving and string making.

Right Mike standing next to trenches with water, photo Judy Smith.

Creating a meadow

At the working bee of 18 October, we launched an experimental project to create a meadow. The chosen patch is in the *E. pauciflora* block, at the corner of the path near the rockery. The first couple of weeks were devoted to some intensive weed removal, particularly paspalum and St John's Wort.

Then came the exciting part. David Shorthouse provided grasses he had propagated at home:

Rytidosperma bipartitum, Wallaby grass
Themeda triandra, Kangaroo grass
Austrostipa scabra, Spear grass

Clearing the weeds 1 October

A very willing band was in attendance to dig holes and plant these species randomly across the prepared ground. A patch of *Sorghum leiocladum* had been identified and was preserved as an addition to the range of grasses planted. The first planting was watered on the following Monday (very hot and windy weather) and more grasses were planted the following Thursday. Luckily some decent rainfall has occurred which will give the new plants a good start.

When the grasses start to seed and spread, it is hoped we can plant additional species such as *Bulbine, Microseris, Glycine, Einadia* etc.

First planting of grasses 8 November

More grass activity

On Thurs 1 November, volunteers undertook the potting up of *Rytidosperma bipartitum,* Wallaby Grass and *Poa sieberiana,* Snow Grass. Under the expert guidance of Terry Murphy, this delicate work yielded over 600 tubes which were taken home by "STEP-parents" (Terry's very clever term) to be looked after over Summer. Thank you to all who were involved with this task – requires great patience and a light touch.

Not quite house moving but …..

On Thursday 22 November, our big task for the day was moving the shed. Before the moving could begin, we had to take everything out of the shed and remove the boards used for hanging tools, hoses etc. An additional task was to sort out sound from damaged tree guards. Some of the sound guards were for us and the rest are going to the Arboretum.

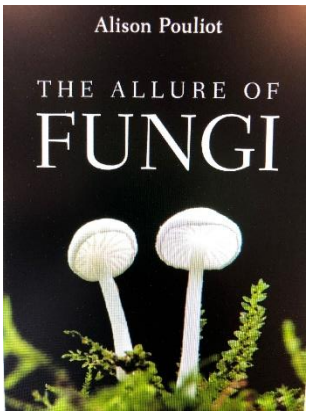
Before the move the shed was emptied

Now it is in a new temporary location

After the bolts attaching the shed to the concrete block were removed, it was time for all hands on deck. There were about 12 people inside the shed lifting it by the waist high support bar. It was a case of shuffle, shuffle, shuffle a few metres then stop. The tricky part was negotiating the sloping ground and fitting between two trees with about 10cm to spare on each side. It was an exercise which prompted much hilarity. If you are on Facebook, check out Jennie Widdowson's video of this.

The old shed is now firmly located near the picnic tables. Much of the equipment is being minded until the new shed is finished. It was a huge effort, but everything was completed by 10.30. Well done Team STEP!! Next action will be for the Arboretum to remove the old concrete pad, level the site, then concrete the new pad. We plan for construction of the shed in February. The shed is in its temporary location benefiting from the shelter of the Blakeley's Red Gum trees. Decision time for what to store somewhere else.

“The Allure of Fungi”, Alison Pouliot, CSIRO Publishing, 2018



Very rarely I come across a book which makes me run around boring friends by saying “you must read this”! But this is one of those.

At the heart of this beautiful book there rests a very profound proposition. Alison Pouliot uses the interconnectedness of fungi to look at plants, animals, fungi indeed ecology in a very different way.

This is a quite extraordinary book in a variety of ways. Yes, it is about fungi, but it is also about the living world, the inanimate world, history, literature, culture (both horti and arty), gardens and taxonomy among other things. It is beautiful to look at (Pouliot is a wonderful photographer) and engaging, though dense, to read (Pouliot is a great science writer).

Meeting many people interested in plants as both a Guide and Friend of various plant-focussed institutions as well as AGHS I am still surprised how little people know about fungi. Indeed, even though Whittaker moved fungi out of the plant Kingdom into their own domain in 1967and Cavalier-Smith showed us they were more closely related to animals than plants in 1987, many still think they are a form of largely underground plant. Many still see them and think the plants they are associated with are sick, rather than in most cases they are an indicator of healthy ecosystems or gardens.

Sure, there are some nasties. And they certainly dominate the media attention whether they are poisonous, like Death Caps (*Amanita phalloides)* or harmful to other plants Cinnamon Fungus (*Phytophthora cinnamomi*, not actually a fungus either).

It is almost certainly because we only see, usually, the reproductive parts of fungi, above ground, on trees or in a myriad of other places, that we think that is all there is to them. Even then we miss out on a lot. While I knew we had many “truffle” species in Australia, those fungi that live totally underground, I was not aware until Pouliot pointed it out that we in fact have somewhere between 2,000 and 3,000 species, almost 10 times the number in Europe. She gives a good reason for this, largely to do with our climate.

Pouliot spends half her time in Europe and half in Australia each year. And in case you might think this book is dull and dry science her sense of humour comes through in this piece on lichens (an association of fungi and bacteria): “While foraying in the Centovalli in southern Switzerland I came upon an unexpected case of lichens eating trucks. All the material of the long-abandoned vehicles in a disused quarry- metal, rubber, glass, plastic, wood, upholstery- was being slowly dismantled by their actions. Unlike my hiking companions, the lichens had no apparent preference for vehicles of French or Italian origin, with both being suitable for colonisation”.

The book is unlike any other “biology” book I have read citing references to Judith Wright, Patrick White and Hildegard von Bingen, to name a few.

It raises serious issues for those of us called by our critics “splitters”, in the area of taxonomy, and I direct readers to the wonderful “naming game” the author proposes on pages 99 – 100.

Pouliot invites us to consider “cooperation” as the core idea in biology instead of “differentiation”: “Alliances, symbioses, mutualisms, A fungus uses every trick in the book to cooperate with other organisms”.

Anyone interested in garden history (there is much history in this book) or gardens should buy it…and it is pleasing to report that it is one of the better “value” books I have seen from the often-overpriced CSIRO publishing!

Max Bourke AM

Full disclosure: The author once attended one of the extraordinary day-long ‘Fungi Workshops’ run by Dr Pouliot a few years ago, if you see one near you do it!

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FlagCentral.com.au E-mail sales@flagcentral.com.au Phone 1300 788 891 Suppliers of promotional banners and flags of Burleigh Heads, Queensland. Flag Central donated the STEP banner that is at the She-oak Nook entrance to Forest 20.

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Welcome to the following new members for the 2018-2019 year

R Black, A Campbell, J Cottee, D Newton, R Kerrish, P Harris, S Harris, J Middleton & P McCallum, J Rutter, M Strong and R Ward.

2019 – 10 years since the first trees were planted at STEP

Next year we celebrate a milestone for STEP in that it will be ten years since the first trees were planted. To mark this special occasion, some activities are planned, such as:

- Soiree at The Clearing 5.30-7pm, Friday 22 March
- Bus trip to Mount Annan Gardens and a visit to their Plant Bank – possible June/July instead of the mid-Winter seminar day
- Tree Week – STEP into Plein Air with participation from NatureArtLab
- Regional Botanic Gardens Workshop – 30-31 August
- Publishing a report on the Ten Years of Tree Measuring at STEP

If you have any other ideas for an event, please contact someone on the committee.

Season's Greetings

To everyone, thank you for all you have done this year. May Christmas and the holiday season be a time of peace and happiness shared with family and friends and I look forward to more STEP adventures and experiences in the New Year.

Regards

Judy Smith, President STEP

Maratus species spiders at Forest 20

My expertise is the spider genus *Maratus*, or Peacock spiders and these are best observed between SEPT-DEC. I popped out to STEP about lunchtime yesterday (25th November) to see if I could find a peacock spider species.

I found two! The first two pictures are both mature males:

From left pic 1 is male *Maratus vespertilio*, or Bat-like Peacock spider, pic 2 is male *Maratus chrysomelas* or Variable Peacock spider, pic 3 is female of *M. chrysomelas.*

These tiny jumping spiders (salticids) are between 3-4.5mm long! They live in (or more so on) the leaf litter and usually take a higher position on this, primarily walking, sitting and jumping along twigs and sticks and sometimes rocks and leaves.

Peacock spiders are an amazing and interesting group of jumping spiders (family *Salticidae*). They belong to a subfamily called *Euophyriniae* which contains genera such as *Saitis, Jotus* and *Hypoblemum* etc. Until 2016 there was only one genus pertaining to peacock spider, Maratus. My discovery of a blue and yellow peacock spider with distinct genitalia led to the description of a new genus, *Saratus*. Including this new genus there are approximately nine species of peacock spider known to inhabit the ACT. Four, possibly five of these can be found at STEP! Peacock spiders range in size from approx. 2mm to the big WA ones which approach 6mm. Male peacock spiders are known for their dazzling dance moves and garish colouration. A google search of images will do more justice than a few of my words. The female peacock spiders are approx. 5-15% larger than the males and tend to live about one month longer to protect their egg sack of approx. 10-15 young peacock spiders. The life cycle of a peacock spider pretty much fits into our calendar year, eg. eggs in January through to their ultimate death in December. The best period to observe peacock spiders in the ACT is between Sept and Nov when the makes are out looking for a mate. They occur in all habitats around the ACT, even within homes and their backyards. Peacock spiders are endemic to Australia and when I found *Maratus harrisi* (again) at Booroomba rocks in 2011 it was described as the eighth species of *Maratus.* Due to good publicity and tonnes of charisma, the peacock spider family, including *Saratus hesperus*, now approaches 80! There is currently an even split between species in the West of Australia and those in the East. I would say many other species of peacock spider remain to be discovered, especially considering the size of Australia's land mass and its diversity in habitat.

Photos and article by STEP member Stuart Harris

Wild Pollinator Count

In our September 2018 newsletter we had an article on The Wild Pollinator Count which was held (Australia wide) during the week November 11th to the 18th. I was one who participated in the count and of my 24 submissions (each of a 10minute surveillance of a plant or group of plants) 18 of these were at STEP. What follows is a photographic record of these submissions using some of the best photos.

Eleale sp. Clerid Beetle on *Bulbine glauca,* Rock Lily.

Mordellidae sp. Beetles on *Ammobium alatum*

Phyllocotus rufipennis Nectar Scarab on *Eucalyptus blakelyi*

Lassioglossum (Chilatictus) sp. Native Bee

European Bee on *Microseris walteri,* Murnong or Yam Daisy

Villa sp. Bee Fly on *Ammobium alatum,* Winged Everlasting

Frogs at STEP

The wetland at STEP is ephemeral and water levels can vary from overflowing to completely dry. This means that there is no permanent population of frogs, but they pass through and use the area when it is a good frog habitat. Five different species of frogs have been recorded at STEP (based on Frogwatch information - see below), with a maximum of 4 species recorded at the same time in December 2017. The spotted grass frog (Limnodynastes tasmaniensis) is the most commonly recorded being heard on 9 occasions while the smooth toadlet (Uperoleia laevigata) has been heard only twice.

STEP wetland with water (April 2015)

Spotted grass frog *(Limnodynastes tasmaniensis)*

This is the most commonly heard and occasionally seen frog at STEP. It is greenish or fawn in colour with darker brownish blotches and a distinct pale-yellow line running down the centre of its back and grows up to 5cm long. It does not have webbing between its toes. It has been heard and seen in the STEP wetland as well as on the paths and under vegetation elsewhere at STEP. It also calls in the nearby dam. The males call between March and September with a rapid 'kuk uk uk uk' call sometimes described as similar to a machine gun.

Young froglet with tail

Plains froglet *(Crinia parinsignifera)*

This species has been recorded 4 times at STEP. It is similar in appearance to the Eastern froglet, very variable in colouring and markings and quite small only reaching about 30mm. It can be distinguished from the Eastern froglet by a lighter coloured belly with speckled markings and by its call which is a distinctive 'wreep' or 'reeeeeet' sound.

Common eastern froglet *(Crinia signifera)*

This is the second most commonly heard frog at STEP (recorded 7 times). It is pale brown with blotches and banding in various shades of green and brown, smaller than the Spotted grass frog and usually 2.5 - 3cm in size. The markings are very variable. The skin can be smooth, rough or warty. It is heard at the wetland, the nearby dam and other more distant farm dams as well as drainage channels such as the one near the Village centre car park. Frogs will often call from under rocks to amplify the sound they make. Their call is a repetitive 'crick crick crick crick crick' which can be heard at any time of the year.

Peron's tree frog *(Litoria peroni)*

This is the only tree frog that has been heard at STEP. It has only been recorded 3 times since monitoring started and tends to call only after dark and when the temperature is warm. It is mainly light grey in colour and is the largest frog found at STEP reaching about 60mm. Its feet are partially webbed with large round toepads. It hides in tree hollows and under bark by day but can be found at night crouched in the fork of a tree, but never far from water. Its call is a distinct rattling, laughing cackle descending in tone and can be heard from September to December.

Smooth toadlet *(Uperoleia laevigata)*

This is the least common frog recorded at STEP. It has only been heard twice in September 2015 and October 2017. It is a small brown or grey frog with a rough warty back (even though its name is Smooth toadlet). Its distinguishing feature is that it has small red patches behind each thigh and in the groin, but it is rarely seen as it tends to remain hidden under rocks and logs. It grows to about 30mm. Its call is a long drawn out 'eeeeeek' or 'wwhrrrk' in a lower tone than the call of the Plains froglet and sounding like a cork coming out of a bottle.

Frogwatch

Frogwatch is a program run in the ACT to monitor frog numbers and locations as frogs are an excellent indicator of the state of the environment. In the Arboretum, volunteers from the Friends of the Arboretum carry out Frogwatch monitoring 5 times each year in March, June, September, October and December. The annual ACT wide frog census takes place in October. Records have been kept since 2010 at 4 locations in the Arboretum. STEP is one of these locations, the others being the Cork Oaks dam, the Gingko dam and the Larch dam. Recordings are made of frogs calling as well as details of water temperature, air temperature and other weather conditions. The volunteers identify the frog species present, where possible, and estimate the approximate number of frogs calling. This information is uploaded to the Frogwatch database. Roger Hnatiuk coordinates the activity and Jennie Widdowson can provide any further information required by STEP members.

The data collected at STEP by the Friends of the National Arboretum was supplied by Roger Hnatiuk from the Frogwatch database. Article and photos by Jennie Widdowson.

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