



News of Friends of Grasslands

Supporting native grassy ecosystems

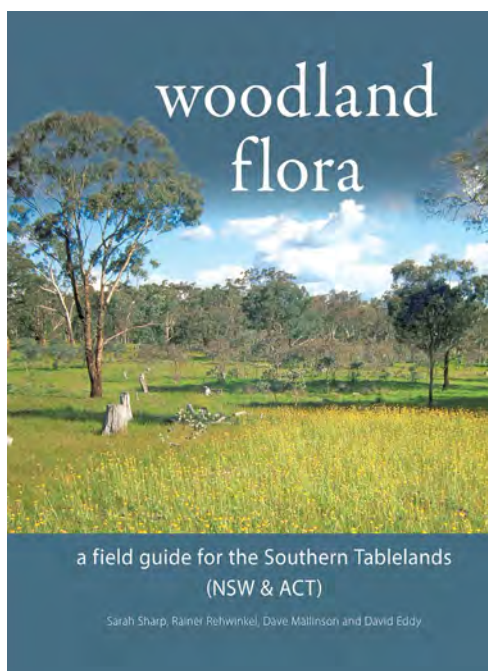
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January–February 2016

Woodland Flora is now available

Congratulations to our Friends of Grasslands members Sarah Sharp, Rainer Rehwinkel, Dave Mallinson and David Eddy on the publication of their second major book *Woodland Flora: A Field Guide for the Southern Tablelands (NSW and ACT)*, which has been prepared with support from an ACT Government grant. The book is published by FOG.

The authors have spent several years collecting the information and refining it into an understandable and consistent brief format for each of more than 440 species. They have selected more than 1000 photographs that best illustrate the species, and are very grateful to 30 people who gave permission for their photographs to be used in the book. Murray Fagg and others provided photos from their collections; the Australian National Botanic Gardens (ANBG) Photo Collection and, importantly, the amazing Canberra Nature Map website were other major sources. The text was most ably edited by Rosemary Purdie; and the famous field naturalist Ian Fraser wrote the foreword. It has indeed been a team effort.



This is a companion to the field guide *Grassland Flora*, and while some species are found in both habitats, *Woodland Flora* describes many more – most of those species that occur in woodlands

in the Southern Tablelands, in fact. Of course, many of these species are also in other habitats, regions and states.

In a final wry twist to this long labour, on the day after the final artwork was sent to Paragon Printers, that company went into receivership. Fortunately, the field guide is now being printed by another business, whose staff have gone out of their way to meet the 'ready before Christmas' promise made by the authors and FOG.

As a special launch price, the guide will be on sale for only \$20 per copy until the end of January to anyone who buys it from booksales@fog.org.au directly. After that it will be on sale to FOG members for \$20, and to others at the regular price of \$25.

An order form is available at http://www.fog.org.au/woodland_flora.htm, or from booksales@fog.org.au.

Woodland Flora will also be available from bookshops.

Grass half full or grass half empty? Valuing native grassy landscapes. FOG forum 2014

During 30 October – 1 November 2014, FOG held a very successful forum to celebrate our 20th anniversary. There were three days of talks, workshops and demonstrations, and a poster display and field trip, and an audience of around 150 people from the fields of land management, science, policy and the community. The spoken papers were recorded and transcribed and have now been edited and put into a web-friendly format as a *Proceedings*. Abstracts (at least) and text from demonstrations, workshops and field talks are included, as are the posters, and many illustrations. The volume and individual components are going up on the FOG website. No cost. Follow the links at <http://www.fog.org.au/forums.htm/>.

SNAKES ALIVE! 18–24 January 2016

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Advance notice of National Land workdates 2016

FOG workparties will reconvene on these Sunday mornings in 2016, at Stirling Park (S) and Yarramundi Reach (Y).

31 January (S); 28 February (S); 1 May (S); 29 May (S); 26 June (S); 28 August (S); 25 September (S,Y); 30 October (S); 13 November (S) plus the annual wildflower walk; 27 November (S,Y).

Details of meeting time and place for 31 January and 28 February will be in the FOG bulletin in late January.

Contents of this issue are listed on p.14.

News from the FOG Committee

Membership: *Thank you*, to all FOG members who have already renewed membership of Friends of Grasslands Inc., ahead of the due date **1 January**, and for the accompanying donations some of you have sent.

FOG Diary, October and November 2015

Activities undertaken on behalf of Friends of Grasslands,
with names of (mostly) committee people organising or attending

Meetings attended representing FOG

- Conservation Council AGM (Ann, Tony)
- Spring Mingle afterwards (Ann, Tony, Kim)
- BOB Riverview, 7 October and 4 November (Barbara)
- Information session, revised National Capital Plan, 13 October (Barbara)
- K2C Inc. AGM 11 November (John)

Events, workshops etc. attended representing FOG

- Floriade weeds display roster (Sarah, Ann, Margaret)
- NSW Weeds Conference 12–15 October: help with organisation (Margaret), poster (Geoff), FOG stall (Margaret, Geoff, Ann, Sarah)
- Weed Swap (Ann)
- Attendance at Landcare awards (Ann, Margaret, John, Tony)

Workparties (and walk) led

- Stirling Park 27 September, 1 November, 29 November (Peter McGhie)
- Stirling Park annual spring walk 15 November (Peter McGhie, Janet McGhie, John)
- Yarramundi Reach annual monitoring (Sarah)
- Yarramundi Reach 15 Nov workparty (John)
- Hall Cemetery 31 October (John)
- Scottsdale monitoring 11 November (Linda)

Activities organised and led

- Lake Bathurst visit (Ann, Paul; leaders: Rainer, Dave Mallinson)
- Cemeteries survey, Taralga area (Margaret)
- Bungendore-Bywong 'Batkins' visit (Paul)

Newsletter and ebulletin

- Newsletter October (Ann)
- ebulletin November (Ann)

Advocacy

See separate advocacy report for submission details (Naarilla and advocacy team).

- Visit to Williamsdale where the potential solar power station may be built (Tony and Sarah)
- Meeting with ACT Government and Conservation Council re offset monitoring (Sarah and Naarilla).

Successful grant application

FOG has been successful in our application for a grant to employ spray contractors at the Old Cooma Common Grassland Reserve and two nearby sites. The aim is to protect the Monaro Golden Daisy *Rutidosia leiopis* from the encroaching St Johns Wort and African Lovegrass. FOG will also conduct monitoring surveys and field days as part of the grant responsibilities. We hope to begin soon. For more information: margaret.ning@fog.org.au.

News of Kosciuszko to Coast (K2C)

John Fitz Gerald

Kosciuszko to Coast (K2C) is a partnership of 13 organisations, one of which is FOG, backed up by hundreds of individual associate members. K2C is aimed at increasing the resilience, extent and connectedness of targeted ecosystems (including Native Grasslands and Grassy Woodlands) across the region, in order to mitigate the decline of native flora and fauna.

K2C Incorporated is a separate organisation that acts as the legal entity for this partnership, manages its funds, contracts, and so on.

The K2C AGM was held on 13 November. Elections resulted in Rainer Rehwinkel as Chair, Tom Baker as Deputy Chair and Tony Robinson as Treasurer. The Secretary position remains vacant. Eight additional committee members were voted in.

The AGM for K2C Inc. was held earlier, on 11 November. Tony Robinson was elected President, Rainer Rehwinkel Deputy President, Tom Baker Secretary and Tony Robinson Treasurer. One additional committee member was elected.

The Chair's and President's reports to the two AGMs covered key issues recently affecting the organisation, including:

- Funding from the Greater Eastern Ranges Initiative has essentially concluded.
- The Myer Foundation Grassland project with K2C has now finished and the funds have been acquitted.
- Consequently, money in the bank is now much reduced and K2C has changed so it can operate on considerably lower funding levels. Much of that funding is short term and targeted, and has to be obtained by continued grant applications.
- One successful K2C application for Community, Industry and Landscapes Funding has K2C Facilitator Lesley Peden carrying out a program of property assessments with the Land for Wildlife initiative.

3 March 2016: K2C forum

Thursday 3 March 2016 has been set as the date for a K2C Forum to be held at Bateman's Bay, NSW. The general focus will be on strategic planning in our new funding environment.

Interested FOG members could contact john.fitzgerald@fog.org.au who will willingly pass on more details of the forum as they emerge.

Alternatively, visit <http://k2c.org.au/>.

FOG advocacy

November

1. FOG provided comments to the National Capital Authority (NCA) on the Revised National Capital Plan (draft amendment 86), focusing on a couple of significant areas for grassland conservation in the ACT. The first area of concern was the land use policy for the Commonwealth Scientific and Industrial Research Organisation (CSIRO) site in Ginninderra. FOG was concerned that a blanket change in land use (from 'Hills, Ridges and Buffer Spaces' to 'Urban Areas') may adversely affect areas of remnant Box–Gum grassy woodland and scattered trees on the site which may have high conservation values. Until an environmental assessment is done, parts of two blocks on the site should remain 'Hills, Ridges and Buffer Spaces'. The second area of concern was Stirling Park. FOG urged the NCA to remove the provision for extension of Empire Circuit through Stirling Park, from the National Capital Plan.

Another concern was FOG's previous recommendation for 'Nature Conservation Area' to be a permitted land use listed in the precinct codes for Designated Areas, which has been set aside because the NCA considers it unlikely that reserves will be established in many precincts. Instead, FOG asked that 'Nature Conservation Area' be listed as a permitted land use in the Precinct Codes associated with the Natural Temperate Grasslands at Yarramundi Reach, and the Box–Gum Grassy Woodlands at Stirling Park and Scrivener's Hut.

December

2. The NSW Government released for comment a document titled 'NSW Travelling Stock Reserves State Planning Framework 2016–19: Draft for public consultation'. This is an issue FOG has commented on before, and a substantial submission was made, with the help of FOG members outside the Advocacy Group as well as Advocacy Group members. In summary, FOG urged the NSW Government to consider carefully the future of the Travelling Stock Reserves (TSR) network and especially those sites that contain outstanding examples of Endangered Ecological Communities (EECs), threatened flora and fauna and other vegetation and wildlife values. FOG's view was that the NSW Government has a responsibility to abide by the *NSW Threatened Species Conservation Act 1995* that it administers. Conservation of biodiversity values of TSRs will go a long way to conserving the under-represented EECs and their associated threatened species.

There were a number of particular recommendations. The first was that preservation of high quality conservation TSRs should be a priority, and be identified as such in the framework. Connectivity values should also be specifically identified in the framework. There needs to be a commitment to ensure that alternative land uses applied to high conservation value TSRs do not result in an increase in the abundance and diversity of weeds and pests or the loss of native species. FOG also thought that the NSW Government should ensure that sufficient funding is available to manage those TSRs with high conservation values in such a way that their values are retained. The NSW Government should ensure all Travelling Stock Reserves and Routes are surveyed for their ecological attributes, and update the existing database on the biodiversity of TSRs, so that the data can be used to determine future land use of the sites, to apply appropriate management and finally to apply benchmarks to determine whether management of these TSRs retains the condition as identified from the original surveys.

The full text of FOG submissions appears on our website.

News roundup



Photo: John Fitz Gerald

The 2015 FOG Wildflower Walk

Peter McGhie

The weather on the day was ideal. After 60 mm of rain over recent days, Sunday was around 20 degrees and certainly sunny enough to encourage all the flowers of this part of the season to look their best.

Twenty-six people emailed to say they would come and another four or five turned up so there would have been about 30 or so plus John Fitz Gerald, Janet McGhie and myself. Initially it looked a challenge to shift everyone along but we split up into three fluid groups with a leader each, and people tended to move up or drop back as suited their interest or fitness.

It is hard to tell where everyone came from. There were the notices in the FOG newsletter and bulletin, and in the ANPS bulletin, and a couple of times in the Yarralumla Residents' Association newsletter. I took some FOG membership forms with me and five people asked for one which was a nice outcome.

It also worked well having the walk on a different day to a Stirling Park workparty (although John had been at a Yarramundi Reach workparty in the morning).

John Thistleton from the *Canberra Times* came out with a photographer. He had previously been in touch for background information to write a story about the role of volunteers and the community in Stirling Park. That story was published, with a photo of Button Wrinklewort, on 24 November. There were also photos of the walkers in the *Canberra Times* on Thursday 19 November.

Overall the walk went well, and may attract similar numbers next year, weather permitting.

If you would like a copy of the *Canberra Times* article and photos, please ask, by email to info@fog.org.au.

News roundup *continued*

Plant hunters of Stirling Park, 29 November 2015

Peter McGhie

The last workparty for 2015 at Stirling Park was on 29 November. The group was continuing on its hard-working but uneventful way along the eastern side of Haines Creek ('tiger country', but we are taming it) when the call came from John Fitz Gerald that he had discovered a Hyacinth Orchid – in fact a small colony of six or so.

Most of us had never seen one of these *Dipodium punctatum* previously. For those

who are not familiar with this plant, it grows as a single dark brown stem to 30–40 cm with a cluster of pink flowers on the last 10–15 cm. It is a small flower, but if you look closely or enlarge a photo, as here at right, you can see the distinctive orchid pattern on the petals.

There is a range of interesting flowering native plants in Stirling Park and the Hyacinth Orchid is an exciting addition.



The Hyacinth Orchid *Dipodium punctatum* found in Stirling Park by John Fitz Gerald on 29 November. Photo: Peter McGhie.

Hall Cemetery 12 September and 31 October 2015

John Fitz Gerald

Eight volunteers in September and seven in October turned up to tackle the woodland weeds at Hall Cemetery in ACT, near the Barton Highway and the NSW border. The area looked far better after these two work mornings.

Unfortunately Cleavers *Galium aparine* staged a fierce comeback (germinating from seeds scattered in previous years?) and almost half of the weeding effort went into cutting and pulling new plants before new seeds had any chance to mature and drop. This was painstaking and tedious, amongst the razor-sharp *Carex* plants (e.g. photo, right), so the folk who did this work are particularly thanked.

The weather this year has also resulted in vigorous growth and large amounts of

seed on Phalaris, Sweet Vernal, Rye, Fog and Brome grasses in particular. Some spraying and physical removal (including slashing with the line-trimmer) was employed to reduce the exotic impact in special areas, particularly near the front gate. A moderate crop of Thistles, including a burst of Slender Winged Thistle in one spot, have been attacked, again with a mix of spray and physical action. Small numbers of Briars and Hawthorns tell us that they are not completely beaten yet.



The paddock to the north and east of the woodland became home to a flock of free-range chickens this year (photo, left). Their enclosing fence is moved progressively around the area and FOG has been pleased with the cooperation of Farmer Brown who is just as keen to battle the worst weeds in his grassy woodland as FOG is in the Cemetery woodland. Part of the hoped-for success in battling Slender Winged Thistle will be due to their removal by the farmer from a big patch immediately outside the outer Cemetery fence.

A rewarding result from plantings in early spring 2014 is that six of the patches of Nodding Chocolate Lilies have flowered and are setting seed right now. Also the year is favouring Blue Devils and their display should be terrific.

Finally, Hall Cemetery now has its own location on the web within the Canberra Nature Map site. Readers are invited to search it out to view the information and photos, and particularly to submit your own plant and reptile observations from visits to the Cemetery.

2016 is another year that will require further weed action and I hope to see both familiar and new faces in the teams. Many thanks to all of you who contributed during 2015.



Articles

FOG visits to Blue Devil Grassland near Ginninderra Creek, Latham ACT

John Fitz Gerald, Sarah Sharp, Margaret Ning, Ann Milligan

During 2015, a FOG group has made three visits to one urban grassland. No, we didn't forget we'd been there before ... there was a purpose! The aim was to observe how a good quality grassland changes from season to season. Often, FOG makes one-off visits to grasslands, usually when they are looking their best. This series of visits to the one place this year has shown the dynamic nature of grasslands and their management challenges.

Umbagog's Blue Devil Grassland occupies about 4 ha at the corner of Florey Drive and Southern Cross Drive, in Latham. It is zoned Urban Open Space, like the rest of

this urban park alongside Ginninderra Creek. The name comes from the *Eryngium ovinum* Blue Devil which is found in this patch. The grassland also has copious Kangaroo Grass *Themeda triandra*. The brochure about Umbagog (<http://www.ginninderralandcare.org.au/sites/default/files/files/Umbagog%20brochure%20website.pdf>) gives some more detail.

The high quality of this grassland is largely a result of continual careful and knowledgeable weeding work done voluntarily by local resident

Robert Cruickshank, supported by the Umbagog Landcare Group and the Ginninderra Catchment Group.

During our visits, the FOG group, led by Sarah Sharp, John Fitz Gerald and Margaret Ning, surveyed a permanently pegged 20 m x 20 m plot. Each visit was made in the late afternoon on a Monday: 25 May, 7 September and 23 November. The group numbers varied from 20 to 13 to 7 people, most of whom came at least twice and spent the hour or two gazing downwards at species partially hidden among the thick *Themeda*.



Left: The plot in September marked out by tapes. Right: Blue Devils and plot corner peg (front) in November, with Wild Oats on the far side.



What we found

The grassland showed moderate diversity through the year, and by November its signature Blue Devils were coming into their full glory. From around 50 total species (15 exotic), 31 species were identified in May, and 26 in September, and 40 (almost all flowering) in November. Of these, 15 species were identified on all three visits; 13 on two visits and 26 were only seen once.

The grassland's winter appearance during May and September gave us cause for concern that perhaps the thick *Themeda* thatch would prevent much spring growth, but by November a reasonable amount of new growth and flowering of many species was recorded. Nevertheless, compared to some other *Themeda*-rich sites, both nearby and in other grasslands, this growth is limited and a case is being considered to present to the land manager that an ecological burn would reinvigorate the site and ideally set back exotic annuals such as Oat Grass (*Avena* sp.). We observed that although in spring the *Themeda* looked healthy, within the plot there were very few seedheads, especially compared to some other areas.

FOG will soon have detailed plot information across the seasons from these visits. Therefore such a biomass reduction exercise would give us a great opportunity to collect useful additional information by monitoring the plot for another year.

Of interest is the change in species that were observed at the different times of the year, and the need to recognise that a single survey, or even several, will not reveal the full diversity present.

As expected, the number of native species was highest in the November survey (27), and lowest in September (20), even though at that time there were many small plants emerging. Of interest also is the dynamic nature of dominance, as the *Themeda* grass was the dominant species in May and September, but in November the introduced species were dominant as well as being more diverse (13 species compared to 7 in May and 6 in September). *Avena* sp. (Wild Oats) was abundant across most of the plot and the whole Blue Devil Grassland. However, *Themeda* was growing vigorously underneath it.

Two quite different pictures of the condition of the grassland emerge on the basis of these surveys. The data are available from Sarah.Sharp@fog.org.au.

Taralga tripping: Cemeteries and an orchid search – 17 October 2015

Margaret Ning

Richlands is a historic farmhouse, once owned and lived in by John Macarthur, who founded Australia's sheep industry. Now owned by FOG member Stephen Horn, Richlands was the start point for this excursion on Saturday 17 October, and home for some on the Friday night.

Friday evening 16 October, most of us were either overnighing in the Richlands homestead, in a camper van at Richlands, or in a Taralga hotel, in order to have a comfortable start the following morning. Richlands' hospitality was its usual high quality and we were all catching up with each other.

Our Saturday itinerary began with a short trip to the Mares Forest National Park roadside verge where *Diuris aequalis* was spotted a few years ago. While this has been a good year for rainfall, we were a little unsure whether it would be flowering, as we knew the species was not yet flowering at Sarah's and Phil's place near Collector. The Taralga area is higher in altitude, but further north, so who knows? We needn't have worried: the *Diuris* was possibly at its peak flowering, and everyone took turns taking photographs. We were joined at the Mares Forest site by Clive, a long-time employee of the NSW National Parks and Wildlife Service, who then stayed with us for the rest of the day, contributing his considerable insights and expertise.

Next we briefly visited Stonequarry Cemetery just outside Taralga, and wandered around the woodland area (photo below) where quite a few working bees have been held over the last three years to remove rampant Broom, Vinca, Hawthorn, Briar Roses and Blackberry. It is a pleasant *Eucalyptus viminalis* woodland with its own resident Swamp Wallaby, Wombat and many bird species.

We then spent a dusty hour or so getting to Bigga through iconic farmed woodland and the occasional reserve. Stephen had arranged for us to meet Danny Picker, who has been maintaining the cemetery on a volunteer basis for 30 years. Lunch at the Bigga Pub was very pleasant, and after that it was on to the cemetery.

Well, wow!!! It is 15 years since FOG was last there, and, weeds aside, it was wonderful to behold.

Stephen talked to Danny about management of the cemetery, and had already been told that it would be mown the following week. Absolutely nothing there would have the opportunity to recruit before the arrival of the mower! Discussions with the mower-to-be as to why he mowed before the plants could recruit, elicited a response that there was enough time for that to happen (clearly incorrect) and that if they left it any longer the biomass became so thick that it became impossible to mow (also clearly not true as it was a grassland with lots of inter-tussock spaces and populated by many delicate plants).

Danny also told us that around three years ago the back part of the cemetery had been fenced off from the graves area and is now grazed by sheep instead of being mown. This area is also of high quality, with another very impressive suite of plants. Unfortunately, whether the changed management practice has

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Above: *Diuris sulphurea*. Centre: Some of the group, and Stonequarry Cemetery woodland. Photos: Andrew Zelnik



Below: *Diuris aequalis*. Photo: Andrew Zelnik



Taralga tripping *continued*

had any implications for the site, the absence of before and after surveys means we shall never know. Also the area outside the fence was more of a woodland than a grassland, so the species mix could have been different for that reason. In fact, the main cemetery must have once been a woodland area as there were many bonsaied woodland plant species among the more traditional grassland species.

Highlights for the two areas were *Ammobium craspedioides*, *Brunonia australis*, *Burchardia umbellata*, *Dichopogon fimbriatus*, *Diuris chryseopsis* (spent), *Leptorhynchus elongatus*, *Podolepis jaceoides*, *Pterostylis* sp. (*mutica* / *bicolor*?), *Thelymitra pauciflora* and *Wurmbea dioica* (spent). A negative was the sighting of several serious weed species, which were essentially 'grave' escapees – forgive the pun!

On the way to Bigga we passed three small cemeteries, all of which had been mown to within an inch of their lives (including Stonequarry). It would appear that desirable cemetery management simply does not occur on most cemetery sites; they are under assault everywhere!

A small group of us are interested in looking into cemetery management practices and trying to get some better outcomes for these pocket-handkerchief-size sites.

Brunonia australis Blue Pincushion (above); *Ammobium craspedioides* Yass Daisy (below). Photos: Andrew Zelnik



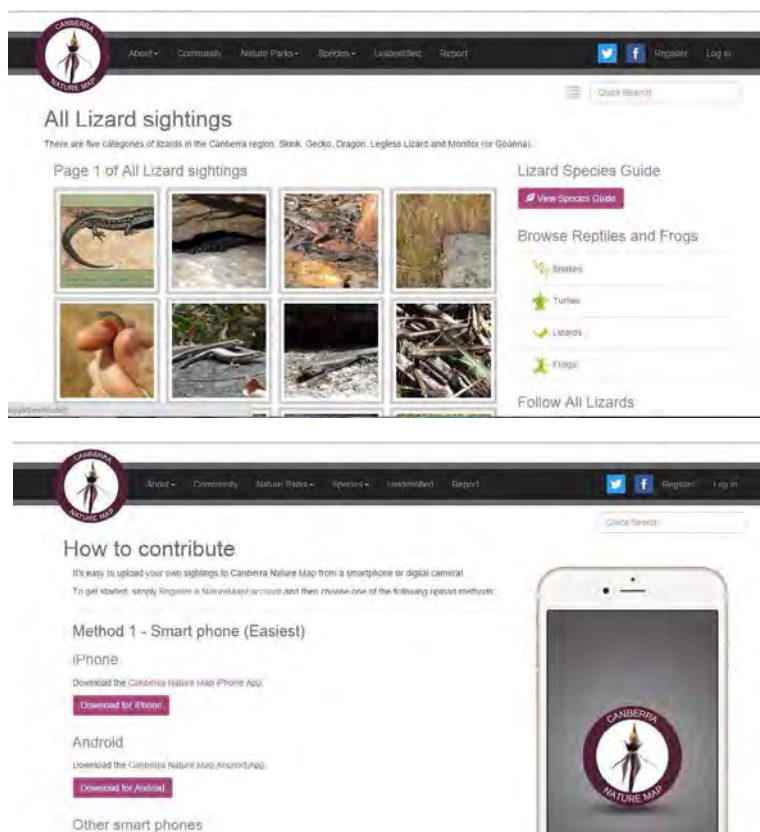
A tour of Canberra Nature Map

Geoff Robertson

Canberra Nature Map (CNM) has been going only a short time but it is quickly gaining acceleration, and while there are a large number of volunteers in the project, to date it has largely been dependent on the drive, enthusiasm and amazing skill of Aaron Clausen. Canberra Nature Map was awarded the People's Choice Award at the 2015 ACT Landcare Awards.

The initial purpose of the CNM was to identify populations of rare native plants in the Australian Capital Territory (ACT) and in this it has been extremely successful, identifying new populations of plants thought to be extinct or rare in the ACT. CNM has lent itself to other purposes such as the mapping of more common native plants and weeds and the inclusion of plant lists for reserves and other locations of interest. It has been spilling over the ACT border, and the current CNM encompasses numerous locations in NSW and several in Victoria. My own contribution has been associated with development of the reptile and frog module which is allowing us to discover more about the numbers and location of each herpetofauna species.

I have written a longer piece on how to use CNM and the new version for phones. My aim is to awaken your enthusiasm and participation, if you are not involved already. If you would like a copy of the longer piece, please contact me, geoffrobertson@iprimus.com.au.



Two screen grabs from <http://canberranaturemap.org/>

Visit to 'Batkins', near Bywong NSW – 24 October 2015

Margaret Ning

It has been a while since FOG visited the woodland and forest areas of Bywong, west of the southern tip of Lake George. David Johnson had invited us to wander around his 40 acre property and we had already done a reccy a few months earlier so knew that things would be looking good if there was reasonable rainfall in late winter and spring.

A dozen of us made the trip out to Bywong for the afternoon activity, some of us carpooling from the conveniently situated Yowani carpark. David gave us an introduction to his property, and we commenced a pleasantly slow circuit, starting with the more open grassland areas. The weather was very pleasant all day and had warmed up considerably by the time we reached the forest area. The shelter of the trees was much appreciated.

Highlights included many areas of *Scutellaria humilis* which we don't normally see a lot of on our travels. It wasn't yet flowering, but it would look very attractive when it finally did. Another one that 'got away' was *Cheiranthra cyanea* which had not yet flowered, and even more elusive was *Caesia calliantha* which David has not seen flower there for many years (photos here are from other years). I know from our experience at Nimmitabel that there were some orchid species we had not seen for ten years or so, that we assumed had succumbed to the long dry period. We saw three of David's six orchid species flowering, although his *Pterostylis nutans* had seen better days.

David's dam enabled us to add a few small plant species to the list, although his *Ottelia ovata* was another to add to the 'not flowering' list. It just goes to show that one cannot pick a time to see absolutely everything at its finest.

Mysteries for the day included a *Bulbine bulbosa* which had been dug up by something, a kangaroo perhaps, and was lying on the ground intact with its small tubers. David was going back to replant it as soon as we departed. We also noted a very curious grasshopper (see photos).

More curiosities are in some of the photos on the next page. First (top left, p. 9), David has two trees welded together! The photo shows the thinnish branch conjoining two *Eucalyptus rossii* trees in his woodland. In the photo it looks a bit like a wonky square bracket, running from the kink near the



Left–right, top down:

The group scans the neighbours' dam (AZ); a curious grasshopper (AZ); *Caesia calliantha* Blue Grass Lily (DJ); *Oxalis perennans* Grassland Wood Sorrel (AZ); Milfoil, *Myriophyllum* sp., in David's dam (AZ); *Cheiranthra cyanea* Finger Flower (DJ); *Dillwynia sericea* Showy Parrot Pea (AZ)

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Visit to 'Batkins' *continued*



bottom right corner of the photo, and meeting the stark white trunk just below that trunk's fork.

A second curiosity was the large bunch of Mistletoe at waist height. It was in flower. What an opportunity to see one close to!

It was like FOG trips of old: planned to last a couple of hours, but after 3.5 hours we were just arriving back at our starting point! Those who could stay enjoyed a leisurely 'afternoon' tea and a post mortem of what we had seen. Altogether, a fascinating visit.



Left-right, top down: Two *E. rossii* conjoined by the same branch (AZ); two of the group inspect the waist-high Mistletoe clump (AM); dragonfly (AZ); lichens in David's woodland (AM); does a *big* spider live here? (AM); the group gets down to serious study (AM); David's dam was of great interest (MB). AZ = Andrew Zelnik. AM = Ann Milligan. MB = Michael Bedingfield, who also took many other photos some of which are online at <http://canberranaturemap.org/Community/Location/1006/>.

Cymbopogon refractus: barbed wire in the paddock?*

Jenny Liney

Growing in tufts on poor soils, flowering from spring to autumn, and with leaves that are somewhat aromatic when crushed, the grass species *Cymbopogon refractus* looks exactly like upright spikes of barbed wire. This similarity gives rise to the common name Barbed Wire Grass. While the flowering parts look like barbed wire, they do not feel stiff or spiky; rather, the flower heads are soft and pliable. A botanical description goes thus: 'racemes (i.e. the little branches growing off the main flowering stem) [at first grow upright] and more or less together, but soon conspicuously diverge and reflex'. This divergence and reflexion gives the flowering grass the appearance of barbed wire.

After several false starts, this grass was named *Andropogon refractus* in 1810 by Robert Brown. The accompanying notes state that the first specimen was collected from Port Jackson. However, further studies by a French naturaliste, Aimée Camus, early in the 20th century showed that Barbed Wire Grass does not have the same combination of characteristics as the genus *Andropogon*. The generic name *Andropogon* is attached to a group of tropical and sub-tropical species, none endemic in Australia, but some naturalised. One of the naturalised species is *Andropogon virginicus*, the invasive Whiskey Grass that grows along our roadsides and in disturbed ground. However, *C. refractus* does belong to the same Tribe – that is, group of grasses with some similar characteristics – as *Andropogon*. Some non-Australian *Cymbopogon* grasses are *C. citratus*, the herbal infuser lemon grass that is associated with the perfumery industry as well as providing the lemon scent in our detergents and cleansers, and *C. nardus*, that yields citronella oil. Both these species are Asian in origin.

Cymbopogon was formally adopted as the generic name for Barbed Wire Grass in a paper by Aimée Camus published in a French botanic journal in 1921.

Cymbopogon comes from the Greek *cymbo* a boat, and *pogon* beard, referring to the boat shaped, bearded spathes; *refractus* is Latin for bent backwards. A spathe is a large bract, or modified leaf enclosing the flowering, or portion of, parts of a plant species. In *C. refractus* the spathes are often reddish.

Barbed Wire Grass is not an outstanding grass species for the domestic garden; however, Rosemary Blemings's photo shows it can make quite a statement when grown in a pot. It is not particularly palatable for stock, but is an important component of poor soil communities, playing a vital role in soil stabilisation. Also dead and discarded leaves add organic matter to the soil.

But regardless of any benefit to humankind (either visual or economic) this grass plays out its role in grassland communities, and therefore should be appreciated for its own sake.

*This is an edited version of an article that was first printed in an issue of the Newsletter of the Australian Plants Society SE Group. Jenny Liney is Curator of the Wallace Herbarium at the Eurobodalla Regional Botanic Gardens, and a long-time member of FOG.



Cymbopogon refractus in ACT. Photo above, by John Fitz Gerald, taken in January 2012 at Attunga Point beside Lake Burley Griffin in grassland where there had been a prescribed burn in April 2011. Photo below by Rosemary Blemings.



Cymbopogon refractus as a work of art. Photo: Jackie Miles.

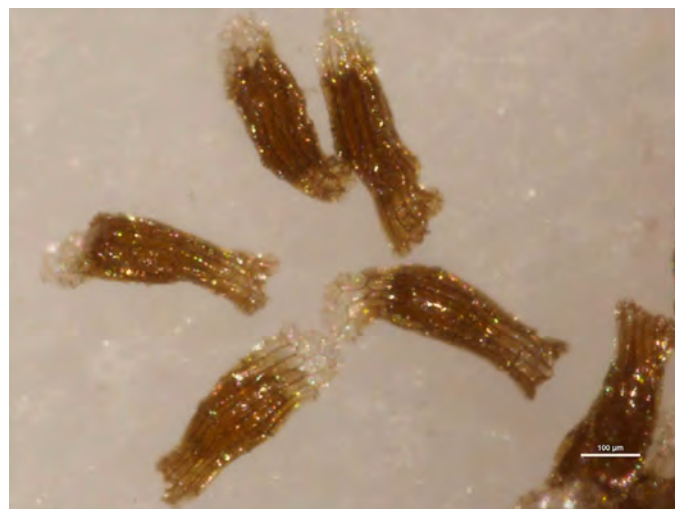
Grassland species, very close-up

John Fitz Gerald

All these photos were taken by John Fitz Gerald, using the microscope at the Seedbank of Australian National Botanic Gardens. Images are ©ANBG.

Microtis unifolia or Common Onion Orchid (right)

This is one of the species observed on all three FOG visits to the Umbagog grassland (see page 5). Leaves were present early in the growing season and flowers only at the November visit. Flowers spikes mature starting from the lowest flowers. The seed dropped is minute, like that for other terrestrial orchids. The photo (right) is of the seed, highly magnified: the white scale bar indicates a line 0.1 long.



Sorghum leiocladum or Wild Sorghum (below)

This attractive native grows in the highlands of Eastern Australia as a large tuft or tussock with flower spikes often over one metre tall and the inflorescences at early flowering show marvellous features. Matching the current season, this image shows colours and shapes like Christmas decorations. *Sorghum leiocladum* was featured in the November–December issue of the newsletter (p. 9), described by Jenny Liney. In the photo below, the black scale bar indicates a line 2 mm long.



Rytidosperma pallidum or Red-anthered Wallaby Grass (below)

This species grows in the highlands of South Eastern Australia, usually on poor and rocky hillslopes in and near woodlands. In early summer its tall flower spikes bear a mass of bright red anthers. By the end of December seeds have matured and fallen. The image shows anthers beginning to emerge from a flower spikelet which also features marvellous sets of bristles. The white scale bar indicates a line 1 mm long (below).



Did you know?

As a member, you can see the newsletter in 'glorious technicolor' when it first comes out, by asking to be emailed it as a pdf file.

You can have it *as well as*, or instead of, the grey printed version. To join the 'emailed newsletter' list, please email: Margaret.Ning@fog.org.au or Ann.Milligan@fog.org.au.

Go on, *spoil* yourself...!

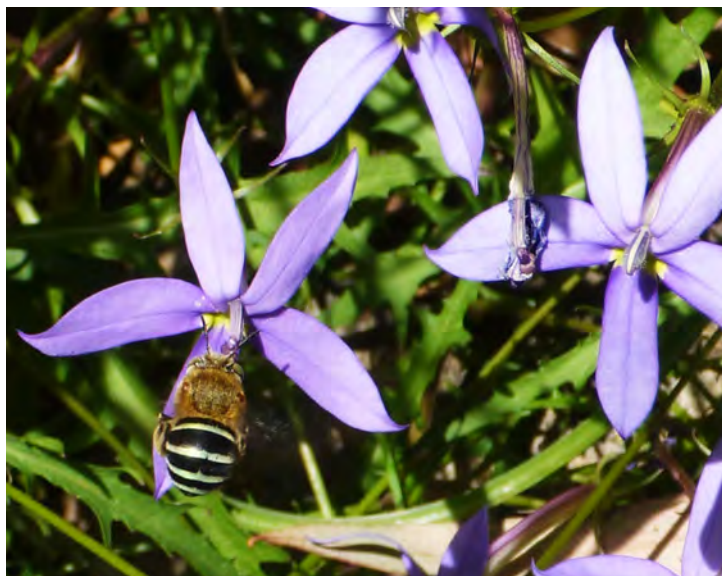
Cultivation corner: about grassland species in the garden

Gone to pot?

Janet Russell

In Canberra last month I attended the biennial conference of the Association of Native Plant Societies (Australia), ANPSA, here in Canberra. I was listening to David Taylor from the Australian National Botanic Gardens talking about gardens and, in particular, balcony gardens in high-rise blocks of apartments. He seemed to be almost pondering out loud about the nature of the gardens that may be created in these spaces. The thing that struck a chord with me was he referred to insects and whether they would find their way to the higher levels. I had wondered the same thing myself as we will be moving into an eighth floor apartment in March next year. Our future garden will consist of pots.

We have many pollinators in our garden and our pots provide an easy medium for the serendipitous germination of seeds that find their way there. In 2008 a friend gave me some *Epilobium* species from her garden that originated from her Monaro property. Soon after we put them out the plants rushed to seed in a hot spell and promptly disappeared from the garden, never to be seen again ... that is until this spring when an unknown plant appeared in a pot from which the original occupier had disappeared long ago. We were sure that it was a weed initially, but we are curious people and so let it grow to the stage when it produced a few pink flowers. I recognised it as the *Epilobium* and I wondered how the seed found its way to the



A Blue-banded Bee on *Isotoma axillaris*

pot. One possibility is that it has been quietly reproducing out of sight under one of the larger shrubs.

In almost every pot there is something that was not originally planted. The Rock Isotome *Isotoma axillaris* (photo above) is our major pot weed. It shares a pot with *Muehlenbeckia tuggeranong* along with two Flannel Flowers *Actinotus helianthi* that volunteered in the same pot. The Isotome also lives with a Burrawang *Macrozamia communis* as well as with *Zieria prostrata* that volunteered in another pot. A Queensland Lobelia *Lobelia quadrangularis* germinated in the Mother Shield Fern pot but did not survive re-potting.

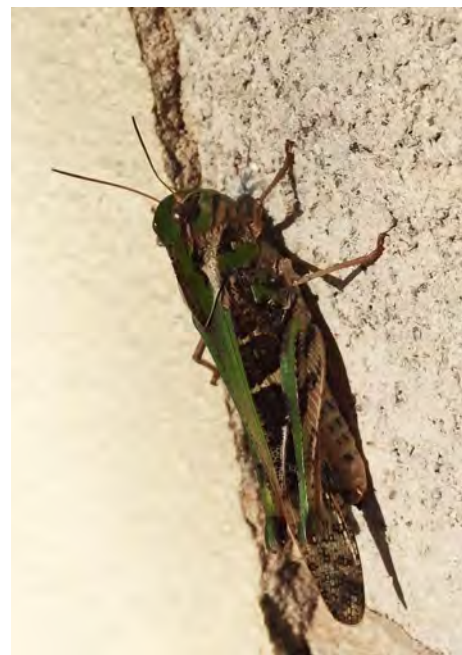
Interestingly, nothing has ever volunteered in the pot of about forty Greenhoods *Pterostylis* sp. specimens (photo left) which multiplied from two original plants I



bought. It has crossed my mind that they may have the capacity to kill off anything that invades their space. I do not think there was too much space for anything to germinate this spring when they first started to shoot, as they completely covered the pot. The pot is devoid of vegetation for two-thirds of the year, however, and yet we have never had to weed anything native or exotic from it since the Greenhoods were planted in 2008. Curious.

Last year, the first fertile capsule appeared on one of the orchids and this year there were six. I shall be interested to see if I ever get any more of them or any serendipitous sowing of other plants. I shall miss the pollinators like the Blue Banded Bee, and the pests, because even pests can be photogenic. I shall miss our Blue Tongue Lizards too.

I think that I have imagined myself into our new garden already.



Pretty pest, a yellow-winged locust

A Leafcutter or Megachilid Bee *Megachile Eutricharaea maculariformis*, a strong-jawed native

Michael Bedingfield

Native bees are a favourite subject of mine, and shown here are photos I have taken of two species. The Leafcutter Bees (*Megachile Eutricharaea maculariformis*), at right, are clasping a fine stem with their jaws. They were settling down to roost at twilight time near Tharwa ACT. These were about 10 mm long, and were mostly black and white. The others (photo below) are Halictid Bees (*Lasioglossum Chilalictus lanarium*); they were preparing for a cold night, snuggled into a small Bluebell in the Orroral Valley ACT. They were tiny, only 5–6 mm long. The two species were identified by entomologist Ken Walker from the BowerBird website, which defines itself as 'A place to share and discuss Australia's biodiversity', and is very good. It has a great variety of photographs and other media, on all kinds of wildlife, stored on a database for all to see. I have joined the website and have been adding some of my photographs to a new project called 'Canberra Insects and Spiders', which can be viewed at <http://www.bowerbird.org.au/projects/5793/sightings/>.

I have to write in general terms about these bees because it is difficult to find out anything about individual species. Leafcutter Bees, also known as Megachilid Bees, are mostly solitary bees and have well-developed jaws. There are many species spread throughout the world. The Leafcutter Bee's pollen 'basket' is a patch of bristles on the underside of its abdomen where the pollen can be carried. This contrasts with Honeybees that have their pollen baskets on their hind-legs. After mating, the female either digs a nesting burrow or uses one that is already made. She will even use a hole of suitable size that has been drilled into some timber. The bees' common name comes from their habit of cutting round leaf fragments to line the nesting burrows. For each of her young the female bee builds a small cell with leaf pieces, collects pollen and nectar to fill it, and then lays an egg there. When the larva hatches, there is enough food to supply it until it is fully-grown. It moults several times during its growth, then spins a cocoon and pupates, later emerging as an adult.

There are some species with an annual life cycle, and others that have more than one generation per year. For those with an annual cycle, the new generation finishes pupation in autumn. The bee pupae then remain dormant in their burrows until the next spring. The burrow is narrow, with the cells built one by one, towards the entrance. When they emerge, the one nearest to the entrance comes out first, and the others follow, one after the other. Normally, those to emerge first are males, and the females come afterwards. They are mature adults ready to begin the next life cycle, breeding and dying before the next winter.

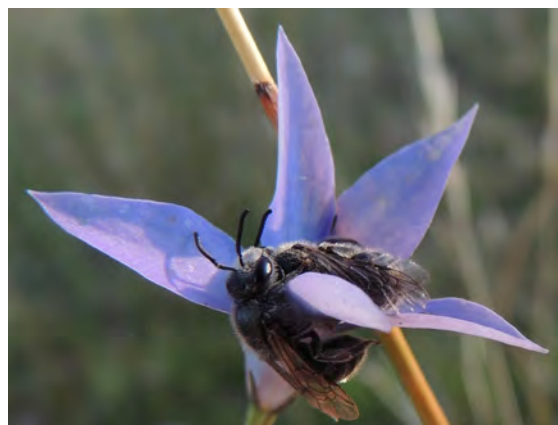
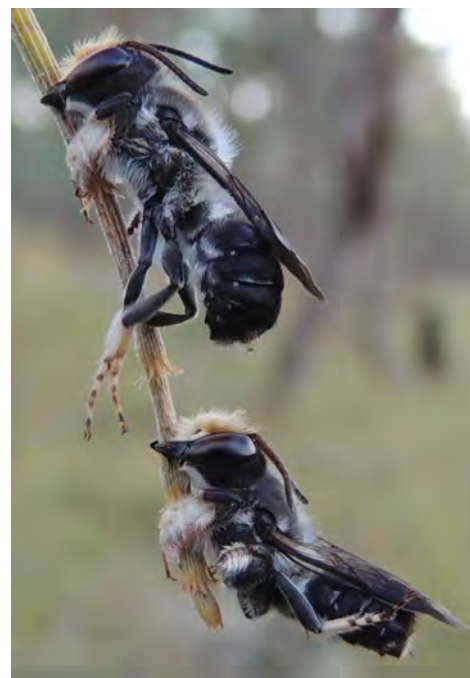
I have included the Halictid Bees for comparison. They are sometimes called Sweat Bees because they are attracted to perspiration. Those in the photograph (left) were males, which like to sleep in flowers as you can see.

There are approximately 2000 species of Australian native bees, which is an astonishing number when you consider that the main bee we see around Canberra is the European Honeybee *Apis mellifera*. The NSW Scientific Committee has listed 'Competition from feral honeybees' as a Key Threatening Process under the Threatened Species Conservation Act. In their final determination (in 2002), they said: 'There is evidence that honeybees impact on indigenous species in two broad ways, firstly via competition for tree hollows, and secondly via competition for floral resources.' And 'This can result in competitive displacement of native fauna that use the floral resources, including honeyeaters ... and native bees'. Also, since tree hollows are needed by many arboreal marsupials, some bats, and many species of birds, the effect of Honeybees on native fauna is significant. So they believe that competition from feral Honeybees 'could cause species that are not threatened to become threatened'. The main effect on native bees is to make less food available to them, and so their numbers naturally decline.

Modern digital cameras make photography so easy, and their cleverness gives me a glimpse into the marvellous and fascinating world of insects. So I have come to care about the future of the precious little bees that are adapted to living in and feeding on our native flora. There are a number of websites like BowerBird that have developed in recent years. I hope that the progress we have made with digital imaging enables us to better know and preserve the broad diversity we have of these enchanting creatures.

My references:

- <https://en.wikipedia.org/wiki/Megachilidae/>
- <http://www.environment.nsw.gov.au/determinations/FeralHoneybeesKTPListing.htm>
- Encyclopedia of Insects and Arachnids* by Maurice and Robert Burton (1984)



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Promoting wider knowledge of grassy landscapes

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Woodland Flora is now available

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members, books ordered via booksales@fog.org.au will cost \$20
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FOG 20th anniversary forum papers

At last, the papers, workshops, demonstrations, posters and field
talks presented at the FOG 20th anniversary forum in
October–November 2014 are going up on the FOG website.
at <http://www.fog.org.au/forums.html>. No cost.

First workparties for 2016

Sunday 31 January & Sunday 28 February, both at Stirling Park.

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