



News of Friends of Grasslands

Supporting native grassy ecosystems

ISSN 1832-6315

September–October 2015

FOG is revisiting two sites of interest

Umbagog, ACT – Monday 7 September

Come and visit the Blue Devil Grassland at Umbagog Park, Latham (photo below) on 7 September. We expect to see forbs and grasses germinating in the survey plot we examined when there in May. This time we shall be led on a ramble across the range of microhabitats in the grassland, to see what we can find. Our aim is to observe how this good quality grassland changes from season to season. FOG's third visit will be in December.

Meet: 4 pm, and expect to leave by 5.45 pm (sunset).

REGISTER: Margaret.Ning@fog.org.au, to be given details of the meeting place, and so that if any arrangements change before the day Margaret can contact you.



Lake Bathurst, NSW – Saturday 10 October

The visit to Lake Bathurst, near Tarago, NSW, was so popular and interesting last year that we are going there again, at the same time of year, probably led by Rainer Rehwinkel.

Meet: either in Canberra at 8 am to carpool or convoy, or near the lake at 9.30 am for carpooling into four-wheel-drives. Details of the meeting spots will be provided when you register. We expect to leave the lake at 3.30 pm.

Be sure to bring everything you will want to eat and drink. Nothing will be provided. Wear boots for walking, and your standard outdoor gear, sun-protection and, preferably, knee-length gaiters because of the risk of Tiger Snakes.

REGISTER: ann.milligan@fog.org.au, to be given the necessary details of the trip, and so that if any arrangements change before the day Ann can contact you.

Four-wheel-drives are essential for access to the lakeshore, and then we shall leave the vehicles and walk across the lake bed. If there is heavy rain immediately beforehand, access may be difficult because it is necessary to cross the river.

A detailed outline of what we can expect to see at Lake Bathurst is on the next page, p. 2.

NOTE: Changed 30 August work site & More excursions in October, p. 2

The site of the workparty on Sunday 30 August is now Stirling Park (instead of Yarramundi Reach). Details are on page 3.

Four expeditions to visit grassy landscapes in ACT and NSW are planned for the next few weeks, plus nine workparties around the ACT, plus the annual walk in Stirling Park and the monitoring day at Scottsdale near Bredbo. Details up to mid-November are on pages 1–3.

All FOG's activities in September, October and early November are listed on p. 14.

Welcome to new FOG members

FOG warmly welcomes these members who have joined during recent months:

Angus Murray, of Braddon, ACT.

Matt Cook, of Barwidgee South Native Seeds, Binnaway, NSW.

Virginia McCoy & Barry FitzGerald, of Berridale, NSW.



Richea scoparia (Scoparia) with orange/pink inflorescences on upper slopes of Hartz peak, Hartz Peak Walk, Hartz Mountains National Park, Tasmania, in November 2014. This is one of the photos that Andrew Zelnik showed at the FOG mid-winter afternoon on 18 July. See page 6.

Contents of this issue are listed on p. 14.

FOG activities *continued*

Lake Bathurst visit, 10 October, *continued*

We can expect to see:

- the little-visited and very scenic and isolated bed of Lake Bathurst;
- a wetland that in season can have many waterbirds, including rarities such as Freckled Duck, Pink-eared Duck, Australian Shelduck and, if we are lucky, flocks of migrant waders of several species; and in the adjacent grassland, Banded Lapwing and the threatened Spotted Harrier and White-fronted Chat;
- pockets of extraordinary endangered, vulnerable or rare flora species, including:
 - a) one of only four known populations of the beautiful endangered Omeo Storksbill *Pelargonium* sp. (G.W. Carr 10345); see its profile at: <http://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=20147> and its SOS Conservation Project page at: <http://www.environment.nsw.gov.au/savingourspeciesapp/project.aspx?ProfileID=20147>;
 - b) a very large population of the endangered Round-leaved *Wilsonia* *Wilsonia rotundifolia*, otherwise (in the tablelands) found only at Lake George;
 - c) a very large and isolated population of vulnerable Creeping Hopbush *Dodonaea procumbens*, otherwise (in NSW) found only on the Monaro;
 - d) the only known population of *Lawrenzia spicata* in NSW;
 - e) the only known population of *Schoenus nitzens* in the NSW Southern Tablelands;
 - f) the only site I know of in SE NSW of the parasitic Golden Dodder *Cuscuta tasmanica*;
 - g) a population of the Silky Swainson-pea *Swainsona sericea*;
 - h) large patches of the restricted Fan-flower Mudwort *Selliera radicans*; and
 - i) populations of what may be *Convolvulus graminetinus* (yet to be confirmed), otherwise confined to western NSW;
- Natural Temperate Grassland Endangered Ecological Community, some in very high condition, but most, unfortunately, invaded by Serrated Tussock;
- Fringing Snow Gum Woodland Endangered Ecological Community, with extremely old trees; and
- upslope of the lake, dry forest with unusual or otherwise significant species, including *Jacksonia scoparia*, *Allocasuarina littoralis* and *Stypandra glauca*.

All-in-all, this is a pretty amazing place that is rarely visited by field naturalists!

Buttercup Doubletail and other possible finds – 17 October

FOG members have been invited to help look for *Diuris aequalis* the (NSW endangered) Buttercup Doubletail Orchid, on Saturday 17 October, north of Taralga, NSW, two hours' drive from Canberra. This expedition also gives us the chance to visit one or more grassy cemeteries in that area beforehand. The management regimes of old country cemeteries tend to support the survival of grassland species.

This will be a full-day expedition and you may want to stay overnight, Friday or Saturday, possibly at Taralga's pubs or with FOG member Stephen Horn near Taralga (you provide your own bedding and bring food to share for dinner and breakfast).

REGISTER: margaret.ning@fog.org.au, to be given the details you will need, and so that if any arrangements change before the day Margaret can contact you.

Visit to a property nr Bungendore, NSW – Saturday 24 October

Batkins is a hilly 16 ha (40 acres) on the edge of a large area of forest on the west side of the Lake George escarpment. About two-thirds is dry forest, mainly Scribbly Gum and Red Stringy-bark overstorey, *Cassinia*, *Davesia* and *Acacia* midstorey, Red-anther Wallaby Grass understorey, and there's an assortment of forbs and orchids. The rest is open grassland, kept short by kangaroos, with a good variety of forbs and lilies at different times throughout the year.

The owner, FOG member David Johnson, has invited us to visit this attractive property on 24 October from 2 pm.

REGISTER: paul.archer@fog.org.au, to be given the details you will need, and so that if any arrangements change before the day Paul can contact you.

Stirling Park wildflower walk

Sunday 15 November, 2.00–3.30 pm

Our annual ramble through Stirling Park will start from the junction of Clarke St and Fitzgerald St in Yarralumla.

Please contact pmcghie@optusnet.com.au if you would like more information.

Wednesday 11 November 9.30–3.30

Annual monitoring at Scottsdale (near Bredbo NSW)

FOG contributes annual monitoring of vegetation at the Bush Heritage property 'Scottsdale'. All are welcome to attend and help. No experience is necessary. Lunch will be provided.

To register and for further information, please email linda.spinaze@fog.org.au or linda@xamax.com.au

FOG activities *continued*

On-ground workparties

Stirling Park

Sunday 30 August, weeding & planting

Wednesday 16 September, weeding

Sunday 27th September, weeding

Wednesday 14 October, weeding

Sunday 1 November, weeding

Wednesday 11 November, weeding

30 August, 9.30 am start: Park in the gravel carpark behind the Norwegian Embassy on Fitzgerald St, Yarralumla. Take the path that leads from the carpark up to the ridge-top, and meet at the water tank there.

All September–November, 9.00 am start: Contact Peter for meeting places for all workparties after August... and look for our FOG workparty sandwich-board sign.

For all these workparties, your clothing and footwear must be suited to gardening outdoors in spiky vegetation. Tools and gloves are provided by FOG, along with an excellent morning tea.

REGISTER for these workparties. For catering and planning reasons, and so you can be informed if plans change, register with pmcghie@optusnet.com.au

Hall Cemetery

Saturday 12 September,
Saturday 31 October

We shall meet at 9.30 am and continue our work on fleshy weeds and patches of exotic grass, with spot application of herbicide through the grassy woodland, and some grubbing out. Please dress for the weather and tall grass. The gate to Hall Cemetery, ACT, is on Wallaroo Road, near the intersection with Barton Highway. FOG will provide morning tea.

REGISTER with: john.fitzgerald@fog.org.au on or before 10 September and 29 October.

Yarramundi Reach grassland

Sunday 15 November

Work will start at 9.00 am at the native grassland at Yarramundi Reach (behind the Aboriginal and Torres Strait Islander Cultural Centre buildings at 245 Lady Denman Drive, ACT). Wear clothing and footwear suited to working outdoors with herbicides or mattocks. Tools and gloves are provided, and FOG will provide morning tea.

REGISTER with: John Fitz Gerald for catering, planning & notification, at john.fitzgerald@fog.org.au

Advertisements

Properties for sale

Twin Rivers, Tuross Road, Nimmitabel, NSW

Twin Rivers is for sale. The property is 225 acres, mostly bush, with approx 5 acres cleared around the dwelling. The environment is native bush with abundant wildlife, including platypus.

The property includes: approximately 1 km Tuross river frontage, a one-bedroom hut with separate kitchen and living room, a large shed, and telephone and electricity connections. It is 45 mins from Cooma on a good all weather road.

Asking price is \$250,000 negotiable.
Contact Inga Fritzsche on 02 6454 6489.

Garuwanga, near Nimmitabel, NSW

A number of FOG members will have visited Garuwanga, owned by Geoff Robertson and Margaret Ning. This property, 2 hours' drive from the centre of Canberra, is now for sale. It is ~270 ha (nearly 700 acres) of Snow Gum Grassy Woodland, with a house and a two-storey self-contained dwelling. The property will likely be available through the Nature Conservation Trust of NSW. To find out more, contact margaret.ning@fog.org.au

For sale, Wimbaleri, east of Collector, NSW

Wimbaleri is 128 ha of freehold land with a conservation covenant over 124 ha. It is all bush, with woodland with Yellow Box and forest with Red Stringybark, Brittle Gum, Scribbly Gum, Silvertop Ash and Black Sheoak. Heaps of birds, orchids, reptiles and other wildlife. No weeds.

Great views over the top end of Lake George (see photo) and north-east towards Goulburn. There is a one-room hut with verandah, kitchen, tank water, solar power and telephone connection. It is 40 minutes from Canberra; 20 minutes from Goulburn.

Contact Sarah Sharp, 0402 576 412.



FOG advocacy

Naarilla Hirsch

July

FOG supported the National Capital Plan Draft Amendment 85 and the Draft Variation to the Territory Plan No. 351, which will, by rezoning some areas in West Belconnen to 'River Corridors', result in a net increase to the Murrumbidgee River corridor and provide additional habitat for the Pink-tailed Worm-lizard. FOG also supported the provision, in the proposed Structure Plan, of a conservation area on the eastern side of the Murrumbidgee River to protect the area's 'natural and cultural values in a sensitive manner'.

The NCA released the National Capital Plan Exposure Draft 2015 for public comment. FOG supported changes such as those to land use category boundaries in the General Policy

Plan – Metropolitan Canberra, which will result in a significant reduction in urban areas and an increase in Nature Reserves in the Gungahlin District. It asked for changes to precinct codes in the Designated Areas that would make possible the establishment of Nature Conservation Area as a land use in any designated area, so that these changes could potentially apply to grasslands and grassy woodlands at Yarramundi Reach, Stirling Park and Scrivener's Hut. FOG did not support the West Murrumbidgee area becoming an 'Area under investigation for urban use' under the conditions set out in the revised Plan in the absence of comprehensive studies of the area first.

The full text of FOG submissions appears on our website.

News from the FOG Committee

FOG Diary, 1 May – 28 July 2015

Activities undertaken on behalf of Friends of Grasslands

Presentations

K2C symposium presentations, 21 May:

- Urban planning issues for grasslands in the ACT region: Naarilla Hirsch (see July–August 2015 FOG newsletter).
- FOG restoration activities on public land: Sarah Sharp (see this FOG newsletter).

Meetings

- BoB Molonglo, 8 July (Sarah): visit to the reserve area protecting Pink-tailed Worm-lizard, inspecting walking tracks, a raised boardwalk and fencing with TAMS and Environment Minister Rattenbury.
- Biodiversity Working Group meetings, 27 May, 24 June, 22 July (Sarah and Tony). Meeting minutes available from Sarah.
24 June: presentation by the Riverview Group on water management in the proposed West Belconnen development.
22 July: discussed proposed Williamsdale solar facility (site visit to be organised, Sarah to attend); the Throsby and north Gungahlin offsets proposals and a meeting with government being organised about offset compliance (Sarah, Naarilla to attend).
- K2C Executive meeting, 17 July (John).
- Murrumbidgee to Googong (M2G) Environmental Reference Group meeting, 16 July (Tony).
- Canberra Airport Group special meeting (Naarilla, Tony, Sarah).
- Offset meeting, Conservation Council: Naarilla and Sarah with Larry O'Loughlin.

Events, workshops etc. attended

- ACT Landcare launch, 13 June (Sarah, Naarilla, Ann, Andrew).
- Canberra Nature Map launch, 25 June (Sarah).
- Farewell for the Commissioner for Sustainability and Environment, 28 July (Sarah).
- SE LLS 1-day workshop in Cooma, 6 July for groups preparing grant applications to the 2015 Community, Industry and Landscapes Fund (John).
- K2C Partners' Forum, Queanbeyan, June 19. 'SE LLS–OEH Connectivity Models Workshop' presenting the latest regional scale models of connectivity developed by the collaborators and its implications for biodiversity (Naarilla, Andrew, John).

FOG has applied to become a Registered Environmental Organisation (REO). If granted, this will mean donations made to FOG will be tax deductible for the donor. If our application is approved, the news will be in the newsletter and on the website.

Donations received so far in 2015 (not tax deductible): \$201, mostly associated with membership subscriptions.

FOG occasionally makes donations to other organisations with which we are associated. Recent donations: \$200 to the Environmental Defenders Office.

FOG is a member of the recently established Bush on the Boundary (BoB) Riverview group, as well as BoB Molonglo and BoB Gungahlin.

President Sarah Sharp has rewritten and refocused the FOG strategy document. It is now called '**Friends of Grasslands: Who we are and what we do**' and will be on the website soon. She has also summarised FOG committee activities as a '**diary**' (see next column), starting from 1 May 2015.

FOG now has a **Flickr** site and a **Facebook** page. Photos from FOG events and activities will be mounted on the Flickr site in future. The sign-on sheet for events and activities now has a column where participants can opt out of being included in photos to be published on Flickr or in the newsletter.

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News from the FOG Committee continued

FOG grant applications

- Management of habitat for Monaro Golden Daisy (MGD) (*Rutidosia leiopis*) and associated Natural Temperate Grassland (NTG), a threatened species and community, at three sites, Cooma (Marg, Geoff, John and Sarah, submitted 27 July). FOG commitments: project officer to organise contractors spraying, 3 field days and 5 monitoring days over five years.

FOG support for other grant applications

- Kosciuszko to Coast, submitted July 2015: Being a Good Neighbour to the Yass Gorge lodged with the Environmental Education Program of the NSW Environmental Trust. FOG commitments: assistance at workshops and events and advice or other support as requested, and use of our media to advertise events and report on results.
- Molonglo Catchment Group, submitted July 2015: Enhancing the Biodiversity of Block 2 Section 128 Yarralumla – building Ngunawal engagement in natural resource management. FOG commitments include assistance with two or three work parties, member of organising group, one monitoring event.

Advisory groups

- Parks and Conservation Service, Conservation Effectiveness Monitoring Program: Member of advisory committee since December 2014 in the development of the ACT Government's Lowland native grassland ecosystems condition monitoring plan, as part of the Parks and Conservation Service (Kris Nash initially, then Sarah). Comments on final version were provided in July.

Other

- Landcare nomination prepared for FOG in the category Landcare Community Group. Submitted 31 July (Sarah).

Work parties

- Stirling Park 3 May, 13 May, 31 May, 28 June, 26 July (Peter McGhie).
- The Poplars (Queanbeyan Landcare project), 2 May (John).
- Block 2 Section 128 Yarralumla (Molonglo Catchment Group project): 30 June, Green Army Team (Karen Watson); 10 July, planting in women's area (Karen Williams, Nicki Taws, Sarah).

Activities

- Umbagog Blue Devil grassland visit and survey, 25 May (Marg).
- Mid-winter talk, 18 July (David).
- Tree walk, Stirling Park, 25 July (Paul).

Newsletter and ebulletin

- Ebulletin sent 27 May, 11 July (Ann, Sarah).
- Newsletter 23 June (Ann).

Advocacy

- A range of topics. See advocacy reports in each newsletter and on the web for details (Naarilla and advocacy team).

News roundup Opportunities

Opportunities to talk about environmental care

September Friday 4 – Sunday 6, Landcare/Parkcare at Jamison Centre, ACT

Jean Geue, a FOG member and long-term member of Friends of Aranda Bushland, has again arranged a joint display of Landcare and Parkcare activities and values, in the middle of **Jamison Plaza**. FOG is putting in a small display of posters and handouts. The stall involves 7 volunteer groups and needs at least 2 people to staff the display from 9.00 to 4.30 on each of the three days. If you are available and interested in helping on one shift (1.5–2 hours), please contact ann.milligan@fog.org.au

October 12–15, NSW Weeds conference, at Cooma, NSW, <http://www.weedscooma.com.au/>

FOG has a stall at the weeds conference, and a few people are needed to help staff the display. It is possible to attend some sessions between stints. Please email margaret.ning@fog.org.au to express interest and discuss this opportunity.

New job opportunity

Reserve Manager, Scottsdale

Bush Heritage Australia is now seeking expressions of interest for the position of Reserve Manager, Scottsdale Reserve, near Bredbo NSW.

This is a new role for Bush Heritage and will provide additional support at Scottsdale Reserve.

Reporting to the Healthy Landscape Manager South East NSW, the Reserve Manager will ensure that day-to-day management of Scottsdale Reserve meets the goals of Bush Heritage Australia. The Reserve Manager will apply the principles of adaptive management, natural resource management and applied conservation ecology to ensure the successful delivery of land management outcomes for Scottsdale Reserve. The Reserve Manager is responsible for the development and management of the reserve budget in line with Bush Heritage's Conservation Management Planning processes.

This advertisement is being listed on various job advertisers' websites as well as the BHA website via this link: <http://www.bushheritage.org.au/get-involved/employment>, from which you can download the position description.

All interested applicants are encouraged to apply by submitting their resume along with an address of the key selection criteria (as contained in the position description) to employment@bushheritage.org.au.

Applications close 5 pm Friday 11 September 2015.

News roundup *continued*

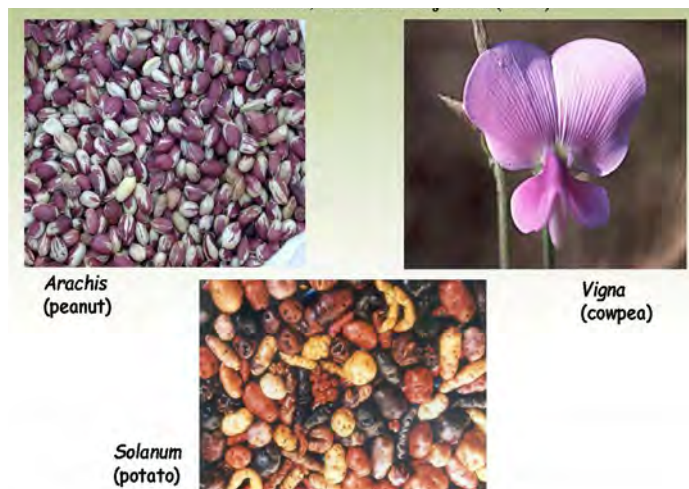
FOG mid-winter talks and afternoon tea

Around 20 people enjoyed two engrossing talks, followed by tea and good conversation, at the annual FOG mid-winter afternoon event on 18 July.

First, Dr Annie Lane, the ACT Conservator of Flora and Fauna, briefly explained the responsibilities of her role. Then she outlined and illustrated the 'Conservation of Wild Relatives' project she had worked on in the past, led by the United Nations Environment Programme and run by Biodiversity International. The project operates in Armenia, Bolivia, Madagascar, Sri Lanka and Uzbekistan, where there are variously 51–108 wild species of peanut, cowpea and *Solanum* (potatoes) to be conserved. These species' *in situ* habitats are increasingly under threat from land use, climatic factors, ignorance and uncoordinated conservation efforts. In essence, the project aims to conserve their 'natural habitat'. Annie gave insight into challenges that face the project's push to maintain the genetic diversity that may be essential for future food supplies. Outcomes include a global knowledge base of information (www.cropwildrelatives.org), sustainable national strategies that can be transferred between countries, and stronger links between conservation and agriculture.

Andrew Zelnik then carried the audience photographically to Tasmania's grassy and other landscapes – urban surrounds, coastal fringes, national parks and mountain peaks. Some of his photos are reproduced on pages 1, 9, 10 of this newsletter.

It was mid-winter outside but lovely and cosy inside with the fire alight and a delicious afternoon tea. Altogether a great afternoon! Thank you, to the speakers and organisers.



Important food species that are targets of the UN-led Conservation project. Photo courtesy of Dr Annie Lane.



Steve Thomas (yellow top) with a few of the group on the Tree Week at Stirling Park.

Below: Wally Bell shows us a scar tree on the ridge.



Tree Week walk, Saturday 25 July

On the Saturday of ACT Tree Week, 25 July, FOG held a walk for the public, in Stirling Park along the ridge. Sarah Sharp (FOG) with Steve Thomas (Friends of ACT Trees) and Wally Bell (Ngunawal Aboriginal Cultural Heritage Consultant) were co-leaders of the group of almost 20 people. Steve showed us the various tree species and gave us some history and anecdotes about the Park and its vegetation. Wally explained how the vegetation featured in Aboriginal culture before Europeans settled the region, and Sarah explained the restoration work that FOG has been leading since 2009. It was an enjoyable and informative afternoon in excellent weather conditions. Thank you, to the three speakers, and Paul Archer for organising the event and the National Capital Authority for permission to hold it.

Night-time walk with Bettongs

On a beautifully clear, if cold, Thursday evening 6 August, 18 FOG members and friends joined Kate Garrock of the Capital Woodlands and Wetlands Conservation Trust for a walk in Mulligans Flat woodland sanctuary to observe the nightlife. With Kate's big torch and laser pointer, and individual red-light torches so we could see not to trip, we walked quietly for nearly 2 hours from dusk onwards. The frogs were calling mightily (*Crinia* sp.) and we were lucky enough to see one Echidna, 12 Bettongs, one Sugar Glider, two Possums and 6–10 Kangaroos and Wallabies. Thank you to Kate for a very enjoyable evening.

The photo (right) shows an Eastern Bettong *Bettongia gaimardi*, about the size of a wild rabbit, courtesy of Kate Garrock and the Capital Woodlands and Wetlands Conservation Trust.



Articles

Friends of Grasslands' restoration activities on public land

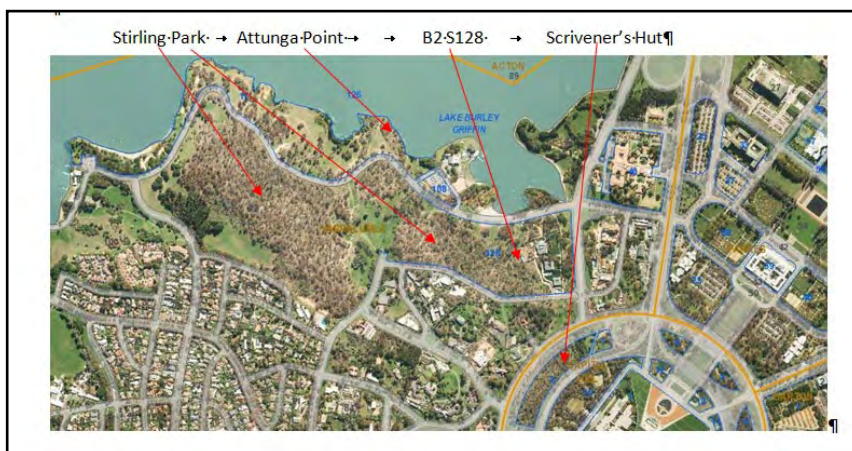
Sarah Sharp, Jamie Pittock, John Fitz Gerald, Margaret Ning

This is the invited talk Sarah Sharp gave at the Kosciuszko to Coast & Myer Foundation 'Native Grasslands Sustainability Symposium' on 21 May.

In 1999 the first FOG on-ground project was initiated at Old Cooma Common Grassland Reserve. Since then this has expanded, and now FOG has initiated strategic projects of on-ground work in four locations: Stirling Ridge Yarralumla (at Stirling Park, Scrivener's Hut, Attunga Point; see map at right), Yarramundi Reach Acton, Hall Cemetery and at Old Cooma Common Grassland Reserve. In addition FOG helps out at other sites. FOG's on-ground activities have been directed particularly at sites that 'fall through the cracks' – they are public land, they do not have a local 'friends' affiliation, are at risk of degradation through lack of management and/or are at risk of development.

All work is guided by management plans and is undertaken with a close and cooperative relationship with land owners, community, education, non-government and government organisations. The work involves weed removal, planting and monitoring and FOG encourages and supports research. In most sites the work is augmented by funding from the landowner or through grants.

National Capital Authority (NCA) provides an annual grant of about \$6000 that is used for materials, training and refreshments supporting work at Stirling Park and Yarramundi Reach. A conservation management plan prepared in 2009 (currently being updated) provides guidance, as do the Bushfire Operational Plans developed by NCA for these sites. Additional grants have been received by FOG, and have been used primarily to contract out broad-scale weed control, particularly for St John's Wort, Blackberry and Chilean Needlegrass containment. Monitoring



Areas in and near Stirling Park where FOG has on-ground projects

has been used to determine the changes in weed cover, and monitoring of Button Wrinklewort *Rutidosia leptorrhynchoidea* in burnt and unburnt areas is being undertaken by ANU and CIT students with help from FOG.

Stirling Ridge is an important ecological link east–west across the ACT, with very high quality endangered Yellow Box – Blakely's Red Gum grassy woodland, the second largest known population of Button Wrinklewort (50,000 plants), populations of rare plant species and numerous birds. There is no conservation protection for this land. Parts of Stirling Ridge remain overshadowed by the potential for a new Prime Minister's Lodge and associated infrastructure to be built.

Yarramundi Reach comprises 23 ha of grassland, about half of which is Natural Temperate Grassland, the rest being degraded, particularly with a very high dominance of Chilean Needlegrass.

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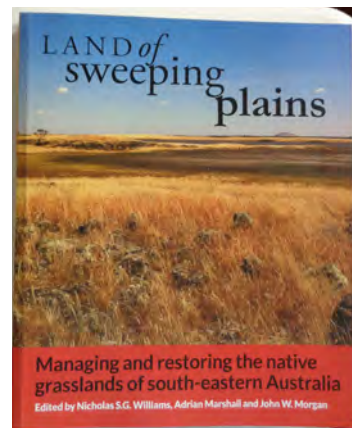
Activities coming up – other groups

31 August and 19 September: 'Erosion control and water movement in the landscape': an evening workshop & a practical field trip, hosted by the Wallaroo/Hall Landcare group. Contact: Karissa Preuss landcare@ginninderralandcare.org.au, phone (02) 6278 3309, for information and to register.

24 September: 'Restoring Canberra's native grasslands by fire: the science and people issues' – a talk by Dr Ken Hodgkinson. Australian National Botanic Gardens theatre, 12.30 pm.

12–15 October: NSW Weeds Conference, Cooma NSW. Theme: 'Weeds – The future, innovation & adaptation'. For details, see <http://www.weedscooma.com.au/>.

5 November: 'Restoration of Cumberland Plain Grassy Groundcover' is an event on AABR's calendar – a 3-hour tour of restoration and seed production at Hawkesbury campus of University of Western Sydney, with Dr Paul Gibson-Roy, Chief Restoration Ecologist with Greening Australia. To find if places are available, and more details, email: secretary@aabr.org.au.



Land of sweeping plains: Managing and restoring the native grasslands of south-eastern Australia.

Eds Nicholas Williams, Adrian Marshall and John Morgan.

CSIRO Publishing (2015).

A few copies of this new grasslands book are still available at the launch price, \$48. To buy one please contact

Kathryn Wells at kathrynwells29@gmail.com

The book may also be bought for \$59.95, from CSIRO Publishing at <http://www.publish.csiro.au/pid/7219.htm>

Friends of Grasslands' restoration activities, continued from page 7

Recently a resident population of Striped Legless Lizard (*Delma impar*) has been re-confirmed by ACT Government.

At these two NCA sites thousands of plants, grasses, forbs, trees and shrubs have been planted, 3340 m³ of woody weeds have been removed and there has been a significant reduction of herbaceous weeds, especially Chilean Needlegrass and St John's Wort. Since 2009, at Stirling Park, approximately 85% of the area has been cleared of woody weeds. At Scrivener's Hut (5 ha) and Attunga Point (0.25 ha), both containing Yellow Box – Blakely's Red Gum grassy woodland and small populations of Button Wrinklewort, the areas have been entirely cleared of woody weeds, although these like all sites, require further monitoring and removal of regrowth or any missed plants. A significant boost to the efforts occurred at Stirling Park when more local Yarralumla residents became involved in the on-ground work, partially, but not only, because the investigation into holding part of the site for future embassies increased the residents' concern about losing part of this valuable local asset.

At Yarramundi Reach the work has consisted of some woody weed removal, but in the main, treatment of herbaceous weeds – Chilean Needlegrass, St John's Wort and African Lovegrass. Progress is not nearly as evident, although plantings of herbaceous species, especially of River Tussock where patches of weeds have been removed, are particularly successful.

A project at Block 2 Section 128 Yarralumla has been initiated by Molonglo Catchment Group (MCG) in partnership with the Buru Ngunawal Aboriginal Corporation, Friends of Grasslands and Yarralumla Residents Group. Baseline assessment of ecological and cultural values were undertaken and a management plan developed by MCG and partners. The area is managed by ACT City Services. The site contains Box–Gum Woodland and Button Wrinklewort, is directly connected to Stirling Park and provides an ecological link to Scrivener's Hut. It contains important cultural values. This is an important partnership for FOG, as it links ecological with cultural and Indigenous land management.

Hall Cemetery (behind the group in lower photo at right) contains 3 ha of endangered Box–Gum woodland, with a Kangaroo Grass-dominated groundlayer and a population of Tarengo Leek Orchid (*Prasophyllum petilum*). Work is guided by a management plan for the cemetery to conserve the orchid. FOG's work has included removal of woody weeds and eucalypt seedlings within the cemetery, removal of woody weeds and herbaceous weeds around the cemetery, and plantings of *Bursaria* (*Bursaria spinosa*) and other woodland species.

Workparties began at Old Cooma Common Grassland Reserve (NSW) in 1999, to expand FOG's activity and experience beyond the ACT, and to prompt the formal Trustees for the reserve, Cooma-Monaro Shire Council, into active management and to take up longer term responsibility for the reserve. The initial focus was on woody weed removal, then other weeds near the *Rutidosia leirolepis* were tackled. A management plan was prepared in 2008, to involve grazing for conservation outcomes, but the process of implementation was too complex, despite funding being available. On-ground work by FOG ceased in 2012 due to lack of volunteers, as attempts to involve locals were never very successful. Council has taken up responsibility for management of some weeds.

Between 1999 and 2014 there were 123 workparties in these four locations, attended by 1458 volunteers. This amounts to a contribution of time worth \$212,660 (at \$30/hour). Work at Stirling



Cootamundra Wattle cleared at Stirling Park. Photo: A. Zelnik.
Below: Tea break at Hall Cemetery.



Park is an example of an extremely successful on-ground project. In the adjacent Block 2 Section 128 the partnership with Molonglo Catchment Group and the Buru Ngunawal Aboriginal Corporation melds a range of interests and concerns to protect and conserve important cultural as well as ecological values. We see the success of our on-ground work at Stirling Park has been the result of: extremely dedicated work by volunteers; liaison with locals and other non-government organisations; collaboration and cooperative management by the land managers; additional funding; and the attractiveness of the site. A definite motivation has been the ability to see, after each workparty, the difference that has been made to the landscape. Work in other sites has also been very successful, but unfortunately progress in natural grassland is much less visible, because it mainly involves spraying herbaceous weeds, and there is not as much to show for our results at the end of a session.

We believe our on-ground work has significantly improved the quality of the sites in which we work and, in addition, that other important outcomes have been realised, including influencing land management and land use decisions and building on the skills and participation of members. We have trialled and implemented better practice techniques, undertaken robust monitoring, and helped to facilitate the use of fire as a management tool. And we have done that in collaboration with other non-government organisations, traditional land managers, local community and government.

A talk about *Themeda australis* at the Australian National Botanic Gardens

Naarilla Hirsch

Early in August I went to a talk at the ANBG by Robert Godfree titled 'Polyploidy and climate adaptation in *Themeda australis*'. The talk was about research undertaken by Bob and colleagues at the CSIRO. It was very interesting, although fairly technical. Here are some of the things I found interesting.

The project was looking at the difference between diploid (two paired chromosomes) and tetraploid (four paired chromosomes) plants of *T. australis* from NSW in their response to likely climate change events, in particular an increase in temperature of 2–3°C and drought-like soil moisture levels. (Note: *T. triandra* is the currently accepted nomenclature for this grass species.)

Many plant species have polyploid populations as well as diploid populations. Advantages to polyploidy (more than two paired chromosomes) are thought to include increased vigour and fitness, reproduction advantages such as disruption to self-incompatibility and favouring onset of asexual reproduction, and gene redundancy. With *T. australis*, diploid populations occur mainly in the near-coastal regions of south-eastern Australia (including the ACT). Polyploid populations occur in inland and coastal areas. Robert collected specimens for his research, partly funded by the NSW Environmental Trust, from three sites with both diploid and tetraploid plants – near Albury, Batemans Bay, and the Sydney basin. There was no obvious morphological difference between the two genotypes.

Once the plants were established from the collections, his experimental site in Canberra simulated both higher temperatures and drought conditions – a four way matrix with a control, high temperature, low moisture and a combination of both. After the treatment phase, he measured plant characteristics such as growth, flowering, seed characters and seed production.

One finding was that creating drought conditions (i.e. reducing soil moisture) increased the soil temperature. In other words the soil is warmer when it is dry than when it is moist,



Themeda triandra in summer

irrespective of ambient temperature. The response of some plant growth factors was different from that of seed factors. For instance, basal growth was affected mostly by 'drought' conditions rather than polyploidy. However, overall the tetraploid plants averaged more stems per plant, more seeds per stem, improved seed viability, and larger seeds. For seed characters the effect was generally more marked with the intermediate levels of stress, i.e. for either drier conditions or increased temperature, but when conditions were hotter and drier, plants were more stressed and polyploidy made less of a difference.

The results suggest that polyploidy in *T. australis* is an advantage under drier and hotter conditions (i.e. climate change), and that this advantage is conserved across different bioregions. This result might have implications for seed selection for rehabilitation work.

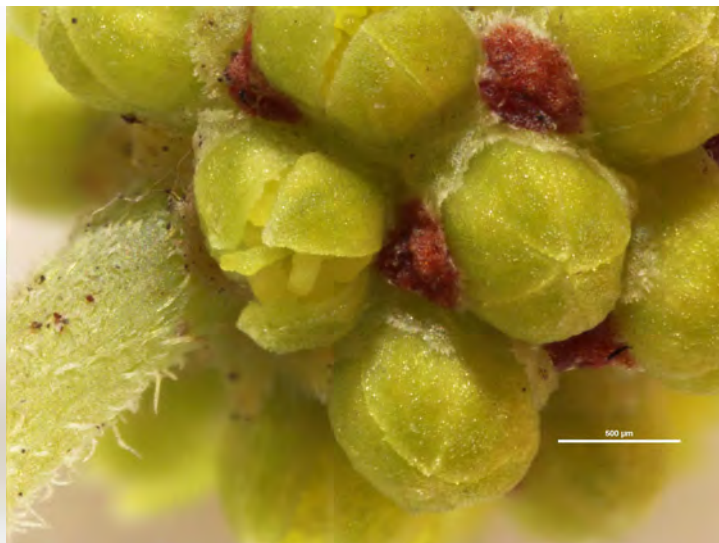
Robert is writing up these results, which are striking for their strength of evidence, for a scientific publication.



Two more of Andrew Zelnik's photos of Tasmanian flora in November 2014 which he presented on 18 July (see p. 6). Left: *Ranunculus collinus* (Mountain Buttercup) flowers ~1cm diameter, Mt Wellington Summit Walk, Wellington Park. Right: *Goodenia ovata* (Hop Native Primrose) in a grassy woodland remnant on a bank adjacent to the Huon River, on the roadside between Geeveston and Franklin.

Springtime micrographs

John Fitz Gerald



At this time of year, *Acacia* demands our attention. The species *A. dealbata* is widespread across SE Australia, including grassy woodland locations. FOG chose to plant some into revegetation at Stirling Park, ACT, and they are growing well. The accompanying images from one of these plants shows one head in bud stage. Each flower is just at the point of opening with most balls of many yellow anthers still individually wrapped and yet to emerge. Scale bars represent 1 mm (black, left image) and 0.5 mm (white, right image).

Images John Fitz Gerald ©ANBG, taken at the Australian National Botanic Gardens seedbank.



Three more of the photos Andrew Zelnik took in Tasmania in November 2014 and showed at the FOG afternoon event on 18 July (see p. 6).

Top left: *Euphrasia hookeri* (Fingerleaf Eyebright) plants on upper slopes of Hartz peak, Hartz Peak Walk, Hartz Mountains National Park.

Top right: *Caladenia alpina* (Alpine Finger-orchid) on Pinnacle Track below summit of Mt Wellington, Mt Wellington Summit Walk, Wellington Park.

Below: *Euphrasia collina* (Tall Eyebright) on Organ Pipes Track below summit of Mt Wellington, Organ Pipes Track Walk, Wellington Park.

Cathy Franzi, 'Islands & Corridors' exhibition, ANU School of Art Gallery

Kathryn Wells

Cathy Franzi is a member of FOG. She held her doctoral ceramic exhibition 'Islands & Corridors' at the ANU School of Art during 4–13 June. The exhibition entranced and surprised the visitor in its presentation of both local Canberra flora and also in its altered thrown ceramic forms. Franzi has set out to represent Australian flora on ceramic vessels so we can experience current botanical and environmental knowledge. There is a rich contextual question about this – in the way Australian plants have been used in ceramic history and whether they have reflected the prevailing understanding of the environment at that period.

During her studies, Franzi immersed herself in botanical fieldwork and botanical source material – especially that of the Australian National Herbarium and the National Seed Bank at the Australian National Botanic Gardens. In an interview while setting up her show, Franzi stated, 'The unexpected outcome was that the botanical resources informed how I began to make work in the studio. Studio research was the embodiment of my botanical research.'

To convey the complexity and fine detail of the families and species of grasses, sedges, forbs, orchids and lilies of the natural temperate grasslands endemic to Canberra and the ACT, Franzi developed certain techniques with the clay. These allowed her to show the willowy stems, slender erect flowers, sparse droopy papery leaves, flowers with membranous wings, miniature spikes or complex hemispherical flower heads that are some of the characteristics of local forbs or wild flowers including Scrambled Eggs, Yellow Buttons, Yam Daisy and Silky Swainson-pea.



Above: Cathy Franzi, *62 Orchids*, porcelain, wheel-thrown, ink lay. Photo: Andrew Sikorski – Art Atelier.

Below: Cathy Franzi, *Natural Temperate Grasslands*, porcelain, stoneware with porcelain inlay, wheel-thrown, engobe, sgraffito, glaze. Photo: Rob Little Digital Images.



The 62 known species of orchids on Black Mountain are represented each by a vessel of Limoges porcelain thrown as a very narrow cylindrical form (top photo) with the orchids carved and then inlaid with black ceramic inks. Cathy presented them on a high island in the centre of the exhibition. Each interior is glazed with the dominant colour of the orchid that allows a glimpse of crimson, vermilion, burgundy, moss green, ochre and sun-ray yellow, as you might catch their colour on a seasonal walk. However, for the endangered species, she has covered the vessels with black engobe (a type of slip) and etched the species form into the white porcelain. The display included 62 elegant organic cylindrical vessel forms, with vitrified sheen and etched orchids.

Three one-metre high black vessels with sgraffito represent a stand of Drooping She-oaks *Allocasuarina verticillata* that can grow to 10 metres tall. These are the habitat of the Glossy Black-Cockatoo which feed off the seeds, stripping them from the cones. The porcelain vessels were made by Franzi in sections and their height is such that you only glimpse a small portion of the red interior glaze, just as it is possible, if you are lucky, to glimpse the red-panels in the under tail of the Glossy Black-Cockatoo. The etching of the delicate pendulous foliage and the seed cones is circular, delicately entwining the vessels.

A series of eight porcelain seed jars are indicative of the need to preserve these habitats and species for the future, partially through storing seed and revegetation and restoration. These represent the Yellow-Box Blakely's Red-Gum Grassy Woodland and derived native grasslands. Franzi has etched flower heads of the Urn Heath, Grey Guinea Flower and the Twining Fringe Lily, amongst the flowering box, wattle and gums, into a taupe coloured engobe top with clear porcelain base and a soft rutile glaze inside.

Franzi's response to the question about how Australian flora is presented in ceramic history in relation to our environmental knowledge is partially answered by her representation of these works on islands in the exhibition, and the need to develop corridors of connectivity for dependent species. Her mastery of ceramics allows us to observe the delicacy and contemplate the significance of the flora. Cathy Franzi has shown us another way to understand the current environment, and awakened us to new possibilities in ceramic vessel forms and techniques.

Ed's note: Those of us who missed seeing this remarkable exhibition may like to look at Cathy Franzi's website: www.cathyfranzi.com. Cathy says one of these works has been bought by the Canberra Museum and Gallery. She has new work on show in September/October, focusing on flora specific to Sydney at Kerrie Lowe Gallery, Newtown, Sydney, and specific to the south coast at Narek Galleries, Tanja. There will also be one of her works in the Wildlife and Botanical Artists exhibition at Floriade during the first week of October.

Cultivation corner: about grassland species

A reflection on the Showy Violet

Janet Russell



The Showy Violet, *Viola betonicifolia*, is such a pretty little plant, but we did not persevere with growing them in our garden after we planted one in 2002. The plant reappeared from time to time, never flowering so we thought our garden was probably too dry. After that, the occasional plant appeared, self-sown, among the pavers in the most inhospitable places. One appeared in a seedling tray briefly. We did not see the self-sown plants flower. Earlier this year a seedling appeared in our planter of *Goodenia elongata* and I saw the buds and later the seeds but did not see the flowers. I began to wonder whether they flowered at night.

The species grows in damp forest sites as well as dry grassland sites, at between 600 and 1690 metres. Our garden meets the condition of altitude as we sit at about 635 metres, but we find that flowers that may thrive in the wild in dry harsh conditions do not have the same resilience in cultivation. This garden has nowhere where the water pools or accumulates in any other way. Garden pots are the only places where they might do better.

The plants are hermaphroditic and are found across the ACT including in nature parks local to us, such as Black Mountain and Aranda Bushland. The seeds are ejected explosively by the capsule splitting as it dries out. The seeds may be carried further away by ants.

On reflection, I remembered I had read that *Viola betonicifolia* can set seed without obvious flowering. The plant produces extra small self-pollinating flowers that never open. I assume the other normal flowers may or may not be self-pollinated. It is interesting that the capacity to self-pollinate seems to be quite common in native plants. In our case the one plant has continued to reproduce over 12 years even when other specimens may be quite some distance away.

It would not seem to be the best way to produce genetically diverse succeeding generations. The species is, however, widespread which suggests its means of reproduction appears to be very successful. The plants also vary in leaf size and number as well as colour and flower size, which suggests an underlying genetic diversity.

One photo (below) shows a seedling self-sown in the pavers next to the base of our shed, and other photos are of the Violet in the planter with only its leaves (bottom left) and another showing the capsules that have split exposing their seeds. I had to raid husband Andy's photos to find a photo of a flower in the wild (top) taken on a private property some years ago. I have also included a photo (left) of the whole plant in flower taken by Rosemary Blemings at Mt Rogers, ACT. (Thank you Rosemary.) The photographs of the leaves of the different plants illustrate just how variable they can be.



Above: *Viola betonicifolia* at Mt Rogers in 2010.
Photo: Rosemary Blemings.



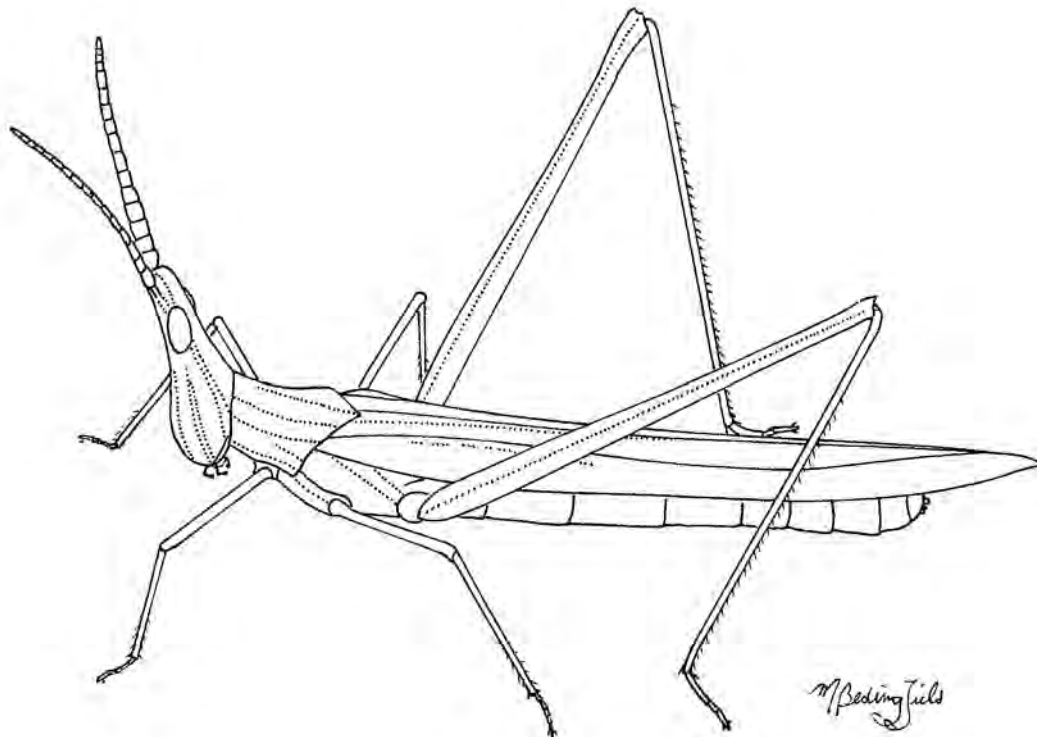
The Giant Green Slant-face Grasshopper, a master of camouflage

Michael Bedingfield

If you see a Giant Green Slant-face Grasshopper and approach it, its most likely reaction will be to leap into the air using its back legs, fly a short distance, then drop to the ground among some grass and immediately become invisible. This is true of many species of grasshoppers, which have the wonderful ability to blend in with their surroundings by keeping quite still.

This species is easy to recognise because of its distinctive shape, and it is known by entomologists as *Acrida conica*. It is quite long and narrow, has long spindly legs, and the head is cone shaped. Despite its elaborate common name its colour is variable. There are both green and brown forms, and they can also have grey or cream markings. Their abdomen is also pink under the wings, and the creatures will sometimes lift their wings and display it when threatened, to frighten potential enemies. The males grow up to about 5.5 cm long, and the females to 8.5 cm. Their hopping is not strong and they are awkward flyers. Their large compound eyes give them good vision, and they have antennae on their forehead which are flattish and segmented.

This is a warm season insect locally, with the eggs hatching in spring after being dormant through the winter. The nymphs grow by a succession of moults until they reach adulthood and develop wings. Then they are more mobile and it is time to create the next generation. After mating in late summer or early autumn the female lays her eggs in a small hole in the soil. The female has several spade-like plates on the tip of her abdomen. With these she is able to dig the hole. She inserts her abdomen into the hole and lays her eggs. I have occasionally seen a female doing this. She remains motionless even when



approached very closely. Perhaps she believes she is invisible, or maybe after she has started laying it is not possible to abandon the process and escape. Anyway, she is totally vulnerable during this time. The eggs are encased in foam which sets hard and protects the eggs. In our climate they will be safe underground during the frosty winter. Hatching is possible when the weather warms again, but is most likely after there has been some rain, which enables the tiny nymphs to dig their way to the surface, and ensures there will be green grass to eat as well.

The Giant Green Slant-face occurs in all Australian states except Tasmania. It is herbivorous, and its natural habitat is in grasslands and other grassy ecosystems with medium to tall grass. The males of many species of grasshopper make a sound by rubbing part of a back leg against tiny ribs on one of their forewings. This is called stridulation, and makes a quiet chirping noise, similar to crickets but not so loud. This is a serenade to attract a female. (From my reading I couldn't find out whether the Giant Green Slant-face does it too.) When grasshoppers have 'ears' or hearing organs, they are on the side of the abdomen.

Grasshoppers embody the mystique of grasslands in an insect form. They are small, enigmatic and seasonal. They eat grass, and live and die in it. In plentiful seasons they are abundant, and in winter and drought they are usually absent. Some species are threatened and others are very common. Compared to mammals, birds and reptiles there is very little information available on insects at the species level. I would like to know more about these engaging but elusive creatures, and I hope information improves over time. Many species of grasshopper are quite similar to look at, and therefore hard to identify. However, the Giant Green Slant-face is a stand out and is easy to recognise.

Identification provided by Kim Pullen.

References

Encyclopedia of Insects and Arachnids by Maurice and Robert Burton (1984).
Insects of Australia by Paul Zborowski (2002).

And these webpages:

<http://bie.ala.org.au/species/Acrida+conica>

http://www.brisbaneinsects.com/brisbane_grasshoppers/Longheaded.htm

Contacts for FOG groups and projects

Refer to the website, www.fog.org.au, for more information

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Promoting wider knowledge of grassy landscapes

Publications – *Grassland Flora* and other sales (order
forms are on the website): booksales@fog.org.au

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On-ground work

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Yarramundi Reach & Stirling Park: jamie.pittcock@fog.org.au

Old Cooma Common, NSW: margaret.ning@fog.org.au

Education – Southern Tablelands Ecosystems Park (STEP)
at National Arboretum Canberra: secretary@step.asn.au

Activities: activities@fog.org.au

Media spokesperson: Sarah Sharp (0402 576 412)

FOG ACTIVITIES LATE AUGUST – MID-NOVEMBER

Date	Activity	Contact
Sun 30 Aug	Stirling Park workparty	pmcghie@optusnet.com.au
Mon 7 Sept	Umbagogong grassland visit	margaret.ning@fog.org.au
Sat 12 Sept	Hall Cemetery workparty	john.fitzgerald@fog.org.au
Weds 16 Sept	Stirling Park workparty	pmcghie@optusnet.com.au
Sun 27 Sept	Stirling Park workparty	pmcghie@optusnet.com.au
Sat 10 Oct	Visit to Lake Bathurst	ann.milligan@fog.org.au
Weds 14 Oct	Stirling Park workparty	pmcghie@optusnet.com.au
Sat 17 Oct	Orchids near Taralga	margaret.ning@fog.org.au
Sat 24 Oct	Property nr Bungendore	paul.archer@fog.org.au
Sat 31 Oct	Hall Cemetery workparty	john.fitzgerald@fog.org.au
Sun 1 Nov	Stirling Park workparty	pmcghie@optusnet.com.au
Weds 11 Nov	Stirling Park workparty	pmcghie@optusnet.com.au
Weds 11 Nov	Scottsdale monitoring	linda.spinaze@fog.org.au
Sat 15 Nov	Yarramundi workparty	john.fitzgerald@fog.org.au
Sat 15 Nov	Walk in Stirling Park	pmcghie@optusnet.com.au

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FOG advocacy

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– FOG's mid-winter talks and tea

– Tree Week walk

– Night-time walk with Bettongs

– Activities coming up with other groups

– *Land of Sweeping Plains* book still available

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A talk about *Themeda australis*, *Naarilla Hirsch*

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