



May-June 2016

FOG activities & workparties coming up

How does groundcover affect water movement in the landscape?

The Pinnacle, Monday 16 May, 1.30 – 4 pm

In a well-functioning landscape, rainfall enters or runs off the ground surface without eroding the soil. In this activity, David Tongway AM, a member of FOG, will show us how to analyse landscape function on a slope at **The Pinnacle Nature Reserve on Monday 16 May, 2–4 pm**. The slope we shall be looking at has both native and introduced grasses and some trees – nicely varied. David developed Landscape Function Analysis and he is a great communicator.

Meet at the De Salis St entry to The Pinnacle, Weetangera.

Wear normal outdoor gear. We shall be on a track and the adjacent slope, a short distance into the reserve.

All welcome! **Please register** by emailing, before 15 May, to ann.milligan@fog.org.au or text to mob.ph. 0419 243 773.

Visit to grassland restoration sites and other parts of Scottsdale, near Bredbo

Sunday 5 June, 9 am – 12 pm

We are invited to join in a FOG visit to Scottsdale, just north of Bredbo, NSW, to hear about and see the property and the restoration work Bush Heritage Australia (BHA) is doing there. This is a good opportunity to visit Scottsdale, as access is not normally available. **We must register to get full details** for this activity: email margaret.ning@fog.org.au; phone 0427 788 304.

This visit is different from FOG's annual monitoring visits in spring. Whether this is a first visit to Scottsdale, or only the latest of a series of visits, there will be a lot to absorb. After an introduction to Scottsdale and some Bush Heritage background, we shall look at the restoration sites. They were prepared two years ago according to methods devised by Professor Paul Gibson Roy (of Greening Australia). The topsoil and unwanted seed bank was scalped off; then the bed was seeded with a variety of native grasses and forbs.

Staff of BHA will tell us about Greening Australia's role, the history of the scalping method, the site prep work and the planting process. We expect to look at the machinery used, Sue Connelly's small herbs propagation and seed collecting for the on-site nursery, and the various weed control issues.

Margaret Ning's photos of both sites and edges show what has been achieved and what still needs to be done.



A book launch

Friday 13 May 11 am – 12.30 pm

*Insects of South-eastern Australia:
an ecological and behavioural guide*
by Roger Farrow

We are invited to this book's official launch by Geoffrey Robertson, conservationist, and former president of the ACT Conservation Council and Friends of Grasslands.

Australian National Botanic Gardens Theatre and Dickson Room (opposite Visitors Centre), Clunies Ross St, Acton ACT.



Please RSVP to Christine at christine.kendrick@me.com

To be or not to be a FOG member? Final call

This newsletter is the turning point. Members who have not renewed by 1 May can no longer be sent newsletters or e-bulletins. You won't know about our upcoming activities! If this newsletter has a red dot on the last page, and a renewal form, it means we have not found your renewal for 2016 in either the PO Box or the bank account.

For renewing, the details you need are on the renewal form. If the dot is wrong or if you don't want to renew, please email membership@fog.org.au – and we'll update our records!

More FOG activities & workparties coming up

Workparties to support native biodiversity Stirling Park, Yarralumla ACT

Sundays 1 May, 29 May, 26 June, 9 – 12.30

For **Sundays 1 May** and **29 May** we shall return to the site of previous workparties east of Haines Creek. Our home base will be at the usual place just off Alexandrina Drive opposite Lotus Bay (which is the bay beside the Southern Cross Yacht Club). Look for the Friends of Grasslands sandwich board signs. There is plenty of room to park. The work in this area is challenging but there should be two chain saws operating and the effort we have put in to date has made an amazing difference.

Wear gardening clothes and solid footwear, and bring eye protection, sun protection and drinking water. All tools will be provided, and there will be an excellent morning tea.

Details for 26 June will be in the May/June news bulletins.

Please register for each workparty you plan to attend, so we have the right amounts of tools and catering.
Email pmcghie@optusnet.com.au or jamie.pittock@fog.org.au by **two days before** each of the workparties.

Advance notice

Mid-winter talks and afternoon tea

Saturday 16 July, 2–5 pm

It's on again! FOG's annual afternoon of fascinating talks with 'slides', followed by networking with afternoon tea in hand. This pleasant afternoon activity will be at Mugga Mugga Environmental Education Centre, Symanston, with its cosy wood fire.

We expect to have two speakers this year.

John Blay, author and explorer, will tell us about the Bundian Way, the ancient track that Indigenous groups travelled to move between the Eden area and Mt Kosciuszko. He has written a compelling book about his journeys and the track itself, called *On Track: Searching out the Bundian Way* (NewSouth Publishing, 2015) and will probably have copies for sale on 16 July. A short review of the book is on page 7 of this newsletter. John will also lead a FOG adventure excursion to the track near Delegate on 5–6 November – see below.

We have invited another speaker as well.

Full details will be in the next FOG newsletter.

A taste of FOG activities planned for September, October, November & December

3–4 September, Moruya area, NSW

The first weekend in September we shall visit several grassland sites of interest in the Moruya/Dalmeny area of the South Coast. The visit is being arranged for us by local botanist Jenny Liney with help from a number of colleagues. The visit may include annual burning trials on *Themeda* grassland on three headlands, which have been underway and monitored since 2012. The headland grasslands are unique and function in a different way from those in the Southern Tablelands and Monaro. *You are advised to plan ahead to book suitable accommodation.*

Full details next newsletter.

8–9 October, northern NSW grassy cemeteries

Keep the 8–9 October weekend free if you are interested in visiting these places where the land-use favours the survival of native grassland. Details will be in the August-issued newsletter.

September – December

We plan visits to Yass Gorge, as guests of the newly formed Friends of Yass Gorge, and to at least one ACT urban grassland, and up to two other NSW sites. There'll be a FOG end-of-year picnic on 13 or 14 December.

Full details will be in future newsletters.

5–6 November, Delegate and the Bundian Way

John Blay will lead a FOG party (probably of *members only* and our guests) to special sites accessible from Delegate. Accommodation likely in Delegate. Details nearer the time.

Wildflower walk; Scottsdale monitoring; Workparties

Workparties: Sundays 28 August, 25 September, 30 October, 13 November, 27 November. **Scottsdale Monitoring,** Wednesday 9 November. **Wildflower walk, Sunday** 13 November.

Full details will be in future newsletters.

You can express interest or register *right away* for any of these by emailing us at activities@fog.org.au

News from Stirling Park

Jamie Pittock

The National Capital Authority (NCA) has had contractors undertaking welcome ecological restoration work in Stirling Park. Following our February work party on Attunga Point, contractors have felled and are in the process of removing the exotic trees on the lake edge that were overshadowing our beloved Button Wrinklewort and harbouring weeds such as Blackberry. Contractors have also removed the Desert Ash infestation on the Westlake site and sprayed Blackberry east of Haines Creek, as well as on the western side of Stirling Ridge. Unfortunately, a rare wet day in mid-April scuppered NCA and Rural Fire Service plans for an ecological burn on the central east part of the area.

Friends of Grasslands Inc. is on Facebook



<https://www.facebook.com/friendsofgrasslands/>

News from the FOG Committee

Welcome to FOG!

We warmly welcome these new members who have recently joined Friends of Grasslands Inc.: **Elena Guarracino & Richard Valler**, Dalgety NSW;
Gail Neumann, Yarralumla ACT.

Call for help to construct a FOG membership database

The FOG membership records are currently in a Microsoft Excel® spreadsheet. We want to convert the records into a database for easier and more efficient access.

Can anyone help us create such a database, or do you know of a free commercial database that can be used for membership records? Please contact Sarah, at sarah.sharp@fog.org.au.

Diary of FOG committee members' involvement as leaders or organisers in regional natural resources management activities late February to late April 2016

Meetings

- CSIRO presentation on field station biodiversity in relation to urban development, 29 March (Sarah, Ann)
- State of the Environment report briefing to FOG, 14 April (Naarilla, Ann)

Events, workshops etc. attended representing FOG

- Opening of CMAG exhibition 'Bush Capital: Natural History of the ACT' 11 March (Kim, Ann, Margaret)
- Fringe forum on weeds in the ACT, 9 March (Sarah, Margaret, Ann, Jamie)
- UMCCC forum on managing land for climate change, 18–19 Mar (Ann)

Work parties

- Stirling Park 28 February (Jamie)
- Hall Cemetery 12 March and 2 April (John)

Activities

- Exploration of invertebrates in grasslands, 5 March, Yarramundi Reach (Kim, Ann)
- FOG leaders on the Conservation-Council-run walk in Kama Nature Reserve, 5 April (John, Kat)
- Adventure weekend to wet grasslands and Mt Kydra in Wadbilliga National Park, 9–10 April (Margaret)

Newsletter and ebulletin

- Newsletter preparation (Ann)
- Newsletter distribution 25 February (Ann, Sarah, Margaret, Geoff)
- Ebulletin distribution, 15 March (Ann)

Advocacy

- Six monthly meeting with Canberra Airport Group (Naarilla)
- See separate advocacy report for submission details (Naarilla and advocacy team)

AGM and Committee 2016

At the FOG AGM on 15 March, Sarah Sharp stood down as President, and was warmly thanked by Geoff Robertson on behalf of the whole membership, especially the committee. Sarah remains a member of the committee.

No new President was elected. Therefore, the two Vice Presidents are alternating as **Acting President**, changing quarterly:

Ann Milligan Acting President
mid-March until mid-June,
and mid-September until 1 January.

Kim Pullen Acting President
mid-June to mid-September,
and 1 January 'til AGM March 2017.

Geoff Robertson rejoined the committee. There were no other changes.

Here is the full 15-member committee.

Vice Presidents:

Kim Pullen (media contact)
Ann Milligan (inquiries)

Secretary: John Fitz Gerald

Treasurer: Leon Pietsch

Committee members, alphabetically (with main responsibilities; see also page 16):

Paul Archer (leads Activities team)
David Crawford
Ross Dennis
Naarilla Hirsch (leads Advocacy team)
Tony Lawson
Katherina Ng
Margaret Ning
Barbara Payne
Geoff Robertson
Sarah Sharp (Membership; Technical advice)
Andrew Zelnik.

Public Officer: Andrew Russell.

Seventeen members attended the AGM.

The 2015 annual reports are online at www.fog.org.au/AGMs.htm, and Sarah Sharp's President's report to the AGM is also published on page 4 of this newsletter.

The Committee continues to meet at 5.30 pm on the fourth Tuesdays of alternate months.

News from the FOG Committee, *continued*

President's report at the AGM, March 2016

Sarah Sharp

After such a busy year in 2014, when we celebrated our 20 years of advocating for grasslands and other grassy ecosystems, 2015 was somewhat more 'normal' – running activities for members and others, advocating, undertaking on-ground work, publishing newsletters and occasional larger publications and working with other groups and government. How much has been achieved is reflected in this report. The FOG committee and other members of FOG provide amazing support, encouragement and passion, resulting in a most successful and well-respected volunteer organisation.

Out of all that has happened, the following items from 2015 stand out for me.

The members of the Activities Group organised some spectacularly successful activities this year, with an increase in the number of activities and range of activities, resulting in a large increase in the number of attendees, and we gained new members. Well done, Activities group.

With the adoption of the North Gungahlin Strategic Environmental Assessment (SEA), the FOG advocacy group were not having to provide input into many small development proposals, having earlier been involved in discussions with government during the preparation of the SEA. The effectiveness of this approach in providing long-term outcomes for conservation is still to be determined, but it does appear to be a better way of planning and implementing conservation in the urban context, with a much more efficient use of community and government resources, and more assured outcomes for conservation. Nevertheless the on-going and continual loss and degradation of areas of grassland and woodland is of real concern, and there is no clear message whether the role of offsetting is at all effective in slowing down that loss.

Two major pieces of work were published this year. Ann Milligan, with extensive help from Helen Horton (Naarilla Hirsch's mother) edited the transcribed talks and presentations from the 2014 FOG forum. These papers are an extremely important record of the state of the art of grassy ecosystem conservation, and I recommend wholeheartedly that you take a good look at them.

We decided that it would be prohibitively expensive to produce multiple copies, and, with the excellent access provided by internet, people can access them individually as they wish from our website and download the entire proceedings or parts of them, as they require. The other publication was of course, the long-awaited *Woodland Flora*, published just before Christmas (more below).

As always our relationships with other community groups and government and non-organisations is very effective and mutually beneficial, whether it is to advance on-ground achievements, share knowledge, share the work-load of preparing submissions or provide input into policy or programs. Personally a highlight in this year has been the opportunity to work with Molonglo Catchment Group and the Buru Ngunawal Aboriginal Corporation and others on the enhancement of the condition of the inadequately named Block 2 Section 128 Yarralumla woodland. I have felt very privileged to be in a position to learn and absorb so much more about Aboriginal custodianship, and to be involved in this project. FOG is enhanced by this opportunity to work as a partner in this project, in which Indigenous management is the pivotal point around which the on-ground work and advocacy occurs.

I am standing down as President of FOG this year, having held this position for three years. It has been an extremely interesting experience, requiring me to step well out of my comfort zone, but I feel very fortunate to have been so involved in many projects and to see FOG move forever onwards, as it evolves with time and issues change, whilst retaining its strengths and integrity that have always been a major feature of the organisation. I am very grateful for all the amazing support from committee members and others, as well as the encouragement and involvement of other FOG members and associated community groups, with special thanks to my husband Phil, for his patience and support and help over the last year in particular. I will be staying on the Committee, and will continue to provide support and assistance as required.

Further to the President's Report at the AGM 2016

In her verbal report to the AGM,

Sarah also acknowledged several other high points in FOG in 2015, including contributions made by members and Committee members and others:

- for the completion of *Woodland Flora*, the work of her fellow authors, and also Rosemary Purdie (editing), Ian Charles (design), Ian Fraser (foreword) and 35 photographers.
- the ongoing excellent relationship with National Capital Authority and

Yarralumla residents in relation to work on and advocacy for National Lands, and Jamie Pittock's continuing role as project officer, with strong support from Peter McGhie.

- maintenance of membership numbers, with thanks to Margaret Ning who chases up slow renewals.
- continuation of work at Cooma Common through a grant prepared and managed by Margaret Ning.

- the ongoing work of Richard Bomford who maintains and manages all aspects of the website.
- the help of Isobel Crawford in managing the membership lists for 2015.
- the continuing input of Linda Spinaze who organises the monitoring at Scottsdale each year.

FOG advocacy

Naarilla Hirsch

February

1. The Molonglo River Reserve draft management plan was provided to the Molonglo Bush on the Boundary group for comment. FOG made a number of comments on this plan, but as it was not out for general public comment it will not go up on the website. Contact me if you would like more information.

March

2. FOG became aware of a proposed Upper Bunyan Gravel Pit development submitted to the Cooma–Monaro Shire Council, and has expressed concern about the resulting loss of an area of the ecological community Tablelands Snow Gum Grassy Woodland, which is listed as endangered under the *NSW Threatened Species Conservation Act 1995*. Much of this community is affected by dieback of *Eucalyptus viminalis*, but the area to be impacted by the proposed gravel pit is healthy and alternatives should be sought for sourcing the gravels important to the Shire's civil works.

3. On the basis of its on-ground activities, FOG provided a response to ACT Landcare, which had requested input from Parkcare/Landcare groups on supporting on-ground landcare in the ACT. The first suggestion was continuation and expansion of local NRM funding to enhance group collaborations, as has occurred with FOG's work on NCA lands (Yarramundi Reach and Stirling Park). The second was support for areas of ecological value that are not in the reserve system, such as those in parkland and corridors between houses and suburbs, other ACT land and Commonwealth land, many of which are in very poor condition. Other comments related to increased lobbying for control of weeds and pest animals, and for vehicle and recreational track maintenance.

4. In 2014 FOG made a submission concerning the extension of Ellerton Drive in Queanbeyan. Recently there has been a species impact statement addendum to the original proposal. FOG restated its opposition to further impacts on the endangered Box-Gum Woodland community affected by the original proposal. It also expressed concern about lack of clarity concerning application of the offsets to ensure no net loss of the community.

5. The National Capital Authority released Development Control Plan (DCP) 16/01 Blocks 4 & 5 Section 38 Campbell for public comment. FOG was concerned that the provisions of this DCP may not be compatible with the future viability of the endangered species and communities (Hoary Sunray *Leucochrysum albicans* var. *tricolor* and Natural Temperate Grassland (NTG)) on and adjacent to the area covered by the DCP. While the NTG area within the site may not seem large, it is in fact part of a larger area on the adjoining block, the viability of which could be impacted by loss of the area of NTG covered by the DCP. As well, FOG had concerns about aspects of the Landscape Zones specified in the DCP, such as the possible shading effect on the NTG from the proposed plantings.

Natural Temperate Grassland listing

6. The national listing of Natural Temperate Grassland of the Southern Tablelands of NSW and the Australian Capital Territory as endangered under the EPBC Act has been under review. FOG provided comments on this review in May 2014. This listing has been replaced by the recently released EPBC listing of Natural Temperate Grassland of the South Eastern Highlands as critically endangered. As well as upgrading the status to critically endangered, the new listing covers a wider geographic area and additional grassland communities in its scope.

The full text of FOG submissions appears on our website.

General news

New ACT Commissioner for Sustainability and the Environment

The next ACT Commissioner for Sustainability and the Environment is **Professor Kate Auty**. She takes over from Ms Ann Lyons Wright who has been the interim Commissioner since mid-2015 and has overseen production of the *ACT State of the Environment Report 2015*.

Professor Auty takes up the role on 2 May.

See: <http://www.environmentcommissioner.act.gov.au/new-and-social-media/nested-content2/kate-auty>

State of the ACT Environment 2015

Naarilla Hirsch

The Commissioner for Sustainability and the Environment (CSE) has released the *ACT State of Environment Report 2015*. The report can be found at <http://reports.envcomm.act.gov.au/actsoe2015>.

The main report is quite large (more than 500 pages), but the fact sheets under the Resources tab on the website give a summary of the main findings.

The scope of the report is Territory land managed by the ACT, so a number of important Natural Temperate Grassland (NTG areas) are excluded. The reporting period is 2011–2015.

The report advises that, for vulnerable grassland species, there are stable populations of the Pink-tailed Worm-lizard and abundant populations of Striped Legless Lizard in the areas surveyed. For endangered species, trends include a decline in Grassland Earless Dragon recordings. A survey has found a total of 1800 ha of Golden Sun Moth habitat in the ACT, 47% of which is within protected areas.

The report indicates some improvements to the extent of Box-Gum Woodland over the reporting period, with an increase in area and improvement in condition. In contrast, Natural Temperate Grassland is degraded, highly fragmented and greatly reduced in area. It is confined to 38 small and isolated patches which are embedded in highly degraded grasslands dominated by weeds.

The section on offsets gives a summary of many of the *Environment Protection and Biodiversity Act 1999* (EPBC Act) offset packages, although there are a couple of omissions. No conclusions are presented about the effectiveness of these offsets because there is insufficient data to do a proper assessment.

Recommendations in the report include resourcing for the Conservation Effectiveness Monitoring Program.

General news *continued*

World Environment Day dinner

Saturday 4 June, 7 pm

The Conservation Council ACT Region* is holding its annual World Environment Day dinner on Saturday 4 June at 7 pm at the National Arboretum Canberra. Professor Steve Dovers is the guest speaker and Lish Fejer (of ABC radio 666) is the MC.

Tickets cover a 3-course meal and wine. Earlybird price: **\$95 until close of business 29 April**. Thereafter, full price: \$125.

When booking, remember to mention any special dietary needs. You can nominate to be on a 'FOG' table. Book with the Conservation Council: <http://conservationcouncil.org.au/civcrm/?pTaGe=CiviCRM&q=civcrm/event/register&id=67&reset=1>

*Note: The Council's monthly Environment Exchange forum discussing biodiversity offsets, scheduled for 28 April, has been postponed.

NRM Knowledge conference

6–8 June Coffs Harbour NSW

The theme of this 6th Biennial National NRM Knowledge Conference is 'People, Planet and Profits'. Information and bookings: <http://www.conference.nrmregionsaustralia.com.au/registration.php/>. Deadline for booking accommodation at Novotel, is Monday 2 May.

Citizen Science looking for forward-thinkers

The Australian Citizen Science Association seeks expressions of interest to fill 4–6 volunteer positions for the ACSA National Project Working Group. Apply online by 6 May 2016, via <http://csna.gaiaresearch.com.au/wordpress/national-projects/>

EIANZ PEP talks May and June

25 May: 'Accessing and managing sensitive ecological data'.

Find out more about the Australian Government's new approach to making sensitive ecological data more accessible, discoverable and re-usable.

15 June: 'EPBC Act approval condition setting and advanced environmental offsets'

Learn about the Australian Government's new policy positions concerning approval condition setting and advanced environmental offsets under the *Environment Protection and Biodiversity Conservation Act 1999*.

Both these PEP talks are at 6.30 pm, at Hotel Realm, 18 National Circuit, Barton, ACT. For details including cost: <https://eianz.org/eventsplus/category/australian-capital-territory>

2016 National Landcare Conference

'Collaborative communities: Landcare in action'

The conference is on 21–23 September 2016, in Melbourne.

Abstracts are now called for and can be submitted until Monday 9 May.

For more detail, see <http://cdn.connectingcountry.org.au/press/wp-content/uploads/2016/04/20165558/abstracts-call.pdf>



Plant press! Free to a good home

Margaret Ning has a plant press she no longer needs (see her photo above). It is a press in which to create your own collection of plant specimens and keep them sorted until they have been looked at. You tie it up very tightly once you have put your material inside. If you would like to own this press, email margaret.ning@fog.org.au, or phone 0427 788 304.

Grassland Earless Dragons on TV

Did you see the ABC TV news article on 17 April about bossy female Grassland Earless Dragons scaring their males, and the management of ACT grasslands to support resident and reintroduced dragons? The article and photos (mentioning a member of FOG) are online at <http://www.abc.net.au/news/2016-04-17/researchers-tackle-endangered-dragons-bossy-breeding-behaviour/7331184?section=environment>

'Opening of Bundian Way Story Trail'

'The first section of the Bundian Way, one of the old Aboriginal pathways from the coast to Mt Kosciuszko, was opened last week [early April] at the Aboriginal ceremonial ground at Cocora Beach in Eden. ... Signposts and interpretive signage are expected to be installed over the next two months, but If you'd like to try out the new pathway before then, start at the southern end of Cocora Beach and walk 1.9 km along the coast to Quarantine Bay, a return trip of around 1–1.5 hours.' (Excerpts from <http://www.fscmn.com/?p=1473>)

Grass Roots Adaptation project: CSIRO

Not actually about grass roots. This project calls for residents of NSW and ACT to tell the researchers, from CSIRO and University of Technology Sydney, about changes we have made in our homes, work and interests in response to a changing climate: e.g. adapting plantings to cope with sunnier gardens; changed practices on-farm to retain soil moisture in drier conditions; choosing different transport in urban areas or retrofitting urban residences. The researchers aim to map and share knowledge about local adaptations. See <https://csiro.mysocialpinpoint.com/adapt/#/>

News, articles and reports

***On Track* – Enticing us to explore the Bundian Way**

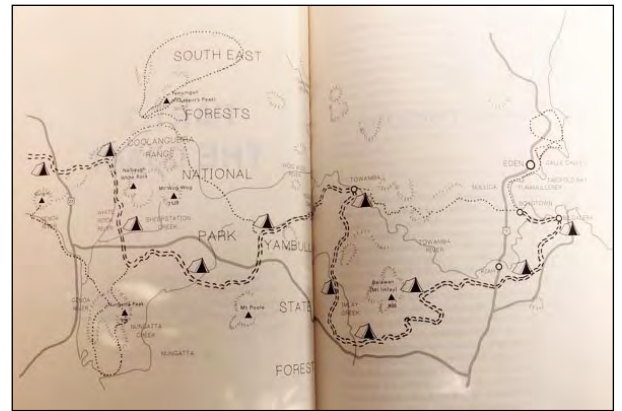
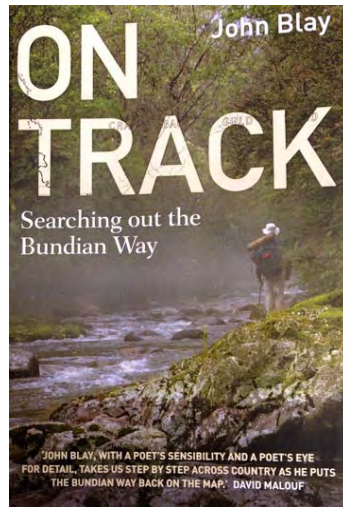
Helen Macartney

After reading a newspaper review of John Blay's 2015 book, *On Track, Searching out the Bundian Way*, I snapped it up when I saw it at the Arboretum shop.

The ingenious blend of history (Indigenous, European pioneers and natural), walking in the bush, old maps, Indigenous land management (especially grasslands), geology, mysterious lost paths and the beauty of South Eastern Australia was magnetically appealing and I greatly enjoyed reading it. John's beautiful writing reads like a poetic mystery story and he easily draws you into his experience of the journey including the personal connections that he developed for the more than 10 years research for the project.

Stories of the Indigenous and pioneer history, intriguing characters and natural history (lots of grasslands) are all skilfully woven through the author's solo walking journey to discover the route 'from the summit to the sea'.

This has been and continues to be an extensive project. In John's words, 'It is a shared history pathway between Targangal (Snowy Mountains) and Bilgalera (south coast) that, after surveys with a Koori crew, was entered on the NSW Heritage List on 18 January 2013.'



The front cover and a map in *On Track. Searching out the Bundian Way*, by John Blay (NewSouth Publishing 2015). Photos: Helen Macartney

As well as bringing together different community members and interests the intention is to bring a number of accessible walking tracks to visitors ('an innovative tourism, cultural and shared history project' p. 294 of *On Track*).

To inform and enrich your reading the book includes maps, informative notes, an extensive bibliography, helpful 'Notes on Terminology' and an index.

Helen Macartney is a member of FOG, as is John Blay. John will lead a FOG visit to the Bundian Way and Delegate area, NSW, in November, and he will be speaking about the track at the FOG event on 16 July.

***Jewels in the Landscape* – free from CSIRO**

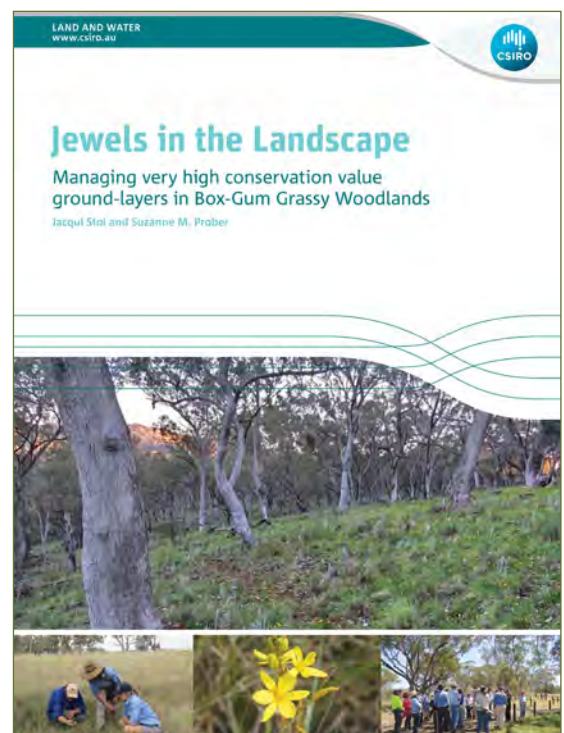
Jewels in the Landscape is a recently published guide about Box-Gum grassy woodlands. Authors Dr Jacqui Stol (a member of FOG) and Dr Suzanne Prober have designed the guide to help professional staff and community members working with (for example):

- cemeteries, historic sites, commons, roadsides and reserves,
- natural areas, farms, travelling stock reserves, railway corridors,
- land-use zoning, development and assessment, management using fire or mowing as a tool.

It will also be helpful for anyone developing a management plan for community land in NSW.

The guide shows readers how to 'recognise, understand and manage Box-Gum Grassy Woodlands that contain particularly high conservation value ground-layers with a diversity of native wildflowers. It draws on long-term scientific research ... and highlights management regimes that are beneficial or detrimental to this diversity.'

Jewels in the Landscape is available for free download, from <https://publications.csiro.au/rpr/pub?pid=csiro:EP154278>












News, articles and reports *continued*

David Wong's photos at Canberra events

Dr David Wong, a member of FOG, is achieving increasing recognition for his photographic work. It has been included in major displays in Canberra twice already this year. Photos in his 'Meet Your Neighbours' series were displayed in 'Luminous Botanicus II: Night Moods', part of the 'Enlighten' festival, in March at the Australian National Botanic Gardens (ANBG; see David's photo at right), as he describes at: <http://meetyourneighbours.net/canberra-meet-your-neighbours/>. Prints of the photos are available for purchase, via dtuwong1@gmail.com: see David's flyer below.

David's work in the 'Meet Your Neighbours' series is also in the exhibition 'Bush Capital: The Natural History of the ACT' at the Canberra Museum and Gallery, 11 March – 26 June.



Meet Your Neighbours David Wong - Archival prints printed at A3 size available - \$150	1. Bulbine Lily 2. Milkmaids 3. Blue Devil 4. Scaly Buttons 5. Copper-tailed Skink 6. Leopard Orchid	7. Musky Caladenia 8. Musky fingers 9. Waxlip Orchid 10. Pink-tailed Worm Lizard 11. <i>Russula</i> sp. 12. Three-toed Skink
 1.  2.  3.	 4.  5.  6.	 7.  8.  9.
 10.  11.  12.	Limited edition (edition of 7) archival prints printed at A3 size available - \$250 13. Forbs 14. Variety	
 13.  14.		

For sales and enquiries please contact David Wong: dtuwong1@gmail.com

Speaking for the Scarlet Robin

FOG member Matthew Frawley has featured in the *Canberra Times* recently, in a Letter to the Editor and on the front page. In a page 1 article on 15 April journalist John Thistleton wrote about Matthew and the anomaly he has noted: namely, that the ACT Government is currently both calling for input on a draft Action Plan for the Scarlet Robin *Petroica boodang*, and also exploring the possibility of developing a new suburb beside the Murrumbidgee River at Tuggeranong – in an area that Matthew identifies as 'a stronghold' for the Scarlet Robin. This species was declared 'vulnerable' in the ACT in May 2015.

The draft Action Plan states: '*P. boodang* is distributed widely across the ACT in eucalypt woodlands and dry, open forest, particularly where shrubs, logs, coarse woody debris and native grasses are present, but is generally absent from open areas where no trees remain (Taylor and COG 1992).' And '*P. boodang* lives in dry eucalypt forest and woodlands, usually with trees and shrubs present and an open or grassy understorey. The species lives in both mature and regrowth vegetation. It occasionally occurs in wet forest or near wetlands. Abundant logs and fallen timber are important components of its habitat.'

The draft Action Plan is online at http://www.environment.act.gov.au/_data/assets/pdf_file/0004/848074/Scarlet-Robin-Action-Plan-Access.pdf. Consultation on the Action Plan is open until 18 May at www.timetotalk.act.gov.au.

Do native grasses affect diversity of grassland invertebrates? A study that may be of interest

In this somewhat invertebrate-focused issue of *News of FOG* (e.g. see pages 1, 9, 11, 13 and 15), it seems appropriate to mention a study done a few years ago in South Australia, and published in *eGrass Notes*, the members' newsletter of the Native Grasses Resources Group of SA (NGRG), in Autumn 2015.

Roger Clay (University of South Australia) surveyed invertebrates in formerly grazed grassy woodland, supported by the NGRG. The aim was to add to knowledge of grassland invertebrates. Using pitfall-trapping and sweep-netting he sampled areas with obvious vs little native grass in three seasons. The areas surveyed had not been

grazed, burnt or mown for at least 7 years. The grassland was dominated by introduced annual grasses and herbs. Native grasses were mainly spear and wallaby grasses. After statistical analysis of the results Roger concluded that presence of native grasses may have a direct and positive effect on number of invertebrate species.

For full details see:

Clay RE & Allen PG (2014) *Transactions of the Royal Society of South Australia* 138(2), 293–304 and

Clay RE (2014) *International Journal of Ecology*. Article ID 202056. doi: 10.1155/2014/202056

Articles and reports *continued*

Invertebrates in the grassland at Yarramundi Reach, ACT

Fourteen members of FOG assembled on a warm brilliant Saturday morning, 5 March, at Yarramundi, beside the Kangaroo-Grass-dominated grassland. Led by entomologist Kim Pullen, our aim was to see what invertebrates live there in summer. As equipment, between us we had 'butterfly nets', hand lenses and tweezers, and several vials and jam jars. First, Kim outlined the stages of insect development; then entomologist Roger Farrow briefed us on how he samples invertebrates here to assess biodiversity in grasslands for the ACT Government. Kim showed us how to sweep the Kangaroo Grass heads with a net ... and off we went in a bunch (top photo).

It was astonishing how many invertebrates there were actively fossicking in the grass (listed here). We also hunted in the eucalypt copse near the public walkway. Roger had brought a 'beating tray' (a square of cloth attached to sticks; see bottom right photo) and by knocking the tree foliage with a fallen branch we were able to collect weevils and their larvae and lerps/psyllids (third & fourth photos from top) which were busily chewing channels in or sucking sap from the young eucalypt leaves. We found plenty of invertebrate life living under the eucalypt bark and in the tree litter: a native Ladybird (*Bucolus*), Click Beetles (*Agrypnus*), a Gumleaf Grasshopper (*Goniaea*), bark and bush cockroaches, Case Moth cocoons, and ants. Eventually we reassembled at our 'base' (table and canopy), and Kim and Roger identified our findings.

Thanks to Kim for leading the activity, and Roger for his large contribution. And thanks to the National Capital Authority for permission to hold this activity and to erect the canopy for shade while we were there. Like 14 'down-under' Cinderellas, as 12 o'clock approached we set the captured invertebrates free and removed all traces of our presence – footwear included!

Ann Milligan

Photos: right top, 3rd & 5th by Kat Ng.
2nd down: Kangaroo Grass heads and numerous spiders caught by sweeping the grass (photo AM)
4th down: Weevil larvae on a eucalypt leaf (AM)
Far right: Lesley examines the tree yield (KN).

We swept our nets across the standing grass, and caught or saw:

Spiders

- Many; mainly Crab Spiders, Thomisidae

Beetles

- Spiny leaf beetles (*Hispellinus*)
- Parasitic beetle (Ripiphoridae)
- Soldier beetles, 2 species of *Chauliognathus*
- Common ladybird (*Coccinella repanda*)

Dragonflies

- Blue damselfly

Grasshoppers

- Common Macrotona grasshopper (*Macrotona australis*)
- Giant slant-face grasshopper (*Acrida conica*)
- Cone-headed katydid (*Conocephalus*)

Wasps

- 1 very small parasitic wasp

Bees

- 1 small native bee

Bugs

- Cuckoo-spit bug (*Philagra*)
- 1 small leafhopper

Mantids

- Purple-winged mantid (*Tenodera australasiae*)

Crickets

- Small crickets

Moths

- more than 2 species

Lacewings

- Lacewing larva

Ants

- Small ants active under grass leaf litter

Flies

- Bee-fly (Bombyliidae)
- Gnats (Cecidomyiidae?)



Above: Some of our captures (AM)

Articles and reports *continued*

Discovering Kama Nature Reserve, with the Conservation Council

Kama Nature Reserve is in the Molonglo Valley, downslope of the Pinnacle, and south-west of the William Hovell Drive. In this year's Heritage Festival, the Conservation Council ACT Region arranged a visit to Kama at 7.30 am on Tuesday 5 April as the first of four events to 'Discover our natural treasures'. FOG Committee members John Fitz Gerald and Kat Ng joined Chris Davey and Sue Lashko from the Canberra Ornithologists Group in leading two groups of about 10 people each. Over the 2 hours, they took us along the dam walking trail, pointing out and discussing the native vegetation and birds. With no

significant rain since early March, neither type of biodiversity was vigorous. The relatively cool dry weather made the event pleasant as well as enjoyable and informative. This walk introduced Kama to several FOG members and others, who now also know where the difficult-to-find parking area is, across the road. FOG and the Conservation Council had publications available, including *Woodland Flora*.

Thank you to the organisers – Phoebe Howe and Rebecca Palmer-Brodie – and the four leaders.

Ann Milligan



Right: View across Kama.
Left: Participants check grasses at the dam. *Photos:* Phoebe Howe, Conservation Council ACT Region.
Top: John Fitz Gerald and the FOG display table. *Photo:* AM.



A two-day adventure to Wadbilliga National Park, southern NSW

Margaret Ning & Ann Milligan

The FOG excursion to the Wadbilliga 'Gentian grassland' was quite an adventure, including camping at the property of FOG members Karen and Michael Connaughton. On Day 1, 14 of us packed into five 4wd vehicles to reach our main destination the Gentian grassland, plus a hanging bog FOG had also visited in 2009, and an adjacent hill with 360-degree views.

At the grassland, many *Gentianella cunninghamii* subsp. *cunninghamii* were still in flower, although an earlier visit would have been more timely to catch the site fully carpeted by them. Their flowers were being 'bombarded' by Meadow Argus and ?Cabbage White butterflies. A few of the rare *Xerochrysum palustre* were hanging on, and we had plenty of scope for conjecture on the identities of some other flowering species, among patches of groundcover flattened apparently by wombats. At the hanging bog, the groundcover mainly comprised several species of sedge and rush, with tea tree scrub around 2 m tall. Both sites were at very wet squelchy treeless low-points of valleys in the surrounding forest, with a hint of leeches to keep us on our toes.

We were led by two FOG members – botanist Jackie Miles and entomologist Roger Farrow – and the photos show some of

...continued next page



Top: 'Gentian grassland' (Photo: AM).
Left: Fairies' Aprons *Utricularia dichotoma*.
Right: *Gentianella cunninghamii* subsp. *cunninghamii*.
(Inset photos: Geoff Robertson)

A two-day adventure to Wadbilliga National Park, continued

our findings. Jackie asked us to look out for four endangered (E) and rare (R) plant species: *Dampiera fusca* (E), *Euryomyrtus denticulata* (R), *Haloragodendron monospermum* (R) and *Westringia kydrensis* (E). We found the first three, including many healthy patches of *Dampiera fusca* among the calf-high regrowth of *Allocasuarina nana*, *Hakea laevipes* and *Banksia canei* on our climb up the hill which had been burnt in the recent past.

Thank you to Margaret, for recommending and reconnoitring this return to sites FOG last visited in 2009. It is a gorgeous place – hardly a weed to be seen – and it was very exciting to be using low-range 4wd to cross the creeks!

On Day 2, the group climbed up to the Mt Kydra trig (1247 m), making the ascent in two stages and covering ~4 km in total. The walk was much easier than six years ago when the group failed to reach the top. This time the *Allocasuarina nana* scrub had not fully regrown after a hazard reduction (HR) burn in May 2013. *Banksia canei*, *Kunzea Badja Carpet* and *Platysace lanceolata* were also recovering from the burn. First we climbed a lesser peak; then we dipped a little before the final stage to the trig. Somehow we lost Geoff along the way, so Max intrepidly retraced his steps to find him while the rest of us completed the assault.

While eating lunch up there we watched aghast as a helicopter dispersed incendiary devices to start another HR burn. As we sat, the fire accelerated quickly, racing up slopes and gullies so we could see the flames clearly in the distance. Geoff had called in on a walkie talkie from the cars, so we decided to leave the glorious view and retreat. On our way out of Wadbilliga National Park we passed HR signage saying the park was closed. It had been placed since we entered that morning!

The weekend was pretty relaxed, in spite of some heightened moments. It was great to see FOG members we'd not seen for quite some time, and we are interested in going back again in springtime. Jackie has prepared a plant species list. Would anyone like a copy?

Many thanks to Jackie and Roger for leading us, and to Michael and Karen for their hospitality, and to Max for his search and rescue efforts.



Above, left: Rocks at Mt Kydra on Day 2
(photo: Geoff Robertson)
Top: HR burn approaching! (photo: Jackie Miles)
Right: Geoff in *Allocasuarina nana* regrowth
(photo: AM)

Four insect photos by Roger Farrow.

Below right: Ground Cricket *Bobilla* sp. male,
at Mt Kydra

Top: Sawfly *Perga* sp., at Mt Kydra

Below left: Feather-legged Assassin Bug
Ptilocnemus lemur, at the camp site

Below centre: Male *Cirphula pyrrhocnemis*
at Mt Kydra



Articles and reports *continued*

The quest for the 'Flying Duck'

Jenny Liney

There are many strange, interesting and beautiful ground orchids common on the New South Wales south coast, but none so delightful, appealing and downright cute as *Caleana major*, the Flying Duck orchid.

In profile, this orchid has a silhouette exactly, and quite remarkably, like a flying duck

Early in October some years ago a friend – Teresa – phoned me with news of a colony of Flying Duck orchids she and her husband had found just off the Princes Highway opposite the entrance to Brou Tip (a bit north of Dalmeny). Never having seen this orchid in the flesh, so to speak, at first opportunity I hastened down the Highway to try and locate it. Teresa had given me some pointers to follow, and in due course I found these. But in spite of an hour's searching, no Flying Ducks. Time had run out and I had to return home. A call to Teresa, asking for more directions.

A few days later, I drove down to the tip area again. Teresa had said that the orchids are rather small and grow in very dry, gravelly places. She added that the first one is very difficult to find, but once the sightlines are established, others appear as if by magic. After another fruitless hour, I was thoroughly disgusted and on the point of going home, when I spied a single maroon orchid leaf among fallen dry stringybark leaves. Suddenly, near the gravelly base of the tree (that had been left like a little hillock around the tree trunk after extraction of gravel) I could see a little dark red/brown stem about 8 cm tall with a strange flower on top. Then there was another, and another, and another. I had found the Flying Duck orchids!!



I was astonished at the delicate, intricate form of the flower; a form that is highly specialised to attract insects for pollination. The lower part is somewhat cup-shaped and contains nectar, while above this and connected by a flat, tensioned, straplike appendage, is the 'duck' head that contains the pollination mechanism. When an insect lands on the cup – attracted by the nectar – the spring is activated and the 'duck' head snaps down, depositing pollen on the back of the insect. After a little while, the spring releases and the insect is free to fly away. The process is then repeated, thus transferring the pollen to another orchid flower. This is an amazing process, evolved over millions of years, wonderfully simple, yet incredibly complicated.

I could not keep this find to myself, so I rang an acquaintance in Canberra who is interested in orchids (this was Marg Ning). 'I must see them,' she cried, and forthwith arranged to meet me at the spot the next weekend, postponing all her normal Saturday activities. Of course, it turned out to be a dull day, but all the same, photographs were taken, and suitable expressions of wonder uttered. Others were shown the orchids, and these in turn showed their partners and friends.

All of these people shared my pleasure in these unusual and charming members of the fascinating world of plants.

This article was first written for the *Newsletter of the Friends of Eurobodalla Regional Botanic Gardens* in 2004. Photo courtesy of Don Wood.

2016 National Seed Science Forum, 14–16 March

John Fitz Gerald

This exciting Forum was an initiative of the Australian Seed Bank Partnership assisted by some major partner and sponsor organisations. The Forum was held at the world-class facility of the Australian Plantbank at Mt Annan on the Western edge of Sydney. The 130 delegates heard papers, read posters and held discussions about current issues in seed sciences – from seed banking and longevity, seed collecting, seed treatments, and germination studies, through to restoration projects, agriculture, and traditional knowledge in seed usage. I have chosen just two aspects that I hope will interest this newsletter's readers.

Peter Cuneo presented inspiring work involving grass-seed production as a key process in **Cumberland Plains Woodland restoration in the Australian Botanic Garden at Mt Annan**. At Mt Annan, landscape scale infestations by African Olive are a major threat to surrounding woodland and some have been treated in a project started in late 2005. Early positive results have come from cutting, stump-poisoning and mulching the Olive forests, followed by reseedling with native species.

Details are given in this publication: Cuneo P. & Leishman M.R. (2015) Recovery after African Olive invasion: can a bottom-

up approach to ecological restoration work? *Ecological Management & Restoration* 16(1), 33–40.
[DOI: 10.1111/emr.12139](https://doi.org/10.1111/emr.12139)

A large grass seed production area has recently been established alongside Plantbank at Mt Annan to support this project. Four key local grass species have been grown: Plume Grass, Weeping Grass, Windmill Grass and *Poa labillardieri* – producing well over 10,000,000 viable seeds in its first summer. These seeds have been sown densely in 2 m-wide strips to a length totalling 5 km. These strips should

...continued next page

Calocephalus citreus Lemon Beautyheads

John Fitz Gerald



Calocephalus citreus images A (left), B (centre) and C (right), by John Fitz Gerald.

Calocephalus citreus is an understated species of Asteraceae that grows in grassy ecosystems around the south-eastern states and in Tasmania. For just a few months each year it shows small bright-yellow inflorescences (each about 1 cm long; photo A) comprising many tens of tiny florets. The centre photo (B) shows a closer view of part of the outer surface of one inflorescence. When the flowers mature and dry, they lose colour and become a drab brown, and eventually the inflorescences break apart. Photo C shows some tiny seeds from inside, which are liberated at that stage; at the righthand side of photo C are 2–3 seeds still attached to their dried flower parts.

Micrographs B and C were recorded in the Seedbank at the Australian National Botanic Gardens and are ©ANBG. In both micrographs the black scale bar indicates a length of one millimetre.

In the ACT region, *Calocephalus citreus* grows well in a few of our Nature Reserves; it is also present on the National Capital Authority land at Stirling Park, and has been planted in revegetation after weed control by FOG alongside Yarramundi Reach grasslands. Greening Australia also cultivates this species in its Seed Production Area in inner Canberra

2016 National Seed Science Forum, 14–16 March, *continued*

themselves become new local seed sources in the cleared landscape, leading to further grass recruitment. Once the reintroduced grass cover is well established and residual weeds controlled, native shrubs and trees will be seeded directly.

Bonus from seed production area

In addition to this project leading to restoration of the critically endangered ecological community known as the Cumberland Plain Woodland, and to better practical and scientific knowledge about tackling clearing and revegetation work at landscape scale, the seed production area has proven to be a real attraction for visitors to Mt Annan, particularly when its blocks of grasses are flowering and seeding in full glory.

Restoration standards launched

The forum also provided the opportunity for the Society for Ecological Restoration Australasia to launch its *National Standards for the Practice of Ecological Restoration in Australia*.

This important code of conduct, as a national guideline, is a world-first. It was particularly appropriate that it be launched by the Commonwealth's Threatened Species Commissioner, Gregory Andrews, amongst plantings around Plantbank propagated from native species collected in the nearby grassy woodland. The Standards document can be downloaded from the Society's website www.seraustralasia.com/pages/standards.html, as can a wealth of information and literature pertinent to restoration both onshore and internationally.

John is grateful to the Friends of the Australian National Botanic Garden for paying the registration fee for him to attend the Forum.

Progress at Hall



FOG's volunteer team at Hall Cemetery sprang into autumn weeding action in both March and April. Progress is steady and the results very pleasing. One of the weeding challenges was to avoid crashing through too many spider webs of, mainly, the small Jewel Spiders and, more confrontingly, the much larger Golden Orb Weaver Spiders shown here (*Nephila* sp.): female possibly 5 cm long including legs; and tiny male at top left.

John Fitz Gerald

Crace Grassland, north Canberra

Rainer Rehwinkel

I did a quick walk at Crace Grassland Reserve this morning (28 March). This grassland is a stone's throw from my place, off Randwick Road, Lyneham, ACT, and while not a particularly diverse grassland, it's interesting nonetheless.

Little more than a native pasture, this site has very few forbs, and those present, in very low numbers, are the most resilient, the toughest of grassland species: Swamp Dock (*Rumex brownii*), Crumb-weed (*Dysphania pumilio*), Wattle Mat-rush (*Lomandra filiformis*) and Blue Stork's-bill (*Erodium crinitum*).

Despite the general paucity of flora over most of the site, in the crevices amongst the expansive rocky outcrops at the summit of Crace Hill, which is a prominent feature of the reserve, shelter Necklace Ferns (*Asplenium flabellifolium*), Nodding Saltbush (*Einadia nutans*) and a solitary Black-anthered Flax-lily (*Dianella revoluta*).

The rocky outcrops have undoubtedly contributed to the fact that a grove of Hickory Wattles (*Acacia implexa*) and a couple of Early Wattles (*A. genistifolia*) have persisted, despite years of sheep and cattle grazing. These wattles, which are particularly intolerant of grazing in their tiny juvenile stages, have most likely been able to establish and thrive by germinating in deep crevices amongst the rocks. The site is still being grazed by cattle, with ample evidence of recent grazing in the form of disintegrating cattle pads throughout the site.

The site is quite scenic as can be seen in the photos.

On this overcast autumn morning, the birdlife was interesting. Firstly, I'll discount the big flock of some 200 Common Starlings feeding in the grassland, and a small mob of Common Mynas, as well as the Red Wattlebirds, Pied Currawongs, Striated Pardalotes and Crimson Rosellas calling from trees surrounding the reserve. There were several other species, though, in the grassland and the small grove of wattles crowning Crace Hill.

Willie Wagtails, a flock of Galahs, some Superb Fairy-wrens in the dense grasses near the entrance gate, the obligatory Australian Magpies, a flock of Australian Magpie-larks, some Australian Ravens, a small flock of Red-rumped Parrots, a pair of Sulphur-crested Cockatoos – these made up the more prominent and commonly seen of the grassland birds I saw today.

I was quite surprised to see a flock of about 30 White-winged Choughs flying over the site. They flew from one side of the grassland to the other, coming to rest in a row of pine trees by the road.

My best sighting today, however, was of a lone female Flame Robin. This was capped off by a later sighting of a handful of Double-barred Finches in some shrubby vegetation beside the wetland adjacent to Flemington Road, which is next to the grassland.

Don't let the treeless nature of grasslands deter you from having some interesting birding experiences. And I didn't even see any of the grassland specialists like quail, songlarks, bushlarks, chats or pipits!

This article and photos were first published on Rainer's Facebook page and are republished here with his permission.



Three common brown butterflies including the Common Brown

Michael Bedingfield

In our region we have a number of different species of butterfly that appear to be mainly brown in colour. From a distance they look quite similar especially when they are flying in their usual zigzag erratic way. However, when you have a closer look you see that they are quite different, with interesting multi-coloured patterns. These three species are quite common locally and all enjoy open grassy habitats. I have provided photos of them from some of my rambles.

The Meadow Argus *Junonia villida* (photo 1) seems well named to me because I often see it in grassy areas. It has a wingspan of 40–45 mm, and on each of its four wings are two distinct 'eyes'. The word Argus is after a creature from Greek mythology that had a hundred eyes. The colours are various shades of brown with some orange, a little black and some blue at the centre of the eyes. This species has a broad distribution across its native Australia, with a variable habitat that includes grasslands, woodlands and the drier arid areas.

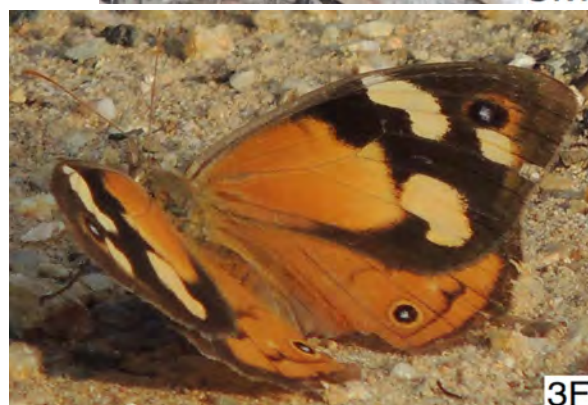
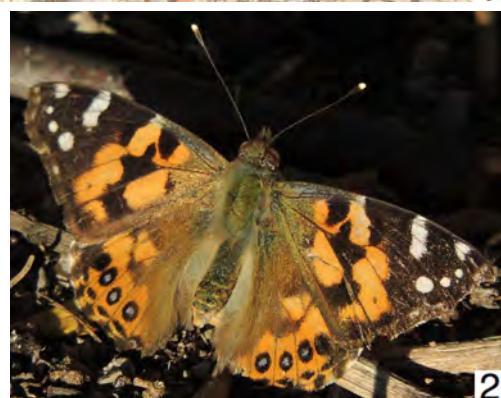
For the Australian Painted Lady *Vanessa kershawi* (photo 2) the outer portion of the upper wings is black with some white spots, with the rest being mostly orange or orange-brown, dark brown or black. The wingspan is about 5 cm. This species is renowned for its migratory behaviour and so can be found in a broad range of habitats.

The Common Brown *Heteronympha merope* has different coloured patterns for male and female (photos 3M and 3F). The colours are orange-brown, dark brown or black, and a tiny bit of blue in the 'eyes', with the female having some creamy yellow patches. The wingspan is about 6 cm for the male and 7 cm for the female. The larvae feed on grasses. Canberra Nature Map now has a section on butterflies of our region. You can view colour photos of all these species at: <http://canberranaturemap.org>.

A butterfly's life begins as a tiny egg. After hatching it spends a long time as a caterpillar mainly eating and growing. Later it transforms into a mature insect that can fly, and in his book *Life on Earth* (1979) David Attenborough describes how. The new larva has two types of cells, one designed for the adult and the other for the larva. The adult cells remain dormant in dense clusters while the larva cells multiply, eventually creating a tiny caterpillar. As the caterpillar grows its body cells do not multiply any more. They just get bigger until the caterpillar reaches its full size and the cells are thousands of times larger than their original size. When it is mature enough the caterpillar pupates. During this period of metamorphosis the animal does not eat, drink or excrete but the body disintegrates into a kind of soup. This organic fluid nourishes the adult cells which then multiply rapidly building a new body of a different form within the pupa case. Eventually a winged insect emerges.

The undersides of the wings of these three butterflies are a duller mix of colours but with delicate and beautiful patterns. They are designed to blend in with the surroundings, and identifying them when their wings are folded is more difficult. Their wings are very large in proportion to their body weight. This enables them to switch directions sharply and easily when flying. This apparently carefree but erratic manner of flying enables them to avoid predators. It is amusing to watch a bird pursuing one of them and trying to catch it for a snack. When it gets the chance, the butterfly will land somewhere safe, fold up its wings and become very hard to see.

To us earth-bound creatures anything that flies appears to have a freedom we lack and so we have the expressions like 'free as a bird' and 'butterflies are free'. Whether or not they are freer than us is a question for philosophers, but we can always admire them.



References

www.ozanimals.com

Attenborough D. (1979) *Life on Earth*. Collins & BBC.

Contacts for FOG groups and projects

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

Friends of Grasslands Inc.

General inquiries: info@fog.org.au
or Ann Milligan (0419 243 773)

Advocacy: advocacy@fog.org.au

Committee & correspondence: PO Box 440, Jamison Centre
ACT 2614, or committee2@fog.org.au

Financial matters, excluding membership:
treasurer@fog.org.au

Membership: membership@fog.org.au

Newsletters & e-bulletins: sent out in alternate months
through the year. Contributions are welcome, to newsletter@fog.org.au
or ebulletin@fog.org.au

Website, www.fog.org.au: webmanager@fog.org.au

Promoting wider knowledge of grassy landscapes

Publications: *Woodland Flora*, *Grassland Flora* & other sales
(order forms at the website), booksales@fog.org.au

Monitoring: at Scottsdale, near Bredbo, NSW
linda.spinaze@fog.org.au

On-ground work:

Hall Cemetery, ACT john.fitzgerald@fog.org.au

Yarramundi Reach & Stirling Park jamie.pittock@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 contact: Kim Pullen (mob: 0400 447 958)

Activities/events/workparties late April – mid July

Date	Activity	Contact
Sun 1 May	Stirling Park – workparty	jamie.pittock@fog.org.au pmcghie@optusnet.com.au
Fri 13 May	Launch of member's book	christine.kendrick@me.com
Mon 16 May	Landscape function in grasslands – activity	ann.milligan@fog.org.au
Sun 29 May	Stirling Park – workparty	jamie.pittock@fog.org.au pmcghie@optusnet.com.au
Sun 5 June	Visit to Scottsdale restoration plots – activity	margaret.ning@fog.org.au
Sun 26 June	Stirling Park – workparty	jamie.pittock@fog.org.au pmcghie@optusnet.com.au
Sat 16 July	Annual afternoon mid- winter talks and tea	activities@fog.org.au

In this issue

To be or not to be a FOG member. Final call
FOG activities and workparties
News from the FOG Committee, including
– Welcome to new members
– Call for help to build a membership database
– AGM and Committee 2016
– President's reports at the AGM 2016, *Sarah Sharp*
– FOG Advocacy, *Naarilla Hirsch*
General news, including
– New ACT Commissioner for Sustainability & the Environment
– State of the ACT Environment 2015, *Naarilla Hirsch*
News, articles and reports of members, including
– On Track. A book review by *Helen Macartney*
– Invertebrates in the grassland at Yarramundi Reach, *AM*
– Discovering Kama NR with the Conservation Council
– A two-day adventure to Wadbilliga NP, *Margaret Ning & AM*
– The quest for the 'Flying Duck', *Jenny Liney*
– 2016 National Seed Science Forum, *John Fitz Gerald*
– *Calocephalus citreus* Lemon Beautyheads, *John Fitz Gerald*
– Crace grassland, *Rainer Rehwinkel*
– Three common brown butterflies, *Michael Bedingfield*

Friends of Grasslands Inc.
PO Box 440
Jamison Centre ACT 2614