



News of Friends of Grasslands

Supporting native grassy ecosystems

November-December 2005

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Program

SAT 12 NOV 2:00pm to 4:40PM **Workshop on basic grassy ecosystem ecology and plant identification** (see advertisement page 2) - you need to register.

SAT-SUN 19-20 NOVEMBER **Canberra Ornithologists Group and FOG, Camp-out at Garuwanga, Bells Road, near Nimmitabel.**, for bird watching and/or plant recognition. See *birds at Garuwanga*, page 3.

SAT 26 NOVEMBER 10-11am. **Visit to Mulangarri Grassland Reserve.** See details on page 4.

SAT 10 DECEMBER 10am to noon to **revisit the exciting Boorowa grassland** two months after previous visit (22 October) and see the mauve double-tail orchid. Enquiries: Margaret Ning (back page).

Some other events

SUN 13 NOV 10:00am. **Invitation to visit Watson Woodland**, - see news item page 3.

SUN 13 NOV 2:00pm. **Mugga Mugga grassland walk.** While not a FOG activity, FOG members will lead walk.

MON 28 NOV 6:00pm. **Conservation over cocktails**, see advertisement page 2.

Membership renewal

PLEASE READ THIS CAREFULLY: A membership renewal form is enclosed. Yes, it is time to get out the cheque book and renew your membership for 2006. We have kept our fees to the current low level: \$20 for individuals and families, \$50 for corporations, and \$5 concessions for those on social security benefits. Donations are welcome as the budget is tight.

Please complete the renewal form and send it in promptly as much effort is otherwise involved in chasing up members to renew. If you don't want to renew, please return the form or email us, and tell us that you do not want to renew. If you have any doubts about rejoining, please remember that FOG needs your support.

When completing the form, please ensure that your details, especially your e-mail address is correct. E-mail has proved an effective way of reminding members about activities/changes to activities between newsletters.

Please note that if you joined (not renewed) since 1 July your membership is up to date, i.e., paid until end of 2006, and you will not have received a membership renewal form.



WORKSHOP: Basics of Grassy Ecosystems Conservation

1:45 to 4:40pm Saturday 12 November
Mugga-Mugga Education Centre
Narrabundah Lane, Symonston ACT

The workshop will explain how to identify different ecosystems and plants and learn about what makes them special, how to best manage remnant patches, and where to find some of the best sites. It coincides with the release of *the grassy ecosystem management kit*, which will also be covered in the workshop. The workshop is aimed at beginners, but all FOG members and friends should find it interesting and useful. Enquiries may be made to Kim Pullen on 6246 4007 (w) or kim.pullen@csiro.au.

The cost of the workshop is \$10 (\$5 concession to low income earners) to cover venue hire and afternoon tea. To register (this needs to be done in advance and places are limited) please send you name, e-mail address or phone number, and money to FOG, PO Box 44, Majors Creek, NSW 2622.

Session 1: An ecosystem approach to conservation. Geoff Robertson. Conserving whole ecosystems is a relatively new conservation approach. In the Canberra region there are alpine, forest, woodland, grassland, heath and shrub land, wetland and marine environments. Geoff will explore why these different ecosystems exist, what distinguishes them, how well each is faring, and what is being done to protect them.

Session 2: Grassy ecosystems management kit. Sarah Sharp, who with Josh Dorough, Rainer Rehwinkel, and David Eddy is author of the *Kit*, will outline how it can be used to assess individual sites and to prepare adaptive conservation management plans. Copies of the *kit* will be on sale.

Session 3: Dominant and other grasses of grassy ecosystems. Geoff Robertson. Grassy ecosystems are often named after their dominant grass, eg river tussock, kangaroo grass (tall and short), spear grass (tall and short), wallaby grass, red-anthered wallaby grass, and so on. Geoff will illustrate these grasses, and less dominant species, in their ecosystem context.

Session 4: Managing native grasslands. David Eddy, the author of *Managing Native Grasslands: a guide to management for conservation, production, and landscape protection*, will explain how to identify conservation goals and management methods to restore grassy ecosystems and keeping them healthy.

Session 5: Weeding to restore your patch and keep it healthy. Margaret Ning, who has many years of experience with weeding for conservation, will discuss how to develop a weed strategy, key weed species and their ecology, methods of weed control, and equipment and training. She will also look at two case studies: Garuwanga and Old Cooma Common.

Session 6: Grassland species, their importance, and where to see them. Rainer Rehwinkel (with others) has been developing a list of indigenous plants for grassland sites and categorising them by their frequency in the landscape, from threatened to fairly common. This is a very useful tool to assess the importance of sites. He will also provide thumbnail sketches of six easily accessible sites: Old Cooma Common, Turallo, Gundary (NSW), Conder, Barton, and Crace.

Conservation over Cocktails

At Tilly's Devine Café Gallery

Wattle St, Lyneham

Monday 28 Nov 2005

From 6pm for champagne and canapes

With Sen. Christine Milne

and

Anthony Albanese MP



Climate
Change

Conservation
Council for SE
Region & Can-
berra.

Time for Membership renewal FOG needs your support

In this year we have:

- Continued with a quality newsletter,
- Conducted three workshops: fun with fungi, seagrass meadows, and basic grassy ecosystem ecology and plant identification,
- Visited South Australian grasslands,
- Had a widely supported field program,
- Participated in public education campaigns, especially through schools,
- Worked actively behind the scenes and publicly lobbied for grassy ecosystems,
- Networked with and assisted many people with shared visions and objectives,
- Continued to visit members' properties or sites in which they are involved,
- Assisted with field surveys, and
- Enhanced members' hands-on experience.

So please send in your membership renewal.

News Roundup

Lots of FOG things Groundcover

FOG has been very busy in the last two months. On 20 August, FOG held its marine grassland workshop (see page 7).

On the following day, those FOG members who stayed over from the workshop spent an enjoyable day at Tilba Lake Community, a large community-owned property near Narooma in which Bren Weatherstone and Geoff Hope own a share. Extensive re-vegetation work has been carried out there and birds and bandicoots abound. A most interesting aspect was to see large areas of the property where kangaroo grass is naturally re-establishing by out competing kikuyu grass. There was also a chance sighting of a diamond python.

On 17 September another working bee was held at Old Cooma Common where about ten members turned up, changed the gate post (installing the gate will eventually happen), and removed and cut and daubed briar and



Top photo: Tilba Lake Community where kangaroo grass is gradually replacing kikuyu grass. FOG members examine Aboriginal tools on the beach at Tilba Lake Community – 20 August 2005.

some other woody weeds. The day was bitterly cold but the company was great. (Some photos next page.)

The FOG posters travelled to Perth and Burra in South Australia where they were put on display at the Association of Societies for Growing Australian Plants and the Stipa Native Grasses Association conferences. There was much interest shown in these striking posters and FOG picked up several new members. Both conferences were fantastic and a

summary of the Stipa conference will be included in the next newsletter – there was far too much material received to put it all in this newsletter. The FOG trip after the Stipa conference was also a buzz – see page 8 for a description of day one of the trip.

Likewise, write-ups of the Tarengo grassland visit, the launch of the Don and Betty Wood's book *Flowers of the ACT and Region*, and the visit to the Jerrabomberra grassland are being held over until the next issue.

Bird at Garuwanga Jack Holland

Join us for the weekend campout on 18-19 November. Long-time members of Canberra Ornithologists Group (COG), Geoff Robertson and Margaret

Ning, have again invited COG (and FOG) to join them for a camp-out on their 240ha property near Nimmitabel.

Garuwanga is managed for conservation purposes and has a variety of habitats including open grassland and shrubland, snow gum woodland, large patches of forest, and *Casuarina nana* heathland. There are many amazing rocky outcrops and a large variety of scenery. On the north it is bounded by the Kydra (Numeralla) River and the west by Winifred Creek, with two water courses crossing it.

Most of Garuwanga is accessible by foot or by car and we will be exploring the property and adjoining areas

In this issue

- *News roundup*
- *Seagrass meadow workshop*
- *FOG's SA grassland tour; day 1.*
- *Grassy ecosystem landscape garden project*
- *Some fine books*
- *Golden moths – a grassland orchid*

for its bird life. Late spring will be prime time to see all the summer migrants and for nesting. COG added seven new bird species when we visited in November 1999 and a further four in April 2003. To date there have been 310 native plant species, over 90 bird species, 20 reptiles, at least 10 native mammals and five frogs recorded at Garuwanga. It is therefore appropriate that it will be a joint camp-out with Friends of Grasslands.

Participants can arrive either Friday evening or Saturday morning. They will need to bring their own bedding and food. The property has plenty of places to pitch a tent. There is some limited other accommodation and access to the house, which has a modern kitchen, electricity, limited hot water and a flush loo, will be available. It is expected a number of the meals will be shared.

To register your interest and to obtain further details including how to get there, please contact Jack Holland on 6288 7840 (AH) or by e-mail on jack.holland@deh.gov.au.

Mulangarri Grassland Reserve *Benj Whitworth*

26 NOVEMBER FOG is visiting the Mulangarri Grassland Reserve (10-11am) and we are inviting FOG members who can assist with the visit and those who want to just come and learn about this important grassland. Mulangarri is part of the ACT Gungahlin Grassland reserve complex and has patches of rich biodiversity and is major habitat of the striped legless lizard.

FOG will be advertising this as a public event to attract Canberra residents, particularly those living in

Gungahlin, to this important reserve. We will meet at Mulangarri Grassland Reserve just before 10am on the east side of Gungahlin Drive opposite

Hope Park) followed by a short ceremony at noon and a picnic lunch.

FOG members will find the attempt to regenerate native grasses and reintroduce a number of grassland and grassy woodland species in this yellow box red gum grassy woodland to be of particular interest.

The picnic lunch is just BYO - just bring a rug/chairs and find a spot!

Grassland recovery *Geoff Robertson*

The Natural Temperate Grassland Recovery Team, which consists of government agency, farming and community group representatives, meets each three months and there are promising developments on the horizon. The four catchment management authorities (CMAs - Hawkesbury-Nepean, Lachlan, Murrumbidgee, and Southern Rivers) are showing much interest and plans are developing for a set of workshops with the CMAs to stress the im-

portance of grasslands and to encourage incentive programs to protect and manage grassland remnants for conservation and/or production within the overall context of natural resource management.

Much of the effort of the recovery team will focus on a grassland survey this and in following springs to identify grassland remnants in areas where surveying in the past has been relatively weak. The recovery team's project officer, Greg Baines, whose photo appeared in the last issue of the newsletter, and David Eddy will undertake most of the survey work. Survey sites were chosen following a gap analysis of areas likely to contain grassland remnants but which had been poorly surveyed to date. Long-



the 'Gungahlin sign'/Palmerston.

Top photo: FOG members replacing gate post at Old Cooma Common. Bottom photo: Old Cooma Common looking much less weedy - 17 September 2005.

I am looking for help with advertising this one, so if you have any ideas contact me (details on back page).

Invitation to FOG members *David Turbayne*

FOG members are invited to celebrate with the Watson Woodlands Group the success of its ten year campaign to save the area of woodlands in Watson adjacent to Antill St at 10am on Sunday 13 November. There will be some guided walks around the area (to be named Justice

time FOG newsletter readers will appreciate that the Monaro and areas close to Canberra are now relatively well surveyed. Potential properties were chosen based on Rainer Rehwinkel's gap analysis, Landsat imagery, and property investigations. Fifty per cent of landowners approached agreed to join the survey. Curiously many who did not were in the process of selling their land. The properties to be surveyed have not been surveyed before.

Work continues on the database of Canberra and NSW grassland sites so that agencies and the public can interrogate it to answer a whole range of questions about the size, area, and location of grassland sites, and management practice and species lists associated with individual sites. It is planned that the database might also provide useful data about the distribution of particular species of plants and fauna.

Namadgi Management Plan

6 SEPTEMBER The ACT Chief Minister launched the *Namadgi National Park, Draft Management Plan*. Comments on the draft plan close on 7 November and FOG members are urged to make formal comments because, even if you agree with all or much of the plan, it is worthwhile to support those aspects that you think are important. Already FOG members have attended meetings to learn about the plan and exchange views.

The draft plan is a comprehensive document and is part of the Australian Alps National Parks. The park serves many purposes, including being a source of water for Canberra and for the Murray Darling System, and an area of great biodiversity, settlement history, and recreation. It includes many grassy ecosystems, including montane and alpine grasslands, grassy woodlands and forests,

as well as other ecosystems, e.g. heathlands, bogs, wetlands, and riverine areas treasured by many FOG



Two photos of Namadgi National Park showing some of the grassy ecosystems landscapes contained in the park.

members.

To obtain a copy of the draft plan, call Canberra Connect on 13 22 81 or visit www.cmd.act.gov.au.

Temperate grasslands CRC

3-4 AUGUST The Temperate Grasslands CRC group, which aims to establish a CRC for temperate grasslands and grassy ecosystems, held a scoping workshop at the University of New England, Armidale. The project has slowly been consolidating its ideas since John Boyd called the first meeting of the group on 4 February 2004 (see FOG newsletter March-April 2004).

John Boyd summarized the status of the proposal, particularly in relation to the timeline for lodgement of an application to the CRC Program. Other speakers included David Kemp

(the importance of southern Australian grassland vegetation to the nation), Warren Mason (research directions for grazing management and pasture research in Australia), Richard Price (research directions for integrating grazing with other agricultural enterprises), Chris Nadolny (research challenges on biodiversity and sustainable use of grassy vegetation), and Cameron Allen and Ian Roger (both of whom addressed future directions in NRM and production research). Nick Reid facilitated the workshop.

Part of day one and most of day two was spent on workshops around these issues. Common themes were the use of grasslands for commercial production, ecosystem services, and conservation. Underlying these themes was a research and development focus. The workshop also addressed possible new industries. A write up of the workshop is available from John Boyd, jboyd@webone.com.au.

Lawson grassland

20 AUGUST ACT Chief Minister and Minister for Conservation Jon Stanhope announced that the ACT government would protect the decommissioned Belconnen Naval Station as a grassland reserve. The site contains about 100ha of grassland and is home to threatened species, the golden sun moth and the Ginninderra peppergrass.

Long-term FOG members will know that FOG has taken an active interest in this site and has visited the naval station on a number of occasions. Areas outside the naval station also contain grassland and more recently a population of striped legless lizard has been found in one of them.

FOG will follow this area with interest as much of the area outside the naval station is earmarked for residential development.

Stock grazing for conservation

Groundcover

A highly valuable and informative report has been produced for Environment ACT by well-known grassy ecologist, Ian Lunt, titled *effects of stock grazing on biodiversity values in temperate grasslands and grassy woodlands in SE Australia, a literature review for Environment ACT, Technical Report 18, July 2005.*

While many FOG members have observed that grassland biodiversity survives well under certain grazing regimes, grazing as a conservation management tool remains somewhat controversial. This report undertakes a review of the literature and establishes when grazing is appropriate and how it should be managed. Ian rules out grazing in some circumstances, and sets out in some detail how it should be applied in other situations. He emphasizes that for any particular site each of the conservation objectives and strategies need to be clearly understood, and grazing applied strictly in conformity with those strategies. To obtain a copy contact Environment ACT 13 22 81.

Nowaste management

Apart from her grassy woodland interests, active FOG member Maryke Booth (see her story in the last issue of the newsletter) is also a leader in waste management through her business, Shop Basics. Diana Streak (7 July) reported that Shop Basics, which was last year's bronze Nowaste Awards winner and host to this year's awards, sells products ranging from readily biodegradable cups and plates made from potato starch to an industrial-size compost bin that uses worms to transform waste into garden nutrition. The story was accompanied by a smiling photo of Maryke.

Maryke was quoted as saying that Shop Basics' policy had meant cost savings of more than \$10,000 a year and the team was always trying to improve its environmental performance. "In 1995 we did the usual recycle thing - paper, cardboard and aluminium. Today our recycling program is so much more. We put all our kitchen scraps and vacuum cleaner dust into our *wheely worm composta*.

We print on both sides of all our paper and re-ink our toners and ribbons. Our showroom is cleaned using only water with microfibre envirocloths. Other things we do include turning off all our computers at night, we have an energy efficient fridge, and a solar heat exchanger." Maryke also drives a hybrid electric car.

Cotter to get makeover

5 SEPTEMBER, in an article in the Canberra Times, Ben Doherty reported that the ACT Government has gone back to the drawing board with its plan for the lower Cotter River. The government announced a fresh study into revegetation options, to be conducted by the CSIRO Land and Water Division. Preliminary work is expected to be completed by mid-November.

The lower Cotter catchment was recently incorporated into Canberra's water supply, with water being pumped from the catchment to Goolong Dam. The ACT Government came under intense criticism earlier this year, and was forced to halt its pine reforestation program in the catchment, according to Ben Doherty. There were strong concerns over large amounts of soil being washed into the river by rain, and river sediments containing significant levels of arsenic and manganese.

Dr Alan Wade (ANU) said in March that the Government's plan to regenerate pine plantations in the catchment was flawed and it should have spent funds on restoring the landscape. Pine planting in the catchment continued until the end of July, by which time more than 300,000 pine seedlings had been sown.

Eucalypt planting on river banks will begin this month while results of the CSIRO study will guide subsequent revegetation of the catchment. The commissioning of the CSIRO study is in response to advice from the Catchment Management Group, chaired by Professor Gary Jones from the Cooperative Research Centre for Freshwater Ecology.

Canberra Airport

Geoff Robertson

FOG has received some enquiries about the construction taking place at the north-west side of the runway at Canberra Airport and its impact on the natural temperate grassland (NTG) and grassland earless dragon located there.

Over the years the airport management has faced the issue of how to balance the existence of a threatened ecological community (NTG) and a threatened species, e.g. grassland earless dragon (GED), against an ambitious development project.

The airport management would probably consider that it got the balance about right. It has mapped the grassland areas according to their conservation values (although I am somewhat critical of the approach taken), and has attempted to manage the remainder according to agreed protocols.

The area currently being developed includes some NTG but large areas will still be retained. However, over the years the development has led to the destruction of NTG areas and removal to GED, most of which unfortunately were subsequently lost during the 2003 Canberra Fire.

While it is disappointing to see the demise of some NTG and GED at the airport, this has been done with the agreement of the Australian government who has put development ahead of grassland and GED protection in this instance. It should be pointed out that the airport has endeavoured to meet high environment standards in its building development.

FOG still believes that as a redress, the airport could do more to publicise the presence of NTG and GED at the airport and how they are being managed. For example a display on NTG and GED in the precincts of the airport) would be appropriate. The airport could also contribute to biodiversity research and/or public education on grasslands and dragons.

Seagrass meadow workshop

Grasscover

SATURDAY 20 AUGUST At 9:30am fourteen FOG members, having arrived from several directions, including Orange, assembled in Narooma on the NSW South Coast. Alan Scrymgeour, assisted by his wife Lyn, introduced us to the plan for the day. The day was cold and rain threatened – members of the group were well-rugged up. Alan spent a little time explaining how there was a growing realisation about the importance of, and need to protect, marine ecosystems, including seagrass meadows, and he outlined a proposed multimillion dollar initiative to establish a marine research and education centre. Several universities have already committed many millions of dollars and there was optimism that Commonwealth and NSW Governments would soon join the initiative.

The group then moved to the harbour wall where we looked down onto the seagrass meadow below the water, that is, a meadow of grass-like plants (*Posidonia* sp.) or eelgrass growing in a flat area of sand. Alan climbed down into the water which was at high tide. He produced a large net. Many who know Alan well, know that in his career he has been a school teacher and a marine educator. He takes an avid interest in anything to do with the natural world, and may I say, is a suburb teacher and showman. He was keen to illustrate the parallels between grassland and seagrass meadow ecology which went down well with the ecologically-minded group. He referred to his net as a butterfly net as he trolled for the grassland equivalent of butterflies.

As Alan explained, many seagrass meadows tend to be dominated by one species. This meadow at the bottom of the sea wall resulted from currents depositing sand in the spot following the construction of the artificial harbour forty years ago. A number of pieces of eelgrass and many pieces of different types of algae were collected and placed in a red tray for examining later. The plan was to come back to this area after lunch when the tide was out. While eelgrass dominated, many different types of algae were epiphytes anchored on the eelgrass.

Seagrasses consist of groups of closely related plants which live below the normal low-tide mark, although the upper parts of the plants may be exposed to the air at low tide. These plants are flowering (seed bearing) plants (angiosperms) which have returned to a marine or water environment. They are part of the monocot group. There are

two main types of seagrasses that grow in these shallow marine waters, namely, eelgrasses (*Posidonia* and *Zostera* sp.) and seawrack (*Halophila ovalis*). Unlike the algae, seagrasses are not grazed except by mammals such as manatees - not surprisingly we did not see any. As well as providing structures for anchoring algae, seagrasses provide habitat for many smaller animals, and as they break down they release many nutrients which provide a rich food source for zooplankton at the bottom of the food chain.

The various specimens that had been collected were then taken to a table

nearby and out came the microscopes, hand lenses, and other magnifying instruments. This reinforced the many wonders that were opening up to those of us who essentially focus on terrestrial ecology. Starting to emerge was an understanding of the many small algae and small animals that lived on the surface of the seagrass, and the fascinating variety and structure of algae. A number of small animals had also been caught up in the net – more on animals later.

Then we had a quick visit to the shore, several metres away, to view a sloped and stony area that rock-anchoring algae prefer. This contrasted somewhat with the flat sandy area, which we had previously visited, that sea grasses prefer. So while the main focus of the day was on marine plant communities, the group was shown and instructed on that other magnificent marine kingdom of blue-green, red, brown, and green algae, with their many



Photos: front page – Alan using his butterfly net to troll for marine butterflies, an ophiuroid (a form of sea star – a brittle star), and by day's end, Alan has his disciples walking on water. Photos above: fascinated learners and lunch. Next page: a marine grassland ecology specialist.

colours and very varied structures, easily paralleling the plant communities on shore.

Then it was time to return specimens to where we found them and head to our next site, although we took a few minutes to watch some magnificent pelicans squabbling over food.

The next stop was a long jetty (really a board walk) and as we stopped along the jetty and peered into the water we could see examples of seawrack, which looks nothing like grass, as well as more patches of eelgrass. Particularly interesting was to observe how the seagrasses colonise new areas, starting with a single plant and then spreading. While seagrasses grow from seed, their preferred way of spreading is vegetatively, especially by using runners. The board walk was a fantastic concept, and while most users are probably using it recreationally, it provides a wonderful way to look at nature without really disturbing it. The adjacent shoreline also looked very inviting with some suburb forest and understory vegetation, and even though it was narrow, there was much bird activity, bellbirds being present in some numbers.

Our next stop was another jetty below which was another rich seagrass meadow. However, the skies opened up and the group voted that it was time to go to lunch. Lunch was a superb event. Listening to the conversations around the table, the discussion and questions were focussed heavily on the morning's events. Margaret's copy of David Keith's *Ocean Shore to Desert Dunes* was passed around. It has an excellent chapter on seagrass meadows, which helped to place our experience in perspective.

It was learnt that earlier expansion plans by the (water-front) restaurant owner had received a set back. Initially development had been stopped because of shading (and therefore possibly preventing photosynthesising and growing) of the nearby seagrasses. It had since been learnt that seagrasses can tolerate shade – nevertheless to develop in a way to protect the seagrasses would be costly and so plans were still on hold.



After lunch we went to a small island joined by a bridge to the mainland, where we visited several non-sea grass meadow sites. Now the focus was shifting to animals and Alan was able to lay his hands on crabs, sea urchins, worms and molluscs of many kinds, and a real crowd

pleaser – an ophiuroid (a form of sea star – a brittle star). Ophiuroids have a small round body with five long legs which move like snakes – *Ophiuroidea* means snake-like. One of the sites was a mangrove swamp, a very important ecosystem that links marine to terrestrial ecosystems. For FOG members, it was also of interest to see the large river-tussock look-alike (*Poa poiformis*), along the shoreline.

The tide was now out so we then revisited the first site, the seagrass meadow below the wall. While the meadow was still covered with water, most of the seagrass vegetation was above the water as were some of the nearby rocky areas. It was time to do some rock-rolling, and many small animals, especially in shells, were found or scooped up from the water. One animal, a hermit crab, was particularly delightful. Again, the red tray came out so that each member of the group could look at the animal or plant before it was returned home.

There was time for one final stop where mangroves were starting to reconquer the intertidal zone. We walked around with water lapping around our shoes – this is the first time we really got our feet wet. It seemed like a fitting end to the workshop – Alan through his knowledge and charisma had finally taught the group how to walk on water. Apart from the rainfall before lunch, the weather had been great, although a little chilly at times.

While one member had to head home, the rest adjourned to Geoff and Bren's community-owned property where they proceeded to celebrate 'other' Geoff's 60th birthday, although the group did not need any excuse to party.

When Alan was asked to review this article before he went to press, he said "Lyn and I thoroughly enjoyed the workshop with such an enthusiastic group." We also thoroughly enjoyed it. Thank you Alan and Lyn

FOG SA Grassland Tour: Day 1

Geoff Robertson, Margaret Ning and Michael Treanor

On Friday and Saturday, 14 and 15 October, thirteen people joined the Friends of Grasslands' South Australian tour around Burra, Clare and Laura. This tour largely consisted of people staying on from the fourth Stipa Grassland Conference which had taken place earlier in the week. Michael Treanor, active FOG member and also Regional Environmental Officer (SA) for the Department of Defence, led the tour.

Spring Gully Conservation Park

The meeting point was Burra and as the departure time was set for ten, we did not arrive at the first site, Spring Gully Conservation Park, south of Clare until just before eleven. While the park had been visited briefly as part of the Stipa Conference field day, we had hoped to spend a little more time there than had been possible on the field day.

The park is a peppermint box (*Eucalyptus odorata*) and red stringy bark (*E. macrorhyncha*) woodland with a rich grassy understorey of largely spear grasses with occasional patches of kangaroo and wallaby grasses. The forbs were prolific with undoubtedly the best display of yam daisy ever seen on a FOG trip. Creamy candles, blue grass-star (*Caesia vittata*), chocolate and fringe lilies, peas of



many varieties, button daisies, hibbertias, velleia, sundew, and rice flower were abundant. There were many *Glossodia major*, and numerous blue and pink sun orchids, although at the first park of the Park visited, there were largely unopened. On the previous visit we had seen two bearded orchids. We also spotted donkey and spider orchids. Unfortunately, two weed species appear to be getting out of hand, the Cape tulip and lilac bushes. Actually before reaching the park, we had stopped to take photos of the Monet-like landscapes of blue (Paterson's curse) and orange (Cape tulip). We were delighted to see a pair of yellow and brown sleepy, what we call singlebacks. We were to see many more pairs in our travels. While we could have stayed hours at this site, we left by noon and travelled to another section of the park.

At the next site we met a group of people who had managed to get a grant of \$300 to remove the Cape tulip. They were using "killer-tongs" (sponges dipped in poison and attached to the end of the barbeque tongs). The tongs were used to squeeze the longest blade of the Cape tulip. Then we visited an area where the blue and white sun orchids were in profusion. There were patches of spider orchids and a few onion orchids. A sign said that there were thirty orchid species in the park. We left a little behind schedule at 12:45pm. Then we visited a local winery not expecting such a crowd, but we eventually organised three platters of yummy meats, salads and cheeses with pumpkin bread, some wine and availed ourselves of several wine tastings, except for the drivers (luckily car pooling had reduced the number of these) who essentially abstained.

Brooks Lookout

After lunch we headed for Brooks Lookout, a little west of Clare, which had been recommended as a patch of



Thirty orchid species at Spring Gully, a tiger orchid (Spring Gully), *Cheiranthra alternifolia* (Brooks Lookout). Next page: Mokota, and poison tongs – a great tool.

remnant heath, and where the views to the west were extensive. Like many of the SA sites we visited, there were well marked paths and encouragement not to move off the paths, which we visitors essentially respected. There were numerous species of grasses and forbs, many of which we had already seen. Some of the additional species were variable Swainson's pea (*Swainsona oroboides*), dwarf hop-

bush (*Dodonaea humilis*), and finger-or hand- flower (*Cheiranthra alternifolia*). After a stay of forty-five minutes we departed for Motoka.

Mokota (Grassland) Conservation Park

The Mokota Conservation Park, a 445ha area of natural temperate grassland on rolling hills, is home to 199 indigenous grass, forb, and sub-shrub species, the occasional tree and shrub, as well as the endangered pygmy blue-tongue (unfortunately we did not see any). It had been visited as part of the Stipa field trip, but time on the field trip had been short.

It was 4:45pm when the FOG tour arrived at Motoka (a little north of Burra), but we wanted to ensure that we had a good opportunity to have a thorough look at this most magnificent grassland site. On the field trip, our guides had taken us to the better parts of the site. On this occasion we had more time to wander around, and eventually left after 6pm, while it was still light.

The overall impression is that the park contained wonderful pockets of grassland forbs. There were to be found in one rocky outcrop on top of a hill, but were largely confined to clay areas where the taller grasses and invasive weeds were kept at bay. These areas contained many smaller forbs including blue devil, hairy-tail (*Ptilotus erubescens*), creamy-candles, pygmy daisy (*Rhodanthe pygmaea*), scaly buttons, common everlasting daisy, brachyscome, curved and smooth rice-flower, spur velleia, Behr's Swainson-pea, and an egg and bacon pea. These areas contained two populations of leek-orchid and a blue sun orchid which we saw. Other areas were mostly dominated by crested spear-grass (*Austrostipa blackii*) with occasional patches of kangaroo grass. Around thirty other grasses, including many spear, wallaby, and wire grasses could be found in these areas. While many of the taller

grassed areas were devoid of forbs, and sometimes dominated by Paterson's curse and wild oats, these grassed areas also contained a scattering of bulbine and chocolate lilies, Behr's Swainson's pea, New Holland-daisies, native flax, and twining pea. A complete plant list was provided by the Stipa Conference organisers.

At the conference, Ian Falconburg had presented a paper (co-authored by Meg Robertson) on adaptive management at Mokota. While a number of exclosure plots had been established to examine possible fire and sheep grazing management options, results to date had been very inconclusive. This was partly due to drought interrupting sheep-grazing trials.

Three major weeds were present at the site: Paterson's curse, wild oats, and horehound. Priority had been given to the removal of the latter, because of its legal status as a noxious plant in SA. The latter had been attacked with fire, which appeared to have been very effective, and the introduction of the horehound plume moth as a biological control. Ian reported on a 35ha fire which had taken place at the park. There was little evidence of horehound on our wanderings.

There was strong debate at the Stipa Conference on whether conservative sheep-grazing should have been maintained after the property had been purchased. It had been decided to withdraw sheep and encourage kangaroo grazing, and trial fire, as methods of biomass control. While there seems to be opposition to kangaroos from neighbours, and some discus-

sion of the numbers being too high, the small numbers of kangaroos (maybe up to sixty) were not having a major impact on biomass, which was green and healthy following recent solid rains. Inter-tussock space also seemed to be just right for grassland to function healthily. In my assessment, there was

concern over the level of Paterson's curse and wild oats, which should be urgently addressed, given that the park is the main grassland reserve, and grassland showcase, in the state. This could possibly be achieved with selective poisoning and/or slashing if appropriate funding was provided.

Day one was celebrated by most attendees meeting for dinner at the Koorunga Hotel, where there was much reflection on the day's activities.

Postscript on day one

There were many sites that were on our list of possible sites to visit around Clare and Burra. Unfortunately, lack of time prevented their inclusion on the trip. However, one site worthy of mention, which was actually visited late on the previous day by seven of the people who attended the FOG tour, is behind Peacock's Chimney (near the mine between Burra and North Burra). It was excellent grassland on the hilly slope with great displays

small copper-wire daisy (*Podolepis muelleri*), spur velleia, pigmy daisy, and many species of New-Holland daisy.



Grassy ecosystem landscape project

Grasscover



Kaleen High School (KHS) recently won an ACT Government grant of \$9,800 to undertake a grassy ecosystem landscape project at the school. As project coordinator, Elizabeth Davey, explained to FOG, the project started as a

clean-up of existing plantings.

Elizabeth who is the proud owner of a Kaleen grassland garden established by Leon Horsnell almost ten years ago, saw the opportunity to take the project further and encouraged the KHS to create a landscape garden of native grasses and wildflowers local to the Canberra region.

A steering committee was formed and it put together a proposal to divide the existing garden into three sections, each focusing on a different plant community: grassland, grassy woodland, and dry forest. The project will provide learning opportunities for students, and increase local community involvement in the school. The project started in August 2005 and will be completed in December 2006.

Students will be encouraged to become involved and own the project through each student planting one plant, helping in developing project explanatory material, plant propagation, and developing a resource for the school's environmental curriculum.

Elizabeth explained that this is a project that will help students to understand local ecosystem ecology and provide a link between the school and community groups and the wider community.

The project aims to reach out to the local community through the production of brochures which can be distributed to the local community. These brochures will explain why local grasslands, woodlands and dry forests are important and discuss some of the plants and fauna that are found in them. Participating in producing the pamphlets will be another way for students to be involved.

The project wants to find ways to encompass broader aspects of ecology and so in the design attention will be paid to habitat creation for small animals and invertebrates.

As luck would have it, KHS borders on the proposed suburb of Lawson where several remnant grassland sites ex-



Previous page: Project coordinator, Elizabeth Davey. This page, picture of garden site, and Elizabeth working with Rachelle McConville and students.

ist. Therefore students will be within walking distance of the recently declared Lawson grassland (see news item on page 5) and KHS is just across the road from kangaroo-grass grassland which is habitat for the most recently discovered population of striped legless lizard.

In fact, apart from the lizard, there are two other threatened species at Lawson, the golden sun-moth and Ginninderra peppergrass.

FOG has said that it is prepared to help with garden design, advising on suitable plants, sourcing plants, and planting supervision and training. FOG has also offered to attend any tours of grassland remnants, providing materials (on flora and fauna), making presentations, and assisting in the preparation of brochures.

For further information, contact Elizabeth on Elizabeth.davey@bigpond.com.au or 0438 679 894.

Some fine books

Geoff Robertson

One of the delights of being editor is that from time to time some wonderful books, magazines and articles, which make wonderful and innovative contributions to our understanding of grassy ecosystem ecology, turn up from a variety of sources. This month two expected but nevertheless delightful books arrived.

Flora of Australia: Volume 44B, Poaceae 3, Melbourne: ABRS/CSIRO Publishing (2005), 486 pages. Edited by Katy Mallet.

Many readers will be familiar with the various volumes of the *Flora of Australia* which have been emerging over many years. The grasses of Australia are being published in four volumes. Volume 43, which contains a list of all grass species and distribution maps, was published in

2002. The full description of each grass species is published in Volume 44, parts A, B, C – part B, the first in the volume to be published (44B), was released in September.

It contains some 55 genera and 468 species, including some very familiar subfamilies:

- *Chloridoideae* which include spinifex (*Triodia*), Mitchell grass (*Astrebla*), lovegrass (*Eragrostis*), and ratstail (*Sporobolus*), and windmill (*Chloris*) grasses;
- *Arundinoideae* – reeds (*Arundo* and *Phragmites*) and greybeard grasses (*Amphipogon*);
- *Danthonioideae* – wallaby grasses;

- *Aristidoideae* – keroscenes or three-awn grass (*Aristida*); and
- *Micaria*.

While the volume is an essential reference for anyone wanting to do serious grass ID work, its striking photos, which capture some most amazing images of grasses, its excellent botanic drawings of most species, and the distribution maps included for each species will greatly assist any semi-serious amateur who wishes to identify grasses and become familiar with them.

While the volume may be a little pricy for the ordinary budget (and unfortunately, I cannot tell you what the price is), it is nevertheless great value. It will be appearing in a library near you and so whether you buy or borrow it, it really is worth a serious look at by anyone who is all curious about grasses – perhaps the most interesting plant family.

Woodlands, a disappearing landscape, by David Lindenmeyer, Mason Crane and Damian Michael, photographs by Esther Beaton, CSIRO Publishing. Website (www.publish.csiro.au).

Many people are well aware of the contributions that author David Lindenmeyer and his colleagues are making to the understanding of woodlands.

Australia's open woodlands landscape is the imagination of many Australian painters with many of our familiar images of

their iconic status, they are among the most poorly understood and most rapidly declining ecosystems.

Did you know that "at Lake George north of Canberra, there is a continuous pollen record in sediment cores dating back 350,000 years. Pollen samples taken from the lake reveal how rainforest, wet eucalypt forest, woodland, and grassland ecosystems have waxed and waned in their distribution and abundance pattern over the millennia. They show that woodland vegetation – not dissimilar to that seen at the time of European settlement – first ap-



Above: Jon Stanhope who launched *Woodlands* book with author David Lindenmeyer. Below: fellow author Mason Crane, also at launch.

peared around 130,000 years ago. Charcoal in sediment cores dating from 40,000 years ago and earlier reveals an increasing frequency of fire, suggesting that woodlands were burnt by indigenous people.”?

The book contains many examples of the subtle relationships between many inhabitants of woodlands and gives the reader an understanding of the richness of woodland diversity. Removal of sugar gliders may be the cause of dieback for example. Removal of the understorey plants can also result in the death of the

trees. The book covers many topics in a simple way, for example the impact of fire and other disturbance.

Having covered the many and diverse elements of woodland ecology with numerous fascinating examples, the book examines what are the threats to woodland survival and how these may be addressed and what can be done to recover our woodlands.

“The good news is that recent studies indicate that it is often possible to better integrate production with conservation objectives. Innovative ways to increase the effectiveness of replanted areas and promote the recovery of degraded woodlands stands are emerging. Restored areas

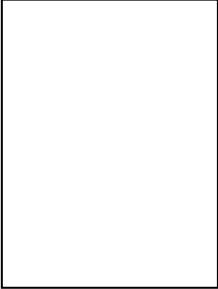
be valuable habitats for many species including a range of threatened and if they are designed and established in the right places.”

This book is well within the average budget (again I am not sure of its price), is a delightful read, and would make a wonderful Xmas gift. While packed with scientific information, the book is written in a coffee table style, making it easy to read and revealing many fascinating tid bits. The many photos, while containing some striking detail, are works of art, showing a wonderful sense of setting, composition, colour, charm, and variety of subject. The book is well targeted at the serious researcher, those wanting a good understanding of the many aspects of woodland ecology, and the mildly interested reader.

Where orchids deck the treetops? Not so, the warm dark soil!

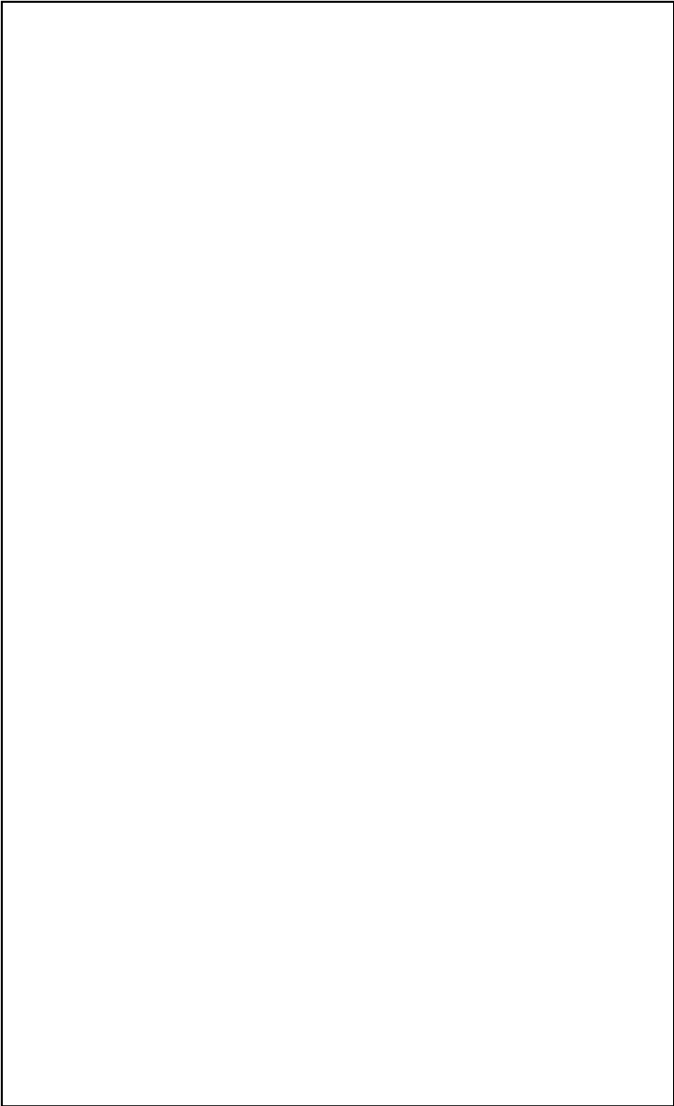
Golden Moths - a Grassland Orchid

Michael Bedingfield

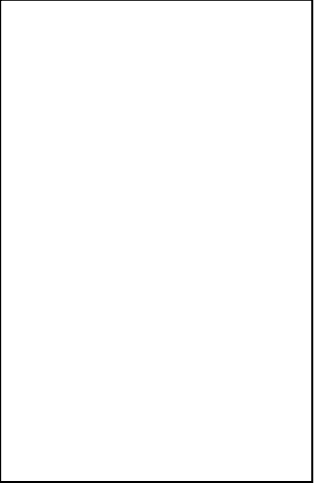


The Southern Tablelands are not famous for having orchids in the treetops, but there are quite a few terrestrial orchids that decorate the soil. One of these is the golden moths, which likes to grow in the more moist parts of grassy plains or slopes. It is moderately common on the Southern Tablelands, and also occurs elsewhere in NSW, as well as in Victoria, Tasmania and SA. Though widespread it is sparsely distributed because it prefers less disturbed sites.

In each new growing season a tuft of three to nine grass-like leaves is produced, these being five to 15 cm long. The flower head grows from within this tuft, and can be ten to 30 cm tall, but is usually less than 18cm. The flowers appear locally in September or early October, with up to four on the stem. They are about 25mm across, coloured pale to bright yellow,



with dark striations on the base of the dorsal sepal. If the flowers are fertilised, ovate pods form in the swollen area under the flowers. When the pods mature they turn brown and split open, thus releasing thousands of tiny dust like seeds which are dispersed in the wind.



The scientific name for golden moths is *Diuris chryseopsis* (but it was formerly known as *D. lanceolata*). The name "*Diuris*" means "two tails". There are many *Diuris* species, and the two lateral sepals are generally long and narrow, resembling two tails, and are a distinct feature.

What are the "dorsal sepal" and "lateral sepals"? The range of orchid flower shapes is quite amazing, but all have three sepals and three petals. There are two lateral sepals. For the golden moths they are the lower two sepals on the flower which look like snake's fangs from the front view. The third sepal is called the dorsal sepal, and it is the upper central shape on the flower and looks like a sort of hood. There are two lateral petals. In this case they are the two wing-like petals on each side of the flower. The third petal is called the "labellum", and this is the wide, lower central petal. In the middle of the flower is the "column", which comprises the fused male and female parts. In the drawings I have included the whole of the golden moths plant in the

frame at 70 percent of normal size, as well as some flowers separately at normal size. Also, to assist in understanding the various flower parts, I have included the flower of the wedge diuris (*D. dendrobioides*) at 70 percent normal size.

Local *Diuris* species similar to the golden moths are the golden cowslips (*D. behrii*) and mountain golden moths (*D. monticola*), which differ mainly in flower shapes and flowering time. The uncommon wedge diuris and purple diuris (*D. punctata*) are larger and coloured mauve, lilac or purple.

Golden moths - *Diuris chryseopsis* - a widespread local terrestrial orchid, to deck the grassy slopes and plains.

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Friends of Grasslands Newsletter

Do you want to subscribe to the newsletter? It comes out six times a year, and you can obtain it by joining FOG. You do not need to be an active member - some who join often have many commitments and only wish to receive the newsletter.

However, if you own or lease a property, are a member of a landcare or parkcare group, or actively interested in grassland and woodland conservation or revegetation, we hope we have something to offer you. We may assist by visiting sites and identifying native species and harmful weeds. We can suggest conservation and revegetation goals as well as management options, help document the site, and sometimes support applications for assistance, etc.

Of course you may wish to increase your own understanding of grasslands and woodlands, plant identification skills, etc. and so take a more active interest in our activities. Most activities are free and we also try to arrange transport (or car pool) to activities.

If you are already a member, why not encourage friends to join, or make a gift of membership to someone else? We will also send a complimentary newsletter to anyone who wants to know more about us.

How to join Friends of Grasslands

Send us details of your name, address, telephone, fax, and e-mail, etc. You might also indicate your interests in grassland issues. Membership is \$20 for an individual or family; \$5 for students, unemployed or pensioners; and \$50 for corporations or organisations - the latter can request two newsletters be sent. Please make cheques payable to Friends of Grasslands Inc.

If you would like any further information about membership please contact Margaret Ning, or if you would like to discuss FOG issues contact Kim Pullen, Geoff Hope, Janet Russell or Geoff Robertson. Contact details are given in the box above. We look forward to hearing from you.