Field Natter Newsletter of Field Naturalists Club of Canberra



OBJECTS: To foster an interest in an awareness and an understanding of nature

Meeting Thursday September 4, 2008 at 8:00 pm (details on back page)



The Wilderness Society, as most Australians will be aware, has its roots in a passion to protect Australia's wild places and has a 30-year history of drawing public attention to critical issues and proposing alternative plans. However, protecting the little pristine wilderness that remains across large parts of Australia is not enough to secure a long-term future for Australia's wilderness and wildlife. The WildCountry vision is different because it centres on identifying the ecological processes that underpin Australia's diverse landscapes and protecting and/or restoring not just small patches of country, but entire ecosystems, along with the ecological processes that drive and underpin them. Harry Recher, member of the Wilderness Science Council, puts it this way 'An important difference between the WildCountry concept and the reserve system being developed in Australia is the theme of "unifying and linking" and not excluding degraded lands from conservation initiatives. A primary goal of WildCountry is "to produce an Australia-wide, comprehensive system of interconnected core protected areas, each surrounded and linked by lands managed under conservation objectives. Eventually every region of the continent would be represented." This network of protected areas will embrace wilderness areas and national parks, and use conservation agreements with private land holders and indigenous management/ownership to buffer and link core conservation areas. A prime goal is "To cover all possible environmental and landscape variations in order to ensure maximum survival and evolutionary potential of biodiversity".

The underpinning aims of WildCountry as devised by the Science Council are to assist conservation planning by focusing on the need for connectivity at all spatial and temporal scales; focusing on ecological flows (e.g. migration, dispersal of genes, ecosystem movement in response to climate change,

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rivers transporting water and nutrients from one ecosystem to another). WildCountry combines the two principle approaches to conservation of biodiversity: 'protection' of extant nature, and 'rehabilitation' of ecosystems which have been degraded. It aims to generate new, cutting-edge science, to analyse current national biodiversity and environmental data sets to give a far better picture of the state of Australia's biodiversity.

SEPTEMBER FIELD TRIPS

Sunday September 7. 12 noon –4:30pm Molonglo Gorge near Queanbeyan for rocks, bird migration and rare plants (see article below). From Queanbeyan continue along Monaro St, crossing the Queanbeyan River at a low level crossing. After negotiating two roundabouts take a left turn into Yass Rd which later becomes Sutton Rd after passing under the railway bridge and crossing the Molonglo River. After a few hundred metres turn right on to the road sign posted to Goulburn (Sutton road). A further kilometre there is a road to the right which is signed Kowen Pine Forest. Take the first turn to the right—this leads to the Gorge Reserve. Drive to the end near the river, the road is mostly sealed.

Sunday 14 Sept - Joint FOG/FNAC Outing – Geology & Vegetation of Monaro (9.15 - 3:00pm)

Dennis Dyer, who recently gave us a very good talk on the Geology of the ACT, is a well acquainted with the Monaro and will lead this trip around the Cooma area. We shall start at Quartz Hill . The program for the day will include a presentation on the geology of the Monaro (9.30am), followed by morning tea and a visit to granite and sedimentary sites on the property. Then we shall be visiting several sites around Cooma, including a subduction zone, a syenite (intrusive rock), and basalt terraces. At each site we shall relate the geology and soils to the vegetation structure and show the dominant plants. We shall stop for lunch in Cooma. To obtain more information on getting there, car pooling, and to register, contact Tony Lawson on 6161 9430 or email tlawson@homemail.com.au .

Molonglo Gorge from Tony Lawson

There are in fact two Molonglo Gorges. There is a long gorge area upstream from where the Molonglo River flows into the Murrumbidgee River. This was made into a Nature Reserve a few years ago, but parts of it are under threat of being dammed as part of the proposed Molonglo development.

The second, smaller gorge is in the Kowen Forest near Queanbeyan. This is what I want to look further at. In 1988, the then NCDC [National capital Development Commission] put out a series of 10 reports on *Sites of Significance in the ACT* (If anyone has a spare copy of any of these, I would greatly appreciate them.) Volume 5 lists the Molonglo Gorge as a site of regional significance and of geological, geomorphological and botanical interest.

The gorge of the Molonglo River north-east of Queanbeyan is the result of river incision of the Cullarin Horst – a fault block upthrown by Late Tertiary or Quaternary movements of the Queanbeyan Fault. The fault plane lies north-south and is clearly marked by the abrupt slopes immediately east of the Sutton Road. This escarpment is the clearest example of a young fault scarp in the ACT.

The movement of the fault has not deflected the course of the Molonglo River. The river has maintained a westerly course across the Cullarin Horst and has cut a deep valley into the sedimentary rocks of the Pittman Formation. These rocks are an Ordovician distal flysch sequence of sandstone and turbidite shale beds and there are excellent exposures in the river channel and the walls of the Gorge. The river course (east-

west) is generally transverse to the strike of the beds (typically north-northeast) and as the beds dip steeply, a substantial thickness of the formation is exposed. At periods of low river flow a variety of lithological and structural features of the Pittman Formation can therefore be studied closely. Slump bedding, graded bedding and small-scale current bedding are obvious depositional structures, and the attitude of strata (dip and strike) may be measured at many localities. Tectonic structures include jointing, cleavage, minor faulting and several monoclinal warps and plunging folds.

The channel has a fall of 70 metres along the 2.5 km length of the deepest gorge sector. The long profile is irregular and the main channel comprises a number of broad steep pools linked by narrow gutters cut into the thicker beds of dipping strata. These thicker and resistant beds protrude as prominent ribs or strike ridges cutting obliquely across the trend of the river bed. Potholes and abandoned gravel terraces are evidence of earlier stages in the history of the river.

The vegetation of the valley slopes is a rather stunted dry sclerophyll forest of Red Stringybark (*Eucalyptus macorhyncha*), Scribbly Gum (*E. rossii*) and occasional Brittle Gum (*E. mannifera*) and Apple Box (*E. bridgesiana*). The structure is similar to drier forest communities encountered zonally near Wagga Wagga and Cootamundra. The vegetation of the valley bottom and lower slopes contains a relatively large diversity of species of trees, shrubs and herbs. In addition to the above, noted trees are Yellow Box (*E. melliodora*), Red Box (*E. polyanthemos*), Mealy Bundy (*E. nortonii*), Cherry Ballart

(Exocarpos cupressiformis) and Black Cypress Pine (Callitris tending northward from here may be interpreted as a relaendlicheri). The latter often forms even-aged stands, suggest- tively recent feature developed along the Queanbeyan Fault. ing regeneration possibly following the cessation of grazing.

Wattles are often more common in the gorge than in other surrounding areas and include: Box-leaf Wattle (Acacia buxifolia), Poverty Wattle (A. dawsonii), Red-leaf Wattle (A. rubida), Early Wattle (A. diffusa), Black Wattle (A. decurrens), Juniper Wattle (A. ulicifolia), Broad-leaf Hickory (A. falciformis), Silver Wattle (A. dealbata) and Currawang (A. dora*toxylon*). The latter species is uncommon in the ACT and is normally associated with drier inland areas. Another population is known at Red Rocks Gorge. Other common shrubs include: Daphne Heath (Brachyloma daphnoides), Swamp Bottlebrush (Callistemon paludosus), Cauliflower Bush (Cassinia quinquefaria), False Sarsaparilla (Hardenbergia violacea), Guinea Flower (Hibbertia obtusifolia), Australian Indigo (Indigofera australis), Creek Tea-tree (Leptospermum obovatum), Burgan (L. phylicoides), Leucopogon sp., Urn Heath (Melichrus urceolatus), Pomaderris augustifolia, Bush Pea (Pultenaea sp.), Prickly Starwort (Stellaria pungens), and Styphelia triflora. Bull Oak (Casuarina luehmannii), which occurs downstream of the gorge is uncommon in the ACT.

The gorge is an outstanding locality to study the lithology and structure of bedded flysch sediments. It includes the most continuous exposure of Pittman Formation and the most extensive and accessible valley floor exposure of sedimentary rocks in the ACT. The recent nature of faulting is illustrated by the well-defined scarp extending north and south of the picnic area, and also by the hanging valleys where downcutting by tributaries have not kept pace with the rate of excision of the MR.

.... The scree slopes on the southern side of the gorge are artificial, being derived from cutting and tunnel excavation of the railway line.

There is another geological feature (a plunging fold sequence) of local significance in the Molonglo River, accessible from a track in Kowen Forest from Blue Tiles Picnic Area.

A clear example of a plunging synclinal fold is exposed in the river channel. The area is one of intense deformation with small fold, fracture and slump structures evident. Many fold planes have quartz infill. The fold system strikes across the river.

Incidentally, just downstream of the gorge is the Molonglo River loop and scarp which is also listed as a site of regional interest and geomorphological and botanical interest. (Most of it is located within the Molonglo Gorge Reserve.)

On leaving the Molonglo Gorge and crossing the Queanbeyan Fault Scarp, the Molonglo River describes a tight meander loop. The incised channel indicates this to be a true ingrown meander as there is a pronounced asymmetry of cross profile. The outer bank is undercut into sediments of the Pittman Formation, while the narrow inner spur has terraced margins indicating it to be a slip-off slope. The form of this ingrown meander, and the discordant course of the MR across structural trends such as folds and faults in the MG, suggests the stream is antecedent. Thus, the prominent escarpment ex-

Gravel and sand alluvial fans extend along the lower face of the escarpment and are exposed along the river channel. The youngest fans were active 15,000 to 25,000 years ago and are comparable with those along the Lake George Horst escarpments to the north.

The Queanbeyan Fault Scarp extends well beyond the site, both to the north, where it forms the western escarpment of the Kowen Pine Forest, and to the south where it borders in Queanbeyan River (in NSW). Only a representative portion of the escarpment has been included in this site but it is recognized that the rest of this escarpment is important as a large forested area and animal habitat and reference is made to this below.

This escarpment rises abruptly with a relief in excess of 120 m, and with the exception of the MR is only weakly incised by streams draining westwards. The escarpment has a vegetation assemblage broadly similar to that described for the slopes of the Molonglo Gorge although it is more stunted. However, the flora has not been surveyed in detail and invites further study. It comprises one of the major remaining examples of dry sclerophyll forest in the eastern part of the ACT.

On the lower western slopes and downwash fans, the vegetation is a woodland dominated by Yellow Box (Eucalyptus melliodora) and Blakelyi's Red Gum (E. blakelyi). A fringe of grassland which has a component of native grass species also exists. The Bull Oak (Casuarina luehmannii) occurs alongside the upstream section of the meander. This casuarina species is uncommon in the ACT, the only other known sites being Black Mountain Peninsula and Blue Gum Point.

While limited in area, the Kowen escarpment is important as a wildlife habitat in conjunction with Greenwood Hill and Kowen Forest. Kangaroos and birds are known to move through this area via the Majura valley which connects to the Ainslie Majura Range. Like the flora of the area, the fauna is now well known and requires further study. NCDC, Sites of Significance in the ACT, Vol. 5: Majura,

Kowen and Associated Areas, Technical Paper 56, 1988 (Sites K2-4).



Trees of Mount Majura

Walk Guided by local expert Dr Michael Doherty

When: Sunday 31 August, 1.00 – 3.00pm

Where: Nature Park entrance Mackenzie / Grayson Streets, Hackett

On this gentle walk through various types -of woodland you will discover the range of trees growing on Mount Majura. You will learn to distinguish between Scribbly gum and Brittle gum and other eucalypts and find out how trees have adapted to environmental conditions such as soils, fire and drought. Tree guides will be available for a gold coin donation.

For more information please visit **www.majura.org Enquiries:** admin@majura.org or 62477515

How many species are there?

In 2005 the Department of the Environment and Heritage put out an interesting publication on the numbers of living species in Australia and the World, from which I have extracted the following table: (take in attached EXCEL file - hope there are not too many formatting problems)

The first point to note is that the figures in the Table only relate to a small proportion of the total species, which mainly comprise invertebrates. There are also some vertebrate species excluded from the table, including the groups Agnatha, Cephalochordata and Tunicata, which amount to around 2,700 of the world's species, and around 770 in Australia.

Australia is relatively well endowed with fishes - not surprising given our extensive coastline, and reptiles. Perhaps reflecting the dryness of our continent, amphibians are not so well represented.

	Mammals	Birds	Reptiles	Amphibia	Fishes	Total
World						
Described (A)	5416	9917	8300	5743	28900	58276
Estimated (B)	?	~ 10 000	~ 10 000	~ 7500	~ 35000	~ 62500
Threatened (C)	1101	1213	304	1770	800	5188
(C?A) %	20	12	4	31	3	9
Australia						
Described (D)	378	828	869	219	4500	6794
(D/A) %	7.0	8.4	10.5	3.8	15.6	12
Estimated (E)	~378	~828	~900	~220	~5250	~7580
Threatened (F)	75	65	42	30	35	247
(F/D) %	20	8	5	14	1	4
(F/C) %	6.8	5.3	13.9	1.7	4.4	4.8
(endemic) %	83	45	89	93	90	

Source: Chapman, A.D., *Numbers of Living Species in Australia and the World*, Report for the Department of the Environment and Heritage, Sept. 2005,

No wonder there are so many birders. Lots of species to see and easier to find than most vertebrates. But I must admit that my favourite activity is snorkelling to watch the life in the sea, and there is obviously plenty to see there.

It is disturbing to see how many of our species are under threat, including 20% of our mammals and 14% of amphibians, though the latter are even more under threat on a world-wide basis (31%).

The author does not think that there are a lot more species to discover in Australia, except perhaps in the sea. However, DNBA analyses may help to boost the numbers. That already seems to be happening with reptiles.

Tony Lawson

Learning more about our flora and fauna

(Tony Lawson)

Today I want to mention a few soft ways of picking up more information about our flora, and about the fauna - if, like me, you want to talk to visitors about the birds, water dragons, kangaroos etc.

There are plenty of societies in Canberra that focus on our fauna and flora, as well as park care and land care groups and tertiary institutions. For each, where available I have provided a web address. While I belong to many of the groups, I am not advocating that you necessarily do so. Rather look at their websites on a regular basis, and if anything interesting is going on then go and take a look, be it a talk or a walk. I am happy to provide further details on any of them.

But first things first; I will start close to home.

A) ANBG

Friends' Thursday Talks

We are very lucky that the most comprehensive source of relevant information is provided through the Friends' regular and wideranging talks at lunchtime on Thursdays (12:30 – 1:30). There are more than 40 talks over the year, with only a break over summer. Details of forthcoming talks can be found at: http://www.anbg.gov.au/friends/calendar.html.

ANBG Website

This is backed up by a very good and comprehensive ANBG website at: $\ensuremath{\mathsf{http://www.anbg.gov.au/}}$.

Incidentally other good sites that I have found for Australian native plant information are those of the Sydney and Melbourne Botanic Gardens, the ANPS, and good old Wikipedia.

B) Societies

Native flora oriented:

ANPS [Australian Native Plant Society]

I know that many of you belong to this society. It is a large and active group, with a monthly meeting (2nd Thursday) – most speakers are very relevant to our guiding; a monthly daytime meeting (2nd Tuesday); a walk every Wednesday, weather permitting; a grasses group; and it offers many very good flora books at very good prices at the monthly meeting. Further details at: http://nativeplants-canberra.asn.au/.

CIAG [Canberra International Arboretum and Gardens]

This is not yet open to the public, but there are websites for the arboretum, and for its friends: http://www.cmd.act.gov.au/arboretum http://www.cmd.act.gov.au/___data/assets/pdf_file/0019/2269/friends_newsletter_250308.pdf

FACTA [Friends of ACT Arboreta]

They offer a walk each month in Westbourne Woods on the 2nd Sunday, with leaders including Warwick and John Turnbull amongst others. There are irregular visits to other tree plantations and arboreta (though many disappeared in the bush fires). See: http://sawapl.tech.officelive.com/ACT_Arboreta.aspx

FoG [Friends of Grasslands]

This active group is mainly concerned with advocacy and education to preserve and manage well what remains of our endangered grassy ecosystems – both grasslands and grassy woodlands. There are regular activities but not at set times. See: http://www.fog. org.au/

Greening Australia

This group is mainly concerned with revegetation projects, but also organizes talks, eg *Provenances in Perspective Forum* on Friday 30 May from 1:30 to 5pm in Kambah. See: http://live.greeningaustralia.org.au/GA/ACT/.

NPA [National Parks Association of the ACT]

This is another important group that lobbied hard and successfully for the Namadgi NP. It has an active publication program, including the just released *Field Guide to the Orchids of the ACT*. There are many walks, plus a monthly meeting on the 3rd Thursday each month. See: http://www.npaact.org.au/

Orchid Society

Mainly concerned with growing exotic and native orchids. Occasional talks on native orchids. Meets 1st Wednesday of month. There are occasional outings

http://www.geocities.com/RainForest/Vines/7040/.

STEP [Southern Tablelands Ecosystems Park]

The local flora is not well represented in the ANBG. STEP aims to create a local ecosystems park as part of CIAG (and hopefully adjoining it). More details at http://www.step.asn.au/.

(To be continued).

Book Review from Ian Fraser

Field Guide to the Orchids of the Australian Capital Territory

David Jones, Jean Egan, Tony Wood. National Parks Association of the ACT. 288 pages. RRP \$38.50.

It might be supposed that the ACT is too small a geographical entity to warrant its own Field Guides, yet we have been blessed with a plethora of such guides in recent years, mostly excellent, on topics including trees, birds, reptiles and frogs, wildflowers, and now orchids. I imagine that the reasons lie in a combination of an enthusiastic and natural history-educated market, and a concentration of professional and amateur biologists who can provide for them. In addition of course, such a guide is likely to be of considerable value in the surrounding region too. This one is a beauty, and I suspect that in years – or even months – to come we won't be able to imagine how we managed without it. (Actually, most of us didn't really manage...) David Jones is one of the outstanding, if sometimes iconoclastic, Australian botanists of recent decades. Fortunately for us he has now retired, to enable him to write this book! I'm on the record as not being a great fan of photographic field guides, but not only are Tony's photos superb, but they are complemented by David's precisely detailed drawings, which have been digitally prepared by Jean (herself a very good botanical artist, incidentally). Each species is allotted a double page spread. I don't wish to appear totally hagiographic, and there is one thing which I believe would have made an excellent guide even better. The taxonomy of orchids has been changing at meteoric speed in recent times (largely due to the works of Jones himself) and a brief account of recent names of each species would have made life easier for most of us. (Some of the most recent names are included in the index, which certainly helps, but quite a few of these species have only just been separated out from a clumping of species, and their previous identities are not always clear.) Nonetheless, this is state of the art, the most up-to-date orchid book in Australia, and I can't wait to field test it!

Ctober Whale watching Field Trip

Eden Friday, October 17 to Sunday October 19

On this field trip we will join the *Cat Balou* for a cruise on beautiful Twofold Bay. This is the middle of the whale watch season and *Cat Balou* has a 98% rating for sighting Humpback Whales in the area. It is now accepted by researchers that whales have been sighted feeding in the waters of the bay and beyond. It was thought previously that they did not feed until within the Antarctic waters.

Other activities include visiting Boyd's Tower to watch for seabirds, visiting other birding sites at Lake Curalo and the Pambula Wetlands. We will also see some of the interesting geological features of the area. Then we leave the coast for the hinterland to spot some of the migratory birds that visit the Wyndham, Rocky Hall and Burragate areas. Some field nats will remain in Eden until Monday October 20. If you are interested please call Sylvie Sampson (as soon as possible) on 6251-2524 or email at sylvie-sampson@bigpond.com.

Frogwatch Census Week (19-25 Oct)

The Frogwatch monitoring period is for the whole of October but a special effort is made to survey all Frogwatch sites during census week. To help with the surveying you need to have some experience or to get some training (see above). If you would like to help, please contact the Frogwatch coordinator, Beth Mantle at waterwatch@ginninderralandcare.org.au or 6278 3309.

Frogwatch Introductory Training Seminar (6: -9: pm, Tues, 23 Sept) Frogs are key indicator species of the health of our ecosystems and habitats. For this reason every year in October, when the frogs are most vocal, a survey of local frog populations is undertaken. Your help is needed to do this. Training is provided.

This seminar is essential for the first time Frogwatcher or as a refresher for those who have participated in previous years. It will cover all you need to know to participate in the 2008 National Water Week Frogwatch Census, including identifying frog species, using Frogwatch Field Data Sheets, undertaking habitat assessments and performing your first frog monitoring activity. This seminar will include a short walk in the gardens to practice our frog identification skills. Please be prepared by bringing sturdy shoes, a torch, and wet weather gear if necessary. Registration is essential. To reserve your place please contact Beth Mantle

Registration is essential. To reserve your place please contact Beth Mantle on waterwatch@ginninderralandcare.org.au or 6278 3309. The seminar will be held at the Australian National Botanic Gardens in the Crosbie Morrison Building. The gates to the botanic gardens will be open from 5:45 pm. Please arrive promptly as the gates will be locked at 6:15 pm sharp!

If the numbers warrant it, a second seminar for beginners will be organised for Tuesday 7 October at the same time and venue.



Subsequent to the last meeting Rosemary Purdie has written to Philip about plant foods used in Mongolia

"Hi Philip

Further to some of the discussion after my talk last Thursday, some FNAC members may be interested in the following paragraph I've just come across in a book 'Wildflowers of northern Mongolia' (published in 2001):

"Mongolians also traditionally have used native plants for food. Many species of wild berries are found in the country and are avidly collected. Long-time favourites are huckleberry (*Vaccinium uliginosum*), cow-berry (*Vaccinium vitis-idaea*), current (*Ribes altissimum, R. nigrum* and *R. diacantha*), strawberry (*Fragaria orientalis*), and bird cherry (*Padus asiatica*). Other plants are valued for their nutritious roots and bulbs. Mongolians still collect the roots of wild onions (*Allium altaicum*), knotweed (*Polygonum vi-viparum* and *P. alopecuroides*), goosegrass (*Potentilla anserina*), and wild lilies (*Lilium pumilum* and *L. martagon*). Stems and leaves are collected from other plants, most notably all species of onions."

The shrubs with berries are only found in forested areas; the herbs would probably be relatively widespread on the steppes.

Cheers, Rosemary

NOTICE OF ANNUAL GENERAL MEETING

NOTICE IS HEREBY GIVEN TO ALL MEMBERS THAT THE ANNUAL GENERAL MEETING of the Field Naturalists Association of Canberra will be held on Thursday 2nd October, 2007 at 8:00 pm at the Division of Zoology and Botany, Building 116, in the Australian National University and will include Sybil Free and Helen Carse speaking about their trip to the Northern Territory with the ANN group in May 2008.

Business:

a) To confirm the minutes of the last preceding annual general meeting.

b) To receive from the committee, auditor, and servants of the Association reports upon the transactions of the Association during the last preceding financial year.

c) To elect the officers of the Association (President; Vice President; Treasurer; Secretary) and the ordinary committee members

d) To appoint the auditor and determine his/her remuneration

e) To conduct other business of which notice has been given

Nominations for election of members of Committee shall be made in writing (see below) and shall be delivered to an officer of the Association by Monday September 22. If insufficient nominations are received to fill all vacancies on the committee, the candidates shall be deemed to be elected and further nominations shall be received at the annual general meeting.

I hereby nominate____

BLOCK LETTERS

A member of the Field Naturalists Association of Canberra Inc

For the position of		
Name of Proposer		
	Date	
Name of Seconder		
	Date	
Acceptance of Nomination		
Ι	accept nomination for	
Signature of Nominee	Dated	



Field Naturalists' Association of Canberra

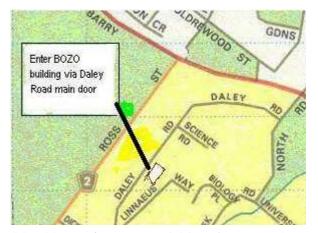
Who are the Field Naturalists?

The Field Naturalists' Association of Canberra (**FNAC**) was formed in 1981. Our aim is to foster interest in natural history by means of meetings and regular field outings. Meetings are usually held on the first Thursday of each month. Outings range from weekend rambles to long weekends away. Activities are advertised in our monthly newsletter. We emphasise informality and the enjoyment of nature. New members are always welcome. If you wish to join FNAC, please fill in the member application below and send it in with your subscription to the FNAC Treasurer at the address below: **President:** Benj Whitworth, tel w 6272 3192 mob:0448049195 **Secretary:** Rosemary Blemings, tel 02 6258 4724

Website: www.geocities.com/fieldnaturalist/index.html Newsletter editor: Chris Bunn <chris_b@webone.com.au Tel 02 6241 2968. Member contributions welcome. Published and distributed by Bob Lehman

FIELD NATURALISTS ASSOCIATION OF CANBERRA INC. GPO Box 249 CANBERRA ACT 2601

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Monthly meeting venue: Division of Botany and Zoology, Building 116, Daley Rd, Australian National University. Park (occasionally the adjacent building 44). Meetings start at 8 pm and are followed by refreshments.

MEMBERSHIP APPLICATION OR RENEWAL