



'FIELD NATTER'

June, 2011

MEETING THURSDAY 2 June, 2011

7:30 pm Australian National University

Meeting venue details back page

"Who's the Smartest: Plants or Animals?"

Speaker: Pat Wright

Pat Wright represents the Friends of the Australian National Botanic Gardens. She is a seemingly-tireless member of the energetic duo who organise weekly speakers for the Friends of the Australian National Botanic Gardens lunchtime lecture series on Thursdays. These presentations bring botanically-oriented subjects to members of the Friends and those general public people who hear about the events. The sessions are always informative and are illustrated with carefully chosen photographs.

Pat and Warwick travel "botanically" quite frequently and others, back home, are often the beneficiaries of their journeys as their experiences and finds are widely shared.

Pat is a trained adult educator, having retired from the Institute of Technology towards the end of last century. As well, she is a trained Botanic Guide and Explainer (with groups of young people up to university level).

Pat will be accompanied by her husband, Warwick, also a trained educator, who is prepared to respond to questions on Pat's behalf.

Pat Wright brings her quirky sense of humour in her talk 'Who's the smartest: plants or animals?' Pat poses the question, provides the facts and lets the audience come to their own conclusions.

Contents	Page
Talk – "Who's the Smartest: Plants or Animals?"	1
June Outing – Viewing "Oceans" Movie	2
30 th Birthday Dinner	2
ANN Meeting, Canberra, October 2012	2
Common Brushtail Possum	3
2 nd June – Molonglo Stage 2: Community Forum No.2	4
Winter Outings	5
Bark-Chewing Koalas	5
Darwin Lecture Series 2011: Professor Lord May	5
Wattles Compete with Other Species through 'Allelopathy'	6
Ian Fraser Talking About His Book: "A Bush Capital Year"	6
Canberra Nature Park Investigation	7
Contact Details and Map	8
Australian National Botanic Gardens Talks	8
Membership Application	8

JUNE OUTING – VIEWING “OCEANS” MOVIE

7.25 pm, Friday, 3 June. 2011

Greater Union, Manuka



Viewing “Oceans” Movie

“A truly remarkable and extraordinary journey under the sea that takes us places we have never been before.” Box Office Magazine

Nearly three-quarters of the Earth’s surface is covered by water and “Oceans” boldly chronicles the mysteries that lie beneath that surface.

Directors Jacques Perrin and Jacques Cluzaud dive deep into the very waters that sustain all of mankind, exploring the dynamic reality and the amazing creatures that live within. An astonishing look at the world of the oceans, with never-seen-before imagery captured by the latest underwater technology, it is awe-inspiring stuff.

Shot over four years, it reveals wonderful wildlife, including

endangered marine species. “Oceans” is also part thriller and part meditation on the vanishing wonders of the aquatic world. It is a powerful celebration of our underwater world; a world that requires our attention. Visually spectacular yet with a salient eco-message, it will mesmerise and educate in equal measure.

FNAC Members are encouraged to attend the viewing of “Oceans” on the day and at the time indicated above.

Contact: **Bob Lehman (6 242 6853)**

30th Birthday Dinner

The Field Nats will have existed for 30 years in 2011. Does anyone know exactly when they started in 1981? We have 2 members from that time, Philip Bell and myself, but I cannot remember.

To celebrate this event, the Committee thought that it would be nice to arrange a dinner. We thought of having it in the evening late in July – Thursday 28 or Friday 29.

If you are interested in joining us, please let Tony Lawson know – Ph 6 161 9430 or [tlawson\(at\)homemail.com.au](mailto:tlawson(at)homemail.com.au) . We are currently investigating possible venues. Any ideas would be most welcome. We have in mind the CIT Restaurant at Reid – a good meal, reasonably priced, and no parking problems.

Tony Lawson

ANN Meeting, Canberra, October 2012

We are busy planning for this important event which will last for 9 days, from Saturday 13 to Sunday 21 October 2012.

We will be looking for lots of help from our members on each of these days. We plan to have outings during the day and talks in the evenings. Each day we need to ensure that participants are transported to the activities, on some days there will be catering to supervise, and we need locals to accompany participants on each of the activities. If lots of you are prepared to help, then it should only involve a day or two each.

So please make a note of these dates in your diaries, and put aside some or all of this time – there will of course also be lots of activities for you enjoy during this time.

And if you would like to help with the organisation, then Rosemary von Behrens would love to hear from you: [vbehrens\(at\)grapevine.net.au](mailto:vbehrens(at)grapevine.net.au) or 6 254 1763.

Our next ANN Planning meeting is on Monday, 30th May, 2011 at 7 pm, 121 Springvale Drive, Weetangera. You would be most welcome to attend if you feel you can assist in any positive way. All FNAC Members welcome.

Common Brushtail Possum (*Trichosurus vulpecula*)



(Photographer: Margaret Kalms)

Description

The Common Brushtail Possum is a mid/large possum (35- 55cm body length, tail 25- 40 cm), generally with silver-grey fur on the back and paler underneath. They have large pointed ears and a thick dark bushy tail except at the very tip underneath (1, 2) which is prehensile. These features help to distinguish it from Ringtail Possums (smaller body, round ears, very short fur on a white- tipped tail). I thought Mountain Brushtail Possums were just a race, but they are a different species (*T. caninus*), being darker, thick fur and found in tall forest and not in suburbia. Possums have forward facing pouches and a slightly bounding gait on the ground.

Gender: Males are bigger and weigh 2- 4.5 Kg, while females weigh about 1.5- 3.5. Males often call.

My sister's boyfriend came from Canada to go Rockclimbing: He said "A wombat came up to me in the campsite, stood on its hindlegs and begged, then jumped up on a 1.2m high table". We were all totally astonished! It turned out that two Aussie guys in the Campsite must have thought this joke was so hilarious.

Distribution and Habitat

Common Brushtails are located all along the Eastern coast of Australia, with separate populations in central Australia and in Tasmania and the SW. They have become feral in NZ where they are a pest (1). In the ACT they are found everywhere. They are more common in suburbs that have fewer cats and dogs (eg ANU/ Reid), in areas with tall trees with a touching canopy, and/or areas of high food abundance. Possums occur mainly in trees (ie arboreal). This species is one of the 'more' terrestrial of possums and you can often see them on the ground at ANU or when they are passing across open ground (including roads) to reach other trees. This species will utilise Human structures (eg rooves, power lines) and introduced plants and can become pests (Sydney has an interesting website on possum captures- 6).

Although home range sizes vary depending on food, housing and predators, a rule of thumb is a male's home range is about 4 times the size of a females and females may cover 0.4- 1.4ha. Sub-adults may be allowed in these areas as long as they don't interfere. Males call at night and use scent marking to advertise home range locations and maintain separation (1, 5).

Feeding

Common Brushtail Possums are generalist feeders, eating leaves, buds, fruit, bark (1) and eggs, small animals (2), carrion and fossicking through garbage, if available. Food items are selected from various species and food types to help adjust detoxification 'rates and pathways' (See ANU studies- 4-Website). They sometimes eat introduced plant species such as buds and fruits of fruit trees (particularly apples), some pot plants (Geraniums) and climbing vines, which may lead to a bad reputation (2, 6). So, they differ from Ringtails and Greater Gliders which mainly eat young leaves and buds, and Sugar Gliders which eat more gum and sap, invertebrates and some pollen and nectar.

Breeding

Nests/Dens

Possums are nocturnal and sleep in the day in hollows in trees, crevices, nest boxes and even house rooves (2). I had a possum in my roof (above the ceiling), right above my bed, when I was in Scullin. It used to come home so close to the same time each night, often within 10min of the day before, about an hour before dawn in summer usually between 3:30- 4:30am. I sometimes saw her leave the roof-nest by tightrope walking along the telephone line at dusk towards the back fence, while I was collecting my washing. Two times in Autumn 2009 I saw the female carrying branches/leaves in her coiled tail, back to the nest. John Leonard also recorded this behaviour recently. It is not mentioned in the Complete Book of Australian Mammals (1).

Courtship/Mating/Raising young

Another thing which shocks and freaks-out many tourists and some dogs, is the call of the Brushtail. The males frequently give a very loud guttural: "Grrrrrr grr grr".

Mating occurs mainly in Autumn, can also occur in Spring and may be year round. I was 'taken aback' by a very loud fight one night in late April/May, lots of running up and down the roof, screeching, bashing around, rustling, and then softer purring. It was then I realised my female was courting and mating with a male. Gestation is only 17-18 days.

The single youngster is in the pouch for 4-5 months suckling and then rides around on the female's back for 1-2 months, still suckling, before being weaned in eg Spring (1).

Dispersal and movements

Survival is good when juveniles are in the pouch. However, after weaning has finished juveniles start to disperse and many young die, particularly through predation or starvation when trying to establish a territory/home range (more so in the bush) (1, 2, 5) and in more recent times, by cars (2), dogs and even cats and electricity wires (2). In fact when I was at Uni there were some disturbing studies showing that survival rates were so low, even in apparently good habitats, that modelling showed that the populations were going extinct. More recent work by Clinchy et al (2001) (See 5) and others discuss these studies and suggest that handling stress from researchers could help to explain these unexpected results.

Although Brushtail Possums look cute it is highly recommended that you DO NOT handle them because they are very flexible, their claws are very sharp and they bite hard. If they are in the house, remain calm and try and direct them to an exit. If you have to handle, use a heavy cloth to cover and immobilise then place in a carry cat cage. You can carry them short distances by the tail, but make sure they can't reach you (2).

Conclusion

I thought I could write a short addition to Maureen and Philip Bell's experiences with Common Brushtails in their garden (3), for this newsletter. I had recorded some interesting observations over the past few years and I knew there was quite a lot of work 'going on' recently related to diet and dispersal through ANU and adjacent Research agencies. I was quite surprised that very little of this research seems to have been picked up by The Web, including Wikipedia, with much material being the same words as my original 1980s sources, and I had to search hard for the more recent information. This takes much longer of course. So I hope this article gives a taste and I will try and do some more thorough searching in the near future.

Benj Whitworth

References

1. How, R. A. (1983/91) *Common Brushtail Possum* (Pg 147-8) Complete Book of Australian Mammals (Strahan, R. Ed). The Australian Museum. Cornstalk Publishing, Sydney.
2. Murray, E. (1989) *Living with Wildlife*. Reed Books, Frenchs Forest.
3. Bell, M & P. *Brushtails*. Field Natter, Canberra.
4. Marsh, KJ, Wallis IR, McLean, SR, Sorensen JS, Foley WJ (2006) Conflicting demands on detoxification pathways influence how common brushtail possums choose their diets. *Ecology*. 87:2103-2112 [See Website- <http://www.anu.edu.au/BoZo/BillsLab/papers.htm>]
5. Clinchy, M. Krebs, C.J. and Jarman, P.J. (2001). Dispersal sinks and handling effects: interpreting the role of immigration in common brushtail possum populations. *Journal of Animal Ecology*. 70, 515-526.
6. NSW Gov OE&H (2011) *Possum Captures in Sydney*. NSW Government- Office of Environment and Heritage, Sydney, Website- <http://www.environment.nsw.gov.au/animals/possumCaptures.htm>, updated 15/4/2011, Accessed 24/5/11.

2ND JUNE - MOLONGLO STAGE 2: COMMUNITY FORUM No. 2

The ACT Planning and Land Authority (ACTPLA) has sent out invitations to a second community forum about the "Preferred Option for Future Development of the Molonglo Valley Stage 2". This is the second of two community fora and is part of the overall community engagement program for the valley. A report on the first forum is on the ACTPLA website <http://www.actpla.act.gov.au>. The times are 3pm to 6.30pm for viewing the information and 6.30pm to 8.30pm for the workshop. It's being held at St Peters Church Hall, Parkinson Street, Weston and clashes, time-wise, with our June FNAC meeting.

It's my understanding that much of this concerns the government's, planners' and developers' vision of turning the actual lower Molonglo River Valley into a recreation area for the benefit of the valley's anticipated residents. "Community and key stakeholder groups" have had input during the first forum but how effective our voices were remains to be seen.

Rosemary Blemings

Winter Outings

Over the next 18 months, one of our considerations in arranging our outings is checking out possible venues for the ANN meeting in Canberra in October 2012.

These include a number of indoor displays, including the two Herbarium sites, the National Wildlife and Insect Collections, the Geoscience display and the illustrations of Australian fauna and flora in the National Library (and of course we recently visited the Reptile Centre at Gold Creek). These displays, however, are generally only open during the daytime on weekdays. So we plan to make the visits on a Friday. We hope that this will not preclude too many people from attending, should they wish to do so.

We always welcome suggestions for places to visit, especially during the winter months.

Tony Lawson

Bark-Chewing Koalas

Following last night's interesting FNAC May meeting, which included an account of the mysterious habits of the *Eucalyptus mannifera* bark-chewing koalas in a property 100 km south of Canberra, I found this:

The specific epithet "mannifera" refers to manna yielding, from the Greek *manna*, alluding to the white powdery material on the bark, and *fero* = to produce.

<http://www.anbg.gov.au/gnp/gnp7/eucalyptus-mannifera.html>

The chemical nature of this "manna" is linked to raffinose, a complex carbohydrate that can be found in beans, cabbage, brussels sprouts, broccoli, asparagus, other vegetables, and whole grains.

<http://www.greatvistachemicals.com/proteins-sugars-nucleotides/raffinose.html>

Raffinose is a trisaccharide composed of galactose, fructose, and glucose

<http://en.wikipedia.org/wiki/Raffinose>

and was first discovered by Johnston in 1843 in the manna from *Eucalyptus mannifera*

<http://www.ebooksread.com/authors-eng/t-e-thomas-edward-thorpe/a-dictionary-of-applied-chemistry-volume-1-hci/page-157-a-dictionary-of-applied-chemistry-volume-1-hci.shtml>

Have our lovely koalas found manna from heaven?

Jorge Gapella

Darwin Lecture Series 2011: Professor Lord Robert May

James Cox interviews Professor Lord Robert May regarding global issues relevant to people in our World today. This video interview is with Lord Robert May, one of the most eminent scientists of the World, who is currently a Professor at Oxford University and a senior scientific adviser to the British Government.

On this web site you will also find other video interviews of talks that are likely to interest you.

Go to:- http://youtu.be/oi_Ss4WmZTY

Enjoy!

Bob Lehman

Wattles Compete with Other Species through 'Allelopathy'

In general there are two types of competition. Competition where species compete indirectly for a resource and this is called exploitation. And competition which is directed at other individuals and this is often called interference. In general I would say animal species are more likely to directly interfere with each other, ie through fighting, whereas generally plants are more likely to be competing indirectly for a resource such as soil nutrients or water.

Acacias are interesting because some species may directly compete and interfere with a neighbouring plant by the production of 'Allelochemicals' that are toxic to other species (this is called Allelopathy) (Begon, Harper and Townsend, 1990 pg 253). This often leads to large bare areas underneath and around stands of wattle. Good examples are Cootamundra and Silver wattle. I looked up Sallow Wattle, and interestingly it is one species that does not use Allelopathy (DPI Vic- 2009).

Benj Whitworth

References

Begon, Harper and Townsend (1990) *Ecology* 2nd Edition. Blackwell Scientific Pub, Boston.

DPI Vic (2009) *Invasiveness Assessment - Sallow Wattle (Acacia longifolia) in Victoria*, DPI Victoria State Government. Website-

http://www.dpi.vic.gov.au/dpi/vro/vrosite.nsf/pages/invasive_sallow_wattle, Updated 25/09/2009, Accessed 25/5/2011.

When the Sally Wattle Blooms

Rosemary von Behrens has written about findings from her research into the Sally Wattle in her article "**When the Sally Wattle Blooms**". This will be posted in the FNAC web site within the "**Articles**" page.

Rosemary's article is well worth reading.

If you cannot access the FNAC web site, but would like to have a copy of Rosemary's article, please get in touch with Bob Lehman so he can either email, or post, it to you. The article is three A4 pages in length.

Ian Fraser Talking About His Book, "A Bush Capital Year"

Those of you who (like me) missed out on Ian Fraser's March talk to the Field Nats, or who would like to hear him again, might like to go to a Seminar at the Discovery Centre from 6:00 to 8:00 pm on 23 June in the CSIRO Discovery Writers Series.

The ACT is a treasure trove for naturalists, despite being without a coastline, without rainforest or without deserts. A wealth of biodiversity is found there, due to the close proximity of three major habitat types: the great western woodland grassy plains bump up against the inland edge of the coastal hinterland mountain forests, while the whole south-eastern Australian Alps system reaches its northern limit in the Brindabella Ranges. Each of these habitats has its own rich suite of plants and animals, so a great diversity of life can be found within an hour's drive of Parliament House.

A Bush Capital Year introduces the fauna, flora, habitats and reserves of the Australian Capital Territory and includes the most recent research available. It also emphasises often unappreciated or even unrecognised urban wildlife.

For each month of the year there are 10 stories which discuss either a species or a group of species, such as mosses and mountain grasshoppers. While never anthropomorphic, many of the stories are written from the organism's point of view, while others are from that of an observer. Beautiful paintings complement the text and allow better visualisation of the stories and the subjects.

Both the author Ian Fraser and the illustrator Peter Marsack will chat about their work.

Tony Lawson

Canberra Nature Park Investigation

As part of its Investigation into the Canberra Nature Park (nature reserves); Molonglo River Corridor (nature reserves); and Googong Foreshores; the Office of the Commissioner for Sustainability and the Environment (OCSE) has released a number of papers for community information.

These have been commissioned to address some of the key issues relating to the terms of reference for the Investigation. These papers do not reflect the views of the OCSE but will be used to inform the Investigation.

The papers have been posted for community information and are available at:
www.envcomm.act.gov.au .

History of Canberra Nature Park by Dr Sarah Ryan, April 2011 (pdf, 918Kb).

Legal Obligations of the ACT Government Regarding The Management of Nature Reserves by Professor Murray Raff, University of Canberra, April 2011 (pdf, 340Kb).

Potential biodiversity offset actions and sites for the Australia Capital Territory by Dr Philip Gibbons, The Australia National University, March 2011 (pdf, 680Kb).

Research: Existing and Potential. Paper to inform Canberra Nature Park (nature reserves), Molonglo River Corridor (nature reserves) and Googong Foreshores compiled by the Office of the Commissioner for Sustainability and the Environment, April 2011 (pdf, 201Kb).

Values and Uses of Canberra Nature Park – a survey of Canberra Nature Park user groups by Barbara Chevalier and Sue Hoffman (pdf, 1.1Mb).

Should Gorooyarroo, Mulligans Flat, Mount Majura and Mount Ainslie become a National Park or remain as discrete Nature Reserves as part of Canberra Nature Park? by Mr Ian Pulsford (pdf, 2.2Mb).

Managing Rabbits in Canberra Nature Park by Dr Kent Williams (pdf, 885Kb).

Impacts of Climate on the Canberra Nature Park: Risks and Responses by Dr Bob Webb, The Australia National University (pdf, 745Kb).

Funding options for protecting the environment through enhanced management actions by Ms Lisa Miller, Miller Consulting (pdf, 258Kb).

There are some other papers which have not yet been released.

Tony Lawson

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 with your subscription to the FNAC Treasurer, GPO Box 249 Canberra, ACT 2601:

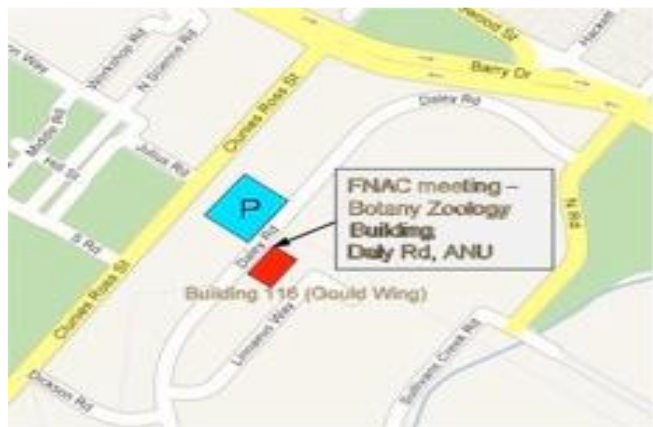
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Published and distributed by Bob Lehman.



Monthly Meeting Venue:

Division of Botany and Zoology,
Building 116, Daley Road, Australian National University.

Park: In front of, or behind, Building 116 or in designated parking areas across Daley Road.

Meetings start at 7.30 pm and are followed by refreshments.

ANBG Lunchtime Talks (12:30 – 1:30 pm, Thursdays – from Feb to Nov)

- Thurs 2 June : Brett Odgers "What Were Walter and Marion Burley Griffin up to in 1911"
- Thurs 9 June : Pat Wright "Beautiful Flowers of New Zealand South Island"
- Thurs 16 June : TBA
- Thurs 23 June : Lucy Sutherland "The Australian Seed Bank Partnership"
- Thurs 30 June : Ping Block "Ikebana Australiana"
- Thurs 7 July : Wendy Rainbird "The World of Tidbinbilla" book discussed
- Thurs 14 July : Tony Fearnside "Westbourne Woods Revisited"
- Thurs 21 July : Tony Wood "Habitat Preferences of Orchids in the ACT"
- Thurs 28 July : Speaker TBA "Birds"

Go to the following web site to find out more information about the ANBG Lunchtime Talks:-

<http://www.friendsanbg.org.au/calendar.html>

MEMBERSHIP APPLICATION OR RENEWAL

Family name: First name:

If a family membership, please include the first names of other members of the family:

.....
Postal address:

.....
Suburb: State: Postcode: Home phone:

Work phone: Email address:

Subscription enclosed: \$.....(Single/Family \$25) Donation: \$.....

How did you hear about FNAC? Please circle: FRIEND? OTHER? Please specify:
