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FIELD NATURALISTS' ASSOCIATION OF CANBERRA INC.

FIELD NATURALIST

MEETING—THURSDAY 5 June
7:30 pm Australian National University
Gould Seminar Room, Building 116, Daley Road, ANU, ACT
details back page

Canowindra, NSW and the Age of Fishes

Speaker: Dr Alex Ritchie

Discover how an bulldozer driver's chance find in 1955 near Canowindra, NSW, has led much later, in 1993, to the discovery of the richest fossil fish site of its kind in the world. Dr Alex Ritchie, Palaeontologist at the Australian Museum, Sydney (1968-1993), will relate how his 20-year search for the Canowindra site finally paid off in 1993. In a 10-day dig, using a local shire council's 20 tonne excavator, Alex relocated and excavated a unique fossil treasure trove, a dried-up fresh-water lake (or billabong) containing well-preserved fossil remains of many thousands of long-extinct fishes that lived around 370 million years ago, in the Late Devonian Period, which is often called the 'Age of Fishes'.

The Canowindra Story is an unfinished saga - with conflicting interests, political skulduggery, an uncertain ending and enormous undeveloped potential - discover why!



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Consequences: Musings from a visit to Woodstock in Belconnen

On several recommendations, which I'd thoroughly endorse, I bussed to the Ellioth Gruner Exhibition, *The Texture of Light* at the Canberra Museum and Gallery. Four days later I found myself very close to one of the scenes he had painted in 1937, *Weetangera, Canberra*.

My visit to Shepherds Lookout and the Woodstock Reserve was similarly driven by needing to be out in the glorious pre-winter weather May 2014 is bringing. Gruner painted *en plein air* and the scene he captured at the western end of the extensive Weetangera property has changed little in its expansiveness in the 70 years since that particular Canberra visit.

The landscape still inspires and, 10 minutes into my visit, a Wedge-tailed Eagle soared over the sparkling Murrumbidgee beyond the Lookout. I wondered whether Gruner had ignored the effects of the shrub layer or whether settlers had complied and removed native vegetation. These days Woodstock and the surrounds of Shepherds Lookout could be an outdoor classroom for students of invasive plants.

Lesley and John had reported healthy, extensive patches of *Bidens subalternans* as they explored the walk near the confluence of the Molonglo and Murrumbidgee rivers in April. Clearly the rainfall pattern since the extraordinary heat and dryness of February has stimulated the weed's seedbank. I knew of two infestations of Greater Beggars Ticks in Woodstock from 2012 but it was a rude shock to realise that the weed was so well established along the Murrumbidgee corridor.

I sought out and bagged hundreds of *Bidens subalternans* with seeds still green but capable of hooking into the weave of clothing. My initial discoveries were now confirmed. Wombats, wallabies and kangaroos had carried the barbed seeds in their fur from the river-side populations. One Woodstock area seems to have been an ideal kangaroo camp where the animals could rest-up in the sunshine with a backdrop of Cootamundra wattle. Perhaps it's close to where Gruner sat to paint his *Weetangera*.

Woodstock is heavily infested with St John's Wort (SJW) though by now this season's minute seeds have been shaken out of the browned stalks and capsules. Some of the *Bidens* grows amongst the SJW's stalks, visible as a result of their greenness and with leaves reminiscent of the African Marigolds that were a fad for my parents in the '50s. I was reminded of chiding words from Garth at one of my early

FNAC meetings (1992) "When is something going to be done about St John's Wort?" Nothing was done and the ACT has had increasing 'seas' of yellow and autumn brown ever since.

Each *Bidens subalternans* may not have thousands of seeds or extensive root systems like SJW but the seeds are brilliantly adapted for dispersal. A hand-lens reveals that the ends of the centimetre-long seeds have a tuft of barbs. Each these barbs is a shaft for smaller barbs, which point back towards the stalk. Once they've touched fur, fabric and laces it's a painstaking task to remove them. After my gathering I discovered more, but individual, *Bidens* plants as I followed animal tracks towards the fence-line and 'exit'.

In spite of the gloom of discovering the lost cause that the *Bidens* spread represents as another threat to our region's biodiversity, and finding a rectangle of small plants on the edge of the

Bidens subalternans





Calotis lappulacea

carpark, Woodstock Reserve is a treasure-trove for naturalists. There were a couple of flocks of small birds. Each species in the mixed feeding flock (MFF) complements the other by targeting prey-insects at a different level of the grassy woodland. The disparaged *Acacia baileyana*, growing in fire-induced thickets, are a drawcard for Thornbills, Wrens and Silvereyes. Scarlet Robins and Grey Shrike Thrushes revealed themselves by their movements and body-language.

Wattles are represented by *A. mearnsii*, *A. dealbata* and *A. decurrens*. There's been extensive regrowth, thicket-style, since the 2003 fires blasted up from the west. Ancient eucalypts have defied wind, fires and competition for several hundred years. An Owlet Nightjar has a particular daytime roost in one known hollow but wasn't visible today.

Several species of native grasses persist amongst the lichen-covered rocks and defy the SJW where the soil is thinnest. Last summer I discovered quite a few Chocolate lilies amongst the Wort. African Lovegrass seeds blow up from the Murrumbidgee. The resulting tussocks are chewed at some stages of

their lives but are not deterred from spreading east overall.

A favourite discovery 3 years ago hereabouts, with tenacity to rival *Vittadinias*, is the Yellow Burr Daisy *Calotis lappulacea*. Today the plants were a bit autumnal but each showed colour and their attractive, rounded form. Did sheep graze them to local extinction -in other reserves and have they been mown to death in suburban open spaces? *Wahlenbergia* were brightly in flower; blue bells in an otherwise beige setting.

The fungal display has possibly passed its peak with the cooler nights and foragers' appetites but there were several clusters amongst the rank grasses in damper places. Ratchetty frog-calls were heard some distance from the dam, dampness and shelter being more important than water at certain times of the year. Some areas of bare soil showed rabbits' "conference venues". Wombat and kangaroo scats marked their territory and grazing places, respectively.

The walk to Shepherds Lookout is short but there's no shortage of chances to explore and observe... especially if one is prepared with sturdy footwear

and gaiters, to go partly across country. Walking further to cross the Molonglo and/or go towards Uriarra Crossing requires extra fitness and well-trained knees.

Rosemary Blemings

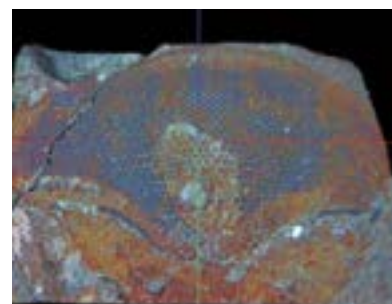
Ancient insect eyes

Research work published this month in the prestigious journal, *Nature*, by Michael Lee and colleagues, has used microscopy done at the AMMRF, University of Adelaide, to identify the structure of fossilised insect eyes from the early Cambrian period, approximately 515 million years ago. The beautifully preserved fossils were found in the Emu Bay Shale on Kangaroo Island in South Australia and are the oldest and best-preserved non-biomineralised eyes found so far.

Results reveal that these early insects had highly advanced compound eyes, similar in complexity to those of modern insects. Similarly advanced eyes have previously only been found in fossils from 85-million years later. These Emu Bay eyes are likely to have belonged to an active predator capable of seeing in low light.

This work provides significant evidence that the development of more highly specialised vision was a driving force for the rapid evolution of many animal groups that occurred during the Cambrian period, the Cambrian explosion.

Stereomicrograph of a fossilised compound eye from the Emu Bay Shale



Source: Australian Microscopy and Microanalysis Research Facility News Vol 15 September 2011: www.ammrf.org.au

FNAC prizewinners: Budding naturalists

Each time we've welcomed the Field Naturalists' Association prizewinners to a meeting to collect their respective prizes it's been inspiring to discover a young person with enthusiasm for the natural world. Their studies and research have shown success at applying scientific techniques and methodologies to the understanding of flora, fauna, habitat and ecosystems.

For example, Peri Bolton brought FNAC a presentation on burrowing snakes and Bori Cser has gone on to investigate the role of frill-colour in male Frill-necked Lizards' mating successes.

The 2012 winner, Laura Johnson, recently presented her findings on the interactions between Red Wattlebirds and Eastern Koels where the cuckoos' increasing summer migration to our region threatened the success of the Wattlebirds breeding attempts. More challenging for her was a similar presentation to professional and amateur ornithologists at COG. Laura's infectious enthusiasm has led to her publicising our meetings amongst her ANU colleagues with a consequent increase in younger members of our audiences.

Tobias Hayashi is the 2013 FNAC prizewinner. As a teenager he regularly contributed to COG's email list by observing and photographing local birds. He produced an evocative calendar as a major Year 12 assignment basing his selections on Albatrosses and other seabirds photographed on Pelagic trips off the south coast. He spent time at the Botanic Gardens where his subjects were part of the ANBG Friends' Secondary School Students Photographic Exhibition.

Tobias spent a year in Japan studying and absorbing family heritage. COG members were kept in touch with his field trips through accounts of the birds he'd found at weekends and during holidays. We were able to share his excitement at finding and photographing species new to us all and several "endemics". We discovered that he delights in the birds for their own sakes, going beyond the achievements of building a life-list and capturing their essence digitally.

During his years at ANU studying and becoming involved in Field Zoology and research, expert photography has increased the depth of his feeling for natural history. During one of our April weeding sessions in The Pinnacle's Stringybark forest Tobias joined us via the Orchid Society as we surveyed and photographed April 2014's Greenhood orchids. He found several inconspicuous clusters of the orchids. Photos of these will, no doubt, join his gallery on Flickr.

A common thread that emerges to link the FNAC prizewinners and our group is that they all demonstrate the ability to focus on a species, a genus or on the wildlife around them whilst exploring the implications of organisms' relationships to their habitats and the broader landscape. They too, have learned the secrets of being naturalists.

Rosemary Blemings

The Lambalk glider

The Lambalk glider is having something of an identity crisis. Thought for more than 150 years to be a subspecies of sugar glider, researchers based at Charles Darwin University in Darwin have recently found it more closely resembles two other species of glider, and they speculate that it may even represent an entirely distinct species.

There are currently only a handful of known species of gliding marsupials, six are grouped into the genus *Petaurus*. The Lambalk glider (*Petaurus breviceps ariel*) inhabits savannah woodlands and forests in the Top End.

To read more about this report visit the ABC news online at:

<http://www.abc.net.au/environment/articles/2014/05/01/3995216.htm>



Birdbathing project

THE National Parks Association of New South Wales in partnership with Birds in Backyards and The University of Sydney are conducting a citizen science initiative: Bathing Birds. With this initiative they will be exploring which birds are using bird baths and how our gardening habitats are influencing which birds are present.

If you have a bird bath you may be interested in participating in this study. How about an extended outdoor breakfast or leisurely morning or afternoon tea in an inconspicuous spot where you can watch your avian visitors.

If you would like to take part in Bathing Birds, please contact Dr. Gráinne Cleary at grainnec@npansw.org.au or visit the web site at <http://www.bathingbirds.org.au/>



Month	Speaker	Topic
5 June	Dr Alex Ritchie	Ages of fishes
3 July	TBA	
7 August	AGM?	

Autumn in Canberra 2014

Autumn in Canberra is a wonderful time of year. Clear, crisp warm days; the vibrant striking colours: red, yellow, orange, of the trees preparing to shed their Summer raiment.

As Rosemary B has alluded in two articles, this year has been exceptional. With the recent rains numerous fungi have emerged from their dark dungeons to expose themselves to the warming sun's rays and the greenhouse orchids have been in flower.

I have a fervent passion for fungi and thus had been on the hunt for them on various exploits: behind the Albert Hall at Lake Burley Griffin where last year I photographed some amazing; red spotted fungi; a bushwalk with the Canberra Bushwalking

Club at Square Rock; and of course the Pinnacle Nature Reserve.

As Rosemary has already reported, on ANZAC Day my dogs and I set off to look for fungi at the Pinnacle Nature Reserve. We weren't disappointed and Samson and Kateena were very patient as I constantly stopped to photograph various fungi.

After about two hours we were on our way home and nearing the junction of the Springvale and Downing Tracks when we encountered Rosemary, John and Leslie, who were just checking out the flowering greenhouse orchids, after a few hours of weeding. Discovered about two years ago they were again flower-



ing after the recent rain. A second larger cluster was a little further up the track.

Rosemary was telling me that the sighting had been reported to the Orchid Society and they had been asked by one member to reveal the location. On being assured that this member had a large

collection of photographs of orchids, the person who reported the sighting agreed to release the location. Coincidentally, that person turned up as we were gathered by the second site and turned out to be none other than Tobias, this year's winner of the Field Naturalist's annual award.

We headed up the hill to look at the Dunfy orchids further up the track and Tobias' young sharp eyes found three further unknown sites.

As Rosemary has pointed out this Autumn has been exceptional. Last Sunday, taking my dogs for their daily walk at 8:00 am I didn't even need a coat. Thinking about the day's schedule: housework; mowing the lawn; I thought "Bugger it" and on arriving home packed my camera gear and set off for a walk around Lake Ginninderra.





Field Naturalists' Association of Canberra Inc.

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: Rosemary von Behrens pH: 6254 1763

Email: fieldnaturalist@yahoo.com.au

Website: under construction

All newsletter contributions welcome.

Editor



Monthly meeting venue: Division of Botany and Zoology, Building 116, Dally Rd, Australian National University. Park (the Xmas meeting is at the adjacent building 44 and will start at the earlier time of 6:30 pm)

Field Naturalists' Association of Canberra

GPO Box 249

Canberra ACT 2601



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: