

The Murrumbidgee Naturalist



August 2009 - Issue #163

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Objects of the Club

To facilitate and promote the knowledge of natural history, and to encourage the preservation and protection of the Australian natural environment, especially that of the Murrumbidgee River Valley

Wonderful Wattles

Photos Eric Whiting



Clockwise from top *Acacia doratoxylon* Currawang,
A. decorai Western Golden Wattle, *A. lineata*
Streaked Wattle, *A. Hakeoides* Hakea Wattle

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For the next issue by
Wednesday 2 September

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Book in for the

Spring Campouts

at Shepherds Hill

Oolambeyan National Park

Booligal Station

Details on page 3

Murrumbidgee Field Naturalists Inc. Office Bearers and Annual Subscriptions

| | | | | | |
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MEETINGS ARE HELD EACH MONTH, EXCEPT JANUARY

FIELD TRIPS NORMALLY TAKE PLACE ON THE FOLLOWING WEEKEND.

LEETON MEETINGS SECOND THURSDAY - Seminar Room 1, Block 34 at Dept. Primary Industry at 7.30 PM

GRIFFITH MEETINGS FOURTH THURSDAY - Conference Room, Dept. of Primary Industry AT 7.30 PM

INTENDING NEW MEMBERS, GUESTS AND VISITORS WELCOME.

Membership enquiries:

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| Annual Subscriptions: | Family | \$45.00 | Adult/Single | \$35.00 | Journal only/Concession | \$25.00 |

Opinions expressed by authors are their own and do not necessarily represent the policies or views of the Murrumbidgee Field Naturalists Inc.

Presentation by Meaghan Rourke, Research Scientist with NSW Fisheries, at the Yanco July meeting.

Nella has compiled a summary of Meaghan's information packed presentation. Our thanks go to Meaghan for coming to talk to the Club; her enthusiasm for her work and for conveying it to us was most impressive.

Meaghan's first research project was White-browed Babbler Genetic Structure. She found that the two main sub-species coincide with Barriers 1. Bassian Barrier, 2. Mallee Barrier, 3. Grey Range Barrier.

Then she was involved with the Abalone Marker Project.

Her talk tonight was

"Parentage of Hatchery Cod, and wild population genetic structure and how this affects future stocking".

- The Murray Cod is the largest freshwater fish in Australia, the record size has been 1.8 metres long and weighing 113 kg.
- All species in the genus *Maccullochella* are endangered, except for Murray cod, which is listed as vulnerable.
- Cod are valued for recreation, community, cultural and commercial fisheries (which closed in 2003)
- The threats to cod are:
 1. River regulation and river management eg snag removal.
 2. Pollution- domestic, agricultural and industrial.
 3. Introduced species and over-fishing.
 4. Stocking programs which can lead to a genetic modification of wild populations.
- Hybridisation of stocked fish with wild fish can degrade local adaptations.
- There can be loss of genetic diversity when few broodfish contribute to the breeding program.

The aims of Meaghan's research was to

1. Determine parentage of captive wild fish.
2. Identify wild population structure of Murray Cod.

Some of the results included:

- Cod can spawn more than once a year but less than 50% of more than 80 broodfish spawned over a three-year period.
- The current breeding program does not capture the full level of genetic diversity present in broodfish.
- Local fish may out-compete stocked fish perhaps due to adaptations to local conditions.
- Meaghan also spoke briefly about another research project- Catfish Genetic Structure
- Catfish have not been stocked like Murray Cod.
- They have declined markedly therefore may be stocked in the future to help increase their numbers.
- There are more genetically distinct populations of catfish than Murray cod.

Spring Camping Trips

The following Camping trips are planned for this spring

Friday 14 to Sunday 16 August -

Shepherds Hill, - Camping trip no facilities - bring your own tent, bedding, chair, mug, wine glass and enough water for yourself for drinking and washing, food



The Challenge is in the Identification

and plonk will be provided, cost \$40/head.

This is mallee country and from the looks of things around the Riverina there should be plenty of birds and flowers to see. There is a good stand of *Acacia curranii*, a rare wattle that should be in full bloom. We will check out the Holly-leaf Grevillea *Grevillea ilicifolia* and might just get to see the Malleefowl, Shy Heathwren, Southern Scrub Robin, Chestnut Quail-thrush, Gilberts Whistler and pray for a Red-lored Whistler.

If you would like to come please contact me so I can provide you with maps and GPS coordinates to guide you to the camp site.



Saturday 29 to Sunday 30 August - Oolambeyan, - Arrive Saturday Lunch time, stay in Homestead, beds available - bring your own bedding, mug and wine glass etc, food and plonk will be provided, cost \$25/head. This will include a Saturday afternoon walk along the sandhills and spotlighting for Plains Wanderers in the evening after dinner. Another walk to areas of interest on Sunday morning.

Friday 11 to Sunday 13 September - Booligal Station, - Stay in Homestead, beds available - bring your own bedding, mug and wine glass etc, food and plonk will be provided, cost \$40/head. Points of interest include the Homestead grounds, the Lachlan River, Woolshed and Shearers Quarters, Torrigan Weir and the Booligal Wetlands (Lignum Swamp).



I need to know numbers so I can make all of the relevant arrangements. Please let me know if you are interested in participating in any or all of the above outings, please contact me by Email on bill.moller@industry.nsw.gov.au (yes please note the change of email address, although the old one will still work for a while), or phone me on 02 69 601 311, or Mobile 0427 102 673.

Do it Pronto

Outings in July

There have been three outings into areas somewhat natural during July. These have been very pleasant and somewhat encouraging. The mild winter temperature and moderate July breeze, along with the damp ground, thanks to the June rains that has made for a much softer foot fall, has yielded excellent winter walking. The June rains and thus far mild temps has also kick started the vegetation.

You know it is amazing how a covering of lush green on the ground makes for a relaxing calming bush experience, it is actually mostly perception rather than anything tangible, but they were certainly feed good experiences, well at least they were for me.



Thick Fruited Buttercup *R. pachycarpus*

The lush green, however, was actually mostly introduced weeds, but there were a few gems among them.

The two hill walks (Goat Creek - Cocoparra NP and Galah Dam – Binya SF) yielded some pleasant surprises, heaps of Dwarf Greenhoods - *Pterostylis nana*, the promise of plenty of Leopard Orchids - *Diuris pardina* or at least some other *Diuris spp.* and there was also plenty of Bulbine Lily *Bulbinopsis bulbosa* in the vegetative stage, promising a golden display in a month or so. Other plants in flower worth noting included, Irongrass – *Lomandra patens*, there was another

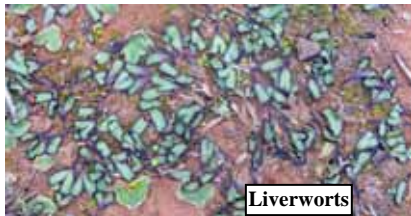


Dwarf Greenhoods - *Pterostylis nana*

Mat Rush probably *Lomandra filiformis* (I didn't notice any fragrance but then I wasn't looking that hard), Pretty Cryptandra – *Cryptandra amara*, Downy Waxflower – *Philotheca brevifolia* (*syn. Eriostemon brevifolius*) and some Buttercups standing out like beacons in the bush, these were either Common Buttercup *Ranunculus lappaceus* or Thick Fruited Buttercup *R. pachycarpus*, Eric called them the latter and I am not about to dispute that. There was also a few Flowering Stock – *Harmsiodora blennodioides*.



Pretty Cryptandra – *Cryptandra amara*



Liverworts

That wasn't all of the plants in flower but certainly the most noticeable. A few other items of interest included a few fungi which I didn't take the time to try to identify but also some great displays of Mosses and Liverworts.

Coleambally Biodiversity Blocks

It was interesting going back to the Coleambally Biodiversity Blocks for another look; it was about 12 months since our last visit. Not a lot has changed in this dryland environment as you would expect, particularly in a period with continuing below average rainfall, however, there were some subtle changes. There was the appearance of small Boree plants – *Acacia pendula* and other perennial shrubs making a comeback and the browse line seems to have faded a bit more. The highlight of the day though would have to be the presence of Superb Parrots, they were everywhere and could be seen and heard all the time we were in the blocks. Another special, was the sighting of a female Wedge-tailed Eagle sitting on her nest.

I have attached a combined bird list for the Blocks and to please Max I have used some of the alternative common names (there is a matching list towards the back of the Newsletter with the currently accepted common names).

Bird List for Biodiversity Coleambally Blocks 11 July 2009 (Old common names)

| | | | | |
|------------------------|----------------|-------------------------|-----------------------------------|--------------|
| Crimson-bellied Parrot | Echong | Farmer's Friend | Cockatoo-parrot | Brown Hawk |
| Barraband | Lambert's Wren | Yellow-breasted Tom Tit | Whistling Jack | Maned Goose |
| Grass Parrot | Topknot | Tom Tit | Eaglehawk | Widgeon |
| Buln-buln | Bronzwing | Tom Tit | Carrion Hawk | Wild Duck |
| Goulie | Mud Lark | Black Jay | Fork-tailed Kite | Wood Teal |
| Native Canary | Flutebird | Hoverer | And on the road to and fro | Tree Swallow |
| Diamond Sparrow | Parson Bird | Little Falcon | Black-shouldered Kite | Cranky Fan |
| Soldierbird | Crow | Lousy Jack | | |
| | Morningbird | House Swallow | | |

Goat Creek Bush Walk

The Goat Creek walk is one of my favourites and this one was to me the best yet, it probably has a lot to do with the stuff I mentioned in the first two paragraphs, I found it a most rewarding walk, there was just a bit of a seep down the face of the Goat Creek Falls but a whole dribble going over Falcon Falls.

I was also particularly taken by the way the sliver of rock had been pushed off the parent rock apparently by the force of water. Must have been in some distant past wetter time. [Eric recalls that the sliver formed an arch when he saw it in 1995. Ed.]

Space in parent rock that was originally occupied by the sliver below.

Sliver of rock apparently displaced by the flow of water and debris.



Galah Dam – Binya State Forest

It is probably a misnomer to call this outing Galah Dam, as it was just the place we decided to park.

We started the day with a GPS training session conducted by David Egan, hopefully some of the group will be more confident to venture further afield now, or with a little more practice maybe.

The day was a bit cold, or that little bit of breeze was, it seemed to cool down quite a bit while we were standing around doing the GPS training. However, we assumed that we would soon warm up once we started to walk.

There is a bit of a low ridge that runs roughly north south about two km east of Mt. Binya (or Binya Hill). I had crossed it a couple of times in the past and it had some good stands of Hill Sheoak – *Allocasuarina verticillata*, Glossy Black Cockatoo tucker. I was a bit keen to see how it was going, so we did a loop to the eastern side of the ridge and found a bit of a bird hotspot. There were a number of small birds present, the two specials were the Speckled Warbler and Mulga Parrot. (a full bird list can be found below). Having spent some time with the birds and got pretty cold standing around, we headed up onto the ridge.



The drought has taken a pretty heavy toll on the Hill Sheoak (as well as most other plants, lots of dead stuff) but there was some mature plants still surviving and there was evidence that there was some flowering activity happening, there were also a good number of small plants growing as well so there is hope that the population of this important food tree will rebuild.

The walk up the hill did the trick in warming us up but it didn't last long. We got back to the cars for lunch, the chill wind had picked up a little so there was a bit of a scramble to get a fire going to warm up. A bit of hot soup helped, we hung around the fire for a bit of a chat after lunch, but it was short lived, the "chance of a shower", chanced to come along, this eventually put an end to our revelry. There were hurried good bye's and a scatter of cars.



One thing these outings did flag was that there just might be a little bit of a spring this year.

O goodie.

Bird List Binya State Forest – Galah Dam area 26 July 2009

| | | | |
|-----------------------|----------------------|--------------------|----------------------|
| Australian Wood Duck | Eastern Yellow Robin | Varied Sittella | Peaceful Dove |
| Galah | Willie Wagtail | Yellow-eared Miner | Common Bronzwing |
| Mulga Parrot | Splendid Fairy-wren | White-plumed | Rufus Whistler |
| Red-rumped Parrot | Speckled Warbler | Honeyeater | Striated Pardalote |
| Australian Ringneck | Inland Thornbill | Spiny-cheeked | Grey-crowned Babbler |
| Black-shouldered Kite | Chestnut-rumped | Honeyeater | White-browed Babbler |
| Grey Shrike-thrush | Thornbill | Striated Pardalote | Apostle bird |
| Red-capped Robin | Southern Whiteface | Silverye | White-winged Chough |

Bill Moller

PINK COCKATOO *Cacatua leadbeateri*

In my opinion, the clowns of the bird world are the Pink Cockatoos. Once I saw one swinging back and forth, upside down, hanging by one leg and making a terrible raucous. Thinking the creature had been snared, I went to its rescue, but it flew off for several metres and attached itself to another twig and repeated the performance. On another occasion, on the 2nd green of the Griffith golf course, a group of five birds were climbing up the flag stick and as one reached the top it was pushed off by the next in line and took its place at the bottom of the flagstick to continue the game. We watched them repeat this three times before they became aware of us and flew off.

The Pink Cockatoo spends most of the day feeding either on the ground or in branches of seed, nut or fruit trees, though pine and acacia trees are favoured.

The mating pairs nest in the hollow of a tree and line the nest with bark where they lay 2-4 white oval eggs. Both parents incubate the eggs with the male doing day duty and the female on night shift for 30 days. Both feed the young which fledge in 6 weeks.

The birds can be migratory, but usually localise when conditions suit, and can be spasmodically situated in arid, semi arid, mallee or mulga areas. In the latest edition of Simpson and Day field guide, they are considered "moderately common" status, where the Readers Digest says "generally scarce". Same thing?

Other names:

| | |
|----------------------------|------------------------|
| Major Mitchell's cockatoo, | Leadbeater's cockatoo, |
| Desert cockatoo, | Cochlerina |
| Chochalott. | Wee juggler |

Identification

Male 360mm, female 350mm
Upperparts white, face neck and breast pink
Crest has red and yellow stripe, female yellow stripe broader.
Male has brown iris, female red.



Photo from Readers Digest

Sue Chittick-Dalton

What a find

Oh what pleasure it is to find something that you have not seen for several years. Such an occasion occurred during the Binya excursion even though the plant in question was rather dull and insignificant to look at. Western Stackhousia, *Stackhousia muricata* is nowhere as showy as its close relative *Stackhousia monogyna*, the familiar and widespread Creamy Candles. The flowers of Western Stackhousia are, smaller, brownish and rather sparsely spaced in a small spike. Whether it is so easily overlooked or is genuinely rather rare is hard to say. The distribution notes in the *Plants of the Western Plains* rather sums it up. Western Stackhousia is recorded as occurring in the Cobar to Condobolin area but with some confusion with the similar Slender Stackhousia *Stackhousia viminalis*. The notes for the latter include:

“Collected from the Condobolin and Warren districts in the east and from the Tibooburra district in the extreme north-west; possibly more frequent in the region than is indicated by these records.”



Drawings from *Flora of NSW* – Gwen Harden

My records include sightings in the northern part of Cocoparra Nature Reserve, Shingle Hut Creek, and the northern side of Brogden. The latter was my last local sighting and dated July 1999. That same year I recorded it at several sites in and around Goonoo near Dubbo.

Pat Weare refers to Slender Stackhousia *Stackhousia viminea* but that species is actually a coastal-tablelands one according to the Flora of New South Wales; totally different habitat to *Stackhousia muricata*.

Eric Whiting

Captive Breeding Programs: For and Against

Contributed by Nella Smith and Max O'Sullivan and prompted by an interesting letter by **Allan Greer** in the **Birds Australia Wingspan** magazine of **March 2009 (Vol. 19, No. 1)**.

I am including this because it has some good arguments about the value of captive breeding programs of threatened species. The pro-argument was raised recently on the **ABC's 7.30 Report** by **John Young** concerning the cuts in funding by the Queensland Government for the rapidly declining **Eastern Bristlebird** of the temperate rainforests of Eastern Australia. The Queensland Government has cancelled the program after a number of years when there had been a successful breeding and release of up to 8 birds. Instead of spending the funds on a captive breeding program, the government has decided instead to fund research into maintaining and improving the natural habitat of this species particularly on the Lamington Plateau. This decision comes after spending nearly \$6 million setting up the captive breeding facility and supporting it for a number of years.

Captive Breeding Programs: Who benefits? - the contrary argument resulting from the recent release of captive bred Regent Honeyeaters in Chiltern late last year.

First, Allan Greer argues, the program took birds from two geographically distant populations and interbred them in captivity. This was originally justified on the basis that there was little genetic difference between the two populations. But who is to say how little is little enough?

Second, the program introduced birds into a habitat already inhabited by a presumably naturally occurring population of this honeyeater around Chiltern. Furthermore, this population, albeit small, was breeding successfully. If the population was at carrying capacity, why introduce more birds to it? Or, if the local population was breeding but declining, why introduce more birds to a deteriorating situation?

The sad fact is that all captive programs are treating symptoms, not causes. The causes are habitat destruction driven ultimately by increasing human population and per capita material consumption exacerbated in recent years by continued drought.

But the greatest flaw of captive breeding programs is that they change the animals that pass through them. In the short term, an animal's behaviour and physiology changes from the moment it is caught and confined. And in the long term, a lineage's genetic composition begins changing with the first successful breeding cycle, compared to what it would have been if it had been left in the wild.

One has to ask who benefits most from captive breeding programs. They include commercial enterprises such as zoos that need a patina of conservation relevance; conservation organisations that use them to offer their members privileged access to up-close experiences with wildlife now denied to most people; universities who can milk them as a whole new area of applied "research" and the government regulatory and management agencies that see them as part of the environmental green-field opportunity for expansion.

It's not animals as evolving lineages that benefit. All they require is to be left alone in habitats undisturbed by humans. If we can't deliver on this, why bother? And don't tell me "It's until things get better."

Allan Greer is a biologist and environmental writer based at Mudgee.

In the same magazine, **Dean Ingwersen**, *Birds Australia Woodland Bird Conservation Officer*, responded on behalf of the Regent Honeyeater Recovery Team.

Dean writes: The Regent Honeyeater Recovery Team (and its scientific sub-committee) set up the captive breeding population in 1995 and released birds from this program into Capertee Valley, NSW, in 2000 and in Chiltern last year. From the outset these programs were designed as trials, to give us the capacity to act quickly and effectively should circumstances require it in the future. Captive release was not, of itself, seen as an easy option for 'saving' the species.

Three lines of evidence demonstrate that there is little or no genetic structuring within the population and the team considered them strong enough to justify the pooling of existing captive birds from different regions, rather than taking more birds from the wild to achieve an adequate population for long-term captive management.

Further, a recovery team initiated genetic study in 1997 found that 'the



Regent Honeyeater
Dean Ingwersen/Birds Australia

pattern of variation detected to date [across the range of the species] does not provide evidence of regional population subdivision within the Regent Honeyeater’.

Allen Greer also questions the decision to release birds into habitat already containing naturally occurring Regent Honeyeaters. This choice was quite deliberate. Determining what constitutes high quality habitat for any species is very difficult, and especially so for a highly mobile and nomadic species like the Regent Honeyeater. The honeyeater is a social species and historical and recent evidence indicates that it nests in loose colonies whenever population numbers allow. Quite possibly, when colony size falls below a critical threshold, breeding success is compromised, and the population falls away.

The fact that wild birds returned to the site and mixed with the released birds suggests that there was no serious resource competition.

The release of birds at Chiltern was conditional on reasonable climate and resource abundance, and fortunately conditions were suitable.

Remnant retention and re-vegetation have been the focus of the recovery program since the beginning – in north-east Victoria alone at least one-quarter of a million trees and shrubs have been planted for the Regent Honeyeaters.

Finally, universities do incredibly valuable research on increasingly limited budgets and without the collaborative work of zoos around the world several species would already be extinct.

The letter by **Allen Greer** was also responded to by **Dr. Stephen Debus** from the **University of New England** in the **June '09** edition of **Wingspan (Vol. 19 No. 2)**. *Stephen has been studying and surveying Regent Honeyeaters for the past 20 years in the Bundarra-Barraba Operations Group area for the Regent Honeyeater Recovery Team.*

At the time of the release of the captive-bred birds in Chiltern last year there were as few as 5 birds recorded in the whole of Victoria with just 3 around Chiltern – hardly a capacity population! Stephen predicts that in NSW, we are headed for the same situation unless habitat loss and degradation are halted. The data on bird numbers, of between 1,000 to 1,500 birds in NSW, is outdated being estimated on figures gathered 15 years ago. Nowadays counts yield only a few tens in Capertee, and fewer than 20 in the Bundarra-Barraba area in 2008 (none were found in 2007).

This apparent decline of as much as 90% in three generations of the birds (3x5years) meets the criteria for **Critically Endangered** listing. Thus making it imperative to introduce a captive breeding program in NSW before the birds disappear entirely in the wild.

Bird List for Coleambally Biodiversity Blocks 11/07/09 (accepted English Name)

| | | | |
|-----------------------|-------------------|---------------------|---------------------------------------|
| Bluebonnet | Crested Pigeon | White-winged Chough | And on the road to and fro |
| Superb Parrots | Pee-wee | Australian Kestrel | Black-shouldered Kite |
| Red-rumped Parrots | Australian Magpie | Hobby | Brown Falcon |
| Galah | Grey-crowned | Apostlebirds | Australian Wood |
| White-plumed | Babblers | Welcome Swallow | Ducks |
| Honeyeater | Little Ravens | Cockatiel | Australian Shoveller |
| Spotted Pardalote | Willy Wagtail | Grey Butcherbird | Pacific Black Ducks |
| Noisy Miner | Straw-necked Ibis | Whistling Kite | Grey Teal |
| Rufous Whistler | Yellow Thornbill | Black Kites | Tree-Martins |
| Common Bronzewing | Yellow-rumped | | Grey Fantail |
| Variegated Fairy Wren | Thornbill | | |

What is ?

What is the longest worm that you have seen?

I once saw one over a metre in length. It wasn't an earthworm. Being barely more than a millimetre in diameter it had the apt name of a Horse-hair Worm. These worms are members of one of nature's many minor phyla, with a loose relationship to the nematode worms. Like them Horse-hair Worms are often parasites. The one I saw was I think a parasite in the air-ways of horses. The adult crawls out into water when the horse drinks to lay its eggs ready for the next horse to drink. The specimen I saw was in a horse trough in Corsica – I did not fill my water bottle there!

The longest (and biggest) worms are of course the Giant Earthworms of Gippsland, Victoria. They are so big that one can easily hear them as they move in their underground tunnels. Unfortunately they are now rare as their habitat has largely succumbed to forestry plantations and agriculture.

Eric Whiting

A look into the past - Part 4 - Prior Streams

The broad landscape of our region was created during the nearly 60 million years of the Tertiary period. It would be reasonable to expect that during the mere 1.6 million years up to the present only simple final touches would occur. The picture, however, is quite complicated. The Quaternary period has been characterised by abrupt swings in the climate from severe ice ages to periods of higher temperatures than now.

The general cooling from the humid and warm times of the Tertiary period actually started in the last quarter of that period as a result of the development of the circum-polar current with the drift of Africa, Australia and finally South America away from Antarctica. What marks the division between the periods is the change from a relatively stable climate to an extremely fluctuating regime. Southern Australia became increasingly influenced by the succession of highs and lows generated in the Southern Ocean. South-westerly winds as we are too well aware are colder than the northerlies, and cold air carries much less water. The south began to dry out starting from to the north of the present day Nullarbor in late Tertiary times but gaining rapidly into the early Quaternary.

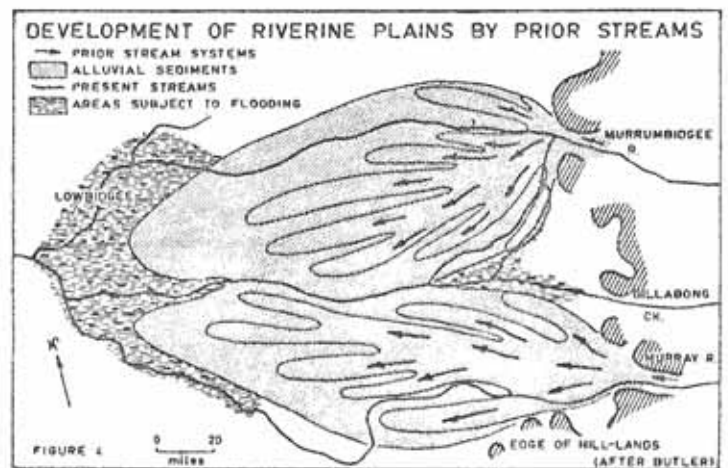
Some of the fluctuations in climate have been attributed to three cycles that occur in the Earth's orbit. Precession of the equinoxes caused by a wobble in the Earth's axis runs in an 26,000 year cycle, changes in the obliquity of the ecliptic fluctuates in a 40,000 year cycle, and changes in the eccentricity of the orbit round the Sun (Earth is currently closer to the sun in December than it is in June giving milder winters in the Northern Hemisphere) has a 92,000 year cycle.

The increasing aridity of southern Australia saw the conversion of the uniform temperate rainforest into open woodlands of eucalypts, wattles, etc. and in drier areas into grasslands or saltbush country.

It was not until around 600,000 year ago that the climate cooled enough to trigger the first Ice Age of the period (in the Northern Hemisphere). For us it was marked by an extremely dry period. This is the time the great desert dune systems began forming including those in north-west Victoria, and probably the sandy traits piled up on the western side of our ranges.

There were at least six major glacial periods, at 500,000, 320,000, 240,000, 115,000, 60,000 and 25,000 years ago. After each one the climate changed to warmer and wetter interglacial (we're supposedly in an interglacial period now). Whereas sea levels dropped to as much as 120 metres below present in the coldest glacial, they were much higher in at least some of the interglacials.

Modest earth movements have uplifted a bit of a north-south ridge around the South Australian border. The rise occurred towards the end of the Tertiary period and gave rise to a large lake backing up the waters of the Murray, Murrumbidgee, and Lachlan rivers. More importantly for the later development of the Riverina it resulted in the very low gradient of the rivers. Alluvial fans of deposited material carried down from the erosion of the eastern highlands began to spread out from the points the rivers first met the lower gradients. For the Murrumbidgee this point is Narrandera.



In dry times river flows were sometimes insufficient to maintain a channel, ending in swamps like the present great Cumbungi at the end of the Lachlan or the Macquarie Marshes. These would later fill in the wetter periods. On further drying out the lake bed deposits were blown out to form semicircular lunettes. This also happened along lengths of the rivers forming the linear source-bordering dunes. In addition the whole of the Riverina was frequently covered in a general layer of wind-blown deposits (this is still happening in a minor way with each of the dust storms we get).

In the full interglacial river flows were four to five times greater than now and considerable amounts of sediment were deposited in the alluvial fans and spread widely by the meandering rivers and ana-branches. Over bank flooding greatly drops the current away from the main channel and as slower currents cannot transport as much material, levee banks are built up and the main channel bed can ultimately be raised above the level of the surrounding plain. A break in the levee can send all or part of the river off on a totally new course.

So the Riverina is composed of layer upon layer of sediment dropped from a veritable network of old stream channels and interlaced with blown deposits. Four of the later channels have been traced and dated. The

Coleambally channel (or prior stream) was active from 105,000 to 80,000 years ago can be traced from near Morundah going west through Coleambally, then splitting into two channels. One arm trends to the south and west before losing its definition. The other arm can be traced westwards towards Booroorban before being obscured by younger deposits.

The second oldest prior stream is the Kerarbury system dating from 55,000 to 35,000 years ago. Traces of this stream start at Tombullen Swamp and generally tracks westwards to Moulamein becoming lost in the modern deposits of the Edward River.

The system however has four major distributaries – one (apparently the last) going southwards from Tombullen, a second going northwestwards cutting across the present Murrumbidgee River at Darlington Point before heading on towards Griffith in multiple distributaries.

The third major arm deviates from the mainline near Hay with multiple branches all going north-westwards.

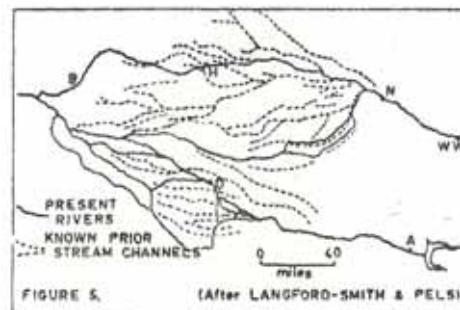
The fourth arm bifurcates from the main channel north-east of Booroorban and runs roughly parallel before being lost at the western edge of the plain under the Mallee dunefield.

The third prior stream dated is the Gum Creek system active from 35,000 to 25,000 years ago. First traces appear upstream from Yarradda Lagoon and generally underlies the present floodplain. It is distinguishable by the longer wavelengths of the meanders (indicating its greater stream flow). Below Yarradda several ana-branches can be traced. One such branch is occupied by the present Gum Creek along its loop back to the Murrumbidgee at Hay. A second branch is largely obscured by the present river all the way down to around Maude. It seems that both of these branches were active at the same time. The Uara channel leaves the old Gum Creek prior stream near Maude and travels south-westerly into Yanga where it terminates in a complex array of lunette-bordered lakes.

The last phase of the prior streams is called the Yanco system and was active from 20,000 to 13,000 years ago. The current Yanco and Billabong Creeks are incised into this system until the latter joins the Edwards River. The Yanco Creek prior stream can then be traced along a separate westwards line across the plain.

Finally about 12,000 years ago the climate became less wet and the current flow lines were established. Or should I say the pre-river control flows were established. What affects the modern irrigation system has on the geomorphology of the Riverina is anyone's guess.

Prior Streams



Eric Whiting

What Bird is That! Answers to last month's list of 'older' bird names

- | | | | |
|-------------------------------|------------------------------------|--------------------------|---|
| 1. Barraband | Superb Parrot | 18. Maned Goose | Wood Duck |
| 2. Broad-billed Roller | Dollarbird | 19. Many-coloured Parrot | Mulga Parrot |
| 3. Chicken Hawk | Brown Goshawk/Collared Sparrowhawk | 20. Mountain Lowry | Crimson Rosella |
| 4. Chook Chook | Striated Pardalote | 21. Murray Smoker | Yellow Rosella (aka Murrumbidgee Lowry) |
| 5. Dabchick | Little or Hoary-headed Grebe | 22. Peter Peter | Jacky Winter |
| 6. Diamond Sparrow | Diamond Firetail | 23. Plains Turkey | Bustard |
| 7. Diver | Little or Hoary-headed Grebe | 24. Purple Gallinule | Purple Swamphen |
| 8. Eaglehawk | Wedge-tailed Eagle | 25. Redhead | Red-browed Finch |
| 9. Funereal Cockatoo | Yellow-tailed Black Cockatoo | 26. Robin Redbreast | Flame or Scarlet Robin |
| 10. Georgie | Painted Honeyeater | 27. Rock Pebbler | Regent Parrot |
| 11. Green Leek | Swift Parrot (also Superb Parrot) | 28. Rose-breasted | Cockatoo Galah |
| 12. Ha Ha or Woop Woop Pigeon | Laughing Kookaburra | 29. Semipalmated Goose | Magpie Goose |
| 13. Happy Family | Apostlebird or Babbler | 30. Shepherd's Companion | Willie Wagtail |
| 14. Happy Jack | Grey-crowned Babbler | 31. Soldierbird | Noisy Miner |
| 15. Kite-Hawk | Black Kite | 32. Stanley Rosella | Western Rosella |
| 16. Leatherhead | Noisy Friarbird | 33. Tomtit | Yellow or Yellow-rumped Thornbill |
| 17. Lotusbird | Jacana | 34. Turkey-Quail | Plains Wanderer |
| | | 35. Wee Juggler | Pink Cockatoo |
| | | 36. Zebra Duck | Pink-eared Duck |

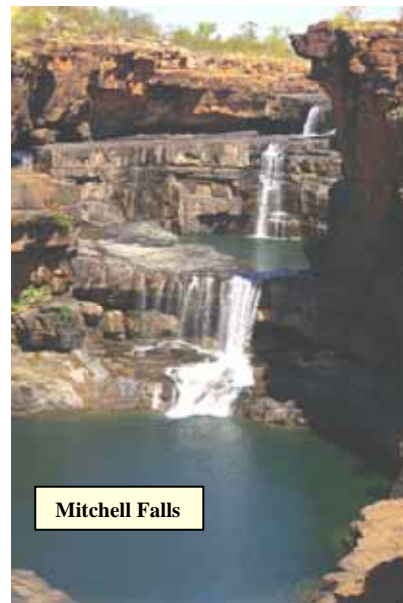
Kimberley Trip July 2009

Birds Australia has a great Bird Observatory at Broome for shorebirds and bush-birds. A lot of over-wintering wading birds were present with Marsh Sandpipers and Sharp-tailed Sandpipers just arriving this week from their breeding grounds in Siberia. However, a large number of over-wintering shorebirds were still present including Godwits and Asian Dowitchers. In Roebuck Bay were also large numbers of terns mostly Gull-billed, Caspian, Crested and Lesser Crested and the occasional Brown Booby. The bay was patrolled by raptors including Osprey, Brahminy Kite and White-bellied Sea-eagles.

At the southern end of the bay is mangrove-lined Crab Creek in which Dusky Gerygone and White-breasted Whistlers were common. Streeters Wharf in Broome itself had Mangrove Golden Whistler and Red-headed Honeyeater.

After leaving Broome, our first stop was an overnight at Windjanna Gorge and this was followed by two nights at Mornington Station, an Australian Wildlife Conservancy (AWC) property that focuses its research on the Gouldian Finch and Purple-crowned Fairy Wren.

After several days of travel we reached the Mitchell Plateau where we camped 4kms from the Mitchell Falls, a spectacular four-tiered falls and, equally as spectacular, was the walk to the falls itself with small falls, lagoons and creek crossings on the way. The main purpose of our visit was to locate the very rare and isolated Black Grasswren that was easily located at Little Merten Falls where up to 10 birds were seen by the group.



Mitchell Falls

The trip then traveled eastward along the Gibb River Road to Parry's Lagoon near Wyndham and then onto Kununurra where we were taken on a special early morning birding cruise on Lake Kununurra. Although Kununurra is known as the finch capital of the Kimberley it was very disappointing, possibly due to a lack of good seeding grass habitat along the irrigation channels. One interesting feature was that many mango orchards are being bulldozed and replaced with Sandalwood plantations. (Neville James's son works on one of these plantations south of Darwin.)

Sandalwood is like Quandong in that it requires a host plant in early stages of growth and the White Dragon tree, *Sesbania formosa*, is used as the host plant.

From Kununurra, we traveled west on the Great Northern Highway to the Bungle Bungles with spectacular ranges of limestone, sandstone and volcanic rock on the way. The road that takes you to the Purnululu National Park from the turn off goes through Mabel Downs Station that is 50km of windy, hilly road with creek crossings to slow down for. It was slow but very scenic.

The layered domes of Purnululu National Park are not visible until you actually go into sections of the range such as the Picaninny Gorge area. Then the spectacle is revealed.

The walks to Cathedral Gorge and Echidna Chasm were amongst the best we've ever encountered. It's impossible to imagine what this would be like in the wet. The water from the run-off from Purnululu contributes 1/7 of the inflow into Lake Argyle and Lake Argyle holds 18 times the volume of Sydney Harbour!

The return trip to Broome was highlighted by a boat trip through Geikie Gorge a limestone reef carved out by the mighty Fitzroy River (again, too hard to imagine what it would be like in the wet season). You could see the high water marks half way up the cliffs.

It was good to see the wide distribution of Brolgas, Bustards and Bush Stone-curlews and Barking Owls were often heard in the night in most campsites.

The total bird count for the trip was close to 200 including some Kimberley endemics and variations to some of the eastern species.

A feature of the Kimberley was the number of huge Boab trees with their bulbous trunks and bare branches at this time of the year festooned with huge seedpods.



Boab Tree

Nella Smith

Touching orchids *Margaret Ning*

Some time ago, I heard David Jones say that people should **not** touch orchids in the wild as it makes them more susceptible to being grazed by kangaroos or wallabies. According to a recent comment by David (via a friend), his view is "It's been my experience on countless occasions that when people handle an orchid, more often than not it gets eaten very shortly after. The cause/effect came to me after watching roos/wallabies in a national park sniffing/exploring where people had been earlier, even nibbling on the grass where they had been sitting." David considers this to have happened on too many occasions for it to be a coincidence and he considers that many other people have observed this.

What a nuisance! Many of us like to take those close up photos and often need to manipulate the plant to get the image just right. If you feel the need to do this, you might consider manipulating the plant or the grass near it with a twig or a leaf - but try to avoid physical contact. Perhaps you already have a good enough photo of that particular orchid!

It seems a particularly good time to let people know about this concern given that normal spring/summer time activities are upon us. I have personally found it a little difficult to change my ways on this issue, but I am getting there and if a little retraining will help our orchid numbers along in these dry times, that has to be a good thing.

[Taken from Friends of Grasslands newsletter Jan-Feb 2009]

Rankins Springs Birds of the Bush Festival

2, 3 & 4 October 2009

Guided Bird Tours

Spring Fair and Market Day

Art and Photography Exhibitions and Activities

Special Guests

Enquiries:

Jenny (02) 6965 3384

www.birdsofthebush.com

birdsofthebush@yahoo.com.au

The Birds of the Bush Festival opens on the Friday night with a traditional Australian 'pub dinner' complete with entertainment and special guests. Award winning bird and nature photographer, David Kleinert, is the festival's featured artist. There will be an exhibition of David's fantastic work on Saturday, when you can also enjoy bird watching tours of the region, the Spring Fair and Market Day with stalls, rides and activities for children and their families and a competitive Art and Photography exhibition with prizes in all sections. Then on Sunday morning following the dawn birdwatching tours, join the locals for a delicious BBQ 'Big Breakfast Out' before touring the nearby Cocoparra National Park.

Entry forms and information about the Birds of the Bush Festival Competitive Art and Photography exhibition, prizes and guidelines will be available on the Birds of the Bush Festival website soon.

A list of the bird species found at Rankins Springs and Cocoparra National Park is available on the Rankins Springs Website www.birdsofthebush.com

AUSTRALIAN BIRDFAIR

13 - 15 NOVEMBER 2009

"AUSTRALIA THE LAND OF PARROTS"

venue Yanco Agricultural Institute, Leeton-Narrandera Road, Yanco.

key activities Flights of Fivebough, seminars and lectures, music, art, photograph and educational seminars for school students

bird watching tours -

Murrumbidgee River. Binya State Forest, Oolambeyan National Park

more information at www.australianbirdfair.org.au

S I G H T I N G S

| | | | |
|------------------------------------|---------------------------------------|----------|----------------|
| Black Falcon | Wumbalgal | 02/07/09 | Nella Smith |
| <i>Stackhousia muricata</i> | Stony Road, Binya State Forest | 26/07/09 | Eric Whiting |
| Gooma Bush | Terrels Winery, Whitton Stock Route | 26/07/09 | Joanne Tarbit |
| Red-necked Avocet [30+] | Fivebough Swamp | 06/08/09 | Max O'Sullivan |
| Black-tailed Native-hen [2] | Fivebough Swamp | 06/08/09 | Max O'Sullivan |
| Buff-banded Rail [1] | Fivebough (channel near the car park) | 06/08/09 | Max O'Sullivan |
| Purple Swamphen [100+] | Fivebough (in one flock) | 06/08/09 | Max O'Sullivan |
| Red-kneed Dotterel [40+] | Fivebough (in one group) | 06/08/09 | Max O'Sullivan |

FRUSTRATIONS AND JOYS OF A BIRD WATCHER

As most birdwatchers know there is a lot of joys and frustrations in bird watching, I thought you might like to hear some of mine on this trip.

First frustrations; and I have had a few starting off with all the rain in North East NSW at the start of my trip but I am trying to forget that so will mention a few others. Since I left home I have been trying to see the Noisy Pitta. Everywhere I went with suitable habitat, I went looking with no success and I would have been pulling my hair out if I had any. Then there was the Golden Bowerbird, one of the reasons I went up to Paluma which is about 65 km NE of Townsville was to see that bird. At Paluma I got directions to three Bowers which I found ok and thought I had it made but after over 5 hours watching those Bowers over 4 days with no success you can't imagine how frustrated I was. Interesting Bower the Golden Bowerbird makes nothing like any of the Bowers of other Bowerbirds that I have seen, the ones I saw were up to a metre high but some I have been told can go up to nearly 2 metres high.

Another thing that was frustrating was for all that time I spent looking at those Bowers which was at different times of the day the only birds I saw was 1 Grey Fantail and 1 Grey Headed Robin. I have found rainforest bird watching to not be very rewarding, on the fringes or along the bigger tracks they can be quite good. Paluma village was quite good. That seems to be so in any of the rainforest areas I have been to and where I am now which is Broadwater State Park just North of Ingham. The camp area is very good for birds but little in the rainforest, all I have got is a sore neck.

The Joys of bird watching are many and well worth the frustrations. One of the best joys is sighting a new bird that you haven't seen before, it doesn't matter if it is just a common bird that everybody else in Australia has seen or an endangered one if you haven't seen it before it is a wonderful experience, I did finally catch up with the Noisy Pitta on the last day in Paluma and so far have sighted 15 new birds so that have made up for any frustrations I might have had.

Another of the joys of bird watching is the people you meet with like interest like Jon Wren in Bowen who took me out a couple of times to show me some of his favorite birding spots and I will never forget driving along side of the railway line at Abbots Point and seeing these big wings flapping over on the other side of the track. Jumping out of the Patrol we got the best view of a Spotted Harrier only a few metres away. Also Ian Boyd of Townsville BOCA who took the time to take me out twice and got 2 new birds for me, a Rufus Owl and a Black-throated Finch and next day we saw about 500 Plum-headed Finches with a few Chestnut-breasted Manikins thrown in as well. Also at Paluma Roy MacKay who showed me the locations of the Golden Bowerbird's Bowers and then let me come and watch the Victoria Riflebird, Spotted Catbird, Satin Bowerbirds and the Macleahs Honeyeater come and feed at his feeding table. Another of the joys of bird watching is the things you see are do such as sitting at a camp site having breakfast looking down a valley for about 30 to 40 km and watching the sun come up over the mountains which I did at Paluma or sitting by a camp fire at night either on your own or with friends or somebody you have just met looking at the stars or listening to a Dingo howl or both.

So as you see the joys outweigh the frustrations; that is why I so much like about living in Australia & being retired **I CAN DO ALL THESE THINGS.** As I am typing this I am sitting here in my Tee shirt shorts & thongs watching such things as Spectacled Monarch, Pale Yellow Robins, Lovely Fairy Wrens and a myriad of other birds forage in the trees just meters away and earlier as I was preparing lunch a Lace Monitor (Goanna) walk past, gee it's a hard life but someone has to do it and I am glad it's me

Neville James (on location)

Neville's email is nsdjames@bigpond.com for anyone who would like to send him a line.

- 13 August Thursday** **Leeton Meeting** at 7:30pm in the Seminar Room 1, Block 34 at Department of Primary Industry. Yanco Ag Institute
Speaker: Phil Tenison - Recent trip to Lake Eyre. Contact: Nella Smith 6959 1210
- 14 to 15 August Fri-Sat** **Campout at Shepherds Hill** - - Camping trip no facilities - bring your own tent, bedding, chair, mug and wine glass and enough water for yourself for drinking and washing, food and plonk will be provided, cost \$40/head.
bill.moller@industry.nsw.gov.au or phone 0427 102673 See page 3.
- 23 August Sunday** **Bush Walk – Taleeban Mining reserve** – Meet at Yenda PO at 8.30am. bring morning tea and Lunch, Easy to Medium walk approx 6-8km, flat, some bush bashing, **Contact** Bill Moller 02 69601311 or Mobile 0427102673
- 27 August Thursday** **Griffith Meeting** - Meet at DPI Conference Room 7.30pm
Guest Speaker. Paul Childs - Wetlands Ecologist Dept. Environment & Climate Change (NSW) **Topic:** ‘Developing a Wetland Management Plan for Yanga National Park’
- 29 to 30 August Sat/Sun** **Griffith Outing – Oolambeyan Camp out** – Arrive Saturday Lunch time, Stay in Homestead, beds available - bring your own, bedding, mug and wine glass etc, food and plonk will be provided, cost \$25/head. Contact Bill for further details email bill.moller@industry.nsw.gov.au or phone 0427102673. See page 3
- 2 September Wednesday** **Copy for September newsletter is due** –
Please send copy to bill.moller@industry.nsw.gov.au
- 11 September Friday** **Leeton Meeting** There will be no meeting at Yanco in September, this meeting will be replaced by an ordinary meeting at Booligal Station on Friday evening at 7.30pm.
- 11 to 12 September Friday to Sunday**
Spring Outing Booligal Station – meet at Booligal Station Friday afternoon, dinner will be provided. Stay in Homestead, beds available -bring your own bedding, mug and wine glass etc, food and plonk will be provided, cost \$40/head. Contact email bill.moller@industry.nsw.gov.au or phone 0427 102673. See page 3
- 20 September Saturday** **Bush Walk – Stackpoole State Forest** – Meet at Griffith Tourist Centre at 8.30am. bring morning tea and lunch. Hard walk approx 8km, some bush bashing, flat terrain. Contact Bill Moller 02 69601311 or Mobile 0427102673
- 24 September Thursday** **Griffith Meeting** - Meet at DPI Conference Room 7.30pm
Guest Speaker. TBA
- 27 September Sunday** **Griffith Outing – Scenic Hill** – Meet at the Green Tank, 8.30am Bring morning tea and Lunch, Contact Bill Moller 02 69601311 or Mobile 0427102673
- 2 to 4 October long w/e** **Rankin Springs Bird of the Bush Festival**
See Page 12 for details
- 8 October Thursday** **Leeton Meeting** at 7:30pm in the Seminar Room 1, Block 34 at Department of Primary Industry. Yanco Ag Institute
Speaker: To be announced Contact: Nella Smith 6959 1210
- 31 October to 1st November Saturday/Sunday** **Twitchathon**, Contact Bill for further details email bill.moller@industry.nsw.gov.au or phone 69601311 or Mobile 0427102673
- 12 November Thursday** **Annual General Meeting, election of Office bearers, to be followed by the Ordinary monthly meeting** at 7:30pm in the Seminar Room 1, Block 34 at Department of Primary Industry. Yanco Ag Institute
Contact: Nella Smith 6959 1210