



# FIELD NATTER

Field Naturalists' Association of Canberra

December 2006/January 2007

Field Naturalists' Association of Canberra

## MEETING Christmas meeting Thursday December 7

**MEETING:** Thursday 7th December at 6:30 pm. This is our **Christmas meeting** BYO your food for sharing and drink for a fun relaxing night **DOWNSTAIRS** in BOZO tea room. To maintain our good relations with ANU **please be prepared to take rubbish home afterwards.**

The night will have a '25' theme to celebrate the 25th anniversary of the club.

No meeting in January but we do have something different in January (see page 3)



## Club Outing

### Tallaganda and Lowden Forest Park Sunday Dec 17th

Brochure available from the Queanbeyan Visitor Information Centre.

Tallaganda NP and State Forest straddles the Great Dividing Range beginning about 10km south of the Bungendore/Braidwood Road, and extends down the range for a distance of nearly 50kms. A great variety of vegetation is reflected, ranging from dry, open woodland, forests of scribbly gum, ash and peppermint to forests of brown barrel, messmate and ribbon gum. This area is also host to a variety of native animal including birds, with the rare olive whistler and lyre-birds possible sightings. We will also be visiting Lowden Forest Park in the Tallaganda State Forest. Tallaganda is a wet forest and is generally wetter, cooler and more humid than Canberra in summer.

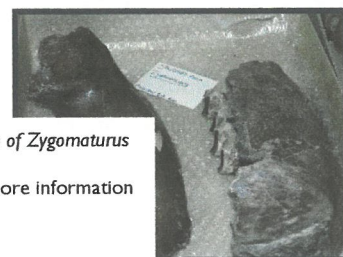
From Queanbeyan go along Bungendore Road, right to Captains Flat, follow the Braidwood Road. We will meet in Captains flat at 10:30am or carpool (ring Benj on mum and dads number 62544 556 and leave your number, or at work on 6272 3192. My mobile isn't working). Bring your lunch, sunscreen and wet weather gear/jumpers.

Benj

**NOTE— This excursion is a week later than normal**

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The grinding teeth of *Zygomaturus*

See page 4 for more information

Photos C Bunn

## Book review – Life of Marsupials

Chris Bunn

Over the last four months I have been having a very enjoyable read about the life of marsupials. The book provides a great appreciation of how marsupials have adapted to the special conditions of the Australian environment. In particular, adaptive strategies to cope with Australia's unpredictable climate, low nutritional value and productivity of the soil, and unpalatable plants.

The early chapters highlight what it is about marsupials that set them apart from other groups of mammals, and how their unique mode of reproduction and development is a highly adaptive strategy in an unpredictable environment

Later chapters cover all of the main groups of marsupials from South America, Australia and New Guinea including opossums, carnivorous marsupials, bandicoots, tree dwelling possums and koalas, wombats and finally kangaroos.

While there is a lot of detail, and some in depth scientific information, *Life of Marsupials* is quite accessible for readers with interest in natural history. Hugh Tyndall-Biscoe (a senior CSIRO researcher of 40 years standing) holds of the English language and his ability to explain the complex nature of marsupial biology is really very good. He keeps technical jargon to a minimum, and provides numerous illustrations. However, some Tables are exasperating where only Latin names are provided and a glossary would have been useful. Unlike many science books, many references are provided, but they do not interfere with the flow of the writing.

The insightful information of the remarkable lifestyles of these mammals makes for a very enjoyable read. I have chosen a few examples, completely at random, to illustrate the density of data provided.

(page 154) "Unlike in other mammals, (in *Antechinus*), there is only one spermatogenic wave so that there are no immature sperm in the testis at the start of the mating period, only mature sperm, which are progressively used up. This is a serious commitment to a single throw at reproduction. (All species of *Antechinus* have a very unusual reproductive strategy in which the males invest everything in their first and only breeding season due to

markedly elevated testosterone in the blood.)

(page 302) When did the hopping gait first appear in ancestral kangaroos? Transition from quadrupedal gaits to hopping probably occurred during late Oligocene to early Miocene (about 23 million years ago)

### (page 34) Darwin's ideas and alternatives

Darwin (1859) and others before and since him have assumed that the adaptive radiation of marsupials occurred in Australia because they were protected from competition with placentals by the isolation of Australia through the early Tertiary. *Tingamura* (provisionally considered to be a placental mammal) died out after Australia separated from Antarctica 45-38 million years ago while marsupials prospered. Two features distinguish living marsupials from living placentals and may have pre-adapted them for survival in Australia: their lower metabolic rate and their manner of reproduction (young age of birth) helping from the special conditions of low fertility soils and uncertain climates.

These brief examples of the remarkable lifestyles of marsupials makes for *Life of Marsupials* to be a very enjoyable thought provoking read.

## LIFE OF MARSUPIALS

HUGH TYNDALL-BISCOE



*Life of Marsupials* Hugh Tyndall-Biscoe  
Publisher: CSIRO PUBLISHING  
Publication date: 2005



**AUSTRALIA DAY**

**Celebrate Australia Day at breakfast**

**Corroboree Park**  
**Paterson Road and Corroboree Park Streets Ainslie**  
**8:00 am Jan 26**  
**Bring everything including chairs, food and friends**

**Corroboree Park - -a park of heritage significance**

Prior to the 1820s the site was marked by a clump of eucalypts and it was believed to have links with the indigenous people of the region and early settlers. The naming of the park in 1928 reflects the belief that it may have been used as a corroboree ground. The site is reportedly the initial campsite of James Ainslie, who was sent to the Limestone Plains in 1825 to establish a sheep station on behalf of Robert Campbell. .

Some of these eucalypts appear to have survived to the present day. The original planting for the park and subdivision was under the direction of Charles Weston, Canberra's first Superintendent, Parks and Gardens. It was mixed exotic and deciduous species. In the 1930s the members of the tennis club extended the original planting by some 500 plants under an unemployment relief program.



**Species of the Month – Earwigs**

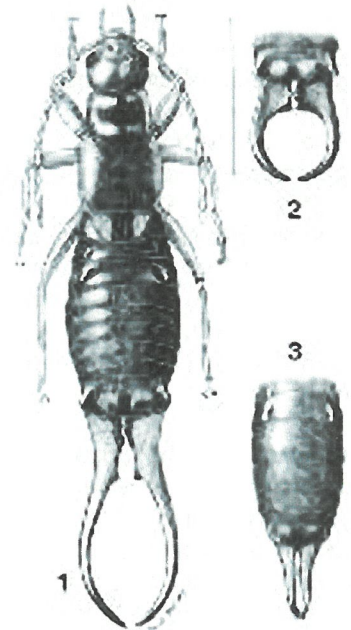
Order: Dermaptera  
World families:10 species 1800  
Australian families :7;species 63

The European or Common earwig *Forficularia auricularia* is an omnivorous insect native to Europe, but now introduced around the world and is common around major cities in Australia.

**Appearance**

The major feature of earwigs are the pincers on the end of the abdomen. These are expanded cerci. The females have short slightly curved pincers but the forceps of the males are rather more for show. In many earwigs, including the European the pincers of the males show two distinctive forms. [1 and 2 in the diagram 3

The common earwig is dark brown, 150-200mm long. Many earwigs have wings but most cannot fly. In the Common earwig the wings are short and when unfolded have the shape of a human ear; hence perhaps the name earwig. [The Old English word for "insect" was wicga, which probably came from the ancient root wig-, source of modern English wiggle. To the Anglo- Saxons, an earwig was an earwicga (ear-insect, or ear-wiggler). The name has also attracted the myth of a habit of crawling into people's ears with dire consequences of fever and insanity.]



(Continued on page 5)



# Lions, Bats and Caves

In September I was fortunate to visit the Naracoorte caves complex in South Australia and to see some of the actual fossils in their laboratory.

The importance of the fossil record was officially recognised in 1994, when the site was inscribed on the World Heritage List. The caves have acted as pitfall traps, collecting animals for at least 500,000 years, and preserving the most complete fossil record we have for this period of time. The bones of Megafauna species such as *Thylacoleo carnifex* Marsupial Lion, Thylacine, *Zygomaturus* and large leaf-eating kangaroos are present.

Only 4% of bones have been removed from the estimated 5000 tonnes present. The major discoveries occurred in 1969 and many examples of the marsupial lion have been unearthed.

## Marsupial lion (*Thylacoleo carnifex*)

*Thylacoleo carnifex* weighed around 120 kg (about the size of a leopard) with a large heavy head and strong paws that were heavily clawed. It was the largest mammalian predator on the Australian continent. It hunted in forest areas.

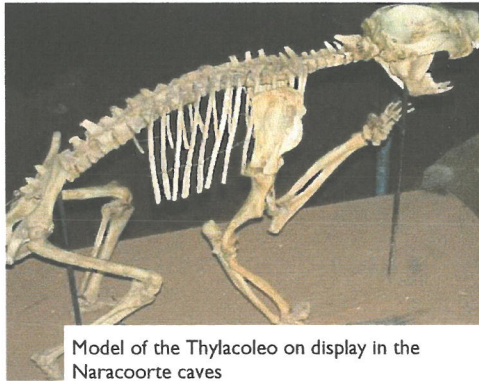
The resident palaeontologist, Dr Liz Reed from Flinders University pointed some of the unique features of *Thylacoleo*. The teeth are dominated by huge shearing third premolars.

These cheek-teeth are relatively larger than in any other mammalian carnivore. The bite force is estimated to be the highest of any large predator and its strength approached that of a lion (*Panthera leo*) more than twice its size, indicating it could kill prey much larger than itself. However the canine teeth are reduced to pegs, but this is compensated by the development of the first incisors, which are adapted for piercing, holding, and lacerating like the canine of placental carnivores.

Also, unique are the forepaws, which have a robust thumb capable of considerable movement and having an exceedingly large, hooded claw. *Thylacoleo* would have had a powerful grasp through opposition of the thumb, not to the remaining digits as in ourselves, but to a flattened bone in the wrist.

These animals were relatively common across most of Australia during the Pleistocene period. They became

extinct about 50,000 years ago. The fossils in the photograph dates from 80, 000 years ago.



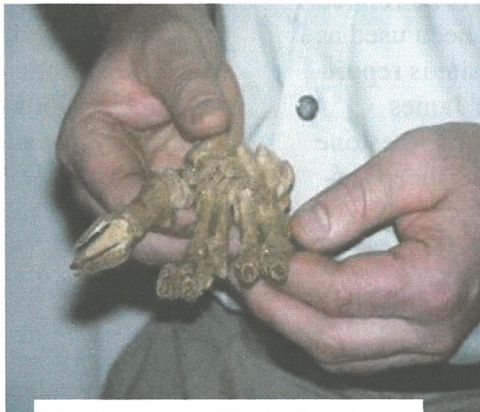
Model of the Thylacoleo on display in the Naracoorte caves

## Another extinct marsupial- *Zygomaturus trilobus*

*Zygomaturus trilobus* had a size and build similar to a pygmy hippopotamus, weighing around 300 to 500 kg.

Some of the features of its skeleton suggest it may have preferred swampy habitats.

It possibly lived in small herds around the wetter, coastal margins of Australia and occasionally may have extended its range along the watercourses into central Australia.. As a ground dweller, it moved on all four limbs. Feeding probably occurred by shovelling up clumps of reeds and sedges with its fork-like, lower incisor teeth (see photo page 1).



The forepaws of Thylacoleo showing the opposable thumb.

Like the other megafaunal giants, *Zygomaturus* became extinct around 50,000 years ago.

## Other Park features

Another special cave at Naracoorte provides the larger of only two known breeding chambers for the Southern Bentwing Bat *Miniopterus schreibersii bassanii*. Every spring thousands of these small bats return to the maternity chamber in Bat Cave after wintering in various caves throughout south-eastern Australia.

The cave is over 300 metres long and has huge deposits of guano, piled up after many years of habitation.

In order to protect this fragile ecosystem, access to the cave is restricted.

However, visitors may view the bats via infrared cameras in a Bat Observation Centre on a guided tour.

When I was there you could also experience the spectacular exit flight as the bats pour out of the cave entrance every night to feed on flying insects.

In summary, if you have the chance visit this world heritage site; the whole presentation is extremely well done.

Chris Bunn



## Committee Meeting report October, 2006

*Editorial note: below is not the complete minutes of the meeting but are items that may be of interest to members, including potential upcoming meetings or excursions*

### Outings:

December Tallaganda  
January 2007 Australia Day Breakfast at Corrobooree Park, Ainslie. With family & friends. BYO everything. *Chris to prepare information/invitation.*  
February Spotlighting  
March Photography Workshop  
*Pamela, Benj, Philip, Margaret, Work jointly with ANBG. Invite COG ANPS FOG*  
April Angle Crossing : Honeyeater migration  
May National Park, Goulburn. With Goulburn Field Naturalists?  
June Lake Burley Griffin?  
July Australian National Wildlife collection, Gungahlin  
August ANBG *Tony Lawson*  
September Aranda bushland  
October Frogs *Paula*  
November Black Ridge  
December Brindabellas

### Suggestions:

Herbarium Bob would ask about week-

ends for an 'outing'  
Native fish with Mark Lintermans (He spoke in Sept 1998)  
Leo Joseph great presentation @ COG

Joint trips with coastal Field naturalists. Long weekend Someone to organize (not Benj).

Paula mentioned CVA property in Kangaroo valley She'd find out more detail. Jamberoo another possibility. Tony

### Membership

Tony asked about streamlining membership so that all renewals were due on a specific date. Philip said, with a small membership, there was little point in changing as there was an advantage in the work-load of updating data being spread out with the present system.

### Conservation:

Conservation Council Representatives *Dierk & Tony would contribute a short summary, for the Newsletter, of issues that the CC was involved in that would be of interest to FNAC members.* Similarly a short summary would be welcome at meetings.

Requests for help from various organisations were now reaching The Website in increased numbers. These would be for-

warded to Benj to see if FNAC should become involved. *Perhaps a small committee should be prepared to 'vet' these requests.*

### Other business:

Networking: Chris proposed establishing meetings between the main nature groups Herpetologists, FOG, COG & ANPS. The aim would be promotion of natural history in the region, sharing field trips, awareness of each group's programs & perhaps joint fund-raising venture such as selling cards based on members' photographic successes. *This would be progressed by Benj with Bob, Margaret & Dierk*

Approval was sought to buy wine as an end-of-year gift for ANU's BOZO staff. *Rosemary B*  
*Rosemary vB would book the Old Seminar Room for the FNAC social Christmas gathering on 7<sup>th</sup> December from 6:30pm. BYO & something to share. There would be a 25-theme- raffle to celebrate our 25 years.*

*Next Meeting Wednesday 21<sup>st</sup> February 2007 at Bob & Helen's 8/23 Temperley Street NICHOLLS*

*Merry Christmas and an enjoyable new year*

## Species of the month—earwigs

*(Continued from page 3)*

Two small lumps on the third segment of the abdomen are the sites of glands which excrete a repulsive spray backwards. When threatened, earwigs spray quinones (a common organic chemical) from these glands. The amount expelled is carefully controlled through the small openings so little is wasted.

### Life cycle

Earwigs demonstrate the rare trait on insects of maternal instinct (at least for a while). Females lay from 20 to 80 eggs in batches. The eggs are the guarded from predators and cleaned of fungi until hatching 2 to 3 weeks later. The young are similar to the adults and just go through a series of moults. In the end the female turns cannibal-

istic towards them as she responds to the development of the next clutch.

### Distribution

Earwigs are found under bark or more solid litter on the ground. They are prone to desiccation so usually prefer damp locations. They are mostly active at night. While considered a pest because their diet includes living plant

material they also can be useful eating dead insects and some live insect prey.

### References

A Field guide to insects in Australia. Zborowski and Story 1995 (pages 62 –63)  
G Webb Newsletter of the Australian Institute of Biology (Vol.5, No. 1 July 2003)

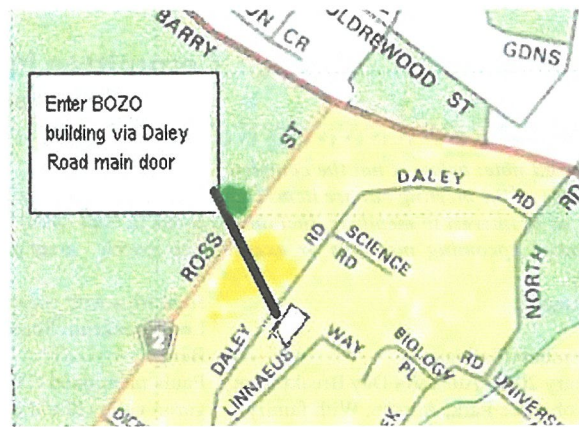


**Field Naturalists' Association of Canberra**

**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 02 6254 4556  
**Secretary:** Rosemary Blemings, tel 02 6258 4724  
**Website:** [www.geocities.com/fieldnaturalist/index.html](http://www.geocities.com/fieldnaturalist/index.html)  
**Newsletter editor:** Chris Bunn <chris\_b@webone.com.au>  
 Tel 02 6241 2968. Member contributions welcome.



**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.

**FIELD NATURALISTS ASSOCIATION OF CANBERRA INC.**

GPO Box 249  
 CANBERRA ACT 2601

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 PP 233744/00022

**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 \$20) Donation: \$.....

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