

*Field Natter*  
Newsletter of Field Naturalists Club  
of Canberra



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

Meeting Thursday March 6, 2008 at 8:00 pm

(details on back page)

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Janet and Paul Edstein will present  
*Trekking in Patagonia.*

*Outing arrangements to be advised at the meeting or  
phone (details back page)*



Comparing notes during the  
November outing

Editor's note: I am sorry to advise that due to medical problems our President has been having a difficult time over recently. We hope that things for Benj will improve in future.

Thank you for all contributions and suggestions Chris Bunn, Editor

# *White-winged choughs* *Species of the month*

White-winged choughs are common in woodlands and dry open forests, particularly in the Northern part of the ACT. Small numbers appear throughout most of the Territory.

Unlike the great majority of birds of native birds they have adapted to pine forests. Choughs are also found in many different suburban areas and are especially noticeable around the the parliamentary triangle.



Afeeding flock of white-winged choughs beside the cycle trail between Yarralumla and Weston Creek alongside the lower Molonglo, near the Woden creek inflow.

*Photo Philip Bell*

In Spring and Summer breeding occurs based around a massive mud nest. During the colder months occasionally clans band together into flocks of up to 60 individuals

Choughs are territorial and highly social, living in flocks of from about 4 up to about 20 birds, usually all the offspring of a single pair. Nesting and breeding is communal, all members of the family helping to raise the young - a process that takes several years, as young birds must learn the art of finding food in the dry Australian bush. Larger families have a better chance of breeding success: so much so that given the opportunity choughs will kidnap the youngsters of neighboring families in order to recruit them to the team: the more helpers the better!

All members of a family take turns to incubate, preen, and feed youngsters, and all cooperate in defending the nest against predators. However, the juveniles, who are highly inefficient foragers, sometimes engage in deception: they bring food back to the nest, wait until all adult birds have departed, and then eat it themselves. There are three main threats to young choughs: starvation; predation by nest-robbing birds, particularly currawongs; and sabotage by neighbouring chough families anxious to protect their food supply by restricting competition. Larger family groups are better able to deal with all three threats.

Flight is a mixture of a slow, deep flapping and short glides: unlike their European namesakes, White-winged Choughs are not particularly strong or agile fliers and spend the great majority of their time on the ground, foraging methodically through leaf litter for worms, insects, grain, and snails in a loose group, walking with a distinctive swagger, and calling softly to one another every few seconds. A rich find is the cause of general excitement and all come running in to share in it. The family group walks several kilometres each day through its large territory, foraging as it goes, taking to the air only if disturbed.

Their distinctive call, "Chough-chough-chough-chough-cough-chough!" repeated in rapid succession as they fly away, is a key defining aspect of this species, and may have been the precursor to their common name.

*Information from Wikipedia and Birds of the ACT—an atlas*

## STUDENT CONFERENCES

Four internet-only conferences for primary and secondary students are being held, starting on 25 February. on global issues, with four different week-long conferences addressing the overarching question: *'Whose world is it, anyway?'*

25-29 February: New technologies: a threat or a promise? Student contributions by 28 January

10 - 14 March: Climate change: whose problem is it?

28 April-2-May: Do you live in a 'global village'?

16-20 June: If you could change the world to create a better future, what would you do? :

Students from all countries may participate, in several ways. Ideally, they will contribute essays and stories, videos, audio files, newspaper articles, poems and PowerPoint presentations that will be published on the online conference website. They can take part either at home or at school, in groups or individually.

For more detailed information, please refer to the iNet website at: [www.ssat-inet.net/haveyoursay](http://www.ssat-inet.net/haveyoursay)

Information supplied by Dierk

## Symposium

# Corridors for Survival in a Changing World

Venue: Discovery Centre, CSIRO  
Clunies Ross Street ACTON ACT 2601

Host: The National Parks Association of the ACT Inc.

The symposium is for anyone interested in the influence of climate change on the region and how we might mitigate its effects; how much change to expect, what species will be under threat, how flora and fauna might adapt. Of interest is the need for corridors linking Namadji National Park, the distributed nature reserves in the ACT and the Australian Alps National Park.

It will be the second symposium leading up to the 50th anniversary of the NPA ACT in 2010. We will publish the proceedings to promote a wider public understanding of issues affecting park management decisions.

Our long-term goal is to have a more environmentally aware public who support both personally and politically, sound scientifically-based decisions in park management and resourcing.

Speakers will include researchers from government and universities (including research students), and staff managing the ACT nature parks and reserves.

### Themes of the Symposium

Climate change – the human dimension

Future weather variability

Wildlife corridors between Namadji NP and

other nature reserves and national parks

Treasures of Namadji National Park

Managing bogs and wetlands

Reducing the risk for threatened species

Bushfire impact on vegetation

Challenges, gap analysis and future action plans

### Speakers

Invited speakers include: Prof Geoff Hope, Assoc Prof Janette Lindesay, Dr Phyl Zylstra, Graeme Worboys of IUCN and the Commissioner for the Environment and Sustainability, Dr Maxine Cooper.

Please check their website for the program and further updates: <http://www.npaact.org.au/>. For further enquiries email: [admin@npaact.org.au](mailto:admin@npaact.org.au) or phone: 02 6229 3201

**FIELD NATURALISTS** receives reciprocal newsletters from:

Northern Territory Field Naturalists Club...<http://www.geocities.com/ntfieldnaturalists>

Dubbo Field Naturalist & Conservation Society ...[www.dubbofieldnats.org.au](http://www.dubbofieldnats.org.au)

The Western Australian Naturalists' Club [wanats@iinet.net.au](mailto:wanats@iinet.net.au)

National Parks Association of the ACT [www.npaact.org.au](http://www.npaact.org.au)

Should you wish to read the hard-copies please contact Rosemary 6258 4724

The NPA has recently included a flyer advertising a new edition of *Field Guide to the Native Trees of the ACT*. *The Field Guide to the birds of the ACT* was updated in 2006 and *Caring for Namadji - Science and People: proceedings of the NPA ACT Symposium*, 2006.

At \$27.50, \$19.95 and \$27.50 respectively they represent very good value as a suite of references on ACT natural history.

Rosemary Blemings

# Mistletoes - good or bad?

Why is there so much mistletoe around these days, and what can we do to get rid of it? As an ecologist working on mistletoe for the past ten years, I am asked this question routinely. Together with a group of research students and other collaborators, I have studied the interactions between mistletoe and animals, and the answers to these questions are becoming clearer.

Firstly, let's address the issue of mistletoe numbers. Historic data are few and far between, but it's fairly well established that mistletoe has become far more abundant over the past century.

Interestingly, this pattern seems to be restricted to eastern Australia—in the wheat-belt of Western Australia the reverse has occurred, with mistletoe now absent from many areas.

To understand why they have become more abundant, we need to know more about the plants themselves and the processes that ordinarily keep them in check. Mistletoes are one of the few groups of native plants that rely on birds for both pollination and seed dispersal. Their seeds lack a protective coat and need to be deposited in a well-lit area

in order to establish, using photosynthesis to fuel initial growth and penetration of the host's bark. As parasites, mistletoes rely on their hosts for all of their water and nutrient needs. By concentrating minerals in their tissues, they can divert water from their host. As such, mistletoe leaves represent a rich nutritional resource for leaf-eating animals, with a wide range of marsupials (especially possums and gliders) and leaf-eating insects (especially butterflies and lerps) preferentially feeding on mistletoes.

When we consider the changes made to Australia's forests and woodlands since settlement, many of these interactions have been modified.

Most of the woodlands have been cleared, and the amount of 'edge' habitat has increased greatly. The large hollow-bearing trees required by possums and gliders are less abundant, and the nectar-bearing shrubs that support butterflies have been overgrazed. So, the average tree is now less shaded and less frequently visited by herbivores, greatly increasing the likelihood of mistletoe establishment and growth.

Unlike many native plants, mistletoe has no defences against fire, and the occasional fire through an area removes most of them without killing the trees. In many regions, the frequency and intensity of bush fires has decreased.

Combining these interactions, it's clear that we have inadvertently made many agricultural landscapes ideal for mistletoe growth, removing many of the factors that ordinarily prevent them establishing, growing and spreading.

Interestingly, these increased numbers of mistletoe aren't necessarily problematic. Indeed, my group has been finding a whole range of benefits associated with mistletoes in remnant woodlands. Sites with more mistletoe consistently support a

higher number of woodland birds. This is partly due to the popularity of mistletoe as a food source, and partly due to the use of mistletoe as a nest site. We are examining this in detail in a large-scale removal experiment near Albury. Called RIFLE (Resources in Fragmented Landscapes Experiment), this study involves long-term monitoring of 40 grassy box woodland remnants on private land in the upper Billabong Creek catchment. We have removed all mistletoes from 20 of the remnants, and are keeping track of the birds, mammals, reptiles and selected insects living in the woodlands over the next fifteen years.



*Amyema miquelii* on *Alectryon oleifolius*, Rosewood

Dramatic differences are already clear between the removal and the control sites, with many woodland-dependent birds now wholly restricted to those sites with mistletoe. While due partly to the fruit, nectar and nesting sites afforded by mistletoe, leaf-litter is also involved, and it is this component that may have the most pervasive effects on the overall habitat. Wendy March recently completed her PhD research, which entailed the first study ever, conducted on mistletoe litter, and the findings were remarkable. Unlike most plants, mistletoes do not try to conserve nutrients or water—if they need more, they simply take it from their hosts. So, when they drop their leaves, they don't withdraw any nutrients or water, they simply drop them as is. This attribute, coupled with the high concentration of various minerals in mistletoe tissue, makes mistletoe litter surprisingly rich. Of

fifteen elements examined, mistletoe litter contained significantly higher concentrations of eleven elements. So, pound for pound, mistletoe litter is a far higher quality litter than regular gum leaves. But mistletoes have another trick up their sleeves. Unlike eucalypts that grow reinforced, chemically protected leaves that they retain for many years, mistletoes grow flimsy semi-succulent leaves that they replace frequently. In leaf-litter trials carried out near Albury, mistletoe leaves were shed six times more frequently than the leaves of their eucalypt hosts.

The combined effect of these differences is striking: areas beneath mistletoes have more litter, higher-quality litter, and more reliable litter-fall throughout the year.

This leads to pronounced changes in the availability of every element examined in the soil, leading to a broad range of responses in understorey plants. Ongoing research will explore these effects in more detail, and look at changes in germination rate, water retention and the diversity of soil-based microbial communities.

Yet, just like chocolate and red wine, you can have too much of a good thing!

Trees can become infected with such high num-

bers of mistletoe that they can no longer support themselves, leading to reduced growth rates and, in extreme cases, premature death. Rather than being the cause of tree mortality, however, mistletoe is quite often a symptom: an indicator of a broader imbalance. High infection levels are often associated with paddock trees or trees on the edges of woodland patches. These trees are often subjected to higher light levels, lower visitation by possums and gliders, infrequent fires and high nutrient levels (from run-off and domestic stock resting in the shade).

While mistletoes can be pruned off, this is expensive, time-consuming and rarely practical.

While it might be worthwhile for particular trees of high-conservation or historic value, mistletoes typically return to their original densities within a year or two, since the underlying drivers remain unchanged.

By restricting stock access, replanting understorey shrubs, installing a few nest boxes and having the occasional controlled burn, mistletoe numbers will return to a more manageable level and the overall community will benefit as well.

In summary, mistletoes are a poorly known group of native plants that have a disproportionate influence over our native woodlands and forests. By altering the extent and disturbance regimes in these woodlands, we have unwittingly removed many of the factors that once kept them in check.

While often seen as weeds or destructive invaders, these native plants actually play critical roles in these habitats. By providing food and shelter for native animals, and shedding high-quality litter, they act as keystone resources, boosting diversities of native animals and enhancing the biodiversity values of our remaining woodlands and forests.

*David M Watson is an Associate Professor in Ecology at Charles Sturt University*

*Originally published in Bush Matters—reproduced in Field Natter with permission*

#### Some extra Mistletoe facts

There are 85 species of Australian mistletoe, mainly in the Loranthaceae family.

There are about 25 species of butterflies which feed on mistletoes during the larval or caterpillar stage.

Many bird species, including the endangered Regent Honeyeater, prefer nesting in mistletoe clumps.



**Field Naturalists' Association of Canberra**

**Who are the Field Naturalists?**

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

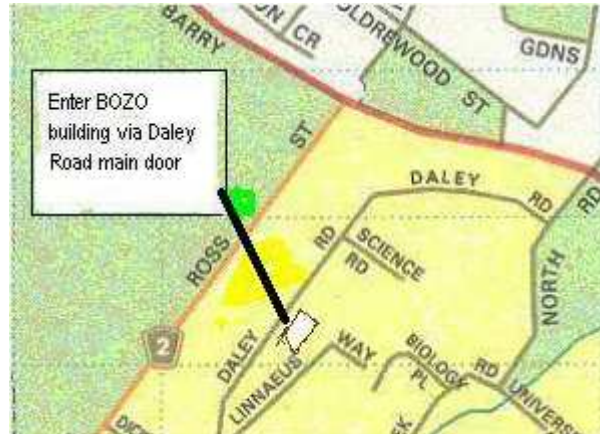
**President:** Benj Whitworth, tel w 6272 3192 h 62544556

**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.

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

**FIELD NATURALISTS ASSOCIATION OF CANBERRA INC.**

GPO Box 249  
CANBERRA ACT 2601

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**MEMBERSHIP APPLICATION OR RENEWAL**

Family name: ..... First name: .....

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

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Subscription enclosed: \$.....(Single/Family \$20) Donation: \$.....

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