

September 1999

Friends of Warrandyte State Park



Newsletter

Friends of Warrandyte State Park (FOWSP) Inc. P O Box 220 Warrandyte 3113

Koornong's Big Day

By Pat Coupar

After three days of dull wet weather, the sun shone brilliantly. It was Koornong's big day. Actually Koornong has its day every month, on the first Wednesday, when the small, but dedicated 'Friends' group get together to work in this lesser known reserve of Warrandyte State Park.

Formed in June 1992 in the halcyon days of Parkcare, the Koornong group is the only subgroup of FOWSP to remain active. We were honoured on Sunday August 29th - Koornong's big day - by the presence Fay Vulcanis Warrandyte State Park's one and only Parkcare officer who was instrumental in the formation the group and who did so much to promote the Park to the local residents.

The morning began with some planting of lilies and ground covers into 'Big Manna' fence at the lower car park. Named for the huge manna gum that occupies the centre of the fence, this area was once a tangle of ivy and a sea of angled onion, removed over time by the 'Koornong Friends'. Since the fence was erected last year the natural regeneration of grasses, and in particular Bidgee-widgee, has been great.

It was then on to 'Triple Tree fence'. Its name sake - an uprooted three trunked swamp gum was hard to see so well had the native Australian sweet-grass (*Glyceria australis*) grown. No room for planting there, but a few eucalypts and wattles were planted and guarded in the bare area outside the fence.

The last planting was at 'Perwinkle Mound' at the middle car park. As it's name suggests this site was once totally covered with blue periwinkle along with a whole load of rubble. Only fenced for about six months, already the effects of lack of grazing are stunning in comparison to the area just outside the fence.

After the planting we headed up the hill to the ridgeline and on to the largest of Koornong's fences which dramatically shows the diversity of plants that come back once rabbits are excluded. This is an exceptionally good orchid spot with many different varieties occurring here including, pink fingers, spider, gnat and greenhoods- most still to flower.

The morning ended in style with a barbeque which was much appreciated by the large group of



people who attended this FOWSP Sunday family day. Many thanks to Cathy Willis and ranger David Farrar for organising the day.

Wombat hors d'oeuvre?

By Nick Robinson

By now, FOWSP members and regular walkers around Pound Bend may have noticed that something is not quite right in the Warrandyte wombat world. Sure there have been signs of normal activity for this time of year. There are plenty of fresh diggings about the park with wombats taking advantage of the moist soil to extend burrows and to find new routes under fences and wombat gates. But what the other obvious sign of wombat activity, the type that doesn't normally enter dinnertime conversations? Wombat pooh!

On your walk around the bend you may have contemplated the odd wombat pooh. Some questions naturally spring to the inquiring mind. Why do wombats perch their pooh precariously on logs, rocks and bridges? How do they craft their faeces into a cube? How on earth do they manage to fold it down the middle? How many wombats leave these calling cards about the park? Why have the wombats in Pound Bend begun to adorn their faeces with wooden toothpicks?!

The first four questions are not easy to answer. Wombats obviously mark commonly used thoroughfares with their faeces. This is thought to be more an aid to navigation than a means of marking their territory. A friend told me of a wombat that habitually defecated on top of a Sherrin football that was left out in the back yard. Navigation would become difficult during the football season in this instance! Little is known about placement and other mysteries concerning wombat pooh. Few scientists have ventured into this area. "Wombat pooh" is not the most prestigious topic of research and few would think that the study of wombat pooh would unlock any great scientific mysteries. But is this necessarily so? What secrets might the innocuous wombat pooh hold and what is the story behind the wombat *hors d'oeuvres* complete with wooden toothpicks in Warrandyte State Park?

Wombats are shy and difficult to observe in the wild. My colleague, Clive Marks has the dubious distinction of being the first person to describe wombat courtship behaviour from his observations of a wild population in Gippsland. But Clive chanced upon this event after hours of observation (wombat perving) using a night scope. Like many of Australia's nocturnal mammals, faeces are one of



the most obvious signs of this species presence. Recommended reading in this regard is Barbara Triggs book, "Mammal Scats and Signs" which contains glossy sketches and is a useful guide for species identification. For some threatened or endangered populations of marsupials, faeces are one of the only signs of continued existence. For instance, Brush-tailed Rock Wallabies live in a steep rocky area of the Grampians. Few have been observed or captured in the area and the effectiveness of predator control is being monitored by systematically recording the number, size (age class) and distribution of faeces. But the faeces of brush-tailed rock wallabies, wombats and the like contain valuable information about these species that has not yet been fully explored.

Cells that are sloughed from the gut wall into the faeces contain DNA. DNA is the material that codes for the growth and development of every living thing. DNA is what makes wombats different from petunias, and it is what is inherited from our parents and makes us similar in appearance to our close relatives. Apart from identical twins or clones, no two individuals share the exact same DNA profile. DNA has been used for years by so called "molecular ecologists" like myself to study gene flow between populations and genetic relationships (pedigrees) within populations. Recent studies have used faeces as a source of DNA for these studies (seals, bears and wolves). But nobody has yet applied DNA testing to solve a fundamental problem in conservation biology, estimating abundance in populations of species that are shy or otherwise difficult to study (ie. cryptic species). By sampling faeces and determining how many unique DNA profiles occur it should be possible to monitor the number of animals in a wildlife population.

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Wombat hors d'oeuvre? continued

Wombats are in many ways an ideal species to test our idea about estimating abundance. Wombat pooh is moderately large, obvious and easily collected. DNA testing can be carried out on hair samples collected around burrow entrances in parallel with faecal DNA testing for comparison. We intend to refine and apply the techniques we develop with Warrandyte wombat pooh to monitor the abundance of threatened species such as brush-tailed rock wallabies, vertebrate pest species such as red fox and captive-bred species that are re-introduced to the wild. In addition to indicating abundance, DNA tests can also provide important information about population fragmentation, inbreeding and family relationships.

There are some technical problems we need to solve before we collect loads of wombat pooh. We need to find the best method for purifying DNA from what is mostly vegetable matter in the faeces. Another potential problem may arise if the DNA is rapidly degraded by the elements and by bacteria and bile acids in the faeces. So, to begin with, we want to be sure we are only taking the freshest samples. But we are unsure about how the removal

or stamping of older samples will effect a wombats natural urges, hence the tooth pick idea. Toothpicks are being used to mark the old samples. When a new sample is found, a small part is taken back to the laboratory for analysis while the remainder can be marked as sampled by the careful placement of a toothpick. In this ingenious way we will be sure that we are not re-sampling old wombat pooh. Toothpick mystery solved at last!

We are hoping that the methods we develop for wombats will become important conservation and pest management tools that can be applied to other species. So, when you see me or my colleagues prodding and poking wombat pooh around the park, rest assured we are not mad really! Believe me, there is method to this wombat pooh poking madness.

Nick Robinson is Warrandyte resident and Head of the Genetics Unit at the Victorian Institute of Animal Science, Department of Natural Resources and Environment Partners in crime Andrea Taylor (Monash University), Sam Banks (Monash University), Clive Marks (DNRE) and Ian Mansergh (DNRE).

The project is funded by Parks, Flora and Fauna, DNRE.

The Pleasure Awaits

By Joan MacMahon

Did you know we have a 'Wildflower and Grasses' plot at the Warrandyte Community Garden?

The plants are growing beautifully, much faster and lusher than they manage in the harsh rocky 'soils' typical of so much of Warrandyte. Tall Daisy and Clustered Everlasting are two of the daisies putting on a great show at the moment.

Would you like to help look after this display? It would be great to have a couple of other people who would call in occasionally to prune, weed and generally enjoy learning about the beauty and horticultural potential of our smaller local plants. We are planning to label them in the near future.



The garden has to be locked – something to do with insurance and the land being under the control of the police. This isn't ideal from our point of view as it would be great if the public had ready access. Hopefully the situation will change in the near future.

Give me a call if you'd like to know more on 9844 3213.



Wurundjeri Plant Names Burqilburgil

Honeypots *Acrotriche serrulata*

Weather Update

Rainfall probabilities for Spring 1999 (September to November).

The National Climate Centre's latest outlook shows that for most of the country, the chances of rainfall exceeding the median for Spring (September to November) are slightly higher than 50%.

Below average rainfall in **Victoria** and South Australia in **July** added to the spread of rainfall deficiencies in these states. Despite some recent rain, much more is needed to ease the situation, particularly in **southern Victoria**. The chances of these states receiving above median rainfall are about 50:50; slightly less in **eastern Victoria** and northeastern South Australia, slightly more in the rest.

Half the available computer models are predicting some re-development of La Nina conditions in the Pacific Ocean during the next six months. The rest are predicting a continuation of neutral conditions.

The rainfall pattern for the months May to July shows a predominantly average rainfall for the

continent, however the areas of below average rainfall are significant both in location and effect. South Australia, with the exception of the area east of the Eyre Peninsula, shows statewide below average rainfall that overlaps into all the bordering States.

The south half of **Victoria** also shows as below average with significant areas of well below average in the west and east of the State.

Rainfall for the month of **July** was predominantly below average with weather over Australia being dominated by a series of broad high pressure systems. Usually during winter the highs move across the continent in the northern latitudes of New South Wales, but for the past months these systems have been much further south, effectively pushing the cold fronts southeast of the continent. The below average rainfall over the southern half of the country mirrors this southeast slide of the fronts as the systems move eastwards. The areas of well below average rainfall (lowest 10% of records) bordering the southern coastline in South Australia and **Victoria** are located within almost statewide below average (lowest 20-30% of records) rainfall areas.



Bonsai Bits

A writer in the May 1999 Maroondah newsletter of the Australian Plant Society has been successful with 'bonsai-ing' some Australian plants. *Banksia serrata*, *Northofagus cunninghamii*, *Eucalyptus nicholii*, *Agonis flexuosa*, *Melaleuca styphelioides*, *Allocasuarina torulosa*, *Ficus rubiginosa* and *Angophora* sp. are all suitable.

The propagator "does not use *Osmocote* as it tends to build up salt in pots. In Holland, *Osmocote* has been almost outlawed due to the salts leaching into the soils".

Another comment was "Australian natives create their own phosphorus.

Soup Samples

During August the lunch time soup for the Thursday helpers have included:

- Choice chicken by Margaret Gotlib
- Lentil and tomato by Glen Jameson
- Coriander and carrot by Margaret Woiwood

Coast to Coast

Andy Nixon and family are believed to be on the east coast of Far North Queensland. While Margaret Humphrey's is off to Broome for a well earned holiday.

November News

Jumping Creek Road bridge may be finished by November?

Bonsai Bits Brainstorming

If we could bonsai complete parks we could save a lot of money on staff maintenance costs etc. and use the surplus land gained for activities such as freeways, golf courses and housing!

Chytridiomycosis - New Disease of Amphibians

A new species of chytrid fungus has been found infecting the skin of frogs dying during mass mortality events in forests of Queensland and Panama, and may be the cause of these precipitous population declines. Chytrids are small spherical fungi that produce motile infective stages called zoospores. Some species are found free-living in soil and water where they degrade organic matter such as chitin or keratin, and others are parasites of algae, plants, nematodes or insects. The epidemiological data support the hypothesis that this fungus has been introduced to these rainforest areas and is the cause of the population crashes.

In Queensland, seven rainforest frog species have disappeared during the past twenty years. The first extinctions occurred in the D'Aguilar and Conondale mountains near Brisbane in the late seventies and early eighties.

A range of causes have been proposed to explain the declines, but introduction of a waterborne infectious disease fatal to adult frogs appears the most, reasonable explanation. The asynchronous timing of the declines and apparent spread of the declines from south to north is consistent with a new epidemic agent progressing through a native population. All species of frogs that suffered significant declines are stream-breeding and stream dwelling, suggesting the problem is waterborne.

During the mass mortality in north Queensland in 1993 about twenty dying frogs were collected for diagnostic investigations. The species found dying included the sharp snouted day frog, waterfall frog and common mist frog. Pathology revealed the presence of chytrid fungi in the keratinised layer of the skin and acute, non-specific degenerative lesions in some internal organs. The chytrid fungus appeared to be associated with minor local changes in the skin, and the reasons why frogs died was not apparent. This fungus had never been seen before, and as there was no background information available on diseases in healthy populations of the frogs, it was difficult to determine the significance of its occurrence.

The chytrid fungus was found to be widespread and associated with mass mortality in a range of species where no alternative causes of the deaths were detected. Infections were found in frogs from

a wide range of habitats in both unpopulated and populated regions, including cities such as Brisbane and Adelaide.

In two instances where tadpoles were being raised in captivity, almost all frogs died with chytridiomycosis in the weeks after metamorphosis. When healthy tadpoles were euthanased and examined, the fungus was only found in the mouthparts, which is the only keratinised area on tadpoles. As the fungus appears to be keratinophilic, this could explain why tadpoles survive while adults die. It is suspected that the chytrid spreads from the mouthparts to the skin on the body when it becomes keratinised after metamorphosis.

In 1997, a mass mortality event in rainforest frogs and toads in Panama was detected and an apparently identical chytrid fungus was present in the skin. As the pattern of declines in Central America and Queensland was remarkably similar, it seems the chytrid may be one of the most significant causes of global amphibian population declines, particularly in isolated frog populations in pristine environments.

Many questions remain to be answered, and investigations into the origins, distribution, and spread of the amphibian chytrid are ongoing.

This is an edited version of an article by Lee Berger and Rick Speare which appeared in the journal of Australian & New Zealand Care of Animals in Research and Training. (1999)



Worth Repeating

A noxious bunch of regards

Instead of saying it with flowers, many Australians are saying it with weeds. And they don't know they are doing it, as many florists use weeds to adorn the bunches of flowers and bouquets they prepare for customers.

Weed expert John Thorp said more than 40 species of invasive weeds were used regularly by the florist trade in flower arrangements.

To make matters worse, Mr Thorp, the National Weed Strategy project manager, said at least three types were on Australia's top 20 list of worst weeds.

These were parthenium, used by florists because of their attractive seed heads, bridal creeper, which has fern-like foliage, and certain willows that had been declared noxious because of their invasive powers.

"It costs Australian agriculture \$3.3 billion in lost production and weed control each year, and more than \$3 billion is spent controlling weeds along roads, rail lines, under power lines and along water courses," he said.

Others used regularly by florists include privet, dock, castor oil plant, Patterson's curse, and fennel.

Source: The Age 26/7/99

Florists plead a case of mistaken identity on weeds

By Manika Naidoo

You're overcome when the bouquet of red roses arrives. But what a rude awakening when you discover the delicate buds of love are nestled among noxious weeds.

Florists, responding yesterday to a study by the National Weed Strategy project that found they used more than 40 species of invasive weeds in floral arrangements, were quick to defend their trade.

But the revelation, sure to rattle romantic admirers (and provoke a wry smile from those they've loved and left) found privet, dock, castor oil

plant, Patterson's curse, fennel and parthenium were commonly used in floral arrangements.

At least three types were listed on the National Weed Strategy's top 20 list of worst weeds.

The president of the Australian Florist and Allied Trades Association, Mr Alan Randell-Smith, said florists would not knowingly use noxious or invasive weeds in bouquets. "I think we need to be cautious and keep informed about what is listed. That is something that all florists should do," he said.

Weeds cost the agriculture industry \$3.3 billion in lost production each year, according to the study. But Ms Julle Currey, a horticulturist with Victoria's Garden State Advisory Council, said nurseries also were guilty of selling weeds.

Source: The Age 27/7/99

Worth Repeating - Interstate

Legal move to weed out pest plants

By Siobhain Ryan

A statewide ban on the sale of common garden plant pests will be introduced if proposed weed control laws are passed.

In some cases, landowners could be forced to eradicate the newly declared weeds at their own cost if they are deemed to be in environmentally-sensitive areas.

The hit list includes troublesome asparagus fern, privet, camphor laurel and bamboo.

The draft Land Protection Bill, due to go before Parliament by the end of the year, creates a new "restricted" category of declared or prohibited weeds.

"They can't be sold in flea markets. They can't be sold at school fetes. They simply can't be sold," said Natural Resources' land protection unit general manager Bruce Wilson.

The restricted category includes 32 species, from pasture grasses to yellow oleander and yellow bells, which are regarded as environmental threats in some districts.

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Legal move to weed out pest plants continued

If the changes are adopted, councils across the state will be required to assess the threat posed by these plant species, identify vulnerable ecosystems and develop pest management strategies.

Councils would then be able to inspect properties in environmentally sensitive areas to check for the weeds and advise on eradication.

They also will have the power to issue notices to comply if landholders refuse to control weeds on their properties. Once that notice expires, councils will have the right to destroy the weeds themselves and pass the cost on to the property owner.

But Dr Wilson said notices would be issued only as a last resort. He sees the proposed system as a means of controlling weeds in specific problem areas without resorting to blanket regulations on all landholders.

"This way we can ensure sale is prevented and ensure enforcement controls in environmentally sensitive areas if necessary, yet we do not put an

imposition on everyone to clean up environmental weeds," Dr Wilson said.

Environmental weeds are those that damage vulnerable habitat areas, such as native bushland, river and dune systems.

But whether individuals or governments will be picking up the tab for controlling the weeds is "yet to be determined".

Tim Low, a Brisbane biologist and author on plant pests welcomed the move towards the regional restrictions of new weed species.

He believes exotic pests are Australia's biggest conservation threat after habitat loss.

"Any environment that's prone to be disturbed is very vulnerable to weeds," Mr Low said.

Nurseries potentially have the most to lose from the changes but not all local retailers are concerned.

Rachel McNamara from the Green Sho Garden Centre at Clayfield said many of the newly declared weeds were no longer popular with customers.

Source: Brisbane Courier Mail 7/99

Special Excursion

The Gurdies Flora and Fauna Reserve



This reserve near Grantville is a haven for wildflowers, especially orchids. Best seen in spring it is reached via the Bass Highway, just over an hour's drive from Warrandyte. We will meet at the depot and pool cars for the journey.

Date: Thursday September 30th
Time: 8.45 am at the rangers depot, Pound Bend Road, Warrandyte (Melways 23 C10).



We aim to be back in Warrandyte 3.00 - 3.30 pm
Bring lunch, camera and orchid book.

Tunnel Meeting

A meeting of the Eastern Freeway Tunnel Group was held on Wednesday August 4th. Over 500 people attended the meeting to show their support for the preservation of the Mullum Mullum valley.

The group is pressing for a long tunnel as the preferred option to save the significant vegetation of the valley.

It is expected that the government will be making their decision on the freeway extension options shortly.

Cards and Brochures

A reminder that FOWSP has produced a set of four greetings cards which are for sale at the monthly Warrandyte market stall.

We also have our own informative brochure soon to be reprinted.

If anyone is interested in passing the brochures on to interested people in the local or wider community, or if you would like to buy some cards and cannot get to the market you can contact a member of the FOWSP committee for assistance.



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Olive-backed Oriole

This summer migrant from the northern states should be arriving in Warrandyte during September. Listen out for its distinctive 'orry-orry-ole' call ringing out from the trees.

FOWSP Membership Form

Name

Address

.....

Tel. no.

- Family \$20
- Single \$15
- Concession \$10