

www.wombatprotection.org.au

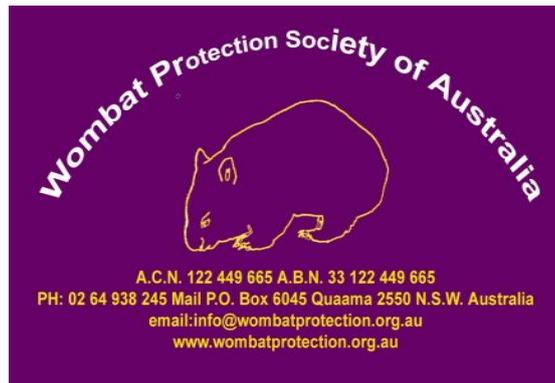
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Welcome to Bulletin 44



Welcome to our new members & **Welcome back** to all the renewals

Emma Duncan
Brenton Higgins
Virginia McCoy
Lettie Shaw

Nicole Sauer
Georgia Roberts
Lenore Taylor
Ruth Norris

Beth Cheney
Amy Stevens
Michael Blackwell

**Editor's note: apologies if I have missed any names but I can only list names from the information I am given.*



Marsupials not colour-blind after all

Catriona Purcell
ABC Science Online
Monday, 28 March 2005

Australian marsupials can see in full colour, new research has found, making them the only other mammals apart from primates to do so.

A team led by Dr Catherine Arrese from the [University of Western Australia](#) in Perth reports its findings in the *Proceedings of the Royal Society B*, a journal of the UK's [Royal Society](#).

Most people think marsupials lack colour vision, says Arrese, but her team's investigation of Australian quokkas (*Setonix brachyurus*) and quendas (*Isoodon obesulus*) has found otherwise.

The researchers looked at cone cells at the top of the retina and the rear of the animals' eyes and found three distinct cone types that enable full colour vision.

Arrese says marsupials, along with other mammals including dogs, cats and horses, were previously thought to have only two types of cone cells which meant they could not detect several colours including ultraviolet, blues or reds.

But she has found short wavelength sensitive (SWS) cone cells that pick up ultraviolet or blue light; medium wavelength sensitive (MWS) cells that pick up colours along the middle of the light spectrum; and long wavelength sensitive (LWS) cells that pick up reds.

Findings apply to all marsupials

The new study supports Arrese's previous findings the fat-tailed dunnart (*Sminthopsis crassicaudata*) and honey possum (*Tarsipes rostratus*), which are distant marsupial relatives of the quokka and quenda, also see in full colour.

She expects the most recent findings will convince anyone who was sceptical that her earlier findings applied to all marsupials.

"If a characteristic appears in two groups of distantly-related species of marsupials then it suggests it is across the species," says Arrese.

She says the next step is to conduct behavioural studies to determine if marsupials actually use colour vision to survive.

"At present we know they have the potential to see colour but we still have to learn if they use it," says Arrese. "I would assume they would, as there are plenty of cones and they are not just fading out because they aren't used."

Evolution of human colour vision

Arrese says reptiles and birds have highly developed colour vision with four classes of cone cells including SWS1, SWS2, MWS and LWS.

The discovery in marsupials is, she says, a step forward in understanding the evolution of colour vision in humans.

Humans also have three types of cone cells but they differ to those found in marsupials.

"About 45 million years ago humans appear to have lost two types of cone cells found in reptiles but then developed and re-evolved with a third type of cell that is long and medium wavelength sensitive and picks up reds and greens," Arrese says.



This little creature, called a quokka, is helping to overturn long-standing beliefs about marsupial vision
(Image: Catherine Arrese)

http://www.abc.net.au/science/news/enviro/EnviroRepublish_1332458.htm.

Rescue App

IFAW and NSW Wildlife Council have launched a new and unique smartphone application, created solely to help save the lives of injured or orphaned wildlife in NSW. The Wildlife Rescue App aims to empower people to help save the lives of animals by putting them in direct contact with the nearest rescue organisation in the event of finding injured wildlife. The Wildlife Rescue App is free. It is easy to use, and can be downloaded from the Apple Store or the Android Market. It is also available for mobile devices through the IFAW website. You can read more about it here -

<http://www.ifaw.org/australia/our-work/animal-rescue/help-rescue-wildlife-nsw-download-our-app>

But wait there's more.....

A secondary stage is envisioned below.

There is technology currently in use that lets the "Caller" capture an image with their iPhone, smart phone or iPad etc. Embedded in the image, is the GPS coordinates and when transmitted to the Rescue Centre (must be a mobile number), not only helps to correctly identify the animal but allows the rescuer to load the location automatically into iMaps, giving precise and unambiguous directions to the rescue location. If the rescue organisation is a landline then there needs to be an option to send it to a mobile number.

It may be that this app can be utilised to help solve various needs.

It is believed that there is also an app called CyberTracker which is free and could be good for this sort of application - <http://www.cybertracker.org/>. You can download the developer software, and with a bit of time watching and reading their great tutorials, develop a database that does exactly what you want.



Letters & Contacts

Society Member & Director, Marie Wynan, has had two articles recently published in the local newspaper 'Nimmity News'

Belief: There is a population explosion of Wombats in the area

Fact: Wombats cannot have "population explosions"

Bare nosed wombats breed every two to three years and have one young. While it is technically possible for them to breed yearly this can only happen if the young lactating wombat is killed. Thus destruction or removal of young wombats leads directly to an increase in young born in a particular period. They take up to two years to raise their young so may only have three or four joeys in a 10 to 15 year life span. Most studies agree that wombats have young in a 50:50 ratio hence of all young born and successfully reared in any period 50% will be male. The young

females take two years to reach sexual maturity and are unlikely to breed until they have established a "territory". Hence, most females will not breed until their third year.

There is some evidence that if they cannot establish a large enough territory (i.e.; have access to a range of burrows not being used by other breeding females) they don't breed. (Triggs,B. The Wombat pp 91-96 University of NSW Press 2002.)

A pair of bare nosed wombats can only produce the equivalent of one female every four years so it is not possible to have a population explosion of wombats. (Wombats Wells & Pidmore (Ed.) 1998 Boer p.129 - 146 and Marks p.125 - 128.)

Marie Wynan



Wombat Numbers - How many are there?

A pair of wombats can only produce the equivalent of one female every four years so it is not possible to have a population 'explosion, of wombats.

If it is true that population numbers have increased then reasons other than the usual breeding cycle of the current local resident wombats are involved.

Such explanations could include:

- . Incorrect methods used to estimate wombat populations
- . Indiscriminate culling leading to established animals losing their territory and other younger animals being prepared to 'divvy' up the territory
- . The loss of habitat in local environs resulting in a

movement of non-local wombats into an area
. The removal of rabbits in an area increasing both wombat and kangaroo numbers
. Lowering of water tables causing wombats to expand territory towards coastal area.

Wombat Counting

Wombat numbers are extremely difficult to estimate by visual counts. The most ineffective way to establish wombat numbers is to try and count them or their burrows, and the next least effective method is burrow activity assessments which includes scat counting. Not understanding the behaviour of wombats, accounts for why most methods of counting are seriously flawed.

Wombat activity assessed by counting scats can be confused because a single wombat can produce 60-100 square shaped scat pellets a night.

Burrow entrance counting doesn't work because one wombat may have six or more burrows and some burrows have one or two entrances. A single wombat may 'own' a generational burrow that over the years has been added to by other wombats.

The most effective way is to use tape across burrow entrances to obtain hair samples. This type of count would be able to indicate how many of the local wombats are genetically related and how many are 'imports'. This would assist determining whether any increases were localised or to do with action in other areas, e.g. land clearing or removing another

population's habitat.

Wombats also have a wide home range - five hectares in good conditions and up to 23 hectares in poor conditions - and can range as far as three kilometres in a single night.

Wombats do not compete with grazing stock. They have the lowest metabolic rate and known food intake of all Australian marsupials and by preference they eat hard native perennial grasses - such as Poa grass leaves and roots - that stock cannot tolerate. It takes 12 wombats to eat about the same amount of grass as one sheep.

Wombats are relatively territorial and a local wombat will work hard to ensure that recruitment from wombats elsewhere does not occur. It periodically uses up to six and more burrows distributed over its five hectare range, and sometimes these burrows may be shared for short periods. Often wombats pass through another area in search of water or native grass. If local wombats have been culled, new wombats will move in from surrounding areas. These newcomers, often younger animals hunted out of existing territories, will often create new burrows or renovate and extend existing burrows. Therefore, killing/culling established wombats will lead to more burrows being dug and an increase in wombats within that territory.

Marie Wynan



Opinions and views expressed in this Bulletin are not necessarily those of the Wombat Protection Society of Australia



Hi all, a big thank you for grant, cheque banked so is all good, sorry took so long for this thankyou, we have 4 littlies very sick and trying to get on top of it, so time consuming and tiring . I did intend to photograph and write a story about it for you, I have already bought some materials in the form of pine poles, half a roll of shade cloth (cheap from Ponderosa timber supplies) as I intended to do this with or without the grant and buy the materials gradually when I had time and money. I can put W.P.S.A inc on all future purchases, which will be reinforcing mesh (approx 75mm square) or whatever is cheap around that size at the time, I am able to buy this stuff direct from the manufacturers, roofing iron, heavy chicken wire mesh, more shade cloth and various timber for burrow and framing all from Ponderosa timber.

So a big thank you to all

Cheers

John & Una Merrick

Warrawee at Warneet Wildlife Shelter

***Editor's note:** *We all look forward to the photos and the story, thank you.*



Wombat Protection Society Website

Welcome back to Linda Dennis. Linda, as our new webmaster, has been working very hard on the new revamped website and from what I have already seen it looks great & there is lots of new activities for kids, YAY!



<http://www.wombatprotection.org.au/>

The Wombat Protection Society of Australia is a **Not for Profit Charitable Organisation** which was formed to raise money to fund projects that provide wombats with immediate protection from harm, enhance the quality of life of individuals or groups of wombats and to fund projects which develop or maintain suitable habitat and/or sanctuaries for wombats.

<http://www.wombatfoundation.com.au/>

The Wombat Foundation is a charitable organisation set up to support activities that aim to bring the Northern Hairy-nosed Wombat back from the brink of extinction.

<http://wombatawareness.com/wombat/>

The Wombat Awareness Organisation is a non profit organisation specialising in the rescue, rehabilitation, conservation and protection of the Southern Hairy-nosed Wombat.

<http://www.mangemanagement.org.au/>

Mange Management is here to educate and provide support with help, knowledge and the tools for treatment.

<http://www.cedarcreekwombatrescue.com/>

Cedar Creek Wombat Rescue and Wildlife Refuge is dedicated to rescuing not just orphaned joey wombats but also sub-adults and adults that are in need of medical care whether it be from accident, injury or mange. Focus is of course wombats.

http://www.wombatprotection.org.au/rescue_links.html

<http://www.wombatprotection.org.au/brochures.html>

<http://rocklilywombats.com/>

This website is about Rocklily Wildlife Refuge and a few other wildlife carers we know in Australia too. More wombat information and a number of wombat resources can also be found at –

http://www.fourthcrossingwildlife.com/fauna_first_aid_resources.htm

Wildlife Rescue Magazine - <http://wildliferescuemagazine.com/issue-six.html>

EMAIL: wildliferescuemagazine@gmail.com



Australian Wildlife Rehabilitation Conference (AWRC)

The next conference is to be held at The Hotel Grand Chancellor in the heart of Hobart, 27 – 30 May 2014. The theme is - **New Directions: Accommodating Change**

The Australia-wide wildlife rehabilitation sector consists of thousands of individuals and groups, is unfunded and relies on sporadic grants, donations from rescuers and grass roots funding. The last 8 conferences have increased our knowledge base and fostered networking that is part of a significant growing worldwide movement.

For more information please go to –

<http://awrchobart2014.org/> or <https://www.facebook.com/AwrcHobart2014>



Thank you to WAO for sharing this photo.



Wombat Protection Society Phone

A new Society phone has been established, the phone number is **0448 087 994** .



Thanks Roz, very appropriate!



Noah's Ark: Everything I need to know, I learned from Noah's Ark.

ONE: Don't miss the boat.

TWO: Remember that we are all in the same boat!

THREE: Plan ahead. It wasn't raining when Noah built the Ark.

FOUR: Stay fit. When you're 60 years old, someone may ask you to do something really big.

FIVE: Don't listen to critics; just get on with the job that needs to be done.

SIX: Build your future on high ground.

SEVEN: For safety's sake, travel in pairs.

EIGHT: Speed isn't always an advantage. The snails were on board with the cheetahs.

NINE: When you're stressed, float awhile.

TEN: Remember, the Ark was built by amateurs; the Titanic by professionals.

ELEVEN: No matter the storm, there's always a rainbow waiting.

