



Mammal Survey Group of Victoria NEWSLETTER

May 2006

Next Meeting Tuesday June 6th

To be held at Arthur and Jess Howard's House, at 8 pm, 6 Alphington St, Fairfield.

Last Camps:

April 14-17 Providence Ponds



Members set a record number of traps/person in undertaking our biennial survey to monitor New Holland Mouse in this Park, as well as managing some spotlighting..

Disappointingly, as was the case 2 years ago, this resulted in only one New Holland Mouse, in contrast to the record number (20) 4 years ago



	'93	'94	'98	'00	'02	'04	'06
Trap nights	288	240	316	380	168	205	232
No. adult MSGV members in camp	9	12	12	14	6	7	10
Trap effort/person/night*	8	6.6	8.6	6.75	9.3	9.8	10.5
No. NHM	6	14	18	12	20	1	1
No. A Agilis	13	11	11	24	7	13	50
House mice	6	1	-	-	4	-	6
Black Rat	2	8	-	-	-	-	3
E. pigmy possum	1	-	-	-	-	-	1
Trap % for NHM	2	5.8	5.7	3.15	11.9	0.5	0.4%
Trap % A. agilis	4.5	4.6	3.5	6.3	4.1	6.3	21.5%
Trap % all species	9.7	14	9.2	9.5	19	6.8	26%

(*note that the earlier years had an extra night and that not all trappers stayed for all nights)



On the bright side we captured an Eastern Pigmy Possum, as in '93. Spotlighting scored sugar-glider, brushtail and ringtail possums with swamp wallabies and Eastern Greys. The area was again extremely dry with dying vegetation, including banksias and shrubs. Interestingly the number of Antechinus has skyrocketed in the last 2 years. Introduced species (house mice and black rats) have fluctuated with no apparent trend.



(all photos from April 06 camp Jenny Barnett)

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WEBSITE: <http://home.vicnet.net.au/~msgv>

May 13-14 - Helmeted Honeyeater site Bunyip State Park

As with our last visit to this site, the main purpose was to see if there was a black rat population potentially preying on the honeyeater eggs.. This time we used Elliot traps to boost the number of traps set and concentrated on the deer enclosure fence line and around the release sheds for the honeyeaters etc. No black rats were caught – only four Agile Antechinus and one Swamp Rat. If there are any Black Rats, it is not a large population. Seems they might have to blame the local native fauna for problems with the eggs. Spot lighting revealed a few ringtails and one very obliging Tawny Frogmouth who tolerated a close approach and was prepared to wait while Chris Wilson's camera batteries re-charged! (photo next issue)

Next Camp: June 10-12 – Wedderburn (long weekend)

We will be checking the 50 nestboxes we installed last November in the Wychitella Flora and Fauna reserve and adjacent Australian Bush Heritage properties.

Future camps: August 12-13 (Clydesdale), November 4-7 (Redbank Nature Conservation Reserve). Other camps to be resolved at the next meeting.

Howard's Way:

MAMMAL VISION

All vertebrates share the same kind of eye, known as the lens eye. Light enters the eye through the cornea, that transparent bulge in the front which in terrestrial vertebrates does almost all the focusing. A few of our mammals spend their active hours in darkness, they need good vision to find their way about. This all came about because mammals evolved from a small nocturnal ancestor whose eyes worked well in the dim light, they lacked the ability to see like those that are active during the day. Whether it is a possum or a native mouse they need a special type of night vision.---- The eye contains a number of photoreceptors known as rods, this makes the eye more sensitive to night light. There is also a structure that has a mirror like layer of silvery crystals, this lies behind the retina and reflects what light the photoreceptors cannot absorb, a sort of mirror area giving the rods a second chance to receive it. We are all familiar with the results of this procedure when out spotlighting for animals, when we get their eye shine. This enables these mammals eyes to absorb half again as much light than the human eye, this comes about because the excess light that is absorbed in the animal eyes that possess these silver crystals.

What happens to the nocturnal animals that are sometimes about in daylight, like the koala? It has an iris that contracts to a slit during the daylight hours. It is their rest time - they are not very active until late afternoon. The leaf-edges of eucalyptus turn towards the sun to avoid dehydration, and because of this there is a minimum of shade tree cast. The koala's pupils have been designed to almost shut down to suit the habitat in which it lives in where there is this lack of shade. Bright light affects all the possums, their highly sensitive pupils are a drop shape and contract to mere pear shaped slits, thus protecting their eyes. Has it ever crossed your mind when checking the animals in the traps, why they are all black eyed? Behind the retina at the very back of the eye is a membrane that raps around, called the choroid. This contains blood vessels and black pigment, which absorbs any excess light not already absorbed by the rods, so when there is no excess the pupil appears black.

The actual position of the eye sockets is important to an animal's particular life style. When an animal has the eyes on the side of its head each eye receives a separate large field of view, this then enables it to see practically all the way around itself. The brain interprets to complete images one for each eye. A herbivore like the wombat needs to have this broad, sweeping view of its surrounds to keep a look out for predators. On the other hand the koala has its eyes well forward, its eyes see the same image stereoscopic vision like our own, this is vital so that exact distance can be interpreted for climbing, and jumping from branch to branch. The carnivores also need that vision they must be able to pounce upon their prey with accuracy to exist.

It is impossible to know what an animal sees and how it perceives it. I can only infer this sort of information from studies on different animal species eyes can only help to understand a little about the special optics in mammals, about the structure, position of the eyes for the environments in which they live, and the eye experiments that are designed to examine how the animal reacts to and how. What we can be quite sure about is the fact that there are many different types of eyes in our animal kingdom and each one is equipped with just the sort of eyes it needs.

ARTHUR HOWARD

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