

SPECIAL FEATURE – TREATING WOMBATS TO PREVENT AND REVERSE MANGE



Sarcoptes scabiei the mite which causes mange.

The Society has been working with a number of groups and individuals to eradicate mange, throughout Australia, for a number of years. This Bulletin is an update on how these treatment programs are going and an explanation for people wanting to try and develop a treatment program in their area.



A burrow flap in place at the entrance to a burrow. The white cap is filled with Cydectin and the wombat treats itself as it walks out or into the burrow. These are refilled weekly.

When the Society first investigated mange in wombats, little was known about how it spread or why wombats, more so than many other animals, were chronically affected by this infestation caused by a mite. Very little work had been conducted in general and even less on how wombat mange might be treated. The one known treatment regime (still effective but not appropriate for free living wombats) is a series of ivermectin injections. Since that time mange has spread to the Southern Hairy Nosed Wombat population of South Australia and some research has been undertaken but virtually nothing has been published about treating free living wombats.

There are a range of issues that have to be taken into account when treating free living animals and previous bulletins have canvassed many of these. Free living wombats often don't cope well with captivity, you need good fitness

and training in handling and transportation. If you are to capture free living wombats, there are very few places with secure wombat pens and no dedicated wombat hospitals in Australia so even if you catch a wombat with mange there is often nowhere to take him/her. Most wombats live on private land and their health and well being, or otherwise, is dependant on the landowner's interest or otherwise in wombats. When all these issues are taken into account a simple method of treating wombats with mange and preventing its spread able to be done with the wombat in situ and able to be done by people unskilled in wombat handling is the wombats' best chance to be treated and of keeping properties and areas clear of mange. The burrow flap method of treating wombats individually and on mass is currently the simplest treatment delivery method as it involves no need to handle or disturb the wombat, no particular skills in animal management , and the flaps can be placed and monitored by amateurs. This work can be done during daylight hours adding an additional benefit for non nocturnal humans.



A bare nosed wombat (above) being held in an appropriate hold ;note his body is supported, held too tightly without support can compromise breathing. A bare nosed wombat can hit 40 kilos and on occasion a distressed wombat can deliver a scratch or bite (see below) making "hands off" mange treatment programs the safest.



Mange is an animal cruelty issue, unless treated the infestation progresses, eventually the wombat is so severely compromised that it will die.



### HOW TO BEGIN

Wombats suffering from severe infestations may be seen out during the day and some members treat these wombats by simply walking up behind and downwind of them and pouring on product directly. This method only works for a month or so because when the wombat's ears and eyes clear up, they bolt before they can be reached because they are hearing and seeing better. Eventually, as they recover, they return to nocturnal behaviour as their eyes heal which means they are no longer seen during the day. Making use of seeing one out during the day by following it to its burrow means you can ensure a longer period of effective treatment. Tracking and mapping burrows in an area is the next best approach and in areas where there are too many

burrows to treat all of them, working out which burrows are active and treating those will be the best approach.

### Finding Burrows



Some burrows are very obvious and easy to locate, others are more discrete.

If you can't locate the particular burrow a wombat is using, you may need to locate and "treat" all the burrows in an area. This is necessary anyway if you see a large number of wombats with mange using an area. Some burrows are very easily found while others may need a bit of sleuthing to find. Wombats use pathways that have overhangs often going under logs and branches. If you are following a track and have to jump over or duck under trees and logs, you are likely to be following a wombat track. Burrows are often downward towards gullies and very often near to creeks. Wallabies and roos tend to use clear pathways. Wombats will have scat sites and scratching places nearby. Wombats with mange become very thirsty as their skin "leaks" so they are likely to be close to a water source. This is a good tip too for those treating wombats with mange- make sure they have access to easy water.

Many of our other bulletins have photographs of pathways and burrows, scats and scratching places to help you find your wombat.



Typical pathway used by a wombat. Notice the squarish shaped scats in the mid bottom, the narrow track under the log at the top. Inset; wombat scats can tell a story, often placed on a log or stone to help scent location, these squarish pellets range in size depending on the age of a wombat and can tell time.

Wombat scats are a squarish set of pellets, usually 8 or so in a group, some squashed together and often up on a rock or a log as wombats use their scats as scent markers. The pellets range in size from a 1x1x 1.5cm which would be roughly equivalent to a 10 -15 kilo wombat to a 2x2x2.5cm for a fully grown adult of 30-35kilos. Scat size and number of pellets are affected by feeding pattern. If you observe fresh scats in your area over a number of days you can develop a record for aging scats that may help identify recently used pathways and burrows. Wombat scats either dry out or are decomposed by a beetle and both the amount of colour change as scats dry and the time of beetle infestation and subsequent scat disintegration can be timed specific to your

area.

G.P.S. systems are helpful if you plan to monitor a large number of burrows, however some members report that in dense bush with accuracy restricted to a couple of metres, you may need to develop some other marker system to ensure you can find the burrow again.

Once you have found your burrow the burrow flap is arranged in the most suitable manner depending on the burrow entrance shape. A wire frame should be pushed into place taking care to spread it to the edges of the hole rather than keeping it square.



Photos showing wire frame (part of a plant guard) spread to not block burrow entrance and both icecream lid and plywood flaps ready to be installed.

The wire holds the flap and you don't want it getting in the wombats' way or he or she'll will rub against it or flatten it. One design uses plant guard wire, but any firm wire bent into shape will do. A plant guard is 60cmx30cmx60cm and this suits most burrows where the soil allows them to be pushed in . A plywood flap or an icecream container lid is hung from this frame using tie wire or string. A template for these flaps is provided further on in this bulletin.

Can't find a burrow but do know a pathway?

While burrow flaps placed in the entrance to burrows provide the best direct treatment, there may be occasions where it is more practical to use a track or a pathway that is being used by wombats. The issues to consider are whether you will treat a particular wombat you are targeting as effectively. Most bare nosed wombats use a single burrow and while they will share if under duress, it is more common for one wombat to use one burrow. Flaps over burrows are more likely to directly treat a particular wombat. Wombat tracks are frequently used by more than one wombat and may also be used by other animals, hence the likelihood of getting any particular animal on a track is lower than directly in front of a burrow.

While the work of monitoring large areas where wombats are being treated is relatively new, one large treatment area reported that wombats may move 6

from their burrow if a flap is left in place. A number of other members have had no issues and wombats continued to use burrows throughout the treatment schedule with flaps left in place all the time, empty or filled. Another site monitoring two wombats with mange using three holes reported after six weeks one hole was no longer used. The wombat moved to another burrow closer to the creek which subsequently had a flap set up over it . Bare nosed wombats move burrows periodically, following feed, water or breeding cycles. Bare nosed wombats also are reported to enjoy sunning themselves at the entrance to their burrows so large flaps which block sun could potentially interfere with their afternoon sunning. If flaps can be checked the following day and lifted up/off out of the way until the next treatment ,any concerns about the flap interfering with the burrow entrance are addressed.



Burrow flap in place over burrow.



Burrow flap over pathway under fence.

### A Typical "Wombat Hunt"



A wombat is spotted between the wooden post and star picket, a closer look confirms mange so he is watched and followed. The wombat was approached to within 50 metres when he became aware and faced the noise. After that a noise was made intentionally to get him to head to his burrow.



The wombat is followed and disappears so burrows are checked. A wombat bottom confirms the right burrow has been located.



A flap is set up (leaning down from the top of the burrow) , the wombat continued to sit blocking the entrance to his burrow with his back. This behaviour explains why some people use a syringe on a stick or a cap on a stick to treat wombats. Some burrows are very long and once the wombat is beyond reach the pole method can't be used. The flap ensures he'll get a treatment next time he leaves. Note flap positioned to minimise interference with burrow.

### Wombats with Mange Around Properties

The most plausible reason for the many wombats that are reported coming into homesteads and yards near dogs when they have mange is because they are seeking water. Many people comment on how the wombat ignores dogs barking and often dogs barking alerts property owners to the fact they have a wombat with mange visiting. It may also explain why many manged wombats are found under sheds. While mites clog ears and eyes and affect hearing and sight and probably smell, intense thirst and the need to shelter near water may explain this behaviour. Members who have release sites where hand reared wombats have been released often report a wombat they have released many years previously, returning if they are hurt – including when they get mange.

Many release sites now treat wombat burrows on a regular basis as a means of keeping mange out of their release site or property.



Wombats with mange are often found under sheds

### How Long To Treat

Based on the mite life cycle and results from carers treating wild wombats, they need to have more doses of Cydectin if they have mange than the dose rate recommended as a preventative. Weekly doses for at least eight weeks with fortnightly treatments for another eight weeks seem to have the best overall results. Other bulletins have discussed possible reasons for this including the mite life cycle, the thickness of wombat skin and their slower metabolic rate. It takes at least six weeks before changes are seen, particularly if the animal had heavy scabbing prior to the start of treatment. Not getting worse is a positive sign. A recent report from a member described treating a large free living wombat for a period of four months. At the beginning he was blind and unresponsive. Seven weeks into the treatment he was responsive and alert. The most recent report indicates that his hair is growing back, his eyes are totally clear and he looks well, and new hair growing through strong and healthy. Some of the deepest pieces of keratinised plaque (scab) are still growing out with the new hair. Mites interfere with the keratinisation process (the process that grows hair and nails) and some of what appears to be scab on wombats is actually thick plaques of keratin. It is better to get spot on products onto CLEAN skin and hair as the scabby plaque area compromises dermal absorption.

The simplest treatment which appears to be the most effective is to get a dose of pour on cydectin® (or similar) onto the wombat (by whichever method) weekly for at least eight weeks and then to continue to treat fortnightly for another eight weeks. If burrow flaps are set up over the burrow the wombat uses, this effectively means having someone happy to refill the lid of the burrow flap weekly for two months and then fortnightly for two months. This makes weekend treatment programs a suitable way to care for wombats in a given area. Occasionally, there may be need to clean the flap container and very occasionally, if a wombat does a major burrow entry renovation, a new flap may have to be installed. Otherwise refilling the container on a weekly basis and if done over weekends, lifting up the flaps the following day is all the work needed.

## How Long Before I Know It is Working

Hair regrowth takes quite some time, partly because the hair follicles have been compromised by the female mite tunneling through the skin. The spread of mange over the animal should stop within a month, often there is a localised effect with the back and the head, getting the majority of the dose, improving faster than under the arms and behind the legs; not getting worse is a good sign; hearing and eye sight seem to improve by week four and generally some hair regrowth is seen from weeks 6.-8. The wombat can still look mottley for some time but close inspection shows that scabs have dropped off or are growing out ( hairs often grow through scab so they "lift" growing up with the hairs, giving the appearance of the wombat still being scabby although the skin underneath is healed and beginning to grow hairs.)



This picture is of a wombat following eight weekly treatments of cydectin pour on. The hair regrowth pattern is indicative of a localised effect from the pour on,( back and head which get bulk of pour on directly onto them clear up first) new hair is growing on his side, underbelly and face indicating the systemic effect. His eyes and ears are clear of the scab that encrusted them at the start of treatment. Keratinised scab is growing out around his left cheek and back legs.He is putting on condition and will be treated for another two months at fortnightly intervals.

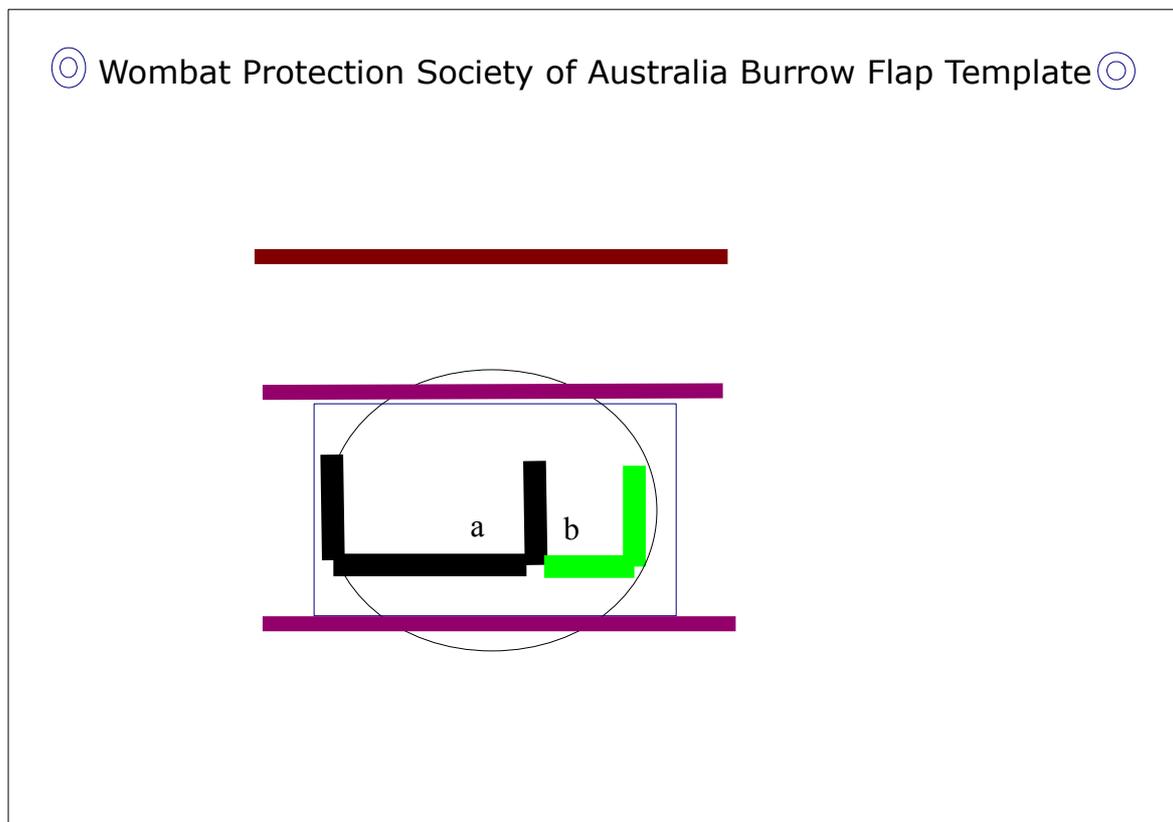
## How Can I Help

You can help by making up burrow flaps , or finding someone who can. A 2 litre icecream container lid is ideal. Use a milk bottle top or a soft drink bottle top and cut a suitable slot out of the lid, approximately midway or lower. The slot will hold the lid.The lid will hold the cydectin (most lids conveniently hold 4 ml of cydectin corresponding to a large wombat dose) .

If using an icecream lid, you can cut the slot out using craft knives , scissors or a soldering iron to burn the slots out. The lid fits in and is held in place without the need for glue by the remaining plastic "tongues". If using plywood, a jigsaw or holesaw will be necessary and the lid is glued or puttied onto the plywood. (as the width of plywood is quite narrow, most glues failed field trials. We suggest cutting a slot similar to the roof slot and having a "shelf" the lid can be glued to; or alternatively use a 2 part epoxy putty available from hardware stores- (eg;steel putty,car bog) to hold the lid in place.

Some areas that get rain use a "roof" to stop the lids filling with water. In the plastic flap model this is a slot into which a suitable sized piece of plastic from the container or another lid is placed. In the plywood model a small piece of plywood is inserted into a slot to perform the same fuction. DO round off any sharp points on rooves or shelves.

Corrugated cardboard can also be used but is less durable.



The thick black lines should be cut away when using standard soft drink bottle lids and continued to include the green for milk bottle lids on plastic flaps. If making plastic lids for the Society leave both "tongues" (a and b) so flaps can be used with either lid. For plywood and cardboard flap;for ply use the thin black circle if using a hole saw and the thin square if a jigsaw , for cardboard cut with scissors or craft knife. For plywood and cardboard flaps the purple lines should be cut away to allow a shelf of ply or cardboard to be inserted to give a base to stick the lids on and the upper one a roof if required. The maroon line (highest) can be used to make a roof for plastic lids.

Setting the flap in place



Filling the lid with Cydectin



Making up Mange Treatment Kits

Kelly Arbon is wrapping up her survey work for her honours thesis. The Society has given her permission to merge our data from the mange mapping site with her own. If you have further reports please send them to Kelly quickly if you wish your reports to be included in her work. Please ensure you keep sending mange reports pertaining to wombats to the Society at [mangemap@wombatprotection.org.au](mailto:mangemap@wombatprotection.org.au) and not Kelly is looking for mange reports in ANY species.

### **Where is Sarcoptic. Please Help?!!**

My name is Kelly Arbon and currently undertaking a project with Adelaide Zoo (David Taggart) and Uni looking at the spatial distribution of sarcoptic mange (in SA, Vic, NSW), what causes its distribution and how it spreads into wombat populations for future management. At the moment I am collecting mange location data (to map) and have been sending out this survey below to different groups. The survey simply asks to report diseased and NON diseased animals (wildlife, domestic and feral pests), the general location and the date or time period (in the last 10 years). See survey below for more info. As you are involved with wildlife and pest spp. you may be interested in helping and forwarding this email onto members or relative associates etc.

Below is the survey which I have been asking to simply return by reply email. Your time and help is much valued and will be definitely acknowledged in my thesis! Thank you very much and looking forward to your reply,

Cheers, Kelly (0403 760 124)

### **SURVEY**

#### **Those involved with:**

- **livestock species** just data on: sheep, pigs, deer, cattle, horse
- **native wildlife**: common and southern-hairy nosed wombat, kangaroos, wallabies, koala, possum
- **introduced pest**: foxes, feral cat, pig, rabbits, deer, wild dog / dingo
- **domestic pets**: dogs, cats, rabbits

#### **If you have NOT seen mange, absence data is also important, so please still fill out the survey**

NB: Location refers to the nearest township or region (also include state); date refers to the day the case was presented or if many cases a time period in which the cases occurred (i.e. within the last 10 years). Please also comment on the likely cause of the infection (i.e. foxes) if known and any other comments which may help us will be greatly appreciated

\*If you have data on many animals that was diseased with mange at the same time (i.e. within a piggery or cattle herd) it is sufficient just to write how many animals there were, when and where.

Further Contact

**Kelly Arbon**

**825 111 39 or 0403 760 124**

**[kelly.arbon@gmail.com](mailto:kelly.arbon@gmail.com)**

#### Incident 1

Specie(s):

Location:

Date:

Cases:

Cause:

Comments:

#### Incident 2

Specie(s):

Location:

Date:

Cases:

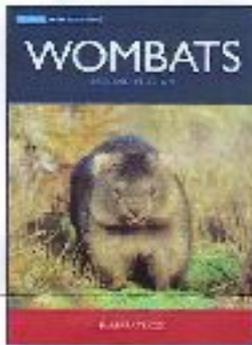
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# Wombats

## Second Edition

Australian Natural History Series



JULY 2009  
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Colour photographs  
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Barbara Triggs

One of Australia's most engaging marsupials, the wombat is also one of the most misperceived and least understood. Often depicted as slow, mud-nosed and clumsy, it can, in fact, outpace a human or a dog over a short distance. Wombats are quick to learn and superbly adapted to their burrowing way of life.

This book gives a full account of the wombat's way of life and examines the many hazards that wombats face. Dealing mainly with the Bare-nosed Wombat, *Wombatus varius*, it includes the latest information on the Southern and Northern Hairy-nosed Wombats (*Lasiorhinus latifrons* and *Lasiorhinus krefftii*), among the world's most endangered animals. The book also gives practical advice on rearing orphan wombats.

### FEATURES

- Completely revised edition of author's 1996 book
- Over 100 illustrations, including 28 colour plates
- Drawings by Peter Schouten
- New information on the two hairy-nosed species of wombats

### AUTHOR INFORMATION

Barbara Triggs has lived in Eastern Gippsland among wombats and other animals since 1972. She is an authority on the identification of mammals from indirect means, and is the author of the best-selling field guide *Mammal Tracks and Signs*.

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Barbara Triggs has updated her book on Wombats. One of the best parts of the update is that Barbara has used the term "bare nosed" wombat, replacing the prejudicial "common".

