

Possum Pieces #4 – Raising ringtail possums

There is a perception that hand-raising ringtail possums is hard. I'm not sure 'hard' is the right word.

Many carers report a much higher death rate for ringtails compared to brushtails but this can be avoided by a thorough vet check and proper triage, and by carefully following the rules. There are more rules for



ringtails than brushtails and there is less leeway in implementing the rules but if you do everything right, from triage through to release, the success rate can be the same for ringtails as it is for any other species being hand-raised.

Many ringtail joeys do not make it past triage, and rightly so. There are four main reasons why ringtails are rescued: cat attack, attack by native birds, found alone, and in the

pouch of a dead mother possum that has been hit by a car. The first two (cat attack and bird attack) seem to occur more often with ringtails and gliders than brushtail possums, and they frequently result in injuries that cannot be rehabilitated. Cats have very gummy, long, pointy teeth that can deposit bacteria in deep pockets in joints, such as the shoulder which is where cats often grab their prey. It can take a long and harsh course of antibiotics to destroy all these bacteria and that can have a devastating impact on the gut flora of the possum resulting in a twisted bowel or a range of equally painful and fatal conditions. Leaving a cat puncture wound untreated will result in a massive infection that leads to the same result – a slow, painful death. Small ringtails also fit neatly into a cat's mouth so internal crush injuries may be present even if punctures are not evident. So, cat attacked ringtail joeys with nasty puncture wounds, and possible internal crush injuries, are humanely euthanased. I always give pain relief to baby ringtails brought in by a cat just in case there is something the vet and I both missed.

Bird attacked ringtails often do not fare any better than those attacked by cats. Some are grabbed across the face by a crow or currawong and suffer nasty facial fractures. Butcher birds flick their prey on a branch to kill it before eating and I have seen some injuries that would be consistent with a bird flicking a baby ringtail across a branch without killing it. Some possums are grabbed by the tail causing permanent damage to the tail, a condition that renders a ringtail possum un-releasable. There may just be swelling and pain causing the initial problems and x-rays are required to determine whether or not there are broken bones. If nothing is broken, a few days of anti-inflammatory medication may rectify the problem, but not always. For some, euthanasia is required a few days later when it becomes evident that there is

permanent nerve damage. Generally speaking, baby ringtail possums do not recover well from any injury and sensible euthanasia at triage can save a carer the upset of having the baby die in care or to be

euthanased at a later date.



Uninjured orphaned ringtail babies also need careful examination before being taken into care. Ringtail joeys with severe dehydration and emaciated condition are likely to do badly in care. Ringtails need food to be going through their gut at a regular basis to keep their specialised gut flora alive. Ringtails in very poor condition should be euthanased at triage. Joeys in the pouch of a mother that has been hit by a car may have fractures, dislocations

and bruising. A careful and thorough vet examination is required to rule out any such injuries that are not always obvious at first glance. Don't assume that babies in the pouch are protected from whatever killed their mother, including electrocution, car hits and poisoning.

An assessment also needs to be made of the viability of very young ringtail possum joeys. Unfurred joeys with eyes closed are generally not-viable. Yes, some people have raised these tiny ringtails but for the majority of carers most of the time it is best to euthanase 'pinkie' ringies. The little one to the right is a good minimum size for most carers most of the time. At this stage of development issues such as mild dehydration can be treated without too many dramas down the track. Pouch emergent ringtails are beginning to eat leaf and will have had their digestive system 'seeded' by their mother, and are therefore less likely to encounter gut problems in care. It is possible to pap joeys with faeces from an older possum but nothing beats the process as it occurs naturally.

So, you have a small but furred ringtail joey with no injuries or apparent illness – now, what are the rules for raising this baby.

The two biggest killers of healthy orphaned ringtail possums raised in care are stress and inappropriate diet. Stress is fairly easy to avoid with small babies by always raising ringies in a crèche. Ringtails nearly always have twins so it is normal for them to snuggle up with someone their own size. A small joey on its own will stress while a crèche is being formed and this is the ONLY time I carry a baby possum down my shirt. Once they have at least one friend they will be happy in a small basket and cosy pouch. Brushtail joeys will climb all over their carer without too many worries, especially when they are at the backriding stage, but for ringtail possums this is extremely stressful. It is NEVER appropriate to



have ringtail joeys sitting on your shoulder or climbing on your head so do not give in to this temptation – ever! Pain also causes stress in ringtails so if there is any reason to suspect a ringtail has experienced physical trauma, regardless of whether or not the triage vet found any actual injuries, pain relief for at least the first 24 hours may be administered. In addition to these additional rules for reducing stress in ringtails, the normal practices of keeping babies in a warm, dark, quiet environment and avoiding stressful noises such as barking dogs should also be followed.

Inappropriate diet is probably the main reason things go wrong for hand-raised ringtail possums. I am not going into a discussion of individual milk formulas here but if you are new to raising ringtail possums it is essential that you find an experienced mentor who can direct you to the best formula for ringtails and the correct dilution rate. Gut issues commonly kill hand-raised ringtails so getting the diet right from the very beginning is essential as problems will just compound once leaf is introduced into their diet. Keeping the gut active is also important. A baby on 3 hourly feeds, needs 3 hourly feeds around the clock. Besides the potential for causing gut problems hunger causes distress, an issue already discussed.



Ringtail possums are arboreal folivores, meaning they eat leaves from the tops of trees. They are not frugivores (fruit eaters) or nectivores (nectar eaters) or granivores (seed eaters). They eat leaf. Most of the leaf eaten by ringtail possums is eucalyptus. In fact, the only two species of marsupial more restricted in their eucalypt-eating diet are koalas and greater gliders. Eucalyptus is the most difficult Australian plant to digest, a protective mechanism employed by the plant. This is why koalas, greater gliders and ringtail possums all have a well developed caecum and practice coprophagy (eating soft faeces passed from the caecum during the day to extract maximum nutritional benefit). Eucalyptus feeders have highly specialised gut flora and they ‘pap’ their young. Papping is the practice of feeding young with fresh adult day-time faeces teeming with the gut flora required to digest eucalypts. We can never exactly replicate natural processes but feeding young orphans a ‘poo smoothie’ can be beneficial, and one of the key factors in successfully raising ringtails.

The most important rule in raising ringtails is diet. It’s a simple rule – ringtails eat leaf, and nothing else. There are no supplement foods that are appropriate for ringies. Fruit, grains and other ‘human’ foods are frequently the cause of major gut problems and bloat. Native flowers are eaten by adult ringtails as a small part of their diet but I do not feed flowers to young orphans. As previously discussed, we cannot properly

replicate the process of seeding an orphan's gut with the appropriate gut flora and offering a high sugar diet on top of this can lead to disaster. You need two things to provide a good ringtail diet – a good quality milk formula at the correct dilution rate and a car to go bush for leaf, at least 80% of which should be eucalyptus species. The only other tip I have is not to rush the weaning process. There is no scientific base behind this, but I feel that a little extra support while their gut is adjusting to the digestion of eucalyptus leaf will not do any harm. I stop increasing the amount of milk they are getting at around 200g, start reducing at about 250g, and have them weaned at about 300g.

The final consideration is release. Debate will probably continue forever over soft versus hard release, and I think there is a time and a place for both. I have soft and hard released ringtails and had successes and failures both ways. Now I tend towards soft release but am very particular about where and when I release. The biggest problem I have encountered with soft release is that the longer you leave the possums in the release aviary, the more time predators such as carpet pythons have to find them. Pythons eat possums and even hand-raised possums become very stressed if there is a python on their aviary. I can just imagine the python sitting up there deciding which of my babies to eat first when the aviary door is opened. So, as a general rule, I do not soft release in the warmer months in areas where pythons are known to live. There are times, such as during drought, when leaf quality is poor everywhere but the possums still have to be released. In this situation I WOULD soft release and I would continue to provide some cut leaf in the aviary until the babies stop coming back. In this situation hard released hand-raised possums may struggle to find sufficient food.



My list of considerations when releasing, and deciding whether to soft or hard release include:

- the skills of the person living at the release site,
- aviary facilities at release site,
- python activity,
- wild dog activity,
- leaf quality,
- variety of leaf fed in care,
- maturity of the possums.

A final comment on release is about artificial dreys. Regardless of whether possums are soft or hard released, I consider dreys to be disposable items – they go with the possums and I don't expect them to come back. One extra feature I add to the coconut fibre hanging basket drey is an outer covering of shade cloth. While in care the possums jump all over the dreys and they end up with little or none of the coconut fibre lining in the top half. This is an invitation to predators when possums are hard released. A shade cloth covering keeps the young possums safe and protected for as long as they want to use the artificial drey.