

# Boobooks: Dying for a mouse

From the Friends of Queens Park Bushland's newsletter and website

In 2015 we were asked to keep our eyes peeled for Southern Boobooks, *Ninox boobook*, dead or alive, as Mike Lohr is researching the reasons for their decline across their range. Mike's study looks at the threats they face including inbreeding, nest hollow loss, the disease toxoplasmosis and poisoning through rodenticides (mouse poison).

In May 2016 we found a dead boobook in our bushland. Mike was called, collected the bird and was able to determine from the bird's plumage that it was less than one year old. The bird didn't show any external sign of injury or other reason for it being dead.

Back in the lab, Mike dissected the bird and recently had samples tested. The results came back showing that this bird had four different rodenticides in its body. The levels of two of these poisons were so high that they were likely the cause of the bird's death.

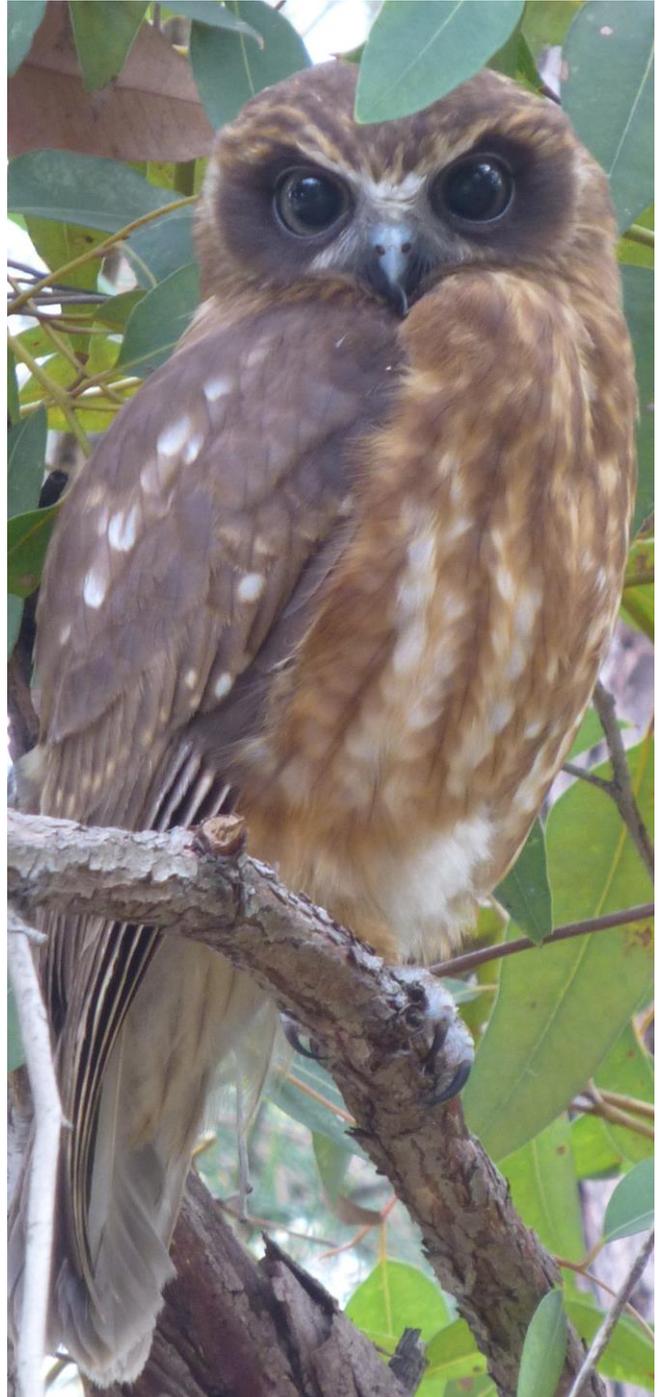
So how did the boobook die from mouse poison? First we need to understand how mouse poison works on rodents.

Most mouse poisons consist of an anticoagulant. This stops the blood of the mouse from clotting (it works the same for rats and other rodents, but we'll just refer to mice here). Over a period of days the mouse experiences internal bleeding before it dies from the effects of blood loss.

In general, there are two main types of mouse poison, commonly referred to as 1st generation and 2nd generation rodenticides. The 1st generation poisons require the mouse to take several meals of the bait before it receives a lethal dose. The 2nd generation, and most readily available, poisons only require the mouse to have one meal for a lethal dose.

In reality, though, as it takes a few days to die, the mouse will take several meals from the 2nd generation poison. This leads to it having several times the lethal dose in its system. If it is then eaten by another animal, like a boobook, that poison is transferred to the second animal.

This way the boobook gets a dose of poison far in excess of that necessary to kill a mouse. If the boobook eats several mice that have each eaten rodenticide, it quickly accumulates poison at levels high enough to kill itself.



This is how our boobook would have gained four different rodenticides in its body – through eating several mice, each of which had probably eaten a different type of bait (though some baits have two poisons in them).

With the 1st generation rodenticides, because it takes several meals to consume a lethal dose, the mouse will usually have lower levels of the poison in its system when it is eaten. These poisons are also more quickly eliminated from the body and are weaker to begin with.

Therefore the boobook, and any other rodent predator, will receive a much lower dose and have a better chance of surviving.

To help reduce the incidence of secondary poisoning, look for products with warfarin or coumatetralyl as the active ingredients. A quick check of a major hardware chain revealed a few products containing the 1st generation rodenticides were available, but they were vastly outnumbered by the 2nd generation poisons. You need to read the labels as some brands use different ingredients in different products. Or go the old fashioned way and use a trap.

Mike is still collecting dead boobooks so, if you find one, seal it in a plastic bag and pop it in the freezer. Make a note of when and where you found it (GPS points from Google Maps is fine) and contact Mike on 0407 147 901 or [m.lohr@ecu.edu.au](mailto:m.lohr@ecu.edu.au) to arrange collection. You can also follow Mike's study on facebook - <https://www.facebook.com/groups/boobooksWA/>

Many thanks go to Mike for his assistance in preparing this story.

