

Newsletter of The Land For Wildlife Program - Spring 2018



[\(Link to Previous Edition\)](#)

INSIDE

Letter From The Editor	2
LFW Property Statistics	2
Letters To The Editor	3
New Citizen Science Project	4
Sociable Skinks On Granite	5
Nest Boxes For Wildlife	6
Importance Of Tree Hollows	10
Nest Box Research Report	12
Feral Cat Declaration	13
Recording Feral Cats	13
Gliders of Victoria	14
Wildlife Silo Art	16
Weevils, Mites, Thrips Of Gorse	17
Recent Publications	18
Contacts, Resources, & Events	20



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136 186

Letter from the Editor

Dear LFW Member,

An invitation was recently sent out asking members to subscribe to the online newsletter. The total number of members who have subscribed is now 1,900, when the invitation was posted back in July, 2018. This is up from 1,200 following the first invitation sent back in mid 2014. While we would like to have more members (and Friends of LFW) subscribing to the newsletter, we also acknowledge that the internet is not accessible to everyone, particularly for those in remote locations or who don't want to engage with emails.

In addition, a membership survey was later emailed to subscribers, with approximately one third (of 1,900) responding. Many thanks to those members who managed to find the time and opportunity to participate – it was really appreciated! The survey was conducted in partnership with RMIT. A summary of the results will be circulated by email following a short period of analysis, with the full report being available soon after. The results will assist in managing the Land For Wildlife program and respond to your requests based on the survey responses.

In this edition of the newsletter, I have focused on nest box design and hollows in trees. While nest boxes have been the traditional way of supplementing natural hollows, an innovative approach is being trialled where hollows are cut with a chainsaw, and a face-plate fitted. A recent research paper compares chainsaw-carved cavities with natural tree hollows, nest boxes and log hollows.

The results provide the first evidence that artificial hollows can produce thermally stable hollows. You can read more about this exciting research on page 12.

All the best,

Peter Johnson
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Land for Wildlife Property Statistics

LFW Membership	Total Property Area	Habitat Being Retained	Habitat Under Restoration	Total Retained and Restored Habitat
5,000	525,000 ha	140,000 ha	22,000 ha	162,000 ha

Cover Images: Experimental nest box designs are emerging, such as this chainsaw carved hollow. Image from Brendan O'Brien, Thoona.

[Read the article on page 12: Recent Research Report.](#)

Letters To The Editor

3

Hi Peter,

Thanks for the LFW newsletter, I haven't seen one for a while so it was great to receive this one, keep up the great work.

I was digging in my veggie patch the other day and having spent a lot of time in the Northern Territory, I came across a nasty "Cane Toad"!!

Well so I thought..... I was just about to dispatch of the despicable chap when I called my partner Robyn over for a look.

I was certain it was a toad, warts on the back, claws not pads, ugly as sin, but being colourblind I was unable to distinguish the blue markings on the flanks and the yellow markings from the eye to the armpit.

It was then we decided that a little more investigation was required, out with the trusty "Google for Mobiles" and we searched for "Frogs of North East Victoria".

Low and behold the first picture that popped up was my "Cane Toad", The Southern Bullfrog, Pobblebonk!

Now we are not frog experts as you may have guessed, and we may well be wrong in our identification, but Mr. Pobblebonk, as he is now known is back in the garden living happily among the potatoes and strawberries, doing whatever bullfrogs do!

Martin Jacobson, Benalla

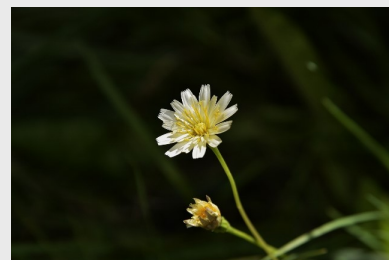


Hi Peter,

My place at Maryknoll dried out for the first time in about seven years, but a bit of rain in December and since has made a big difference. Notable absence of insect life and types probably due to 2017 being one of the driest years on record.

But never without interest. I found a patch of approx. 70 native ferns, some very very small plants. Transplanted them and have at least 60 or so still coming along nicely. Mainly tree ferns, three or four shield ferns and one or two strap ferns.

Then in the last four weeks or so, I discovered what appears to be a white flowered 'Cats Ear'. Have had no success so far in identifying it.



A couple of days ago I came across the biggest Daddy Long-legs I had ever seen. Googled it and found it was actually a Deinopsis subrufa Male, a net casting spider. Big dude, probably spanned 120 mm from end to end.



When I noticed it I thought it was some fine dead twigs, or the remains of a bract of flowers – until I went to pick it off. A mate in Berwick recently found one which he thought was some sort of Stick Insect. I never knew they existed.

Regards, Jim Kerr, Maryknoll

New Citizen Science Project

Using new technology to discover the small animals on your Land For Wildlife property.

4

What animals inhabit your property, especially the patch set aside as Land for Wildlife?

Deakin University is seeking volunteers with Land For Wildlife properties to participate in a citizen science project that uses new camera technology to monitor and identify the small animals on your property.

Key aims of citizen science projects are to collect data that can help answer scientific questions, and improve dialogue and critical evaluation of scientific projects. There are two core components to this project that will help do just this. One is to improve our understanding of Victoria's biodiversity and contribute towards the Atlas of Living Australia (<https://www.ala.org.au/>). The second component is to understand how participation affects participants' well-being, their engagement with nature and how they value it. This project also wants to understand how such projects might affect the sense of community and the benefits that might come from that.

Your role as an active participant

We will provide an automated, small-animal camera for you to monitor the wildlife on your property. To participate, you will need to periodically upload the data from your camera via our web interface. You can interact with other members of the project through the web site. We will also invite you to complete a survey before and after the project to help understand the questions associated with the project's second component. This survey will be sent to other Land for Wildlife participants outside this project, but those who are part of the project need to agree to complete the survey.

This will be an exciting opportunity to be part of a project that will test a new video technology developed at Deakin University and deployed on this project for the first time anywhere in the world. The technology allows for 24-hour, continual monitoring of wildlife that will enable video capture of a greater proportion of animals in the vicinity than previous wildlife camera technologies.

Getting involved

The initial phase of this project will target properties with the following Ecological Vegetation Communities (EVC's): "Grassy Dry Forest and Heathy Dry Forest". However, after this initial project the goal is to expand the project to other EVC's and regions of Victoria. If you are interested in participating or have further questions contact Jason Major either via email j.major@deakin.edu.au; or by phone (during business hours) on 0455 288 309.

[Click here for more information](#) about the project at Deakin's TechnEcology website.

Or copy and paste the following link:

<https://blogs.deakin.edu.au/technecology/>

"New video technology developed at Deakin University to be used for the first time in a project with Land For Wildlife property owners."

Image above: Faunatech



Sociable Skinks On Granite Outcrops

5

By: Tanya Loos (This article is from her nature Blog: [From Forest To Forest](#))

For the December Nature News, Tanya Loos from Connecting Country writes about the sociable skinks photographed by Nick Schulz on his property in Nuggetty.

Earlier this year, landholder Nick Schulz sent us a series of stunning photographs from a rocky granite outcrop on his property in Nuggetty. The pictures show a large group of plump, spiny and spotted skinks seemingly enjoying each other's company near the safety of deep rock crevices. They are Cunningham's skinks and they turn the idea of reptiles being cold loners on its head!

The skinks live in long term family groupings, with a large sized breeding pair and many immature siblings of various ages and sizes from previous years. This kind of social system is more commonly seen in birds and mammals. Researchers suggest that the family group represents safety in numbers, with more eyes to look out for predators such as birds of prey. Another advantage may be temperature-related as the skinks huddle together on cold days and nights.

The breeding pair remains faithful to one another from season to season and also over many years – similar to the Stumpy-tail lizard or Shingleback who also has long monogamous relationships. Both the Stumpy-tail lizard and the Cunningham's skink give birth to live young instead of laying eggs.

Cunningham's skinks are only found around rocky outcrops – each family group must have a rocky habitat with nice deep crevices to hide in. If threatened by predators, the whole group scuttles into the cracks to hide. If the bird of prey or fox is persistent and tries to remove a skink from a crevice, they will inflate their bodies and make their spines stick out, thus becoming incredibly hard to dislodge from cracks.

Like other large skink species such as Stumpy-tails and Blue-tongue lizards, Cunningham's skinks are omnivorous, with a large part of their diet made up of plant matter such as flowers, fruits, soft leaves and shoots. They also eat insects, spiders and small lizards.

We have had reports of this species in Sutton Grange, and Elphinstone and now Nuggetty – if you have granite outcrops on your property, you may be hosting a whole family!



Nest Boxes For Wildlife

6

The role of nest boxes

A range of native animals require the natural hollows that develop in trees and some shrubs for shelter and/or breeding. A comprehensive list is given in Land for Wildlife Note No. 6 'Wildlife needs natural tree hollows'.

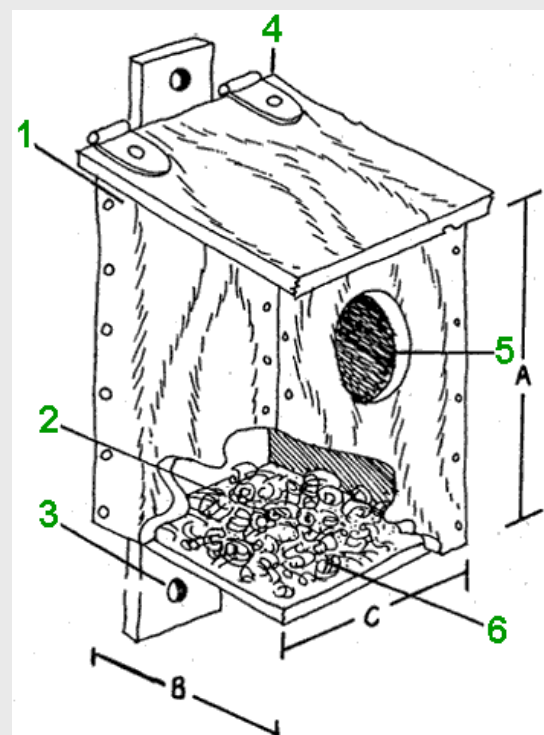
The nest boxes described in this Note are not the equivalent of natural hollows. Natural hollows occur in vegetation at a specific time in the development of the plant community. If the plant community is severely disturbed, merely replacing hollows with a substitute is no compensation for the other changes to that habitat such as disruption and loss of food sources from understorey shrubs and interference with the natural cycles that maintain the health of the ecosystem. It takes over 100 years for natural hollows to develop. Many eucalypts live for hundreds of years providing safe hollows for many generations. The nest boxes described here will last up to ten years.

Nest boxes are used by people who want to observe the wildlife occurring in their area and something of its natural history in a convenient location. In some instances nest boxes have been used as substitutes for a lack of natural hollows and as a research tool. Once again, it should be emphasized that artificial hollows are no substitute for real hollows. As a first step in assisting wildlife you should consider how natural hollows can be protected in your area and make provision for the development of natural hollows, should they be in short supply, by re-establishing local native vegetation. Natural hollows are often destroyed during firewood collection, fencepost cutting, land clearance, burning and timber harvesting. Think about how you might reduce the impact of these practices in your area. DON'T use hollow logs for nest boxes. Natural hollows are valuable resources for wildlife and should be left in place on a tree or on the ground.

How do I build a nest box?

General nest box requirements

1. A space will allow for ventilation.
 - For weather protection the lid must slope from the back and overhang the front by at least 25mm. It should also overhang the sides. DO NOT use sheet metal on the lid, timber has superior insulating qualities.
2. 20mm deep woodshavings, decayed wood or shredded bark should cover the floor.
3. Fix a mounting strip to blocks attached to the back of the box to make attachment to a tree trunk easier. Pre-drill nail holes in the strip to prevent splitting and use
100mm galvanized flat-head nails.
 - Box must be stable. A slight forward lean will assist drainage and exit by young.
 - Place box at least 3m above ground.
 - Arrange timber so that growth rings radiate away from the centre of the box. Subsequent 'warping' will force the box together rather than apart.



Nest Boxes For Wildlife

7

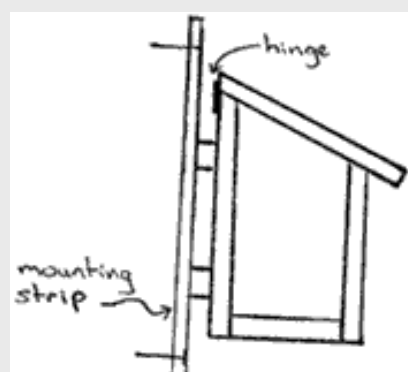
4 A hinged lid or front panel extending 2/3 depth of the box and angle cut for drainage permits inspection and cleaning out after use.

- Floor should be recessed inside walls, loose knots glued in place with PVA (non toxic) and any gaps that do occur sealed with a quality mastic.

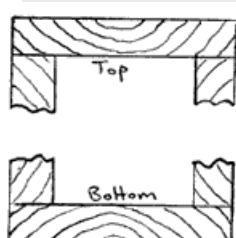
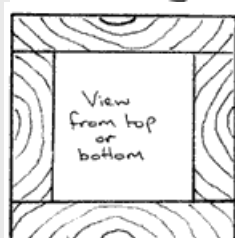
- Use galvanised/nickel-plated screws to join all parts.

- Nesting boxes are best made from rough-sawn plantation-grown timber so animals can get a grip and should be about 19-25mm thick to provide insulation. DO NOT use treated timber, toxic paints, chipboard, smelly glues or leave any sharp objects such as projecting nails or screws. Avoid wood that is inclined to warp. External-grade plywood painted with acrylic paint is acceptable.

5 Entrance hole should be no bigger than is necessary for the animal the box is intended to house (a critical dimension). Placing the hole near the top will ensure that inside of box is dark.



Layout of wood showing grain orientation to compensate for



cupping (warping).

- After assembly, paint the outside of the box with three coats of non-toxic dark-coloured outdoor water-based acrylic paint.

- Inside walls must have toe holds so the young can climb out.

- Use rough-sawn timber, roughen up with coarse sandpaper or notch with a circular saw before assembly.

6 Three small (<10mm) drainage holes should be drilled in the floor towards the front (lower side). Avoid creating an updraft.

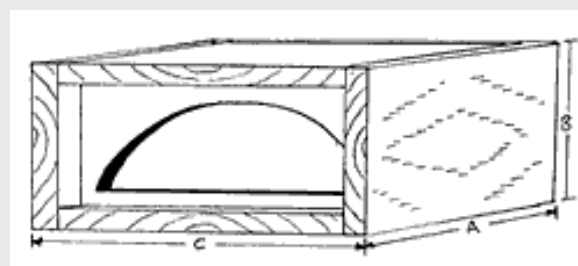
7 Box must be weatherproof and dark inside.

Table 1: Inside dimensions (all in millimetres) All depths are minimum. Many other native species use hollows.

Horizontal box for Kookaburras, etc.

	A (height)	B (depth)	C (width)	D Entrance
Brushtail Possum (also suits ducks)	500	250	290	100-120
Ringtail Possum	400	240	200	70-80
Sugar Glider/ Tuan	400	240	200	32-35/ 35-40
Rosellas	400	240	200	70
Red-rumped	400	190	170	60
Treecreepers	400	190	170	45-50
Owlet nightjar	400	190	170	45-50
Ducks -	500	250	290	100
Grey Teal, Chestnut Teal	"	"	"	"
Black duck	"	"	"	130

Young kookaburras and other kingfishers need to excrete from the front of the box, so a small sill (<40mm, don't forget to allow for shavings) is desirable.



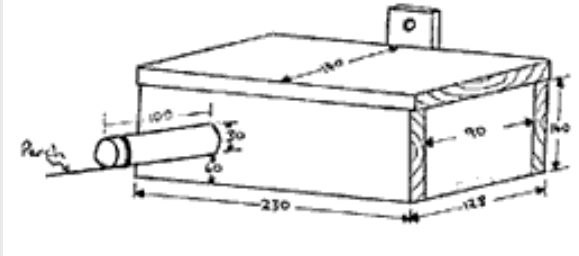
Nest Boxes For Wildlife

(Continued)

8

Box for pardalotes

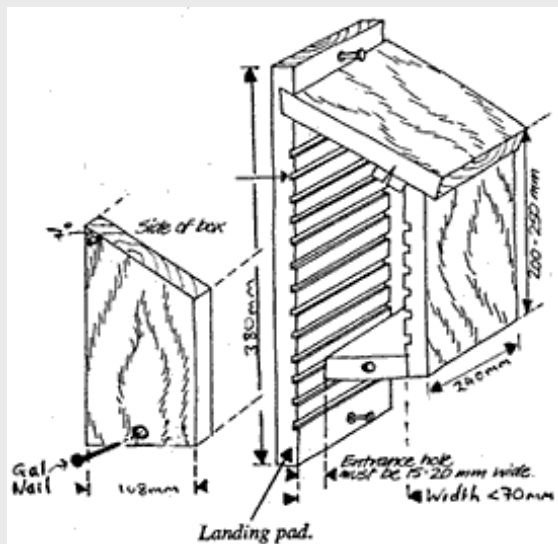
Internal diameter of entrance pipe must be 30mm.
Can use PVC or rigid polypipe.



Bat roost box

Comments for general box design plus:

- Bats prefer an entrance at the bottom, hence the alternative design.
- Roughen all internal surfaces with shallow, horizontal saw cuts.
- Use 25mm rough-sawn timber or plywood. You could experiment with hanging some hessian or shade-cloth from the inside roof or reduce the cavity.

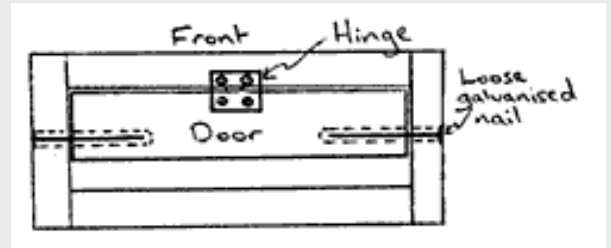


Bot-
tom

view

- *There must be a tight seal at all joints to avoid draughts.*
- *Install on tree, clear of branches, or on wall of house, under eave.*
- *Internal dividers and greater dimensions will potentially house a larger colony. Bats prefer tight surrounds.*

- *Bottom view (continued):
Don't open the box when it is occupied by bats. Watch at dusk for exit of bats.*
- *Spraying the box with guano (bat droppings) and water may help to attract bats.*



Where do I place the nest box?

Nest boxes should be placed out of reach of human hands, to avoid vandalism, and potential predators, such as cats. The site may be in a tree or dense shrub or an inaccessible place around a dam, swamp or over water (these boxes will only be used by birds). Some species, such as bats, may prefer a more open site. Duck boxes don't have to be over water. If you are fortunate enough to have bats move into your bat box, you could find that the local mosquito problem is largely taken care of whilst they are there.

The nest box should be given protection from weather, including cold, rain and the direct heat of the sun. Fixing boxes just south of east, about 110° magnetic, has been found to be satisfactory. Bats may appreciate some warmth, particularly in cool climates. You may need to try various orientations and exposure. The entrance should face away from prevailing winds and rain.

The nest box must be firmly attached to its support. 100 mm galvanised nails can be used. Any type of strapping around the supporting plant must take account of the future growth of the plant and so is best avoided. Place a nail in the tree first to support the box then lift the nest box onto it and finish attachment.

Nest Boxes For Wildlife

(Continued)

Read all you can about the natural nest site of the species for which your box is intended and try to imitate this as much as possible. Some experimentation with box design and placement may be necessary. For example, some mammals, such as Phascogales or Sugar Gliders, can have large litters and build substantial nests. Below are examples of alternative nest box designs.

9



Kookaburra Nest Box



Above image: Experimental Nest Box cut into tree with a chainsaw. This advanced-design installed by experienced tree climbers, is currently being trialled with various species of tree. It has proven very effective in attracting Brush-tailed Phascogale in the Macedon Ranges area. See page 12 for the latest research on artificial nest cavities. [Click here to go to page 12.](#)



Bat Tube "Nest Box" using a large PVC pipe (min 100mm) with shade cloth attached internally for grip.

Nest Box Fact Sheets

Click on links below for nest box fact sheets:

[General Guide](#)

[Monitoring and Data](#)

Contact the Editor if you have problems opening the documents from the links above.

Importance of Tree Hollows

10

What is the importance of natural tree hollows to wildlife?

Tree hollows are a valuable, and often essential, resource for many of Victoria's wildlife species. They offer refuge from the weather and predators, and safe sites for breeding. Removal of hollow-bearing trees from an area will lead to the displacement or death of wildlife dependant on those hollows.

Wildlife research has highlighted the importance of remnant hollow-bearing trees on private land. Two species of bats were captured and radio-tagged at their foraging site in young forest in the Strzelecki Ranges, South Gippsland. To the amazement of the researchers, who followed the bats in a plane, females of one species returned to a large Manna Gum on private land some thirteen kilometres from the point of capture and over six kilometres from the forest boundary. The single tree contained hundreds of bats of several species including mothers producing milk. The young forest in which the bats were foraging did not provide suitable hollows for females to roost, although males did use the younger trees.

This research highlighted the importance of remnant habitat, particularly large old hollow-bearing trees, on private land. Such trees may be used as bat nurseries for many generations.

Large dead trees with hollows, on private land, are very important to the survival of many species where live trees with suitable hollows are no longer available.

How do hollows form?

Young trees are usually strong and healthy. They do not contain hollows suitable for wildlife. As trees age they are subject to the natural forces of wind, fire, heat, lightning, rain and to attack from insects, fungi, bacteria, termites, beetles and so on.

Although the outer living skin of the tree may remain healthy, the inner dead wood can be digested by fungi and excavated by water, be chewed up and carted away by termites or burnt out by fire.

The resulting hollow branches and trunk provide the hollows used by wildlife. Many species will further fashion the trunk using beak, teeth or claws. Some eucalypts shed their lower branches as they reach maturity (self-prune) exposing the point of branch attachment and thus opening the developing hollows for use by wildlife.

How long do hollows take to form?

As a general guide, small hollows in eucalypts, suitable for wildlife such as Feathertail Gliders, will take about one hundred years to form. Medium-sized hollows, such as those used by small parrots, will form in two hundred years, whilst the very large hollows, necessary for large cockatoos and owls may take even longer. It is important to note that hollow-bearing trees are a resource that takes a very long time to replace, if removed.



What tree species produce hollows?

Gum trees are the major hollow producers in Victorian forests, particularly those with 'Gum' (smooth) bark. River Red Gum is probably the best known hollow-producer. Manna Gum, Mountain Grey Gum and Swamp Gum are others. Other native tree and shrub species, such as *Callitris* (native pine), may also produce hollows used by wildlife.

Most introduced trees, such as willows, pines, and conifers, do not produce hollows used by wildlife.

How many hollow trees per hectare?

To provide for the requirements of the full range of wildlife species in an area over time there needs to be enough hollow-bearing trees to meet the current requirement for hollows and, in addition, sufficient recruitment of immature trees into the age group that provides hollows to replace those that are lost. As a general guide, three to ten hollow-bearing trees, with as many as thirty hollows, may be required per hectare to support a diverse wildlife population. This figure will vary depending on the number of wildlife species, habitat type and so on. Note that many hollow entrances are small and may not be visible from the ground.

Fewer hollow-bearing trees does not necessarily mean fewer individuals of each wildlife species surviving. As the number of hollows is reduced, larger, more aggressive hollow-users, such as Common Brushtail Possum, will take over the available hollows forcing smaller species to utilize less satisfactory shelter and consequently suffer increased exposure to weather and predation. Thus, providing a reduced number of hollows will not necessarily result in the conservation of all the species of hollow-users. It may simply allow a few large aggressive species to persist at the expense of smaller species whose conservation status is often more precarious.

Hollows must be considered as part of an ecosystem. If suitable food sources are not within reach of hollows their value to wildlife is clearly restricted.

What species of wildlife use hollows?

Gliders, possums, ducks, kookaburras, owls, tree martins, parrots, kestrels, falcons, kingfishers, echidnas and bats are some of the wildlife species that use tree hollows (a full list is given below).

Introduced species can also use hollows. These species, which include the Common Myna, Starling and introduced bee, should be discouraged from using hollows required by native wildlife.

What you can do.

1. Retain mature hollow-bearing trees, whether alive or dead and even if you only have a few.
2. Plant species native to your area that produce hollows.
3. Ensure that some trees are always left to grow to maturity so that the supply of hollow-bearing trees is continuously replenished. Discourage introduced species from using hollows.

Brush-tailed Phascogale (or Tuan) occupying a nest box. Nest boxes are often used to support wildlife in areas lacking natural hollows.



Nest Box Research Report

12

Chainsaw-Carved Cavities Better Mimic the Thermal Properties of Natural Tree Hollows than Nest Boxes and Log Hollows

(Stephen R. Griffiths, Pia E. Lentini, Kristin Semmens, Simon J. Watson, Linda F. Lumsden and Kylie A. Robert. Forests 2018, 9, p.235.)

Artificial hollows, which mimic the physical and thermal characteristics of natural tree hollows, are an increasingly viable option for habitat restoration on private land. This research compared the thermal profiles of natural tree hollows with three types of artificial hollows designed for small marsupial gliders and tree-roosting insectivorous bats, where (1) 'chainsaw hollows' were carved directly into the trunks and branches of live trees, (2) 'log hollows' and (3) plywood nest boxes placed in trees.

Chainsaw hollows had thermal profiles that were similar to natural tree hollows: they were consistently warmer than ambient conditions at night, while remaining cooler than ambient during the day. In contrast, glider and bat boxes had the opposite pattern of heating and cooling, being slightly cooler than ambient at night and substantially hotter during the day. Glider log hollows had greater variation internally than natural hollows and chainsaw hollows, but fluctuated less than glider boxes.

The results provide the first evidence that artificial hollows carved directly into trees can produce thermally stable hollows that could potentially buffer hollow-dependent fauna from weather extremes; whereas, poorly insulated plywood nest boxes produce lower-quality thermal environments.

[Click here to read the full research paper.](#)

[Click here for nest box fact sheets - general guide](#)

[Click here for nest box fact sheet - monitoring and data guide](#)

(Contact the Editor if you have problems opening the documents from the links above.)

Photographs at right show the different chainsaw-carved cavities:

- (a) a glider chainsaw hollow cut into a tree trunk;
- (b) glider log hollows;
- (c) a bat chainsaw hollow cut into a tree trunk;
- (d) an example of a bat chainsaw hollow cut into a felled log to show the wedge-shaped internal cavity;
- (e) an example of a glider box, log hollow and glider chainsaw hollow installed on a single tree.



Feral Cat Declaration

Feral Cat Declaration —Victoria

The feral cat in Victoria is now declared an established pest animal on certain types of Crown land under the Catchment and Land Protection Act 1994. This will help to protect Victoria's at-risk biodiversity and give threatened species the best chance of survival.

The declaration applies to areas of Crown land managed by the Department of Environment, Land, Water and Planning (DELWP), Parks Victoria, Phillip Island Nature Park and the four Alpine Resort Management Boards. It is important that the feral cat declaration only applies to areas of Crown Land where feral cat management is of high priority for the protection of biodiversity and minimises the risk to free-roaming domestic cats.

Feral cats have NOT been declared an established pest on private land, meaning farmers and other private landholders will not be required to control feral cats. Permission to hunt on Crown land does not extend to feral cats, unless conducted by accredited volunteer shooters engaged to participate in control programs managed by Parks Victoria or DELWP.

You can find out more in the information sheets below:

[Feral Cat information sheet](#)

Or copy and paste the link into your web browser: https://www.environment.vic.gov.au/data/assets/word_doc/0031/329827/FINAL_Feral-cat-declaration-information-sheet_26.07.18.docx

[Feral Cat declaration information sheet](#)

Or copy and paste the link into your web browser: https://www.environment.vic.gov.au/data/assets/word_doc/0031/329827/FINAL_Feral-cat-declaration-information-sheet_26.07.18.docx

Recording Feral Cats

How to Record Observations of Feral Cats

FeralCatScan is a new resource hosted by the Centre for Invasive Species Solutions and the Australian Government Department of the Environment, and is supported by communities Australia-wide to improve knowledge about feral cats to help protect Australia's unique and threatened native wildlife.

The *FeralCatScan* website (and App) can be used to record sightings and impacts caused by feral cats in your local area. Information you record will help to identify practical and humane solutions to manage feral cats to reduce their impacts on Australia's precious native wildlife.

Please be aware that *FeralCatScan* is intended for recording 'feral cats' to reduce their impacts on native wildlife. Matters regarding domestic or stray cats in urban areas should be directed to your local government authority, unless otherwise directed. Information you record within *FeralCatScan* may also be shared with local government to help to establish sustainable long-term and humane solutions to feral cat management.

[Click here](#) to read more or copy and paste the following link:
<https://www.feralscan.org.au/feralcatscan/default.aspx>

Gliders of Victoria

14



Note: Greater Gliders have large ears and strongly reflective eyeshine in the beam of a spotlight making them easy to detect.

Greater Glider (*Petauroides volans*)

Description: The greater glider (*Petauroides volans*) is the largest gliding possum with a head and body length of 35 to 45cm and a long furry tail measuring 45 to 60cm. Thick fur increases its apparent size. Fur colour is white or cream below and varies from dark grey, dusky brown through to light mottled grey and cream above.

Distribution and Habitat: Is found in eastern Victoria south to Gelliondale on the Gippsland Plain, and higher-rainfall areas in the Midlands. Prefers open woodland and tall forests where there is suitable eucalypt trees. Is not found in dry stringybark –box forests. Rests in hollow tree during the day and feeds at night on leaves, buds and flowers of eucalypts.

Breeding: One young is born. It leaves the pouch after 3-4 months and is carried on mothers back for three months.

Squirrel Glider (*Petaurus norfolcensis*)

Description: The Squirrel Glider looks similar to the Sugar Glider but is larger and has a more pointed nose, narrower ears and bushier furry tail.

Size: Head and body 18-23cm. Tail 22-30cm. It weighs about 200-260g - nearly double the weight of the Sugar Glider.

Habitat: dry eucalypt forest and woodland. Also found in wet areas near rainforest.

Food: nectar, pollen, sap from eucalypts, also insects. It bites the bark of eucalypt trees to obtain the sap.

Breeding: A single young is carried in the pouch for about 100 days, and remains in the nest for another two months after it leaves the pouch before becoming independent.



Sugar Glider (*Petaurus brevipes*)

Description: Sugar Gliders can glide 50 m between trees using its long bushy tail for balance and steering. They become active at night, after sleeping by day in communal nest made of leaves in tree hollows.

Habitat is forests and woodlands. Is generally found in a broader range of habitats than the Squirrel Glider.

Size: 15-20cm excluding tail. The tail is another 15-20cm. It weighs 100-160g.

Food: Eats insects and the sap from eucalypts and some wattles.

Breeding: The Sugar Glider commonly gives birth to twins, which remain in the pouch for just over two months.



Gliders of Victoria



Yellow-bellied Glider (*Petaurus australis*)

Description: The Yellow-bellied Glider (YBG) is grey above and creamy to orange below. It is larger than the Sugar Glider and Squirrel Glider and has longer fluffy tail. Size is 27-30cm. Tail 42-48cm.

Distribution and Habitat: YBG's are found to have a patchy distribution in Victoria, with the bulk of the population in high rainfall eucalypt forests of East Gippsland and the Eastern Highlands, the Otways, and forests of the south-west.

Food: nectar, pollen, sap from eucalypts, also insects. It bites the bark of eucalypt trees to obtain the sap. Most of their feeding behaviour is focused on flowering and bark shedding, which correspond, respectively, to the availability of nectar and insects.

Breeding: A single young is carried in the pouch for about 100 days. It remains in the nest for another two months after it leaves the pouch before becoming independent.

15

Feathertail Glider (*Acrobates pygmaeus*)

Description: The Feathertail glider is the smallest and most cryptic of the gliding possums, measuring between 6.5 to 8cm in length from head to body. They are mouse-shaped and have grey-brown fur on the back and a white underbelly. It is the only glider with a tail that looks like a feather, gliding up to 20m using its tail as a rudder.

Distribution and Habitat: Its preferred habitat is difficult to determine, but can be found from sea level to above 1200 m., in eucalypt forest and drier woodland and scrub inland, including along the Murray River to the South Australian border. Uses trees and shrubs for shelter and food such as insects, nectar, flowers, leaves and sap

Breeding: Builds a ball-shaped nest of dried leaves in tree hollow or abandoned nest of other animals. Breeding takes place throughout the year in spring and summer.



Reference: Mammals of Victoria, Edited by Peter Menkhorst, Oxford University Press. Pub. 1995

Images: Steve Parish

Wildlife Silo Art

Wildlife Silo Art has popped up around Victoria over recent times. These art works of epic proportions feature beautiful images of wildlife and their habitat.

From top left: Incomplete work of Brolga and Kookaburra at Tungamah, by Broome artist Sobrane.

Barking Owl at Goorambat, based on Milli the Barking Owl from Healseville Sanctuary. Squirrel Glider and Azure Kingfisher at Rochester, inspired by the nearby Campaspe River. Latter two by artist Jimmy DeVate.

16



Weevils, Spider Mites and Thrips? Of Gorse!

17

I'm sure many of you are very familiar with gorse (*Ulex europaeus*), unfortunately introduced into Australia in the mid-1800's as an ornamental and hedge plant. It is now a significant environmental and agricultural weed in south-eastern Australia.

Gorse invades many different habitats, being tolerant to a range of conditions. Infestations are particularly troublesome in central and southern Victoria, often being found along roadsides, creeks and forrest margins. Gorse can invade and smother native vegetation and reduce natural regeneration, provide habitat for pest animals, increase fire hazards due to its high flammability and reduce pasture productivity. While gorse may provide cover for some native wildlife, replacing it with native vegetation is of greater ecological benefit.

Gorse is very hard to control since seeds can remain viable in soil for up to 30 years, even after removal of plants. Seeds are spread by their explosive pods, water, birds, ants, vehicles and contaminated soil.

We can most effectively tackle gorse by using a mix of methods together - manual and mechanical removal, mulching and slashing, cultivation, hot burns, grazing, chemical control and limiting spread through the hygienic management of equipment. Biological control has also been investigated and tested over a number of years as a method to reduce gorse abundance.

Plants are often introduced without their natural enemies, giving them an advantage over native species. Biological control aims to restore the balance by introducing the weed's natural enemies to reduce the competitiveness, vigour and reproductive ability of gorse in the long-term.

Biological control is likely to be most successful if a range of natural enemies are introduced that attack different parts of gorse in different ways. So far, three biological control agents have been released into Australia:

- The Gorse Spider Mite (*Tertranycgus lintearius*) and the Gorse Thrips (*Sericothrips staphylinus*) are natural enemies of gorse in England that reduce plant growth by piercing the leaf surface and sucking out the leaf's cell contents. Spider mites were first released in Victoria in 1998. These tiny red mites live in an easily identifiable communal web and prefer to feed on fresh growth, were released in Victoria in 2001 and now . Affected plants can have brownish or bleached foliage, and experience reduced growth and reproductive success.

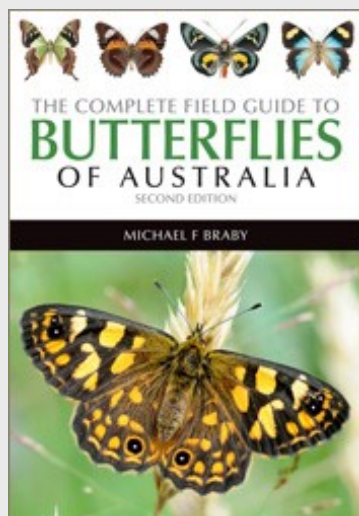
- The Gorse seed weevil (*Exapion ulicis*) introduced in 1939, now occurs throughout the country. The weevil feeds on gorse seeds, however, significant reductions in seed production are still to be verified.

Several other biological control agents have been identified and planned for release once scientific testing has ensured they will only impact on gorse and not affect native or economically important plants. Currently being tested is the gorse pod moth (*Cydia succedana*) which also feeds on gorse seeds and, with the weevil, may help reduce seed production.



Recent Publications

18



THE COMPLETE FIELD GUIDE TO BUTTERFLIES OF AUSTRALIA **Michael Braby**

As fascinating as they are beautiful, butterflies are a pleasure to watch and an important group of invertebrates to study. This second edition of the award-winning book *The Complete Field Guide to Butterflies of Australia* is a fully updated guide to all butterfly species on Australia's mainland and remote islands.

Written by one of Australia's leading lepidopterists, the book is stunningly illustrated with colour photographs, many of which are new, of each of the 435 currently recognised species. There is also a distribution map and flight chart for each species on the Australian mainland, together with information on similar species, variation, behaviour, habitat, status and larval food plants.

Available from CSIRO Publishing. [Click here for more information.](#) Or copy and paste the following website address into your internet browser: <https://www.publish.csiro.au/book/7223/>

RECOVERING AUSTRALIAN THREATENED SPECIES

A Book of Hope

Edited by:

Stephen Garnett, Peter Latch, David Lindenmayer, John Woinarski

Australia's nature is exceptional, wonderful and important. But much has been lost, and the ongoing existence of many species now hangs by a thread. Against a relentless tide of threats to our biodiversity, many Australians, and government and non-government agencies, have devoted themselves to the challenge of conserving and recovering plant and animal species that now need our help to survive. This dedication has been rewarded with some outstanding and inspiring successes: of extinctions averted, of populations increasing, of communities actively involved in recovery efforts. *Recovering Australian Threatened Species* showcases successful conservation stories and identifies approaches and implementation methods that have been most effective in recovering threatened species.



Available from CSIRO Publishing. [Click here for more information.](#) Or copy and paste the following website address into your internet browser: <https://www.publish.csiro.au/book/7705/>

Recent Publications



THE ALLURE OF FUNGI

Alison Pouliot

Although relatively little known, fungi provide the links between the terrestrial organisms and ecosystems that underpin our functioning planet.

The Allure of Fungi presents fungi through multiple perspectives – those of mycologists and ecologists, foragers and forayers, naturalists and farmers, aesthetes and artists, philosophers and Traditional Owners. It explores how a history of entrenched fears and misconceptions about fungi has led to their near absence in Australian ecological consciousness and biodiversity conservation.

Through a combination of text and visual essays, the author reflects on how aesthetic, sensate experience deepened by scientific knowledge offers the best chance for understanding fungi, the forest and human interactions with them.

19

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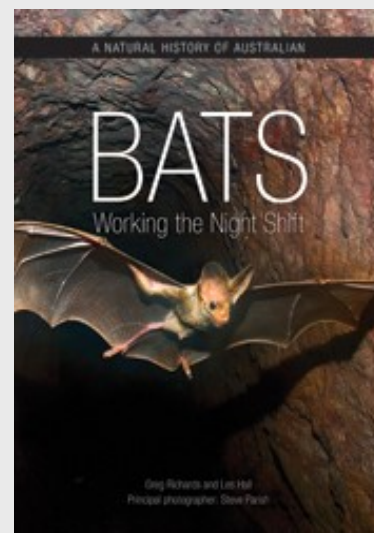
A NATURAL HISTORY OF AUSTRALIAN BATS

Working the Night Shift

Greg Richards, Les Hall, Steve Parish

Beautifully illustrated with colour photographs, this is the first book on Australian bats focusing on their natural history.

To hold a little microbat in your hand, its body the size of the end of your thumb, is nothing but astounding. Its head is nearly the size of a man's fingernail, its tiny ears are twitching as it struggles to get free, and then it bares its teeth to try and scare you into letting it go. Some of our little bats know the entire landscape of our east coast, and can pinpoint a cave entrance in dense forest 500 km from its last home. When they get there they know what to do – where to forage, which bat to mate with and how to avoid local predators.



Available from CSIRO Publishing. [Click here for more information.](#) Or copy and paste the following website address into your internet browser: <https://www.publish.csiro.au/book/6783/>

Land for Wildlife Contacts

Land For Wildlife Extension Officers and Contacts are at the following Department of Environment, Land, Water & Planning Offices:

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Resources & Events

Statewide Integrated Flora and Fauna Teams (SWIFFT)

[SWIFFT](#) aims to maintain and develop knowledge and skills in relation to the protection of threatened species and biodiversity across Victoria.

How to Participate:

You can attend quarterly [SWIFFT](#) video conferences held around Victoria. Contact your local LFW Extension Officer for your nearest centre to participate. Book early as seating is limited.

Report environmental crime

DELWP receives **more than 300 calls each year** from members of the public with information about environmental crimes.

These calls range from wildlife smuggling, keeping or selling native or high risk invasive species without the relevant permit, and the removal of native plants and animals from the wild.

However, there are still people illegally removing, killing and trading animals from the wild.

Please help put a stop to it.

Report environment, wildlife and forestry crime to 136 186 or email customer.service@delwp.vic.gov.au

National Water Bug Blitz

If you are interested in rivers, streams, wetlands, ponds, farm dams, then participate in a National Water Bug Blitz event near you. The Blitz is looking at how our waterways are coping and if they are in good condition and how many need help.

By identifying waterbugs that live in them, you can learn a lot about freshwater ecology and their health. Waterbug experts will also be on hand to answer questions and confirm waterbug identifications.



Phone the Department of Environment, Land, Water & Planning on the following freecall number if you have any questions relating to natural resources and the environment: **136 186**