



Wombat Forestcare

Newsletter

Winter is a time to look for flowering plants; the wattles will start soon and will flower in sequence of species, probably starting with the Dwarf Silver Wattles along Camp Road. Common Heath (the Floral Emblem of Victoria), Prickly Broom Heath, Mountain Correa and Silver Banksia are all flowering now. Late winter will see the Common Hovea with its purple pea flower and the carnivorous Tall Sundews. There is a wonderful range of fungi emerging after the recent rain. Rug up against the cold and enjoy the winter Wombat. *Gayle Osborne (editor) & Angela Halpin (design)*

Fruits of the Forest

By John Walter

This article began as an idea to present photographs of some of the small flowered or not often noticed shrubs of the forest, but as I was preparing a list I realised a high proportion also had fruits. While these fruits are not likely to threaten the livelihood of our fruit growers, many are in fact edible and some are even considered tasty. Before long I had over twenty different species and was wondering how I could fit it all into one article.

A good place to start is with the Currant-bushes. The Prickly Currant-bush *Coprosma quadrifida* and the Rough Coprosma *C. hirtella* were both used as food plants by Aborigines and early settlers alike although descriptions of the palatability do vary. Zola & Gott say sweet, Ewart says edible but unpalatable and Cribb advised they are not spoken of highly. I find them pleasant and novel although not particularly exciting. One thing is certain however, they do taste better than their name suggests. The name Coprosma is a reference to the foetid dung-like odour emitted from the crushed leaves of some species, something not shared by those found in the Wombat Forest.

The plants are dioecious, meaning the male flowers and female flowers appear on separate plants. Willis noted that an unusually large leaved form of *C. quadrifida* was found at South Bullarto near the headwaters of the Werribee River in 1937. This species is readily found



Top: Large yellow anthers on the tiny male flowers of *Coprosma quadrifida*

Middle: Female flower on *C. hirtella*

Lower: Ripe fruit of *C. quadrifida*

Photography © John Walter

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near streams while *C. hirtella* is found on hillsides as well as streamsides.

Sambucus gaudichaudiana, the White Elderberry is a lover of the shady wet places in the forest. It has clusters of white spherical flowers that never fully open, followed by creamy white fruit. It flowers from December and I have found unripe fruit in January but so far have missed the opportunity to try the ripe fruit.

Cribb records the fruit as “juicy, a little sour ... of pleasant flavour,” and even Ewart favours them as “sweetish, and eaten by the blacks.” It belongs to the same genus as the European Elder *Sambucus nigra* which is woodier and has black fruit; the species name is presumably a reference to the fruit colour. I have also found the European species growing in several locations along the Coliban River where it has quietly become naturalised.

The next species is not related to the *Sambucus* but is thought to have foliage like them; this is *Polyscias sambucifolia* or the Elderberry Panax. There are three very different forms of this species growing along the east coast of Australia; our local form is quite distinctive and currently goes by the rather ignoble names of “Subspecies B” or “Subspecies 3” depending on whose State Flora you follow. This open shrub is attractive to caterpillars and is therefore a butterfly plant and when not being chewed or held in a web net, the pinnate blue/grey foliage looks quite attractive. The foliage type found on “Subspecies A” from NSW is probably the source of the species name.

It is also a summer flowerer and can be found with ripe fruit in February. The edible blue-speckled white fruit are also an attractive feature but my memory of their taste is not one to become excited about although they may not have been fully ripe. I know of two local populations of this plant, one on the Loddon and one on the Werribee River and am interested to hear of further local populations.

There are a two species in the Wombat Forest that produce large blue fruits. One is the Turquoise Berry *Drymophila cyanocarpa* whose botanical name translates as the Blue-fruited Forest Lover. The other is *Dianella tasmanica* the Tasman Flax-lily. Both these plants were once part of the diverse family known as the Liliaceae but recent revisions have moved them into separate new family groupings whose names are much too long for



Top: Only an insect could gain access to and fertilise these fully opened *Sambucus gaudichaudiana* flowers

Middle: Each branch is actually a single leaf with multiple leaflets or pinnae, *Polyscias sambucifolia*

Lower: *P. sambucifolia* fruit
Photography © John Walter

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an article of this nature. They are both, however, still Lilies. I have not found any records that even discuss the edibility of the Turquoise Berry so that species is clearly best left alone. There appears to be conflicting information on the edibility of the *Dianella tasmanica* fruit however with the ANBG in Canberra reporting them as edible and tasting like grapes and a number of other less official web sites report them as inedible. Both Zola & Gott and Cribb remain silent on the issue so I go for both safety and abstinence.

There are other *Dianella* species found in the Wombat Forest e.g. *D. admixta* and *D. amoena* that have smaller blue fruit and the detail surrounding their edibility is also unclear. It is well established however that *Dianella* fruits were used as a source of blue dye by Aborigines who also used the leaves for weaving.

The native raspberries, mistletoes, kangaroo apples, apple-berries, honey-pots and cranberry heath all produce fruit that is edible and can be found in the Wombat Forest, but space prevents me from showing them all here. Instead, we have the Geebungs, *Persoonia chamaepeuce* and *P. rigida*. Not as well known as their cousins the Grevilleas, the Persoonias are mostly yellow flowered (a few have cream or orange flowers) with either a green fruit that develops varying degrees of purple striping as it ripens or a plain yellow/green fruit. *P. chamaepeuce* the Dwarf Geebung has yellow/green fruit and is found in the wetter forests while *P. rigida* the Hairy Geebung is found in the dryer forests to the north and has moderate purple stripes on green fruit. The fruit of all Persoonias is considered edible although astringent.

Top: *Dianella tasmanica* flower with hungry caterpillars
Upper middle: Large blue fruit of *D. tasmanica*
Lower middle: Flowers of *Persoonia chamaepeuce*
Below: Flowers (left) and fruit (right) of Dodder Laurel *Cassytha melantha*. Photography © John Walter



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The Dodder Laurels suffer a bit from having a bad press manager, an untidy appearance and a reputation as killers. While the last two items are certainly true, a good press manager might have also mentioned the lovely scent produced by the tiny flowers and the fruit which feeds numerous bird species. As parasitic plants with no root system of their own and the ability to grow to a large size, the *Cassytha* species can eventually kill their host plant and may also kill themselves in the process if they have not attached to a secondary host plant. They are generally confined to our native plants unlike the introduced but unrelated Dodder *Cuscuta* species which attaches to ornamentals and vegetables. The fruit of both local species, *C. glabella* Slender Dodder Laurel and *C. melantha* Coarse Dodder Laurel is edible but not highly rated.

The Cherry Ballart *Exocarpus cupressiformis* is also parasitic although it does not kill its host. The name *Exocarpus* means outside fruit, a reference to the apparent “seed” sitting outside the apparent “fruit”. It is all an illusion however and the apparent fruit is actually a swollen stem that changes colour as it ripens just like a real fruit. The apparent seed is actually a small hard fruit with a true seed inside. Like many of our native fruits, they are edible but are too astringent until perfectly ripe.

The shape of the fruit of the *Hedycarya angustifolia* gives rise to its common name, the Austral Mulberry. While the fruit of this small tree is not edible, the wood was used to create fire by some Aborigines. It was shaped into a hard drill which generated heat when quickly spun in a recess set into a softer wood base.

Our Wombat Forest can deliver currants, raspberries, apples, cranberries, cherries and mulberries as well as many other fruits that would make a useful supplement to a more general diet. While the supply level is too small for them to ever be more than a novelty to humans, they are an essential food for the wildlife of the forest. Perhaps the real fruit of the Wombat Forest is the incredible diversity of natural things living and competing within its boundaries, or the water that falls due to the forests’ cooling effect on the atmosphere and feeding the six river systems flowing outwards from its heart, or the revitalising and cleansing effects its oxygen factories and rainfall have on the air upon which we are all totally dependent. ■



Top: Cherry Ballart *Exocarpus cupressiformis* fruit
Above: The Austral Mulberry *Hedycarya angustifolia*
 Photography © John Walter

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Fungi forgotten again in proposed forestry Act amendments

Words and images by Alison Pouliot

It's been a late start to the fungi season in the Wombat Forest. However, with the recent welcome rains it seems they're making up for lost time as they materialise on the forest floor in an amazing array of colours and forms.

I recently made a departure from the Wombat to explore the forests of Mountain Ash (*Eucalyptus regnans*) and Myrtle Beech (*Nothofagus cunninghamii*) surrounding Rawson in Gippsland where the seventh Fungimap conference was held. Over seventy participants from all walks of life, age and experience came together based on shared enthusiasm and knowledge of the vital significance of this overlooked groups of organisms. Although represented across three kingdoms and vital to ecosystem function, fungi still manage to fall through the cracks of biodiversity management and legislation at both state and national levels. Through the mapping of fungi and contribution to environmental policy, Fungimap is endeavouring to hoist fungi onto the conservation agenda.

Like the Wombat, the spectacular Gippsland forests are home to extraordinary fungal diversity but are similarly threatened by the State government's dilution of environmental policies. In what appears to be another reckless effort to perpetuate its long history of unsustainable



Photography © Alison Pouliot

The Pagoda Fungus (*Podoserpula pusio*) inhabits old logs in the damper regions of the Wombat.



Photography © Alison Pouliot

Little Ping Pong Bats (*Panellus pusillus*) are wood-rotting specialists that have large pores on the undersurface.

logging practices, the State government's proposed amendments to the Sustainable Forests (Timber) Act 2004 threatens to weaken government oversight on forestry practices by allowing VicForests greater control and less accountability. The proposed provision of long-term contracts appears to be heedless of the insecure nature of the 'resource', especially given historical yield miscalculations, failed forest regeneration and substantial 'resource' reduction through fire.¹ How such changes will affect the mycota of these forests remains largely unknown. However, given the extent of fungal symbioses with flora and fauna and the documented threats to these groups, fungi are highly likely to be similarly prone.

Victoria's forests including the Wombat have hundreds, possibly thousands of fungal species, many of which are yet to be surveyed or formally described. Furthermore, little is known about the habitats and substrates on which they rely for their survival. Many fungi occupy very specific ecological niches hence diverse forest ecosystems are essential to maintain a diversity of species. For example, some saprobic (decomposing) species are known only to inhabit very old logs at late

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decompositional stages, while fungi such as truffles and other sequestrate (underground) species are heavily reliant on mammals for spore distribution.

A few disturbing statistics

Victoria is the most modified state and many of its forests are both highly stressed and highly vulnerable. In Victoria 348 plant taxa, 38 plant and animal communities, three fungi (including two lichens) are listed as threatened under the Flora and Fauna Guarantee Act 1988.² Thirty-six potentially threatening processes are also listed. The IUCN Red List status of 163 Victorian eucalypts assessed to May 2013 found over 85 percent to be listed as critically endangered, endangered or vulnerable.

Furthermore, predictive modelling of the future impact of climate change on regeneration potential of species including Black Wattle (*Acacia mearnsii*) and Mountain Ash (*Eucalyptus regnans*) projects substantial future decline in the availability of habitat across these species' ranges.³ Very little is known about the fungal species that grow in association with these species and their habitats.

Given the grave forecast for the future of Victoria's forests, especially at a time when threatening process necessitate increased not lesser protection, the State government's proposed changes appear staggeringly short-sighted. VicForests' claim to balance social, economic and environmental factors seems to prioritise the former two with the third (without which the former two could exist) being little more than an afterthought. Ecologist, David Lindenmayer considers VicForests' plans to reduce sawlog yield by 85,000 cubic metres a year as of 2017 to be 'mere tinkering' when what is required is a major reform of the forest industry that incorporates significant reductions in logging and replacement of highly destructive and antiquated clearfelling techniques with more environmentally sensitive retention harvesting



Photography © Alison Pouliot

Austroboletus lacunosus is recognisable by its honeycomb-like reticulate stipe.

methods.⁴ Furthermore, he suggests that if the government wishes to avoid one of the world's first deliberate, government-sanctioned extinctions of an endangered species, it must implement conservation programs to protect species such as the Leadbeater's Possum, which faces imminent extinction as a result of past and current forestry practices.⁵ To lose this iconic species would be an almost inconceivable tragedy. Lose fungi and we lose the lot.

Every effort to rally the government to reconsider such changes contributes toward the future protection of Victoria's forests including the Wombat.

Conserving biodiversity is not a philosophical preference, but a survival strategy - for fungi, for the Wombat, for humanity and the entire biosphere.

To experience the Wombat at the peak of the fungal fruiting season, be sure to rug up and get out for an autumn forest wander within the next few weeks. ■

www.alisonpouliot.com

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1. To read more about the details of the proposed bill see <http://www.edovic.org.au/blog/government-commits-victoria-logging-native-forests-indefinite-future> and <http://www.edovic.org.au/downloads/files/EDO%20Briefing%20Note%20-%20Changes%20to%20Logging%20Laws.pdf>

2 & 3. Cameron, D. Conservation status of Australian fungi - An introduction to threat assessment using IUCN Red List categories and criteria - a talk presented at Fungimap 7 conference, Rawson 2013.

4 & 5. Lindenmayer, D. (2013). The Gathering tragedy in our forests. The Age Newspaper 29.05.2013 <http://www.theage.com.au/victoria/the-gathering-tragedy-in-our-forests-20130529-2naih.html>

To participate in Australia's national fungus mapping program, Fungimap, visit www.fungimap.org.au

The Essential Forest Gardeners

By Tanya Loos

The wallaby stood by the roadside in the winter mist, with something small and round in her front paws. I stopped walking, and she resumed eating, looking just like a human eating an apple.

Black or swamp wallabies are known as generalist browsers - they eat all manner of herbs, sedges, shrubs, and ferns. During drought times, and, to be honest, also in times of plenty, these enterprising animals will forage on garden vegetation, including rose bushes, seedlings, and small trees. Wallabies are particularly skilled at scaling fences and chewing their way through plant guards. The bush gardener may write wallabies off as an accursed nuisance, but wallabies play a crucial role in maintaining forest health.

The wallaby I saw whilst out walking that day was eating a round type of fungi known as a truffle. Truffles are best known as incredibly expensive, mushroom-like delicacies that grow in oak forests and are unearthed by specially trained pigs. We have truffles here in Australia, and recent research suggests that truffle diversity in the foothill forests is far greater than we could have imagined.

A team of ecologists recently studied truffles, and the wallabies that eat them, in the forests of New South Wales. The scientists found over 118 truffle-like species in thirty-five genera. Over half of the species were new to science, and more than twenty of these were described during the project.

Truffles are incredibly important for forest health as they help eucalypts and wattles absorb nutrients from the soil, via a beneficial relationship between the mycelia of the truffles and the plant roots of the trees. Truffles need animals to distribute their spores. In the past, we had many more small to medium sized animals snuffling about the forest floor feeding on



This hefty male wallaby uses his front paws to delicately hold macrofungi such as truffles. Photography © Geoff Park

truffles; bandicoots, bettongs and potoroos. These animals ate the truffles and dispersed their spores throughout the forests and woodlands.

These small marsupials are still found in the tall wet forests of the Otways and East Gippsland but in the foothill forests they appear to be locally extinct. Swamp wallabies are essentially the last truffle dispersers we have in our foothill forests; fluffy forest gardeners inoculating the soil with truffle spores wherever they occur.

This article is an unpublished excerpt from my forthcoming book “Daylesford Nature Diary: six seasons in the foothill forests”, which will be published in September 2013. ■

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The truffle and swamp wallaby study is Danks, M.A. (2011). The swamp wallaby *Wallabia bicolor*: a generalist browser as a key mycophagist. PhD thesis, University of New England.

A Natural History of Australian Bats: Working the Night Shift

A book review by Tanya Loos

A Natural History of Australian Bats is a sumptuous celebration of bats presented by two enthusiastic bat ecologists, Greg Richards and Leslie Hall. Greg and Les have studied bats for over 40 years, and their passion for their subject shines throughout the text. The text is accompanied by stunning colour photographs liberally presented throughout the book, the bright and bold photos that are so characteristic of Steve Parish.

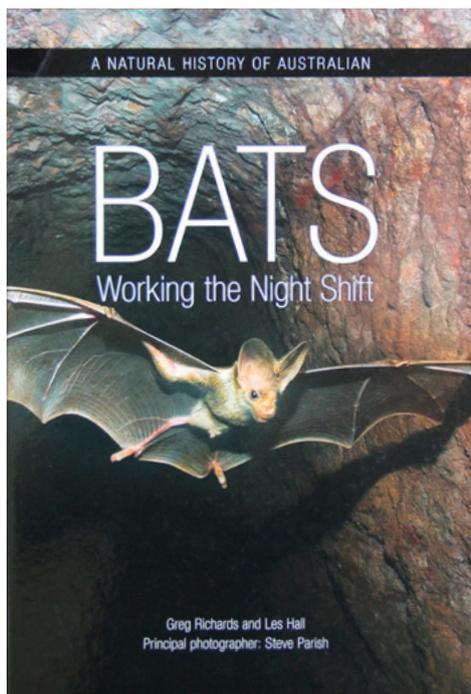
Greg's and Les' years of personal field experience studying bats in Australia and overseas means they can supplement the text with fantastic anecdotes. When describing the specialist diet of the Golden-tipped Bat, which only eats spiders, and often has to fight and subdue rather large Orb Spiders, they could add that during field work they noticed "one of these bats had spider jaws still attached to its ear".

A Natural History of Australian Bats has an anecdotal style that tends towards anthropomorphism, as bats are regularly "happily eating insects", "happily roosting safely in roof crevices", but as the overarching goal of the authors is to share and personalise the extraordinary lives of bats, I think this style of writing really works.

The authors should also be congratulated for the innovative layout of the book – researchers in other specialist fauna groups would do well to follow this as a model. Greg and Les start with the Introduction, then go on to a Travelogue – a sweeping overview of bat diversity in various habitats around Australia. As most of Australia's population is urbanised, the section on bats in each major city is a great idea.

Chapter 3: How bats are designed and how they work is a detailed look at bat wings, flight, grooming, their skulls and teeth, incredible echolocation abilities and breeding. The description on echolocation and how it works is a coherent and easy to understand overview; echolocation can be a really tricky and technical subject to impart to the general reader.

Subsequent chapters include: Bat ecology, Trials and tribulations of being a bat, and the book concludes with species profiles of every bat in Australia. The chapter, Bats in history and in our lives today includes information on bat wildlife carers and their role in bat conservation.



The text is accompanied throughout by Steve Parish's incredible photography – most of which has not been seen before, and was commissioned especially for this book. Bats look quite scary when they are frightened, making for unattractive photos that do not bring out their best qualities. The photos in this book are sympathetic portraits of bats, and the hundreds of photos of microbats calmly posed on bark and logs are a delight. Close-up photos of the tongue of a Blossom Bat or the feet of a Myotis or Fishing Bat illustrate and complement the text beautifully.

The book is quite pricey, but as it has vivid colour photography throughout and is in durable hardback, the price is well worth it. A Natural History of Australian Bats would make a wonderful addition to any naturalist's bookshelf, and should be required reading for all politicians making decisions that affect the lives of bats in Australia. ■

A Natural History of Australian Bats: Working the Night Shift

Greg Richards and Les Hall, with principal photographer Steve Parish
CSIRO PUBLISHING, HARDBACK
ISBN: 9780643103740, RRP \$79.95
192 pages with photographs

Available at all good bookshops and online at www.publish.csiro.au. Also available as an eBook.

Review reprinted with permission from Australian Wildlife Secrets Magazine

The Burning Question

By Gayle Osborne

The prescribed (fuel reduction) burns and targets for public land in Victoria continue to be of great concern to environment groups and scientists. Important flora and fauna and ecological vegetation groups are being ignored in the rush to reach burn targets.

The 2009 Victorian Bushfires Royal Commission made its recommendations to the State Government, which committed to implementing all recommendations.

Recommendation 56 created an obligation to “a long-term program of prescribed burning based on an annual rolling target of 5 per cent minimum of public land”. This has allowed the government to be seen to be acting regardless of whether this is effective or will permanently change our landscapes.

Recently the Victorian Coalition Government announced that they had “hit a milestone with more than 200,000 hectares of planned burning already carried out on public land this financial year and more to come as weather conditions remain stable.”

It is of real concern that some areas of public land will be repeatedly burnt. A rough calculation of the 5 per cent target would mean that all public land would be burnt every twenty years, however the 5 per cent target is unlikely to be achieved but in the rush to accomplish this much of our public land will be too frequently subject to fire. Examples occur particularly in the Mallee and the Wimmera where some species face extinction.

The Coalition Government has conveniently ignored part of Recommendation 57 which states “The Department of Sustainability and Environment **report annually** on prescribed burning outcomes in a manner that meets public accountability objectives, including publishing details of targets, area burnt, funds expended on the program, and **impacts on biodiversity.**”

Recommendation 43 from the Royal Commission for public access to “biodiversity mapping identifying flora, fauna and any threatened species throughout Victoria” does not seem to be progressing.

The State Budget includes \$33.7 million over the

next two years to expand the Coalition Government’s planned burning program. This follows huge cuts to biodiversity and environmental protection programs and staff in 2012.

It is apparent that with reduced staff to ensure legal protections for flora, fauna and the natural environment that this government regards biodiversity as an inconvenience.

In July 2012, the independent report from the Bushfires Royal Commission Implementation Monitor (BRCIM), Neil Comrie outlined the Coalition Government’s progress in implementing the recommendations of the VBRC.

“The BRCIM questions the rolling target as the most effective way to increase the level of planned burning across the State as working towards a pre-determined target may diminish the State’s ability to focus on risk reduction in high risk areas.

The BRCIM advocates that the State reconsider the planned burning rolling target of five per cent as the primary outcome as part of the planned burning reform program.”

It appears that this recommendation will also be ignored. Large tracts of Victoria’s public land are being subject to planned burning without proper monitoring of the effects of these burns on biodiversity, or the effectiveness in relation to public safety.

In submissions to the Fire Operation Plan, our group has repeatedly raised the issue of high-risk areas of public land close to and abutting towns and rural dwellings, frequently infested with inflammable weeds that are being ignored. These areas represent a very high danger to life and property but require more effort than large burns away from towns. Targets based on area rather than on protective outcomes are unsound.

The regularly used argument that fire is natural in our environment does not take into account that we are intervening at such a large scale and with such frequency.

It is critically important that in this rush to be seen to be protecting life and property that we do not permanently change the landscape and endanger species and ecosystems. ■

What does Photography have to do with Biodiversity?

The diversity and quality of images for the Wombat Forestcare Photography Exhibition was wonderful, and we struggled to find room on the walls of the Trentham Neighbourhood Centre for all the exhibits.

Juliet Summers welcomed the guests to the opening asking the question - "What does photography have to do with Biodiversity?" Below are excerpts from her speech.

"Photos give us the opportunity to see the forest through other people's eyes. Through these photos we get to see things we may not normally notice: a plant, an animal, a bird, insect, shadow, sparkle, a colour, a season".

"Photos demonstrate how the forest represents different things to different people. Often we take the biodiversity in the forest for granted, as we only see certain things. These photos showcase so many parts of the Wombat from night vision to microscopic lens. Each shows us things we may not normally notice".

"These images exist because people want to share what they see and to encourage others to appreciate them. This body of work forms a record of what was seen in the forest by our members and friends. We hope they may encourage others to take pictures and share them with others, to see new things or the same things differently. To celebrate the rich biodiversity on our doorstep. To encourage others to love it, celebrate it and cherish it and this is what photography has to do with biodiversity."

Thanks to all the photographers for helping to make the show such a success. Special thanks to Judy, Lois, Kevin and all who assisted with the organization.



Blue-banded Bee © Gayle Osborne

Two of the many wonderful photographs from the 2013 Wombat Forestcare Photography Exhibition



Trentham Falls © Ivan Carter

Fungi Guide

To obtain a copy of the guide either send a cheque for \$6.60 to Wombat Forestcare, 715 Little Hampton Road, Glenlyon, 3461 or pay this amount into our bank account Wombat Forestcare Inc, Bendigo Bank, Account no 149488678, BSB 633 108 and email info@wombatforestcare.org.au to say you have done this. Please do not forget to include your postal details.

Wombat Forestcare Membership

Wombat Forestcare Inc. is dedicated to preserving the biodiversity and amenity of the Wombat State Forest by utilising the skills and resources of the community. By becoming a member you will have input into our activities and projects, and give support to caring for our forests.

For memberships and further information contact Gayle Osborne, phone 03 5348 7558 or email info@wombatforestcare.org.au Membership fees are only \$15 single and \$20 family. **Visit our website - www.wombatforestcare.org.au**