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Wombat Forestcare Newsletter

Welcome to our winter edition. Read about the VEAC final recommendations, the Australian Hobby and get up close and personal with several spiders. **Gayle Osborne** (editor) and **Angela Halpin** (design)

A WIN FOR CONSERVATION
A new National Park recommended for the Wombat Forest

Wombat Forest lovers celebrate. Photography © Sandy Scheltema

By Gayle Osborne

Wombat Forestcare members are celebrating the Victorian Environmental Assessment Council (VEAC) recommendations for public land in the Central West Investigation.

VEAC has recommended that the Wombat State Forest be reclassified as a series of parks. If the Victorian State Government accepts the recommendations a new Wombat-Lerderderg National Park would be created as well as a number of regional parks and a conservation park to the north of Daylesford.

VEAC noted, "The recommended Wombat–Lerderderg National Park captures a large part of the highest-ranking areas of rare and threatened species habitat. The statewide analysis shows the area to be among the most important for Victoria's biodiversity with large and mostly contiguous areas of high value."

We all know that the Wombat is rich in biodiversity: Greater Gliders, Powerful Owls, Brush-tailed Phascogales, significant bird migrations for spring and summer breeding, and now we see that this is scientifically confirmed.

The United Nations recent report warned that an astounding million species are threatened with extinction. The creation of these parks would give the Andrews government the opportunity to protect a number of species that are threatened with extinction.

VEAC also highlighted the importance of the Wombat Forest as a water catchment with the headwaters of seven major river systems contained in the forest, and the value the forest provides in terms of ecosystem services and carbon sequestration.

We call on our readers to contact the Premier, Daniel Andrews, and show your support for these important recommendations for biodiversity conservation. ■

Beating around the Bush

By Gayle Osborne

The United Nations global assessment of environmental health is grim: biodiversity declining at an unprecedented rate, one million species at risk of extinction, human populations in jeopardy if the trajectory is not reversed.

There are no signs that Australian governments are taking this seriously. In Victoria, in spite of campaigns by environment groups, timber harvesting of native forests continues, further endangering many threatened species. The Regional Forest Agreements, which failed to protect threatened species, fulfil its legal obligations or to provide certainty to the forestry industry, are to be rolled over. Exemptions for the protection of threatened species under the EPBC Act are to remain in place.

In March 2016, the Victorian government invited submissions to the development of a biodiversity strategy. *Protecting Victoria's Environment – Biodiversity 2036*, described as a long-term strategy for stopping the decline of Victoria's biodiversity and improving our natural environment so it is healthy, valued and cared for.

This resulted in a disappointing document. The new strategy has two goals; Victorians value nature and Victoria's natural environment is healthy.

The plan concentrates on the value of biodiversity for humans rather than a properly constructed strategy to protect and enhance Victoria's flora, fauna and fungi, improve habitats and restore functioning resilient ecosystems.

The strategy has a target of five million Victorians acting to protect the natural environment by 2037. This has been followed by *Victorians Volunteering for Nature*, a recent government initiative. The state government estimates that currently 100,000 people volunteer for nature. So we have 18 years to convert 4.9 million people. I really don't think this is possible and it definitely is not a serious biodiversity strategy.

Powerful Owls sometimes roost in the edges of pine plantations
Photography © Gayle Osborne

Governments seem to think that throwing a bit of money at some hard working, over-extended community groups will stop species extinctions. Hopefully the volunteers will not go extinct, crushed by the weight of their responsibilities.

Also in 2016, there was a review of the *Native Vegetation Clearing Regulations*. It would seem that the resulting updated regulations failed to improve the protection of native vegetation. Victoria's *State of the Environment 2018* report states: "Native vegetation continues to be lost at approximately 4,000 habitat hectares per year. Native vegetation clearing has created fragmented and degraded habitats across Victoria. Reduced extent and quality of native vegetation increases risk, vulnerability and exposure of native animals and plants to other pressures and threats."

How has it come to this? A department that has the charter to protect Victoria's biodiversity produces aspirational, feel-good statements and looks for ways to wriggle out of their legal obligations. This will not change until we can firmly place the environment on the political agenda. ■

Extract from 'The Insect Apocalypse is Here' - The New York Times

In addition to extinction (the complete loss of a species) and extirpation (a localized extinction), scientists now speak of defaunation: the loss of individuals, the loss of abundance, the loss of a place's absolute animalness. In a 2014 article in Science, researchers argued that the word should become as familiar, and influential, as the concept of deforestation. In 2017 another paper reported that major population and range losses extended even to species considered to be at low risk for extinction. They predicted "negative cascading consequences on ecosystem functioning and services vital to sustaining civilization" and the authors offered another term for the widespread loss of the world's wild fauna: "biological annihilation."

https://www.nytimes.com/2018/11/27/magazine/insect-apocalypse.html

A Hobby is better than a pastime

Words and images by Trevor Speirs

You have to go back 40 to 50 years to find any recorded sightings of the Australian Hobby *Falco longipennis* in the Wombat and Lerderderg Forests, a bird that is widespread in Australia but by no means common. I was lucky enough to see the pictured bird down near Werribee but as yet have not been as fortunate in the Wombat. The specific name *longipennis* means long-winged and it is these long wings and slender body that give the hobby its manoeuvrability and speed, often hunting just above the canopy or swerving between trees, low over the ground. This would be one of the reasons the hobby is more often found in woodlands and farmlands, generally avoiding denser forests.

Hobbies, along with a few of our other raptors, have profited well from the various exotic bird species (and mammals) that have been introduced to Australia since the early days of European settlement. Starlings, in particular, have probably become one of the hobby's favourite prey. They are in the ideal weight range, under a third of a hobby's weight, perfectly suiting its hunting capabilities. Unfortunately hobbies, and other raptors such as goshawks, don't seem to be making much of an impression on starling numbers. Sparrows are regularly taken, and they will also hunt medium-sized parrots down to smaller birds like pardalotes, thornbills and fairy-wrens, as well as large flying insects, and occasionally mammals the size of mice.

Prey is usually taken in flight and it is believed the Australian Hobby kills its prey with a bite to the neck, while still in the air. Hobbies have noticeably large eyes and this characteristic probably enables them to hunt prey like small insectivorous bats well into dusk, especially with the assistance of artificial light. The Peregrine Falcon *Falco peregrinus* is another raptor that is a known crepuscular hunter. Australian female diurnal raptors are always heavier and larger than the males, and the juvenile male Peregrine Falcon can sometimes be mistaken for a female Australian Hobby. Although similar in length and plumage, the young Peregrine Falcon has broader wings and a much stouter body than a hobby. The falcon also has a more complete black helmet covering the head as opposed to the partial helmet on the hobby.

As with all six members of Australia's Falconidae family the Australian Hobby doesn't build its own nest but uses old stick nests of other raptors, like that of the Little Eagle. Hobbies also have a particular liking for the nests of ravens and crows and have been known to use these nests after driving the larger birds away. The female hobby does the majority of the incubation while the male does the hunting, and both sexes are aggressive nest defenders, attacking and repelling birds, even as large as the Wedge-tailed Eagle, from their immediate breeding area. ■

Reference:

Marchant S., and Higgins P. J. (1993). 'Handbook of Australian, New Zealand and Antarctic Birds. Volume 2: Raptors to Lapwings.' (Oxford University Press: Melbourne.)

Australian Hobby *Falco longipennis*
Photography © Trevor Speirs

Who likes Spiders?

Words and images by John Walter

My apologies to those among us who have a fear of all in the arachnid world, I understand if you decide to skip this article. I have a great respect for spiders and their potential to inflict a serious bite, but I do not fear them or dislike them. There are many occasions however when the unexpected appearance of a large spider, such as the huntsman that dropped off the sun-visor onto my lap while driving the car, has caused a high level of anxiety and a rapid increase in my heart rate. I have not yet begun to seek out spiders, but I do take the opportunity to photograph them when I come across them and have my camera handy.

I guess the answer to the question in the title is "not many" but I want you to think about the positive effects of spiders. We marvel at the sight of a perfect spider's web covered in dew or backlit by early morning or evening sun. We get the benefit of countless millions of insects consumed everyday and I estimate they consume the weight of the planet in insects every year. (I may have exaggerated a little bit here.)[1] What would our small birds use to hold their nests together if the spider's silk was to disappear? Spider venom extracts are being studied for numerous medical benefits, including use as a pain killer.

OK, yes, it is rather unpleasant to walk into that same spider web and spiders are not overly selective in the insect they consume. Perhaps a closer look at some of the species I have come across will show that there is a certain beauty in their form, even the dangerous ones.

The oldest arachnids in the fossil records date back to over 400 million years ago, while the oldest true spider sits at 375 million years. The arachnids include the scorpions, mites, ticks, plus some less well-known groups like the harvestmen, pseudoscorpions and whip scorpions. All spiders have distinctive eye patterns and the position of their (occasionally) six or (usually) eight eyes assists in the identification of the species.

The first species is the colourful Walckenaer's Studded Triangular Spider *Arkys walckenaeri*. This small spider is an ambush predator and can often be found in *Acacia* species. The long spines on its forelegs act like a cage when the legs are clasped around its prey. They belong to the modern or advanced spiders that have a tracheal breathing system as well as a set of book lungs [2] which puts more oxygen into their bodies than the two sets of book lungs of the primitive spiders, giving them more energy. Their fangs also point inwards towards each other whereas the fangs on the primitive spiders point downwards and generally come with strong large bases although the venom sacks are small. This difference in the fangs brings greater efficiency to the bite of the modern spiders as they can bite their prey with a simple movement of the fangs whereas the primitive spiders must raise their forebody up high, project the fangs forward and then blindly strike downwards in order to effectively bite.

Top and centre: Walckenaer's Studded Triangular Spider *Arkys walckenaeri*. Zoom in on the second image to see the fangs on a modern spider.

Bottom: This Crab Spider *Tharrhalea pulleinei* is a good colour match to the Bronze Bearded-orchid. Some Crab Spiders can change their colour to match the flower they are on.

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The Crab Spider, pictured here with the Bronze Bearded-orchid *Calochilus campestris*, appears to be *Tharrhalea pulleinei* [3] and these little spiders are also ambush hunters. Some Crab Spiders are also called Flower Spiders as they use camouflage to hide on flowers and wait for their prey to arrive. Unfortunately, I cannot see enough of the abdomen of the second Crab Spider to attempt a species identification, but it is also a *Tharrhalea* species; this time sitting on a *Xerochrysum viscosum* flower. These small Flower Spiders are well known for taking prey much larger than themselves.

The Orb-weavers are also ambush predators, however this group also uses the classical circular web that we find so attractive, although some species build tidier or stronger webs than others and not all species build webs. The Scorpion-tailed Spider *Arachnura higginsi* is aptly named as it sometimes arches its lower abdomen back over its body in the manner of a scorpion's sting. The juvenile females can be bright yellow or red and full adults are paler in colour. The tiny males lack the tail and are just 3mm long [4] making them difficult to photograph, especially on days with a bit of wind.

Another Orb-weaver is the Bush Orb-weaver *Plebs eburnus*. The somewhat humped shoulders on the upper abdomen make this a distinctive species although there is another very similar species known as the Western Bush Orb-weaver in WA. The Knobbled Orb-weaver *Eriophora pustulosa* [5] also has humps with two in the middle, and a cluster of humps near the tip of the abdomen.

Top: Unidentified Crab Spider *Tharrhalea* sp. On a Sticky Everlasting flower.

Upper Middle: Adult female Scorpion-tailed Spider *Arachnura higginsi* in full display.

Lower Middle: Juvenile with yellow colouring.

Inset: The small male Scorpion-tailed Spider *A. higginsi* looks like a different species.

Bottom right: Bush Orb-weaver *Plebs eburnus*.

Bottom left: Knobbled Orb-weaver *Eriophora pustulosa*. The red upper front legs is typical of the Garden Orb-weaver but that species lacks the cluster of humps at the tip of the abdomen.

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The largest of the Orb-weavers is the Australian Golden Orb-weaver *Nephila edulis*. The common name is a reference to the yellow coloured silk that forms the large and very strong webs of this species. Often spanning the large gaps between trees in woodlands and open forests, they invariably bring all who encounter them to a halt and then a reverse and sidestep around the sticky monsters. The species name *edulis* means edible and the inhabitants of New Caledonia were observed eating this spider by Labillardière, who subsequently named the species. It is also roasted and eaten in Papua New Guinea according to one 1973 publication.[6] This species has frequently been illustrated in this newsletter and my image is selected to show the difference in size between the male and female of the species.

Our next spider group is the active hunters. These spiders do not construct a web or wait to ambush their prey preferring instead to seek it out. It is this activity that often brings them to the attention of humans. Their large size and habit of visiting our homes puts many of these spiders near the top of our dislike list. The Jumping Spiders would be the exception however as recent publicity of the so-called Peacock Spiders [7] (a subgroup of Jumping Spiders) has brought them to the attention of a wider audience. While the Jovial Jumping Spider *Apricia jovialis* is not as colourful as the peacocks, it does have some charm not least due to its name. The Jumping Spiders are small but often take much larger prey including other larger hunting spiders.

The Wolf Spiders are larger and are fast long-legged spiders. The species illustrated is a Union Jack Wolf Spider *Tasmanicosa* species, which would be listed under the name *Lycosa* in older books. These spiders require microscopic examination to confirm actual species identity, generally involving someone poking around in their genitalia. Female Wolf Spiders initially carry their spiderlings on their back, a level of care not usually associated with members of the spider world.

Bottom left: This Grey Huntsman *Holconia immanis* quickly learned to come out when I left the house lights on to attract moths to photograph and record. I also recorded several moths being devoured in the process.

The large size and long legs are also features of the Huntsman Spiders. These home invaders may catch all sorts of insects within the house as well as other spiders but in my experience they are usually found dead soon after entering the house so are best removed back outside to their more normal habitat. There are several species found locally and the Grey Huntsman *Holconia immanis* is shown below.

Top: I watched this large female Australian Golden Orb-weaver Spider *Nephila edulis* capture and truss the fly just below it and then noticed the male approaching from above. The female turned around and he approached closer but then scampered away without attempting to mate. The debris in the web above the male is the remains of past meals.

Middle: The typical stance of a Jumping Spider is demonstrated by the Jovial Jumping Spider *Apricia jovialis*.

Bottom right: Union Jack Wolf Spiders *Tasmanicosa* sp. often visit us in the house on a warm evening.

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While Huntsman Spiders are not usually aggressive, I did discover many years ago that they can become aggressive when sufficiently provoked. Mind you, I had to try very hard to provoke it enough to jump onto the toe of my boot to defend itself. Its attack on my boot worked as I left it well alone after that and have not provoked a Huntsman since.

Our last two spiders are primitive spiders and first up is one of the largest spiders found in Victoria. The Melbourne Trapdoor Spider *Stanwellia grisea* females have a body length of 35mm and live in silk-lined burrows, which despite the name, do not have a lid or door. While you may find the smaller males freely roaming at night in autumn in search of female burrows, we found the female in the photograph one night in May while out recording frog species. You will not be surprised to learn that I did not put my hand down there to try and measure this one's length, but it was estimated as being closer to 40mm. Both the sexes lurk underground near the entrance to their burrows and seize passing prey.

Although our next species looks even more frightening than the *Stanwellia*, it is in fact only half the size. This is the male Red-headed Mouse Spider *Missulena occatoria* with a body length of 18mm. The females are all black and are 24m long. They also live in burrows and these do have a trapdoor. They also set tripwires of silk outside the burrow to alert them to potential prey passing by. The closeup image below shows the downwards pointing fangs of the primitive spiders which you can compare to the second, head-on image of *Arkys walckenaeri* in which you can just see the dark horizontal or inwards pointing fangs of the modern spider.

Top: Primitive spiders include our most dangerous species, the Sydney Funnelweb. The Melbourne Trapdoor Spider *Stanwellia grisea* can inflict a nasty and painful bite but is not known to cause fatalities.

Middle and lower left: Male Red-headed Mouse Spiders *Missulena occatoria* have large fangs and the laboratory suggests they have toxic venom but to date the recorded bites have not caused serious reactions.

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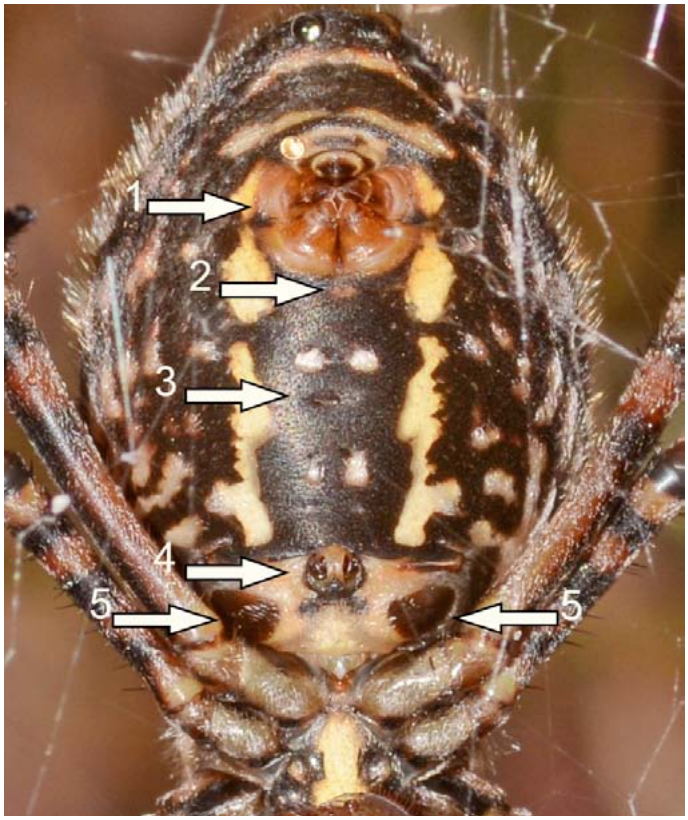
The last image is to help us with a bit of spider anatomy and shows the underside of the abdomen of the Banded Garden Spider *Argiope trifasciata*. The numbered white arrows point to key features:

1. Spinnerets, Tolkien understood language and also understood spider anatomy better than a more recent film maker who managed to turn Shelob's spinnerets into a sting, rather like a wasp or bee. A spider's fangs are at the opposite end.
2. The spiracle (opening) of the tracheal breathing system.
3. In some spiders the spiracle is further forward as appears to be the case here.
4. Female external genitalia, known as an epigyne. The shape is specific to each species and matches the shape of the male sperm transferring palp. Male spiders deposit their sperm onto a special web then use their palp like a spoon to transfer it to the female epigyne.
5. One pair of book lungs found on modern spiders, primitive spiders have two pairs.

I doubt I have changed many minds when it comes to liking spiders but I do hope that you may respond a little more kindly the next time you see a spider in the bush, in your garden or indeed, in your house. ■



Above: Underside of the abdomen of the Banded Garden Spider *Argiope trifasciata.*

Notes

1. While all sorts of numbers about spider consumption can be found on the internet, one number I came across was reported in *Spiders and Scorpions commonly found in Victoria*, by Ken Walker and Alan Yen from Museum Victoria and published by the Royal Society of Victoria. Unfortunately, the study was not referenced so I cannot look it up, but it put the consumption of insects by Australian spiders at 894 tonnes per day. That is 1 million tonnes every three years.
2. Each book lung is a pouch that has a slit opening directly to the atmosphere and allows the transfer of gasses, however there is no active breathing involved. Haemolymph (similar to blood and blue in colour) filled thin plates are stacked like the pages of a book within the pouch. The tracheal system is a series of tubes, also opening to the outside and with no active breathing, but the exchange of gasses is far more efficient.
3. Known as *Lehtinelagia pulleinei* until very recently. The identification comes from *A Field Guide to Spiders of Australia* by Robert Whyte and Greg Anderson and the distinctive pattern of large dark spots on the abdomen.
4. Female Scorpion-tailed Spiders have a body length of 16mm.
5. The name given here to this species is a guide only. The genus *Eriophora* is now not recognised in Australia and a new genus is required. The species name is as close as you can get without physical examination although it is reported as this in a reputable publication.
6. V.B. Meyer Rochow. Edible insects in three different ethnic groups of Papua and New Guinea. *The American Journal of Clinical Nutrition*, Volume 26, Issue 6, June 1973, 673–677.
7. Google Peacock Spiders and you will find some very enjoyable spider videos.

Australian King Parrots

Australian King Parrots *Alisterus scapularis* are extending their range, with recent sightings in Lyonville and Bullarto. They are frequent visitors to Blackwood and have a patchy distribution in central Victoria. They are often seen flying over the Calder Freeway between Macedon and Gisborne. ■

Australian King Parrot. This bird is either a juvenile or a female. Photography © Gayle Osborne

Have you seen this Weedy Fungus?

Words and images by John Walter

As a member of Landcare, I do not generally think of fungi when I hear about a new weed, but the Orange Pore Fungus Favolaschia calocera has been making quite a name for itself as a weedy species. Once thought to be from Madagascar, it is now thought it could originally be an Asian species. It has been spreading around the world and has established populations in Australia from Brisbane to the south-west of Western Australia.

It is a wood rotter and grows in large troups on logs of all sizes and is now very common in the waterfall country behind Lorne in the Otways. I also found it quite close to Mait's Rest near Apollo Bay on a recent visit which is a concern as it is thought to displace indigenous species. It frequents disturbed areas and presumably humans have a hand (or a boot) in its distribution.

I am not aware of any records for this species in the Wombat Forest and we all should take care and practice good bush hygiene to keep it that way. If you have seen this species or come across it in the future, then please let me know or report it to FungiMap. ■

Tiny priceless lives

Words & image by Alison Pouliot

It has been a long hot summer. We regularly hear of *Homo sapiens* struggles to cope with drought, but other species get less of a look in. The forest and its inhabitants are thirsty. With the first decent rains, water collecting in road verges and the flush of green bring animals scrambling for a drink. This leads to increased incidents of roadkill. The mash of bloodied fur on our roads is a horribly familiar sight. While Council might pick up a few carcasses, the vast majority go uncounted.

Moreover, seldom mentioned are the countless invertebrates and less conspicuous vertebrates that also succumb as roadkill. While the sickening thud of mammal hitting metal is distressing for many, few batter an eyelid at a moth smashed to death on the windscreen. There's Bug Off in the wiper tank after all.

In scientific research, vertebrates have some protection due to requirements for ethics permits. Invertebrates, however, are largely "exempt". It seems that the absence of a backbone means the absence of protection. It would be wonderful to think that every creature's life was considered as worthy, but humans value different species in very different ways.

Following recent rains, I was treated to a captivating corroboree of pobblebonks. The following morning, the road was strewn with their magnificent but fatally crushed bodies. By evening, all evidence was gone, due to the swift actions of ants. Tiny lives lost, unseen, uncounted. Perhaps it is time to rethink these tiny priceless lives and rally for their ethical consideration as well. ■

A pobblebonk crushed on the roadside is dismantled by ants.

A meander in the mycosphere

Words & Images by Alison Pouliot

Public interest in fungi grows every year. This is exciting as it not only increases attention to their vital ecological significance, but it also enables possibilities for them to be included in notions of nature, biodiversity and conservation.

Despite the late start to the fungus season, an enthusiastic group of forayers recently descended in the upper reaches of the Werribee River catchment to explore and survey the Wombat's fungi. Forayers collected fungus distribution data to submit to the Atlas of Living Australia, but also examined the role of fungi in underpinning the Wombat's health and resilience.

The majority of Australian fungi are yet to be named and vast areas still remain unsurveyed. Every wander in the Wombat offers the opportunity for new fungal discoveries. Wombat Forestcare is leading the way among conservation groups by including fungi in biodiversity surveying and offering opportunities to study and survey these important and fascinating organisms. ■

Crested Pigeon

Crested Pigeons *Ocyphaps lophotes* were once only found in the arid and semi-arid areas of Australia. They have now successfully colonised most of Australia except the tropical north and can be seen around Glenlyon through to the northern section of the Wombat Forest.

They breed after rain in July-December, constructing a platform of twigs in a shrub or tree up to 5 m high. ■

Crested Pigeons *Ocyphaps lophotes.*
Photography © Gayle Osborne