Orange lacewing butterfly, Queensland

Photographing Spiders & Insects with Steve Parish

An Extract from Photographing Australia: the ultimate travel guide

Garden orb weaver spider, Queensland

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Photographing Spiders & Insects

Introduction

When it comes to sheer numbers, reptiles, birds, and even mammals do not dominate the fauna of the world; invertebrates, mainly insects, do. Invertebrates are animals without backbones, and they make up a phenomenal 98% of all animal species – by far the most successful organisms that have ever existed on our planet. They are collectively a vital food source for vertebrate animals and significantly influence every terrestrial and freshwater environment. Simply put, our living world wouldn't survive without them.

More insect species exist in Australia than do all of the other animals and plants combined. If you are looking for diversity, terrestrial invertebrates like spiders and insects represent a sensationally variable group of animals for anyone interested in natural history photography. Best of all, they are extremely accessible. The average suburban block contains more invertebrates than there are people in each state!

Australia's unique collection of insects and spiders ranges from ancient species that have survived here for 150 million years to recent accidental, deliberate, or natural arrivals. Long periods of isolation from the rest of the world has enabled relatively ancient Antipodean groups (such as bull ants and cave-dwelling spiders) to live on to the modern era in this isolated southern ark. These groups include some of the world's most fascinating insects and arachnids.

Insects occupy huge range of habitats — on and in freshwater streams; on the intertidal zone of beaches; in soil and leaf litter; in living, dying and dead wood; and feeding on plant roots, leaves, flowers, seeds, fruits, pollen, and nectar. They are found on and inside living and dead animals, as well as in animal dung and birds' nests. Insects colonise our houses and feed on our furniture, books, clothes – and even our skin! They exploit almost every possible environment.

Photographing spiders, insects, and other invertebrates is an excellent way to study the behaviour of small creatures that hide well. They are so diminutive (some even microscopic) that most go entirely unnoticed. The fascinating world of insects is excellent for travellers to engage with, simply because they are sure to be everywhere you stop or camp on your journey, and in abundance. After a campfire dinner in the evening, don a head-torch and spend the rest of the night searching for the less-obvious creatures of darkness. You will find that lots of vertebrate species (particularly geckoes and other small reptiles) are as drawn to spiders, moths, butterflies and insects as you are.

Photographing the Food Chain

Top: Just three of thousands of stories to be told regarding the role insects play in food chains. A sugar glider makes short work of a grasshopper; An apostlebird devouring a stick insect; The golden-tipped bat's wing structure allows it to hover and pluck spiders from their webs.

Techniques for Finding Spiders & Insects

Photographing spiders and insects is a rewarding pastime and I have met many folks who are entirely addicted to it. You will also find many Facebook groups dedicated to recording invertebrates. While they may seem small, insignificant creatures to most people, a close-up photograph reveals their true detail, colour, and character, and can change people's attitude about these organisms.

All of my spider and insect photos were obtained through simple methods. Three basic ways to work with spiders and insects are detailed below.

1. **Drop to the ground** almost anywhere and take a very close look.
2. **Choose a picturesque setting and attract them** with water, flowers, nectar, minerals, or even decaying matter.
3. **Go hunting.** A little study goes a long way in tracking down various species.

If you are a very keen photographer and wish to photograph spiders and insects in a more serious way, **this site explains the various ways collections can be obtained**. You might try constructions for light trapping (see above); flight intercept traps, pitfall traps, sifting and Bernese funnel traps and bait trapping. It also details collection methods like hand netting, beat sheets, aspirators and how to create a a field collection kit you can carry with you on your travels, along with how to identify and document species. Whatever method you use, remember to afford insects the same care you would larger animals.

My choice of photography kit is a Nikon D800 with a Nikon AF Zoom-Micro Nikkor 70–180 mm f/ 4.5-5.6D ED lens in conjunction with a Nikon R1C1 Close Up Speedlight Commander Kit. Canon and other brands manufacture similar combinations, many of which provide similar outcomes. I like to use cameras with at least 24+ megapixels, which provides more detail and is ideal for cropping.

Nikon Speedlights

Ringlight

Reflectors

Panel and Pen LED lights

Speedlights

Twin speedlights with TTL settings

Natural light reflector front light

Three LED lights

Above: LED lights left, right and from behind.

Above, left to right: The camera flash triggers a second handheld speedlight via infrared.

Ringlights can be useful when photographing insects to be etched

Lighting for Spiders & Insects

Numerous artificial light options are available and, apart from the ring light (I am not a fan of little circles in the eyes of my creatures), I employ all of them occasionally, as each has its benefits. Paired or triple speedlights are my favourite. With speedlights attached to my Nikon 70–180 mm zoom micro lens (no longer manufactured, but available on eBay), I make many captures in a short space of time, varying the zoom ratio and therefore the composition as I go. Reflectors are useful, especially for shooting insects on flowers in controlled situations. LED lights are super, and smaller pencil-beam LEDs are great for light-painting subjects like mushrooms in a rainforest. LED is also useful when you want soft, modelled light to capture exactly what you see in front of you. Finally, a multi-purpose speedlight, with some practice, is an extremely important tool for all photographers.

Two Ways to Use Speedlights: TTL & manual (top)

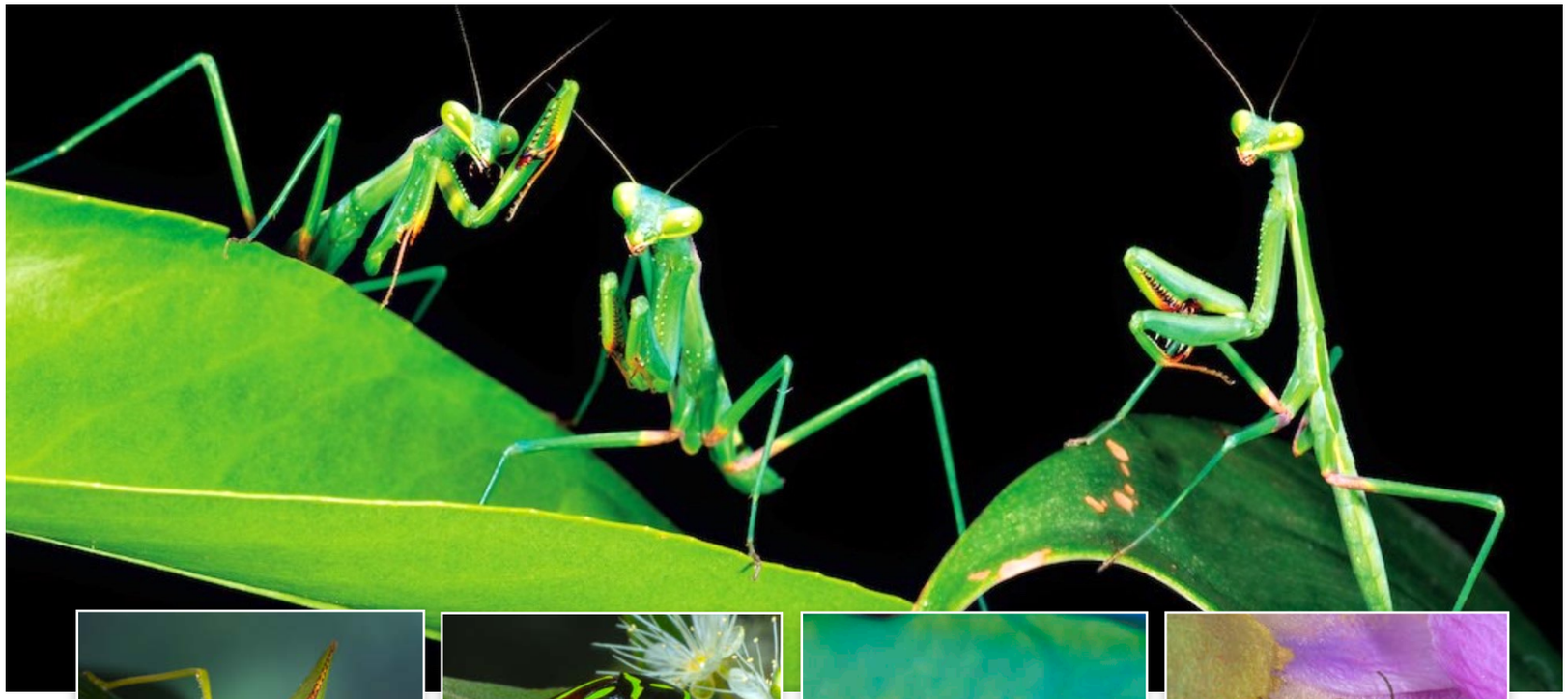
Most smaller animals like moths, spiders and insects are night-active. If I'm using a speedlight during the day, I shoot with TTL (through the lens). When photographing nocturnally, I tend to shoot manually, choosing background/ambient light with ISO/shutter speed, so as to balance the natural light with the speedlight (see far left, top). Another use for speedlights is when shooting in situations where the primary natural light source is behind the subject (see page 145).

Creative Light Modelling Using LEDs (centre)

When working in a confined studio situation or in a dark rainforest setting with little light and no wind, LED lighting helps. Several LED lights can be used together, enabling a mini "studio lighting" effect. I use this system for illuminating flowers and insects. It is particularly effective when LED lights are used in concert with natural light, as with the stick insect at centre left.

Creative Light Modelling Using Speedlights (bottom)

The camera's "pop-up flash" acts as the controller, triggering the handheld primary flash. Using a handheld light source, the photographer can easily make a series of different images simply by changing the direction of the light.



Above: Assassin bug feeding on a lady beetle.

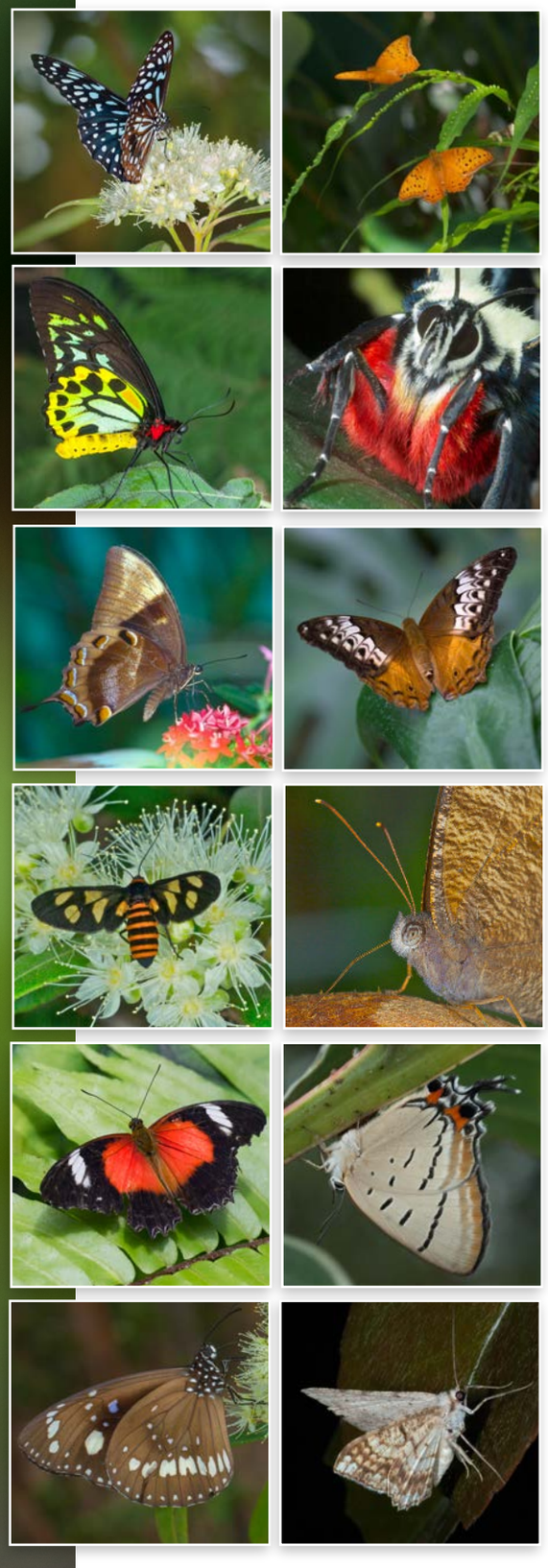
Beetles, Bugs & Lots More Insects

What's the difference between a bug and a beetle? The answer is in the mouthparts. Beetles have strong "jaws" for biting and chewing their prey, whereas bugs use a sharp, straw-like tube to pierce their food and suck its juices. Bugs usually have two pairs of wings, as do beetles, but in the latter, the chitinous forewings have hardened into a protective covering.

Including lepidopterans (butterflies and moths), there are 24 large orders of invertebrate animals that most people think of as creepy crawlies or "bugs". "Beetles" is sometimes a misleading term, because beetles have their own order, Coleoptera, which includes some 400 000 species worldwide. What a wonderful group to practice on as a nature photographer! The diversity in size, form, colour, lifestyle and behaviour is nearly limitless.

While some people are not big fans of arthropods, seeing them as pests, my experiences reveal that attitudes towards bugs change after people see intimate close-up photographs of these creatures. Some of their facial features are rather amusing, engaging, or even otherworldly.

I mentioned methods of approach earlier, and getting close to beetles and bugs is relatively easy. Mind you, mayflies and dragonflies can be as sensitive as butterflies, so they often require longer focal length close-up lenses. I prefer longer focal length close-up lenses for bug shots too, because they make it easier to create the soft backgrounds that enhance the jewel-bright colours or iridescence of these often-overlooked creatures.



Photographing Butterflies & Moths

No order of insects brings more pleasure than the butterflies and moths in the order Lepidoptera. In terms of species numbers, they're one of the smallest orders and perhaps one of the most mysterious, given that some species likely remain undiscovered in Australia. Moths are closely related to butterflies, but are nocturnal and more prolific. A colleague who lives in dense, near-pristine forests has photographed and recorded 2500 moth species from a light trap on his verandah! Several physical and behavioural features distinguish butterflies from moths, but, as always, a few species exhibit exceptions to the rule.

Early morning and late afternoon are the best times to photograph butterflies. At these times, they are more likely to be basking in the sun and to remain still. If mating, they can be particularly sensitive, so it is best to follow them until they are actually copulating and otherwise distracted. Moths, being nocturnal, are best photographed at night unless you find them hiding in the shadows and roosting by day. Moths have a strong eye-shine, so finding them in the dark is comparatively easy if you use a head-torch.

When photographing butterflies, I try to increase my working distance by using a long focal length lens such as 150 mm or 200 mm, which reduces the risk of casting a shadow across the insect. If your lens is not a close-focus macro telephoto lens, try using either extension tubes or a close-up lens attachment.

BUTTERFLY AND MOTH PHOTO TIPS

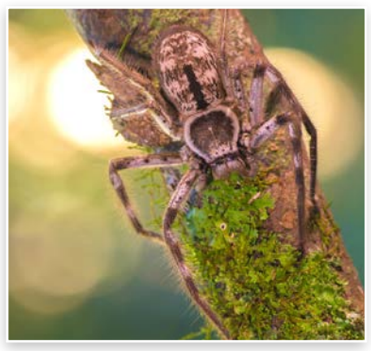
- Insects are sensitive to temperature and bask in the sun to warm their flight muscles. Be careful not to breathe directly on them, as you can increase the insect's temperature enough to cause them to take flight.
- When you are within 3 m of your quarry, move slowly. Most insects have compound eyes, which are very sensitive to movement.
- Avoid casting your shadow over the subject, which will either cause them to rearrange their position to find the light or to take to the air.












Photographing Spiders

Spiders are significant contributors to Australian ecosystems but have long been treated with fear and disgust by the general public. Having said that, when it comes to wildlife photography, they have many die-hard fans. As you travel, slip on your head-torch each night and take a wander, casting your light up and down tree trunks and over rocks and sand. You will be astonished how many pairs of shiny eyes are peering back out at you from the inky blackness of the night.

Spiders have carved themselves a niche in just about all Australian habits. You will find them living in deserts, caves, and even streams and seashores, as well as in alpine country and rainforests. There are even sea spiders!

The more primitive species, known as mygalomorphs, are larger and longer-living. They prefer life underground in moist tunnels that enable them to breathe through gill-like lungs called “book lungs”. These ancient species, which include trapdoor spiders, tarantulas and funnelwebs, have limited eyesight. They sit at the entrance to their burrows, patiently waiting for insect prey to stray close enough for them to sense. When they sense the vibrations of prey, they burst from the burrow and pounce on it with incredible speed.

Hunters, jumpers, and weavers are more modern spiders known as araneomorphs. Some in this group, like diurnal wolf spiders and flower spiders, have excellent eyesight. They eschew burrows and have instead evolved clever ways of catching prey, such as building elaborate, strong sticky webs or wrestling directly with prey. In Australia, araneomorphs include commonly seen orb-weavers, daddy long-legs, and huntsmen spiders. When these spiders bite, their fangs work like a pair of tweezers, gripping prey so tightly that they can crush an insect’s body! Welcome to the enchanting world of spider photography!

SPIDER PHOTO TIPS

- When spiders are on a solid substrate and a flash is used, be aware of the shadows the flash casts (eight shadows in fact).
- If using a twin-flash system, adjust one flash to about half an f-stop less than the other, so it acts as a fill-in for shadows created by the first flash. Alternatively, a ring-flash with some natural and some LED lights works brilliantly.

Sequential Stories

Above, top to bottom: Joseph's coat moth is one of the more spectacular Australian moths and makes a great sequential subject, from caterpillar, through cocoon building, and finally into a stunning adult. *All photographs with 35 mm DSLR, 70–180 mm micro zoom, 1/60th f/32, ISO 320 RAW, twin macro flash units).*

Watch Out for Venomous Species

Australia is home to some of the world's most venomous spiders, but our spider reputation remains bigger than our actual bite. A death in April 2016 was the country's first recorded spider-caused death since 1981.

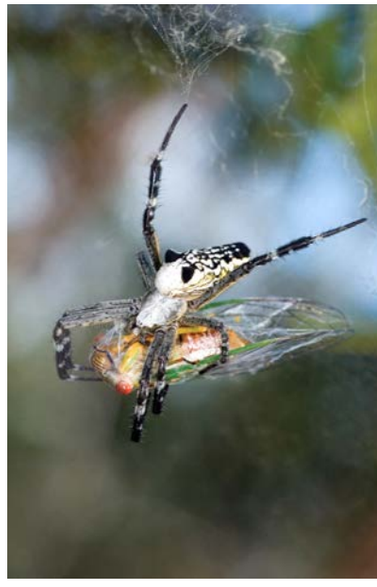
Above left: With highly toxic venom produced in large amounts and large fangs to inject it, the Sydney funnelweb is undoubtedly the deadliest spider in Australia and possibly the world. **Above right:** The red-back spider is known to cause painful bites and is potentially fatal to humans.

All spiders in the Spidentify app are photographed live by Alan and Caitlin Henderson.

TOP 9 PHOTO TIPS

SPIDERS & INSECTS

1. **I recommend a DSLR or mirrorless camera insect photography**, preferably with a frame rate of 8 fps or faster. I use a Nikon D800 Nikon D3s for photographing invertebrates.
2. These are small animals, so **I suggest a macro lens, preferably 105 mm or 200 mm.** For very small individuals, you may need to add close-up lens attachments or extension bellows. An electronic flash system is also essential.
3. Creepy crawlies **may be encountered day or night,** and camp lights at night often attract a host of species.
4. **Management of depth of field and selective focus** is the same close-up as through any lens; however, with extreme close-ups focus is especially critical, so understanding the relationships between apertures and shutter speeds is essential.
5. **Watch your backgrounds.** Aesthetic backgrounds will enhance your photos. If you use light to attract insects at night, you will get black backgrounds.
6. **Make your garden invertebrate-friendly** with some dark, dank places and lots of flowering plants. However, you will find spiders and other creepy crawlies visit even the most neglected of suburban backyards.
7. Remember that **invertebrates can be habitat-specific**, so be careful about moving them. You will find many excellent reference works available that tell you which species to expect where.
8. When working with diminutive subjects, it is best to **set your focus at the distance relative to the magnification you want**, and then correspondingly adjust flashes to cover the subject. When aperture is selected, raise the camera to your eye and gently rock back and forth until the subject is in focus. Then, quickly compose and shoot. If you use a tripod, it will be easier to focus manually, as autofocus is not as effective when shooting close-ups.
9. **Keep the camera steady.** One of the primary problems you are likely to encounter when photographing spiders and insects is camera steadiness, particularly when depth of field is limited. You may like to use either a monopod or a tripod. While the tripod is a bit fiddly to set up, it will provide the best results. When I am photographing insects, I like to walk around with my camera attached and the tripod legs extended, which I am immediately ready for action when I spot an elusive bug.



Magical Web Spinners

Orb-weavers make for brilliant shots when photographed in their webs. These ingenious, often very intricate structures allow spiders to be suspended against a backdrop of vegetation or against the darkness of night while they wait for prey. Different angles and times of day allow you to catch dewdrops or light glistening in the gossamer, making for exceptionally beautiful scenes.



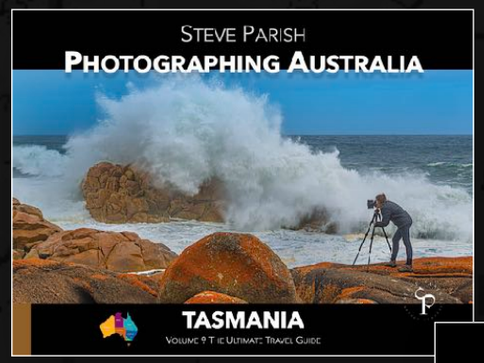


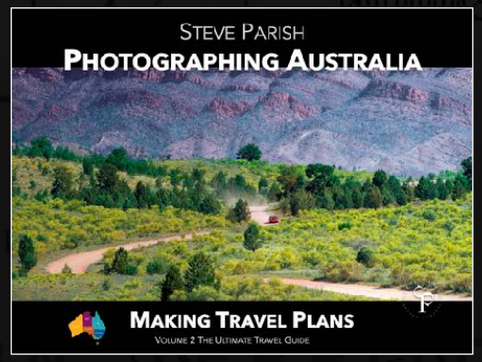


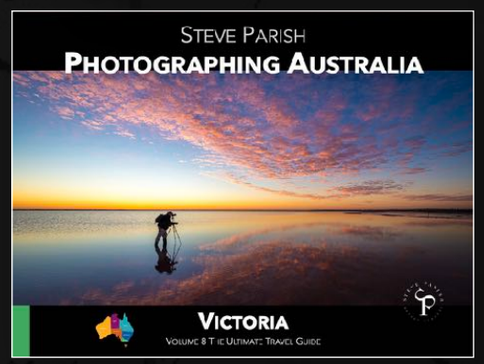


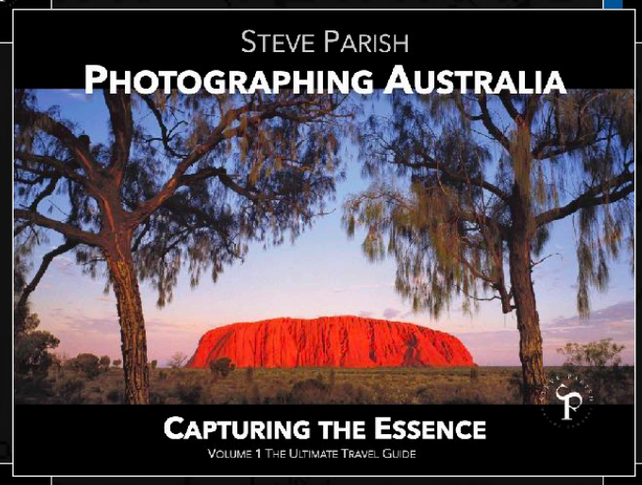


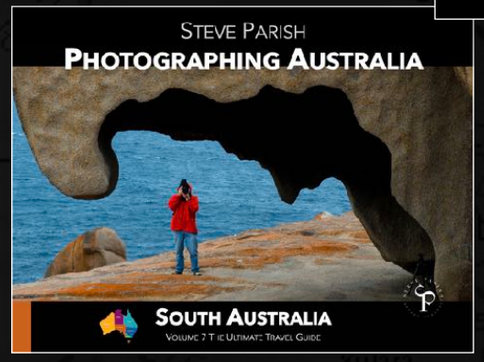
Capturing the Essence: Spiders & Insects

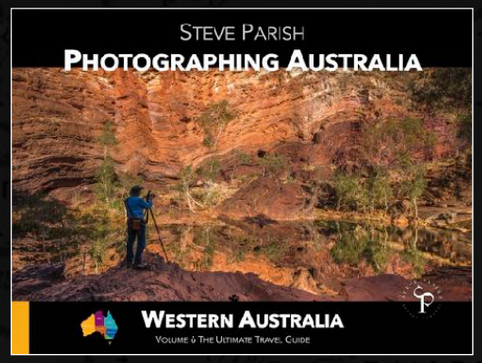


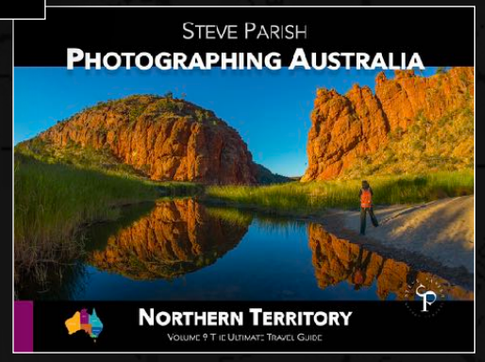












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Steve Parish - Nature Connect

CREATIVE LIFE EVENTS

All Steve Parish events, both on and offline, focus on the importance of connecting with nature for mental, spiritual, and physical wellbeing – the Creative Life Purpose that has been the core of Steve's publishing and teaching enterprises for decades.

All events are globally applicable for beginner or professional photographers, and all explore a comprehensive range of tools for developing, expressing, and communicating *your* unique voice and *your* creative life purpose.

FIND OUT MORE

About Steve Parish

Photo Kate Prentice

Steve is a passionate and highly motivational speaker, writer, and teacher, and one of few Australian photographers who can look back on five-plus decades of photography across a range of Australian social and natural history subjects. Steve pioneered underwater photography in Australia and now manages the largest and most comprehensive privately owned photographic library in the nation; it is from this vast resource that he has assembled these unique eGuides. While many of his featured images are now iconic, others are being seen for the first time.

He first started publishing in dive magazines in Australia and New Zealand at the age of 18. Since then, Steve has shared his work with the Australian community through thousands of publications, talks, exhibitions and public events. In 1985, he launched the signature brand Steve Parish Publishing. Over thirty years, it became a significant award-winning multimillion dollar business, employing 125 staff with a sales and distribution network that serviced over 3500 accounts. In 2012, the company was sold to Pascal Press, Sydney. Steve retained, and continues to build, his library, which contains in excess of 700 000 images. Steve received an Order of Australia in 2008 for his contribution to the publishing industry through the publication of Australian natural and social history.

Today, Steve resides in the Blackall Range on the Sunshine Coast Hinterland, where he and his partner are building a self-sustaining family community. From his “studio man-shed”, he steers his new company, Steve Parish - Nature Connect, an internet portal that offers library services, decor, training and teaching Australia-wide. His creative life purpose to “inspire others to regard the natural world as essential to spiritual, mental and physical wellbeing” continues unchanged since he wrote it in the Kimberley in 1984.

Steve is a passionate advocate of life-enhancement through nature connection and an active ambassador for Bush Heritage Australia and the Mental Illness Fellowship of Australia.

More about Steve and Nature Connect