



Marvellous MACROS



Photographer *Michael Snedic* explores the finer points of macro photography and explains how to get stunning shots of nature's small wonders.

Macro – or “micro” – photography is the name used for taking close-up photos of very small subjects like insects and flowers, or the details of larger ones, such as the eye of a gecko. Photos taken in this mode capture our attention because they expose things we often don't see with our naked eyes. Macro photography can be a wonderful experience (who wouldn't be thrilled to capture a bee in flight?), but it also presents some challenges. My aim here is to share some simple but practical advice that will help you get better shots of the miniature world.

Compact “point-and-shoot” cameras have a universal macro setting, the symbol for which is usually a flower. By choosing this setting you should be able to focus on small subjects, though just how close will depend on the make and model of your camera. Some models have a “super fine” macro setting which allows you to focus ultra-close, showing even the finest details of your subject. That said, if you're serious about macro photography, you'll get better results with an interchangeable-lens camera.

Macro Options

If you own a digital SLR with a couple of kit lenses, you've probably noticed that it's

ABOVE While this Green Tree Frog was sitting nice and still, it was in an awkward position that was hard to get to with a tripod. By using flash I was able to get enough light onto the subject to shoot it handheld. A diffuser was used on the flash to stop the light reflecting off the frog's shiny skin. I composed the image to concentrate on the frog's stunning golden eye and selected an aperture of f/16 to reduce the depth of field and separate the eye from the rest of the body. (Nikon D100, Nikon 105mm f/2.8 macro lens, f/16, macro flash, diffuser, tripod, ISO 200.)

RIGHT This Praying Mantis was quite still when I started taking photos but soon lifted its claw and began licking it. This gave the impression of the classic 'thinker' pose. With a macro flash attached to my lens I could move around freely without worrying about the limitations of a tripod. This is one of the big advantages of macro flash. I used the Live View setting on my camera to zoom in on the Mantis and make sure its eyes were in focus. (Nikon D300, Nikon 105mm f/2.8 macro lens, f/22, macro flash, handheld, ISO 200.)



HOW TO: *Shoot Macro*



ABOVE This type of fungi appears for about one week each year, and I have only ever found it in one spot in Lamington National Park, in South-east Queensland. The heads of the fungi are minute, about the size of one or two match heads. My aim was to showcase the centre ones, while slightly blurring the front and back fungi. The vibrant red against the rich green moss made the fungi stand out. The tripod helped me get precise composition and focus. (Nikon F90X, Nikon 60mm macro lens, Fuji Sensia slide film, f/22, two portable flash units (diffused), tripod, ISO 100.)

difficult to fill the frame with small subjects. Fortunately, as an SLR owner, you have plenty of options.

If you're on a tight budget, close-up filters are a good way to go. They screw onto the front of a lens like any other filter and you can even use more than one to increase magnification. The downside is that image quality is not as good as you will get with a

dedicated macro lens.

Another low-cost option for SLR users is extension tubes. These tubes fit between the camera and lens and since they have no glass, the image quality is quite good. Again, they can be added to one another, allowing for extremely close focussing. The only downside with extension tubes is that they slow down your shutter speed, so a tripod or flash may be required.

By far the best option is a dedicated macro lens. With a specialist lens you'll be able to get right up close to small subjects with optimal sharpness. Macro lenses vary in focal length from 50mm to 200mm. The advantage of a longer focal length is that you don't need to be as close to the subject. That can be useful when you're photographing small animals like butterflies and dragonflies, which are easily disturbed when they're approached. Using a longer focal length (like 200mm) will also result in a soft, out-of-focus background.

Extra Lighting

Macro photography often requires small apertures (for example f/22, f/32) to obtain sufficient depth of field. As a result, you'll often need to use slow shutter speeds and/or high ISOs to obtain correct exposures. Of course,



slow shutter speeds accentuate movement, which can lead to blurred photos. One way to avoid this is to use flash to light up your subject. If you're using a compact camera its pop-up flash should be adequate for this purpose. On an SLR camera a macro or ring flash is ideal. The operating system of a macro flash unit fits onto the hot shoe of your camera, while the flash component generally fastens onto the front of the lens. If your subject is stationary, multiple flash units can be set up on light stands at different heights and angles. This creates an even, natural lighting effect. I also recommend using diffusers over your flash units because this creates a more subtle natural light source.

One interesting stationary macro subject is fungi, and Australian rainforests are blessed with an amazing variety of them. They come in many shapes, sizes and colours and are more prominent in the warmer months, especially after a decent rainfall.

You can use flashes to illuminate fungi, but in some circumstances the resulting image can look over-exposed and unnatural. As an alternative, I suggest using silver reflectors to add extra light. These can be bought from a camera store or made at home by covering cardboard with crinkled aluminium foil. Natural light from above can then be directed onto your subject.

Tripods & Heads

A tripod is essential for stationary subjects if you want to create sharp macro images. Quite often you'll find yourself using narrow apertures (f/22 or f/32) and slow shutter speeds (1/8s or more) and this will limit your use of a hand-held camera. With the aid of a tripod, even the slowest shutter speed can be used without creating blurred images. But beware – some cheaper tripods are flimsy, so it's important to buy one which is sturdy. The participants in my nature photography

ABOVE Photographing this Barking Gecko with its tongue out required quite a bit of time and patience. I used a macro flash, hoping to freeze its tongue when it eventually appeared. Since I was ever-so-close to its head, I used a setting of f/32 because I wanted to show it all in focus. As the gecko was on the ground, I spent a long time lying on my stomach, waiting in anticipation for the right moment. (Nikon D70s, Nikon 105mm f/2.8 macro lens, f/32, macro flash, handheld, ISO 200.)

workshops often arrive with high-quality cameras, but cheap, flimsy tripods. A sturdier tripod, they tell me, is "too heavy to carry". But in macro photography, especially when you're shooting ultra-close subjects, the slightest bit of camera movement is heavily accentuated and it will result in blurry or "soft" photos. A heavier tripod may be less comfortable to carry around, but if you get one you'll see its value in the improved quality of your images.

Choosing the right tripod head is also important. My preference is for a ball head, because it provides the stability and flexibility of movement I need. A larger and sturdier head is best. A recent development is a high-quality head which can bear a

lot of weight, yet is fairly light. They can be expensive, but if you're serious about macro photography and plan to carry your equipment over long distances the investment will be well worthwhile. Your back and shoulders will thank you!

Minimising Camera Shake

Apart from using a sturdy tripod and head, there are other ways of minimising camera shake. Some form of remote control or cable release will reduce any potential movement created when pressing the shutter button with your finger. If you don't have a remote release, or you own a compact camera without remote capabilities, try using the camera's self-timer. Another technique for

DEPTH OF FIELD (DOF)

The look of a macro image can be varied considerably by adjusting the aperture and therefore the depth of field (DOF).

When shooting a flower you can focus directly on the stamen and use a shallow depth of field (eg, aperture f/2.8) to create a striking image. The stamen will be the "feature" of the photo and the petals behind it will be completely blurred out.

If you keep the same composition and then focus further into your flower and use a much greater depth of field (eg, aperture f/22) the entire flower will be in focus. By simply changing the aperture you have created a dramatically different image.

HOW TO: *Shoot Macro*

shooting stationary macro subjects is to use a function called “mirror lock-up”. This allows the mirror in an SLR camera to open and settle before the shutter button is pressed. This simple action of the mirror opening and closing (when not using mirror lock-up) can create movement, resulting in a blurry photo.

Careful Focussing

There are two ways of focussing on a subject – manual and auto focus. With auto focus choose the area you want in sharp focus and make sure the focussing point in the viewfinder is positioned precisely on that spot. My preferred method is manual focus. This gives me much more control and lets me pinpoint the exact area which I want in focus.

When photographing an insect or small animal, focussing on its eyes is crucial. Photos with out-of-focus eyes simply don't work unless you're attempting an “arty” shot. With flowers or fungi, for example, different effects can be created depending on the chosen focussing point. Changing the focus point from the centre to the outer edge of your subject will completely change the “feel” of the photo.

One of the biggest frustrations for macro photographers occurs when they have to constantly move their tripod back and forth to compose and focus their shot. When your camera is extremely close to a subject even the tiniest movement can change your composition or put it out of focus. This can be quite a challenge when you're shooting outdoors, with logs, rocks or uneven terrain getting in your way. Fortunately there's a solution to this problem. It comes in the form of a focussing rail and it's something no serious macro shooter should be without. The rail is mounted on a tripod ball head and allows you to make the finest of adjustments. Your camera can be moved left to right or front to back, without the need to lift and reposition the tripod. It will add some weight to your kit bag, but it more than makes up for this by allowing for precision and greater ease of use.

Live View is a feature which has become increasingly common on many new digital SLR cameras, allowing the shot to be composed on the camera's LCD monitor. This is especially beneficial for macro photography because it allows the photographer to focus very accurately, even on the smallest subjects. Live View is a feature I wouldn't be without nowadays.



ABOVE I found this tiny fungus on the rainforest floor and used three extension tubes, one on top of the other, to get as close as possible. Being so close, I needed an aperture of f/40 to get everything in focus. It was dark so I also used a reflector to “bounce” some natural light from the sky onto the subject. Using flash for fungi can result in over-blown shots and a fake look. I used a cable release and mirror lock up to minimise movement, and pushed the ISO to 400 to increase the shutter speed slightly. (Nikon D300, Nikon 105mm f/2.8 lens, 3x extension tubes, 4s @ f/40, tripod, reflector, cable release, mirror lock-up, ISO 400.)

To Hold Or Not?

Is it better to hand-hold your camera using some sort of mobile flash set-up (macro or ring flash), or use a tripod with natural light? I've used both and they both have their pros and cons. By hand-holding with portable flash you have more flexibility, especially with moving subjects. On the negative, shiny subjects, like frogs, can look unnatural when lit by flash. With a tripod there is more stability, especially for stationary subjects such as fungi, stationary insects or frogs, and the photo will look more natural. The downside is you're

limited in your movement, but this is only an issue with moving subjects.

Macro photography opens up a new world of image-making opportunities. There are countless subjects to photograph in nature and you might be surprised by what's actually out there when you look closely.

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