

camera review

Up close + croaky

Ewen Bell enters the close-up world of macro photography to put some lens, camera and lighting setups through their paces.

For this issue, we tested a few new macro toys on some unsuspecting frogs, pitting our close-up skills on real live creatures. We weren't sure how the frogs would react to the bright lights and long lenses, or how some studio-based gear would cope with the active amphibians. I invited commercial photographer Andrew Wuttke to jump into the shoot and help me with the setup.

While we've both worked in the macro range on sedentary subjects, the chance to shoot live animals up-close was a new challenge. Wuttke is used to working in a studio setting with very capable strobe lights, while I'm committed to outdoor environments and available

light. We had to meet somewhere in the middle and pack a mobile studio, shooting on-site with the Melbourne Museum's Live Exhibitions collection.

Flashy frogs

Before subjecting these little guys to blinding light for an afternoon, I wanted to get a handle on how to drive our review gear.

Our baseline comparison was my ageing Canon 550EX Speedlite, slotting onto the hot-shoe of a Canon 1D MkIV. I was sceptical that such a simple rig could be effective, expecting the flash to be rather harsh and one-dimensional, but it wasn't that bad. Taking it one step further, I grabbed a bounce umbrella and swivelled the flash-head into it. This generated a broader, softer and off-centre light source which immediately improved the tone and detail of the shots. Not only does this simple technique generate some relief by lighting gently across the subject, but the wide reflection source fills in some of the background too.

The next unit we tested was Canon's MR14EX Ring Lite unit. Reading the manual was illuminating in itself, with references to film EOS cameras not seen on shelves for at least a decade. This reveals how reliable the basic technology has been for Canon, but also highlights the evolution of SLR camera technology in comparison to flash. The Ring

HIGH-SPEED NIKON

If you need high-speed flash sync with your Nikon speedlites, then the D5100 is not the model for you. Look at the D7000, D300s, D90 or D3S instead.

Lite controller is pretty simple, with options for high-speed sync, remote slaves and the ability to de-balance the output from each half of the ring as well as pump up or drop down any slave heads. It's easy enough to get started and begin playing with the balance to suit your preference.

Compared to bouncing the 550EX off a reflector, the Ring Lite offers a better-targeted light source for macro photography and draws less juice from your batteries. That's useful when you're shooting on location and didn't pack a spare box of AAs. In a professional studio, we'd be shooting with large-scale strobe heads driven with high capacity power packs, usually with enough current to recharge a Toyota Prius. But our objective on the day was to shoot with a compact and portable rig. We can't bring the frogs to the studio, so we're packing a scaled down studio and taking it to the animals.



Nikon D5100, R1C1 Speedlite, Carl Zeiss lens



Our scaled down studio on-site

TRIPOD REVIEWS

Manfrotto 055 Carbon Fibre Q90 + Manfrotto Light Duty Ball Grip Head

RRP: \$840/\$295

Website: manfrotto.com

This combination works well together for an extremely portable tripod with studio grade stability. The leg release system is comfortable and responsive, so it's easy to set up or pack up. Bubble levels on the 055 help to ensure your base is stable, with an additional level on the ball head. The maximum weight rating for the ball head is good for any DSLR and lens you might need inside the studio, and the grip handle provides excellent control for fast adjustments. The maximum height reaches a comfortable eye-level view, while the minimum height of 11.5cm is still good for getting down low.

Manufacturer: Manfrotto

Features: Lightweight carbon fibre for strength and portability

Head Features: Joystick control for precise placement with friction control and spirit level

Maximum Height: 1.7m with central column fully extended

Maximum Load: 8kg for the tripod and 5.5kg for the ball head

Size: 1.7kg (tripod) + 0.6kg (ball head)



“The chance to shoot live animals up-close was a new challenge”



Spot lit: Canon MR14EX Ring Lite 

VERDICT

Solid platform for DSLR work yet light enough to travel

RATING

8/10





DP Editor-at-Large Ewen Bell plays frog wrangler for a day



Frog eyes bulge out from the face far enough to make all-over focus near impossible

Two heads are better than one

Either of our primary flash configurations works fine but lack one essential creative element: a second light source. Controlling the background light is a luxury at the macro level, but useful. Aesthetic control of the background colours and brightness is possible with a slave flash, so instead of putting the 550EX Speedlite onto our camera body, we activated the slave mode and let the Ring Lite become the master. Our final configuration has the MR14EX Ring Lite loaded onto the camera and the 550EX perched on a second tripod.

Newer generation flash technology employs radio controllers, but the Canon range still uses line-of-sight triggers for wireless communications, which can be troublesome when shooting outdoors. Indoors however the gear

works well, if a little by mystery when first getting to know the gear. The trick is in understanding how the "master" flash triggers the "slaves", using the flash equivalent of a dog-whistle. In the fractions of a millisecond before exposing your subject, the master flash sends a short encoded burst of low power flash that only a correctly configured slave will decipher. Because the trigger signal is generated by light from the master flash, you can effectively bounce that signal off walls and reflectors.

Film bodies more commonly seen in the '90s get more mention in the MR14EX manual than do useful tips on how to set up a slave flash. One tip worth highlighting when pairing a Canon Speedlite as a slave to the MR14EX Ring Lite is to be aware of which flash group your slave belongs to. The Ring Lite defines each of its flash tubes as "Group A" and "Group B", while any slave units you add to the party are deemed to be in "Group C". If we don't configure our 550EX to behave as "Slave C", it won't respond to the Ring Lite trigger signal.

After a few test shots, the 550EX is happily slaving away at the command of our master Ring Lite. From the master

flash we can even adjust up or down the relative exposure of the slave flash, adding more light to the background or dropping it off. This is useful if you want to tone down or over-expose the background. Positioning the slave directly behind our frogs gave us exactly that dramatic effect of backlighting, while for other shots we used the slave to illuminate leaves from beneath or the side.

Both the Speedlite and Ring Lite support high-speed flash syncing as well, so we can take the shutter speed up to 1/8000th of a second and still keep our pair of strobes working in harmony. The flash itself is fast enough to freeze the action of a frog on the hop, that's not a problem, but minimising ambient light that interferes with the exposure is the purpose of such a feature. If we were shooting in moderate-strength daylight, it would also be impossible to work at shallow depths of field without the high-speed sync option.

Through the lens

With our light under control, our next decision is the lens itself. Canon's top quality dedicated macro is a 100mm image stabilised L-series stopping wide open at f/2.8. Image stabilisation was not a requirement for this shoot, but can be useful when shooting hand-held frames in ambient light. Those extra stops of light granted by the image stabiliser can be employed to maximise depth of field or minimise camera blur when you don't have the luxury of flash exposure. Most IS or VR lenses are less effective the closer you are to the subject, so this macro lens from Canon features a new hybrid IS system that claims to effectively deliver 2-stops of light when shooting at 1:1 macro ratio.

Initially we mounted the 100mm macro and Canon 1D MkIV onto a Manfrotto 055 Carbon Fibre Q90 with the Light Duty Grip Ball head. Depending on how many spare hands you have free for wrangling

NIKON BOOST

If you love the creative potential of the R1C1 kit for your Nikon but are worried about the power performance, you can always buy a few extra SB-R200 Wireless Remote Speedlites to bump up the total output.

“The real battle was with depth of field, and deciding what F-stop to work with”

frogs, the benefits of a tripod platform will be obvious. Ball grips are great for quick re-framing of the subject, and the grip release mode made it quick, accurate and stable. The Canon 1D is a hefty camera body and the 100mm macro lens is solid enough too, but despite the combined weight this ball-grip performed without incident. The complete rig is extremely light and achieves good maximum height, ideal for mobile studio requirements.

As much as I liked the tripod, the frogs didn't. At least the juvenile Growling Grass Frog certainly had objections. With each burst of flash, the little guy took flight. Our shoot stage was a low tub of water with pebbles and leaves, with enough room for the frogs to leap out of shot and require endless re-framing. We released the Canon from the tripod, shot a dozen or so frames with our shy subject and moved on to the other frogs. Half of the species on show at Melbourne Museum were shy of the flash and half weren't, so the tripod came in handy half of the time, while

the image-stabilised macro worked its magic for the other half.

There are three autofocus settings on the 100mm f/2.8L IS, in an attempt to regulate the stubborn nature of the focus system. The macro range of this lens has clearly given the engineers a bit of trouble and, while taming the frogs, our lens sometimes stumbled before giving up entirely. Stepping away from the subject to shoot a wider frame would routinely throw off the autofocus, while stepping forward between frames was never a problem. The lens works better when gradually pushing in towards a subject.

Depth of frogs

Before starting with a bucket of frogs I expected the major challenge to be their tendency to hop away. Captive frogs have a decent level of tolerance for us crazy humans, and the 100mm lens allows a bit of breathing space so the camera itself was not immediately threatening. The real battle was with depth of field,



LENS REVIEWS

Canon 100mm f/2.8 L IS USM Macro

RRP: \$1450

Website: canon.com.au

It's hard to appreciate a really good macro lens until you've used a bad one, but the quality of this model is palpable in your hands and in your photos. I was expecting this lens to retail closer to \$2000 than \$1000, so it represents excellent value for shooting without a tripod. The shallow depth of field abilities can be exercised with confidence thanks to the autofocus, and the lens delivers an appealing bokeh from the generous configuration of aperture blades. The lens uses a modified image stabiliser system that retains 2 stops worth of gain when working at 1:1 magnification. With strong weather sealing and internal focusing design, this macro is a good option for field-focused photography.



Manufacturer: Canon

Features: 15 elements, 12 groups, 9 rounded aperture blades

Minimum focal distance: 0.3m for 1:1 macro ratio

Weight: 625g

Angle: 27 degrees

Size: diameter 78mm, length 123mm

VERDICT

Canon's most advanced macro is great value for money

RATING

9/10

Carl Zeiss Makro-Planar T* 100mm f/2

RRP: \$2599

Website: lenses.zeiss.com

Most macro photography takes place inside the studio with controlled lighting, a solid tripod and a really good lens for professional output. If you're shooting on Canon or Nikon, then this lens is worth a look. The focusing ring rotates completely around the lens several times as you align the focus between macro ratios of 1:10 and 1:2. The enhanced travel gives you extremely fine control over the focal point, and is fully coupled to the electronics of Canon or Nikon bodies for accurate aperture control. At f/2 this lens offers an exceptionally fine focal plane, so the long travel of the focus control is perfectly balanced. You may be surprised that such a high-quality macro lens is designed without autofocus, but most of the time I shoot macro with the focus locked off.

Manufacturer: Carl Zeiss

Features: 9 elements, 8 groups and 9 rounded aperture blades

Minimum focal distance: 0.44m for 1:2 macro ratio

Weight: 680g

Angle: 27 degrees

Size: diameter 76mm, length 113mm



VERDICT

Superb optical quality for dedicated studio work

RATING

9/10

📌 Bell with the friendly and cooperative Melbourne Museum staff



“The lack of grunt and slow shutter performance was disappointing”

CANON ON CAMERA

Owners of Canon's 7D or 60D can use their built-in flash to drive the wireless slave features of Canon's flash range. Add the 430EX-II or 580EX-II to backlight scenes or boost your flash power off camera.



and deciding what F-stop to work with. I like the look of extreme shallow depth of field, and the Canon lens at f/2.8 packs a pretty picture. Frog eyes upset the party, however, bulging out from the face so far that getting all of an eye sharp is near impossible at the widest aperture.

At f/8, the eyes are easier to target, but you're no longer getting the full abstract effect of a bokeh-rich background. If you're not shooting for shallow depth of field you may as well shoot for all you can get. Taking things up to f/13 still doesn't ensure that all your frog is clear, but you're likely to get the bits you really need. To our surprise, while framing up the juvenile Blue Mountains Tree Frog, we still generated some nice background bokeh at f/13, further emphasised when water reflections caught the slave flash.

The key to working with a limited depth of field is to modify the camera angle on the frogs to get more than one element in the sharp zone. Shooting from the side a Gold and Yellow Tree Frog can present the eye, cheek and toes in the same plane of focus even at f/2.8. As the scale of frog gets smaller, the usefulness of wide apertures gets smaller too. Our shots of the diminutive Blue Mountains Tree Frog at f/2.8 enter the realms of art instead of science.

Manual macro

We also tested an alternate setup on

the newly released Nikon D5100 coupled with the R1C1 Speedlite from Nikon and a Carl Zeiss manual focus macro lens. Anyone with a good quality manual lens from their film SLR days will appreciate this rig, putting an affordable but pixel-rich sensor on the rear end of some good glass. With 16MP and a flexible rear screen, the D5100 is easily up to the job. The DX format adds an additional 1.5x crop, which is not unwanted when your objective is getting in close and tight.

We weren't testing an old lens of course, but a brand new Makro-Planar T* 100mm that opens wide to f/2. This model has the Nikon mount and electronic coupler to suit any full-frame or DX body, and there's a Canon version available too. This is not your average lens, and holding it in your hands it feels like nothing else. I love the build quality of Canon's 100mm f/2.8L IS Macro, it's top notch, but the Zeiss is from another realm. Out of the box the bulk of the lens is neatly shrouded by the lens hood, slipped on in reverse. As you slide the hood into place it locks into the slot with a solid snap, and the sound of metal-on-metal echoes nicely.

Rolling through the focal range feels unique on the Makro-Planar, not only because the lens extends forward in the process but you have to fully rotate the barrel several times to dial down from 1:10 ratio to the closest macro at 1:2. How else do you achieve sensitive selection of your

VERDICT

There's more than one way to shoot a frog, but the MREX-14 Ring Lite with an additional Speedlite is my preference to get the best from any lens. The ring itself does throw a unique catch-light onto dark shiny surfaces, but that's pretty simple to rectify in Photoshop if you have the inclination. Comparing the luxury 100mm Canon macro lens to the Carl Zeiss 100mm T* Makro-Planar was fascinating for me, as these represent two very different styles of photography. For studio operations the Carl Zeiss is my favourite, but for flexibility in the field the technology of the Canon is compelling.



Cheer up, fellas. It's almost over...

focal point when shooting wide open?

Because this is an f/2 lens, I wanted to shoot my subject at f/2. Most commercial and scientific applications simply need as much depth of field as they can get, but this lens has even greater appeal to the artist within. The image at f/2 has a velvety bokeh and vibrant tones. There's no drop-off at the edges, the colours march straight through and whatever you lock into that narrow band of focus comes back sharp as steel. The focus screen on the Nikon gave me good feedback and once mounted on the tripod I could make extremely subtle adjustments from one frame to the next.

Cameras, frogs, lights

What the setup lacked was light. The R1C1 is a lovely piece of design but just a little underpowered compared to the Canon Ring Lite. The system provides three major components for creative lighting, the wireless commander (SU-800) that mounts onto the hot-shoe and drives the TTL metering, plus two wireless remote speedlights (SB-R200). Each of the three components is powered independently by single CR123A batteries, making this an extremely

flexible rig but low on juice.

I had gone shopping for spare batteries the night before, but my local supermarket didn't have this special variety on hand. Drawing maximum power from the strobes without spare batteries on hand meant we had to go easy on the R1C1. By comparison, we snapped over 300 frames on the Canon Ring Lite and Speedlite slave, before swapping out the batteries due to slowing recharge times. Each of the Canon units require four AA batteries, and they were toasty warm after two hours of constant use.

The Nikon D5100 doesn't support high-speed sync with the R1C1, so we had to manage with ambient light impacting the colour tone in unpredictable ways. The issue was most palpable when it came to processing the RAW files and getting the colour balance under control was anything but straightforward. The lack of grunt and slow shutter performance was disappointing because the concept of the R1C1 is superb and the kit comes loaded with a dozen extra bits of creative gear. Diffuser channels, colour tints, clip cords and flat stands are all included in the box, along with the necessary adaptors to mount both heads directly onto your lens.

FLASH REVIEWS

Canon MR14EX

RRP: \$1069

Website: canon.com.au

Apparently this flash unit is more popular with dentists than frog keepers, mainly because it delivers a smooth but powerful strobe source that makes anybody look professional. Powered by 4xAA batteries, the unit will deliver about 200 frames before slowing down, and puts out enough light to compliment the rest of Canon's flash range. You can put a 430EX-II or 580EX-II Speedlite into the scene and the Ring Lite will happily bark orders, ensuring the slave units also adjust their output to balance the E TTL metering on your camera body. The ability to slant the power output of each half of the ring puts a little more creative control in your hands. You'll need some seriously expensive strobe equipment to get a better result.

Manufacturer: Canon

Features: Ratio control, focusing lights and wireless master flash mode

Guide No: 46

Weight: 405g



VERDICT

Proven technology with plenty of power and integration options

RATING

8/10

Nikon R1C1

RRP: \$1195

Website: nikon.com.au

Superb design and the ultimate in flexible macro lighting is packed into a ready-to-travel kit, but the battery power for these flash heads is a major drawback. Together they still struggle to pump enough light out for a 100mm macro lens to work at f/13, and while Nikon's TTL metering is pretty good, the low power output of the R1C1 heads makes it difficult to add another slave flash without drowning out the foreground. If you're happy to work at higher ISO speeds to negate the performance gap, or can get a little bit closer with your lens, the R1C1 design advantage becomes immediately obvious. The two flash heads are fully independent and can be configured on or off the mounting ring. The kit is equipped for all scenarios with adaptor rings to suit five different filter sizes, diffusion chambers to soften the burst, colour filters to taint the temperature a little, and unique footing-stands to convert each flash into an independent slave. I love this flash kit, I really do, but a bigger battery source would make it even better.

Manufacturer: Nikon

Features: Creative and expandable lighting system with all the bits included.

Guide No: 10

Weight: 120g for each slave and master



VERDICT

Great concept for creative lighting but lacking studio grunt

RATING

7/10