

6 Tips for Near-Macro Photography with a Telephoto Lens

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Macro photography is the art of capturing the fine detail of very small subjects that may not be able to be seen by the naked eye. Technically, to fall under the term 'macro', the subject should be captured with a reproduction ratio of 1:1, i.e. the subject will be captured on the sensor at 100 % life size.

Macro lenses are specially designed to minimise the focussing distance, allowing the photographer to get closer to the subject and so increase the reproduction ratio. There are a number of other techniques that can be used to help achieve the desired magnification without a dedicated lens (extension tubes, close-up filters, reversing rings), however, one of less often considered techniques is to use something that you probably already have in your kit bag: a telephoto lens.



Milking Bonnet Fungi (*Mycena galopus*)

Telephoto lenses offer extreme magnification but generally have much larger minimum focussing distances pushing the photographer further from the subject and so reducing the reproduction ratio. Some telephoto lenses, when combined with camera systems utilising smaller sensors, are able to offer 1:1 magnification ('true macro') however, typically, telephoto lenses are limited to close-up photography, at near-macro reproduction ratios.

Using a telephoto lens for this kind of work offers a couple of advantages over a dedicated macro lens that are a direct result of the large minimum focus distance. Because the working distance to the subject is in the region of 1 metre (compared to 15 – 30 cm of standard macro lenses) the risk of disturbing your subject as you compose your shot is much reduced. Also, given the extra distance between the camera and the subject, you are much less likely to cast a shadow over your subject and have a lot of freedom with the lighting you can employ to light the subject – both natural and flash.



Common Blue butterflies, mating (*Polyommatus icarus*)

Using a telephoto lens for such precise work is not without challenge, so here are a few tips to help maximise your chances of getting that near-macro shot, with your telephoto lens:

1. Due to the extreme focal length, the risk of reduced sharpness due to camera shake is higher. Therefore, it is imperative to use a tripod and remote shutter release to try and limit lens/camera movement.
2. Even on a tripod, images can still suffer from camera shake. Try and use a tripod collar for your telephoto lens, so that the lens is clamped directly to the tripod, reducing the chances of 'lens wobble'. If not, use the '1/focal length' shutter speed rule to help capture sharp images (I always use 1/effective focal length (i.e. multiply your focal length by sensor crop factor to give the focal length in 35 mm terms) when selecting a shutter speed to reduce movement).

3. Be aware of the depth of field. Using extreme focal lengths at such close distances can reduce the depth of field to fractions of a millimetre. Therefore, to ensure the subject is sharp throughout, use a small enough aperture to ensure the depth of field extends across your whole subject (there are websites and apps to help you do this).
4. Ensure your subject is parallel to the sensor. If you want to capture your subject in focus from front to back, ensure that it is parallel to your sensor. The depth of field will be so narrow at the extreme focal lengths that you may not have more than a few millimetres to play with. Therefore, position yourself accordingly to maximise your chances of capturing a sharp image.
5. Switch the lens to manual focus. If your telephoto lens has an AF/MF switch, switch it to manual focus and compose/focus the shot manually. You may find that when focussing manually, the minimum focussing distance decreases meaning that you can get closer to your subject, increasing the magnification.
6. Use a teleconverter to increase the focal length, but retain same minimum focussing distance. This will allow you to significantly increase the magnification of the subject, without having to move any further away. Increasing the focal length in this way will have consequences on your choice of shutter speed and aperture, but as long as it is taken into consideration, a teleconverter can successfully be used to increase the reproduction ratio.



Common Blue Damselfly (*Enallagma cyathigerum*)

Using a telephoto lens for near-macro photography will typically not allow you to magnify your subject as far as if using a dedicated macro lens, but you will be able to test the water to see if macro photography is something you enjoy, without having to splash out on any additional kit. If you do decide that macro photography is for you, by putting this technique to practise you will learn a lot of good field craft that will be of benefit when you get around to picking up that new macro lens.