

Challenges of Close up, Macro & Micro Photography

2nd July 2019

Challenges

Focus

Depth of focus

Lighting

Subject movement

Partial Solutions

Lens + modifiers + other aids

Macro lens

Focus

Focusing needs greater precision

Which parts should be pin sharp?

Which can be out of focus but must be recognisable?

Which parts are not important?

Autofocus may work but may not have the precision necessary to meet the photographers needs .

It is easier to **move the camera** to refocus than use the autofocus or manual focussing ring.

The subject may move: it is easier to **move the camera** than the subject.

Blow up the image on the camera screen to check focus.

Prepare to use **focus stacking** (Peter's presentation after this).

Depth of Focus

The closer the subject is to the camera the less of the image is in focus for any given aperture.

For close up and macro work the position of the front of the camera lens is very close to the subject and it is necessary to work with very small apertures (high f no.'s).

With the lens and camera so close to the subject there is a danger that light falling on the subject will be restricted by the camera and photographer. The built in or hot-shoe flash will probably illuminate the area above the subject, not the whole subject itself.

For the best picture definition with a small aperture we need a high shutter speed and low ISO for objects that move.

We have a 'Perfect Storm' situation

Lighting

With the lens and camera so close to the subject there is a danger that light falling on the subject will be restricted.

The built in or hot-shoe flash will probably illuminate the area above the subject, but not the whole subject itself.

Reflectors can be used to redirect bright natural light onto the subject.

Or a **ring flash** can be used as a primary or fill light.

Subject Movement

Keeping in mind that many subjects will exhibit movement because they are creatures or influenced by the wind there may be a requirement to use some means of reducing the subject's movement. This can vary from *wind breaks* to a *vivarium* to *iced air* to *support sticks*.

If the photographer is moving the creatures may be spooked and the opportunity lost so consider a **remote release** with the camera on a tripod.

Study where the creature is likely to go, use a link to a laptop to watch remotely what is happening and a remote release.

Lens + modifiers + other aids

	Cost Range
- Close up lenses (multiple strengths)	£15 - £30
- Reversal ring	£4 - £34
- Coupling rings, two lenses combined, one reversed	£3 - £24
- Extension tubes with and without electronic coupling	£10 - £50
- Bellows	£16 - £75
- Macro Lens	£200 - £1000+
- Macro lens plus	
- Sliding platform	£15 - £300+
- Ring Flash	£24 - £700
- plant sticks	
- Pegs and crocodile clips	
- Small reflectors	
- Remote shutter release	£14 - £50
- Tripod	

Macro Lens

A Macro lens is a **Prime specialist lens** that is designed to provide a distortion free image at very close focussing distances. 'Normal' lenses will have curvature distortion at the edges when used for close ups. Not critical, but worth being aware of.

The Macro is also used by professionals for product shots and portraits.

Technically the Macro lens has a large aperture and a very small aperture. Typically f2.8 thro to f32 or f64.

BUT the problem of exposure and depth of field remains.

So, over to Peter for **Focus Stacking**