U3A
DIGITAL PHOTOGRAPHY
GROUP 2

MACRO PHOTOGRAPHY

HOW DID I GET INTO THIS?

A friend invited me to go to a Moth trapping event in Claxton Village Hall organized by the South Yare Wildlife Group.

“But I don’t like moths!”, said I.

I went anyway: I found a village hall with several people bringing in boxes covered with a sheet, and they proceeded to delve into the egg crates within. Amongst the crates were moths, that were skilfully moved into plastic pots and conveyed into the Experts sat at tables. The experts consulted books and identified the moths one by one as the public came and went. Eventually all were ID’ed and it was time to release them or send them back from where they had come. My Partner, a retired teacher never wanting to let a chance to teach pass, captured two young children who were given the opportunity to take a very pink moth onto their fingers. The moth happily crawled onto the girl’s finger and allowed itself to be admired. She then passed it onto her brother’s finger whist I watched on, awaiting my turn. I held out my hand ---- Oh No! It flew away. Undaunted my partner produced a second identical moth.

It took to my finger !

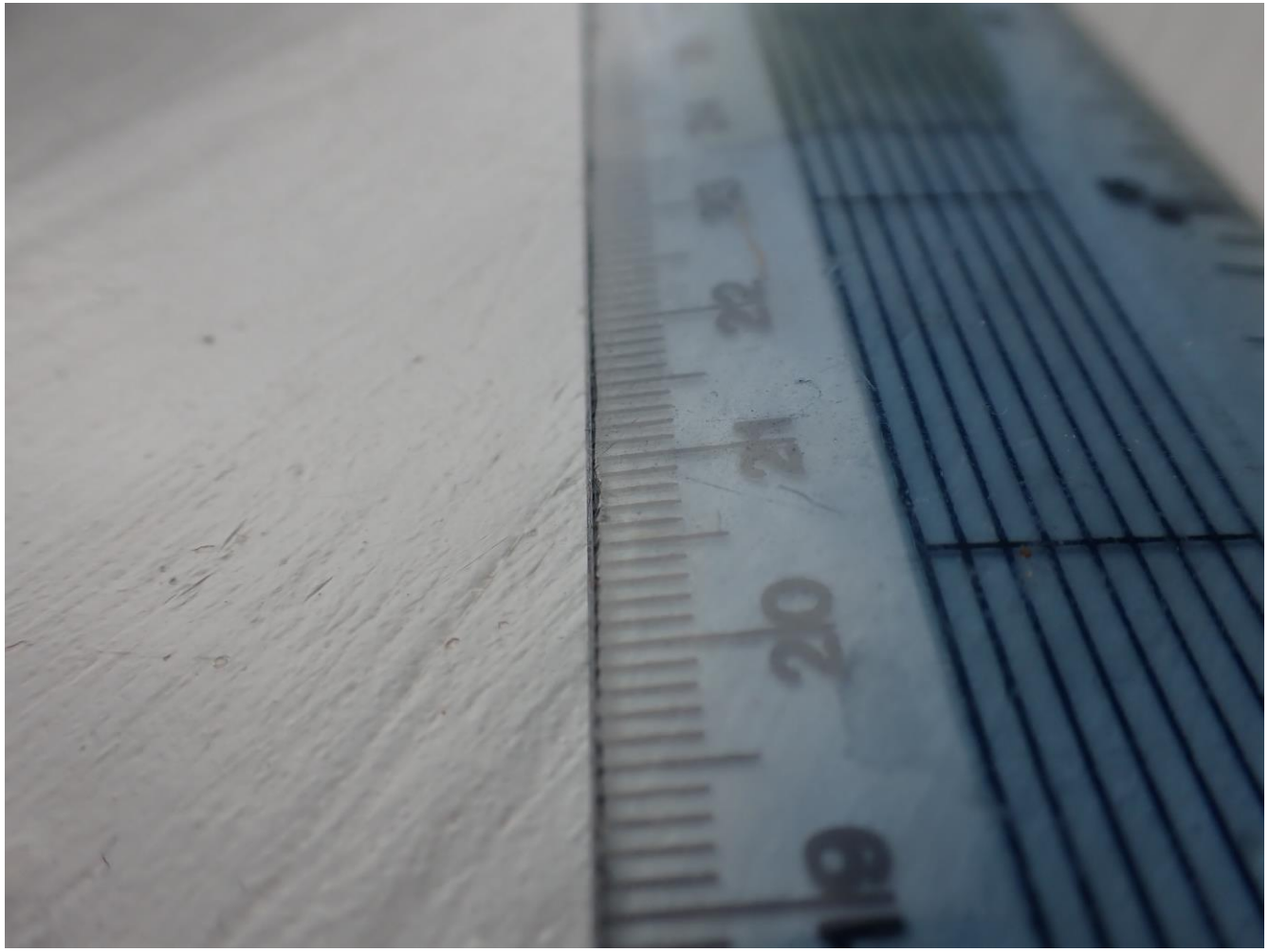
An ELEPHANT HAWK - MOTH

A NEW HOBBY
MOTH TRAPPING

I was smitten. I needed a new hobby and a shared interest with my partner. We built a trap and started catching moths, taking their pictures so we could try to identify them from a selection of books
I had problems trying to take good pictures with focusing close up and with depth of field issues when trying to fill an image with a moth the size of a little fingernail.
I needed to move in close.

LIMITED DEPTH OF FIELD

This image taken with the camera resting on the ruler and focused on 21



1/400 Second at f 3.2 ISO 100

Three main things determine how sharp our images are when we take a picture.

1- Focus

When take a picture we generally, we focus on the subject of the picture e.g. the face of the person. This point will be in focus but other parts of the subject, closer or more distant will be out of focus to some extent.

See the previous image

2- Exposure

The exposure of the image is a combination of the speed of the shutter, f stop or the size of the aperture and the sensitivity of the film or detector. (ISO)
Generally, the smaller the aperture (The higher the f stop) the greater the depth of field or the extent of the subject that will be in focus This distance is called the depth of field

3 - Distance from the subject

If the subject is a landscape on a bright sunny day the camera could focus on infinity, the far distance, the aperture could be f 22 and the speed 1/200. In this case most of the subject will be in focus from the distant mountain to Granny sitting on the bench nearby.

If we want to take a picture of Granny sitting inside the cottage by the fireside, then the exposure will become more difficult – say f3.2 speed 1/30 . We will need to focus on Granny's nose and here we may find the picture on the wall behind her is out of focus and the garden outside the window is just a blur. The depth of field in these two cases is very different.

The focal length of the lens also has an effect. telephoto lens of say 600mm will be have a shallow depth of field whereas a 50mm lens will have greater depth of field.

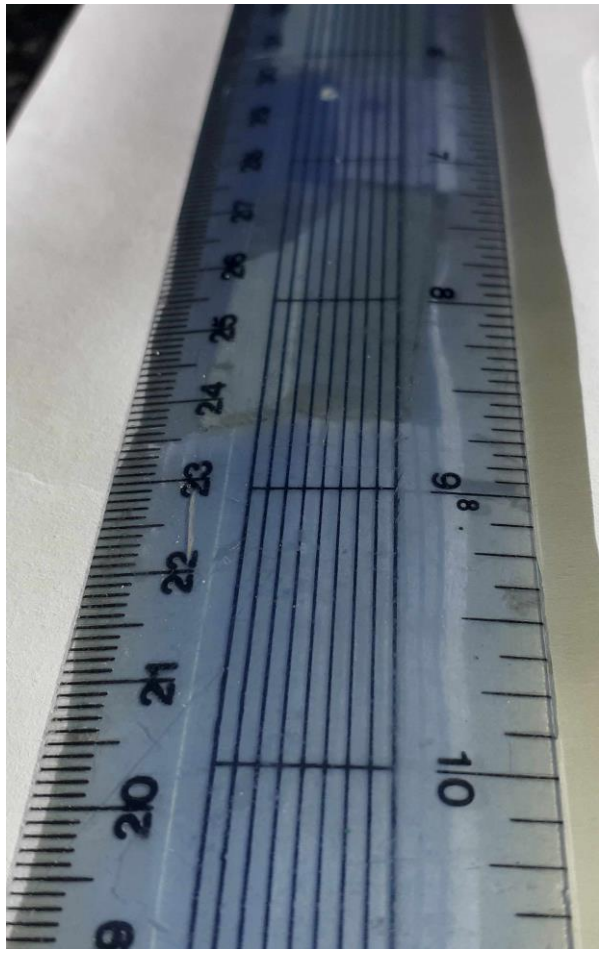
All This I knew but I wanted to photograph moths - Up close

I DID IT MY WAY

There are several options for taking Macro Photographs

My Canon SLR had interchangeable lenses. Had I not upgraded I could have used extension tubes which sit between a lens and the camera body allowing it to focus very close. No good to me I had a fixed lens mirrorless Camera. That also had limitations on focusing close.

I could use the Micro Setting on my mobile phone but being a Luddite, I felt it didn't fill my photographic needs!



Auto f1.9 1/1761 sec ISO 40
A surprisingly good image

At this point I had joined Suffolk Moths who collect data on moths across the County. Having attended a meeting, I was recommended to the Olympus Tough 6
It does Focus Bracketing
&
Focus Stacking

Other Cameras do the same Job

FOCUS STACKING

Focus stacking is a process where the camera automatically takes a series of images in rapid succession with each image focused at a very slightly different place. I have mine set at 30 images. The images are then stacked in a PC with the sharp part of each image stacked on the sharp part of the previous image.
Part of the processing aligns each image with the one before so even with a handheld camera any movement is removed

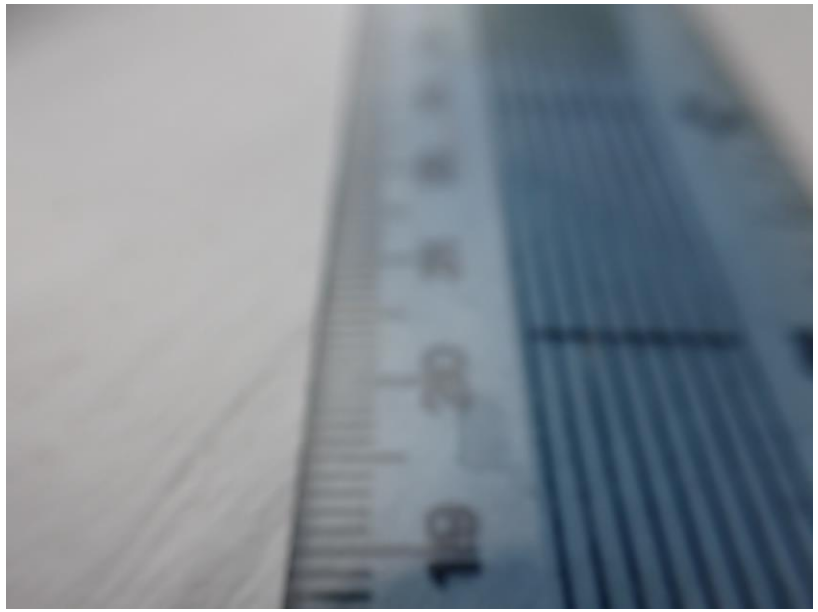
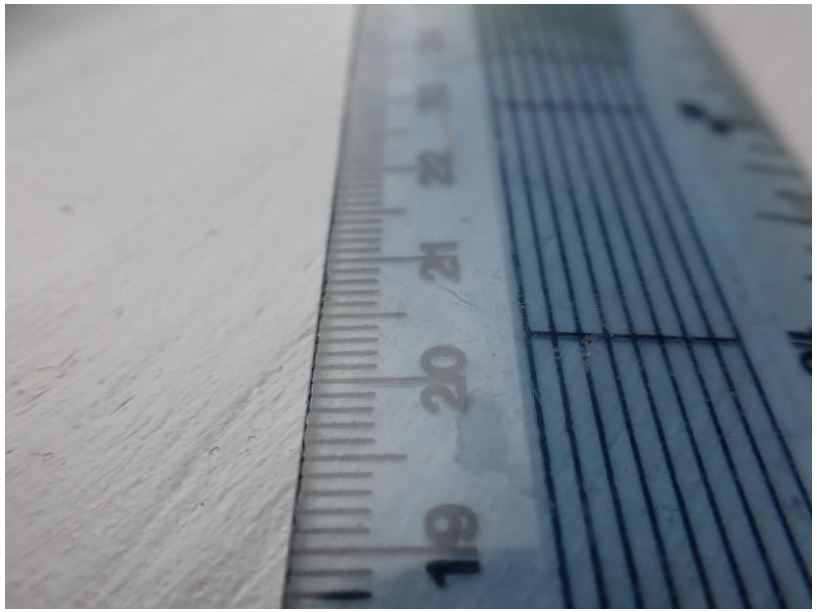


image 2



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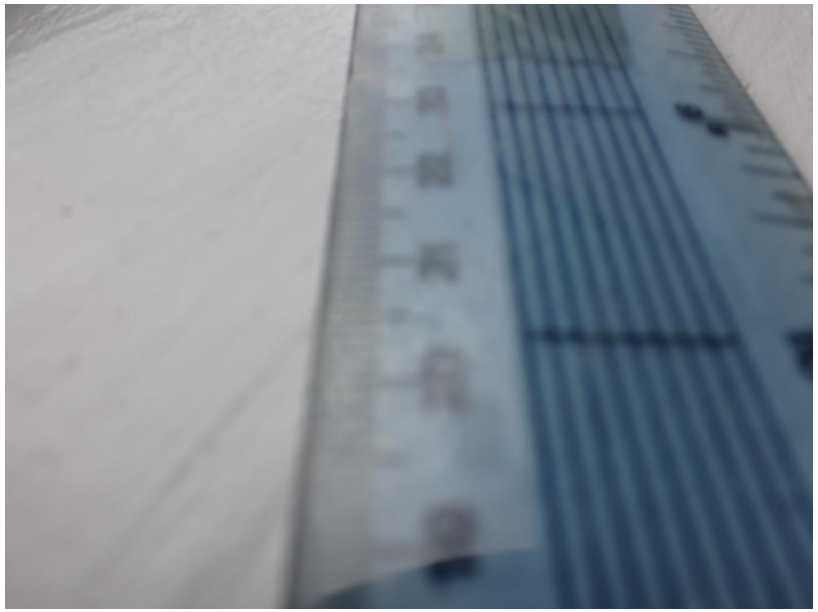

image 29

THE COMPOSITE IMAGE

FOCUS BRACKETING

Focus Bracketing is the same process except in the Olympus Tough 6 the stacking of the images is done in the camera.

When the stacking is done in the PC it is possible to leave out any image where the subject decides to walk. Troublesome moths have been known to spend time in the fridge!

OLD LADY

BOX TREE MOTH