

A GUIDE TO MANUAL FOCUS STACKING

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TIPS &
TRICKS

7

Wow, the DOF!

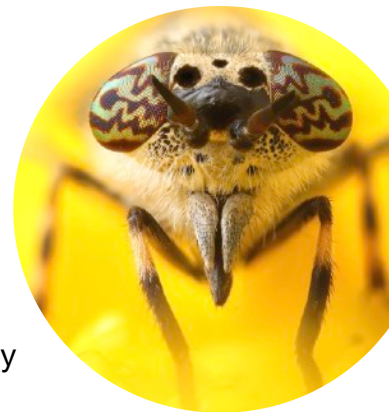
Have you ever been curious about how macro photographers are able to capture stunning photos with an incredible depth of field and sharp details? Well, the truth is, it's not just a single shot. Instead, it's a combination of multiple shots with varying focus points that are **stitched together** to produce the final image. By using a macro rail, you can carefully control the camera's movements and slowly inch closer to your subject, all while avoiding any unwanted vibrations.

But what if you're out and about and **don't have a macro rail** at your disposal? This is where things can get a bit tricky, especially when you're dealing with **live subjects in the field**. Since a lot of extreme macro lenses require manual focus, capturing the perfect shot can take a lot of patience and skill. However, with the right mindset and a few helpful tips, you can still achieve great results. Here are **seven tips** to help you get started.

1 The Basics

To put it simply, you will be taking several photos of the same scene, with the only difference being **the focal plane**. In the example on the right, the first shot focused on the tip of the antennae. Without changing the angle, the next shots captured the other parts of the antennae, followed by the jaws and part of the eyes, another layer of the eyes, and finally the hairs on the back of the head. This resulted in a stack of ten shots, with each layer in focus from front to back, achieved by **moving slowly and steadily**. If you are photographing a flower or a very cooperative subject, you can always move back and start

again from the front in case you miss any layers.



I'm a stack of 10 shots!

Start with me, a flower!



2 Start Easy

Yes, there are some stack masters who will merge 100 handheld shots of live insects to perfection. That is totally awesome and it looks fantastic, but don't expect you can manage this on your **first few tries**. It takes a tremendous amount of practise, a steady hand and advanced editing skills. So **start easy**. Go for a stack of 3 - 5 shots. Or maybe 2. You can even start out with a coin or a **flower**, just to see what happens when you stack the photos. Get an idea of the process. Get a feel of how to move closer.

I was sitting very still... so a stack of 42 shots was possible!



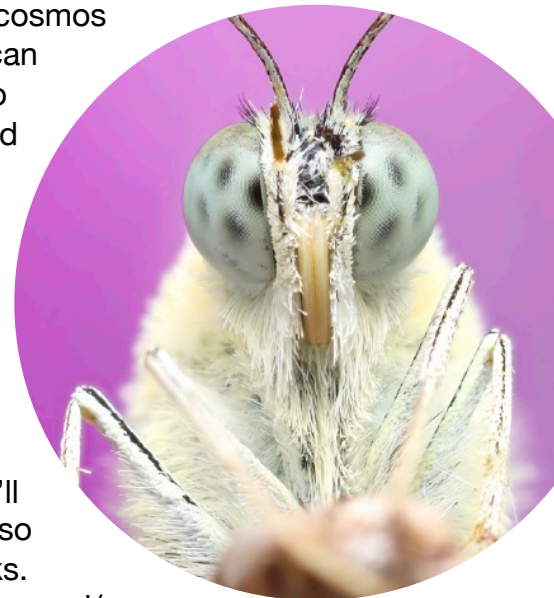
3 Move Slow and Steady

As mentioned, once you're shooting your stack, you don't change anything but the focal plane. This is important, because if you don't, your stack will be **messed up**, often beyond repair. For the settings it's not that much of an issue (just don't touch the buttons), but the angle is a bit more tricky. Remember, we're talking about in the field manual focus stacking. **No focus bracketing or any automatic functions.** There are basically two options. Either you **move the camera/ yourself** closer, or you **move your insect friend closer** to the camera. I use both methods, but prefer the latter if it's possible.

The hover fly in the photo above was sitting in a cosmos which I could **gently move** closer to me. The upside is that I can keep my camera and myself **still and stable**, and only need to move the flower. This needs to happen **very very carefully** and ever so slightly, talking millimetre here. But I prefer it, because it gives me a little more creative freedom in terms framing the subject. Plus just moving my hand is **less prone to errors** than moving the entire camera.

4 Timing is everything

This is true for insect photography in general, but even more so for stacking opportunities: the **time of day** you're shooting **is essential**. In the early (colder) morning you'll have a much higher chance of finding insects that are not yet so active. Thus you'll have a **higher success rate** for good stacks. Butterflies, for instance, are very active during the day. Foraging and/or finding a mate. In the morning, however, they are **sleepyheads**, and quite easy to photograph. The same goes for the evening. When temperatures drop, the critters become less active. I prefer mornings, but I've also had some fun in night shoots.



It's best to photograph me during the early hours!

5 Editing

So once you get the hang of clicking photos for a stack, you'll need a way to process them. Merge them into one. I use **Affinity Photo**, but you can also use programs like Helicon, Zerene Stacker or Photoshop. The feature is called **focus merging** in Affinity Photo, and I just add all the shots I made for the stack and start the process. If I did it right... the stack will come out very clean and perfect. But... if I changed the angle by accident or the bug moved during the process, the stacked shot might look like a complete mess. Don't worry when this happens, you can save more than you might think.



I was moving around quite a bit during the focus stacking... but some editing saved the shot!

Tools I frequently use to brush up the stack are the stamp tool and the **inpainting brush tool**. With the **stamp tool** I can decide which of part the layers I want to have on top in the final result. It can also get rid of haloing and missed layers. And with the inpainting brush tool I can touch up the parts that look blurry or out of place.

6 To Stack or Not to Stack

Not every successful stack is immediately a good photo. Before starting the whole editing process, ask yourself if you're happy with composition, the photo as a whole. And in my opinion, a stack **doesn't necessarily make a photo better**. A single shot can be just as stunning.

I'm a single shot, how you like that?

7 Have Patience

It's very easy to get frustrated when it turns out you don't have a steady hand, or the subject keeps moving around. But remember to **be patient!** There is a huge learning curve for good stacks. And that goes for being in the field as well as the editing process. So often I was ready to just give up. Blame my camera, myself, the program, the bug... it didn't matter. Take a breather, start over, try again!

If you're still a bit lost on this whole focus stacking thing... don't worry, I got you! I offer a **variety of workshops** and **private coaching on [my website](#)** and I'd be more than happy to coach you in this fascinating world of macro!

