Capturing Dragons

Creative Dragonfly photography

By

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Do you want to Capture a Dragon?

Do you want quality saleable images of some of natures most spectacular and wonderful creations, the macro-miracles of evolution that have that have been around in one form or another since the time of the dinosaurs?

If so read on!

Dragonflies have a staggering amount of fine detail, from the massive, exquisitely coloured, compound eyes (which are the obvious main point of camera focus) and which within themselves contain thousands of individual lenses, to the amazing mouth structure and the long facial 'hairs' each of which sit in their own 'pit'.

Alternatively if you adopt a 'top-down' view you will bring into focus the phenomenal structure of the neck joint along with the wing roots, the upper thorax detail and, if in your plane of focus, the wings with there complex ribs and spars.

The detailed complexity of natures engineering abounds everywhere, all of which, as a wildlife photographer, you can capture and subsequently present to a spellbound audience. This is what this article will teach you - how to capture a Dragon!



But it's not quite as simple as you might think – I do wish it was!

Yes, we can run down to our nearest retailer to buy the best macro lens on the planet and while we are there we can also spend a not inconsiderable amount on the highest resolution camera body upon which to mount this awesomely sharp lump of glass.

But so many times I get emails and phone calls from disappointed photographers of all levels of ability, and all with the same set of problems.

The two main problems that arise more often than not both stem from the same criterion – that of depth of field, or as I shall refer to it from hereon in, DoF.

When it comes to macro photography some people don't consider DoF until it's too late – they've found a subject as rare as hens teeth, photographed it and then felt thoroughly gutted at their failure to be impressed by their own images.

Others meanwhile pursue maximum DoF in a very direct and factual manner, and they do indeed succeed in achieving the level of subject sharpness they thought they wanted only to be disappointed still. When they took the image the subject was sitting perched in splendid isolation, and yet in the final image the subject is either lost against a tangled background of vegetation, or something as equally distracting.

If a subject looks good in the viewfinder that's no guarantee of a good final image – and that's why God gave us DoF preview buttons on our cameras!

I never cease to be amazed at just how many people there are who think they know their cameras inside out, and yet they don't use this valuable facility that the camera manufacturers give us, or worse still, don't even know they have the facility in the first place!

Anyway this brings me quite nicely around to talking kit – not that I'm a 'gear-head' by any means, but if you want to produce stunning images then you need to start with equipment that at least stands a chance of putting you in the ball park.

The singularly most important item of kit for producing sharp images is, believe it or not, a sharp lens. The major lens manufacturers all produce sharp lenses, and most of them produce not-so-sharp alternatives at a lower price. These lenses just will not do and I do so wish the manufacturers would stop making them, and that 'amateur' photographers would stop buying them; they are a false economy and bring their purchasers nothing but misery and, in the end, regret for buying them coupled with a burning envy of anyone who went the extra mile, spent the extra money and came away with a sound investment that will deliver years of top quality service.

My personal choice of lens for all my macro work is a 180mm macro lens which I usually use as-is, but very occasionally in conjunction with extension tubes.

Camera-wise I use a Nikon D2Xs out of preference to my other bodies – and it's the body I will continue to use quite happily until someone shows me something better for this kind of work. Even so, there are plenty of much cheaper camera bodies that do the job more than admirably – just as long as they provide TWO facilities; DoF preview and mirror-up shooting.

On the support front I use a Gitzo 1548, but lately I've invested in something I had a fleeting relationship with years ago when they first appeared – the paralysed spider-crab which goes under the name of Benbo! As yet I've got to settle into it and am not using it all the time, but it is very quick and easy to set up and it does get you on the subject a bit quicker than a more conventional pod.

The head I use for macro is just a simple Manfrotto 488RC4 – solid as a rock, very unfiddly, very reliable, and cheap – just up my street!

Finally the last essential piece of kit is a cable or remote release -I use an MC36 but without the batteries as I can't be doing with all that ludicrous garbage on the LCD, so anything will do as long as when you press the button the camera takes a shot.

I frequently get asked for details of the flash techniques I use in my macro photography, and in a lot of cases the reply causes some consternation to say the least. The short answer is that I don't use any, much preferring to use available light.

My favourite shooting conditions are a light to medium overcast which gives a beautifully soft and even lighting with the great added benefit of being relatively shadowless.

I always carry a couple of small reflectors in my kit, as well as a small diffuser panel should the sun poke its head out from behind the clouds.

Now if you remember, I did say that your camera needs to have a 'mirror-up' shooting capability. This is vital if you are shooting as I do with available light as the shutter speeds I use are all within the $1/20^{\text{th}}$ to 1/3 of a second. At these low speeds it is imperative that the camera has sufficient time to settle from the vibrations from the tripped mirror before the shutter is activated.

Nikon cameras have a mode called 'M-up' which drops the camera back to single frame operation and lifts the mirror; shutter activation requires a further button press on the cable release – this is the way I work on all my macro subjects. There is a shutter delay facility buried in the menus somewhere, which would allow me to keep the camera in a continuous shooting mode instead of single frame; but I've found that after 3 or 4 shots even at maximum delay, there is a cumulative build-up of residual vibration that can kill the next few frames, so I refrain from using it and adopt the simple

method! Personally I keep my eye to the viewfinder all the time I'm shooting, and when I'm waiting for the breeze to calm down – that vital moment of stillness might be so fleeting that I would notice it should my eye not be at the ready to see it.

But if you do prefer to try some shots with your eye away from the viewfinder then make sure that you activate the eyepiece blind, or cover the eyepiece with something as light entering the eyepiece can well fool your meter if you are using any form of auto exposure.

And before you ask, yes I do - OFTEN!

I find Nikons aperture priority semi-auto and dynamic metering does a superb job under these circumstances, it's easy to add EV compensation to if needed and it frees my aged and limited mental capacity to concentrate more of its feeble efforts on the important things like background, composition, focus and "where did I put that last Mars Bar"! Nothing 'irks' me more than so-called photographers who insist on telling everyone that manual exposure is the only truly professional way to work – it used to be the only RELIABLE way to work, but things have moved on a-pace since the days of wet collodion!

Find me a pro-wildlife photographer today who doesn't use some sort of auto exposure control as a working base.

Right, that's the equipment covered for the most part, so what I'd like to do now is get down to some 'nitty gritty' image talk and DoF in particular.

Now to me DoF is a sort of two-headed monster where too much is just as bad as not enough.

Firstly we need to define exactly what it is that we are talking about here; yes, some of you will think it unnecessary but we'll do it anyway.

DoF, depth of field can be simply defined as the portion of a two-dimensional image of a three-dimensional scene that APPEARS to be in focus.

Now, even though the lens is focussed on a particular finite plane within the subject, areas both behind and in front of the subject appear to be as sharply focussed as the plane of focus itself. So what we have in effect is a near-focus and a far-focus limit with the true plane of focus lying in the middle.

As we vary the size of lens aperture then these two limits move either closer together or further apart, whilst the true plane of focus stays exactly where we put it when we initially focussed on the subject.

The wider the aperture we use then the closer these limits move towards each other and the true plane of focus, and conversely, the smaller the aperture we use the further these near and far focus limits move apart.

So in effect, what we have is a 'box' that varies in depth along the axis of the lens, relative to the aperture we use, and anything inside the 'box' will appear perceptually sharp and in focus.

If you've followed me so far then you are doing well – but wait, there's more to consider.

Just for clarity let's agree that our three planes of focus, near, true and far all lie perpendicular to our lens axis; that the linear distance between the near and true planes is the same as the linear distance between the true and far planes; and that the linear distance between the near and far planes defines our total depth of field.



Agreed? Goodoh.....!

However, as I said before, there is more to consider – for a start, reality is more like this, where it's plain to see that parts of the subject fall outside the near and far limits of our 'DoF box'.



Secondly, the depth of our box varies not just with aperture, but also with subject distance; the further from the subject the lens is then the greater the DoF for any given f-number, which is all well and good but somewhat irrelevant; and conversely, the closer the lens is to the subject the less DoF we will have at the same aperture – which is HIGHLY relevant!

Thirdly, while all the DoF 'malarkey' is going on around the subject, we can well be losing sight of the equally critical image background – overlook this at your peril!

A nice smooth 'studio-style' background, as already hinted at, helps to concentrate the viewer's attention on the subject and all its glorious detail.

If the background is too close to the subject then maximising DoF at that point or plane will lead to increased background detail. It could still be hugely out of focus, but its many tonal and brightness changes will become more and more apparent as we stop the aperture down – something to avoid at all costs if you wish your subject to be isolated and indeed for the image to look as it does in the viewfinder. Don't forget, you are usually viewing your subject at maximum aperture, or wide open as it's commonly referred to.

So, how do you achieve that good wide open background once you are shooting?

Well I have a simple rule, whatever the f-number you are using then that number multiplied by your subject distance will give you an appropriate subject to background distance.

Using this little formula you'll at least be on the way to achieving those studio-style backdrops to your images.

You do however still have to choose your backgrounds with care, overall colour and tonality matter greatly, but at least this method of calculation will help you pick your subjects and camera positions with a bit more accuracy.

BUT - your problems don't stop there either!

Digital SLRs all suffer from a phenomenon known as 'diffraction limitation' whereby once you pass a certain f-number your images begin to get 'soft' all over. This is due to the construction of the Bayer-type sensor commonly used in DSLRs – but not something to be gone into in any detail here except to say that the effect is real.

On my own D2Xs I get razor-like sharpness at f11 – but even one third of a stop beyond that, it begins to show small amounts of blurring. A very good friend and colleague of mine uses a 40D Canon body and can quite happily shoot away all day at f16!

But don't think it makes a huge difference as at a subject distance of 30 inches using a 180mm lens, the Canon at f16 will yield 0.33" DoF and the Nikon at f11 will give me 0.24" DoF. To my mind, 9/100ths of an inch isn't worth changing systems for!

You can now perhaps begin to see that for me, the background is equally as important as the subject, and I make constant use of my cameras depth of field preview button to very carefully check that my background is going to be just the way I want it.



The background in this side-on view of a Black-tailed Skimmer is not quite to my liking as there is a little too much definition in the darker areas, and is just one example of how things can go wrong with the background if great care is not taken before the shutter is activated.

I had already done some tighter head shots of this dragon and the background is more than acceptable on them, but because I had pulled away to just over 5 feet to take this

particular image of the whole beast I omitted to open the aperture a stop or so. Because the increased subject distance here is now a greater proportion of the subject to background distance the f10 aperture I was using on the much tighter shot is now bringing too much DoF to bare on the background.

I took this shot in a hurry to be honest, as I could tell this Black-tail was getting fed-up with me 'big time' and would be gone within seconds – ten frames later he was; I had realised my error but didn't have the chance to correct it.



Here is another image which has been something of a let down, this time due to my miscalculation.

I was trying to portray the way in which Black-tailed Skimmers settle on a perch and then 'hunker down' slightly as if trying to 'hide in plain sight' – and I was very pleased with the way it turned out from that respect. I know some would say that the face hidden by the petal is a fault but for me it's the whole point of the image.

The background is flawless – it's actually a bed of nettles about 5 feet behind the subject – but the error is in the foreground. I think that it's imperative there be some focus fall-off in the foreground if the subject is facing out towards the viewer, but in this case the composition is let down by too much focus fall-off on the upper orchid flower head. At the time I took the image I was convinced that there would be slightly more sharpness to that individual bloom but as it is, it's slightly over-powering.

Perhaps if I'd have tilted the frame over so that it was more parallel to the main stem of the orchid and if I'd moved slightly left to incorporate a little less of it then the problem would be negated somewhat, and the composition may be improved slightly because the line of the subjects wings would be more parallel with the frame diagonal – we all live and learn!





And so to recap:

We need to ensure that our sensor plane is as parallel to our main subject plane as possible in order to maximise our depth of field for the given aperture we are using and that everything we want sharp is inside our DoF box.

We need to ensure that we are critically focussed.

We need to check our background using our depth of field preview button.

If we need to move in order to change our composition, then re-focus and check that background again – and then check it again.

And lastly, as I said at the beginning, I thank God for digital. I love spending money, but only when I have an awful lot more than I'm parting with, which sadly is seldom the case! If I was shooting film then I just cannot comprehend what my weekly lab bill would be, but with digital, frames cost nothing – so take as many frames as you can because even on a calm day there are air currents that cause small amounts of movement that at these subject distances can wreak havoc with your image.

Then, when you KNOW you have your shot 'in the can' – shoot some more frames!



As a final parting shot I'll leave you with this thought on how many frames to shoot.

The image of the Common Darter on the Rosebay Willow herb and the buff background was actually exposed 129 times, each time at $1/8^{th}$ of a second at f11.

Out of those 129 images only 4 are what I class as fully usable, the rest are all flawed with tiny movements due to air currents or the subject wiping an eye or committing some other equally sinful and uncooperative act.

So THAT is why I thank God for digital – frames cost nothing – so use them.