

How to photograph dragonflies

Emerging from early to late summer, these amazing aerial predators are ferocious hunters and incredibly agile fliers – and fascinating creatures to observe. Andrew McCarthy shares the fieldcraft and techniques you'll need to tame these apex insects

Dragonflies are synonymous with summer and are one of my absolute favourite photographic subjects. While I enjoy watching and photographing their smaller relatives, damselflies, it is the larger, faster, more aggressive dragonflies that inspire me and so an hour or two spent watching and photographing their spectacular aerial displays is one of the great pleasures of summer. Like any fast-flying insect, dragonflies can be challenging to photograph, so what can the budding

dragonfly photographer do to improve their chances of coming away with decent shots? Thankfully, there are a few simple (and some not-so-simple) techniques that will increase your keeper rate.

Below Close up and personal with a southern hawkler. Despite using a reasonably small aperture, careful choice of viewpoint resulted in good background control.
Olympus OM-1 with 150-400mm f/4.5 lens, ISO 800, 1/200sec at f/8

ECOLOGY

Dragonflies are a member of the Odonata order of insects. Along with damselflies, they have an aquatic larval stage that can last for several years until a remarkable transformation takes place and the winged adult emerges. Once on the wing, a dragonfly might spend a week or more away from water, feeding and developing its flight muscles (at which time they often perch and allow the photographer to approach), before returning to ponds and rivers to hold territory, mate, feed and lay eggs.



HABITAT

Each type of dragonfly has its preferred habitat – scarce chasers frequent slow lowland rivers, while the related broad-bodied chaser is a common insect of garden ponds. Acidic pools on moors and heaths support specialists such as the black darter and the stunning golden-ringed dragonfly, which inhabits narrow streams. Behaviour differs significantly between species – female hawkers tend to settle on floating pond leaves before inserting their abdomens in the water to lay eggs into submerged plant stems, while female darters and chasers fly close to the water surface before briefly dipping their abdomens into the water to lay their eggs.

Right Male common darter perching on a cobble 'beach' on the edge of my garden pond.
Sony A7R IV with 100-400mm f/4.5-5.6 lens, ISO 1000, 1/3200sec at f/7.1



FIELD CRAFT

Dragonflies can be difficult to find at rest, so explore suitable habitat carefully, paying particular attention to marginal vegetation at all heights, including bushes and low trees. Cool early mornings can be productive, especially late in the season when dew on a resting dragonfly can enhance an already stunning subject. Keep an eye out too for emerging insects – these will be stationary, allowing time for a precise set up.

On warm days, some species (such as the broad-bodied chaser) will repeatedly perch on plant stems and also hover between bouts of fast flight to chase off competitors. Such characteristics make them a good starting point for the would-be dragonfly photographer. Black-tailed skimmers and darters also often perch obligingly – often on the same patch of bare ground. By contrast, hairy dragonflies perch infrequently and rarely pause while flying, making their photography more challenging.

Whichever species you are after, research and watch carefully in the field before you decide how to photograph them. Once you have located a resting insect, think about the best way to photograph it before you approach. A good general rule is to move very slowly and stay low, keeping cover behind you – dragonflies have amazing visual acuity and fast movements will disturb them. Be patient too – dragonflies can use several territories and even though a patrolling male or laying female may appear to have left the area, they will often return if you sit and wait.

Right Male common darter landing.
Olympus OM-1 with 150-400mm f/4.5 lens, ISO 6400, 1/12800sec at f/7.1, tripod





EQUIPMENT

These days, I use a super-telephoto, as this allows me to stay well back to minimise disturbance. I currently shoot with OM System equipment, whose longer Pro lenses (I use the 150-400mm f/4.5) are light and readily hand-holdable, with up to 7.5 stops of image stabilisation as well as excellent close-focus capability. I also carry a lightweight monopod fitted with a Wimberley MH-100 mono-gimbal head (to allow for easy rotational movement) if I need to sit and wait. This avoids the annoying mid-set-up flopping over of camera/lens, which often happens when using an incorrectly adjusted ball head.

Left Side view of a spectacular male emperor dragonfly landing.

Olympus OM-1 with 150-400mm f/4.5 lens, ISO 6400, 1/12800sec at f/7.1, tripod

DRAGONFLIES AT REST

I use autofocus initially, with manual override as needed. I aim to get a small AF group over the back or side of the insect's thorax (depending on shooting orientation) first, and then refine manually by incrementally rotating the lens barrel and using focus peaking to check which parts of the insect are in focus. Focus peaking is incredibly helpful, since it enables focusing to be minutely refined to bring all critical parts of the insect visually into focus prior to pressing the shutter button.

I generally shoot the first few images with the plane of focus parallel with the insect's body or wings (depending on whether I'm

shooting from the back or side) and use an aperture between f/5.6 and f/8 on my micro four-thirds camera (f/11 to f/16 on a full-frame sensor) as a starting point. At this early stage, I want to render key details of the insect (eyes, thorax and abdomen if shooting from the side, or including the wings if shooting from above) tack sharp, but with a nicely controlled background so the insect stands out. I avoid very small apertures since this can result in a cluttered background, and because it can cause image softening through lens diffraction.

Once I have a few record shots, and if the insect is obliging, I may get more creative by

using a wide aperture with a shallow depth of field, or use in-camera focus stacking to shoot a sequence of images to work on later in post-processing (although my OM-1 will assemble a stack in camera if needed). Whichever stacking method I choose, the advantage with this approach is that I can use a wide aperture to control background but still get the insect fully in focus.

Below Backlit female broad-bodied chaser taken through a gap in nearby vegetation.

Olympus E-M1X with 300mm f/4 lens, ISO 640, 1/800sec at f/8



EMERGING DRAGONFLIES

If you are lucky enough to find an emerging dragonfly, think carefully about how you will photograph the scene without harming the subject. Emerging dragonflies are vulnerable to predation by birds so if you want to photograph this amazing spectacle, don't remove surrounding vegetation to create a clutter-free background. Instead, use pieces of clothing or spare kit to gently move vegetation out of the way, before repositioning it once you have finished.

Right (top) Four-spotted chaser emerging from its larval case. This process took over an hour to complete, which gave ample time to photograph and enjoy this remarkable spectacle.

Canon EOS 5D MkIII with 150mm macro lens, ISO 1600, 1/640sec at f/8, tripod

PHOTOGRAPHING ACTION

Dragonflies are at their most active in hot, sunny weather. During such times, they tend to perch infrequently, and flights can be fast and unpredictable. While this is an area of photography where having the most up to date kit (with fast, accurate autofocus) helps, don't despair if your kit is older – there are workarounds to help overcome the potential limitations of such equipment.

Most flight shots on the internet are of species that tend to pause and hover (such as the broad-bodied chaser or southern hawkler), which give the photographer with fast reactions more time to find the insect in the viewfinder, lock the AF on and press the shutter button. Regardless of the camera you are using, watch the action closely and try to predict where the insect might hover next. You can support your camera with a monopod while you are awaiting its return along a patrol beat, with the lens focused to a distance where you expect it to be when it pauses. Even then, the hit rate for photographers with average reaction times (like me) is fairly low, so what else can you do to improve your keeper rate?

Right (below) A black-tailed skimmer dragonfly hovering at the pond edge.

Olympus OM-1 with 150-400mm f/4.5 lens, ISO 2000, 1/10000sec at f/5.6, tripod





Emperor female lifting off after laying.
Olympus OM-1 with 150-400mm f/4.5 lens,
ISO 6400, 1/10000sec at f/7.1

LANDING AND TAKE OFF

If I see an insect following a predictable pattern back and forth to a photogenic perch, I will position myself quietly nearby with the camera on a monopod (or tripod if a long wait is expected) and pre-focus at the point where I think the insect will perch. I frame fairly loosely (with the intention of cropping in post-processing) to leave a margin of error. The slightly greater depth of field resulting from looser framing means I still have a chance of getting sharp images should the dragonfly approach slightly off the plane of focus.

Action photography needs bright

conditions. I set a shutter speed between 1/8000sec and 1/16000sec, with an aperture of around f/7.1, and an ISO of around 6400. Once I have the camera set up, with the plane of focus on the expected flight path, I will wait for the dragonfly to arrive. I then fire a burst of several images as it starts to land and with luck one or more of these will be in focus. Many shots will be out of focus with this type of photography, but this is a far less frustrating approach than swinging your lens around trying to focus on a fast-flying dragonfly.

If your camera supports a function similar to the OM System's Pro Capture (which records a series of images in the camera buffer while the shutter button is half-pressed), you could focus on the insect taking off rather than landing. With this function, as soon as you press the shutter button (which is likely to be after the dragonfly has exited the frame, since take-off happens almost instantly), you should have a sequence of images that is likely to be much more dynamic and interesting than a free-flying shot.

LAYING DRAGONFLIES

Female broad-bodied chasers are good candidates for this kind of photography, as their habit of flying around pond margins and dipping their abdomens into the water to lay means that with observation, persistence and careful positioning, you should be able to get a few well-composed and in-focus shots. Females of species that lay directly into submerged plant material (such as the emperor) are harder to predict; take-off shots pose a particular challenge, since take-off is more or less instantaneous. Pro Capture on OM cameras offers a solution by enabling pre-recording of the take-off sequence prior to pressing the shutter button. I think this is the only realistic way of capturing this type of action, and even with it good shots are by no means guaranteed.

Left Blue and green forms of female emperor dragonflies laying into plant stems – a highly unusual event. Olympus OM-1 with 150-400mm f/4.5 lens, ISO 2000, 1/2000sec at f/7.1



TOP TIPS FOR DRAGONFLY SUCCESS

1 SEARCH AT THE RIGHT TIME

Emergence timing differs between species. Some, such as the hairy dragonfly, emerge from lowland canals and large ponds as early as April, while others, such as the migrant hawker and common darter, don't emerge until August or September.

2 START WITH EASIER SPECIES

A good dragonfly species to begin with is the broad-bodied chaser, which not only emerges fairly early (late May to early June), but it has a longish flight season and frequents garden ponds. It also has a helpful habit of frequently returning to the same perch to bask, which means it is perfect for practising flight/landing shots.

3 UNDERSTAND YOUR QUARRY

Successful dragonfly photography requires an intimate knowledge of your target species' ecology and behaviour. In other words, developing your knowledge and fieldcraft – and not just camera technique – is the key to improving your work.

4 THINK AHEAD

If the ambient temperature is high and insects are likely to be active, set your camera up before you approach – you will then only need to make minor adjustments once you are in position. The insect may not give you more than a fleeting opportunity to shoot before it lifts off.

5 HANDHELD SHOOTING

A lightweight monopod is useful for quickly adding more stabilisation without fumbling with kit. You can still shoot handheld with the monopod fitted, but it can be quickly extended if a suitable opportunity – such as a dragonfly flying to and from a perch – presents itself.

6 SHOOT SHORT BURSTS OF IMAGES

I generally shoot short bursts of 3-4 frames rather than single frames, since one image from a sequence is likely to be slightly sharper than the others. Less than perfect images can be discarded during post-production.

7 TAKE CARE WHEN SEARCHING FOR EMERGING DRAGONFLIES

Emerging insects are easy to overlook while you are searching through dense bankside vegetation, and they are highly vulnerable to trampling. If you can't leave an emerging insect in the same way you found it, consider sitting quietly and watching this remarkable process instead.

Right Lift off! Male broad-bodied chaser taking off from a horsetail stem.

Olympus OM-1 with 150-400mm f/4.5 lens, ISO 6400, 1/16000sec at f/7.1, tripod



Backlit four-spotted chaser lifting off.

Olympus OM-1 with 150-400mm f/4.5 lens, ISO 6400, 1/16000sec at f/7.1, and ISO 6400, monopod

