Truly Compact

By Alexander Mustard with Veruschka Matchett

It will only take you a few minutes browsing the internet to realise that digital compact cameras are capable of taking stunning pictures underwater, which are often every bit as good as those from larger more expensive DSLRs. However explore a bit deeper and you'll soon find that to get the best out of a digital compact setup most photographers are adding a couple of strobes, strobe arms, synch cords and external supplementary wide-angle or close-up lenses. And pretty soon their rigs are anything but compact!

I would never dispute that these accessories make a massive difference to the images that compact cameras can produce. But not every compact camera owner wants to spend the extra cash or have the hassle of dragging that lot around the world or, for that matter, a divesite. The aim of this article is to look at how to improve your pictures from a basic compact, without adding any expensive external accessories, so the camera remains small enough to slip in and out of a BC pocket. In other words a truly compact compact!

The weapon of choice for this article was a Nikon S3, a camera I bought because it would fit easily in to the pocket of my jeans on land, rather than for any underwater photographic capability. On the plus side, being slim on land also meant that the housing is tiny and certainly lives up to the name of compact. My main use for this camera underwater is as a prop in model shots, but I have to admit that I really enjoyed shooting it on the couple of dives I made for this article! This camera doesn't offer much in the way of manual control, so all the pictures here are shot in AUTO, but there are several ways of tricking it into doing what you want. Understanding how to make a compact do what you want is one of the fundamentals to getting better images.



Veruschka lines up a macro shot of a Flamingo Tongue with the Nikon S3 in WP-CP5 housing. Taken with Nikon D2X, Subal housing, Nikkor 12-24mm, 1/40th @ F9. 2x Subtronic Alphas.



The resulting image of the Flamingo Tongue. Nikon S3 1/30th @ F10.5. Flash in night portrait mode. Exp. Comp. –0.3 EV.

The obvious place to start is with close up/macro photography. Nearly all digital compacts have very good close focusing abilities, which makes this type of shooting fairly straight forward. Once you have got in nice and close to the subject the internal flash will be powerful enough to illuminate the subject and because of the small amount of water between the camera and subject, backscatter won't be a big problem. Furthermore the camera's electronic metering should be able to deal with judging the exposure in this relatively simple shooting situation, so these shots should be point and shoot simple.

Generally for close up shooting I would suggest zooming the lens to the widest setting and then getting as close to the subject as possible to fill the frame, for the reasons stated in the previous paragraph. However, some cameras will overexpose pictures if you get too close. If your camera does this there are two easy solutions. The elegant one is to back away a bit and then zoom the lens in to achieve the same framing as before. The extra camera to subject distance will dissipate some of the light from the flash and will allow the camera to judge the correct exposure. The less elegant solution, which is the one I prefer because it is less fiddly (and I am lazy), is just to slide my finger slightly over the flash, which has the same effect in reducing the flash output to manageable levels. Compact housings with chunky ports can cause shading problems for the flash at very short working distances. This problem is also be cured by backing away a bit and then zooming in.

The next step is controlling background exposures – getting the black or blue water colour you desire. If your camera offers manual control over aperture and shutter speed, then this is easy. Simply slow down your shutter speed for blue and speed it up for black. For the fully automatic camera this is where you have to get creative and trick the camera into doing what you want. Most compacts will record black backgrounds by default when set in macro mode where the flash is the dominant light source (unless you are in very bright shallow water). So to get blue backgrounds I often use the "night portrait" flash mode, which basically extends the exposure to record the blue. Alternatively you can leave the camera in standard "flash on" and influence the water colour by the angle you shoot. Downward cameras angles shooting into open water



Scorpionfish in seaweed. The internal flash will produce clean results if you are close to the subject,

give dark backgrounds and upward camera angles aimed towards the surface give lighter colours.

If you are choosing a camera from scratch I would suggest getting one with manual control over aperture and shutter speed and also a more powerful inbuilt flash than my S3 (which never has the overexposure problem!). Also a few cameras will turn off their internal flash when in macro mode, and these are probably best avoided if you are planning to use them without accessory strobes or close-up lenses.

Fish photography is a fairly simple step on from close up/macro, and the techniques remain pretty much the same. The key to successful fish photography with a compact is in subject selection. Try to stick with cooperative slow moving subjects: frogfish, scorpionfish, seahorses, moray eels etc will produce much better results that chasing after a fast moving jack or browsing parrotfish. The other important point is to shoot what is common and cooperative on a dive, rather than go in and spend



Redlipped Blenny in tube. Non-moving subjects are much more cooperative for compact cameras. Nikon S3 1/120th @ F5.4.

a whole dive looking for a specific creature, which when you eventually locate it really doesn't want to be photographed.

So far we have been playing it safe and working to the strengths of the compact. Where the basic compact traditionally struggles is in shooting scenery and divers. The internal flash is pretty much useless here because it is not powerful enough to cover such a large area, and even it was the additional camera to subject distance will

increase backscatter from the flash to unacceptable levels. This is the classic conundrum that drives people to their credit cards! The accepted solution is to add a wide-angle accessory lens and a strobe or two on long arms, where they are able to illuminate the subject without illuminating particles in the water and causing backscatter. This solution really works, but it comes at a hefty price and your compact camera will no longer be… well compact.

The alternative approach is to switch off your flash and try a filter. It is a different way of shooting and requires learning how to set the white balance on your camera, but to me this seems a small price to pay in return for the transformation it makes to your images. For these tests I used a Magic Filter, which would have cost me just £19, although actually for me it was free for reasons disclosed in UWP 26! This filter was designed for use with DSLRs, but works very well on compact digitals too, as long as they have a manual, custom or preset WB setting. To attach it to the camera I just taped it to the front of the lens, which took about 2 seconds, and slid the camera into the housing.

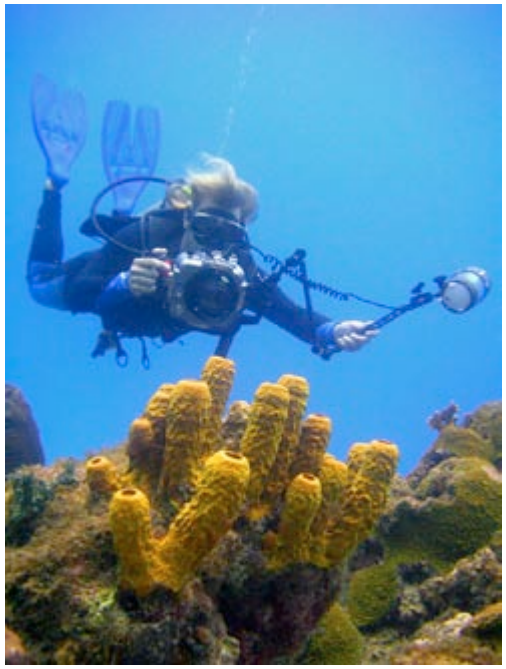
The first advantages you will notice with the filter are that the battery life of your camera is greatly improved and you won't get any condensation problems, which are



An alternative approach is to switch off your flash and try a filter

caused by the internal flash heating up the inside of the housing when it fires. But what is really remarkable are the types of images you can now take. To shoot wider scenes you just back away a bit (as you would on land) to fit in the scenery you want, and because you are not using strobes you do not have to worry about flash fall off and backscatter. OK, there is a limit to how far you can back away - a good rule of thumb is to never shoot from further than 20% of the visibility (so in 10m/30ft viz, you can back off to 2m or 6ft). But in reasonable diving conditions you will be able to shoot reefscapes, schools of fish, features of wrecks and divers. In full colour.

The main technique you will have to learn is how to set the white balance of your camera manually, so that the filter will produce the best results over a range of depths. The details of setting the white balance



The tiny S3 was able to capture this reef and diver scene in available light without the need for bulk accessories (depth 9m). Nikon S3 + Magic Filter. 1/25th @ F3. White balance set manually. No flash

vary from camera to camera, but basically involve taking a test shot of the reef at the depth you want to photograph and the camera does the rest and calibrates the WB from that. This only takes a couple of seconds once you have practiced it and when it is done you can snap away as if you were shooting on land, getting colourful shot after colourful shot.

It is worth bearing in mind that you will need to shoot with the sun coming from behind/above you to



The magic of a filter. Taken at a depth of 11m an available light shot is simply recorded in shades of blue. But with the addition of a filter a digital camera can record a colourful scene without flash. Nikon S3 + Magic Filter. 1/15th @ F3. White balance set manually.

illuminate the subject evenly and secondly you need to have good buoyancy skills so you can hold the camera still to avoid blurry images. Also filters tend to work best at shallower depths above 15m/50ft, so this isn't a technique for deeper dives. On the plus side auto exposure and autofocus will take care of everything and images are point and shoot simple



Because we are not using strobe lights we can simply back away from the subject to fit more in! Even a standard lens can shoot wide scenes with a filter (depth 13m). Nikon S3 + Magic Filter. 1/40th @ F3. White balance set manually. No flash.

to take.

In conclusion, a bit of thought about techniques and an inexpensive filter can really transform your compact camera into a versatile tool for underwater photography, without the expense and bulk of buying accessory lenses and strobes. However, if you are keen on your photography then you will inevitably want the flexibility offered by these accessories. But maybe if you are looking at spending this much, you might be better off considering a DSLR, because once you have added these accessories to a compact, the name is hardly appropriate.



Filters can also be used for fish photography, but subject movement can easily lead to slightly blurred images (depth 12m). Nikon S3 + Magic Filter. 1/50th @ F3. White balance set manually. No flash.

Alexander Mustard with Veruschka Matchett

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The picture on the left was taken with accessories costing around $3000 (2 x Subtronic Alpha strobes, sync cords and Ultralight arms). The picture on the right was taken with available light only and a $30 Magic filter, it's all you need!