# Compact Course Pt2

## with Maria Munn

Welcome back to the second part of this quick start series in showing you how to get the very best out of your compact camera underwater. In this issue we are going to look at using apertures and shutter speeds as well as looking at different lenses to quickly help you get on the underwater track to really creative works of art.

### Aperture Settings

The very mention of anything other than the Programme or Green Square Mode can make anyone's fingers freeze when an attempt is made to move out of these settings.

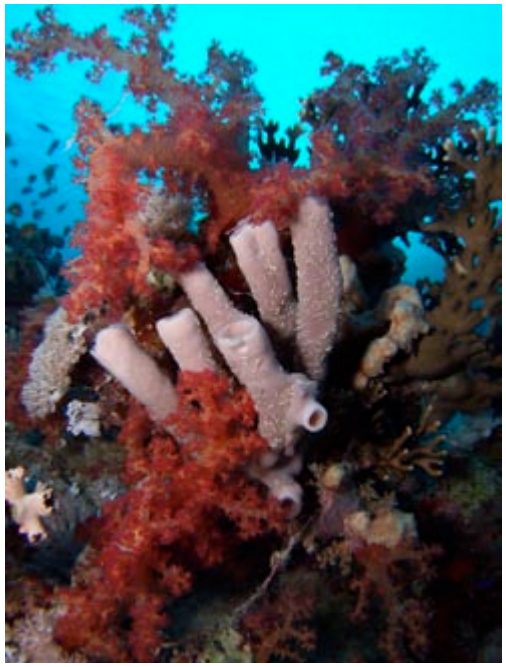
As many of my course guests have found, having the confidence to use different aperture settings on your equipment underwater will not only help to get much better sharpness in your overall images, it will also help you to create striking images when used together with a strobe. So where do you start and what does it all mean?

The aperture of your camera (the f number) controls the depth-of-field in your image and is the area in front of and behind your subject which remains in focus. A shallow depth-of-field helps to give more prominence to your subject by throwing the background out-of-focus. Using the maximum depth-of-field on your camera will give you a really sharp, crisp image and is ideal for close-up subjects. All compact cameras have the ability to get great sharpness for macro subjects with the Tulip Icon and this can also help when using a wide-angle lens for close-focus wide angle subjects. More on the latter will be explained a little later.

Compact Cameras naturally have a good depth-of-field as the camera's sensor is so much smaller than SLR cameras. There are also fewer numbers to choose from, the range normally starts at 2.8 in most models up to F8 or F9.1 in some modesl such as Sea & Seas. Even though this number is much lower than F22 or F32 offered with SLR models, the range of depth-of-field achieved is more or less the same.

Using an aperture of F2.8 with a wide-angle lens is excellent for letting in the most amount of light possible when photographing wrecks, caves and big subjects such as whale sharks. Just remember that if you are using Manual White Balance on a bright

***Taken with a Fuji Finepix F30, INON Fisheye Lens and Inon D2000 Strobe, Aperture f2.8, Shutter Speed 1/60th this photo illustrates that when the aperture is too large, that the subject runs a risk of being overexposed.***



***By closing down the aperture to f5.6, the subject's colours are more punchy and there is more depth of field.***

***By closing down the aperture to f8, the blue background is far darker than the first photograph and there is a marked difference in depth-of-field.***

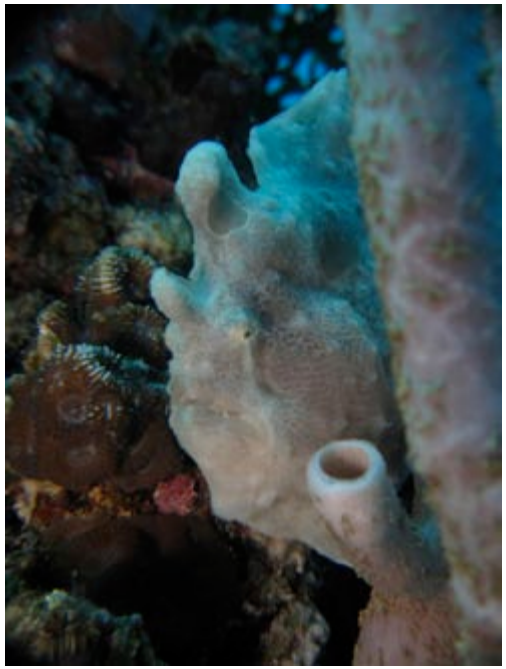
sunny day that the upper part of the picture runs a risk of being pink. It is also useful to use the black stickers which are provided with INON's wide angle lenses to help provide glare in the resulting photograph, or you could use a black marker and colour around the rim of the camera's zoom as well. An aperture of F8 of higher suits close-up subjects to obtain maximum sharpness by letting in less light. For cameras which don't have an Aperture Priority or Full Manual Mode, the widest aperture 2.8 or thereabouts is automatically selected when using P mode on the Sony, Olympus or Nikon models for example and M mode on the Fuji Finepix or older Canon Ixus models. The smallest aperture for macro subjects to obtain the greatest depth-of-field can be accessed by simply pushing the Tulip Icon. Using this button with forced flash within a foot of a macro-subject gives wonderful sharpness and punch as explained in the previous issue.

If using an external strobe with your camera underwater, control over the aperture is extremely important to help with correct exposure of your subject choice as well as control over your depth-of-field. Too much light with an aperture of 2.8 can burn out a wide photograph of a reef scene and too little light with an aperture of f8 runs a risk of making it appear too dark. When photographing reef scenes with a wide-angle lens, a middle aperture number of 5.6 has always produced effective results whether shooting in the green waters of Alaska or blue waters of the Red Sea and has given me perfect results on every occasion.

## Shutter Speed

Whereas the aperture determines how much light gets into the camera, the shutter speed determines the length of time it has to make an impact on the camera's sensor. This is measured in fractions of a second. A standard underwater shutter speed is 1/60th of a second to ensure that your picture remains sharp, but this is of course very dependent on your subject! If it is fast moving you will need a faster one to prevent it from being a blur. This can also be increased by changing your film speed to a higher one.

Some of the more advanced compacts have their own Shutter Speed Priority Mode or full Manual Mode where it can be changed. For those entry level compacts, there is also a useful tool called the Exposure Compensation/Value Tool (+/- button) which is on the back as a separate icon on most cameras or in the Function Menu of others such as the Canon Ixus range. This tool is a huge help with overexposure at the top part of the images in shallow waters where light is reflected by the sand or where there is a lot of ambient light, for example on morning dives. By choosing an EV value of minus 1 this can help to overcome this problem as it increases the shutter speed making the background blue of the photograph darker or freeze the rays of a sunburst in a cave. On the contrary, choosing an EV value of plus 1 helps to slow down the shutter speed, bringing more light into the picture which can be useful when taking photographs in darker conditions. Just be careful that the shutter speed doesn't slow down and make the resulting photograph blurry. For those cameras with independent control over the shutter speed, the Exposure Value control is extremely useful when taking photographs of a



*Slow Shutter Speed - Taken with a Canon Ixus 980, Aperture f8. 1/60th*

*Fast Shutter Speed - Taken with a Canon Ixus 980, Aperture f8, 1/500th*

***By using a slower shutter speed of 1/60th, the background behind the frogfish is visible and I found it very distracting to the subject. By increasing the shutter speed to 1/500th in the next picture, I got rid of the distracting background to make the frogfish more prominent.***

reef scene with a wide angle lens and strobe, helping to control how blue you'd like your background to be.

For those who have the ability to independently choose the shutter speed setting, the possibility of using the fastest speed in combination of f8 or your highest number (tulip icon) can create wonderful three dimensional effects where the macro subject stands our from the background by giving it a darker or even black background. This is also great for getting rid of rocks and clutter around subjects such as nudibranchs. Increasing the shutter speed is also great for freezing the sun's rays near the surface of the water for a creative effect. Just start from 1/60th sec and increase the shutter speed to 1/500th and see how the background gets darker.

## Getting Creative
## Different Lenses, Different Uses

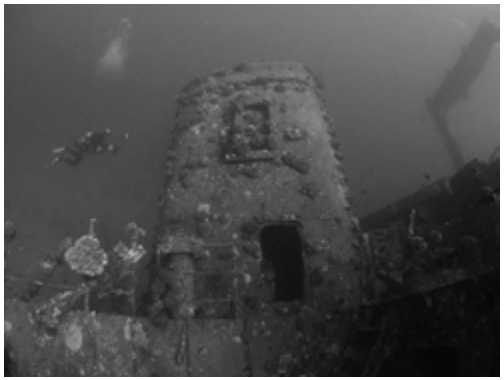
Adding different lenses to your compact camera will really start to enhance your underwater photography. But which lenses do you choose for which subject?

## Wide Angle and Fisheye Lenses

A wide-angle lens is an absolute must for anyone who loves wrecks, caves, big animals such as

***Taken with Sea & Sea 1200, Aperture 2.8, Shutter Speed Not Known with a YS27 Strobe, a standard wide angle lens is great for large subjects and close-up wide angle subjects such as this Frogfish.***

whale sharks, humpback whales or even turtles. By getting closer to your subject, the water column is automatically reduced helping the resulting picture to be not only sharper but you will also be able to fit more of your favourite subject in the frame. It is also a fantastic accessory for split-level shots where you can record a favourite scene both above water and underwater at the same time, this can be extremely effective when



***Here are two photos of the Giannis D in the Red Sea, one on the left with an INON Wide Angle Lens and one on the right with an INON Fisheye Lens to show the difference in the field of view. Also notice how the straight line at the bottom of the wreck is slightly curved due to distortion created by the Fisheye Lens***

photographing coral gardens in the shallows of beautiful sandy beaches fringed with trees overhead.

Epoque make wide angle lenses which simply screw into the existing threads of housings made by Olympus and Ikelite, or by using an adaptor for both Sony and Canon models. Remember to apply a little grease on the thread of the wide angle lens before screwing it into the housing's thread to avoid it getting permanently attached to the port! Other manufacturers such as Fuji, Fantasea and Sea & Sea make their wide angle lenses for their own housings. Inon make adaptors for a vast range of different housings for most compacts and either their wide angle lens or fisheye lens can simply be twisted into the bayonet fitting with a quarter-turn. Just make sure that it locks firmly into place (or check that the arrows line up with each other), otherwise it can easily fall off whilst descending and can end up being a very expensive dive!

So what is the main difference between the two lenses? A standard wide-angle lens gives most compact cameras between 100 and 105 degree field of view but this also depends on the camera's own field of view. If your camera has a 28 mm field of view, you may end up with vignetting where there are black corners on the photograph, this can be fixed by simply zooming through the lens slightly. Inon's fisheye lens can give up to a 165 degree field of view and

is therefore much wider. It is the optimum choice of lens for compact cameras with the unique ability of being able to zoom completely through the lens to be able to capture close-up subjects (even ones which place themselves on the very dome of the lens itself are incredibly sharp!). At its widest setting it will add drama and ambience by being able to fit in more of the scene and from only half a metre away, it is even possible to photograph a whole diver. This lens will also distort straight lines which are close to the camera making them appear bent, and this can be also be used as a creative effect when looking down on a reef, giving it a rounded feel. It is also the choice of lens for reef scenes, enabling the user to get far closer than a standard wide angle to the reef and with one or two strobes, gives amazing, vibrant colour. More on this will be featured in depth in the next issue.

## Macro Lenses

The macro function on most compact cameras is great by itself for photographing small subjects, but the built-in flash when used can sometimes burn out the resulting photograph of tiny or white-coloured subjects. Macro lenses can really help the photographer by being able to keep a distance of approximately 10 cms, therefore allowing sharp focusing on smaller subjects as well as shyer ones. They can also help give extra sharpness and definition to larger close-up subjects such as frogfish. I found macro lenses particularly useful when photographing white nudibranchs in Alaska, so that the flashgun was a little further away to light the subject and therefore prevented overexposure.

Epoque make macro lenses which can attach to the screw thread of housings made by Olympus

***Fuji F30 Aperture f8, Shutter Speed 1/60th with Inon Close-Up Lens and Inon D2000 Strobe. I used this lens to be able to keep a little distance from my subject so as not to overexpose the white tips of this nudibranch whilst in Alaska.***

and Ikelite, Sea & Sea and Fantasea make their own close-up lenses for their own cameras and INON make a close-up lens to fit into their bayonet adaptors for most compact housings. These can also be stacked to give exra magnification.

Some Olympus cameras have a Super Macro mode which allows photographers to get within 1 cm of the subject and still use a flashgun by tweaking the internal settings of the camera. Just be careful to keep the flash-gun on a really low power to just add a small burst of light to capture the subject.

## To Sum Up

Course guests have loved the new creativity that using the different controls on their camera can give them, as well as the extra angles in their underwater photographs that they can achieve by using different lenses. I hope that this feature gives you the confidence to get out of 'Auto Mode' and if you have any questions at all, just drop me a line at maria@oceanvisions.co.uk.

In the next issue we'll be looking at how using a strobe will give your underwater photographs extra punch as well as composition ideas . Until the next time ….

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***I am especially grateful to Cameras Underwater and Sea & Sea for the kind loan of equipment for this article.***

**www.camerasunderwater.co.uk**
**www.sea-sea.net**