

The great digital debate

An experiment in comparison
by Will Postlethwaite

Even the most conservative of underwater photographers are now wondering whether they should take the plunge and go digital but the Catch 22 is that there is no simple way to try before you buy and the switch is not cheap.

ScubaDiver Australasia and the pages of UWP have, more than most, helped inform us about digital photography underwater. However, for those of you who have not yet ventured into this world, here is something which would have helped me before I went digital, some direct comparisons with film to see whether we are looking at like for like or parallel media.

I have tried to be objective as possible and, while I realise that I am not really comparing two directly similar systems, the points highlighted are fairly general for both media. For those of you looking for a definitive conclusion of which is best I do not think there ever can be one. There are personal preferences that will outweigh one aspect or another depending on the user. This piece hopes to add to existing information to hand and aid your decision, which might even end up like mine. I have found that I want both.

The film equipment used was a Nikon F90X, Nikkor 20 mm, Subal housing, 2 Sea&Sea YS120 strobes, 2 sync cords, Fuji Velvia 100F, manual exposure.



The first thing to notice is that the frame size/shape is different. This is why existing lenses tend to work like 150% of their stated focal length when attached to a digital camera.

The film shot is a prime candidate for TTL but most digital cameras either do not have this capability or have an approximation. This may be due to change with new generations of camera but with my set-up this was definitely not the case. Trial and error is the way.

Although it is difficult to illustrate on the pdf pages of UWP the difference in detail/resolution between the two media, fine grain film like Velvia is still superior but 5-6 megapixel cameras shooting in raw format give excellent results to A3. The images from the digital camera produce TIFF files of around 18Mb whereas our slide scanner can produce files of 29Mb.

The composition is slightly different but the sunburst does illustrate a limitation in the digital armoury. Where you have areas of large contrast rings or blocks of colour tend to be produced rather than a smooth transition. I am told that Photoshop solves this problem!



Film left, digital right

Composing a shoal of glass fish can be tricky and you need to be ready on the shutter release. Most high end digital cameras now have a good, quick response and virtually no shutter lag but check before you buy as some can have a 1-2 second delay. This will drive you mad.

I got rather frustrated here with the digital camera. As you can see the film picked out the shape of the shoal and the wreck all in good contrast. Try as I might with various degrees of sunburst and minimal flash I still ended up with no contrast and thus the fish are lost in the detail of the background.

Film 1/60th f8 2 strobes full. Digital 1/30th f8 1 strobe full

The digital equipment was an Olympus 5050 Zoom 5 megapixel, INON 100 deg wide angle lens, Ikelite housing, 1 Sea&Sea YS90 strobe, 1 fibre optic slave from internal flash, ISO set to 100 in Raw mode, Auto exposure.

The use of two powerful strobes with the film camera and only one with the digital is not really ideal for comparison purposes. However from the results you can see that this matters less than you might think. The low light capability of digital cameras



Film left, digital right

These are both ambient light shots. As underwater photographers we know that what the eye sees is not what the film does. Colour is absorbed over very short distances but our brain is clever and does some interpolation and guess work with similar tones. This the film cannot do but the digital camera can. As you can see here the film image is just tones of blue and somewhat dark. The digital image however is much lighter and with the greater colour depth seems to illustrate more detail. It looks like it did with the naked eye.

Film 1/60th f5.6 ambient. Digital 1/40th f5.6 ambient.

is a great strength and in fact two YS120 strobes would far too powerful for them. I also have to admit that I 'cheated' a bit. Although being told that flash systems of digital cameras are all very different and require new strobes I found that, with the internal

flash set to 3slave2 and a \$15 fibre optic cable fixed through the blanking plate and attached to the slave sensor on the YS90, I could shoot happily on full or 1/2 power with no problems. The YS120 works like this too!

The equipment was then taken



*Film left,
digital right*

One of the delights of the Red Sea is the colour of the water. With no river run off etc. the clarity gives a deep blue backdrop to wide angle images. In these examples you can see how the Fuji Velvia gives a rich blue whereas the digital favours the reds and yellows. At this point I should say that I had the digital white balance set to auto. Should I want to adjust this manually as a pre-set, or change it afterwards in Photoshop, I can. But here I am aiming to show



things in their raw state. A small difficulty I found with the compact style of digital camera is that you frame shots with the LCD screen not through the viewfinder. With this type of shot it can be quite hard to see all the detail. With SLR digital cameras and housings you look through the viewfinder and thus through the lens in the normal way and the image only appears on the screen after you have taken the shot. Film 1/60th f8 2 strobes full. Digital 1/30th f6.3 1 strobe full



Here you have the same situation as the previous shots with more colour in the film image but greater depth of image in the digital. However I think this time the digital looks a little washed out in comparison and the darker background in the film image emphasises the turtle.

Film 1/60th f11 2 strobes full. Digital 1/30th f8 1 stroke full

for a week in the perfect wide angle conditions of the northern Red Sea where my wife Demelza shot with the Nikon and I shot many of the same shots with the Olympus.

One last general point is expense. The Olympus setup cost around U\$2000 while the Nikon setup was more like U\$6000. Admittedly a Nikon digital SLR housed setup will set you back considerably more but view the choice as more between a Nikonos and an SLR. Also remember that you will need big memory cards and a laptop to download and properly scrutinise your images for

sharpness and exposure.

All these images are wide angle which I think is where strength in the digital revolution lies. In the past judging exposures to balance light in new and ever varying conditions has been the underwater photographers' art.

With results instantly viewable and then reviewable after the dive I found that I was really encouraged to experiment. This in turn encouraged Demelza to experiment with the film camera. We now also know the strengths of each system and take images accordingly.

The conditions in the Red Sea were perfect but back here in the UK, where the sun shines intermittently and the visibility is variable, the minimal strobe power needed with the digital is where it should come into its own.

We shall be trying the same experiment here in Cornish waters soon.

Will Postlethwaite

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