

Ikelite Fluorescence

by Phil Rudin

Ikelite Underwater Systems is headquartered in Indianapolis Indiana USA and distributes worldwide through dive centers, water-sports and camera stores. With over fifty years in business Ikelite has earned a reputation for outstanding customer service with both new and aging equipment, offering upgrades and speedy service to their many loyal customers.

With an ever expanding catalog of quality products Ikelite has recently introduced a complete line of fluorescence equipment to complement the underwater photographers growing quest for unique photo challenges.

Underwater fluorescence photography is not new but is once again gaining popularity among photographers looking for exciting ways to capture unique marine images with today's sophisticated fluorescence equipment.

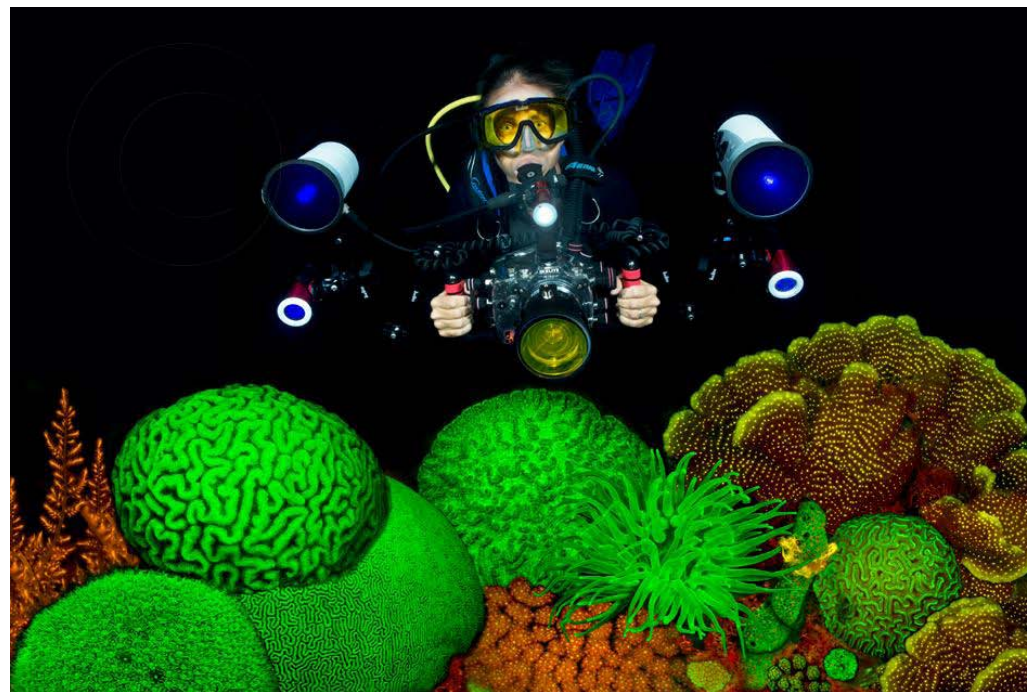
Fluorescence (Fluo) photography works much like the UV black light except that rather than using an ultraviolet black light source Fluorescence diving is now done with blue lighting. This blue light once absorbed and emitted from some

marine life returns to the lens with a longer visible wavelength than the one projected from the original blue light source. This "emission" of longer wavelengths of light visible to our eyes differs from a reflected white light source like a dive light and should not be confused with the bioluminescence from some marine animals which does not require a light source.

The projected blue light creates excitation in some marine life much like the "Psychedelic black-light posters" of the 1960s resulting in an explosion of colors lighting up the marine world like downtown Tokyo on a Saturday night.

I ducked out of most of my physics classes so if you are interested in the science of how this process occurs you can find a wealth of information on the internet.

Ikelite's fluorescence system includes Dichroic Excitation Filters, which thread onto Ikelite Vega Photo/Video lights, Dichroic Excitation Filters for the Ikelite DS161, DS160 and DS125 strobes, an assortment of Yellow Barrier Filter to cover the camera lens and a Yellow Barrier Filter to cover the face mask while in



Ikelite composite photo of the equipment in use.

the water.

The focus light excitation filters kickstart the process allowing you to see the Fluorescing marine life using the face mask barrier filter and the lens barrier filter allows the camera to record the fluorescing marine life the same way you are seeing it through the mask.

Shooting stills photos with the Ikelite DS strobes excitation filters creates the same blue light which is then captured back through the lens barrier filter. The Vega video lights allow you to record fluo video using the same process but without strobes.

In the field

I shot with the fluo equipment in Cozumel Mexico and Florida using an Olympus E-M5 MKII, Ikelite housing, Ikelite dome and macro ports, two Ikelite DS161 strobes, two Ikelite Vega Photo/Video, using Olympus 9-18 mm zoom and 60 mm macro lenses.

Fluo equipment included two M46 thread-on excitation filters for the Vega focusing lights, two push-on excitation filters for the DS161 strobes, with yellow barrier filters for the lenses and mask.

Full disclosure, I would be lying

if I didn't admit that fluo photography is a complete blast and the most fun I have had with my wetsuit on all year. Most divers associate fluo diving with macro and night photography but I was able to shoot both day time photography and wide angle as long as the ambient lighting did not over power the fluo lighting.

I did my day dives in the shadows of the Blue Heron Bridge and got some respectable results. The dichroic filters reduce the output of both the focusing lights and the strobe lights by several stops or EV values of light.

To achieve proper exposures higher than normal ISO settings and wider aperture settings will be required. This is a type of photography where larger sensor cameras with better high ISO sensitivity will excel.

The yellow barrier filter worn on the face mask will also reduce light so expect your first couple of night dives to be a bit challenging. The name of the game with fluo photography is getting close to your subjects so they will be well lit and in focus. If you're diving and bounce skills are suspect you may find yourself head butting the reef and this is not a good thing. I would suggest that you be a skilled diver/underwater photographer before attempting fluo photography.

When viewing your LCD screen many of the captures will appear dark and under exposed, don't be overly concerned as most under exposures can be recovered during the post-processing phase. This is not to say that you should not attempt proper exposure but that some post recovery is inevitable.

If you are diving with a group of non-fluo photographers don't be surprised to see their white lights killing the fluorescence in your scene. I had one dive master who attempted to assist me by



Sand Diver, Olympus E-M5 MKII, Olympus 9-18 mm zoom lens at 16 mm, Ikelite housing, two Ikelite DS161 strobes manual full power, two Ikelite Vega lights, Ikelite fluorescence equipment, ISO-500, F/5.6, 1/500 sec. Post processing LightRoom 6.

shining his white light onto a subject I had ask him to locate for me. The problem was that he didn't move his light after showing me the subject and I was never able to get the shot. This was entirely my fault for not explaining the fluo process prior to the dive and I now let the dive staff know that I will hang back a bit to avoid the white lights from other divers.

Once surrounded by near darkness the reef will explode with glowing fluorescences from the many potential photographic subjects being bathed in blue light.

I suggest that you begin photographing corals and other stationary subjects to prefect your technique then move on to more mobil subjects. You don't need to know the physics of fluo photography to understand how dramatic and in your face the



Smooth Flower Coral, Olympus E-M5 MKII, Olympus 9-18 mm lens at 9 mm, Ikelite housing, two Ikelite DS161 strobes manual full power, two Ikelite Vega lights, Ikelite fluorescence equipment, ISO-500, F/5.6, 1/500 sec. Post processing LightRoom 6.

results can be. A virtual explosion of color on an almost black background can be quite visceral and compelling. I believe each photographer will incorporate his or her own style during the post-processing ritual to make the final image a personal vision of photographic art from their perspective.

During the post processing phase the first thing I did was to get a proper white balance, without this

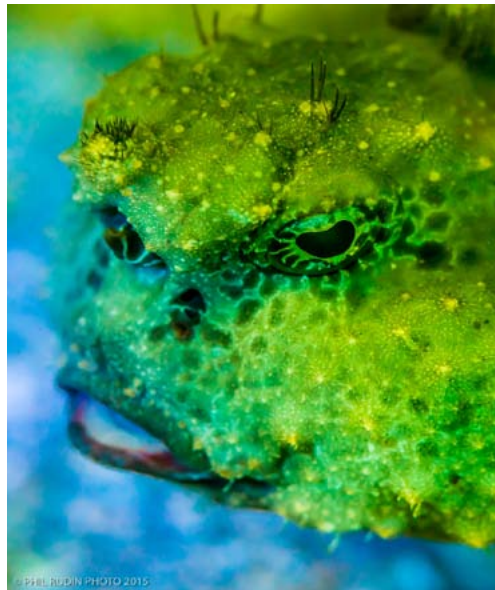
Batfish, Olympus E-M5 MKII, Olympus 60 mm macro lens, Ikelite housing, two Ikelite DS161 strobes manual full power, two Ikelite Vega lights, Ikelite fluorescence equipment, ISO-500, F/2.8, 1/400 sec. Post processing LightRoom 6.

it is hard to tell if the colors you are seeing are those created by the fluo equipment or just a complete color imbalance. How much vibrance and/or saturation is added then becomes a personal preference which starts the artistic process.

I also found that punching up some of the glowing colors to the extreme and then converting to black and white added drama to those shots, the sky is the limit as to what may work best for you.

Before investing in fluorescence equipment you may want to take a fluo class, attend a factory demo session, rent some fluo equipment or ask other fluo divers who's opinion you trust so that you will have an idea how well you may warm to this type of photography. I think most hard core photographers will be as excited as I was to get their hands on a set of fluo equipment and see the underwater world in a new light.

Ikelite M46 excitation filters for Vega lights retail for \$125.00, the excitation filter for DS161, DS160, DS125 strobes retail for \$175.00,

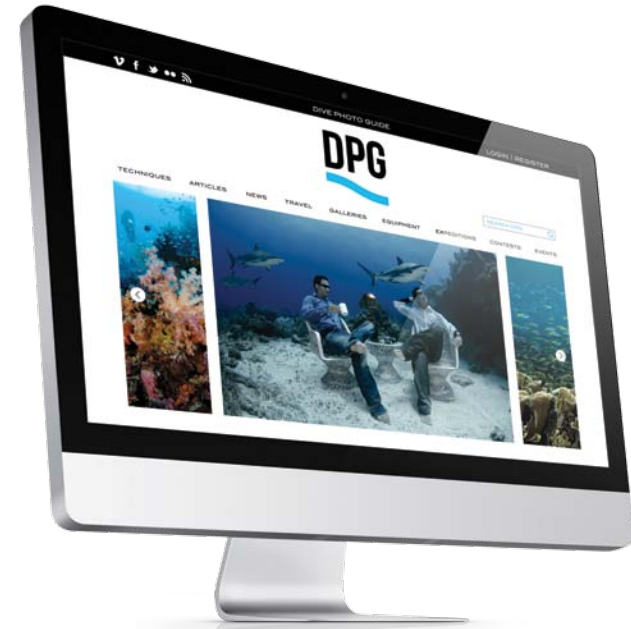


the barrier mask filter retails for \$50.00 and barrier filters for flat ports range in price from around \$55.00 to \$70.00US depending on port size. I used a direct mounted yellow filter on the 9-18 mm zoom lens inside the dome port for wide angle shots.

Please contact your local authorized Ikelite dealer for pricing in your area. For further information on Ikelite's new fluo system visit the ikelite.com web site. I would again like to thank Ikelite for their support both with Underwater Digital Fiesta 2015 at Casa Del Mar Cozumel, Mexico and for the test equipment supplied for this review.

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