Sept/Oct 2021
Issue 122

UWP

AQUATICA™ Digital

AR5 & A7S III Now shipping!

Canon EOS R5 *features:*

- *45MP Full-Frame CMOS Sensor*
- *8K30 Raw and 4K120 10-Bit Video*
- *DIGIC X Image Processor*
- *Sensor-Shift 5-Axis Image Stabilization*
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- *CFexpress & SD UHS-II Memory Card Slots*

AR5: $3,199 USD

Sony Alpha a7S *III features:*

- *12MP Full-Frame Exmor R BSI CMOS Sensor*
- *Extended ISO 40-409600, 10 fps Shooting*
- *5-Axis SteadyShot Image Stabilization*
- *759-Point Fast Hybrid AF*
- *Updated 61 point auto focus*
- *Dual CFexpress Type A/SD Card Slots*

A7S III: $2,949 USD

www.aquatica.ca

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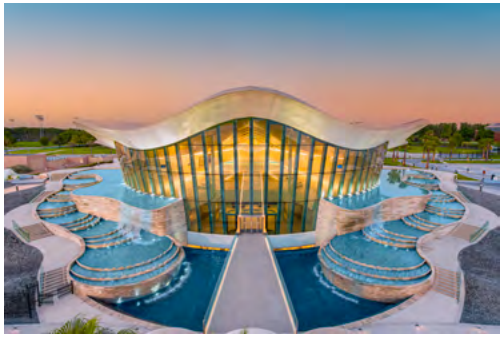
Underwater Photography
A web magazine
UwP122 Sept/Oct 2021



Cover shot
'Double turtle'
© Renata Romeo (UPY2021)

Underwater Photography *2001 - 2021*
© PR Productions
Publisher/Editor Peter Rowlands
www.pr-productions.co.uk
peter@uwpmag.com

Editorial

100 and 20 and counting

I couldn't let this issue go by without highlighting the fact that within these pages we have the 100th equipment review by our Senior Reviewer Phil Rudin.

Phil started with us in UwP56 (Sept/Oct 2010) and with very few exceptions has had content in each and every issue. His consistency of detailed output has built him a loyal and trusted following both with readers and manufacturers alike.

Equipment reviews are a minefield and diving publications over the decades have seen their share of ego driven BS merchants come and go to evapourate in their own air after controversial comments have divided opinions and caused even more hot air on forums.

The thing I like about Phil's reviews is firstly that he gets them in on time (mostly!) but secondly, and much more importantly, he simply reports the facts and treats you as an intelligent reader capable of making up your own mind. A rare thing, these days.

And what's the 20? Well UwP is 20 years old this issue :-)

Cakes all round please.

Deep Dive Dubai

The news that Deep Dive Dubai (DDD) is open is a welcome story and, even if we never get the chance to dive it, we can all imagine the large range of uses that such an impressive facility can provide.

Pools still exist which were built with feature film work in mind but they have tended to be industrialised swimming pools and definitely not open to the general public and that's why DDD is so welcome.

It is not, however, the first such facility. Deepspot in Poland opened last year and is 45 metres (actually 45m and 47cm!) and is the deepest facility in Europe. Now DDD, at 60 metres, is the deepest in the world and, no doubt, like skyscrapers, the next will have to deeper than 60 metres.

Whatever the incentive there should be more of these facilities in every country and we currently, in the south west of the UK, have a proposal to build 'Blue Abyss' - a facility within the Aerohub Enterprise Zone at Cornwall Airport Newquay.

It remains to be seen how the fund raising goes but these fingers are crossed.

iPhone panos

I have always enjoyed shooting panoramas and my first article was back in UwP24 (May/June 2005).

Their attraction is that they create an extra dimension, can be achieved with inexpensive equipment and there is a shed of free software that does an excellent job in stitching the frames together.

True, as with most images, clear water helps and my first attempts in limited UK vizibility weren't encouraging. Then Apple introduced iOS 6 in 2012 with their Pano capability but it wasn't until the iPhone X that the photo sensor was good enough in low light.

Unfortunately Apple have chosen not to divulge a way of controlling the Pano mode via Bluetooth in housings but just recently some housings have surfaced which can control all of the iPhone camera functions with physical push buttons.

My initial attempts in limited UK vizibility have been very encouraging and they are certainly excititng to shoot as I can see them 'developing' in the small window bottom left as I pan.

It's a work in progress and I hope to show more in UwP123.

Unique times

You don't need me to tell you so I won't but the effects of the last 18 months have been far reaching and include the publishing world.

In the diving world, long established titles have disappeared, others have ceased printing and gone digital as revenue and content has dried up.

UwP is no exception and this is the thinnest issue we've had in a long time and for the same obvious reasons. Very few are travelling and writing about holiday destinations and manufacturers are tightening their financial belts in these unique times.

Global news on the economic future front depends on who you ask but they are all looking at crystal balls with no guarantees so making plans it very difficult.

UwP has the last three issues of 'UP' which we would like to finish for neatness sake and for the historical record and then we'll have to wait and see how things are panning out when that finishes in six months, or three issues, time.

Hey, ho.

Peter Rowlands
peter@uwpmag.com

News, Travel & Events

DPG WETPIXEL MASTERS
UNDERWATER IMAGING COMPETITION 2021

DEADLINE FOR SUBMISSIONS: OCTOBER 31ST, 2021

DivePhotoGuide (DPG) and Wetpixel are excited to announce the launch of the DPG/Wetpixel Masters Underwater Imaging Competition 2021. The contest celebrates the splendor of the oceans, the skill of the entrants, and the intricate and challenging art of underwater imaging.

For 2021, the contest aims to give back to those that have historically supported the Underwater Competition Series. The global pandemic continues to adversely impact dive travel and underwater imaging brands, so it is our turn to help them in their time of crisis. As such, the contest continues to celebrate its sponsors, but rather than offering sponsor-donated prizes, it will award the winners of each category a simple cash prize of $250. In addition, the Best of Show winner - the top image among the category winners - will receive an additional cash prize of $750!

We call on underwater photographers and videographers of all levels, from novice to professional, to join and compete in what has become the 'World Championship' of international underwater imagery events. As well as the cash prizes, there is also huge status and kudos in being placed among the finalists. The selected winners are the world's best underwater shooters, judged by an all-star panel. Their images and videos will expose millions of dive, travel and photography magazines and websites to their work worldwide.

Winners will be revealed on UnderwaterCompetition.com and published by supporting media partners worldwide shortly thereafter.

The entry fees are US$10 per image or video entered.

As with all Underwater Competition Series events, 15% of entry proceeds will be donated to marine conservation efforts.

www.underwatercompetition.com

West Australian Underwater Photographic Society

The West Australian Underwater Photographic Society (WAUPS) is a non-profit organisation which was established and incorporated in January, 1984.

WAUPS is a member of the The West Australian Photographic Federation Inc (WAPF)

The aims of WAUPS are to:
Promote an improvement of underwater photography among it's members
Promote underwater photography in the community
Encourage an understanding and preservation of the marine environment
Promote an exchange of skills and ideas from within the society and from external bodies; and
Have fun and enjoy socialising, diving and photography

WAUPS holds regular monthly meetings, a range of competitions, monthly photo dives, dive trips, exhibitions and social events. WAUPS members also get membership to the WA Photographic Federation and can participate in their events and trips.

We communicate to members through an e-news bulletin twice a month, a bi-monthly printed newsletter and Facebook

WAUPS holds regular monthly meetings where members, guest speakers and visitors exchange ideas and information. The topics include practical and theoretical sessions in photography (for both the novice and experienced photographer), marine biology lectures, presentations of dive areas and trips, competitions, evaluation of photographs and in fact anything that may be of interest to photographic divers. A show-and-tell of digital images from members takes place at each meeting. Anyone interested in underwater photography with any level of experience is welcome to come along to our monthly meetings.

Monthly meetings are conducted at 7:15pm for a 7:30pm sharp start, at Drabble House, corner of Stirling Highway and Webster Street Nedlands (behind the Nedlands Public Library) on the 4th Tuesday of every month (except December).

https://waups.org.au

Australian Geographic Nature Photographer of the Year 2021 winner

A captivating photograph of a Leafy Seadragon camouflaged in the shallow reefs of the Fleurieu Peninsula, South Australia has won the Australian Geographic Nature Photographer of the Year competition in 2021.

Scott Portelli is based in New South Wales and took the winning photograph in March 2020 shortly after the announcement of COVID-19 restrictions impacted his year long journey around Australia.

"The nation-wide lockdown was declared and we were stuck for six weeks at a small campground in the Fleurieu Peninsula. This ended up being a blessing in disguise," Mr Portelli explained.

"Over the course of the six weeks I had the opportunity to dive regularly, becoming familiar with the terrain, getting to know the dive site and spotting a few individual Seadragons. I became acquainted with the resident dragons of Second Valley and this is how I managed to get the shot."

After several encounters with one particular Seadragon it appeared to become unperturbed by my presence and I was able to compose a shot that tightly captured its eyes, features and appendages front on."

Mr Portelli has been a photographer for over 20 years. When asked how it felt to be named the Australian Geographic Nature Photographer of the Year 2021, Mr Portelli said:

"Winning the 2021 Australian Geographic Nature Photographer of the Year is a highlight of my photographic career. Being awarded in one of the most prestigious and respected nature photography competitions in Australia is an honour and a privilege. This is one of my proudest moments."

As Australian Geographic Nature Photographer of the Year, he receives a cash prize of $10,000 and a Coral Expeditions holiday.

Portelli's photograph had been judged the winning entry out of a pool of 2,206 photographs – the second highest number of entries in the competition's history.

www.samuseum.sa.gov.au

Torbay Splash-In 2021 winners

The fifth annual Splash-in run by the Torbay branch of the British Sub-Aqua Club (BSAC) took place on Saturday, 14 August.

There were four categories of entry: Beginner, Compact Camera, Wide-angle, and Close-up/macro. Once a popular form of competition, they seem to have declined in recent years, and now the Torbay Splash-in is one of the few being held anywhere each year.

Poor underwater visibility in Torbay on the day presented the competitors with particularly challenging conditions, so it was encouraging to receive a total of 65 photographs, submitted by 16 competitors. As in previous years, the quality of most photographs was very high, which given the conditions on the day, testified to the skills and resourcefulness of the contestants (one enterprising contestant got a winning shot in the seawater swimming pool at Shoalstone in Brixham).

An evening dinner and presentation were held at the Royal Torbay Yacht Club, where all the photographs were shown, and a 'Popular Vote' held to select a "peoples' favourite".

The judge was Peter Rowlands, the well-respected photographer and editor of Underwater Photography Magazine, who provided insightful and interesting comments on the winning photographs.

"When I heard what the visibility had been like during the day I thought I'd be back in the bar much quicker this year but how surprised I was at both the number and the quality of the images; and this is what makes Splash-Ins so special because we are all, so to say, in the same boat and it makes it a pleasure to judge.

Beginners 1st: David Snow, 2nd: Andy Braithwaite, Highly Commended: Meg Barstow.

Compact 1st: Karen Ho, 2nd: Tony Reed, Highly Commended: Meg Barstow.

Macro 1st: Terry Griffiths, 2nd: Dan Bolt, Highly Commended: Simon Temple.

Wide-angle 1st: Dan Bolt, 2nd: Simon Temple, Highly Commended: Dave Peake.

Popular Vote: Tony Reed.

This year, the competition attracted sponsorship from OonasDivers, who sponsored the Beginners category, and O'Three who sponsored the Compact Camera category, including a voucher for 50% off a new drysuit.

https://torbay-bsac.co.uk

Wide-angle First Prize

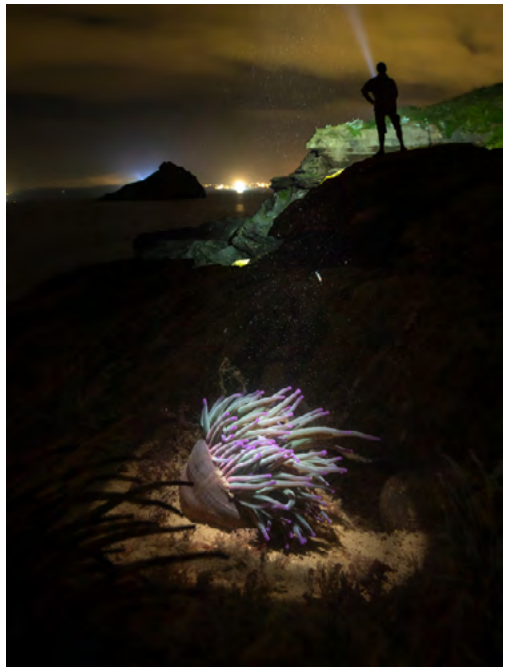
Dan Bolt

Dan commented: "Given that prevailing conditions were less than optimal, I knew I had to come up with something different. Recent years have seen well executed "in-camera double-exposure" images do very well in UK competitions, so I thought it was high-time I gave it a go.

The lower half of this image was shot on a night-dive at Babbacombe. I needed a strong subject in this section of the composite for it to work and the anemone was the perfect target.

The top half of the image was taken at my favourite rock-pooling location: Hopes Nose. I was hoping for a Perseid meteor trail, but the clouds came over just as I arrived… at 1am. This meant I had to improvise. I made use of the topography, with multiple torches, to capture the star-gazer portion of the eventual photo."

Peter Rowlands: "This image is so obviously different. It is both clever and visually appealing and is a classic example of a good competitive picture because it grabs your attention and gives you lots to look at. The lighting is from several sources and the initial impact is very strong indeed but you can look at it time and time again. It's a very, very well executed shot, especially in the conditions there have been today. It's a cracker!"



Anemone: Olympus O-MD E-M1, 14-42mm lens at 14mm, f/10, iso400 1/320th, snooted Sea & Sea YS-D1 strobe.
Night-scene: Olympus O-MD E-M1, 14-42mm lens at 20mm with WCON-P01 wide-angle conversion lens, f/4, iso640, 15seconds. Two torches were also used, one to light up the cliffs and the other to point to the sky.
Using the in-camera "Multiple exposure" functionality to combine the images.

Deep Dive Dubai

Dive into the world's deepest and largest underwater attraction in Dubai. Take the plunge and explore an abandoned and flooded city, an incredible 60 meters underwater. Experience Deep Dive Dubai – a world of exciting and unique scuba and freediving opportunities.

Created for both professional and beginner divers, Deep Dive Dubai is unlike any other pool in the world.

Boasting a record-breaking depth of 60 meters, this underwater attraction allows novices to explore in the safety of a controlled diving environment. Filled with 14 million liters of warm water, it opens up new adventures for experienced divers and thrill-seekers who want to go deeper and explore further.

Inspired by the UAE's rich pearl-diving heritage of the past, this venture sets new heights (and depths) in the nation's ambitious vision for an incredible future.

Located in Nad Al Sheba – 15 minutes from Downtown Dubai and 25 minutes from Dubai International Airport – Deep Dive Dubai is now open and offering a variety of experiences including discovery dives for first timers, scuba dives, freedives as well as diving courses and workshops on all levels of diving from beginner to technical instructors.

Dive into another world. We look forward to your visit!

https://deepdivedubai.com

World Shootout 2021 OPEN

Announcing the winners live at
boot Dusseldorf show
January 29th 2022

Learn more

BIUPC engages the British and Irish underwater photography communities in a one day photography shoot out.

The competition is open to all underwater photographers of all nations, but images must be from any body of salt or fresh water in the seas, rivers, streams and lakes of Britain and Ireland, including the Isle of Man, the Channel Islands, the Isles of Scilly and the other 5000 or so other islands around our shores that are bounded by the Atlantic Ocean, the English Channel and the North Sea.

A late August/ early September on-the-day multi-location competition format reduces the travel and cost burden for competitors, whilst encouraging participation commensurate with a championship.

Photographers compete for a trophy in memory of one of BSoUP's co-founders, the late Peter Scoones, and the title British & Irish Underwater Photography Champion.

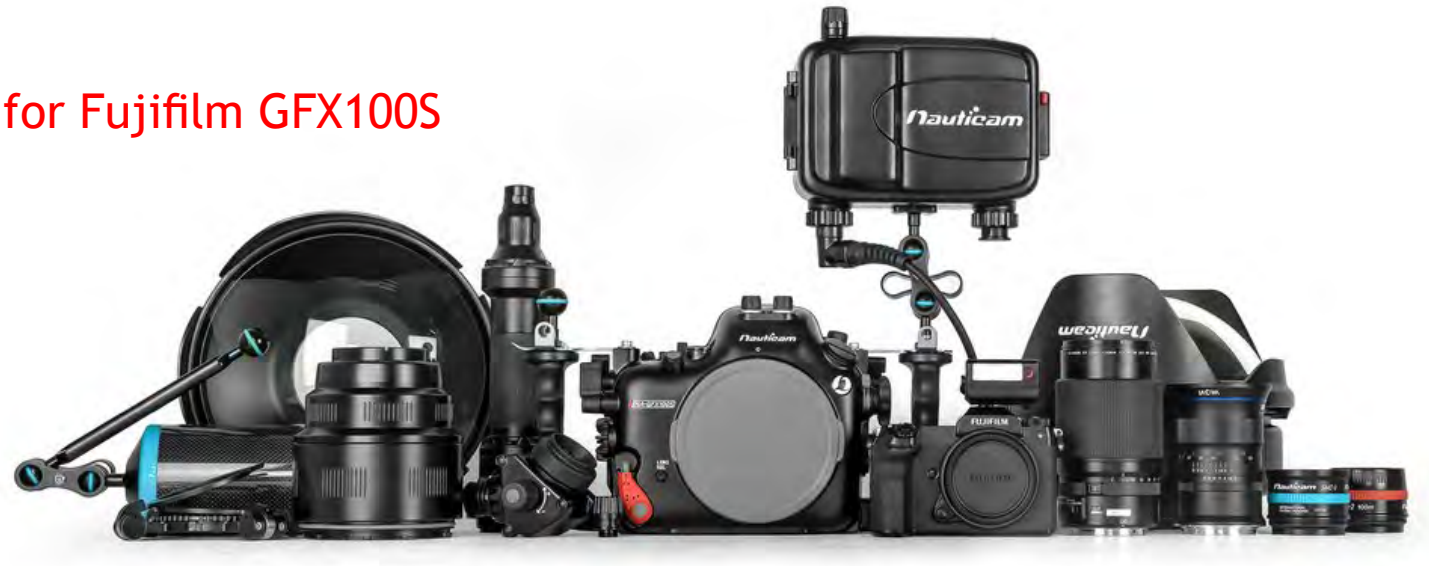
Images can be taken and submitted electronically from anywhere within the championship geographic boundary from 10pm on the Friday to 10pm Saturday.

BSoUP convenes a panel of judges including John Collins and Atanas Petrov during the week following the competition. The results are announced about 2-3 weeks after the competition in a live broadcast from the monthly BSoUP meeting after the competition.

www.bsoup.org

New Products

Nauticam NA-GFX100S housing for Fujifilm GFX100S



With the GFX100S, Fujifilm has transferred the power of the larger medium-format GFX100 into a smaller camera body that is more in line with a standard mirrorless full-frame cameras while also making various performance improvements. The GFX100S maintains the 102MP BSI CMOS sensor yet features a smaller and lighter in-body image stabilization system, autofocus points that cover virtually 100% of the image frame and is powered by the X-Processor 4 chip.

The NA-GFX100S is built with the singular focus of creating an underwater housing that blends ergonomic design, intuitive control placement and rugged field-tested durability. The resulting machined aluminum housing can be further refined with the addition of accessories from magnifying viewfinders to external monitors/recorders. To achieve the full benefit of the stunning 102MP resolution requires the use of underwater optics that are designed with high-resolution lenses in mind to deliver the highest optical quality possible.

The majority of exposure and focus controls are within easy reach of the ergonomic handles that feature stainless steel stiffening brackets to reduce any unwanted movement even when using large strobes or video lights.

A multi-direction pad on the upper right of the rear panel gives access to the camera's joystick. A double lever near the right handle activates the 'AF-ON' and 'Q' controls. Also on the right side are levers for Focus and View modes. The left side has a double lever for 'PLAYBACK' and 'DISP' as as levers for turning the EF-X20 TTL flash on or off and one for the cameras 'V-Fn4' control. On top of the housing is a lever for switching between 'STILL' and 'VIDEO' modes.

Built around the N120 Port System, the NA-GFX100S supports a variety of GF-mount lenses with a selection of optical-quality glass and acrylic ports as well as access to Nauticam's lineup of premium professional optics. These optics are designed suing industrial lens design software to provide unparalleled optical quality and impressive fields-of-view. The Wide-Angle Conversion Port 2 or WACP2, when used with the Laowa 17mm f/4 GFX Zero-D lens can achieve an impressive 140° FOV with an almost 0" minimum focus distance and incredible corner sharpness even at wider-open apertures such as f/5.6.

Dimensions 355mm(W) x 190mm(H) x 142mm(D)
Weight in air 3.23kg
Weight in water 0.05kg (incl camera and battery)
Depth Rating 100m
Port Mount N120
TTL Flash Trigger Fujifilm EF-X20 Flash Unit

www.nauticam.com

Weefine WED-7 Pro monitor

On this 7-inch HD LCD monitor, you can properly assess the sharpness and exposure of your shots underwater. Despite the large screen size of the monitor, it weighs only 1230 grams and is very compact.

The monitor is equipped with an HDMI input and output and is suitable for underwater housings with an accessory port.

The maximum depth is 80 meters.

The monitor comes with a ball connection for easy attachment to your underwater housing.

Anyone who has ever worked with an underwater monitor knows that it is a joy to see and judge your images on a large screen. Is the eye of the fish sharp? Is the lighting perfect? What about the composition?

The monitor is larger than most monitors on the market. A whopping 7 inches. The monitor is very flat and not unnecessarily big, so still very compact.

Compared to other underwater monitors, this Weefine WED-7 Pro is reasonably priced. Certainly because most monitors are 5-inch in size and this WED-7 Pro is 2 inches larger.

The current price can always be found on our website.

www.uwcamerastore.com

Joby Beamo and the Beamo Mini

Available in 2 models, the Beamo and the Beamo Mini provide pocket size lighting for underwater photographers. The dimensions are just 4.7 x 5.1 x 5.1 cm and they are waterproof up to 100 feet [30m].

The Beamo has five brightness modes and a native cold shoe mount allows users to quickly slide it on to housing cold shoes. You can even connect [up to] four Beamo at once for extra light.

Of the two models announced, the Beamo is the most powerful giving a mighty 1,500 lumens of brightness and also boasts wireless charging that can last for up to 100+ minutes at 50% power.

The Beamo Mini gives a third less light at 1,000 lumens. Its magnetic backing allows users to get creative and explore different and unusual angles. Attach it to a wreck to get your ideal lighting.

Finally, the Beamo series are loaded with Bluetooth connectivity and can be combined with the dedicated 'MyJOBY' app, making it easy to adjust on land without losing a perfect position while in front of the camera. The MyJOBY app gives complete control of brightness and management of multiple Beamo at any time.

The new Beamo lights from JOBY are available now with the larger Beamo coming in at £79.95 and the Beamo Mini at £59.95

https://joby.com

Nauticam Atomos Ninja V+ compatibility

Exciting news for all underwater filmmakers! The Atomos Ninja V+ is finally here and we are thrilled to announce it is fully compatible within our existing 17922 and 17922S Nauticam Atomos Ninja V Housings.

One of the most exciting features of the Ninja V+ is that it will enable 8K 30p ProRes RAW recording on the Canon EOS R5 and 4K 120p ProRes RAW on the Z Cam E2. Canon and Z Cam have already announced support with a future firmware update in 2021 and we expect more camera manufacturers to announce support soon.

The Nauticam NA-Ninja V is built around the new M28 large-bore bulkhead that supports HDMI 2.0 and is easily mounted in the housing, dropping in without trays or other mounting accessories and is held in place by two rotating locking levers. The Ninja V features both an HDMI 2.0 input as well as an output and the NA-Ninja V supports both as well. With dual M28 bulkheads, a second HDMI cable can be run to another monitor.

The NA-Ninja V supports up to the NP-F970 size battery which provides up to two hours of run time.

Access to the touchscreen

controls of the Ninja V are handled via a series of buttons and a selector knob beneath the screen of the housing including PLAY, REC, MON, RGB, PEAK and the Muti-Selector Lever. The 17922 and 17922S Nauticam Ninja V Housings are available for purchase through the link below.

www.nauticam.com

AOI Q1 Ultra Compact Strobe

This new little light is a fantastic tool for new photographers and others.

The AOI Q1 underwater compact strobe has a built-in 700-lumen continuous light with three power settings. It can be used for macro photography, as a focus light, as well as a dive torch.

The flash also offers a modeling blink-light function, which fires a short burst of flashes to help users aim and position the strobe as desired (especially useful when using a snoot).

The strobe has a non-removable ball arm and comes with a diffuser, which provides a beam angle of 85°.

With just two buttons and a single knob the control panel of the strobe is kept simple. The knob controls the power setting. The maximum brightness is at number 7 or the equivalent of Guide Number 22. Keeping the strobe to only manual function means that when used with an automatic compact camera, it is easy to obtain the desired the brightness. You can easily adjust the brightness of the strobe to match the exposure of the camera. The UCS-Q1 has a very sufficient beam angle of 85° with the diffuser on.

https://fotografit.eu
www.backscatter.com

The GoPro HERO9 is one of the most compact and easy-to-use cameras for capturing 4K video underwater. It's also great for photo shooters who want simplicity with easy point-and-shoot operation. Our team at Backscatter has spent hundreds of dives shooting GoPro cameras to determine the best underwater settings for capturing excellent video and photos in the easiest way possible.

Setting a GoPro HERO9 for success underwater is a lot easier than many people may think. Nearly everything on the camera is going to be set-and-forget before the dive. The only thing we actually need to change on the camera while underwater is the Custom Preset mode depending on what we plan to shoot (wide angle, macro, video, photo, etc.). Understand why we need to use the Custom Presets and how to get your GoPro HERO9 dialed-in with our settings. Be sure to download and keep a copy of the settings in your camera bag for reference in the field.

*Note: Make sure to update the firmware on your GoPro to the latest version to ensure that it is current and compatible with these settings and features.

www.backscatter.com

Nauticam NA-D780 Housing for Nikon D780

The Nikon D780 brings many of the technological advancements in autofocus, live-view shooting and video performance from the Z series mirrorless cameras to a full-frame DSLR. A true hybrid shooter, the D780 employs a full-frame BSI 24.5MP sensor to create still images with incredible detail and dynamic range as well as to produce UHD 4K video from the full sensor width. Autofocus and metering enhancements as well as video output over HDMI options allow the D780 to excel in both video and still applications.

Nauticam engineers are obsessed with functionality and this is evident in the location of essential controls. Regardless of where the control is located on the camera, the Nauticam housing puts them where you need them to be underwater. For those switching between photo and video modes, an easily reachable switch is located on the right rear of the housing. The right side double thumb lever, easily reached from the right handle features access to the AF-on and Record buttons respectively. Between the double thumb lever and the multi-stage shutter release is an ISO lever allowing quick changes to sensitivity.

The left double thumb lever accesses the Info and Playback controls. The Zoom In and Zoom Out controls are located on the the left side of the housing to a location familiar to Nauticam housing users.

Dimensions 351mm(W) x 187mm(H) x 134mm(D)
Weight in air 3.2kg
Buoyancy in water
negative 0.2kg (incl. camera and battery)
Depth Rating 100m
Port Mount N120

www.nauticam.com

We have taken the best strobes for underwater photography and put them to the test to find the Top Picks for wide angle, macro, budget, and all-around performance. The info in this guide will make it easy to find the strobe that is best suited for your underwater photography needs. The strobes in this review have been evaluated based on what they are actually like to use and shoot underwater - not just the stated specs on the side of the box.

We broke all of the current strobes down to four categories: Budget Strobes, All-Around Strobes, Big Bang Strobes, and Macro Strobes with Snoots.

Budget strobes are inexpensive and easy to travel with because of their small size and are generally best suited for compact cameras.

All-Around strobes are a compromise between the best of macro and the best of wide angle.

If you want to light a big scene then you need a Big Bang. Big Bang strobes are the ultimate wide angle photography tool.

Macro strobes are small, lightweight, and designed to get into tight spaces where macro critters live.

Strobes can be a bit overwhelming when learning the need-to-know details. If you have questions at any point, please don't hesitate to give our experts a call. Every member of our team has extensive experience with the strobes in this review.

https://www.backscatter.com/reviews/post/Best-Underwater-Strobe-Flash

Ikelite Large Bore M24 Port Modifications

Professional underwater filmmaking with a full frame mirrorless camera can mean more than just a good camera body and lens. The 200DL housing series now supports the attachment of third-party external monitors via HDMI 2.0 through a dedicated large bore M24 accessory port.

The port is conveniently located on the left side of the housing just behind the handles to keep the large diameter cords out of the way of your hands and face while shooting.

There are three upgrade paths if you plan to use an external monitor with your housing:

1 | Upgrade at time of purchase

Contact Ikelite or your local Authorized Ikelite Dealer to purchase a housing with the M24 accessory port pre-installed. There is an additional US$200 surcharge to add this feature. As this is a special order item, please allow at least 3-4 weeks. Due to high demand, we are not able to complete rush requests at this time.

2 | Upgrade after purchase

Eligible housings may be returned to Ikelite for the installation of the M24 accessory port at a cost of US$300 plus return shipping.

3 | Upgrade at time of service

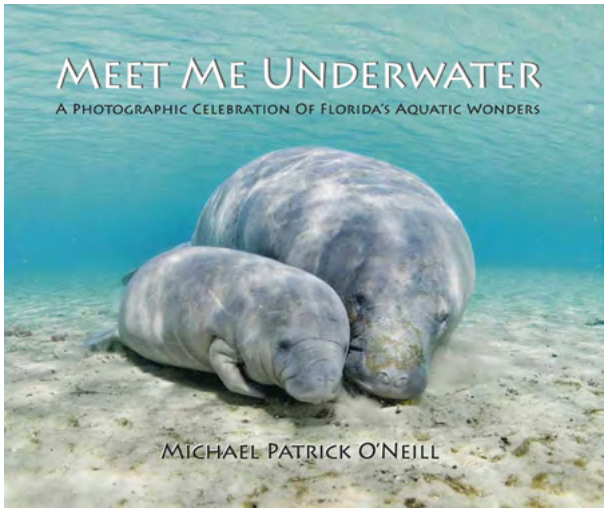
Save US$100 over the after purchase upgrade price by having your housing serviced at the same time. Service includes replacement of the seals, electrical test, controls check, and water pressure test. The total cost is US$400 plus return shipping.

The fees listed above include machining of the housing, installation of the accessory port plug, and water pressure test. The fees listed do not include any repairs or replacement parts that may be required. A complete estimate is provided before any work is done. Please allow at least 4-5 weeks turnaround time. Due to high demand, we are not able to complete rush requests at this time.

www.ikelite.com

Meet Me Underwater

by Michael Patrick O'Neill



Scheduled for publication in September 2021, Meet Me Underwater is a premium quality photography book showcasing the Sunshine State's watery wonders,from coral reefs and springs to the Everglades and beyond.

Like my previous seven books, it's designed to encourage people of all ages to have a greater appreciation for the environment, especially Florida's, under incredible strain as the state's population continues to grow by leaps and bounds.

Anybody who has been to Florida, or has a little Florida "in them", will certainly enjoy this book.

When not making photographs or writing, I'm on the lecture circuit promoting a greater appreciation for the natural world, especially the oceans and their inhabitants. In the last 17 years, I have presented to over 500,000 kids in more than 400 schools in the US, France and Brazil, my home country.

My images have appeared in hundreds of publications worldwide including BBC Wildlife, National Geographic Magazine, The New York Times, Wall Street Journal, The Journal Nature, among many others, and have won the most prestigious competitions, including World Press Photo, Wildlife Photographer of the Year and Pictures of the Year (POYi).

www.mpostock.com

www.uwpmag.com

The Whales of Tonga by Tim Rock

Internationally published author TIM ROCK has made numerous trips to Tonga and shares his insights into how to enjoy swimming with humpback whales. Humpbacks are magnificent Pacific nomads that migrate each year between Antarctica and Tonga, which is one of the few places in the world where visitors can legally swim with these amazing giants of the sea. The stunning 170 islands of Tonga offer adventure, culture, wonderful nature and of course, marine mammals galore. Humpbacks are one of the most surface-active whales in the world and sometimes launch themselves from the sea in spectacular breaches.

This book is a bit of a new departure for author Tim Rock, who usually produces guides to famous scuba diving destinations. While Tonga does have some amazing scuba diving, in this book, Rock concentrates on viewing and interacting with humpback whales and the things one might experience during a Tonga whale season.

This unique offering looks at many aspects of Tongan humpback whale behavior, from their great annual migration to life among the "Happy Isles". He has tips for above and underwater whale photography and tells fascinating tales of his personal experiences while swimming with humpbacks and folk he has encountered in the islands.

See over 175 amazing images of humpback whale behavior, heat runs, mating sessions, mother and calf interactions, Tongan life and the beauty of the islands. This full color book explores each one of Tonga's island groups from south to north.

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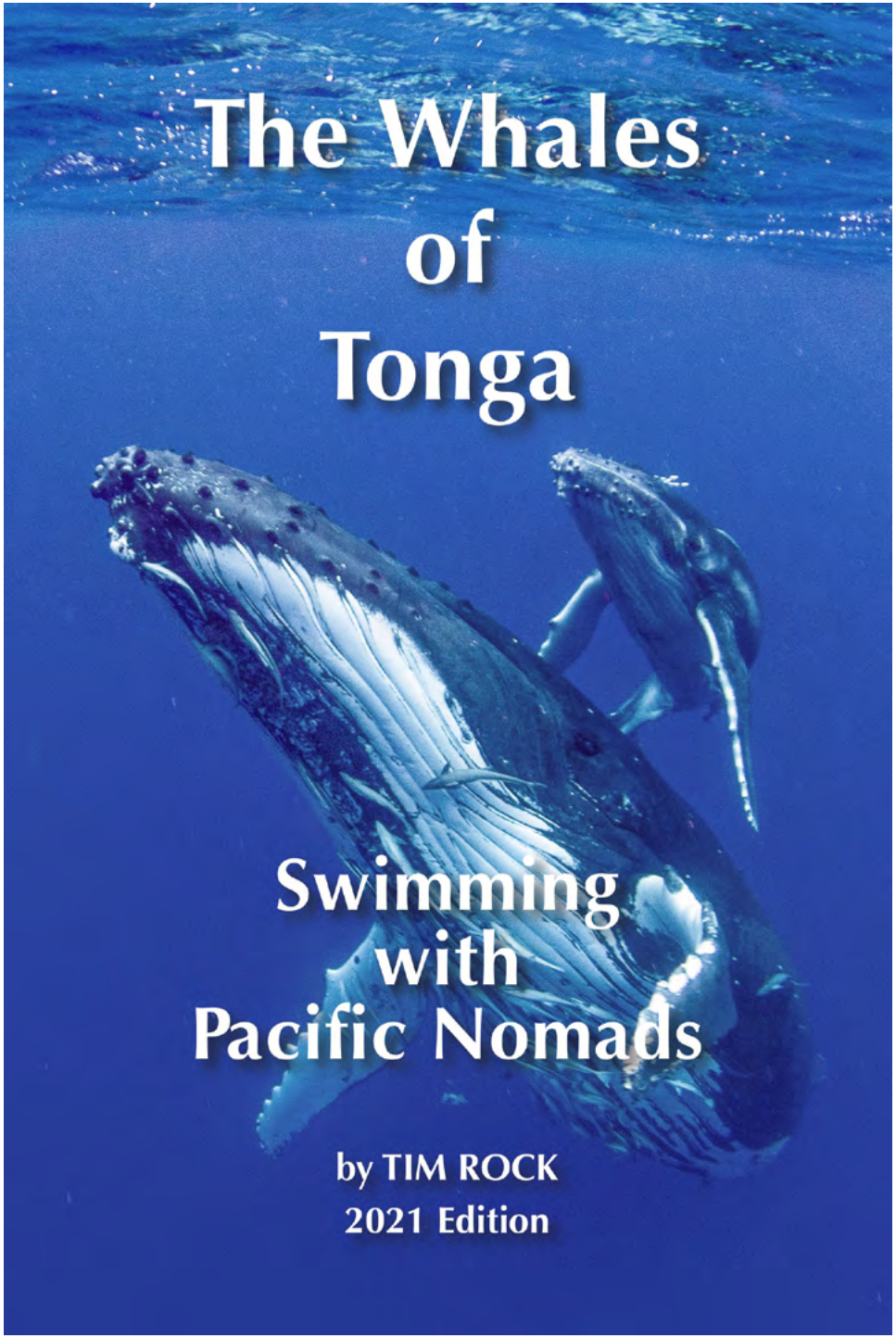
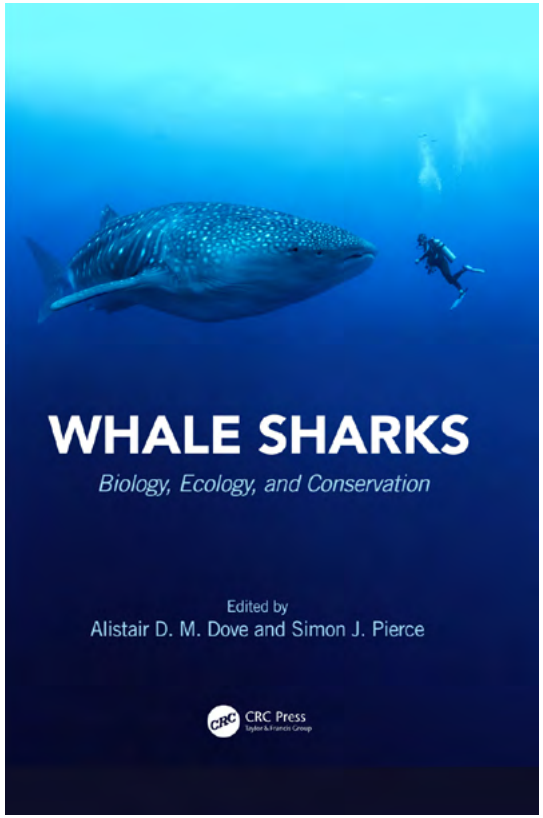


Whale Sharks

Biology, Ecology, and Conservation

Edited By Alistair D.M. Dove, Simon J. Pierce



Whale sharks are the largest of all fishes, fascinating for comparative studies of all manner of biological fields, including functional anatomy, growth, metabolism, movement ecology, behavior and physiology. These gentle ocean giants have captured the interest of scientists and the imagination of the public, yet their future is uncertain. The conservation status of whale sharks was upgraded to Endangered on the IUCN Red List and the species faces a range of intense threats from human activities. Can these iconic living animals, who have survived for millions of years, survive us?

Written by the world's leading experts in whale shark biology, ecology, and conservation, Whale Sharks: Biology, Ecology and Conservation is the first definitive volume about the world's biggest fish. Chapters include discussions of satellite-linked tags, used to track whale shark movements; genetic sequencing, to examine evolutionary adaptations; even the use of underwater ultrasound units to investigate the species' reproduction. The editors hope that by collating what is known, they can make it easier for future researchers, conservationists, and resource managers to fill some of the remaining knowledge gaps, and provide the information they need to join the team.

As you work your way through this book, we hope that you will develop a sense of awe and marvel at all of our good fortune to share the ocean, and the planet, with this utterly extraordinary species.

Alistair D.M. Dove Ph.D. is a broadly trained marine biologist and currently Vice President of Science and Education at Georgia Aquarium in Atlanta, USA, where he oversees international research programs on whale sharks, manta rays, coral reefs, sharks and dolphins. Alistair graduated from the University of Queensland in Brisbane, Australia with a B.Sc. Honours first class in 1995 and a Ph.D. in Microbiology and Parasitology in 1999, for which he was awarded a University Medal and Dean's List commendation. His early research focus was on parasites and diseases in freshwater and marine environments, but after a period studying diseases of lobsters, he began focusing on the biology and ecology of whale sharks after moving to Georgia Aquarium in 2006.

Simon J. Pierce Ph.D. is a co-founder and Principal Scientist at the Marine Megafauna Foundation, where he leads the global whale shark research and conservation program. Simon is also a Co-Chair for the Sub-Equatorial Africa region within the IUCN Shark Specialist Group, a Science Advisor to the Wildbook for Whale Sharks global database, and a founding board member of the Sawfish Conservation Society. Simon holds a BSc in Ecology from Victoria University of Wellington in New Zealand, and a BSc (Hons, 1st Class) and doctoral degree in marine biology from The University of Queensland in Brisbane, Australia. Simon began working with whale sharks in Mozambique in 2005, and now leads or collaborates on conservation biology and population ecology research programs across the world.

www.routledge.com/Whale-Sharks-Biology-Ecology-and-Conservation/Dove-Pierce/p/book/9781138571297#

Two Worlds: Above and Below the Sea

by David Doubilet

Phaidon is pleased to publish Two Worlds: Above and Below the Sea, from legendary photographer David Doubilet.

The ocean covers more than 70 percent of our planet, and yet we rarely glimpse its depths. Doubilet has spent decades working to change that by documenting and revealing the exquisite beauty of the ocean's depths. His work in and on the water has set the modern standard for underwater photography. 'I want to create a window into the sea,' he says, 'that invites people to see how their world connects to another life-sustaining world hidden from their view.'

Born in New York in 1946, Doubilet is a long-time contributor to National Geographic magazine with over 75 stories since he first joined the organization in 1972. Doubilet enters the ocean as a journalist, artist, and explorer. He has spent over 27,000 hours beneath the surface since he first put his Brownie Hawkeye camera in an anaesthetist's rubber bag and jumped off a jetty at the age of 12.

Two Worlds: Above and Below the Sea features Doubilet's signature images drawn from his entire underwater career; they span Papua New Guinea to Grand Cayman Island, the icy waters of the Antarctic Ocean to the tropical Great Barrier Reef.

With these remarkable photographs, Doubilet aims to capture the unique viewpoint at the surface of the water that shows the world above and below in a single frame.

His journey reveals rare sea creatures, corals, plant life, and the underwater landscape's striking hues. These photographs are not only breathtaking – they also highlight important issues about marine conservation and climate change.

Pre-order now. This title will ship from September 9th, 2021.

www.phaidon.com

Inon Z-300 Type2

by Phil Rudin

Founded in 1994 Inon Inc. is a Japanese company which is well respected in the underwater photography world. I am sure many UWPMAG.com readers have already been using Inon flashes, wet lenses, LED lights or any the hundreds of other products Inon offers.

One of the main reasons the Inon Z-330 & D-200 flashes have become so popular over the years is the very small size verses power output, the robust and time tested design, build quality, the use of nonproprietary AA batteries and the exceptional S-TTL which is compatible with just about any camera and housing.

In the Jan/Feb 2018 issue #100 of uwpmag.com I did a full review of the Z-330 when it was first released. This review will cover the upgrades implemented in the Z-330 Type2 release.

Inon Z-330 Type2 Flash

The Inon Z-330 Type2 is the latest and most technologically advanced of the Inon Z-line of flashes. All of the excellent design features of the Z-330 remain with two noticeable technical advances.

The same light weight polycarbonate gray resin body for the electronics and batteries remains unchanged. Inon's unique patented T-shape twin flash tube construction is unchanged and the powerful 33 guide number remains the same.

On the original Z-330 an oval shaped plastic fresnel device was placed in front of each flash tube standing about 8mm above the flash tubes. The fresnel device helps disperse the light more evenly across the center of the frame while allowing the light heading to the corners of the frame to retain at a higher intensity while traveling over a greater distance.

Inon Z-330 flashes use a clear dome over the flash tubes and modeling light that widens the beam angle of the Z-330 to 110 degrees without reducing the 33 guide number.

The new Z-330 Type2 strobes has replaced the clear dome with the high performance Fly-Eye dome lens. The fly-eye material is similar to the fresnel device that covered the flash tubes on the original Z-330. Having the dome fully covered with the fly-eye coating this coating acts similar to a softening diffuser without the downside of reducing the 33 guide number or changing the 110 degree underwater beam angle. This greatly reduces uneven light distribution which often result in hot spots in a photo.

The flash tubes retain the same 5500 kelvin color temperature as previous Z-flashes when not using a filter and the output of the modeling light remains 220 lm.

The Z-330 Type2 removable "light shade" which threads to the front of the flash and rotates 360 degrees around the flash tubes now has a reflective foil coating. The light shade has click stops all 360 degrees so that the shade remains in place once it is set.

The light shade is designed to dramatically suppress flare and ghosting when the flash is placed close to the lens port. It also redirects the

light while shooting close to a light sandy bottom where you would want to prevent blowing out the highlights of the sand.

By turning the shade to the bottom of the flash the light output over the sand would be reduced allowing a more even transition from the sand bottom to the flash lit main subject. This is not a new idea many photographers have been using their hands or a slate for this purpose since the film days. The shade with its 360 degree rotation will certainly make this process easier to control. All of the new features added to the Z-330 type2 are also found on the new Inon D-200 Type2 flash.

The same optional 4900K and 4600K color correcting dome filters plus a -4EV ND dome filter for shooting wide open with fast lenses can be used with the Z-330 Type2. All of the other Z-330 accessories work on the Type2 and the function settings remain the same.

Not All Strobes Are Created Equal

I want to take a moment to editorialize and say that selecting a strobe based solely on specs many be disappointing. Many other factors should be taken into consideration such as the track record of the manufacture, build quality, warranty and repair history. Also consider deviations between different manufacturer testing methods, overall flash size for traveling, use of one or more flashes, accessories like filters, snoots, camera triggering devices, available batteries or proprietary batteries and more.

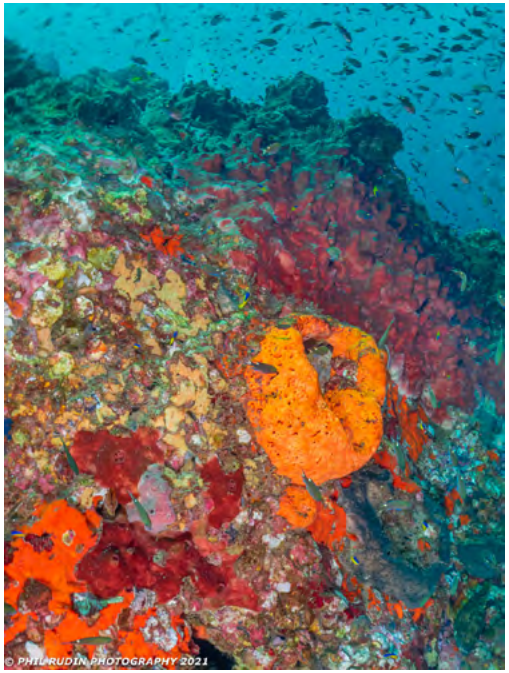
Loggerhead Turtle resting after laying eggs, Teardrop Reef, Palm Beach, Florida, Sony A1, Sony 14mm F/1.8, Nauticam Na-A1 housing with Zen 230mm dome port, Inon Z330 type II flashes, ISO-320, F/14, 1/125th sec. manual power settings

Schooling French Grunts, Teardrop Reef, Palm Beach, Florida, Sony A1, Sony 14mm F/1.8, Nauticam Na-A1 housing with Zen 230mm dome port, Inon Z330 type II flashes, ISO-320, F/13, 1/125th sec. manual power settings

Regarding the issue of guide numbers/watt seconds and how this value is reached, my best guess would be that most flashes are rated against each other when reviewers and some manufactures use a flash meter. At a given ISO setting (usually ISO-100) the flash meter is used to test output in meters and most often at the center point of the strobes flash pattern. As a result one flash may have a guide number of say 32 meters while the second flash has a GN of 24 all things being equal. The problem with this method is that the 32GN flash may only have a beam angle of say 80 degrees

(without a defuser) while the 24GN strobe may have a 110 degree beam angle.

When a 110 degree defuser is added to the 32GN strobe the GN can be reduced to 24. This is not exactly apples to apples for the purpose of a review. While the 32GN flash may fit the needs of the photographer shooting macro and wide angle it may not fit the needs of the dedicated hard core super wide angle photographer. Variations can also



Colorful Stetson Wall, Flower Gardens, Freeport, Texas, Olympus E-PL10, Olympus M. 14-42mm F/3.5-5.6 EZ lens at 14mm, AOI housing with AOI UWL-09 Wide Conversion Lens, two Inon Z330 Type II flashes, ISO400, F/4, 1/100th sec

be found in light meters some may read a 30 or 40 degree angle of the flash beam while others only read a few degrees.

Calculating recycle times and the total number of flashes on a single set of batteries may tend to vary between manufacturers as well. My point here is to not get hung up on the numbers and concentrate on how the flash will work for you in the field.

Spotted Scorpionfish, Flower Gardens West Bank #2, Freeport, Texas, Olympus E-PL10, Olympus M. 14-42mm F/3.5-5.6 EZ lens at 31mm, AOI housing with AOI UWL-09 Wide Conversion Lens, two Inon Z330 Type II flashes, ISO400, F/8, 1/100th sec

Field Testing The Inon Z-300 Type2

For my review I used a verity of flash configurations including clamping the strobes directly to the balls on the tray handles all the way to dual strobe arms.

My test cameras were a Sony A1 with the Nauticam NA-A1 housing using Sony FE macro and wide angle lens and an Olympus EPL-10 with the AOI housing and “kit” zoom with AOI wet lens. I used two Inon Z-330 type2 flashes with fiber optic cables and the UW Technics flash trigger for Sony in both S-TTL and manual settings. The Olympus camera was also shot with fiber optic cables but in manual only.

The Z-330 II is well suited to both cameras using one or two flash units. With the Z-330 II flashes in manual with Sony full frame I used ISO-settings in the 100-640 range and with the Olympus M43 camera I used ISO-100 to 400. With the Sony I shot at F/9 to F/16 for wide angle and with Olympus I shot wide at F/4.5 to F/9. These numbers reflect the differences needed with the full frame versus the M43 for best corner sharpness. Also the difference between shooting full frame with a 230mm dome and the M43 with a wet wide lens.

I used the rotating shade for both macro and wide angle with positive results. This will require more testing before I can fully assess the benefits for both reducing backscatter and redirecting light.

The additional power of the Z-330 type II flash and the even light distribution created by the Fly-Eye dome was immediately evident compared to my Z-330 and Z-240 type 4 strobes. Quality of light is somewhat subjective so for me the color and quality were excellent. I used new Eneloop Pro batteries for this review and noticed no difference in recycle times or battery life verses the Inon Z-240 or Z-330 flashes.

On the subject of ‘be careful of what you wish for’, while I found the new larger Z-330/Z330 II controls easer to use they were also easer to bump off the chosen settings if you are not paying attention. I found the color filters easy to attach and remove above water while remaining totally secure once installed. The filter is harder to remove underwater and it does have two small attachment points if you want to secure it to a clip.

The Inon Z-330 Type2 flashes are an excellent choice and a noticeable improvement over the original Z-330. The Z-330 Type2 retail in the US for $650.00 while the Inon D-200 Type2 flash retails in the US for $500.00. Additional color filters and ND filter should retail for under $15.00 US.

I would like to thank Inon Japan and Takuya Torii for arranging the loan of the two Z-330 II flashes I used for this review.

Phil Rudin
Instagram

Ultralight GoPro Mount

by Arun Madisetti

I abuse my equipment; ok let me explain further - I use my equipment, often for weeks on end - day in day out, usually giving it a perfunctory rinse at the end of the day, or sometimes sitting in the cooler bag damp overnight in the car. At the end, it is always soaked, rinsed, dried and loaded again. It never gets the full 'wash, dry, polish and put on the shelf for next year' treatment. I use my tools and expect them to perform.

I have no need of the latest greatest black box of tricks with an astronomical amount of megapixels enclosed within. I am extremely happy with my set up. The company I have dealt with for the past 15 years has always been there at the end of a call, delivering parts (most recently shutter spring mechanisms) as quickly as possible.

What has let me down has been those awful mounts for the most popular 'action camera'. After two weeks of abuse the screw for my action cam finally rusted and the head snapped. I am sure I'm not alone in cursing those things, but they weren't made for folks like us who take them underwater.

I was donated a red action cam mount, not from the popular Italian company, but off eBay. Currently the housing for that mount is firmly stuck to the mount. It also rusted and the screw head snapped off - brittle. Not even pliers will get it to budge.

After choosing and using several choice expletives and scratching my head I decided to chat with very likeable Ken at Ultralight. I have been using Ultralight (ULCS) since they came on the market in the 90s apparently being run from the kitchen table at the time, and Ken had just bought the company.

He said, "I've also been thinking about this, I'll work something out". After a few chats over several months and a lockdown or two, a year went by - plague and lack of mail to our Caribbean island notwithstanding.

Finally, a package arrived and I was able to attach it to a new plastic box and affix to my housing. I use a standard action cam mount, with a (ULCS removable) threaded screw to go into the top of the camera housing. Also sent was the new AD-HS-GP adapter for those who have a hotshoe on the top of their box of choice. The adapter has been designed to prevent damage to the hotshoe by using an aluminum plate and locking nut. A lanyard was also supplied to ensure the equipment and plate are and remain secure. There is also a money back guarantee if the hotshoe mount should break.

The mount is sturdier and thus far, after almost two months of daily use, underwater or in the bag on the deck waiting to get wet has been great. I can still unscrew the box from the mount, and the mount from the camera housing. The screw has not rusted or screw head gotten brittle. I hope this condition will continue and I will get many more hours underwater with it.

For those of you looking to get something a little sturdier than the supplied action cam mounts, I suggest contacting Ken at ulcs@ulcs.com

Arun Madisetti

IG: Madisetti.a

FB: Images Dominica

www.ulcs.com

Arun Madisetti or Izzy as he is more widely known, is well known for choice expletives when things malfunction. He is a marine researcher living and working in the Commonwealth of Dominica and spends a lot of time in the company of Sperm Whales annually. IG: Madisetti.a FB: Images Dominica.

Sony FE 14mm F/1.8 GM lens

by Phil Rudin

Sony has a new compact ultra wide-angle very bright 14mm F/1.8 GM lens with stunning corner-to-corner resolution at all apertures.

This ultra-wide rectilinear lens is designed for the Sony series full-frame sensor cameras and can be used with sensor stabilized cameras or without stabilization on Sony E-mount cameras.

The 14mm F/1.8 has a 114° fixed angle of view on full frame Alpha series cameras making it an excellent ultra wide angle lens for underwater photography. Using the 14mm F/1.8 with the E-mount APS-C mirrorless cameras the equivalent focal length is 21mm. While this is a useful focal length the Sony-E series 10mm to 18mm F/4 OSS zoom lens would be more appropriate for underwater use with APS-C cameras using a smaller dome size.

With a minimum focus distance of just 25cm (9.8 inches) the 14mm lens will focus all the way to the Zen Underwater DP-230 dome glass with a maximum reproduction ratio of 0.1X.

The optical design includes 14 elements in 11 groups including two XA (extreme aspherical) and one standard aspherical element to control astigmatism, field curvature, come, distortion and additional spherical aberrations for a high degree of sharpness. One super ED element and two extra low dispersion elements help reduce chromatic aberration and color to improve clarity and color neutrality.

Nano AR coating is applied to reduce surface reflections, flare and ghosting for increased contrast. Color rendering is excellent even in bright lighting conditions. The nine rounded diaphragm blades offer excellent bokeh for a lens this wide even wide open at F/1.8. This lens features two advanced inner-focus XD linear motors for super fast and accurate auto focus lock-on as well as smooth, quiet operation.

The lens also weights a mere 460 grams (1lb) with dimensions of 83mm X 99.8mm (3.3 X 3.9") including the built-in hood. By comparison the Sigma 14mm F/1.8 DG HSM art lens for Sony weights in at 1170 grams (2.6 lb) and 95.4 X 126mm (3.76X4.96").

The Sony FE 14mm also has advanced moisture sealing and dust proofing along with a customizable

focus hold button above the AF/MF switch. It also has an aperture ring on the body of the lens for those shooting above water.

The front glass element is rounded so a filter can't be directly mounted to the front of the lens. The lens does however have a mounting point on the rear of the lens for mounting gel filters and includes a plastic template for cutting the filters. After market kits also allow fixed glass filters to be added to the rear of the lens.

Sony has supplied an excellent lens cap that slides over the lens hood and locks securely in place. This is one of the best caps I have used for a lens with an integrated hood and is much like the cap for the Sony FE 12-24mm F/2.8 zoom.

The lens is excellent for U/W work and I have also been very impressed with this lens for travel, landscape, architecture and astro. NiSi makes an excellent filter holder and a verity of filters designed for the this lens if you are interested in travel and landscape.

The Sony FE 14mm F/1.8 GM ships with front and rear caps, a built in lens hood, plus a quality padded lens bag for storage and transport. The Sony FE 14mm F/1.8 GM has a retail price of around $1588.00/£1349.00 and the lens is available from your local authorized Sony dealer.

Zen Underwater DP-230 port

Zen Underwater was founded in 2007 with the single goal of designing and building the highest quality optical glass dome ports available.

I chose to pair the Sony 14mm F/1.8 with the outstanding Zen-DP-230-N-120-1124D Optical Glass Port for Nauticam housings.

The DP-230 (230mm/9 inch) is the largest dome port in the Ft. Lauderdale, Florida based Zen dome port lineup. This 100 meter rated port is designed for the Nauticam N120 port mount and features a large inner diameter to accept ultra wide zoom lenses like the Canon 11-24mm F/4, Sony FE 12-24 F/4 and Sony FE 14mm F/1.8 which all have fixed lens hoods.

Zen Underwater dome ports are state-of-the-art made from the highest quality materials using cutting edge optical technology. Like all of the Zen ports I have reviewed for UWPMAG.com the fabrication process begins with BK7 dome glass for outstanding optical performance.

I chose the DP-230 port for its large 120mm radius of curvature because it is excellent for full frame cameras using ultra-wide rectilinear lenses. For shooting over/under images the large glass surface minimizes water beading and creates a smooth transition from air to sea. Annoying reflections off the camera and lens often seen in the final image while shooting with acrylic ports at or near the surface have been all but mitigated.

Zen Underwater uses a magnesium fluoride broadband antireflective coating on the interior dome element which minimizes the camera/lens reflections.

The Zen DP-230 weights in at 2.2kg (4.8 lbs) the exterior diameter is 250mm (10”) with an overall height of 110mm (4.3”). The port ships with a quality neoprene protective cover which is secured over the two lens shade blades. The two blades are held in place by eight allen screws which are removable for shooting with fisheye lenses that have the 8mm circular (360 degree) image.

The Zen Underwater DP-230 dome port retails for $2099.00/£1860.00 (inc VAT). Nauticam’s recommended port configuration includes the N100 to N120 35.5 mm port adapter II with zoom/focus knob which retails for $543.00/£443.00 and the N-120 30mm extension ring with port lock which retails for $345.00/£256.00.

The N100-N120 port adapter II allows the 120mm dome port mount to be mated with the 100mm port opening on all Nauticam housings for Sony full frame cameras from A7R IV and newer. The older N100-N120 35.5mm port adapter type I is used for older cameras.

Nauticam’s N-120 30mm extension ring with lock has an improved inner locking device and installs between the N100-N120 35.5mm port adapter II and Zen DP-230 dome port. The extension moves the port glass away from the front of the lens to achieve the sharpest image quality possible.

Nauticam does extensive testing to select the very best dome and extension combination for each new lens, I recommend that users consult

Loggerhead Turtle, Teardrop Reef, Palm Beach, Florida, Sony A1, Sony 14mm FE F/1.8 lens, Nauticam NA-A1 housing, Zen 230mm dome port, two Inon Z330 flashes, ISO-320, F/14, 1/160th sec

Nauticam's port charts and use the recommended combinations for best results. This is not a DSLR lens adapter that sits between the camera and lens.

As a sidebar Megadap is now shipping a Nikon Z autofocus mount adapter that allows Sony mirrorless E mount lenses like the FE 14mm F/1.8 to be used with the Nikon Z line of camera bodies. This adapter allows the Z-cameras to take full advantage of the Sony mirrorless lens system.

Field Testing The Lens And Port Combination

I tested the Sony FE 14mm lens and Nauticam DP-230 dome port combination during trips to the Flower Gardens in Freeport Texas and a few local Florida dive sites.

My test system included the Sony A1 camera body, the Nauticam NA-A1 housing and the additional equipment items listed above. For lighting I also used two Inon Z-330 type II flashes fired with the UW Technics TTL flash trigger for Sony I reviewed in the last issue of uwpmag.com. I also used Nauticam fiber optic cables and four Nauticam arms.

The large interior volume of the DP-230 port was more than buoyant enough to negate the need for my ten inch Nauticam float arms. With the eight inch arm configuration the housing was balanced to my liking and I had no wrist fatigue even after several dives per day.

With the air pocket captured by the DP-230 the port had a tendency turn the port glass up a bit this was overcome with little difficulty. You can refer to my full review in uwpmag.com issue #120 for more information about the complete A1 camera and housing system used for this review.

James, Flower Gardens West Bank #2, Freeport, Texas, Sony A1, Sony 14mm FE F/1.8 lens, Nauticam NA-A1 housing, Zen 230mm dome port, two Inon Z330 type II flashes, ISO-640, F/13, 1/30th sec

The Sony 14mm lens can be directly mounted to the A1 body and installed into the housing from the rear while the dome port and extension are in place. With larger lenses like the Sony FE 12-24mm F/2.8 zoom the lens and gear need to be installed from the front of the housing and then the port and extension are installed over the lens.

Be sure that you have a fully charged battery and one or two formatted cards in the camera. Slide the camera and tray into place inside the front half of housing and lock the tray with the locking lever. Then mount the flash trigger in place on the camera hot shoe making sure that it is pushed all the way forward.

If you are preparing the system for a dive make sure the moisture alarm in the back half of housing is turned on then secure the back of the housing to the front using the two locking levers. Next turn on the camera and flashes, then test fire the flashes to be sure everything is working properly. Finally remove the vacuum valve cover, draw the vacuum using the Nauticam pump and replace the cap.

The Sony 14mm G Master lens earns the GM badge as a top professional lens preforming very well behind the DP-230mm dome port below water and while shooting over/under images.

I shoot split images at F/11 to F/16 (the highest F number) for greatest DOF in overhead sunlight keeping the sun to my back when possible. I also use the Inon Z-330 Type II flashes for lighting on

the underwater side in some cases. I found the lens and port combination excellent for wreck scenes, reef scenes, model photography and close focus work.

The lens will focus at or near the port glass and will work well as a close focus wide angle lens for larger subjects like octopi, scorpionfish, turtle portraits and more. I prefer to use the Canon 8-15mm fisheye lens with a smaller 100-140mm fisheye dome port for smaller CFWA subjects.

The auto focus is fast and very accurate using the A1 body in both AF-S and AF-C modes. With all of the 35mm full frame sensor cameras I have used the best results for both depth of field and corner sharpness come at F/13 or above. Most non-pixel peeping underwater photographers will be more than happy shooting this lens in the F/8 to F/16 range but for maximum corner sharpness F/13 to F/16 renders the best results. divers and other.

When shooting a lens this wide with on-sensor image stabilization you can get away with shooting at a flash sync speeds as low as 1/15th of a second with static subjects. Unless I am trying to create image blur I keep the flash sync in the 1/30th to 1/400th range since everything underwater is in motion making image blur common at slower shutter speeds.

With the excellent high dynamic range and low noise levels of the A1 bumping the ISO to 640 and above to maintain higher F/numbers is a breeze.

I prefer auto white balance which seems most effective when shooting stills and AF-C focusing using the focus area tracking spot at the medium setting. I also use multi metering and center metering modes with wide lenses.

I also at times use the Inon 4600K warming filters on the Z-330 type II flashes to accentuate warm subjects while enriching blue water backgrounds. Inon also offers a 4900K warming filter which is good for enriching skin tones. The tradeoff for these filters appears to be about a one stop loss of light output, a small price to pay for a verity of color output choices. I also keep the front of the Z-330 type II flashes well behind the dome keeping them parallel to each other. This helps to prevent backscatter and harsh side lighting and flare from entering the frame.

For wider shots with greater camera to subject distances I turn the strobes about thirty degrees outward but still in line with the grips this helps to reduce backscatter.

When shooting subjects very close to the dome the flash heads need to be pulled in close to the dome. When using a lens as wide as 14mm (114 degrees) backscatter and flare are common if flashes are not properly positioned for every shot. Just like with fisheye lenses looking into the corners of the EVF or LCD while composing the image is important. Items like your fin tips, strobe cables, unwanted diver parts, sun flare and more can sneak into the corners of your image and ruin an otherwise excellent composition.

Because the lens can open all the way to F/1.8, I of course took a few shots wide open. As you would expect this setting is great for above water use but behind a dome port corner sharpness falls off dramatically while the center remains tack sharp.

Bill Dutton image, The Author holding the Sony A1, Sony 14mm FE F/1.8 lens, Nauticam NA-A1 housing and Zen 230mm dome port.

If you use Sony or Nikon full frame mirrorless cameras I would highly recommend this lens and port combination for its ease of use, total image quality, cost v. quality and more. The Sony 14mm mirrorless lens is ideal behind a 230mm port while most DSLR 14mm lenses need the 250mm port for best results.

Thanks to the Nauticam USA team for assistance with equipment used for this review. Visit your authorized Nauticam, Sony and Zen Underwater dealers for local pricing and further details.

Phil Rudin
Instagram

Small Ads

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Olympus EPL-10 with AOI housing

by Phil Rudin

Olympus officially launched its first Micro Four-Thirds camera, the E-P1, in June of 2009 after a clever advertising campaign linking it to the very popular PEN film cameras of the 1960s and 70s.

Fast forward to February 2010 and the official announcement of the Olympus E-PL1, a simplified and less expensive addition to its Micro Four-Thirds camera line. This is an excerpt from my first article for uwpmag.com UWP#56 (Sept/Oct 2010) and it seems fitting that my 100th article for issue UWP#122 is a review of the Olympus E-PL 10.

The Olympus E-PL 1 and Olympus PT-EP01 housing was my first mirrorless camera system and I have not owned a DSLR since. To say that in the past eleven years mirrorless technology has advanced would be a gross understatement and Olympus has been responsible for many of the advancements.

Olympus E-PL 10

The Olympus E-PL 10 is one of the last Olympus branded cameras available now that Olympus imaging has been sold and rebranded as OM Digital. The future of M43 cameras appears promising going forward with new camera bodies and lenses being introduced almost weekly.

The E-PL 10 is a quality entry level camera with an excellent 14-42mm F/3.5-5.6 EZ "kit" lens which is ideal for entry into interchangeable lens underwater photography. The AOI housing, the camera, kit lens, zoom gear and more retail for around $1300.00 US. This is a smaller investment than many fixed lens consumer compact cameras and housings. The camera and kit lens alone retail for around $650.00 US.

The E-PL 10 has a 16.1 MP live MOS sensor with the latest TruePic VIII image processor, UHD 4K video recording at 30 fps, a 3.0 inch 1.04 Dot 180 degree flip/touchscreen and up to 8.6 fps for stills with up to 14 frames in RAW and 220 frames in JPEG using electronic shutter. With the anti-shock first curtain shutter you get 4.8 fps.

The manual ISO ranges from 100 to 25600 with auto ISO from 200 to 6400 (with expandability to 25600). Unlike many other entry level DSLR and mirrorless cameras the flash sync for the E-PL 10 goes as high as 1/250th sec a big plus over the more common 1/160th for many others.

The camera is offered in Black, Brown and White, the test camera for this review is black so I can't comment on any issues with the white version causing reflected light within the housing.

The E-PL 10 has three axis in-body image stabilization up to 3.5 stops and a small built-in popup flash which I did not use for triggering external flashes. The BLS-50 rechargeable battery provides around 350 shots per charge which is often exceeded. Like most modern cameras of this type built-in Wi-Fi and Bluetooth permits seamless connectivity to smartphones and tablets allowing remote control of the camera and of course wireless image uploads. The E-PL 10 is what a mirrorless camera should be, small, light and compact with small lenses to match.

AOI E-PL 9/E-PL 10 Housing and Port Systems

AOI Limited is a Hong Kong based company founded in 1994 by a team of engineers and managers. They began manufacturing compact film cameras then transitioned into single-use cameras and underwater cameras before moving to underwater digital housings.

While AOI Limited has manufactured many housings branded under other manufactures names including Olympus they have moved onto creating products under the AOI brand name. The AOI branding has added growth and allows in-house product development all the way through to after-sale service. Having full quality control over development, delivery and pricing gives AOI an edge over all aspects of its business.

The AOI UH-EPL10 housing for Backscatter Underwater Photo & Video is a limited edition housing with an octopus design wrapped around the front half of the white housing with a clear rear door. The housing is the clamshell style hinged on the right side with a rotary lock on the left side.

The rotary lock has a red locking device which needs to be raised before the red button lock can be depressed to rotate the lock counter-clockwise. To close and secure the housing just reverse the process.

The rear door has a single white O-ring seal while the ports have two black ones. The front lower left side of housing has a gray push button that locks the ports in place.

The bayonet mounted ports have very small mark that aligns with a small mark on the housing. Once the marks are lined up just push the port onto the housing and rotate clockwise one quarter turn until you hear the port lock into place. If you do not hear the click of the port locking try again.

The EPL10 housings ships with a port for the 14-42mm kit lens already installed. This port has the 67mm metal threads on front for mounting wet lenses, closeup lenses and the 67mm port cap that ships with the housing.

Under Oil Rig #HI 376A, Freeport, Taxas, Olympus E-PL10, Olympus M. 14-42mm F/3.5-5.6 EZ lens at 14mm, AOI housing with AOI UWL-09 Wide Conversion Lens, two Inon Z330 Type II flashes, ISO400, F/6.3, 1/60th sec

Baya Conch, Blue Heron Bridge, Florida, Olympus E-PL10, Olympus M. 60mm F/2.8 Macro, AOI UCL-09 +12.5 closeup lens, AOI housing, two Backscatter MF-1 Flashes, ISO400, F/13, 1/200th sec

James at Stetson Reef, Freeport, Taxas, Olympus E-PL10, Olympus M. 14-42mm F/3.5-5.6 EZ lens at 14mm, AOI housing with AOI UWL-09 Wide Conversion Lens, two Inon Z330 Type II flashes, ISO400, F/3.5, 1/30th sec

The beauty of this camera, lens and housing combination is that the kit lens can cover most photographers needs. The AOI UCL-09 +12.5 closeup lens can be added to cover most macro needs and a Wet wide-angle lenses like the AOI UWL-09 Pro wide conversion lens can more than cover most wide angle needs.

The kit lens alone is versatile enough to keep many entry level photographers happy until other accessories can be added. This is a system that you can truly grow into and use for years.

AIO offers ports for the Olympus 60mm macro which also have the 67mm third for C/U lenses, a compact four inch dome port for the 8mm full frame fisheye lens and several more.

AOI also offers lighting and lighting support. The housing also ships with an installed vacuum system and pump, installed hot shoe connector for dual optical flash triggering in manual mode, a very useful extended shutter release lever for use with a single or dual tray plus an LCD hood and lanyard.

This is a very well equipped housing for the price and at 728 grams (25.7 oz) it travels well. Depth rated to 45 meters (148 feet) the housing also conserves battery power using a mini USB (included) to charge the flash triggering device rather than using the battery draining on-board flash. After a full charge I did four dives a day without need for a recharge between dives.

The housing has no camera tray so the camera just drops in with the lens forward and is aligned by several rubber pads. Remember to push the rubber zoom gear over the lens prior to installation in the housing. If the gear is aligned correctly you should be able to zoom the lens by turning the camera on and then turning the zoom dial on the left top of the housing. Remember that the kit lens is a power zoom lens not a manual zoom so the camera must be on to test zoom the lens.

At the top inside of the housing is the vacuum and flash triggering battery unit. The unit has a small on/off switch which is turned on prior to sealing the housing. To charge the vacuum/triggering unit remove the hot shoe sync cord from the unit and use the mini USB slot to charge the battery with the included Mini USB cord while the camera is turned off. When plugged-in, the LED light will flash green and when it goes to solid green the unit is fully charged. Next the removable hot shoe cord is plugged back into the USB port on the sending unit and then into the camera hot shoe.

Once the vacuum/trigger switch is turned on a small blue flashing light will appear. Next close the rear housing door and seal with the rotary lock. Next turn on the camera and test

fire the flash to be sure the system is working. Once the flash is working turn off the camera and flash. Then remove the cap from the vacuum valve and draw the vacuum.

With the small kit lens flat port you only need about five or six pumps before you see the blue flashing LED start to flash orange and then solid orange. Stop on solid orange and if you have drawn to much vacuum the LED will blink between red and orange. If this happens release the vacuum by turning the red top of the vacuum valve counterclockwise and start over. After a short time, about two minutes, the LED should turn from solid orange to a slow blinking green LED and the housing is then vacuum tested and ready for the water.

I used the housing with the AOI dual handle tray which attaches to the bottom of the housing using two of the three tripod mounting threads in the metal plate.

The tray is equipped with the standard one inch ball heads for mounting lighting and support arms. I was able to easily integrate my own arms, clamps and flashes onto the tray and use my fiber optic cords directly mounted into the two fiber ports on the front top of the housing.

The extended trigger release included with the housing made triggering the camera easy while on the tray. For those not using a tray the shorter trigger release installed when the housing ships will work better. Installing the longer trigger release only requires removing one Allen screw with the included wrench.

The housings control layout is user friendly and includes push buttons and three wheels. Holding the housing rather than using a tray was simple with the large grip on the right side of the

housing. This would be the preferred configuration for snorkeling without lights or with a single small light mounted to the metal cold shoe on the top go the housing.

Field testing the E-PL 10 system

For this review I used two Inon Z-330 type II flashes for wide angle and a pair of the Backscatter MF-1 flashes for macro. I also used the Olympus 60mm F/2.8 macro lens with dedicated AOI flat port and the AOI UCL-09 C/U lens for some super

Seahorse, Blue Heron Bridge, Florida, Olympus E-PL10, Olympus M. 60mm F/2.8 Macro, AOI housing, two Backscatter MF-1 Flashes, ISO400, F/13, 1/200th sec

Stetson Reef, Freeport, Texas, Olympus E-PL10, Olympus M. 14-42mm EZ lens at 14mm, AOI housing with AOI UWL-09 Wide Conversion Lens, two Inon Z330 Type II flashes, ISO400, F/4, 1/100th

macro shots.

For wide angle I used the AOI UWL-09 Pro wide conversion lens with the Olympus kit lens, flat port and the additional buoyancy collar.

The buoyancy collar is two pieces of close cell foam that mount around the lens to the rear of the wide converter dome shade. The two piece collar is held in place by two rubber O-rings that mount over the collar followed by a velcro strap that wraps around the entire unit. This is an excellent system and packs much more easily than a single donut style buoyancy collar.

With the wide lens and buoyancy collar the

Ginnie Springs, Florida, Olympus E-PL10, Olympus M. 14-42mm F/3.5-5.6 EZ lens at 14mm, AOI housing with AOI UWL-09 Wide Conversion Lens, two Inon Z330 Type II flashes, ISO400, F/8, 1/125th sec

system is well balanced and easy to use with one hand, all day long.

This compact system is ideal for everything from CFWA within millimeters of the port glass too wide reef scenes and large fish or mammals. Because the E-PL 10 has the small M43 sensor it has greater depth of field compared to a full frame sensor at like F/numbers.

Both wide and macro lenses can be used in the F/4.5 to F/9 range with exceptional corner to corner sharpness. This is a very compelling upside for the Olympus camera and allows you to use a lower ISO and increased shutter speeds in many cases.

Most of my work was done shooting with the ISO set in the 100 to 400 range and shutter speeds from 1/15th to 1/250th sec.

I have used the Olympus 60mm F/2.8 macro for many years now and it is one of my favorite macro lenses for a number of reasons. The lens has focus limiting which allows you to shoot in a range between 0.19 (1:1) and 0.4 meters (15.75 inches) which I use when my intent is to shoot macro at about 1:3 or greater magnification. The down side is the lens is set before the camera goes into the housing and if a larger animal comes along you can't move back to focus beyond 0.4 meters and still acquire sharp focus.

With the added UCL-09 closeup lens and 60mm at 1:1 an image of about 10mm on the long size fills the frame, so quite close.

Auto focus was very accurate with both lenses and only slows at bit when focusing on subjects in the 1:1.5 to 1:1 range where DOF is shallow. I would rate the AF as very good for such an inexpensive camera and kit lens.

In low light situations the addition of a small focusing light will assist with shallow DOF focusing.

I have always liked the 4:3 reproduction ratio over the 3:2, having a slightly taller image on the short side allows you to fit images more easily onto several types of media including print. For the web I find you need to crop less to fill the frame.

This system is smaller than any of the other Olympus M43 systems I have used and it is a joy in the water. The AOI system can be expanded with a number of support arms and clamps, M67 flip adapters for mounting C/U lenses, additional dome and flat ports, a verity of magnification strength C/U lenses, several types of fiber optic cords, an AOI flash and more.

The AOI housing also supports the Olympus E-PL 9 camera if readers already own that camera. The non-branded AOI housing also comes in white (without the cool Octopus trim) and black.

Anyone interested in an entry level ILC that can be expanded into a complete underwater photography system should consider this system if you don't need high numbers of megapixels.

I would like to thank Backscatter Photo & Video (backscatter.com) and their excellent staff for providing test equipment for this review.

Phil Rudin
Instagram

www.backscatter.com

Don't settle for 2nd best

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Magic Filter Manual White Balance

Digital cameras have opened up new possibilities to underwater photographers. For available light photography manual white balance is an invaluable tool for restoring colours. But when you use it without a filter you are not making the most of the technique. You're doing all the hard work without reaping the full rewards. These three photos are all taken of the same wreck in the Red Sea. The left hand image was taken on slide film, which rendered the scene completely blue. The middle image is taken with a digital SLR without a filter, using manual white balance. The white balance has brought out some of the colour of the wreck, but it has also sucked all the blue out of the water behind the wreck, making it almost grey. The right hand image is taken with the same digital camera and lens, but this time using an original Magic Filter. The filter attenuates blue light meaning that the colours of the wreck are brought out and it stands out from the background water, which is recorded as an accurate blue.

www.magic-filters.com

Moving to Micro Four Thirds

by John Collins

Compass jellyfish and diver, Cuas Gorm, Old Head of Kinsale, Cork, Ireland.
Olympus OM-D E-M1 Mark II in Nauticam NA-EM1ii housing, Olympus M-Zuiko 8mm F1.8PRO lens, Zen Underwater 170mm Dome port, two x Retra Flash strobes. ISO 200 1/125sec F7.1

Non-diving and photography friends are great to keep you grounded. 'How many mega-piglets are in that camera now, John?', my dear friend Tony asked me one time. He was eyeing up my recently changed but strangely smaller camera than before. 'It's not so much the number of piglets, Tony; it's how clean they are, I replied. Our common interest is in theatre and lighting, and I was photographing the dress rehearsal of a forthcoming production.

The camera was the Olympus OM-D E-M1, and it was 2014. It was the Japanese manufacturer's best camera to date in the comparatively novel Micro Four Thirds format. This digital format was jointly developed with Panasonic a few years before, and this new flagship model was to offer a 'professional' option to photographers. I had used one of the very early cameras in this format – it was LCD only – and I could see its potential. If they could improve this system with a viable viewfinder and better image quality, they were onto a winner.

The first camera to offer this was the E-M5 model, first

Fan Corals beneath rocky overhang, Raja Ampat, Indonesia.
OLYMPUS OM-D E-M1 Mark II in Nauticam NA-EM1ii housing, Olympus M.Zuiko 8mm F1.8PRO lens, Zen 170mm dome, two x Retra Flash strobes. ISO 200 1/25sec F8.

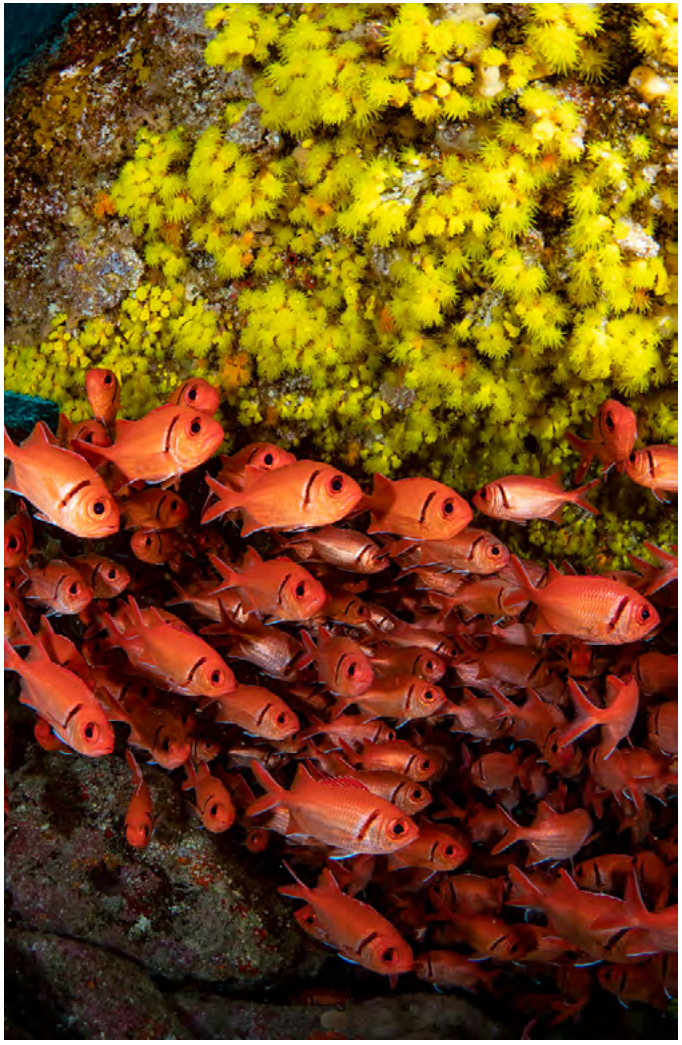
Diver on rocky reef of Metridia anemones, Bream Rock, Old Head of Kinsale, Cork, Ireland.
OLYMPUS OM-D E-M1 in Nauticam NA-EM1 housing, Panasonic 8mm F3,5 lens, 4" dome, two x Inon z220 strobes. ISO 200 1/30sec F7.1.

announced in 2012. The small form factor and a rapidly expanding lens choice made it instantly attractive to underwater photographers. Nauticam, followed by other manufacturers, quickly offered housings. They were enthusiastically taken up by divers keen to reduce their systems' bulk and weight without compromising image quality. I found this especially attractive, as I was shooting a Nikon D2 series camera in a Subal housing. It was fabulous but enormous – and ridiculously heavy for travel.

These Micro Four Thirds or M4/3 were the first mirrorless systems available for underwater photography, and I was quickly converted. The press release for the NA-EM1 Nauticam housing in UWP magazine (issue 76), reads 'while this housing incorporates some of the best features of the housing for the E-M5, the NA-EM1 is a new design, pushing the boundary further towards the ideal human-machine interface.' While the hyperbole does make you smile, this housing was genuinely innovative, well-engineered and highly ergonomic to use underwater. These smaller format cameras have many densely packed controls, which does present housing designers with a challenge.

In bringing their 'human-machine interface' to market, it needed to be easy-to-use above all else. They took many of the features of their DSLR housings, such as an integrated handle system, and it did result in a housing that is easy to hold, stable and easier to shoot. This was also the first housing that I used with the vacuum system and integrated electronic vacuum leak detection – and it certainly gives peace

Prawn close-up, Bullens Bay, Old Head of Kinsale. Olympus OM-D E-M1 in Nauticam NA-EM1 housing, Panasonic-Leica 45mm Macro lens, two x Inon z220 strobes. ISO 200 1/60sec F7.1.



Atlantic bigeyes shelter under a covered rock face, Mindelo, Sao Vicente, Cape Verde islands. Olympus OM-D E-M1 Mark II in Nauticam NA-EM1ii housing, Olympus M-Zuiko 8mm F1.8PRO lens, Zen Underwater 170mm Dome port, two x Retra Flash strobes. ISO 320 1/125sec F7.1

of mind. I consider this option essential in any housing now.

A second significant change for me in this system was moving to fibre-optic fired flash. Having used the Nikonos five-pin electrical cables since 1985, I had had my share of failures along the way. The new fibre optic wet connectors eliminated these issues and gave a reliable and straightforward setup that only added to my micro 4/3 rig. I first used the system diving here at home in Ireland with a 45mm macro lens and an 8mm fisheye lens with a small dome port – the entire setup easily fitting in a shoulder bag. The image quality was certainly there, although the Panasonic fisheye lens had a little more distortion than the 10.5mm Nikon that I was used

A Sperm whale (Physeter macrocephalus) in the deep blue waters off Pico island, the Azores. Olympus OM-D E-M1 in Nauticam NA-EM1 housing, Olympus M.Zuiko 8mm F1.8PRO lens, 170mm Zen dome, no strobes. ISO 200 1/250sec F3.5

Octopus, Bream Rock, Old Head of Kinsale, Cork, Ireland.
Olympus OM-D E-M1 Mark II in Nauticam NA-EM1ii housing, Olympus M-Zuiko 8mm F1.8PRO lens, Zen Underwater 170mm Dome port, two x Retra Flash strobes. ISO 500 1/30sec F7.1

to. But there was no going back. I decided to sell my Nikon and Subal outfit and expand the micro 4/3 system.

Did I find other shortcomings along the way? Yes, I felt the only area that was still a little weak was autofocus, especially underwater in low-contrast, wide-angle situations. When Olympus announced the Mark II version of the E-M1 camera in 2016, I did raise an eyebrow and say to myself; this could be good. I bought the camera as soon as it was available in early 2017 and used it alongside a full-frame system on a landscape photography trip to the USA.

I wrote a lengthy review of my experience of using this camera at the time, and again, its compact size and weight (mainly when hiking) were a huge attraction. Olympus had improved almost every aspect of the camera in this second model. I decided to upgrade the housing, and this is what I use today. While there is now a Mark III version available, that has other notable improvements, but many are not

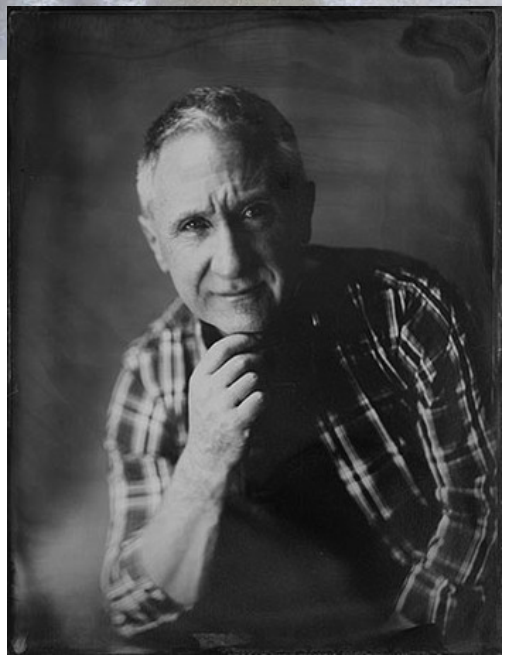
Barrel Jellyfish, Old Head of Kinsale, Cork, Ireland.
OLYMPUS OM-D E-M1 in Nauticam NA-EM1 housing, Panasonic 8mm F3,5 lens, 4" dome, two x Inon z220 strobes. ISO 250 1/250sec F10.

particularly useful to the underwater photographer. Further refinements that have made this my chosen system are water contact optics and professional-grade lenses.

My system now consists of a 60mm macro lens; a 12-32mm versatile zoom lens (for use with the WWL-C lens from Nauticam); an 8mm F1.8 fisheye lens behind a Zen 170mm glass dome; and a fibre-optic trigger for flash. Any photographs I cannot get with this system are not down to the operator rather than the instrument and optics.

As the dress rehearsal drew to a close, I shot several dozen photographs from different angles and under different lighting. I showed Tony some of the images on the LCD screen on the back of the camera - 'hmmm, not bad, he said, 'those piglets are spotless'. I decided not to enlighten him on the human-machine interface.

John Collins
www.johncollins.ie



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The Auto-Magic formula is now available in a Plexiglass filter that can be added or removed underwater.

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My Shot 1

It seems it's all brains over brawn when it comes to cuttlefish love.

In the shallow waters of a small bay at Point Lowly in South Australia, the Australian giant cuttlefish (Sepia apama)—the largest of their kind, have abandoned their typically solitary lives to gather in their tens of thousands. They're here for one reason - to dance the dance of love at the only mass spawning aggregation of cuttlefish on planet earth.

It's not known why they choose this particular location, or where they even come from, but each year from late May to early August they arrive along this same small stretch of coastline.

As we descend into the icy shallow waters, thousands of intelligent aliens hover above the seagrass meadows, all in pursuit for the chance to perpetuate their species. With so many cuttlefish surrounding us, we don't really know where to point our cameras, so we decide to wait patiently by a female in the hope to capture the mating behaviour that continues to fascinate scientists and is witnessed by few divers.

It's not long before the tango commences, as a large bull male approaches and begins to muscle in close to the female - waiting for a sign from her. He snuggles in close, guarding her with his arms outstretched, psychedelically strobing at her. His incredible display continues for 5 minutes or so and we begin to think, 'he's going to be the lucky guy'! As we scan the nearby area though, it appears she may have her eye on someone else. From left of centre, an underdog approaches, he is quite small and to be honest we can't even begin to work out what she sees in him.

Then right before our eyes, the small male uses the art of mimicry, attempting to disguise himself as female. Neurally organised cells under his skin put on a kaleidoscopic display of elaborate colours and patterns to the point that he now appears female. We can see that his male fourth arm (hectocotylus) is also no longer visible, and to our surprise he has manoeuvred himself into the prime mating arena. Then, just like that and before the large bull male realises, the pair meet head to head as he passes her his sperm package which she stores in a small opening under her mantle. We watch in awe. It appears the stealthy smaller male has been successful at stealing her heart—right out from under the bull male's nose!

Dumbfounded as to how he missed out, he looks on unimpressed!

Panasonic LUMIX GH5 in Nauticam Housing. Lumix G X Vario PZ 14-42mm f/3.5-5.6 Power O.I.S, plus Nauticam WWL - 1 Wet lens. Dual Sea and Sea YSD2J strobes. 1/125, f:8, ISO:200

Fact: while it's not yet known how many Giant cuttlefish visited the breeding grounds this year. Last year's record count of 247,146 suggests that this year may yet again set a new record.

Anita Verde and Peter Marshall
www.summitstoseasphotography.com

Do you have a favourite shot (or two) with a short story?
If so, please e mail the image and text to
peter@uwpmag.com
and yours could be the next My Shot

My Shot 2

About twenty years ago, motoring north from Whangarei to Tutukaka in New Zealand, Anna Cherry, one of the girls on board my yacht Vigia, spotted a disturbance in the water. "Dolphins" was her first thought, "Sunfish" was mine.

Whale sharks are hard to mistake for anything else; as soon as we saw the tail and dorsal together we realised what this 7m fish must be. I had never heard of whale sharks in New Zealand and had never seen one in 19 years in the Pacific. As we motored discretely towards it the huge shark came right up to the boat, curious about us. The sun was obscured and it was 7pm so I decided not to get in the water. We shot some topside pictures and motored the last mile to Tutukaka, anchoring in the bay.

In the calm the following day we spotted makos and hammerheads, common dolphins and a Bryde's whale. But it wasn't until we were three miles from Tutukaka on our way home that Anna spotted another whale shark. Again it was late, but there was light. Anna dropped me in the water and I intercepted the shark. In the thick plankton visibility was less than a metre. I was worried that the Bryde's whale feeding not far away would lunge through the plankton without seeing me. Outside the clouds of plankton the water was green with 15m visibility.

I shot some pictures of the first encounter with my Nikonos 3 and 15mm, then measured the light. I pushed Velvia 100 two stops and shot with the aperture wide open. The pushed film elevated the blues.

Anna picked me up and dropped me off again. The fish, a female, seemed almost oblivious to me while she fed on the thick plankton.

As we left the sharks to return to Tutukaka, we spotted another individual cruising through the plankton slick.

I was able to shoot 30 frames. The first frame of a whale shark ever taken in New Zealand was the best. Tobi Bernhard scanned it and brightened the exposure still more. It ran on the cover of the local paper, The Northern Advocate, page two of the national New Zealand Herald and on TV3 6pm news.

Department of Conservation scientist Clinton Duffy wrote a paper on whale sharks in New Zealand. He recorded 36 reported sightings in 20 years.

I felt very lucky!

Pete Atkinson
www.peteatkinson.com

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and yours could be the next My Shot

My Shots 3

After a few years of hard work and saving up, the time finally arrived to execute our plan: almost a year off nothing but diving and underwater photography in tropical Bali.

We live in Perth, West Australia only a 3.5 hour flight from Bali and we have dived there many times. As a result we are familiar with the dive sites and conditions. This allowed us to comfortably dive by ourself.

We rented a house, a car and tanks as required and off we went.

The very first dive of the trip was a sandy sloping site and on the way down we spotted a Mimic Octopus eyeballing us from behind some small rocks. I carefully approached the little guy and managed to get a few photos before he took off.

Always a special find and an excellent start to our diving adventure!

We did over 400 dives in this period, all around Bali and a 10 day live aboard trip in Raja Ampat.

Raja Ampat was a nice surprise; my wife won the trip in a photo competition and we got news of this in Bali.

The variety of creatures we saw was enormous, from whale-sharks, and manta-rays to the holy grail of diving the Rhinopias as well as hundreds of nudibranchs, the tiny Ladybug Amphipods and everything else in between.

Yet, we never saw another Mimic Octopus.

It's remarkable how fast a year passes if you are having fun and the last dive of the trip came up way to quick.

We decided to do the second dive off the day and the last dive of our trip in the same area we did our very first dive.

Olympus E-M1, Nauticam housing, 60mm macro, 2 x Sea and Sea 110a strobes 1/40th @ F4. 200 ISO

We wanted to photograph some nudibranchs around 27 meters. We went straight to the area with the nudies and spend most of our bottom time and nitrox there.

On our ascent we had to stage our way back to the surface with very little time left at any depth.

And there it was; another Mimic Octopus, I could't believe it.

I managed again to get a few shots of it before we were forced to get out of the water.

It was the most fitting way to end our trip of a life time.

Bert de Wit

Do you have a favourite shot (or two) with a short story?
If so, please e mail the image and text to
peter@uwpmag.com
and yours could be the next My Shot

Guidelines for contributors

The response to UwP has been nothing short of fantastic. We are looking for interesting, well illustrated articles about underwater photography. We are looking for work from existing names but would also like to discover some of the new talent out there and that could be you! UwP is the perfect publication for you to increase your profile in the underwater photography community.

The type of articles we're looking for fall into five main categories:

Uw photo techniques - Balanced light, composition, etc
Locations - Photo friendly dive sites, countries or liveaboards,
Subjects -, Anything from whale sharks to nudibranchs in full detail
Equipment reviews - Detailed appraisals of the latest equipment
Personalities - Interviews/features about leading underwater photographers

If you have an idea for an article,
contact me first before putting pen to paper.
E mail peter@uwpmag.com

How to submit articles

To keep UwP simple and financially viable, we can only accept submissions by e mail and they need to be done in the following way:

1. The text should be saved as a TEXT file and attached to the e mail
2. Images must be attached to the e mail and they need to be 150dpi

Size - Maximum length 20cm i.e. horizontal pictures would be 20 cm wide and verticals would be 20cm high.

File type - Save your image as a JPG file and set the compression to "Medium" quality. This should result in images no larger than about 120k which can be transmitted quickly. If we want larger sizes we will contact you.

3. Captions - **Each and every image MUST have full photographic details** including camera, housing, lens, lighting, film, aperture, shutter speed and exposure mode. These must also be copied and pasted into the body of the e mail.

Parting Shot 1

The Old Head of Kinsale is an iconic part of Ireland's southern coast. It is a 3-mile-long peninsula that juts south into the Celtic Sea and has two blue flag beaches, a rich history and a famously upmarket golf links course. It also has wonderful diving, particularly at the southern tip under the lighthouse.

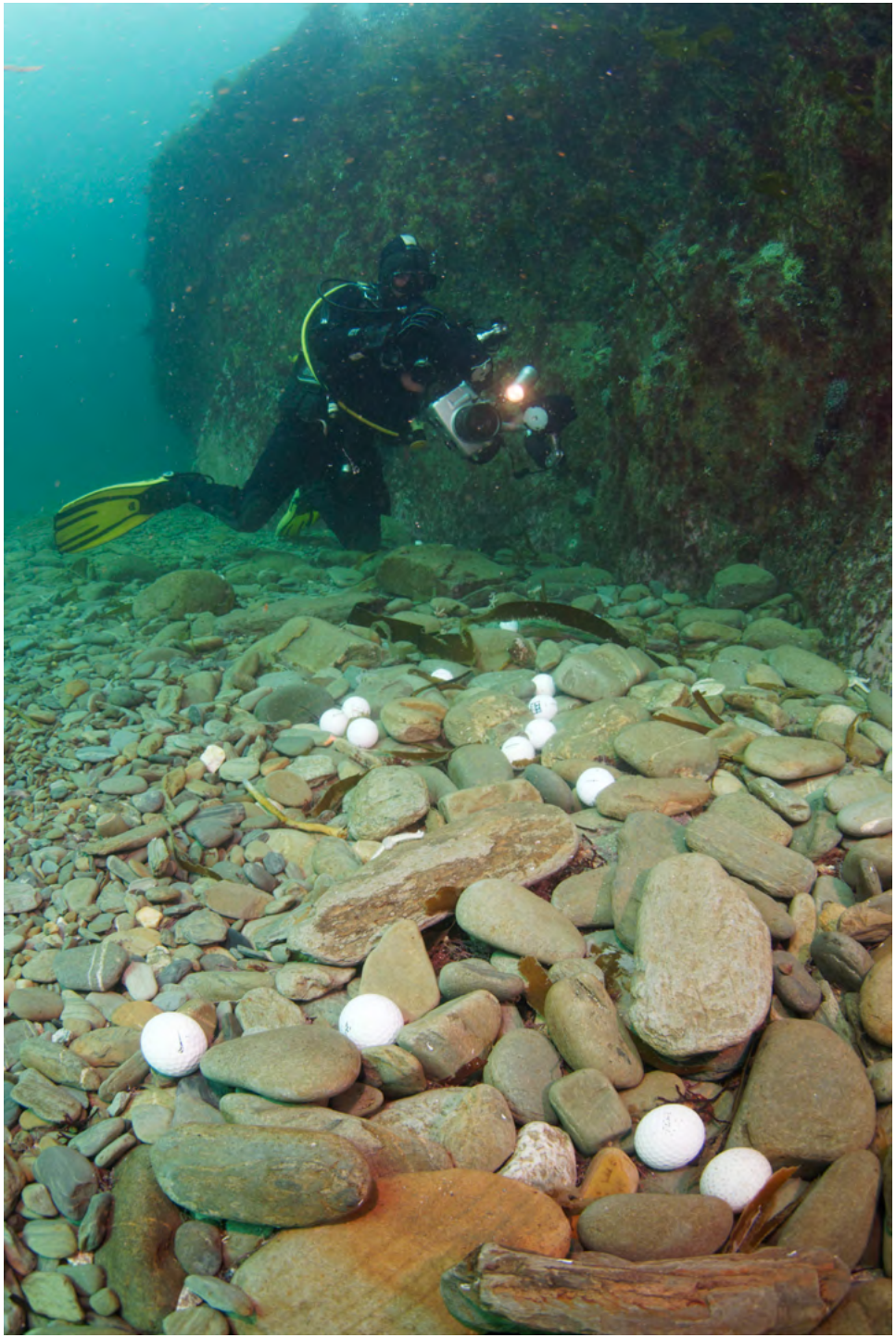
On an early season dive, after a winter of especially strong storms, I joined two Dutch photographers on a calm morning with enticing visibility. The skipper from Oceanaddicts, the local dive operation, had dropped us perfectly to start a scenic wall and gully dive on the more interesting west side. There are several sites in a short stretch, including the wreck of the 'City of Chicago', which steamed straight into a cave on the headland in heavy fog on a June morning, 1892. Miraculously, everyone on board was saved, the majority being rescued to the cliffs above.

As we dumped the air from our BCD's and drysuits and slowly descended, I could make out some white specks on the gravel seabed. On closer inspection, while moving around to get a shot with a diver, dozens of golf balls had gathered at the top of the gully, resembling small white sea urchins.

It turns out that this gully is below the 17th tee of the Old Head golf links. It is described as 'a long par 5 where finding the fairway is a must on your drive and second shot. Par is always a good score on this hole.'

It's more lessons or scuba guys…

John Collins
www.johncollins.ie



Olympus OM-D E-M1 in Nauticam housing; 8mm F1.8 Fisheye lens behind Zen 170mm dome and two Inon z240 strobes.

**Do you have a shot
which has a story within a story?
If so e mail it with up to 500 words of text
and yours could be the next Parting Shot.**
peter@uwpmag.com

Parting Shot 2

Menorca is one small island in the Baleares in Spain. The sea is clear and blue, the marine parks are rich in marine life but for the divers it is more famous for the caves.

Countless caves are available to the scuba diving industry. The last 3 years a new Freediving School opened on the island and introduced for the first time cave diving for freedivers. The experience is becoming more and more popular and a new breed of cave dwellers started to appear inside the Menorkian caves. In most cases it is a swim through.

Entering a cave from one side and exiting from the other but sometimes the divers will surface inside the cave. One cave like that is the “Cathedral”. The big entrance leads into a big chamber but if you continue deeper there is a second entrance to a smaller chamber in which you can surface and breathe. Going in is a leap of faith. You need to trust your instructor because after some point you have to get going.

The closest source of fresh air is forward into the darkness and the unknown. The way back is a lot more fun. You have the sense of achievement and the knowledge that you can do it. These 2 happy divers have reached the inner chamber of the cathedral for the first time and now they follow their instructor back towards the open sea. Among the freedivers in Menorca “doing” a cave is a badge of honor and the Cathedral stands among the hardest cave dives.

The picture was shot on a breathhold.

Olympus OM-D E-M5 mark III with Olympus M.Zuiko Digital ED 8mm f/1.8 Fisheye PRO Lens behind a 4.33” Dome port in a Nauticam housing. f/1,8 1/13 ISO2000 P Mode

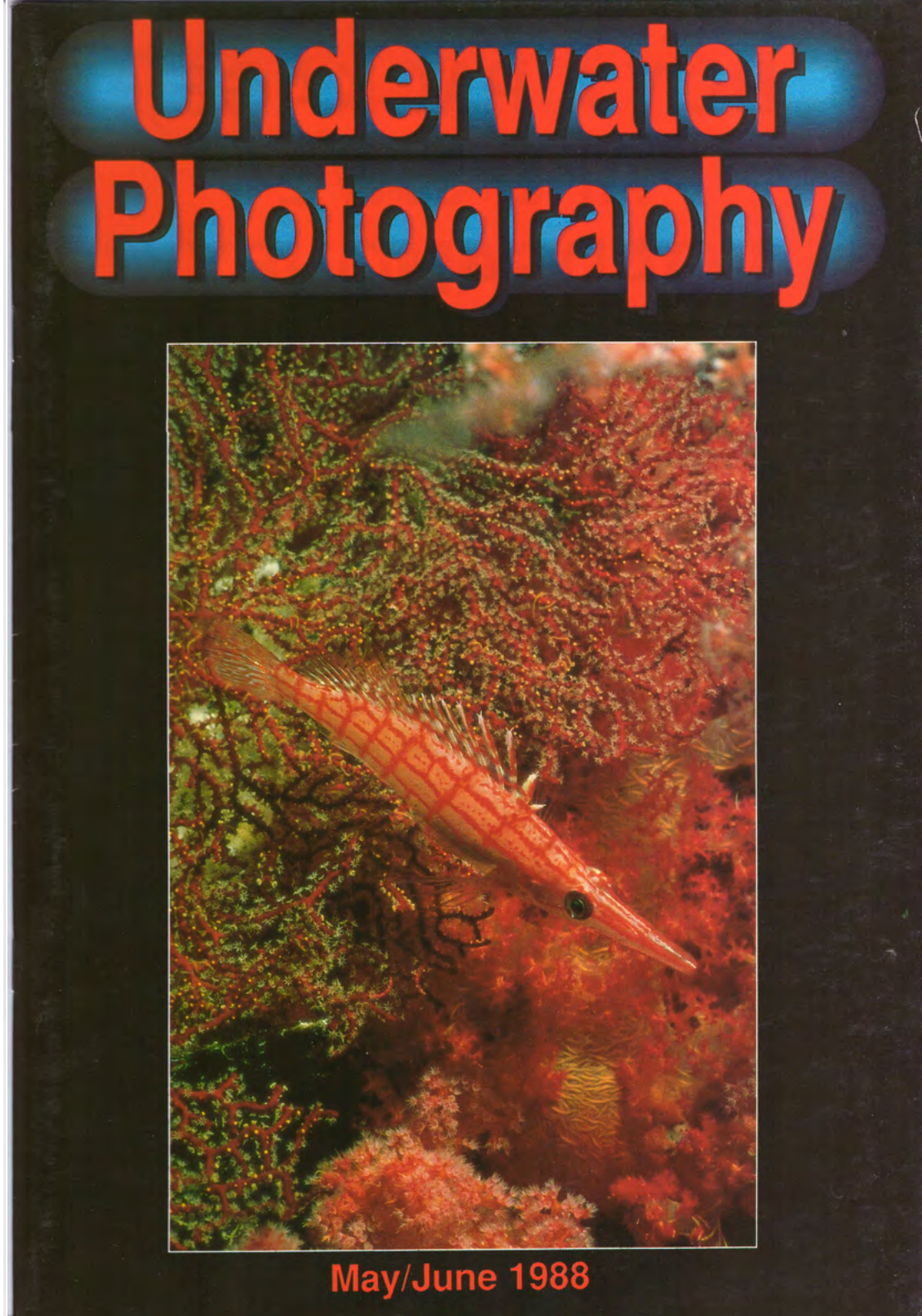
Nicholas Kouvaras
www.freedivemenorca.com

Do you have a shot which has a story within a story?
If so e mail it with up to 500 words of text and yours could be the next Parting Shot.

peter@uwpmag.com

UP Supplement

UP9
May/Jun
1988



Underwater Photography Magazine

Issue No 9
May/June 1988

Contents

Editorial

This issue's cover shot of a Longnosed Hawkfish was taken by National Geographic underwater photographer David Doubilet and was shot way back in 1974 when divers and underwater photographers were just beginning to "see" and come to appreciate the contents of the Red Sea in more detail than ever before. Taken with a Nikon F camera in an OceanEye housing, the lens was a 55mm macro and lighting was from a SubSea Mk150 flash/strobe. Taken in 120 feet of water on Kodachrome 64 film, it was used to illustrate a general article on the Red Sea for National Geographic - a magazine which now has over 11 million circulation.

The advent of cheaper air travel combined with improved on site facilities has since encouraged more divers to visit the Red Sea and sample for the first time the incredible underwater life and scenery.

But this expansion in interest is a little "chicken and egg" for it was only with the worldwide coverage of quality magazines such as National Geographic that areas of such beauty were brought to the attention of the diving public. This attention resulted in demand for diving in the area which entrepeneurs sought to satisfy. So it could be claimed that it was the underwater photographs which started off the demand.

Since those early days there can be no doubt that it has been the Red Sea which has encouraged more people to take up underwater photography than ever before and that is whether or not they have actually been there. Those who have been know what a productive location it is but for those who haven't (and they are still the majority) they cannot fail to have been influenced by some of the spectacular images which have come out of those waters. It is the impact of these images which encourages many people to take up underwater photography and maybe even learn to dive in the first place.

Look at any diving brochure selling either equipment or holidays and you will see underwater photographs being used as a major form of communication. Suitable images will result in a much improved presentation which in turn will lead to increased business. Underwater photographs play a very important role in forming the image of diving whether it be to the general public or the more specialised diving fraternity.

Underwater Photography is published bi-monthly by Ocean Optics Ltd

[redacted]

Subscriptions are available by mail order. Annual costs are £15 UK, £18 Europe and £20 Overseas.

Diver replies re Brighton '87

I have been sent photocopies of the last two issues of Underwater Photography and I am both amazed and saddened by what I have read.

Quite apart from the letters, most of which are grossly unfair, your editorial replies reveal astonishing venom and antagonism, not to mention hypocrisy.

For instance, as a person who has been familiar with my activities on the underwater photographic competition front for a considerable time, you perfectly well know how much support and consideration Diver has given to underwater photographers in the past.

In particular, you were Chairman of BSoUP at the time of Brighton 83, and you know better than most how much time, effort and expense is put into the event, how much attention is paid to the needs of contestants and how much the views of BSoUp are deferred to.

On the latter score, you are also well aware that BSoUP are not only put in charge of the projection at Brighton but are also consulted before the launching of each Festival. The comments and suggestions that result are always seriously taken into account and almost without exception cause changes to be made.

You will remember, for instance, that an audio-visual category was introduced in 1983 at your instigation, which, in the event, turned out to be very much to your own advantage. The choice of Sir George Pollack as a judge was also one of your suggestions.

The question of when winners should be called on to the platform and awarded their prizes was another matter raised in 1983, BSoUP's point then being that it should not be left to the very end of the show because people tended to walk out. This, too, was changed.

There are many other instances of changes in rules and procedures willingly made by me as a result of BSoUP's overtures.

Brighton 87 was no exception when it comes to consultation with the Society, and the idea of having a Grand Master category (which, in truth, is hardly a major change) was first raised when Peter Scoones was Chairman -and agreed - more than a year before the event.

Neither then nor when the matter was again discussed with Brian Pitkin were any objections raised from anyone on the BSoUP committee. As President of BSoUP, where have you been all this time?

In fact, the main suggestion made by Brian Pitkin in connection with Brighton 87 was that everything should not be left until Sunday afternoon. As a result, we moved one of the three sessions to Sunday morning.

Now to the judges. Are you seriously questioning their credentials? Isn't it amazing that Festival after Festival judges are criticised, mainly by losers, but always seem impartially to choose as winner the photographers who are widely regarded as being the hottest shots at the time? Geoff Harwood, Peter Scoones, Colin Doeg, Warren Williams, you and Steve Birchall to name but a few.

Now, as far as the winning slide session at Brighton 87 is concerned, I am not going to join in the bashing of Berwin, but any unbiased person knows that you don't blame the impresario if one of the stars of a weekend's show is a disappointment on the day.

How unexpected that was can be judged by the fact that Derek is a highly qualified professional photographer and that his performances at two previous Festivals were exceptional. That is why he was chosen again, both as a judge and as a presenter.

If you needed to know what else, if anything, contributed to the shortcomings of his session, you could have asked me, or invited me to comment on the letters submitted to you.

There are always two sides to a story, as anyone who has ever been involved in the organisation of any event of substance knows. Things do go wrong (inadvertently fogged competition entries, for example). Fortunately, most people are gracious enough to excuse such accidents and not make capital out of it.

Finally, it is my view that you are among the main beneficiaries, both in terms of personal reward and professional advantage, of the various competitions that have been sponsored and organised at considerable trouble and expense by Diver.

Taking that and other things in to consideration, it would have been fairer and far more appropriate if you had leapt to my defence rather than invite, publish and endorse such criticism.

Bernard Eaton, Diver Magazine

Thank you for your letter regarding the coverage of Brighton 87 in Underwater Photography Magazine.

I fully appreciate how you must feel after all of the hard work and financial commitment which Brighton Festivals entail but I cannot, as you request, defend the competition side of the1987 event (regardless of having any possible financial and personal rewards). Defence would be inappropriate and that my and the readers' comments have surfaced in such a way is an indication of the growing concern which underwater photographers have about Brighton. It is a concern which has only been expressed verbally in the past but now we have a medium in which we can openly express our views.

BSoUP has always been keen to help with both advice and action but , as President, I well remember the Committee meeting when we discovered that you had already printed the rules for the Brighton 87 Competition before we had had the opportunity to offer our suggestions. Had we been shown a draft set of rules I am sure we would have spotted the lack of a British Waters section in the Grand Masters Section. This is a prime example of how we are supposedly involved and then blamed when mistakes are made. My advice to BSoUP at the time was to pull out of Brighton 87 and I requested that I have nothing further to do with the organisation.

The idea behind the Grand Master was to try and establish a section where any photographic techniques could be employed and so open up the artistic barriers which Brighton had always stifled by insisting on a "no darkroom trickery" clause. This clause was always an example of how Brighton has not kept up with the times in terms of underwater photographic developments and is one which BSoUP has always wanted removed. It was the continued inclusion of such a clause which, I feel, has contributed to Brighton's slide in international standing within the underwater photographic community. The Grand Master section looked like redressing that imbalance but without a seperate British Waters Category there was little incentive to explore the "darkroom trickery" so often needed to improve shots in our comparatively limited visibility. This lack of incentive must affect both the event and the future of underwater photography and leave one with a feeling of diverging wavelengths, wondering whether the interests of underwater photographers are really being given serious and informed consideration.

Diverging wavelengths apply equally to the judges for they were not really up to date with all that is happening in the underwater stills photography world. The result was not who they chose as winners but the type of shots. These shots influence the up and coming underwater photographers and play a vital role in directing future efforts. Derek Berwin's presentation deserves no more coverage, save to say that it was the straw which broke the camel's back and gave many people the final impetus to voice their opinion about the Event. These are people who had spent a great deal of money taking the photographs, paying for the Competition entry fees and Festival tickets. In previous correspondence to me, you refer to his presentation as a "hiccup" in the proceedings which confirms how lightly you must regard what underwater photographers take so seriously.

I would like to stress that the comments raised are in no way personally aimed. They stem from a genuine general concern about the future of underwater photography and about Britain's standing in the underwater photographic community. I am sure that I speak for all our readers in saying that our door is always open for discussion about any aspect of underwater photography. It is our hobby, our sport and our driving force. We want it to continue to improve. **(PR)**

Your above reply is self-righteous and dishonest, and does not stand up to scrutiny. I'm afraid you are seeing things through Rowlands-coloured spectacles.

Bernard Eaton, Diver Magazine

UK Photo College

Just a quick note to put your article on the PADI Underwater Photo College into context. Your comments about "ther e being very few, if any, good courses offering tuition" and "no consistent facility in existence" is not quite true. We have been running an underwater photo course at this college since the mid seventies. Unfortunately, it is only associated with a full-time vocational photography course. If any of your readers are thinking of doing such a course I can supply further details on request.

Russell Milligan,
Plymouth College of Art

Angry American

My husband and I have been receiving your magazine for the past year and we've enjoyed the photography and articles very much. Because I've enjoyed them I can't help but write when something upsets me.

In the Jan/Feb 88 issue the photograph with the caption about Kurt Amsler on page 20 caught my attention. I feel the description used of the diver "a very fat American woman" was not only rude but uncalled for - I can empathise with his frustration when someone stirs up silt but I have never read a caption as inappropriate as this one. Doesn't he think Americans subscribe to this magazine - I am sure there are many British/European divers who could have been as guilty of causing the same situation. We have strict regulations regarding photographing the manatees - I assume from this photo he chose to ignore these restrictions. I hope this criticism is taken well as we share a common interest - diving and underwater photography.

Pat Antonelli, Florida, USA

Film Company request

We are looking into the possibility of making a number of diving films and would be interested to hear of any diving expeditions that any of your readers might know of or might be planning this year, wherever in the world. We would also be interested to hear of any unusual underwater films or footage, recent or old, natural history or 'expedition', video or celluloid, that could beof interest to a televison audience.

Simon Normanton, Lighthouse Films,
01-381 8298

Sony's V90 Camcorder video and Hypertech's housing

The latest Video 8 camcorders from Sony look set to strengthen their hold on the market at the time when they most need encouragement. The VHS-C format is still proving popular since it's small tapes can be replayed on the widely used domestic video recorders but, with the arrival of the Handycam Pro V90 (it's the V9 in the States), Sony have produced a smaller, higher quality imaging camcorder which is knocking on the door of broadcast quality results.

Of greater benefit to the underwater photographer is the smaller and more convenient size of the Handycam Pro V90. It needs no alteration to slide into a 6" diameter tube which is both the most cost effective and pressure effective vessel design. This convenience has caught the eye of several housing manufacturers and the recent DEMA show in New Orleans saw no fewer than four models - three tubular plastic housings and one cast aluminium. Of these four, Hypertech from Florida are providing the least expensive. Their Hypertech Pro 9 sells in the UK for £595 inc Vat. Add the cost of the Pro V90 in the UK which is just under £1500 and you have a big lump of money to find. However, the capability of what you get is truly impressive both in terms of ease of use quality of image and practicality.

(Above) *The housing for the V90 is just 6" in diameter and the V90 camera is not that much bigger than a Nikonos V*

(Below) *The Sony V90 is a record and playback unit with a variable shutter speed for better replay of fast action*

Sony Handycam Pro V90

The camera itself is very small yet still handles well and has all of the facilities, and some more, that we are coming to expect from these technologically amazing machines.

The Video 8 tapes are available in all lengths up to 90 minutes and this can be doubled in the long play setting without appreciably affecting the quality of the end result . The battery is at the rear of the camera and the standard version will give up to 40 minute's filming. A larger capacity pack is available giving up to 80 minutes and this should be seriously considered as an optional extra.

The 2/3" viewfinder is fine on land but could do with magnification underwater and Hypertech say they are "working" on something. In practice, the wide angle coverage and enormous depth of field make the viewfinder become a final reassurance as to the camera's functions.

The built-in lens zooms from a 12mm wide angle to a hard-to-keep-still 72mm telephoto. There is a macro setting at the wide angle end for ultra close work.

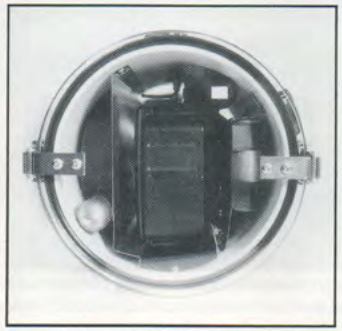
Of little use to the underwater photographer is a variable shutter which can be adjusted in high light level conditions to give sharper replay on fast moving subjects. When all of the controls are set to Auto, the camera is remarkably accurate with exposure and colour balance but the new digital/contrast autofocusing does not seem as good as the earlier infra-red models. This is more pronounced at the telephoto end of the zooming so does not affect underwater photographers so much.

The V 90 can play back directly through it's viewfinder or your domestic TV/monitor for instant confirmation that all is well.

The quality of the 380,000 pixel CCD chip is very impressive. At the recent DEMA show in New Orleans, a TV company were videoing the stands with a V90 and were going to transfer the 8mm tape straight onto 1" broadcast format and transmit it directly from there. The Sony Handycam Pro V90 was the only camera that they considered capable of performing so well.

The capability of these small camcorders in specialist fields such as underwater may well see them being accepted as sufficient standard to consider for broadcasting. That development alone makes the V90 an exciting arrival in terms of ease of use and comparative economy of operation.

(Right)
The complete system with twin 50 watt lights is a neat and versatile package. The buoyancy is neutral and the handling is well balanced. The bulbs are seawater cooled and last 30 minutes before needing to be recharged.
(Below left)
The camera is mounted from the front of the housing and held in place by thin metal bulkheads.
(Below right)
A wide angle lens adaptor is supplied with the housing which behind the Ikelite dome port gives coverage of around 100° although the manufacturers do not give an exact figure.



Hypertech Pro 9 housing

The basic construction of the Pro 9 housing is heavy duty PVC tube with machined perspex end plates. These are compression O ring sealed and held in place with two standard overcentre catches at either end. The total package measures 6" in diameter and 17" long including the front Ikelite dome port. It will keep your V90 camcorder watertight and operational down to 250 feet.

Three seperate ballast weights are provided to ensure that the buoyancy is both neutral and horizontal. This is very important with moving image cameras and is often overlooked by other manufacturers. The all-up weight is just over 20 lbs which is very light compared to previous packages. It becomes possible to travel abroad with the Pro 9 housing without stretching your arms. This load could be substantially lightened by leaving the balast at home when travelling abroad and adding weights when you arrive at the dive destination. The balance may not be as perfect but at least you have the choice.

The camera slides in from the front and is held in place by thin metal bulkheads. These also keep the balast in position. A wide angle lens converter is included with the housing to give over 100° coverage. (They don't quote an exact angle but that's the maximum before edge cutoff). The lens is screwed onto the camera's lens and the zoom set to 14mm to give maximum angle without cut off. The focus must be set manually to 4 feet and then, in average light conditions, you will be in focus from a few inches to infinity. A zoom control is available as an optional extra but it is advisable to use this sparingly. Zooming to the telephoto end will reduce depth of field and you will eventually lose focus. You can preset the camera for macro use and go for some really colourful close ups but, as with stills, the depth of field is critical the closer you get, so keeping the camera still is imperative.

Unbreakable plastic handles are screwed either side. They are strong enough but the positioning is not quite right for convenient access to the "Start record" lever. It would be a simple job to drill four small holes to reposition the handle.

A bracket is available as an optional extra for mounting a Nikonos and a travel case for holding the entire Pro 9 system.

The Hypertech Pro 9 housing is supplied in kit form from the manufacturer for ease of transportation but it would feel so much better if you were to find a completed housing when you open your package. Although the assembly procedure requires no more than a screwdriver, I feel that not everyone want the responsibility of mounting dome ports, however easy it may be.

The lighting system

Hypertech produce a novel lighting system to compliment the Pro 9 housing. It consists of twin 50 watt heads with the ni-cad battery pack replacing the ballast inside the housing. Sealoc/Neilsen connectors are fitted to the housing so that the system can easily be removed when not required.

The interesting feature of the lighting system is that the small halogen bulbs are exposed to water. This is very practical as it keeps the bulb extremely cool but you should not turn the lights on above the water and then go diving as the sudden cooling would almost certainly cause the bulb glass to break. The other slight disadvantage is when the bulbs blow. Although they are good for at least 50 hours of filming, you will need to cut the bulb out from it's silicone rubber mounting, resolder a new bulb and then re-pot it with silicone rubber.

The reflector design gives 120° coverage 90% free of hot spots and one bulb will last for an hour, two bulbs for 30 minutes before the batteries need recharging. The mains charger supplied will fully recharge the batteries in 3 hours and will not overcharge them.

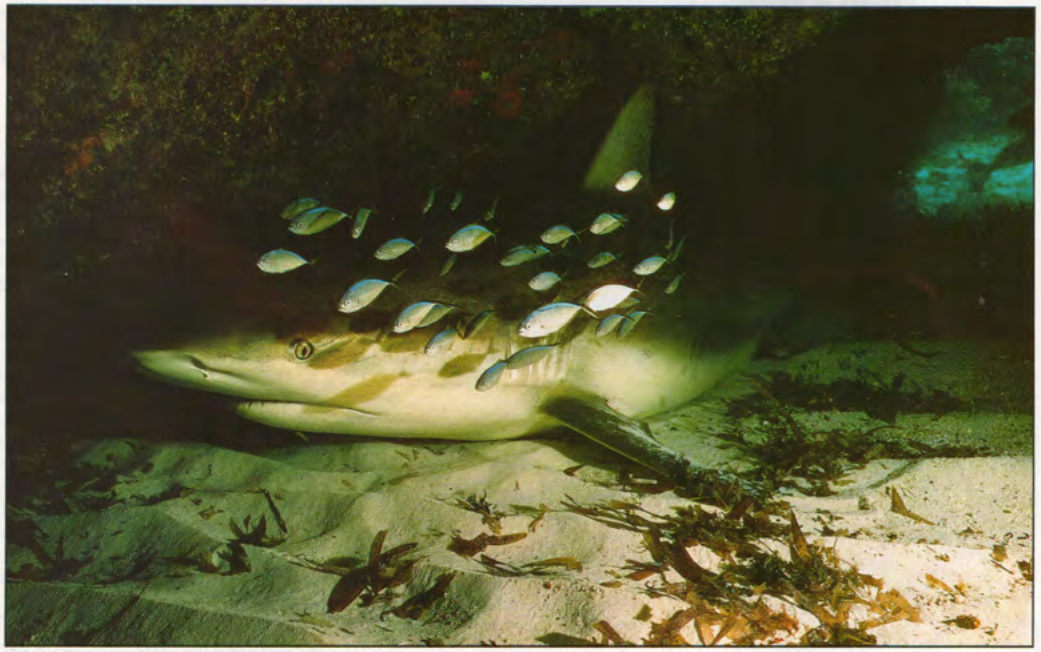
The lights will automatically come on as soon as you press the camera trigger. This is a useful facility when using lights but it can be over-ridden if required.

The delrin mounting arms are a little basic but they are sufficient for the job since they do not have to support much weight and lighting positioning is usually much simpler for moving images. They screw onto the top of the handles and will fold down quite neatly for storage.

Available from Ocean Optics Ltd, the combination of the Sony Handycam Pro V90 camcorder and the Hypertech Pro 9 housing make an impressive pair. Add the lighting system and you have a very capable and comprehensive package which produces really excellent results. The only drawback, and it is the only one, is having to part with just over £2000 for the camera and housing or £2700 for the complete system with lights. Those are big lumps of money in anybody's vocabulary but once you've committed your cash you will have a package which it is hard to imagine being bettered for a long time.

Peter Rowlands

UP meets David Doubilet



One of his particular favourites, David took this shot of a sleeping shark in 1974 in Isla Mujeros, Mexico. It was the first shot ever taken which shows that sharks do not have to keep swimming, as was previously thought. The small jacks add interest and scale which is further enhanced by the available light in the top right hand corner. Nikon F in OceanEye housing, 24mm lens, Subsea Mk150 strobe high up and to the left to bounce off the sand.

In his present job as underwater photographer contracted to National Geographic Magazine, David Doubilet has operated in most of the world's prime underwater locations and dived with most of the leading authorities in the marine field. The results of his efforts are featured regularly in the magazine (affectionately referred to as "Geographic") where they illustrate articles which may vary from location reports to scientific studies or from discoveries to just plain experiences.

Whatever the theme of the article, you can be sure that a photo essay illustrated, and sometimes written, by David Doubilet will not only leave you more informed and visually stimulated but will almost certainly leave you with a sense of pride that underwater photography is being used so effectively as a communicating and entertaining medium. The images delivered manage to achieve that rare level of being able to satisfy the specialist underwater photographer and communicate with the public at large. That his images work so well is due to a lifetime of work pushing the barriers, getting the most out of the film and striving for better and better shots.

Another child of the "Silent World" era, David spent his youth diving off the New Jersey coast where conditions are very similar to the UK with low water clarity and cool temperatures. His first attempts at underwater photography revolved around a Brownie Hawkeye and improvised rubber bags, solving problems as he went along. The earliest version of what was eventually to become the Nemrod Siluro followed from there and kept David exposing large format film underwater in an era when 35mm was still considered a miniature film size. After a brief period using a 35mm Leica (they were selling for around $20 in those days as people part exchanged them for the early Nikons!) housed in a far from perfect Lewis Photomarine housing, it was the 6x6cm format of the RolleiMarine which was to see him through the formative years of what was shaping up to become his career.

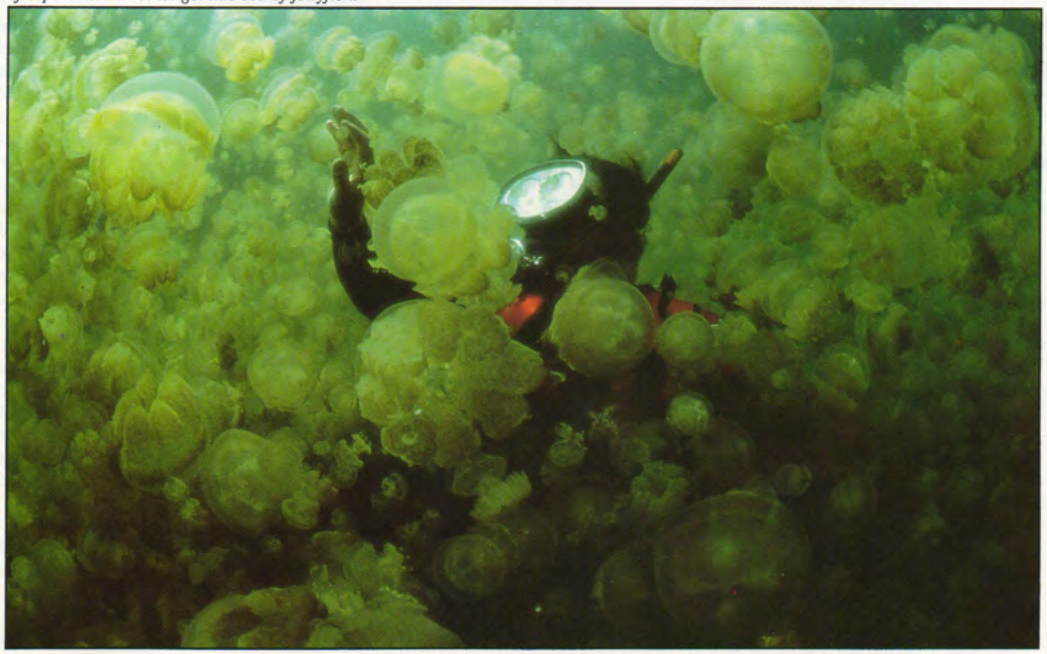
Using black and white negative film, his main battle was to get enough contrast so he experimented with X-ray film which was then contacted onto printing paper to obtain the maximum contrast! His efforts had him winning prizes at America's Underwater Photographic Society and, when he was still just a young teenager, he sold his first underwater picture. The bug had bit.

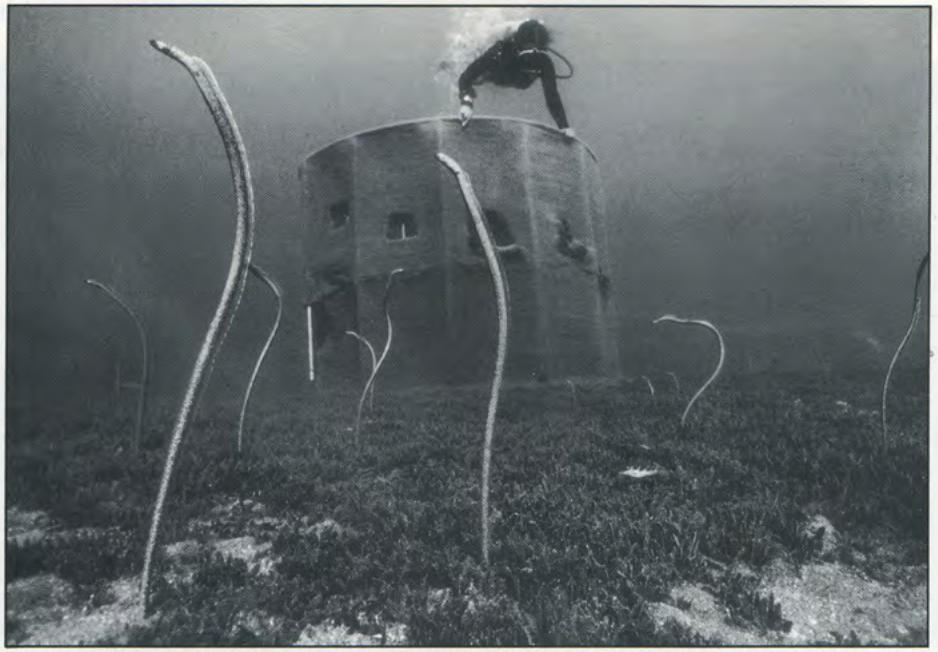
In his early twenties, he loaded the Rollei with its first rolls of colour film and was beginning to build up a portfolio. It was now that he was to make an appointment to see the Picture Editor of "Geographic" and receive his first blow of reality.

"There's nothing new here," said the Editor scowling at David's pride and joy laid out all over the New York office desk. "There's nothing special about underwater photography. Any of my staffers can do it." David picked up his pride and his prints and asked if he might come back when he had some more, hopefully improved images. The hardskinned Editor didn't reply immediately but eventually growled back. "The door's always open for new material". David kept on in there and made sure he returned with new images. That same Editor has now had to accept that underwater photographers are not made, they make themselves.

Doubilet's first outing for Geographic was unofficial. He sold a camera to help finance his film and worked alongside Jim Stanfield and Eugene Clarke on a commission to the Red Sea in 1971. He watched Jim operating and was given a

(Above) *This 15 foot Great White was shot with a 20mm lens in Australia while working with Rodney Fox, Eugene Clarke and Anne, his wife. Shot from a cage, they were lucky on this trip to encounter several good specimens but on a previous trip they had not seen one Great White.* (Below) *William Hamner, a scientist, is caught in mid-jellyfish in Palau after a one hour treck up a hill in 98°F heat. William had instructions to look up to the light and raise a hand to a single jellyfish. Despite using a 16mm lens, David has managed to create a feeling of seperation in amongst this sea of jellyfish.*





This is the shot which launched David Doubilet's career into overdrive back in 1971. He modified his OceanEye housing for a Nikon F to accept a 40' remote lead so that he could set up the housing on a tripod with a 24mm lens and retreat to the hide above which Eugene Clarke is hovering. Plenty of telephoto/close ups had been taken from the hide but the story would have had no impact without a wide shot such as this. Hours were spent each day in the hide waiting for these Garden Eels to shake off their caution and rise out of their holes. Hours became days and eventually, their perseverance paid off and got David the shot. Once again he had broken new ground and produced a shot which not only impressed underwater photographers but illustrated the subject and completed the article so well.

great deal of help and encouragement despite being possible future competition.

It was on this trip that he turned up with a 40 foot long remote release trigger for his OceanEye housing. A few eyebrows were raised at this newcomer but they were to see this strange device produce the first ever effective wide angle shots of Garden Eels. David had arrived. His equipment planning had paid off but it was only after skin-wrinkling hours spent underwater that the best shots were achieved (See main caption with the Garden Eels shot).

From there it was forward all the way. His gifted ability to capture man at work underwater and to record the intimate behaviour of marine life has led him all around the world. He is accompanied on most trips by his wife, Anne, herself an accomplished underwater photographer with many fine Geographic images to her credit.

To work for such a magazine as National Geographic must be both euphoric and frightening. There can be no finer calling card when looking for work than a Geographic front cover but there can be no harder taskmaster in terms of the standards required and expected. Second best is your last assignment and there are plenty of hungry underwater photographers waiting in the shallows, pushing for the opportunity to get their first foot on the ladder.

Unlimited time and endless film stock are the trade mark of a Geographic assignment but excessive quantity alone does not guarantee success. Most of David's assignments involve hundred's of hours underwater trying to capture new images and improve on existing ones. One particularly large assignment was for a major feature on sharks. It took eight months and involved two trips to Japan, the Red Sea and Australia as well as single forays to California and Mexico. The result was a 50 page story containing some of the most exciting shots of sharks ever seen.

Each year, Geographic aims to do around seven underwater stories and this keeps David out of his New York home for most of the year. His time spent at home is taken up with planning new features and coping with the demand for his pictures. He retains the rights to most of his unpublished work and acts as his own agent.

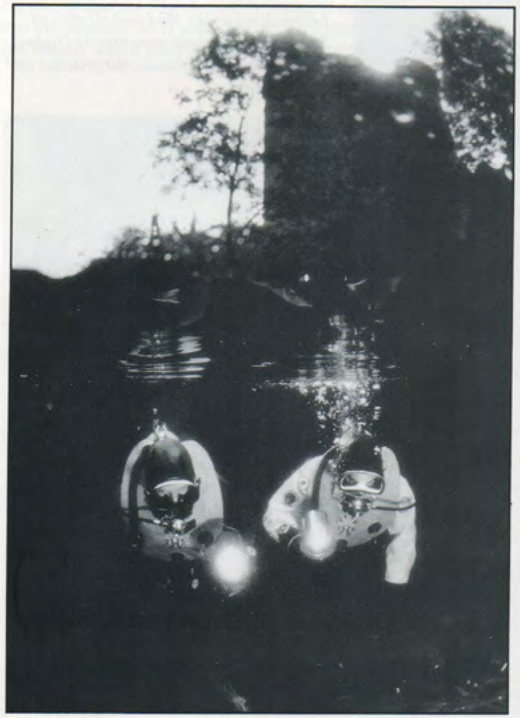
With the financial might of the National Geographic Society behind you, equipment isn't a problem. If it's needed and it exists, buy it and if it doesn't, have it made. The legendary Geographic OceanEye housings for Nikon F cameras have captured most of the images but these are now being phased out in favour of the Aquatica housing from Canada. This is made by Aquavision and it must be one of the best endorsements they could wish for.

Lenses range from fisheyes to telephotos but the most widely used are the 16mm and 20mm Nikkors, 55mm and 105mm micro Nikkors and recently the Medical Nikkors 105mm and 200mm with their ring flashes. The ring flashes don't see much use but the requirement for very versatile, bitingly sharp macro shots has led to Zeiss Contax 50mm and 100mm macro lenses (which focus continuously down to 1:1) being modified to fit onto Canon F1 cameras (Canon rather than Nikon because it was physically impossible to mount the Zeiss onto a Nikon so a camera system had to be changed.

David believes the optical performance to be the best yet but if anything comes along to better it, he will have no hesitation in changing in the interests of image enhancement.

For flashguns/strobes, Sea and Sea

(Above) *A species of Tiger Moray Eel only found in Japan proved an illusive subject for a while but eventually succumbed to a 105mm micro Nikkor and Sea and Sea YS150 flash.* (Below) *Just to prove it's not all warm water and good vizibility, in 1976 David spent weeks in Loch Ness hoping to be the first to capture the monster on film. The nearest he got was Alan Hunter and Gordon McKenzie with Urquart Castle through the surface. Three strobes were needed to light up the gloom.*



YS150's are well regarded with Sonic Research SR2000's being used as slaves. EO connectors are used throughout for performance, compatability and interchangeability and maintenance of all of this array is considered vital to the success of each assignment. When you might go three months without seeing your results (as he did in New Guinea and the Solomons once) you have to test your gear well beforehand and keep an eye on it in the field. Very high temperatures tended to seep oil onto the iris blades of the early 55mm micro Nikkors and an unfortunately placed hair on the rear of a 105mm micro Nikkor was pin sharp in every shot. One sand grain on a pressure plate could ruin a complete roll of possibly unique shots. When so much is at stake, the equipment must be constantly maintained.

For film stock, it's Kodachrome all the way. 25 and 64 are the only speeds with the odd exception being the new Kodachrome 200 in deeper water although the latter's tendency to a green bias has not granted it a wholehartedly open armed acceptance.

All of this equipment means dozens of carrying cases when setting off on an assignment but it is all vital to the production of the best shots possible. Despite having gained his University Degree in Cinematography, he has no leaning towards the moving image at all and remains solely pointed at the underwater still image.

Although he appreciates "gallery" shots which stand up on their own for admiration, David prefers the well composed working shots which communicate and contribute so much to an informed article. It is this working partnership which has continued to produce results and looks like setting the standard for some years to come.

Peter Rowlands

UP in the UK

Kevin Cullimore dips into Gildenberg Pit

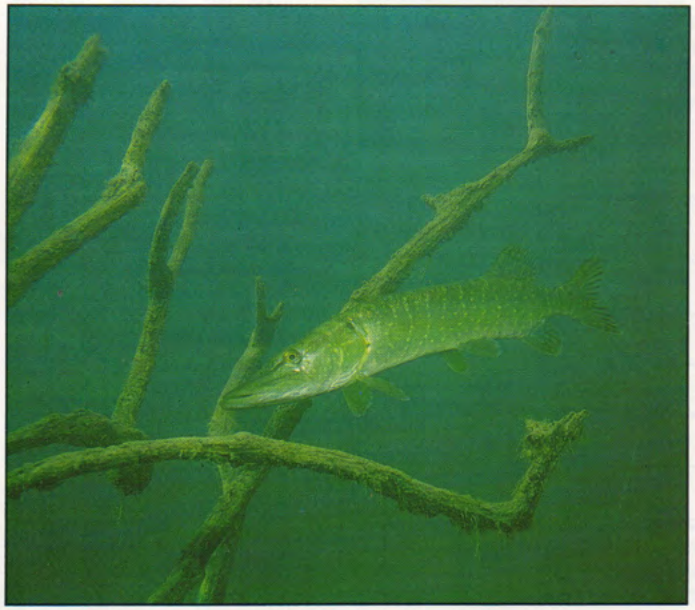
The calm conditions of an inland lake make ideal studios for experimental and effective work.
Gildenberg Pit, just off the A1 near Peterborough is a maximum 70' deep and the land facilities include a dive shop with air and a bar. A small entrance fee is charged and weekends are best avoided if you want the clearest water.
Despite supporting fewer subjects than salt water, freshwater is not the barren medium some would claim. Perhaps more effort is needed to find and arrange suitable subjects.
This moody and dramatic double exposure was combined in the darkroom after the diver silhouette was shot with a Bronica and 40mm lens and the pike was shot with a 28mm lens on a Pentax MX.
I have always made my own housings from perspex and, until recently used Pentax MX's but have recently completed one for a Pentax LX. Flashes are housed Vivitar 283's with the occasional housed slave flash being used to add highlight.
My prefered film is Fuji 100 which I process as soon as I get home and then use Cibachrome if prints are required.
I have dived in the Med and all around Britain but still keep returning to Gildenberg for the convenience, the practice and the pictures.

The majority of underwater photographers take their pictures in the sea in various parts of the world from Swanage Pier to the Great Barrier Reef, an increasing number visit the Red Sea - they go there for the colour and diversity of life that the marine environment offers. For those of us who perhaps cannot get away to these more exotic locations, a clear British lake can offer some very interesting subjects and scenery. You just have to look for them.

Lake diving in this country seems to revolve around a place to train novices or to carry out tests on equipment but on a sunny summer's day, it can offer lots of photographic opportunities. It helps obviously if the lake is reasonably clear and that is why I dive in a pit called Gildenberg which is near Peterborough and about a one and a half hour drive from London. It is well-dived and therefore the fish life is very accustomed to divers which makes fish photography a little easier. The visibility is usually excellent (20 feet plus) most days. The big factor being the amount of rain which has fallen in previous days and it is also best to avoid weekends as the bottom is very silty and tends to get very stirred up if there have been a lot of divers using the pit.

If it is fish you are after for your photography then the most common subjects are Perch, quite a photogenic fish, and obviously our largest fresh water fish and predator, the Pike. These two species can usually be found in shallow areas close to the bank in amongst the overhanging tree branches and bullrushes. For photographers, the fact that these fish prefer shallow water is an advantage as there is ample light

(Above) *A shot which surprised me was this, taken to illustrate a fishing magazine article. The Perch had already been hooked but I hadn't envisaged that the reflections and timing of the shot would work so well. It wasn't used in the end but has since gone on to win a prize or two in competitions. It was taken with a Bronica ETR and 40mm lens and lit with a single flash at F16. The beauty of the Bronica is its leaf shutter which gives flash sync speeds up to 1/500th.*



(Left)

Pike are a particular favourite of mine and I find the 28mm lens is just about the right lens for them. They tend to hovver in midwater around trees and will not move too much unless you get too close or threaten them.

They may appear pleasantly green but their silvery sides do throw back the light so I usually bounce my Vivitar 283 flash off a 12' square reflector to soften the light and reduce bounce back.

Despite bouncing the flash, I am still able to use 1/60th @ F8 with 100 asa film.

At other times I have been able to position a buddy diver behind the Pike to give an idea of size but these fish have to be treated with respect for they are capable of turning nasty if they feel hemmed in.

(Right)
Backlit overhanging trees make good subjects for wide angle lenses. I've used a 16mm full frame fisheye on a Pentax MX for this one and added a sparkle of light from a single flash.
(Below)
Access to the calm water couldn't be easier and there is usually plenty of space for everyone. The freshwater is cool but not perishing and gloves will help keep your hands warm.
(Below right)
Michael Wong often dives with me at Gildenberg to try out new equiment or techniques before going overseas.

for natural light shots, which I personally prefer to use, as the pictures have a better quality. If you do use flash, be careful of reflections back from the sides of fish, particularly Pike, who although they appear green are in fact very silvery and the flash can be just reflected back. There are a few ways of avoiding this, one is to use a diffuser over the flash, something like opaque perspex or alternatively a sheet of white plastic bag can be draped over the flash. With the more powerful types of flashgun, I prefer to use a reflector positioned above the flash head to bounce the light at the subject. This gives a very soft light which is well balanced with the natural light.

On a sunny day, which is obviously the best time for any sort of available light photography, it is possible to use 100 ASA film to shoot at F8 at a 1/60th of a second and this is a technique I use for most of my Pike photography which has proved very successful. A diffused flash can be added to give just enough light to restore some of the absorbed colours but bounce back off the fish can spoil the shots if too much ligh is used

I have photographed Pike for several years now and find them to be one of the most fascinating fish in our British waters. I have not been fortunate enough (yet) to see them attacking prey and show off their impressive power. I have, however, been the victim of this aggressiveness but luckily it was only a small Jack. I do not want to give the impression that they are dangerous but they are powereful fish which should be ttreated with respect.

Don't, for example, corner a large Pike (3' or more) so that there is no way of escape, they do not like it and it makes them very nervous. You'll soon spot a nervous one as they expand their gills and open and close their mouths very quickly, the effect of which is to make their head appear much bigger than it actually is, so deterring the intruder. I have seen them perform this ritual with each other and it usually results in the smaller one beating a hasty retreat.

They certainly also seem to fight, probably due to mating, judging by the scars and cuts on some of the bodies of the Pike I have photographed. I think part of the attraction in wanting to capture them on film is that they are such a powerful fish. I am still trying to get that perfect shot of a Pike catching its prey!

Although Pike are one of my favourite and most captivating subjects for freshwater photography, they are by no means the only available subjects, you have a variety of subjects from weeds, trees against the sun and even shots looking out of the lake through Snell's Window.

There is even scope for macro shots in British waters - small insects which live among the reeds can make unusual subjects, and although I have not come accross any myself, Dragonfly lava hatch among the reeds and that would be something to capture on film.

The tiny Redthroat Stickleback, which lives in the shallows is also a challenging subject, especially when they are building a small nest and the male vigourously guards the eggs which have been laid. A macro lens of at least 1:2 would be neccessary for this colourful but very small fish.

Personally I think British fresh water has a lot to offer us British photographersboth in terms of ease of access and the control it can give so the next time it is blowing a gale on the coast, don't abandon the dive, look inland at your local fresh water pit or lake, you may be pleasantly surprised at what you find!

Kevin Cullimore

UP Overseas in Palau

With W.Gregory Brown

It was a perfect morning in Palau. The ocean was calm, absolutely flat, and the water extremely clear. From the boat, I could easily discern every contour of the reef some sixty feet below. Above, the sky was a cloudless heavenly blue and a resplendent sun poured artistically arranged beams of light into the warm, transparent sea. But the best was yet to come, for we were about to dive the now famous Blue Corner.

At 60 feet we reached the bottom and began our short swim toward the drop off. Visibility was at least 120 feet and the reef was pulsating with activity. In one section, clouds of Pyramid Butterflyfish congregated just above the reef whilst another area was occupied by hordes of wary snappers. As we approached the wall, schooling jacks swam back and forth across our paths, golden trevally raced through our exhaust bubbles, and hundreds of barracuda cruised in formation a mere fifteen feet overhead. Once on the wall's vertical face, we made our descent to a depth of eighty feet. Immediately, I began to realise what made Blue Corner so unique. Cold, nutrient rich waters were creating a highly productive area known as an upwelling zone. This area was concentrating a remarkably diverse marine community. Out in the blue as far as I could see in any direction, large pelagics and massive schools of baitfish were swarming. Wahoo, jacks, yellowfin tuna, rainbow runner and assorted reef sharks were all well represented. Occasionally one of the grey reef sharks would bolt from out of nowhere, snatch a rainbow runner and return from whence it came. During the attack, there was total, chaotic movement in the water column, followed by a period of deceptive tranquility. Without question, the big fish action at Blue Corner was electrifying.

Whilst divers are likely to rate Blue Corner as one of the world's finest sites, Palau offers much, much more, above and below the surface. Comprised of over 300 islands this independent island nation (officially known as the Republic of Belau) is situated seven degrees north of the equator approximately 900 miles southwest of Guam and 600 miles east of the Philippines (15 hours flying time from Los Angeles). Babelthuap, Palau's largest island some 40 miles long, is the main population centre. Located here are the airport, the capital city Koror, the major hotels and the dive operations. They are all within a short distance of one another. Unlike Babelthuap, a majority of Palau's island community is uninhabited.

(Left)
The lush reefs of Palau form great foregrounds for diver shots. This seafan in Turtle Cove was shot at 1/90th @ F8 using a Nikonos V, 15mm lens and Subsea Mk 150 strobe. Kodachrome 64 film has captured the subtle tones well.

(Right)
The islands rise exotically out of the deep blue sea with shallow reefs and steep drop offs

(Right)
A white tip reef shark cruises by in time to join a sunburst and give a feeling of space on the reef. Nikonos V with 15mm lens and Sub Sea Mk150 strobe. Kodachrome 64 film 1/90th @ F11.

(Left)
A blotched fairy basslet in Turtle Cove was taken with a Nikon F3 in a Tussey housing and a 105mm macro lens. An Ikelite 225 strobe gave 1/80th @ F11 with Kodachrome 64 film.

Featuring luxuriant, jungle like vegetation, these predominantly small emerald isles have been undercut at sea level by a combination of physical (weathering) and biological (chitons) forces, giving many of the islands a characteristic mushroom shape. On a clear day, a flight over the 'rock islands' as they are often called, is guaranteed to provide some breathtaking scenery. The aerial perspective also hints at the various underwater treasures awaiting the diver.

Until last year diving in Palau meant utilising the services of land based operators. This in turn often involved bone-jarring speedboat rides in cramped conditions. Travel times to the better sites routinely took from 45-90 minutes. The two dives per day was usually the rule, three the exception. Photographers piled their gear in the small uncovered craft, hoping their camera systems would survive the trip. Changing film on these excursions was a major feat since typically, nothing stayed dry. The inconveniences were quite annoying, but Palau continued to attract tourists because of the spectacular diving.

Since the Fall of 1986, however, all that has changed. A brand new live-aboard now plies the waters of Palau. She is the Sun Tamarin, a luxurious sixty foot sloop, owned and operated by Captain Avi Klapfer and his lovely wife Orly. The Sun Tamarin easily accommodates up to 6 divers in 3 private, air-conditioned staterooms and is completely outfitted for scuba diving. She has plenty of storage space for cameras/dive gear and most importantly, she enables divers to enjoy unlimited diving, day or night, on the numerous reefs, walls and wrecks of Palau. In Palau, the Sun Tamarin is unequivocally the ultimate way to dive. Like the infamous Truk Lagoon, and many of the archipelagos in this part of the Pacific, Palau was once an extremely active battle zone. During the World War II era, 38 ships are know to have gone down in the surrounding waters.

Today, these historical shipwrecks offer us an exciting glimpse into the past. Probably the most popular of these wrecks is the Japanese fleet tanker, Iro Maru. Resting upright in 140 feet of water, her deck starts at 80 feet and her photogenic masts rise to within 25 feet of the surface. The Iro is home to large numbers of small tropicals such as white-striped anemonefish, exquisite lyre-tail coralfish, and several red and blue-spotted coral trout. Invertebrates include colourful nudibranchs and majestic soft corals. The Iro Maru is a great dive for either wide angle or macro-photographers.

A truly bizarre snorkel dive that

(Right)
A nautilus, the "living fossil", taken at night with a Nikon F3 in a Tussey housing with a 55mm macro lens. The Kodachrome 64 film was exposed at 1/80th @ F16 and was lit with an Ikelite 225 strobe.

(Right)
The reefs are rich in both hard and soft corals and the water is pleasantly warm. This diver is on Iro maru wreck and was shot with a Nikonos V and 15mm lens loaded with Kodachrome 64 film and lit with a SubSea Mk150 strobe to give 1/90th @ F8

must be expereienced takes place in a land-locked marine lake on the island of Eil Malk. Appropriately named Jellyfish Lake, this body of water is inundated with pink, non-stinging jellyfish...literally millions of them! Swimming through these pulsating coelenterates in the 90°F waters of the clear lake is a very strange sensation. Indeed, time and Diving evolution have combined to create a wonderfully unique ecosystem in this lake. It merits hours of exploration.

One of the premier reef dives in the 'rock islands' has to be Turtle Cove. This elegant expanse of reef is carpeted with stately sea fans, soft corals and scarlet sea whips. On practically every golden fan we find one or more black and white crinoids. These ancestral echinoderms are the crowning glory to an already magnificent photo opportunity. The fish life is abundant as well. Regal angelfish are scattered throughout the reef complex, eyeing us with caution as we glide by. Darting in and out of the coral crevices, ornately-designed blennies provide yet another challenge for our photographic skills. The careful observer may discover a beautifully camouflaged octopus or a cuttlefish. These incredible cephalopods are capable of performing astounding feats of body magic by changing their colour and texture at will. It is perhaps one of the most fascinating sights in the animal kingdom.

Palau is every diver's fantasy brought to life. The variety of diving is unparalleled and the marine resources that abound here are intensely beautiful. It is a premier dive destination you don't want to miss!

W.Gregory Brown

Photography without scuba

by Nancy Sefton

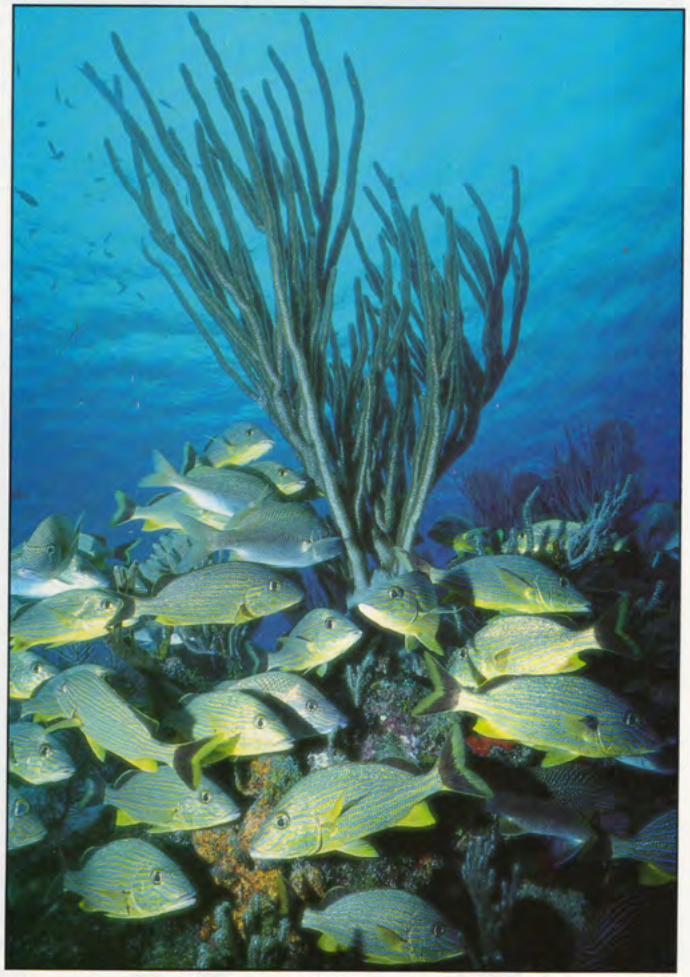
One of the frustrations inherent in a tropical dive vacation is the need to sit through surface intervals in-between tanks, wasting precious shooting time. In many cases, one could be obtaining quality photos in the shallows, without scuba, instead of twiddling thumbs impatiently on the surface. It may surprise the die-hard photographer to discover that given the right area, the right equipment, and the right conditions, a snorkeller can achieve satisfying results from macro to super wide angle photo portraits.

Some of my best photos and certainly some of my most enjoyable photo forays, have been accomplished as a snorkeller. I've found an adolescent octopus in its conchshell home, busy prying open a scallop: I've photographed stingrays, 'cudas, squid and even young nurse sharks in waist-deep waters.

Snorkellers enjoy a unique kind of freedom denied to the scuba diver who is burdened not only by a tank, but by the rules of diving on pressurised air. The snorkeller need not check gauges constantly or feel hindered by considerations of air supply, time or depth.

Although coral reef zones are best for snorkelling photography, colder seas have their own interesting subjects, a profusion of colourful, shallow-water marine life. Ideal conditions in any ocean include lack of strong currents and surge, relatively calm water, and for wide-angle work, good visibility.

Snorkellers are likely to find underwater photography more physically demanding than scuba divers do. For example, a certain amount of lung power is called for in order to pursue subjects that lie deeper than an arm's reach from the surface. While skilful free divers can meander along the bottom at 20 feet or more looking for subjects, most of us have to settle for shallower subject matter.



(Above) *Schools of snapper and grunts hang around at just 20 feet. Underexposing the background by one stop and using a powerful strobe creates an illusion of extra depth.*

You should first scan the bottom from the surface, and choose a subject. Complete all necessary camera settings BEFORE kicking downward. When you make that plunge toward the subject, a weight belt will help you stay down long enough to get the shot. If you have a free hand, it helps to grasp something solid on the bottom. (Remember that living corals are damaged by our touch; hold onto something else.)

For wide-angle work, bright, shallow barrier or fringing reefs are ideal, particularly where there are large coral formations such as the Caribbean's elkhorns, and soft sea whips and plumes with fish and other snorkellers to pose near them.

At these depths, an underwater flash is rarely necessary; ambient light overpowers a strobe. Unless your intention is to illuminate areas in shadow or to bring out colours, rely on that Big Stobe in the Sky and use it to your advantage.

For best results, place your back to the sun (assuming it's at an angle) when you shoot. This means that the sun will shine onto your subject; if you aim against the sun, the picture appears hazy, lacking colour and contrast.

The use of a strobe with wide-angle lens allows the snorkelling photographer to create the illusion of depth, merely by getting close to the subject, which usually necessitates closing down the aperture. This in turn darkens the blue water background, suggesting a deeper locale.

Both snorkellers and scuba divers are advised to get low and shoot upward. Branching corals both hard and soft, and other snorkelers too, look far more dramatic against a bright surface as background. Test this rule by shooting downward from the surface; then dive to the bottom and snap the same scene using an upward angle. You'll be surprised at the difference.

Even with the aid of scuba equipment, fish can be difficult to capture on film. Snorkellers should watch for the small, bright schools of fish that often throng around barrier reefs. Schooling fish are usually easier to approach than solitary ones; they've learned that there's safety in numbers and are therefore complacent enough to allow a close approach.

Camera systems without automatic exposure should include a light meter; in the shallows, determining available light exposures can be tricky, especially for divers used to the lower light levels of scuba depths. It may be practical to make one plunge solely for meter-reading; back on the surface, preset the exposure. Finally, dive once again for the shot.

Slower films, those with a speed of ASA 64 and 100 will suffice in the shallows, thanks to increased light levels. Overcast conditions or less-than-gin-clear water may require faster films with ratings of ASA 200 and 400.

Some bottom-dwellers such as stingrays and flounders, rest against white san, a troublesome background because it reflects both sun and stobe light; your shots will be overexposed unless you compensate for this by closing down the aperture, for non-automatic systems.

(Above) *This Hermit Crab was placed on a colourful soft coral with the first breath and then, when it had emerged from its shell, a second dive captured the shot.*
(Below) *A lobster caught with a 20mm lens in just 7 feet of water.*

For macro photography, artificial light is, of course, a must. The answer is a lightweight system; keep it simple. Easy to handle is a Nikonos camera with 35mm or 28mm lens, and the appropriate extension tube and framer.

The tube fits between lens and camera, effectively moving the lens elements farther from the film plane. The result is close-up capability with no fuss. A 3-sided framer, fastened to the tube, indicates the exact lens-to-subject distance and picture area.

What's more, the exposure, distance and shutter speed settings you'll be using are constant. Most close-up systems of this type call for the smallest aperture opening (f22), a shutter speed of 1/60th second, and a preset minimum lens distance . All that's required of you, the photographer is to find the right-sized subject, place the framer around it and shoot.

A small narrow-beamed strobe fastened to a camera bracket in the proper macro position, is easily manipulated with one hand, leaving the other free to grab the bottom. You will bless those new batteries or that fresh charge, because a fast recycle time will allow you to take several shots on the same breath.

A delightful variety of macro critters live close to the surface in seas both warm and cold. In the Caribbean, flamingo tongue snails, Christmas tree and feather duster worms, hermit crabs, nudibranchs and even coral polyps are ideal subjects, all at home in waters 15' deep or less. The Indo-Pacific region may harbour an even greater profusion of marine life in the shallows. There's yet one magic ingredient in this recipe for successful snorkelling photography; it's called, simply, an "eye" for the picture, and is not easy to come by.

Where macro critters are concerned, experience teaches one where to find the obscure, the cryptic, the non-descript. Fascinating animals that every photographer dreams of capturing on film are literally at the fingertips of those snorkellers who know where to find them.

Divers too often pass blindly over so-called "barren" shallows, oblivious to what lies just inches away. Transparent tentacles extend from beneath an algae-encrusted rock; almost unseen, four peppermint-striped antennae wave among the tentacles advertising the presence of a mated pair of red pistol shrimps living symbiotically with a corkscrew anemone.

Another rock, overturned gently, reveals a brilliant purple sea anemone; nearby, two red sea urchins compete for living space with three brittle stars and a tiny

(Left)
Silhouettes are good for giving a feeling of depth. Using a wide angle lens also adds to this effect and elkhorn coral rarely seems to look wrong in a picture

blue crab.

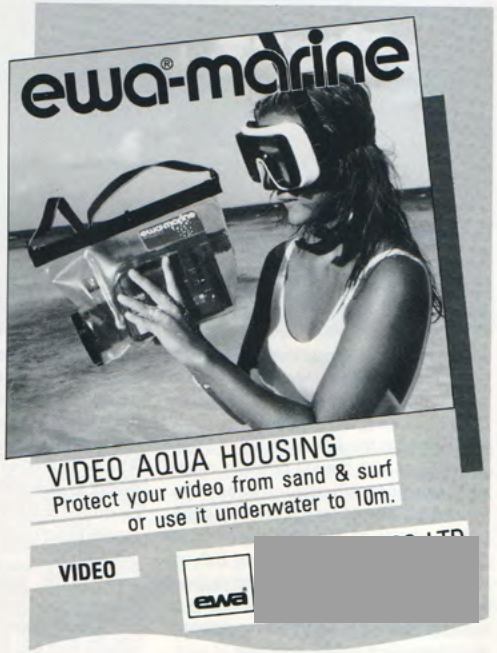
In the Red Sea, I have photographed lavender anemones making their homes in less than 2 feet of water, each individual playing host to juvenile clown fishes.

I the snorkeller, float silently overhead; there are no loud exhalations to disturb the peace around me. A 4-foot barracuda passes, hugging the surface, accompanied by two young bar jacks. Discovering me, the little hangers-on abandon their natural host and swim over to adopt me instead. The barracuda, jealous and indignant, sneers and turns tail. Confused, the fickle jacks follow after. They know where their fortunes lie.

I stand a moment, waist-deep and survey the shimmering sea spread around me. There's movement below. A large grey stingray has sidled up to my fins to inspect them. But I'm only a distraction. He turns his shovel nose and glides away.

It would serve many photographers well to widen their horizons by carrying a camera while snorkelling; not only is valuable vacation time put to good use, but a new photographic experience, with its own inherent challenges, awaits you in the shallows.

Nancy Sefton



How was it done?

Adrian O'Neill turns one on it's side

This shot was taken while Abu Rimathi near Hurgada and was on one of the last dives from the Lady Jenny V on her successful trip down to Sudan and back. We were diving a pinnacle in fairly shallow water and I had my Nikonos 111 and 15mm lens loaded with Kodachrome 64 together with an SB101 flash kindly loaned to me by Shirley, one of the guests. The exposure was 1/60th @ F16.

There were a lot of fish unafraid of divers on this pinnacle, especially a couple of large Grouper. Even the usually shy lemon and antenna butterfly fish were cooperative but none however as friendly as this Moray. He was a big chap with a head as big as a rugby player's thigh. He was peaking his head out of a hole in a fairly featureless part of the coral. As I approached, he emerged further until a third of him protruded. He let me come very close and allowed me to take several shots, bracketing the aperture, but I could not achieve a shot to make him stand out against the background.

I did shoot a couple of shots from lower down looking towards the surface with the wide angle lens which is always good for a dramatic result. Looking through the viewfinder was impractical as I was so close to the subject so I guessed it.

I would have shot a couple more but a movement caught my eye and coming towards me was another Moray - probably my model's mate - slowly approaching my ear. Now Morays are not normally aggressive but they are near sighted and, to my approaching Moray, my ear could have looked like a piece of bacon. After all, the last Skipper of the Lady Jenny V had his lip ripped off by a Moray so I decided to leave it at that.

Once developed, there was only one shot which was passable and another which was interesting but otherwise unacceptable. And then there was this one which, when projected vertically, as it was shot, induced distinct vertigo so it stayed on the shelf.

At Christmas, I had one of my periodic appraisals and culling periods and, flicking through my collection, came across this one. I decided to see if I could do something with it on my slide duplicator. I have an inexpensive slide duplicator from Panagor which I use for duplicating slides and cropping frames. Whilst trying various ideas, I came across this one which, when viewed horizontally, became quite decent so I included it in my weekly slide show which I give to clients on board where it received one or two encouraging comments, so I left it in the show.

Two weeks later, the Underwater Photography Magazine Photo Course were on board and when this slide was projected, Peter Rowlands noted that it was odd and remarked on it and that's why you see it here.

Maybe some of you have similar shots which can be more effective if viewed differently from the way in which they were actually taken. You'd be surprised how different some shots can look when viewed the wrong way round and even upside down so don't store them straight away. Look at them again from all angles.

Adrian O'Neill

Back to Basics

Available light

Taking underwater photographs by available light is very simple but it can also be as complicated as you like to make it. Mastering shots of this type will enable you to capture good pictures without all that expensive and potentially confusing equipment.

When starting out to shoot by available light, the cardinal rule is to try and arrange it so that you have as much light as possible. Dive at midday when there is a cloudless sky and you will have the maximum amount available. Combine this with a day when the water surface is calm and you will be stacking the odds very much in your favour. As soon as there are clouds and choppy seas the light levels will drop considerably. Don't, however, insist on diving only when it's perfect, otherwise, in Britain, you may have to wait a while.

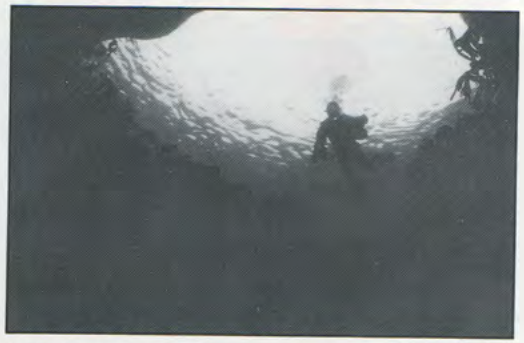
Assuming that the conditions are workable, stay in as shallow water as possible and concentrate in this depth. Between the surface and 10 feet is a very productive area which is easy to work with basic equipment since you have the most available light. A well known guide to producing good quality shots in available light is "Never shoot subjects which are further away than 1/3rd of the visibility". So if you can see 30 feet, don't shoot subjects over 10 feet away. This is a good guide for shots with maximum contrast and impact.

To obtain the correct exposure with available light, you must either use a camera with a built-in/automatic meter or have a seperate lightmeter. Without these you will be guessing and this will lead to inaccurate and disappointing results.

The following guidelines apply to all types of equipment whether it is a seperate light meter or a built-in system.

Since nearly all of the available light underwater comes from the surface, you must make sure that this top heavy lighting doesn't fool the metering system into thinking that there's more light than there actually is. If you want the underwater scene to be correctly exposed you must tilt the meter/camera down slightly and away from the surface so that it is not overinfluenced. Tilting it too far down (i.e. vertically down) will cause overexposure if you will eventually be shooting horizontally so don't overdo it and you'll get the correct exposure.

The one snag with automatic cameras is that they will readjust to the light levels when you tilt the camera up to take a shot. The solution is to set the camera manually for the "tilted" exposure and then line the camera up for the shot, ignoring the readings it will now be giving.



(Above) *When there are large areas of brighter surface in the frame, metering systems will be fooled into thinking that there's more light than there is and give underexposed results.*
(Below) *An evenly lit scene with the sun behind you is much easier for a metering system to cope with. The more even the tones, the more accurate the light reading.*

If you find that the difference in readings is not much then you can leave the camera on automatic and fire away.

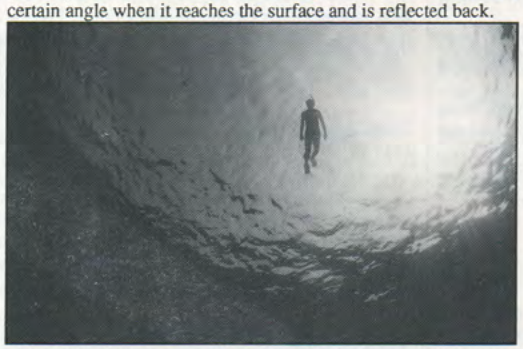
To reduce this heavy toplighting, try and keep the sun behind you and this will make the light much more even. All but the most sophisticated metering systems are fooled when there is an area of highlight in the frame so evening out that light level will suit the meter much more.

Choosing what combination of aperture and shutter speed and what film to use has already been covered in previous issues so you now only have to concentrate on composing a pleasant picture.

In shallow water, the reflections both through and back from the surface are exciting possibilities. Capturing them is not so easy as you are usually in midwater, moving all the time, and so too is your subject. Keeping everything as still as possible will help but this is often easier said than done. Take a few extra frames just in case.

In deeper water (about 20 metres plus), the light levels drop considerably and will make available light work more tricky. This is especially true in sediment suspended waters where the light is both being absorbed and reflected back at the same time. What you are left with is a fraction of what you started out with at the surface. Two solutions are to use a faster film or to hold the camera very still and use long shutter speeds. The faster film solution is the easier of the two since you can continue to operate as normal but the long shutter speeds have great potential to capture underwater scenes at depths where your own eyes are struggling to see.

(Above) Colour correcting filters are available to screw onto the front of the Nikonos lens to reduce the colour casts.
(Below) Snell's Window is when the light from the sun reaches a certain angle when it reaches the surface and is reflected back.



(Below) With the camera held completely still, long exposures help to capture the available light, and amplify it, even at depth.

For long shutter speed exposures, an automatic camera is best as all you do is set it to A for auto and it does the rest. The results you get back will be surprising and will capture the mood of the scene much better than if you had tried to use flash or other lighting.

Filters

Water absorbs light very efficiently and in doing so it also absorbs the colours at varying rates. The first to go are the vivid reds. They will be muted in just 10 feet of water and will disappear around 30 feet. Oranges and pinks follow until, at depths around 20 metres plus, you are left with just blue and black if you are in the tropics or green and black if its like the UK.

The deeper you go, the less you can do about restoring the lost colours but, in shallow water, it is possible to restore that colourful sparkle that you saw when you took the shot which can so often come back from the processors as a muted shot with a contrast reducing colour cast.

In Britain we have an overall green cast which can be reduced by placing a magenta filter in front of the lens. Since the rate of absorption, and therefore the strength of the cast, depends on the depth of water, the deeper we go the stronger the filter must be to counteract the cast. Since filters reduce the light reaching the film, you start to chase your tail after a while and a compromise is recommended.

As a general rule, for every foot of light path (light path is the total of the distance from the surface to the camera plus the camera to subject distance) you need to place 4 units of filter in front of the lens. For example, if you are in 10 feet of water shooting a scene 20 feet away, that's 30 units. Filters are supplied with a note of their strength in units. The higher the number, the stronger they are. Every 30 units of filter cuts the light down by one stop so imagine if you were in 40 feet shooting something 40 feet away. That's 80 units which is nearly 3 stops extra exposure! As you can see it all gets impractical after a certain depth/light path so we compromise with a 30 unit filter and give one more stop exposure.

In the tropics where the overall cast tends to be blue, all of the above guidelines apply except that the filter is red instead of magenta.

Colour correcting filters should only be used with colour slide film and available light. If you add flash, the daylight of the flash will become the colour of the filter and so look unnatural. (If you still want to use flash and colour correcting filters you will have to use the opposite colour over the flash to counteract the filter over the lens but more of that in later issues).

As with most aspects of underwater photography, you can make it become as complicated as you like and filters are no exception but using a CC 30 strength filter is a simple and generally effective compromise.

For available light work it is best to try shooting divers and scenes rather than close ups since most close ups require additional light for perfection. Subjects such as wrecks in shallow water (or even slightly deeper water with the long shutter speed technique) are best captured with available light since additional light can spoil the mood of the scene.

Keep as shallow as possible and you will have as much available light as possible.

Next issue we'll look at adding a little artificial light.

Short Ends

DIVE & SAIL - Egypt 1988/89

Dive & Sail are running 'live aboard' dive charters out of Eilat on the newly refitted 'Jarata', a 66' three mast schooner which sleeps 7. After flying to Eilat you will board the 'Jarata' and spend 6 days cruising the Gulf of Aqaba and Gulf of Suez along the Sinai desert. The price is £495 per person for 7 nights - group discount available- for full board & diving. Flights and transfers to & from Eilat not included. Video available. Contact Dive &

TROPICAL MARINE EXPEDITION SURVEY

The TMES, an international educational/recreational organisation will begin its new travel programme this summer with diving expeditions to the Red Sea. The TMES concept is based around a curriculum of various marine ecological/biological topics tailored to the specific sites being dived. The week-long courses are operated in live-aboard yachts and a biologist/instructor travels and dives with the group to provide guidance and instruction. The first trip departs from Eilat August 27 1988.

Further details available from

DIVE & SAIL TURKEY
with jack Jackson

Jack Jackson is sailing from Turkey on a 20m Turkish 'Ketch' Yacht in September 1988 for a photographic week in the Gulf of Gokava and Gulf of Doris. Full board and accommodation, diving and flights to Dalaman £550 per person.

Contact

SAFETY WEEKEND

All three major diving associations will be present at a safety weekend organised by the Diving Diseases Research Centre at Fort Bovisand May 28/29/30th 1988. Subjects covered will include First Aid, Safe Diving Suit Use, Decompression and Safety Communications. The cost will be £20 with all proceeds going to the the Chamber fund.

Details from

CAIRO UW PHOTO EXHIBITION

Cairo Divers Club are presenting their 3rd annual photo exhibition, "The Underwater Temples of Egypt" from May 26th 1988. The club, comprising of members from around the world, will present their work to convey the beauty of the Red Sea to the general public and promote exploration of Egypt's underwater life.

IKELITE BRACKET

Ikelite now supply a bracket to attach to their video housings to enable the underwater photographer to take still and video pictures at the same time. Price £35.00.

VIDEO HIRE

Weymouth Aquatic Video Equipment now have a Sony Handycam M8 system & housing complete with wide angle lens and dome port available for hire. They also provide an underwater video survey service to yacht and hardboat owners as well as transfer and editing of 8mm video to the tape of your choice.

TWICKERS WORLD
1988/89 Diving Brochure

Despite having a fire at their Twickenham premises, Twickers World now have their 1988/89 diving brochure available.

The 26 page brochure and inserts includes diving details for Ireland, Turkey, Malta, 6 Red Sea locations, Caymans, Bonaire, Thailand, Maldives, Galapagos, Truk and Comores!

For your copy, please contact Len

SPEEDWING LAUNCH MALTA DIVE PROGRAMME

Malta offers a great deal in terms of value for money and Speedwing are offering a comprehensive range of dive packages to this Mediterrannean island.

For further details please contact

POLAROID PROCESSING ON LADY JENNY V

Dive masters Alex and Tamara Double have organised a Polaroid film processor on board Lady Jenny V so that clients can being their Polaroid instant slide film and check that everything is working OK.

The Polaroid instant slide film takes just a couple of minutes to process and is a simple and cost effective way of reassurance.

The films are available in 12 and 36 exposure lengths and each fim is supplied with a processing pack of chemicals which when used in conjunction with the processor will give you instant slides without the need for a darkroom or running water. The 12 exposure films cost £9.80 and £13.75 for the 36 exposure.

UK ARTICLES WANTED FOR UP

Underwater Photography Magazine are looking for articles about dive sites in the UK. There are plenty of articles from overseas locations but very few UK ones so let's hear from you.

We appreciate that it's not as easy to take good shots in the UK but it's not impossibleand we're sure that there are good shots and words available.

If you have an idea for a UK article and already have some shots, please contact us to discuss it. We are always open to suggestions for new articles.

As an example of UK based material, we are looking for good shots which show some marine biological event happening or some behavioural pattern/habit being displayed. This would be accompanied by about 250 words on what's happening, where it took place and how it was shot.

Any ideas?