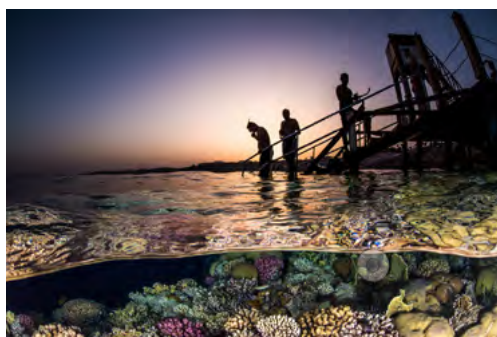




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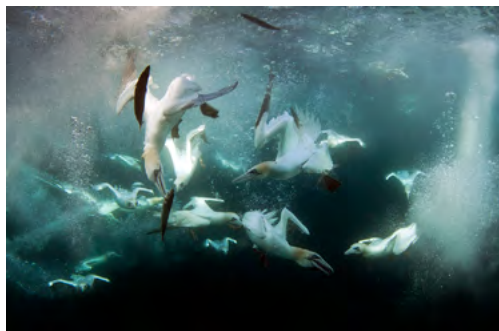


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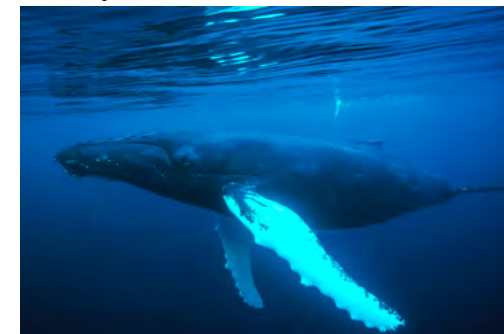


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Underwater Photography 2001 - 2018
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Publisher/Editor Peter Rowlands
www.pr-productions.co.uk
peter@uwpmag.com

Competitions

20% of those who entered UPY 2018 are going to agree with almost everything I am about to say and just over 2% of those will agree with everything because they won a Category in UPY 2018 and the other 18% were in the top 110 images.

That leaves 80% who may already have stopped reading because, for the moment, they think competitions really suck; and that's perfectly understandable.

After UPY 2017, the percentages would have been about the same; it would be just a different set of names. Euphoric last year, despondent this.

In addition I have always said that if UPY 2018 was judged on another a day, the top ten images in each category would almost certainly be the same but the order might not. That's purely because we are all slightly different day to day and that is the nature of a competition. It's all about how the judges felt at that particular time.

So far I've still not written anything that will appease the 80% but, as (I think) the late great fashion photographer Terence Donovan said "It's all about having an opinion". By entering a competition all you are doing is asking for the judges' opinions.

Editorial

LED flashguns

One thing's for sure with technology; it will happen eventually.

When the humble LED first appeared it was greeted with initial amazement. Instant on/off, no filament, low current, low heat, a choice of colours and very simple i.e positive/minus, On/Off. As with all new developments they were expensive at first and then the price tumbled as production could be ramped up to supply demand.

Fast forward nearly four decades and that simple device has been developed beyond all recognition so that now, in the underwater photographic world, we have LED lights which are extremely bright but which, for the first time, can also replace traditional flashguns.

It's true that at present their output in terms of light duration is not as fast as a traditional flashgun and they do not yet have the sophistication of TTL capability but, as I said at the beginning, it will happen eventually.

Green Planet 1

It always hacks me off when I hear that a friend of mine not 10 miles away has had a free upgrade of his broadband speed from 100 to 200 mbps when I still have to get by with a measly 8mbps at best. Wouldn't it be fairer firstly for me to be upgraded to 16mbps (which I'd be delighted with) and then, the 100's could have their 200?

I will admit that I had a similar hack when Blue Planet II came out. Now don't get me wrong, BP II has been an absolute joy; a great flag bearer for our world and which has started the global awareness of the plastic peril (more on that in a minute) but I'd be much happier if they produced a Green Planet 1 first before committing funds to BP II.

Sure, blue water covers most of our marine area but it's green relative is no less amazing visually and is equally well off in terms of inhabitants and stories.

With today's incredible video cameras and their high ISO and SloMo capabilities coupled with high output LED lighting, green could surely be the new blue?

Planet Plastic

I feel vindicated about accusing us of falsely presenting the underwater world as too colourful, healthy and perfectly natural when the truth is, in some areas, there is a really big problem; plastic pollution.

My argument was that if the general public 'saw' it, they'd 'get it' but it took the non threatening tones of Sir Attenborough in the final series of Blue Planet II together with honest images to finally persuade the world at large, and much more importantly, the media, that this was becoming crucial. It's a bit like you'd listen to your grandad but no way was your dad right!

The result of such an approach has been, for the time being, seismic and long may it continue. Only people power will make commerce pay attention and only education including truthful images will bring about long term and permanent change.

There's a long way to go but we've also suddenly come a long way.

Peter Rowlands
peter@uwpmag.com

www.uwpmag.com

News, Travel & Events



Celebrate the Sea Festival

Manado, North Sulawesi
31 March to 4 April 2018

Ocean Geographic is pleased to announce the 13th Celebrate the Sea Festival in Manado, North Sulawesi from 31 March to 4 April 2018. Previously staged in association with the World Festival of Underwater Pictures, (Le Festival Mondial de l'Image Sous-Marine – Marseille) from 2002 to 2013, Celebrate the Sea was known as one of the most significant underwater photographic events in the world outside Europe. The 2018 festival in Manado will take place in conjunction with the 5th annual 'Ocean Geographic Pictures of the Year' competition.

The festival will open on 31 March 2018 with a full-day keynote conference by a panel of international speakers, together with an opening

ceremony hosted by the provincial government of North Sulawesi. Past presenters at Celebrate the

Sea include some of the world's most prominent luminaries in underwater imaging and science, including: Stan Waterman, David Doubilet, Jennifer Hayes, Ron & Valerie Taylor, Dr Sylvia Earle, Dr Phil Nyutten, Howard and Michele Hall, Peter Scoones, Dr Gerry Allen, Emory Kristof, Michael AW, Dr Carden Wallace, Dr Lindsay Porter, Howard Shaw, Neville Coleman, Leandro Blanco and Dr Mark Erdmann to name just a few. Without doubt, the luminaries for 2018 will be equally impressive.

The principal highlight of the 2018 festival is the international underwater shoot-out competition. With cash and holiday prize monies value at around USD 35,000 spread

over five categories, it may be the most lucrative shoot-out competition in the world. The overall winner will be named 'Master of the Competition' with a cash bounty of IDR 66 million (about USD 5,000). Prizes are funded by the provincial government of Manado and supporting resorts of the North Sulawesi Watersports Association.

Competition participants can submit entries into the five categories taken on a maximum of 10 qualifying dives in their chosen supporting resort from 1-3 April. Cameras must be set to the correct Manado time and date before diving commences. Only material from up to 10 dives can be submitted to the competition. Participants can arrive earlier, or undertake more than 10 dives between 1-3 April, to be arranged directly with their chosen resort.

www.celebratethesea.oneocean.com



NAD-Lembeh Resort is a small, owner-operated, photography-oriented dive resort in the Lembeh Strait.

Situated in a private bay on Lembeh Island, you can enjoy being away from the hustle and bustle of the mainland.

Guaranteed 2:1 guest to guide ratio as standard, which makes for a private dive experience and lots of time to take pictures.

NAD is often the choice of film crews and production companies. We also offer Blackwater Night and Mandarin Fish Dives if you would like to try something different!



NAD
l e m b e h

North Sulawesi, Indonesia

General enquiries: +62 812 475 6661
info@nad-lembeh.com
www.nad-lembeh.com

Capturing Shetland's underwater gannets with Richard Shucksmith



With a 6ft wingspan, pristine white plumage, black wingtips, yellow saturation to the head and an impressive dagger-shaped bill, the Northern Gannets is not only Europe's largest but also one of its most attractive breeding seabirds.

Nesting in colonies numbering into the 10 000's and occupying some of the continent's most remote and dramatic sea cliffs and reaching diving speeds of over 60mph on entering the sea in search of their prey, the northern gannet is an iconic species which offers exciting opportunities for nature photography.

Over the last five years by

studying the gannet's behaviour, and understanding the movement of the fish they feed on, I have been able to successfully predict the best times to photograph gannets underwater.

This is a unique opportunity with no one else offering the chance to capture the dramatic diving behaviour of gannets. Shetland is one of the best places in the UK to photograph gannets underwater because of the beautiful clear oceanic seas that surround the islands. Furthermore, not all places gannets will dive around a boat but here on Shetland they have got used to my RIB and several thousands gannets can be circling and

diving round the boat at any one time.

Number of people: 1-6 to photograph gannets underwater. Group size is limited due to the available space on the boat to make sure everyone has a great experience and makes great images.

Duration: 4 to 6 hours out on sea.

When: To photograph gannets underwater is run between April to the end of June. Please email Richard for more information.

info@shetlandphototours.co.uk
www.shetlandphototours.co.uk

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2nd Underwater Photo Shootout

with Scott Portelli

Lord Howe Island

3rd - 12th June 2018



Pro Dive Lord Howe Island and Pro Dive Travel will host the 2nd annual Underwater Photography Shootout in conjunction with award winning wildlife, nature, aerial and underwater photographer Scott Portelli. Participants will have the opportunity to attend Scott's Workshops throughout the event receiving invaluable tuition.

There are a number of brilliant prizes to be won during the competition including Whale Watching Tours in Tonga, Dive

Packages, Dive Gear and more. Winners to be announced at an Awards Ceremony at the LHI Golf Club.

Price includes: Return flights from Sydney, Airport transfers, 9 nights accommodation staying at Leanda Lei Apartments, 10 Dive Package, 1 Night Dive, Dive gear, Morning refreshments on dive days, Dinner (2 course) at Anchorage Restaurant on arrival day, BBQ dinner after night dive, Gala Dinner and Awards Ceremony at the Golf Club.

www.scottportelli.com

www.prodivelordhoweisland.com.au/products/shootout



Issue 101/7

Basking Shark Scotland 2018 News



Our first news for a while and we've been juggling trying to keep on top of the office with our baby Mara. Things are slowly getting better with her now she is 3 months old and around 8lbs so she's doing really well. However we're still not in the office full time, so bear with us on enquiries.

Shane had two trips out to the Arctic for the orca this winter, some successes and some frustrations. Always a tricky environment to have certainties but never a dull moment!

As we are now coming into February, it feels like spring is getting closer. Our season will be upon us in no time at all and we've shared some

tour info below. The short basking shark season is booking fast so don't delay if you want specific dates.

Do check out our blog on helping reducing plastics and help our shark science project with buying a sustainable basking shark cup. There was also good news this week with the government committing funds to the basking shark MPA process, so that will make for exiting stuff this year.

Chin up for the last of the winter - spring is on her way. Keep in touch with us on social.

www.baskingsharkscotland.co.uk

www.uwpmag.com

Raja Ampat 2019 with Immersed Imaging

May 3-13, 2019



From pelagic drift dives to magical muck dives and even some habitats that are special to Raja Ampat such as clear water mangroves with corals growing right next to them. There are thousands of potential dive sites in Raja Ampat. Exploration is still continuing and on every trip there are chances for new and amazing discoveries.

Join Todd Winner and Michael Zeigler of Immersed Imaging aboard the Indo Siren!

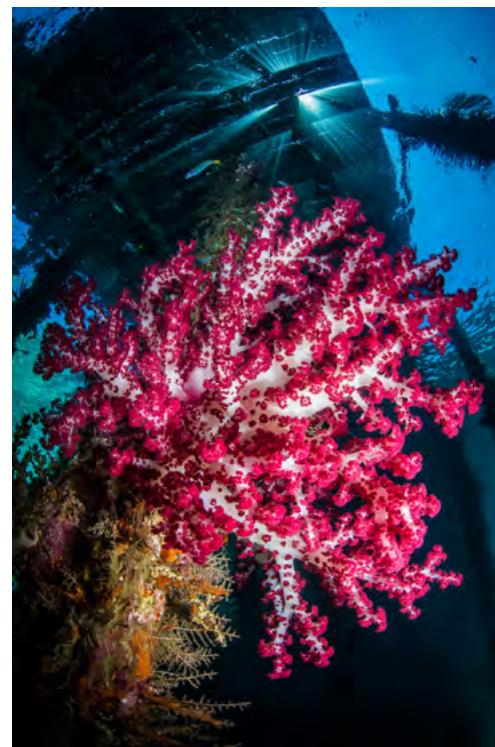
We will work with you one-on-one with you to help you improve your underwater photography and videography as we explore everything from pelagic drift dives to magical muck dives in Raja Ampat.

Clear water mangroves with

colorful corals offer incredible photographic potential, and we'll help you make the most out of each opportunity. We will also be exploring the amazing soft corals of Citrus Ridge, the unforgettable manta ray action at Mansuar, the incredible seahorses and pelagics of Dampier Strait, and more!

As Nauticam Ambassadors, we'll be onboard to assist you with any imaging needs you may have, including private tutoring, workshops, and demo accessories at no additional cost.

Our goal is to help you elevate your imaging skills while having a great time exploring all that Raja



Ampat has to offer.

The 10-night charter is \$5,340 per person and includes the following: 3 days in the Misool area
Fam Penemu & Yangeffo islands
Citrus Ridge (Wonderful soft corals)
Airborek Island (Famous pier dive)
Mansuar (Manta Ray action)
Dampier Strait (seahorses to pelagics)
Cape Kri and Sardine (speedy drift dives)

A \$300 deposit is required to hold your spot. Space is limited, and we hope to see you onboard!

www.immersedimaging.com/raja-ampat.html

Oasis Photo Contest



After the success of last year edition (27.000 photos in the contest from 62 nations) Oasis PhotoContest is ready to start again, with some interesting additions.

First of all, as you can see from the unrelenting timer, we have delayed registration deadline to 10th March 2018. Secondly, we have added three more category "open", for which a raw file is not required, so that photos taken with compact cameras, smartphones and tablets are eligible for the contest. Finally, we have increased category prizes, which will now be awarded not only to the winner, but also to the runner up.

Categories: - Landscapes - Mammals - Birds and bats - All the other animals - Underwater photography - Storyboard - Plants

<http://oasisphotocontest.it/intro>

THE SHOOTOUT

LEMBEH vs GULEN
ROUND TWO
15-23 June 2018

Join Wetpixel at the premier imaging event of 2018

The SHOOTOUT, which will be held from 15 to 23 June 2018, will again pitch two teams head to head in a live underwater photography contest. A team from the beautiful Gulen Dive Resort in Norway will be competing with their opposing team at the equally beautiful Lembah Resort in Indonesia.

The Lembah vs Gulen Shootout will take place June 15-23, 2018, at the Lembah Resort in Indonesia and the Gulen Diver Resort in Norway to decide which team of underwater shutterbugs can come up with the best images in a series of team and individual categories.

This year the teams will be guided and mentored by professional and acclaimed underwater photographers, striving to produce amazing images.

“The quality of images that were produced by the teams in 2016 under contest conditions is a true tribute to their abilities. The 2018 SHOOTOUT will provide the same challenges and an opportunities for all photographers to show their mettle. Join a team and help decide which will be the winner!”

For the participants, the SHOOTOUT is the unique opportunity to focus completely on creating stunning imagery. Team captains Alex Mustard and Keri Wilk will provide guidance to their teams on how to get the winning shots but also will be



making tactical decisions about image selection. They will, of course, also be helping team members to create stunning imagery by extracting the very best of their photographic ability

Wetpixel will be reporting live from the SHOOTOUT will feature a program of live broadcasts and reports from the event, including video discussions with the captains and teams. We are proud to announce that the SHOOTOUT will be covered widely in the diving media at the same time.

We are actively seeking team members. If you think you have what it takes and would like to participate in what will be the most talked about



and fun event in underwater imaging during 2018, contact Gulen Dive Resort or Lembah Resort directly.

Two continents, two hemispheres, two climates: ONE WINNER

www.gulendiveresort.com
www.lembahresort.com
www.amustard.com
www.keriwilk.com



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International Year of the Reef (IYOR) 2018

The International Coral Reef Initiative (ICRI) has declared 2018 as the third International Year of the Reef (IYOR). IYOR is a global effort which aims to increase awareness and understanding about the values of, and threats to, coral reefs, and to support related conservation, research and management efforts. Reef Check Malaysia (RCM) is planning various activities in Malaysia in conjunction with IYOR 2018 and hopes to work with local partners including government, tourism industry and NGOs on this important initiative.

IYOR 2018 aims to strengthen global awareness of coral reefs and associated ecosystems, promote partnerships and share information between stakeholders for the sustainable management of coral reefs, as well as identify and implement effective management strategies for conservation and sustainable use of these ecosystems. This is in line with RCM's current

efforts in Malaysia, which focus on helping stakeholders to implement sustainable coral reef management. IYOR 2018 provides an opportunity to extend efforts to raise awareness among Malaysians about the value and importance of coral reefs, the threats they face and what we can all do to contribute to reef conservation.

RCM will kick off its IYOR 2018 programme with a beach clean-up in March 2018. This clean-up effort will be conducted with several of our partners on the islands of Tioman, Mantanani, Sibul Tinggi, Pangkor, Perhentian and Mabul. This effort is to highlight the issue of marine debris, specifically plastic waste, which represents a serious threat to marine ecosystems. Recent photos from Tioman and Mantanani islands clearly demonstrate the need for action.

www.reefcheck.org.my



PhD Course - Documentation Techniques for Scientific Divers

Apply Now!
Deadline: 1-Apr

Contact: maria.asplund@gu.se
Course leader: Dr. Eduardo Infantes

**Kristineberg, University of Gothenburg
Sweden: 13-24 Aug 2018**

Course Content
SLR photography (macro, wide angle)
Photogrammetry (2D and 3D)
Photo-stacking, underwater tablet
Stereo-video techniques
Time lapse, AUV and drone
Video outreach

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Photo: Ronny Waigold

Lisa Collins Underwater Photography Workshop 24th May to 8th June 2019

Lisa Collins is going to be with us again, this time for a combined workshop with Lembeh Resort, in the famous Lembeh straights. Lisa is offering a combo trip with 7 nights at Lembeh and 8 nights at Siladen.

At Lembeh, Lisa will be focusing more on close up and macro fish portraiture, where the dive sites and marine life lend themselves perfectly for these techniques. At Siladen, located in the stunningly beautiful Bunaken Marine Park, famous for it's amazing visibility and incredible walls full of corals and marine life, Lisa will be focusing more on wide angle and close focus wide angle, with a little macro thrown in for good measure.

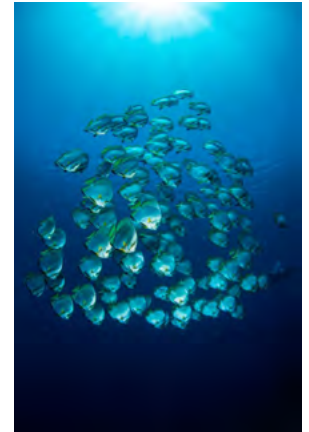
This combo workshop is a perfect way to hone your complete underwater photography skills at two of the best resorts in Indonesia.

Lisa is an award winning underwater photographic journalist who is a regular major feature writer for many dive publications.

“Siladen Resort and Spa was the perfect place to run the workshop, offering a luxury unrivalled by most other underwater photography workshop. In the middle of Bunaken National Marine Park, the location of Siladen couldn't have been better



to access the incredibly beautiful, healthy reefs and stunning walls teeming with marine life as well as muck diving full of weird and wonderful critters.”



Lembeh Resort from 24th to 31st may 2019,

Siladen Resort & Spa from 31st May to 8th of June 2019

If you are interested in joining us for either of the dates, or would like some more information regarding these workshops or other upcoming events, contact us at:

ana@siladen.com

www.uwpmag.com

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New Products

Ikelite 200DL housing for the EOS 800D Rebel T7i



Introducing a full featured and durable waterproof housing for Canon EOS 800D Rebel T7i and Kiss X9i DSLR cameras. Suitable for scuba, snorkel, surf, pool, and any application in or around the water.

Canon EOS Rebel series cameras are long-time favorites for getting started with a DSLR camera underwater. The EOS 800D Rebel T7i is compact with a straightforward and easy to use interface. A large 24MP APS-C CMOS sensor, Dual Pixel AF system, and 1080/60p video capture round out a great little system.

The 200DL Housing for the EOS 800D Rebel T7i is lightweight yet robust and full-featured.

The housing boasts all of our latest advancements, support for a

wide range of Canon mount lenses, and optional true Canon TTL flash exposure.

At the heart of any great image is good glass; At the center of the housing is the Dry Lock (DL) Port System. "Dry Lock" refers to the placement of the o-ring on the outside of the port mount. This improves visibility and reduces the chances of water dropping onto your precious camera sensor. DL ports are the lightest on the market, yet robust and capable of standing up to rough surf. Attachment is quick and secure.

Most popular zoom lenses and select lens focus rings can be engaged using a simple yet effective gearing system that puts adjustment right at your fingertips. A large, soft-

touch lobed knob on the side of the housing makes fine tuned adjustments a breeze. Zoom and focus gears differ depending on which lens you are using. All are lightweight and affordable.

The DL port mount may be removed and replaced with four port locks for legacy users with standard or modular ports from our Four Lock system.

The included vacuum valve allows you to pressurize the housing to check for leaks prior to putting your expensive equipment in the water. Use of the vacuum valve requires a compatible vacuum pump, sold separately.

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Nauticam NA-TG5 for Olympus Tough TG-5



Nauticam is pleased to announce the release of its NA-TG5 housing for the Tough TG-5, the pocketable “ultra-rugged” little camera from Olympus.

The TG-5 features some impressive upgrades from the extremely popular TG-4 and TG-3 series cameras, including 4K 30p and FHD 1080p 120fps high speed video.

The NA-TG5 brings legendary Nauticam durability and ergonomics to the Olympus TG-5. The milled aluminum housing incorporates features pioneered in the SLR, mirrorless and digital cinema lines. All of the camera controls are clearly labeled, and the video record button is easily identified by shape and color.

The proven rotary locking latch makes closing the housing simple and secure. The integrated thumb grip and sculpted shutter button make handling the housing intuitive and comfortable.

The NA-TG5 comes with handle brackets and a shutter release extension for users that wish to use the

optional handles and trays.

Other housing features include 2 fiber optic ports, easy access zoom lever, a 52mm threaded mount for auxiliary lenses, scratch resistant rear window, M10 threaded hole and cold shoe attachment point.

The camera is rated to be waterproof down to 15m/50ft without a housing, but with the Nauticam NA-TG5 housing, it is capable of producing images all the way down to a whopping 100m or 330 feet!

www.nauticam.com

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Acquapazza Dome Protector



When you are diving to 100 metres wearing various gas cylinders and descending head first, the expensive dome glass on your housing is extremely vulnerable and could get damaged. The Acquapazza Dome Protector is designed to prevent that happening.

Safe deep diving means keeping everything simple and the Dome Protector is extremely simple to attach and remove using two push buttons. In addition to this it is recommended to attach the Dome Protector to your housing with some additional string.

Neoprene covers have been the traditional protection for glass and plastic domes but they fit closely to the dome's external surface so are prone to piercing on sharp edges or a hole will become worn with continuous abrasion. In addition any sand trapped between the dome surface and the neoprene could be extremely abrasive especially with plastic domes and you would not discover the damage until it was too late.

With the Acquapazza Dome Protector your expensive dome will

be safe from even the roughest of handling. It is machined from 200mm diameter POM plastic and is 15mm thick where most needed.

The Acquapazza Dome Protector may be more expensive than traditional dome protectors but the protection it provides is priceless.

www.acquapazza.jp/en



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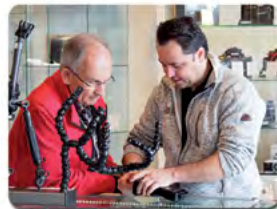
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We have a complete equipped workplace with a professional pressure-tank. UWcamerastore.com is the perfect address for maintenance and repairs! we are an authorized service center for brands like Nauticam, Light & Motion and INON. We are trained on a regular basis by our suppliers, so we can always service the newest products.

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INON X-2 for EOS80D



INON INC. is pleased to announce official releases of new lightweight cast body housing model for Canon D-SLR camera EOS80D on a build-to-order basis.

The X-2 for EOS80D is made from corrosion resistance aluminum alloy by ultraprecise cast manufacturing technique enabling thin body plate with complicated design which is not possible with machining.

www.inon.co.jp

Aquatica lanyard



Introducing the new Aquatica lanyards, they allow you to comfortably carry your housing to the boat or dive site and also great for help when getting out of the water.

The Aquatica Lanyard comes in 2 different lengths Short 25 cm (10") and Long 50cm (20")

The handle is made out of flexible rubber yet has enough body for a comfortable grip.

The Stainless steel bolt snaps are large and have a swivel base, this makes them easy to attach and remove even with thick gloves.

#19240 Aquatica housing 20" Lanyard + mounting brackets (2x) + screws Retail: \$ 95.00 USD

#19241 Aquatica housing 20" lanyard Retail: \$45.00 USD

#19242 Aquatica housing 10" lanyard Retail: \$45.00 USD

www.aquatica.ca

www.uwpmag.com

ADVICE FROM THE UNDERWATER PHOTOGRAPHERS THEMSELVES!

NEW POWERFUL INON STROBE



INON Z-330 STROBE

THE STROBE WE ALL BE WAITING FOR!



SeaLife introduce the new ReefMaster RM-4K

SeaLife introduced the new ReefMaster RM-4K Ultra Compact Underwater Camera at the DEMA.

Featuring a pocket-sized design with 14 megapixel Panasonic® CMOS image sensor and ultra-high definition 4K 30fps video, its ultra compact, portable design ensures that divers and snorkelers can take the ReefMaster anywhere, from a wet environment to 130' or 40 meters underwater.

The camera captures brilliant 4K video with underwater color correction. The Fisheye Lens allows a close approach to the subjects while still keeping everything in the picture.

The unique ergonomic housing was especially designed for use underwater, while the housing is easy to hold and use even with one hand, the tough enclosure also features a unique closing system – a “Pressure Lock” thumb screw that exerts the optimal amount of pressure on the housings o-ring seal. The waterproof housing encases the small inner camera, and also stores a powerful drying agent called “Moisture Muncher” next to the camera that prevents internal fogging caused by heat and humidity trapped inside the housing.



Featuring a compact removable inner camera and a robust external housing that mounts easily to a light tray or can just as easily be hand-held due to its contoured ergonomic body. The easy, 4--button control system makes catching the action an effortless process. The ReefMaster offers WiFi sharing ability, so you can wirelessly preview, download and share pictures & videos to a smart phone or tablet with a free app from Google Play Store or Apple App Store.

With the expandable memory of the ReefMaster RM-4K, you can use Micro SDHC memory cards up to 128GB, ensuring you have room to shoot & save all of your video content. It also has a time lapse function - shooting at set time intervals and saves as video file or series of still images.

The compact RM-4K is easily



expandable with popular SeaLife accessories, including and not limited to one or two Sea Dragon Photo/Video/Dive lights, and the super macro lens. Its 2.0” TFT color LCD screen creates a large, vibrant and easily visible display on the small camera.

With the ReefMaster RM-4K Pro 1500 Set, you get the ReefMaster RM-4K with a Sea Dragon 1500 lumen Light, a bright and wide beam that will add color and brilliance to video and still images.

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Canon PowerShot D30



This compact and tough digital camera offers leading waterproof performance that lets you shoot underwater down to 25 m. Constructed for harsh conditions, the PowerShot D30 is also shockproof to drops from up to 2 m¹, freezeproof for using it in temperatures as low as -10 °C and is fully protected from dust – so it's ideal for the most extreme outdoor activities, from snowboarding to SCUBA diving. It's also 'childproof' and can withstand the rough handling that children might subject it to on family adventures.

Capture great shots under any light with HS System - an exclusive combination of a high-sensitivity 12.1 Megapixel CMOS sensor and a powerful DIGIC 4 processor. HS System excels in low light

www.canon.co.uk

Nimar PRO Housings



Italian housing manufacturer Nimar has announced a range of PRO Camera Housings. Constructed of aluminum and resin, they are available for most newer Nikon and Canon pro SLR cameras. They have 3 M14 port and 1 M16, and are supplied with a sync cable bulkhead. There is wide range of ports available, including optional compatibility with a variety of manufacturer's ports systems.

Overall dimensions:

372mm(14.6") x 205mm(8.0") x 127mm(5") (W x H x D)

Weight: 3.15kg (6.9lb)

The Nimar PRO Camera Housings are shipping now, priced at €1750

www.nimar.it

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FOR FISHEYE AND WIDE-ANGLE LENSES
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Nauticam NA-D500 for Nikon D500



“A New Era”

With 153 focus points and 10 fps continuous shooting, there has never been a Nikon DX camera with the level of autofocus and continuous shooting capability as the Nikon D500—not to mention the revolutionary addition of 4K UHD video. This extraordinary camera demands an equally impressive housing, and the Nauticam design team has left no detail overlooked. In addition to the superior ergonomics for which Nauticam is renowned, each NA-D500 comes with an installed manual optical flash trigger—standard!

www.reefphoto.com

Ikelite 200DLM/A TTL Housing for Olympus OM-D E-M10 Mark III



Ikelite have introduced a professional grade, compact waterproof housing for Olympus OM-D E-M10 Mark III mirrorless micro four-thirds cameras. Perfect for any application in or around the water from scuba to surf to pool.

The Olympus OM-D E-M10 Mark III is a powerful compact interchangeable lens camera. Customizable controls, a TTL flash hotshoe, and a tilting LCD screen make it a good choice for underwater use.

The E-M10 Mark III features a 16MP CMOS sensor, 4K/UHD video at 24p and 30p, and a 121-point contrast-detect AF system. True TTL exposure Proper strobe exposure is the #1 most important contributor to

sharp and colorful underwater photos, particularly below 30ft/10m.

This is the only housing to include an integrated TTL circuit fine-tuned to the Olympus O-MD E-M10 Mark III flash exposure protocol for the fastest and most accurate exposure possible. TTL communication by electrical sync cord improves camera battery life and recycle time, meaning you get many times more strobe-lit shots when you need them.

The TTL circuit is powered by the strobe for zero maintenance and no batteries to change. Exposure compensation in TTL mode is supported using the camera's built-in control. At this time, only Ikelite DS strobes are capable of powering the TTL circuitry. Non-Ikelite strobes

featuring an electrical bulkhead may be attached by sync cord but must be used in manual exposure modes only.

High quality yet affordable optics are available for an extensive range of micro four-thirds lenses from wide angle fisheye to macro. The DLM port system is designed to be tough enough for heavy surf and without complex mechanisms for supreme reliability in remote locations. Our custom optical grade acrylic domes provide the color, clarity, and durability of glass at a fraction of the travel weight and cost. Glass flat ports are available for macro lenses.

www.ikelite.com



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**NA-D850 Housing for
Nikon D850 Camera**

www.nauticam.com

Scubalamp P53 Video-Focus-Strobe Lights



Kolta Electronics Co.,
Ltd specialize in designing and
manufacturing LED flashlights
and diving lights. With many years
experience in doing OEM & ODM
projects, we are decided to launch the
“Scubalamp” brand in August 2013.

All models were developed
based on feedback from professional
photographers around the world.
Being committed to manufacturing
high-end, precise, safe and functional
underwater photography equipment
with an understanding of the actual
requirements in detail to ensure safety
& fun while diving, and the ability
to provide the equipment needed
for taking outstanding pictures and
videos.

Scubalamp models are tested in
a hydraulic laboratory, as well as by
a dedicated deep sea diving team. All
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reliable up to 100 meters before the
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Our mission is to be the
most trusted brand in the field of
underwater photography equipment.

The Scubalamp P35 is just one
such example:

- CRI - Ra96 Temperature CCK - 5600K
- Video Mode: 5000lumens 60 minutes;
2000lumens 150 minutes
- Focus Mode: white, red, blue lights.
- Strobe mode; Sync via fibre cable.
focus cut
off upon shutter.release
simultaneously
strobe fire 10000lumens@1/2000.
- Burst mode; shooting of 10 shots/
second

www.scubalamp.com

www.uwpmag.com



REEF

PHOTO & VIDEO

Nauticam NA-RX100V Sony RX100V



“Amazing 4K Compact”

With the ability to shoot stunning 4K video and 20mp stills, this camera and housing package offers the complete control and image quality of an SLR system at the size and convenience of a compact. Controls are simple, but well thought out with easy to access push buttons. Dual command dials immediately access frequently used manual settings like Manual Focus, F-Stop, and Shutter Speed. The addition of excellent wet lens options make for one powerful, compact package.

www.reefphoto.com

Recsea CWC-G9X for Canon Powershot G9X



The ultralight and compact plastic body, precision machined to perfectly fit the Canon Powershot G9X camera. Extremely durable and rugged construction with full spec to 60m depth rating, yet compact with fully functional ergonomic controlability for various needs. Made from corrosion-resistant POM, key features of the CWC-G9X housing are access to both the front and rear camera rings along with the capability to half-press the shutter release to obtain and lock the focus.

www.aditech-uw.com

Subal ND850LE for Nikon D850



Subal company exists and produces underwater housings since 1954. The first SUBAL housing for Nikon (F2 in SUBAL Uniflex housing) was produced in 1988, which made this year 30th anniversary of SUBAL housings for Nikon cameras.

SUBAL ND850 Limited Edition housing comes in special yellow color in combination with black color parts. Also some features are different - black aluminum wheels for zoom/focus gear, aperture, shutter speed control and black/silver SUBAL strap is also unique for this model. With the SUBAL ND850 for the Nikon D850, SUBAL offers Nikon cameras an aluminum housing for the latest development of the compact full frame.

www.subal.com

Hugyfot HFN-D850 for the Nikon D850



The HFN-D850 housing is machined out of a solid block AlMgSi1 high strength aluminum.

Each housing is sanded by hand, sandblasted and finished with a hard anodisation and Teflon coating. The housing is pressure rated to 100m.

All Nikon D850 camera controls can be accessed (on/off, shutter release, shutter speed, aperture, program dial, main dial, push buttons, lens release).

The housing can be equipped with the Hugyfot:

- flat ports
- wide angle ports
- fish eye dome
- extension rings

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Issue 101/23

Nauticam N100 Wide Angle Conversion Port WACP

The 0.36x Wide Angle Conversion Port (WACP) is the most exciting product for underwater photographers in a long time.

Water contact optics have not been available to most shooters since the Nikonos and Nikonos-RS film systems. Some of those lenses like the Nikonos 15mm f/2.8 and Nikonos-RS fisheye 13mm f/2.8 are still popular today and Nauticam makes adapters so you can use them with compatible Sony and RED systems.

Unfortunately, these lenses only work with a small percentage of current cameras and there is a limited supply available on the used market. The Wide Angle Conversion Port gives Full Frame, APS-C and Super-35 image makers the opportunity to use true water contact optics.

So what is a water contact optic and why would you use one? All domes suffer from corner softness. It is important that you use the correct size dome and extension ring to minimize the problem, but the softness will always be there to some degree. It is most noticeable when using wide apertures. A common technique has been to stop down to around f/13 on FF and f/8 on APS-C to reduce the softness. It is not always practical to shoot at these small apertures



especially in darker environments.

Water contact optics correct for this corner softness allowing you to shoot at wider f/stops. In addition the 0.36x Wide Angle Conversion Port increases the angle of view of any lens used behind it up to a maximum of 130°. This is a field of view that sits between the popular full frame fisheye lenses (180 degrees diagonal) and ultra wide rectilinear zooms (approximately 110 degrees).

When placing a lens behind the WACP there is a 0.36x conversion, so a 28mm 75° lens effectively becomes a 10mm 130° lens. It is not limited to prime lenses or a single fixed focal length, the 0.36x Wide Angle Conversion Port is designed with full

zoom through capability. A lens like the Canon EF 28-80mm f/3.5-5.6 V USM gives you almost a 3x zoom range.

Every lens that has been tested so far is able to focus on the front dome lens element, maximizing the impact of even small subjects. This opens up new close focus possibilities and video shooters will be able to get wide, medium and tight coverage all on the same dive!

www.nauticam.com

www.uwpmag.com



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Underwater Camera Housing for
Sony ILCE-7RM3

APSO-A73

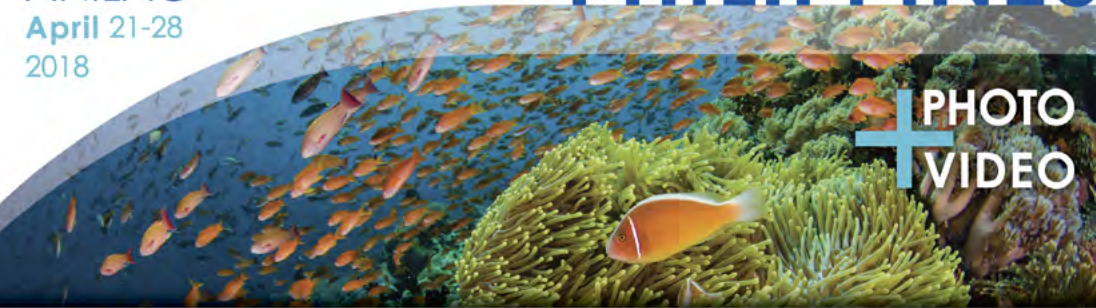
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AxisGO™ is the ultimate Smartphone Imaging System. Designed to protect your iPhone from the harshest weather conditions, while offering the freedom to safely capture those special moments underwater.

Capture beautiful images and stunning video with ease, then share instantly with full touchscreen sensitivity. AxisGO allows image capture with the phone's native camera app, plus access to all your favorite applications. Confidently shoot at depths down to 33 feet (10 metres) with the peace of mind knowing your iPhone is safe inside the AxisGO.

Constructed from polycarbonate and aluminum materials that provide extraordinary impact resistance, strength, stiffness and excellent UV stability. The result is a lightweight hardwearing product, designed to tackle even the toughest natural environments. A hard-coated polycarbonate membrane allows full touchscreen control, and offers the highest level of protection.

Make and receive calls with fantastic audio quality. Swipe, tap,



pinch and zoom the touchscreen to control your phone as normal all whilst maintaining a rugged and shock resistant protective shield.

The ergonomically designed grip for superior handling doubles as a single button locking mechanism for secure closure and easy opening.

Top and bottom mounting points offer further mounting possibilities and the use of the AxisGO Pistol Grip.

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www.uwpmag.com

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Innovation is a constant at SKB, and we're proud to introduce 3 new sizes into our ever-growing lineup of versatile iSeries cases.

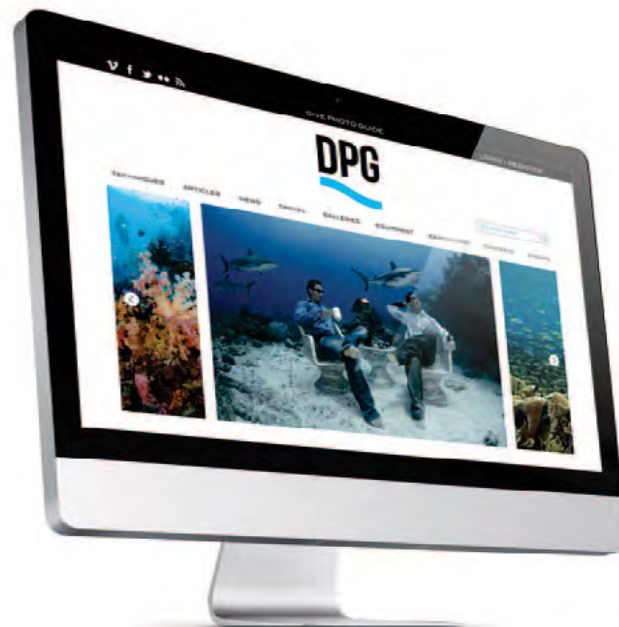
All SKB iSeries cases are injection molded of ultra high-strength polypropylene copolymer resin and feature a gasket-sealed, water and dust-tight, submersible design (MIL-STD-810G). Standard features also include a molded-in hinge, patented

trigger release latches, comfortable snap-down rubber over-molded cushion grip handles, automatic ambient pressure equalization valve (MIL-STD-648C), and resistance to UV, solvents, corrosion, fungus, and impact damage (MIL-STD-810G).

Available in a variety of colours and interiors.

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Learn the fundamentals of underwater photography and progress to the latest, most innovative techniques taught by the top pros in the industry

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Read about the experiences of accomplished shooters as they visit the world's most iconic dive spots, and get inside tips on maximizing your dive vacation

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DIVE PHOTO GUIDE

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Issue 101/26

MIRRORLESS MIRRORLESS ON THE WALL



WHO HAS THE LARGEST SELECTION
OF THEM ALL?



THATS WHO.

Nexus housing for Nikon D850



The Nikon D850 is a masterpiece and many photographers are drooling over it. Anthis made this housing faster than their usual production. It is a technical crafted piece of underwater equipment.

The casting is complete corrosion resistant and makes this housing very lightweight compared to others weighing in at 2,220 grams with handles. The handles remove easily for compact storage when traveling. It supports dual optical and Nikonos type sync ports allowing 4 strobes to be used at one time.

The M4 port size is 11 cm

inside diameter making room for the new larger lenses and adding some buoyancy to the system. The push button controls are specially designed to prevent damage to the camera from excess press operation of the finger.

Price: US\$2995.00

The new operator for Nexus USA and Marine Camera is Dave Hinkel:

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www.blueabyssphoto.com

www.uwpmag.com



Nauticam NA-A6500 for Sony A6500



“Versatility & Power”

The Sony A6500 is blurring the lines between compact camera, DSLR, and video powerhouse with its 24.2MP APS-C sensor and 4K UHD shooting capability. An ever-expanding selection of lenses allows your pick of the right lens for the job. The 16-50mm PZ kit lens is easily and comfortably controlled in the Nauticam A6500 housing and is expertly complemented by the Nauticam Wet Wide Lens (WWL-1) or Compact Macro Converter (CMC-1) for the ultimate in versatility—all in one dive!

www.reefphoto.com

Diving With Sharks by Nigel Marsh and Andy Murch

Diving With Sharks by Nigel Marsh and Andy Murch is the complete guide book for divers seeking sharks or anyone interested in these incredible creatures. The book takes a detailed look at shark biology and behaviour, threats to sharks, shark research and shark conservation. It also features all the popular, and many lesser known, shark species that divers can encounter around the world. A number of shark diving hot spots are included, where divers can have incredible encounters with these fascinating creatures. The book also provides information to assist divers to get the best from their shark diving experiences, looking at the dos and don'ts, the pros and cons, photography tips and the possible dangers.

The book has been written and photographed by two self-confessed shark fanatics, Nigel Marsh and Andy Murch, who have spent decades photographing and observing sharks.

With over 500 known species of



sharks, and more being discovered every year, Diving With Sharks is the ultimate guide for learning more about these incredible creatures of the deep and also where to see them, up close and personal.

Diving With Sharks is a hard cover coffee-table style book, with 288 pages and retails for £16.99. The book is available in book shops and on-line.

www.nhbs.com/diving-with-sharks-book

Dive Into Colours by Ann Donahue



A book for curious beginner readers who like learning about unusual animals

The book takes children for a tour of coral reefs focusing on the colours found there. Through the portholes of a submarine, children will meet 12 different animals of various colours and learn amazing facts about them. The book combines creative graphic design with actual photography. The easy to read text combines visual cues matching the colours represented. It is a great read along book for young children and a parent/adult as well as a good book for beginner readers to tackle on their own.

It has 36 full colour pages and is available in paperback, hard cover or ebook on amazon.com

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“Often copied,
never equaled”



UPY 2018

The following six pages are extracted from the UPY 2018 Yearbook and are a selection on my particular favourites from this year's competition.

You can download all 110 images to savour at your leisure:

www.underwaterphotographeroftheyear.com

Peter Rowlands
Chairman 2018

Judges notes:

This is a great behavioural shot from the main feeding shark to the circling one below while the tail in the distance and the foreground teeth leave us in no doubt what is happening here.

Peter Rowlands

4) Behaviour

HIGHLY COMMENDED

'Tiger sharks feeding on sperm whale carcass'

Chris Burville (Bermuda)

A fisherman called. My friends and I mobilised. 28km offshore, drawn in by the stench, we found the Sperm Whale's remains. Unable to resist, we slipped into the endless blue, 2000m above the ocean floor, to witness this natural wonder. Tiger and Blue Sharks casually paraded in and out of sight, occasionally feeding as the great carcass bobbed at the surface. The scene felt eerily calm, save for the excitement in our eyes. One Blue delightfully clung to our group like a curious puppy. I had to remind myself to stay vigilant, avoid photographer tunnel vision. Half an hour later, when a large Tiger became too curious and received a nose bump from my camera, we took our leave. Back on board with the camera on a pole I composed these close up images of the action. To me this photo naturally personifies the sharks as no feeding shot could.

28km offshore, Bermuda

Nikon, D700, Aquatica, Nikon 16-35mm, iso 800, f/7.1, 1/500, None



5) Portrait

RUNNER UP

'The nose'

Mike Korostelev (Russian Federation)

The picture was taken in Kuril Lake - the place with the highest concentration of bears on our planet. The bears here are not hungry (due to the annual mass spawning of sockeye salmon) so they get used to people and do not feel danger from them. I used a remote control system with a 10 meter cable. I left the camera in the shallow water in the river next to the path that bears regularly pass and hid 8 meters from the camera. This day my camera was spotted by four cubs, which were walking along the path with their mother. The mother stopped and began to look out for the fish in the river, and the cubs saw the camera, they were very curious and began to play with it.

Ozernaya river, Kamchatka, Russia

Canon, 5D Mark IV, SeaCam, 8-15, iso 640, f/22, 1/250, Inon Z240

Judges notes:

I have to admit that I chickened out with this image. It is without doubt heart stopping but I could already hear the whining it would generate that there wasn't sufficient of the frame underwater. As a result, and in hindsight I agree, it would definitely have won with just slightly more underwater.

Peter Rowlands



1) Wide Angle

THIRD

'Evening Snorkel'

Brook Peterson (United States)

I was practicing sunset split shots in the calm waters around Ras Um Sid when I noticed several people walking down the pier with snorkel gear. My first thought was to wait until they were out of the way, but then I realized that THEY were the story. I wanted to preserve how the colors in the sunset seemed to mimick the colors of the corals so I decided a silhouette shot would meet my needs best.

Ras Um Sid, Red Sea, Egypt

Nikon, D810, Sea & Sea, Sigma 15mm Fisheye, iso 400, f/22, 1/160, Sea & Sea YS-D2

Judges notes:

This lovely sunset split shot is enhanced with the other snorkelers on the pier. Most of us would have avoided them but Brook had other intentions which made for a dynamic different image.

Martin Edge

6) Black & White

HIGHLY COMMENDED

'Nohoch Na Chich'

Herbert Meyrl (Germany)



Nohoch Na Chich is the name of a cenote which is the entrance to one of my favourite caves in Mexico. I knew this spot from previous dives and wanted to take a picture of a diver in the background, dwarfed by the huge decorated column on the left side. I placed 3 strobes to light the column and model. Another diver, hidden behind the model is helping out in the background with more light, pointing a strobe towards the camera. My two on camera strobes bring only some additional light to the foreground, their main purpose is to trigger all the slave strobes.

Cenote Nohoch Na Chich, Sistema Sac Actun, Yucatan, Mexico

Canon, Canon EOS 5D Mark III, Seacam, EF16-35mm f/2.8L II USM, iso 400, f/8.0, 1/50, 2 Seacam, 3 Nikonos, 1 Subtronic

Judges notes:

I can't help but think of Ansel Adams and his sublimely toned black and white images of Yosemite National Park. This is up there for me.

Peter Rowlands



5) Portrait

COMMENDED

'Australian Sea Lion'
Greg Lecoeur (France)

Interacting with sea lions is a great experience, they are curious and playful with divers. In this picture we can see an endemic sea lion from Australia who was having fun standing on the sand posing in front of my camera. The conditions that day were excellent for making the image with the sun's rays piercing the surface.

Julien Bay, Australia

Nikon, D7200, Nauticam NA D7200,
Tokina 10-17mm, iso 100, f/16, 1/250, x2
Ikelite DS160

Judges notes:

Such a beautiful portrait. The composition of the sea lion and the balance of all the other elements within the image. The space beneath the feet and the bottom frame, the angle on the facial features with superb and direct eye contact and to top it all the radial sunbeams which seem to wrap around each and every feature of the subject. Great shot!

Martin Edge

3) Wrecks

RUNNER UP

'Safe Navigation'

Gianni Pecchiar (Italy)

The concept of the picture has been developed on two halves/layers. A half below - radial inside lightening with four flashes wired together. The difficulty was in the upper half, that is, to give the correct position of the three tec-divers with scooters, and to expire the bubbles approximately at the same time. Not to disturb the sediment, there was only one chance to get this shot. As for me, a great team work!

Rijeka - House reef of Diving Marco Polo , Croatia

Nikon, D7200, Seacam Silver Prelude, AFS 10,5 mm F2,8 fish eye, iso 200, f/13, 1/100, 4 x Seacam seaflash 150 wired with cables

Judges notes:

This shot left out from the screen right from the start and stayed as a favourite whilst other images were exiting the judging in their hundreds. A strong image must withstand scrutiny throughout the judging process and this image was always pushing us to choose it.

Peter Rowlands



We've got you covered!



Magic filters are now available in 3 options. Original Magic for use in blue water with DSLR and compact cameras with Manual White Balance, Auto-Magic for compact cameras in automatic point and shoot mode. GreenWater Magic for use in green water with DSLR and compact cameras with Manual White Balance. Prices start at just £22.

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

www.magic-filters.com

Nikon D850 review

by Backscatter staff

When the specs for the Nikon D850 were released, we couldn't help but lick our chops. With high resolution, fast frame rates, and some big claims in the video arena, the camera sounded too good to be true. Since then, we've had a chance to plunk the Nikon D850 in a housing and test its features in some demanding underwater situations. Read on for what we found to be the camera's biggest strengths and a few of its weaknesses.

A Note About Our Testing

Backscatter CEO Jim Decker took the Nikon D850 to Roatan to test both the wide angle and macro abilities of the camera. To say that conditions were less than ideal would be a gross understatement. Rain was measured in feet, not inches. The runoff created a blackwater top layer of about 2 to 3 feet thick in some areas, which when combined with black thunderstorm clouds and constant pounding rains, reduced available light and visibility to extremely low levels that would not normally be expected for a tropical shooting environment.

At the same time, Backscatter

operations manager Becca Boring took the Nikon D850 to Truk Lagoon to shoot wrecks, with her shots in this review occurring below recreational dive limits. Her testing varied between good visibility exterior shots and cramped, zero-ambient-light interior images that can get silted pretty quickly.

Keep these conditions in mind while reading this review. It only strengthened our opinion of the Nikon D850.

High Resolution, Low Noise, And High Dynamic Range—Yes, You Can Have It All

The Nikon D850 is probably best defined by its extremely sharp 46MP sensor and its ability to capture a very high dynamic range without sacrificing resolution. The resolution increase from the Nikon D810's 36MP to the new 46MP of the Nikon D850 would usually come at the cost of a drop in dynamic range and a drop in high-ISO low-noise performance, but in our testing, we have found this to not be the case. This high-resolution performance is important for divers who want make very large prints of their images. It also gives shooters the



ISO 3200 | f/8 | 1/60 sec. Our testing conditions during this dive were severe. There was a thunderstorm overhead with black clouds and runoff from feet of record rains obscuring the surface. It looked like a dusk dive at 65 feet where this photo was taken. Even in such extreme low light conditions, at ISO 3200 the Nikon D850 performs extremely well with very low noise levels. ©Jim Decker

option of selective cropping without losing too much resolution.

In the past, photographers had to decide between high resolution or good low-light performance and high dynamic range from their camera.

We can now have both. The Nikon D850 is the first SLR from Nikon to feature a backside illuminated sensor (BSI). This design allows more light to directly reach the sensor by moving the electronics behind the sensor. This



ISO 200 | f/11 | 1/100 sec. With 46mp of resolution, the Nikon D850 has plenty of room to crop even if you have the wrong lens for the job. In this case, I had a Nikon 8-15mm fisheye, when a more medium range zoom lens would have been appropriate.

is what accounts for the increase from 36MP to 46MP without increasing noise and decreasing dynamic range. The Nikon D850 gives us underwater shooters the low-light ability we need for the underwater environment while maintaining one of the highest resolutions in the industry. In Roatan, the camera handled the murky water and cloudy skies at up to ISO 3200 without noise severely degrading image quality. The Nikon D850's ability to shoot at high ISO allows

underwater photographers to utilize shutter speeds and apertures that ensure sharp results with minimal noise.

Along with the step up in resolution and improvements to low light sensitivity, we also get a slight bump in dynamic range over the D810. Dynamic range is the amount of detail you can capture from shadows to highlights, without clipping at either end and losing detail. The Nikon D850 is the only



ISO 400 f/6.3 1/60sec. The Nikon D850 does very well in low light conditions like the interior of this wreck of the Nippo Maru in Truk lagoon. This image was shot with a pair of Gates GT14 video lights which makes it easier to navigate the pitch black interiors of deep wrecks. The original image had a very compressed looking dynamic range with a lot of dark shadows, but the Nikon D850's RAW files preserved that detail and it was able to be brightened in post to reveal hidden shadow detail while not really adding any noise.

SLR besides the D810 that has a base ISO sensitivity of 64, giving an extra 2/3rds of a stop of shadow detail beyond what other cameras are able to capture at ISO 100. This extra sensitivity to shadow detail is what allows for the wide dynamic range.

Why does this matter for the underwater photographer? Sun balls are a great example. When shooting

a sun ball, you are trying to expose for literally the brightest subject possible, the sun, plus an often dark or shadowed reef in the foreground. The Nikon D850 maintains detail in the shadows, and the sun is still exposed properly and maintains detail in the highlights. The second reason is the ability to boost shadow detail in post with a zero to minimal noise hit.

Speed And Megapixels

The Nikon D850 is capable of shooting 7 frames per second with a 51-shot RAW buffer. It is impressive to get this fast of a frame rate with such a huge 46MP image file. For most underwater shooters who use strobes, this is going to be plenty fast enough to keep up and will always be faster than the recycle time of your strobes. The Nikon D850 will pretty much always be ready for the shot and you won't buffer out. We felt that the previous Nikon D810 model had a noticeable lag when it came to image review immediately after the shot was taken, but the Nikon D850 image processing speed is majorly improved meaning you can review your images quicker allowing you to pull off more shots while chimping when time is critical.

Superior Autofocus Gains Over The D810

Autofocus has always been one of Nikon's strong points. The autofocus engine is carried over from the Nikon D5 and Nikon D500. We've been impressed by both of these cameras' accuracy and speed when shooting macro and super macro and how they snap to focus while other lenses just hunt back and forth.

The Nikon D850 gains 3D focus tracking which works really well in our topside testing, accurately picking up the subject and following it. After shooting tiny blennies in Roatan, we can confirm that the camera's focus speeds are a major boon to underwater photographers, especially those chasing moving macro subjects. Anyone coming from a Nikon D810 will be pleasantly surprised with the performance upgrade.



ISO 100 | f/22 | 1/250 sec. Super macro is the hardest test of any autofocus system. Even when shooting at 2.3:1 with a macro diopter such as the Nauticam SMC-1, the Nikon D850 snaps to focus instantly, allowing me to change my usual technique of manual focus and move the camera to have the AF system keep up with the micro movements that happen in even the steadiest of underwater shooting conditions.

Video Mode—A Revolutionary Step Up For Nikon

In the past, Nikon hasn't exactly been at the forefront of video technology. Strange exposure restrictions and weird crop factors combined with a complete inability to white balance at even the shallowest depths made Nikon cameras a no go for anyone who had even the slightest inkling to dabble in video. Well, all of that has now changed...

The Nikon D850 can now capture 4K video from the full width of the sensor. We're happy about the full frame 4K feature because the Nikon D5 and Nikon D500 used a heavy crop factor in 4K of over 2 times, reducing the angle of coverage by

massive amounts and making it not very usable for wide angle video. Adding the full sensor coverage puts the Nikon D850 in company with the Sony A7 series, like the Sony a7R II, as the only full frame cameras to over 4K from the full width.

So how does a 46MP sensor get down to the about 8.3mp resolution of 4K video? The Nikon D850 uses pixel binning, which is the less-intensive way of achieving this but it won't yield as sharp of a result as downsampling from 46MP to 4K. That being said, the processing power to achieve that downsampling would be monstrous, so it's understandable for Nikon to go the pixel binning route.

There is an option to shoot in DX crop mode and still maintain 4K resolution. This is similar to the Super 35mm option in the Sony A7 series. This uses a smaller area of the sensor, a 1.5x crop, that results in a tighter angle of coverage and apparent increased focal length. Why would you want to do this? In macro, this has the effect of getting even tighter shots with no loss of quality or depth of field. This is very useful when the camera is on a tripod and not practical to move the camera to get a tighter shot.

In wide angle, the Nikon 8-15mm fisheye becomes a wide angle zoom lens with the capability of being shot around 10mm-15mm. This yields an angle of coverage of 180 to 110 degrees, allowing for tighter wide angle shooting. Most video shooters don't want to shoot at full 180 degrees and DX crop mode feature introduces a lot of flexibility.

Bit Rate And Compression

Nikon went with the H.264 compression format and a spec bit rate of 144 MB/s. This results



in much smaller file sizes than the less efficient Motion JPEG compression recorded at 500 MB/s that Canon uses in the Canon 5D IV while yielding around the same quality, although at a 4:2:0 color space rather than the 4:2:2 color space of the Canon. During our testing underwater, we observed bit rates of between 121 MB/s and 128 MB/s. This drop from the stated bit rate reflects the variation that all cameras use to adapt to changing color and complexity in images and is common in underwater scenes. The Nikon D850 bit rates are a bit higher than the Sony A7 series, which are at 100 MB/s.

Vast Improvements In Underwater White Balance

We are happy to say the Nikon white balance curse is over. We were shocked at how well the Nikon D850 performed underwater, even in the worst conditions with such low light and a brown to green color cast in what would otherwise be clear blue tropical water.

Despite this, the Nikon D850 was not only able to execute an accurate white balance at depth, but the foreground was accurate and the blue water background water came out with a very pleasing blue color. With Canon being the benchmark for excellent underwater white balance, this was completely on par for a match in color.

We cannot understate how much



ISO 100 | f/8 | 1/125 sec. The sharpness, resolution, clarity, dynamic range, and color from the Nikon D850 are amazing. Blues, which are the hardest colors for a camera to reproduce, render out beautifully, and show smooth gradations with no signs of banding.

of a game changer this is for Nikon.

Even in extreme horrid shooting conditions, the Nikon D850 shocked us with its excellent execution of an ambient light white balance. It was so dark the deepest scene at 66 feet was shot at ISO 4500, and the camera was still able to pull off a great looking white balance. No previous Nikon has been able to even remotely pull this off, so we are super excited about the secret sauce Nikon deployed in the white balance department for the D850.

Setting a manual white balance is the same easy three button-press sequence that the Nikon D810 had, continuing Nikon's tradition of being the easiest WB capture of hybrid photo/video camera. The Nikon D850's six manual white balance banks allow the user to store a variety of custom color settings and navigate between them easily, making adjustments for different depths or with and without video lights a breeze.

Switch from Video to Photo Modes And Maintain Settings

In video shooting, shutter speed is usually set and left at 1/60 in video, while in photo it is usually set a bit higher and is changed very often. White balance settings are always different between video and photo. Even for the same scene, video and photo settings will always be different.

One feature of the Nikon D850 we're really excited about is the camera's ability to switch between video and stills and maintain separate settings in both modes. Now, properly exposing for still images with added strobes and jumping over to natural light video is as simple as moving one switch to change all settings to what was previously set in that mode.

This makes the Nikon D850 the easiest camera to use for the hybrid photo/video shooter that switches back and forth from photo to video often on a dive, or even on the same scene.

While Nikon has made a 180-degree turn in the video department, there are still a few downsides when compared to other cameras. In video mode, the camera's autofocus is not usable. After the Canon 5D IV's stellar push with Dual Pixel autofocus during video, we were hoping Nikon could follow course.

The focus technique that is needed with the Nikon D850 is to prefocus and hold, which has worked just fine for years before Dual Pixel autofocus was introduced, and this is what you'll need to do with the Nikon D850.

The Nikon D850 has no exposure meter visible in video mode. This is a definite disappointment as the preferred technique for underwater video exposure is to expose at $-2/3$ rd of a stop on the meter. There is zebra striping and a live histogram available, but nothing really beats the simplicity and success we have had at shooting $-2/3$ rd on the meter. A workaround is to shoot in manual mode with auto ISO and set exposure compensation to $-2/3$ rd.

While you can set either half-press of the shutter or the AE lock button to hold exposure when recording, we found both of these controls to be clumsy and impractical to hold while shooting. Not a deal killer by any stretch, but a bummer nonetheless.

Nikon did add a focus peaking feature to the Nikon D850, which comes it is handy for manual focus operations and especially macro. However it does not work during 4K video, or during stabilized 1080HD, or with a whole other host of limitations, which to be honest, forces us to ask why bother to have it at all?



The Nikon D850 is hands down the best all around camera we've ever shot. The photo image quality is second to none, renders blue backgrounds beautifully, and has plenty of resolution to make massive prints, or severe cropping with plenty of resolution left over.

Conclusion: Nikon's Best Yet

The Nikon D850 is hands down the best all around camera we've ever shot. The photo image quality is second to none, renders blue backgrounds beautifully, and has plenty of resolution to make massive prints, or severe cropping with plenty of resolution left over. Autofocus is quick and accurate, even in the most challenging conditions of super macro. And the speed and buffer

performance is impressive especially when considering how large the files are.

"Holy crap, it white balances!" was the exclamation on the boat after the video test dive. This is the biggest step forward for Nikon in the video realm. As we have said before, it doesn't matter how much the camera costs, or if it can shoot in 8K, or whatever pie-in-the-sky video spec



you can dream up—if the color sucks, it just doesn't matter.

The white balance at 60 feet even looks great. That combined with 4K from the full sensor and a whole host of other improvements in video

took us from never recommending Nikon for even the most casual video shooter, to having no problem recommending the Nikon D850 for shooting video.

If video is your primary

purpose in an underwater camera rig, we would recommend either the Panasonic GH5 or Canon 1DX II over the Nikon D850 with their higher bit rates, 4K 60p, and 4:2:2 color space. But for anyone wanting a hybrid photo/video camera, the Nikon D850 is an excellent choice.

Pros

Best image quality we have seen from a camera yet

Big increase in resolution from D810, but no sacrifice in low light or dynamic range

Lightning fast and accurate autofocus, even in super macro

It can actually white balance at depth! Video is now a viable pro level option Ability to hold different settings for stills and video mode

Cons

Lack of meter in video mode
No useable autofocus shooting video
Has focus peaking in name only, not available when you'd actually want to use it

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Weefine 1000 & 3000 Ring Lights

by Phil Rudin

Any fan of prime time television has probably seen a ring flash in action during programs like the C.S.I. crime dramas, America's Next Top Model and other well known series. The ring flash was originally introduced around 1952 as a dental photography tool but quickly spread to other disciplines of photography.

The ring flash has since gained popularity among nature photographers for macro/close-up use and has also become an invaluable tool for portrait and fashion photographers. The ring flash originally had a circular (360 degree) flash tube which fitted around the camera lens for shooting stills. Fast forward and today's ring lights include flash tubes, LED ring lights, fiber optic ring lights and constant source fluorescent ring lights used extensively in commercial videos like the "Easy Breeze Beautiful Cover Girl" adverts. The circular shaped specular highlights in the eyes of the models is a dead giveaway that a ring light was used.

Years ago a limited number of underwater equipment manufactures released variations of the ring flash. Athena Co. still list the ARF-ring flash on its web site. This is a product I reviewed in the N/D 2010

issue of UWPMAG, Inon long ago discontinued its quad-flash which required a custom macro port and UK-Germany had a version.

Why use a ring Light?

Most nature and portrait photographers enjoy the diffused and shadowless lighting created by an overcast day, so what would make artificially diffused strobe lighting any different? The bulk of the lighting load in underwater macro and close-up photography is carried by one or more strobes used at a distance of less than two feet (0.6 meters) from the main subject.

If canvassed most shooters would prefer two strobes over one directed from opposite sides of the lens and main subject. I frequently use my ring light with an additional strobe and/or a white plastic slates to reflect light from a different direction. Portrait photographers often use one or more reflectors for the same purpose. In fact macro/close-up photography is portrait photography involving fish and other critters rather than people.

While having two light sources coming from different directions may seem unnatural the reason we use the



second strobe is to reduce the harsh shadows created by the key strobe (most often the left strobe). When the strobes are being fired in TTL the camera program attempts to balanced the lighting on both sides of the subject making the light flat and even across the entire frame. This is not always a good thing because it may

cause the subject to lack depth that shadows create in the image.

The ring light is a convenient way to light close subjects for several reasons. We all know that in any type of photography not every tool works for every situation so lets examine some of the up sides to using a ring light for macro/close-up photography.

First the reduced size and complexity of the system is one of the key advantages of the ring light. It allows you to get your camera system and light source into places larger strobes can't go. After looking at tens of thousands of macro images in my fifty plus years of being involved with diving it has become quite evident that most macro images are shot in the landscape (horizontal) orientation. While this is not a bad thing it occurs to me that many of these subjects, like Seahorses, would have been more compositionally pleasing had they been captured in the portrait (vertical) orientation.

My observations and experience with multi-strobe lighting systems is that going vertical presents problems many photographers don't wish to be bothered with. Because the ring flash is so light weight and compact it can be used with a single hand and shifted from landscape to portrait orientation with ease. This compact size also allows you to get your macro lens low and on the same horizontal plane as your subject so that you are at eye level or below.

For shooting verticals I have removed the left grip from many housings to be able to get the housing lower in relation to the subject. Because the ring light has a narrower beam angle than most strobes stray light is significantly reduced resulting



in a reduction of backscatter. The ring light creates a cone of light with a dark doughnut hole in the center. As long as your subject is beyond the doughnut hole (about 80 mm/3 inches or so) it is exposed to a softer and more controllable light source than a conventional twin strobe systems. The doughnut hole in front of the lens is what helps to reduce backscatter in front of your subject.

While no system can totally eliminated backscatter I find noticeably less using the ring light over dual strobes. The ring light is most useful within about three to eighteen inches (8 to 45 centimeters) from the subject beyond this distance dual strobes are much more effective. The ring flash with its flash tube can also create a luminance within opaque subjects not found with dual strobes.



Juvenile Spotted Drum, Nauticam NA-EM1 II Housing, Olympus EM1 II, Olympus 60mm macro lens, Weefine Ring Light 1000, ISO-400, F/5.6, 1/250th sec

In using ring lights with fiber optics or LED lights I have not found the degree of luminance found with flash tubes.

Weefine 1000 & 3000 Ring Lights

Weefine underwater equipment is manufactured in China and distributed world wide. Weefine produces underwater lighting, housings, lenses, cameras, accessories

and more for the retail diving market. The test equipment I used for this review was provided by Kraken Sports a Canadian company based in N. London, Ontario. Kraken distributes Weefine and Kraken branded products throughout North America. They provided both the Weefine 1000 and 3000 lumens ring lights for this review.

Peter Rowlands did a full review of the Weefine 1000 ring light in UWP issue #96 so I will not spend a lot of



© PHIL RUDIN PHOTO
Sharptail Eel, Nauticam NA-EM1 II Housing, Olympus EM1 II, Olympus 60mm macro lens, Weefine Ring Light 3000 Flash, ISO-250, F/9, 1/250th sec



© PHIL RUDIN PHOTO
Comb Jelly, Black Water Dive, Olympus EM1 II, Olympus 30mm macro, Nauticam NA-EM1III housing, Weefine Ring Light 3000 Flash, ISO-320, F/8, 1/250th sec

time on that ring light other than to point out the differences between the two. Both ring lights look practically identical and use a circular pattern of LCD lights which circle the macro lens. Both use the standard 67mm threads common with most current interchangeable macro ports and with many consumer compact housings. The ring light simply threads onto the housing port and you are ready to go.

In addition to the variable

continuous light settings the 3000 version can also fire like a strobe light using a standard fiber optic cord which you may already own. The most noticeable difference between these ring lights is the size of the battery compartment. The 3000 uses the larger 26650 lithium battery included with the unit while the 1000 uses the smaller 18650 battery also included. Both lights have a ninety degree beam angle underwater and color

temperatures in the 5000-5500 kelvin range.

Both lights have a continuous light mode with power levels of 100%, 75%, 50% and 25%. Using full power the 1000 gives you 1000 lumens and the 3000 maxes out at 1800 lumens. With the 3000 set to strobe mode the maximum power is 3000 lumens. The 1000 has a single on/off button on top of the battery compartment which is also used to control the power levels.

The 3000 has two buttons on top of the battery compartment used to control on/off, power levels, strobe lighting and red and blue lighting in addition to the white lighting. The red and blue lighting can be used as a continuous source or with the strobe mode.

The 3000 model is depth rated to 100m/330ft while the 1000 model is rated to 60m/198ft. Burn time at 100% (1800 lumens) power for the 3000 in

continuous is 45 minutes and with a burst mode (300 lumens flash SOS) lasting 5 hours. In strobe light mode battery life is approximately 12 hours. Burn time for the 1000 at full power is one hour and can also be achieved using AAA batteries in a special battery holder. The MSRP in US dollars is \$375.00 for the 3000 and \$229.00 for the 1000.

Field Testing Both Units

Let me say right up front that for the \$150.00 US or so difference I found the 3000 to be the more versatile tool for both video and still shooting.

To get the strobe ready for use put a fully charged battery into the battery compartment tube and then thread the dual O-ring sealed tube into the ring light. To trigger the flash you insert one end of the fiber optic cable into the mounting point on the ring light battery compartment and the other end into the mounting point on the housing. I have both an Nauticam LCD flash trigger and an accessory flash to trigger external strobes. I found that the LCD trigger was too weak to trigger the Ring Light 3000. With the accessory strobe set to half power I had no trouble getting the ring light to fire.

Using the push buttons on both lights was quite easy even while black water diving because they are illuminated and easy to use even with heavy gloves. With the 1000 you push the button and hold to turn the light on and then push again to lower to the required power level. To turn the light off just push and hold until the light goes out. With the 3000 you push and hold both buttons to turn on and once the light is on one or both of the buttons are used to control other features including the flashing SOS signal. Once the strobe function is powered up the ring light stays on low power working as a focus



Nudibranch, Nauticam NA-EM1 II Housing, Olympus EM1 II, Olympus 60mm macro lens, Weefine Ring Light 3000 Flash, ISO-320, F/7.1, 1/250th sec

light. The color of light can also be set to red or blue rather than white. I used the strobe function on the Weefine 3000 with the red and blue lights but found the light to be rather underpowered for still photography. I do however think the red/blue may be useful for creative video.

For shooting stills in strobe mode the battery life was excellent. I made 1:45 to 2 hour black water dives and had plenty of battery life left for a second or third dive without a recharge. I found the same to be true making three hour macro dives at the Blue Heron Bridge. Using the 1000 as a focusing light at 75% power for black water dives also left me with plenty of battery power.

Shooting the 1000 for stills with macro lenses in the (35mm equivalent) range of 60mm and 120mm I was using ISO values of 400 to 600 at mid range f-values of F/5.6 to F/11 with the 60mm and



Octopus Eye, Nauticam NA-EM1 II Housing, Olympus EM1 II, Olympus 60mm macro lens, Weefine Ring Light 3000 Flash, ISO-250, F/9, 1/250th sec

needed ISO values of 400 to 1000 at F/5.6 to F/11 with the 120mm. With the 3000 in strobes mode I was shooting the same lenses at ISO 200 to 320 from F/5.6 to F/16 for the 60mm and ISO 200 to 320 for the 120mm at F/5.6 to F/14. I rarely shoot macro above ISO-320 and found the constant light source of the Weefine 1000 to dim for stills. Using a continuous light source for macro also frightened

off many of the shy fish I was trying to photograph.

My take on the Weefine 1000 is that it is well suited to close focus (within about 12 inches or less, 30 cm) macro video and for occasionally shooting macro stills. The 1000 was quite useful as a focusing light for black water dives and I have included a black water still of a light colored subject taken at ISO-200 at F/7.1 with the 1000.

The Weefine 3000 provides an ample amount of light for small sensor cameras in strobe mode when shooting macro/closeup and in continuous light mode for macro/closeup video. Because smaller sensors have greater depth of field at lower F/stops the Weefine 3000 will be well suited to consumer compacts and sub full frame sensors. Full-frame sensors cameras require higher F/numbers in the F/13 to F/22 range for best DOF in macro/closeup. As a result ISO will need to be pushed higher for acceptable results. For my tastes the color temperature from both ring lights was excellent needing little tweaking in post.

Many U/W photographers I know travel with multiple strobes, some for different situations like macro and wide angle or just as backups. The Weefine ring lights are small enough and light enough to carry in a jacket pocket. The robust

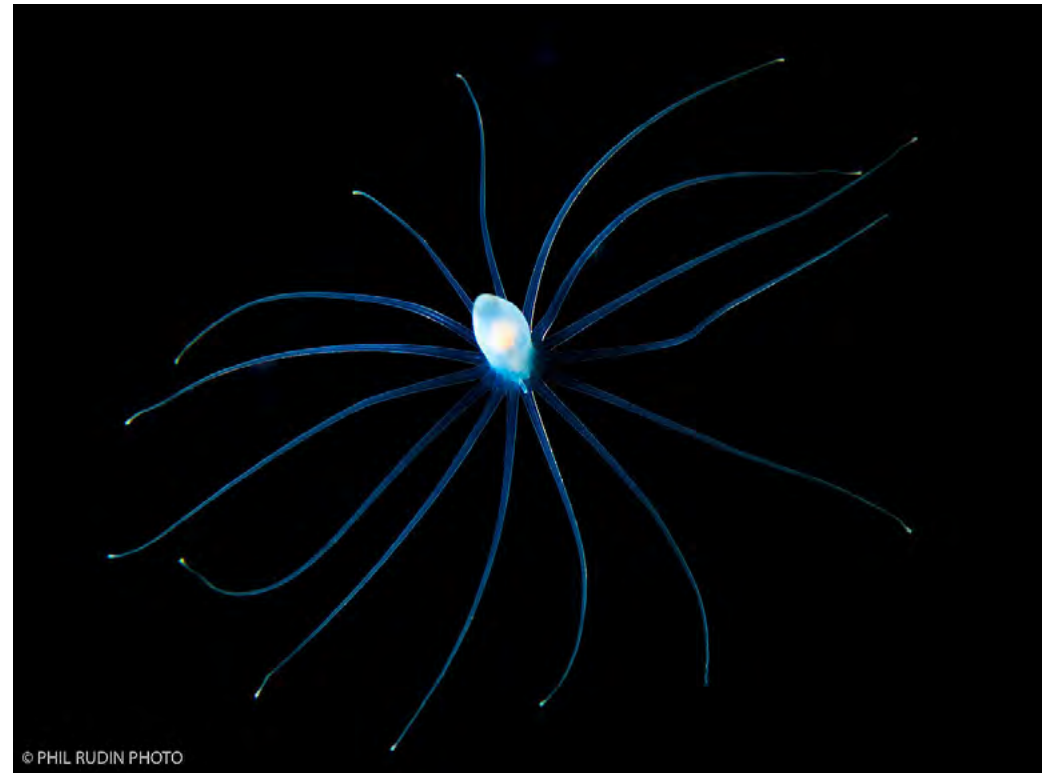


Leach Headshield Slug, Nauticam NA-EM1 II Housing, Olympus EM1 II, Olympus 60mm macro lens, Weefine Ring Light 1000, ISO-1600, F/7.1, 1/250th sec

construction allows them to be packed in just about anything. As a backup or prime macro strobe they make an excellent travel choice. As always remove the Weefine battery and pack separately before travel.

Each ring light is packaged with a battery, battery charger, spare O-rings, a small tool used to tighten the ring light to the port and instructions.

I would once again thank



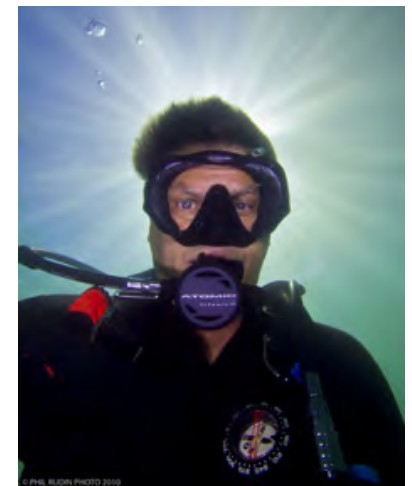
Larval Stage Sea Anemone, Black Water Dive, Olympus EM1 II, Olympus 30mm macro, Nauticam NA-EM1III housing, Weefine Ring Light 1000, ISO-200, F/7.1, 1/250th sec

Doug Taleski, President of Kraken Sports, for loaning use the equipment for this review. Most of the reviews I do for UWPMAG.com are using borrowed equipment and without the help of the many equipment manufactures these reviews would not be possible.

Phil Rudin

www.krakensports.ca

www.uwcamerastore.com



Don't settle for 2nd best



Film - No Filter No
White Balance



Digital - No Filter Manual
White Balance



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

Paralenz

by Dan Bolt

The Paralenz camera has been around for a little while now, so while you will probably have seen quite a few 'reviews' already – Peter Rowlands asked me to take a look at this latest action-camera from the viewpoint of an underwater photographer. Challenge accepted.

The brainchild of some serious product designers based in Copenhagen, a successful crowdfunding campaign saw 3000 units delivered to happy customers in 2017. As their website is proud to shout about, this was only after an extensive Alpha testing phase that meant 250 divers from around the world fed-back into the product design and (presumably) firmware, app, and associated feature-set.

That feature-set mainly consists of a much-touted Depth Colour Correction (DCC) capability, 4K video, JPG & RAW stills shooting, waterproof to 200m, 120-degree lens, auto start/stop recording and a super-rugged build quality.

Coming in at a hefty £580 in the UK this isn't a cheap option, and so I was very keen to see what this premium-end camera could do; not the easiest thing to achieve in the winter

when diving opportunities, light and clear water are not available in abundance!

In the well-packaged box you get the camera, usb-charging lead, a couple of mounts and some instructions. The camera itself has a built-in battery that is meant to give 2hrs of 4K recording. I have to give the designers credit for putting together a very well-built product; in the hand it's a solid unit that really does feel like it will live up to its 200m depth rating.

The rear cap that you can remove to access the micro-SD card and charging port has three o-rings and a lanyard. Oddly this isn't a replaceable part, where-as the front lens element is - just in-case you scratch it presumably – which you might do because a lens cap isn't included.

There is a small, but very bright and easily read OLED screen at the rear of the camera. At first I thought it was too small to be useful, but after a couple of dives I came to rely on it to let me know what mode/status the camera was in.

There is a single sliding button and a rotating mode-switch both of which have a solid, confident feel





with enough tactile resistance to feel through 5mm gloves with cold fingers. There is a vibrate-function that is also meant to help feed-back to the user when (for example) you turn the camera on/off, or take a photo/video. In reality this would be fine if you held the camera in your bare hands, but mounted and with thick gloves on you really can't feel those vibrations.

The two options for mounting the camera both use a proprietary clamp that fixes into the body of the camera – one allows you to use GoPro type accessories and the other lets you mount it to your mask. I tried the former and mounted the camera onto my Aquatica housing... it's a good job I also attached the lanyard because within a few minutes the camera had fallen off the mount! (And yes I had mounted it correctly, and double-checked before I got in the water). It is interesting to note that

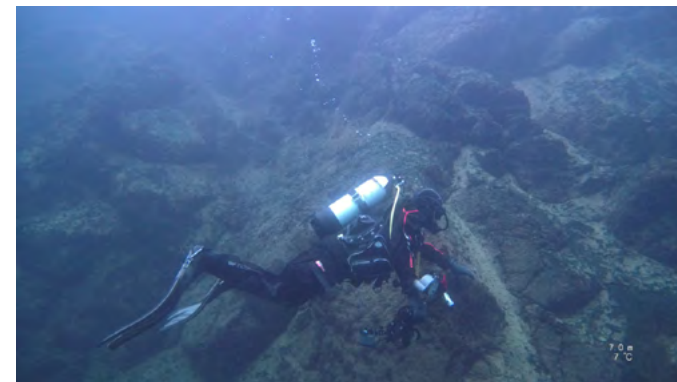
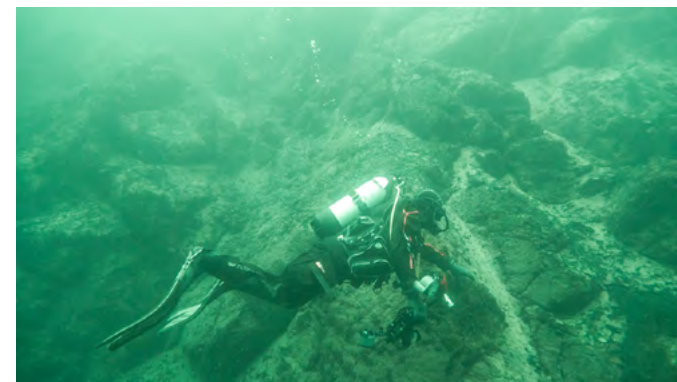


DCC Green comparison one (Vobster Quay inland diving centre), clearly the DCC system is doing a good job of adding colour.

Above – Original DNG file. f/0.8, 1/40th, ISO1400

Top right – tweaked DNG. f/0.8, 1/40th, ISO1400

Right – OOC JPG. f/0.8, 1/40th, ISO1400



the manufacturers are now offering a ball-mount accessory that screws onto the camera body... so perhaps I wasn't the only one to encounter this problem. Since then I've used a modified Inon torch holder that works perfectly.

Using the Paralenz to take video is an easy affair. Turn it on (it takes around 10 seconds before the camera is ready to shoot) and the rear screen shows you battery and SD card % remaining, what white-balance mode is currently set and if the wifi is on or off. Wifi is there because in common with all modern gadgets the Paralenz has an accompanying app that lets you shoot remotely (though there is no live feed in RAW mode), download your media files, change settings and update the camera

firmware.

I'm going to go a little off-piste here, and have a proper rant about the way so many crowd-funded projects seem to treat us consumers! If I had just paid £580 for this camera, and the first thing the app told me to do was to update the firmware – which then fails three times (and for a while I thought I had 'bricked' my new camera) – and also is not able to show me anything I've recorded in the media-library nor give me a live-feed just because RAW shooting is enabled... I'd be a little bit annoyed. I'm a consumer who had paid a lot of money for a premium product... I am not a bloody Beta tester! I get that app and firmware updates can add features and fix bugs, but really guys, a little bit

more thought into the user experience would be very welcome. And while I'm having a rant – it is worth noting that the camera 'locked up' on me on 6 out of the 7 dives I did with it. Really? Is this a finished product? I've a feeling they know about this because there is an official way to re-boot the camera if this happens, thankfully that did work every time... but left me feeling less than impressed.

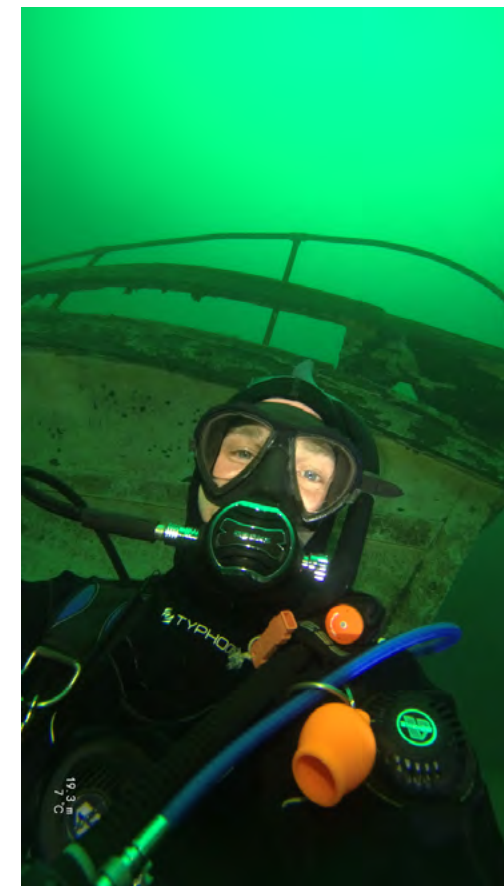
Right, rant over, let's have a look at the images that you can get from the 4K/8Mpix sensor. Firstly you need to know that this is not a multi-aspect capable camera. Video and stills are both fixed in the 16:9 wide-screen aspect and can't be changed. Not a problem for video, but if you want to shoot portrait stills then you end up with a very odd looking tall-and-narrow image.

I'll briefly note that the video quality is actually superb – both in 4K and standard HD, the recording is crisp, well exposed, shake-free (if you turn on the electronic image stabilisation) and definitely meets expectations from such a high-priced camera. If you've chosen the correct white-balance mode or used lights it also had really good colour rendition too.

So, back to looking at the photographic options available to you: you can shoot plain old JPG files (which produces an 8-megapixel file

around 2.25Mb in size), or RAW and JPG at the same time (proprietary RAW files 15Mb). Additionally (and increasingly I hear this method of 'shooting stills') you can just record everything in 4K video and grab an 8-megapixel frame from that. If you do rely on frame-grabbing for your photographs – then it may be useful to know that by my (probably dodgy) calculations the 4K 60Mbps data-rate gives around 7500Kbps, so dividing that into 30 frames only gives around 250Kb for each frame (aka photo that you can grab). That is a lot less information than even in the JPG file – image 001 is a tweaked OOC JPG and 002 is a 4K frame grab, you can clearly see there is more information in the highlights, shadows and general detail of the JPG.

Like the video quality, the JPG files are very usable and have a pretty good IQ for a small sensor camera. The noise reduction applied can be a little harsh and will lose detail fairly quickly, but if you're worried about getting the best from the camera then you can shoot in RAW too. The RAW files have to be converted* into a DNG file before you can use them, but there is much more detail to be had from the RAW file – and even at high ISO levels you can pull out details that are lost in the JPG. You don't have any control over exposure, but you can select from auto, DCC Green



Auto white balance with Lume Cube video light (Vobster Quay inland diving centre)

Left tweaked DNG. f/0.8, 1/35th, ISO800

Right OOC JPG. f/0.8, 1/35th, ISO800

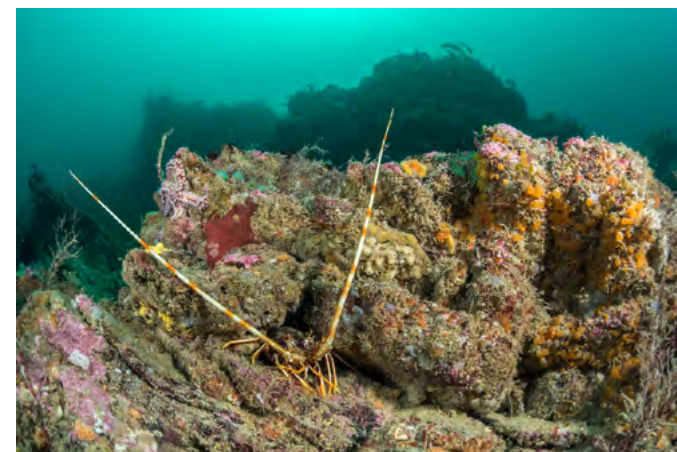
and DCC Blue white-balance.

[* mini-rant! The RAW to DNG conversion process had me tearing my hair out for a few weeks because of basic errors on the part of the manufacturers. Firstly (they tell you) you need to drag-and-drop the RAW files onto the conversion

tool... but they don't tell you that the RAW files and conversion tool HAVE to be in the same folder (this detail is in their instructional video, but not in the written instructions). Secondly, you have to then drag-and-drop these new DNG files onto a .bat file to colour correct them. This is

the part that really had me annoyed. The first batch file I downloaded from the Paralenz website was completely wrong. Being a bit of a geek I looked into the parameters they were using and they had corrected brightness, but no colour correction what-so-ever! It wasn't until a few weeks later that they obviously spotted this oversight and put out a corrected batch file. (see what I mean about being a Beta tester?). Oh, and if you're a Mac user none of this applies to you... because this only works on a PC. And also, don't try to colour-correct more than 75 files at a time because it crashes.]

The most talked about feature of the Paralenz is their Depth Colour Correction electronic white-balance 'filter'. There are two modes, one for green water and one for blue water. And, from what I can see if you choose the right mode then you'll get really quite good results (but only down to 20m, when you're advised to turn it off and use video-lights instead – meaning it's only really effective for 10% of the camera's rated depth). Actually this is a very clever bit of software and when there is plenty of light around it really does add colour back into your stills and video. However... if you elect to use the wrong mode, things get very ugly. 'But why would you use the wrong mode?' I hear you ask, well we don't all live in well-defined blue or green water diving areas. The last dive I did with the Paralenz was in surprisingly clear waters off the south-west of England. Traditionally this would be green-water territory so I set the camera to DCC Green. Sadly (not really) for me the cool 8-degree water was so devoid of planktonic life (as is usual in our winter) that it really was a blue-water dive. You can see what effect choosing the 'wrong' DCC mode had in these images. Despite the clever software, by far the best results can be had by using



Wrong DCC results one (used DCC green but probably needed DCC blue) Frustratingly, the embedded thumbnail in the DNG shows that the camera clearly is capable of getting it right, but without a screen you don't know if the settings are correct until it's too late.

Top left - Original DNG file. f/0.8, 1/35th, ISO600. Bottom left - tweaked DNG. f/0.8, 1/35th, ISO600

Top right- OOC JPG. f/0.8, 1/35th, ISO600. Bottom right OOC JPG Olympus OM-D E-M1, 2xYS-D1, Panasonic 8mm FE, f/7.1, 1/160th, ISO400

auto white-balance and some decent video lights, then the Paralenz acts like a good camera should do.

So that leads me nicely on to the biggest problem I have with the Paralenz: it's lack of a screen. I can only imagine this was a design-led decision (there's no-where to put one in the cigar-shaped body) but I really do think this was an oversight. Without a screen framing your shots is a

hit-and-miss affair (and mostly 'miss' because you can't see how soft the edges may be, or how in/out of focus your foreground subject is). Without a screen you can't check if you've got the correct white-balance set. Without a screen you've no method of reviewing your shots. Without a screen you can't show your buddies your images until you get your phone or laptop out and turn on wifi. With



a screen you can see when the camera is using a slow shutter-speed. Need I go on?

I would hate for you to think that I don't like the Paralenz. Despite all its shortcomings I actually do. As a product, in your hands, it's top-notch. When everything works well (and in good light with the correct settings used) it really does record fantastic video and stills. Its just that for such a lot of money I would not expect it to lock-up EVER, let-alone on 90% of my dives, and not to be able to properly see what I'm shooting is very, very frustrating.

But then I have to remember that I am almost certainly not the target audience for this camera. They're probably after the 'casual' shooter, or deep-diver who want a 'fire and forget' system. So for these divers the Paralenz is a good choice. I still have a problem with the price though: for the same money you can get a 4K GoPro and 200m housing that gives you a screen to use and user replace-

able batteries. If the 200m rating is not important (take a look at all the Paralenz website home-page and all their promo clips are shot in less than 20m!) then you can save many hundreds of pounds and still get 4K, screen, stills, wifi etc.

Where this camera is useful for me (because I miss those compact-camera interchangeable wet-lens days), is as a wide-angle option when I'm on a macro dive... just in case ;)

Dan Bolt

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Ghosts on the Reef

by Klaus M. Stiefel

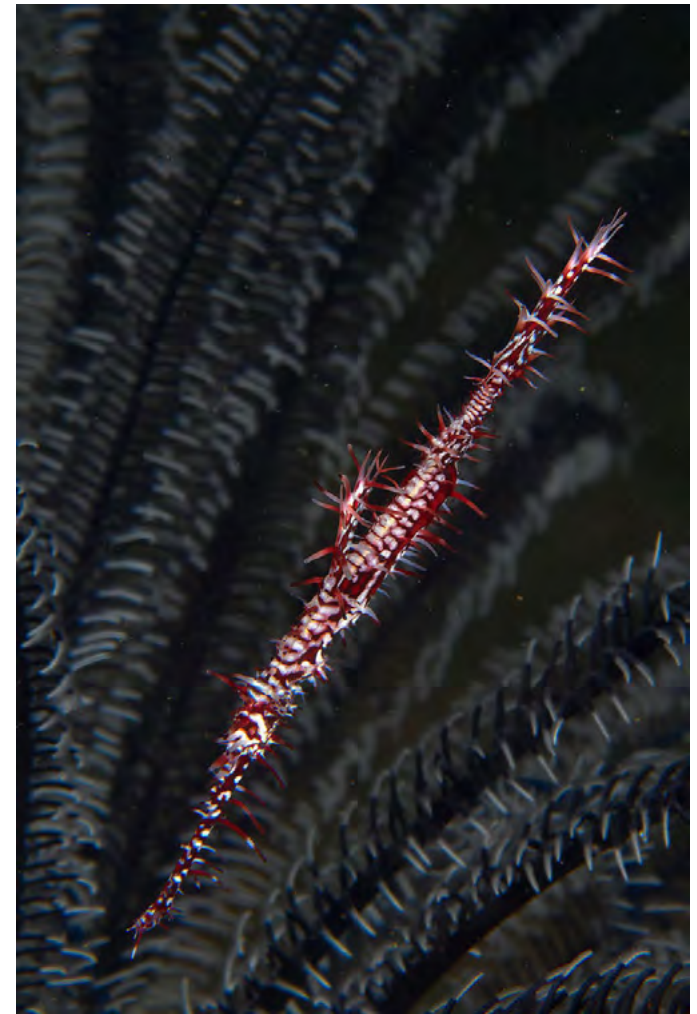
The Philippines are a curious country, full of striking contrasts. The island nation is torn between a fast-forward version of modernity and a mindset grounded in traditional spiritual thinking. While Manila has universities with cutting-edge computer science and marine biology departments, the people on the small islands in the provinces believe in an assortment of ghosts such as the white lady, the sigbin and the manananggal, a particularly vile creature which preys on pregnant women and feeds on their unborn children!

While these ghosts only exist in people's heads, there are also real ghosts in the Philippines, on the reefs just a few meters off those rural island villages. These are the ghost pipefishes, a family of fishes certainly among the most unusual vertebrates on the planet. Their highly modified bodies make them look more SciFi than all those aliens in your favorite SciFi movie. Few fishes have diverged as much from the standard fish-shape. The unusual bodies of the ghost pipefish did not evolve to delight us with their bizarre aesthetics, but for the sake of camouflage, and the six ghost pipefish species use different visual tricks to evade predators.

The most common (but still rather rare) ghost pipefish is the ornate ghost pipefish (*Solenostomus paradoxus*). Up to eleven centimeters long, it is a laterally compressed fish with a big head composed mostly of a long snout. It is covered in pointy fleshy appendages which make it look like a crinoid, an echinoderm distantly related to the seastars and sea urchins. These crinoids are filter-feeders, and collect plankton by swaying their arms back and

forth in the current. The ornate ghost pipefish don't just look like crinoid arms, but also move like them, peacefully rocking back and forth while hovering in-between the echinoderm's real appendages. When a diver approaches, the ghosts carefully move to the other side of the crinoid, mindful not to break camouflage by moving too swiftly or un-crinoid like. You will not see a power-stroke like that of an accelerating tuna from a ghost pipefish! Crinoids come in several different colors, and so do the ornate ghost pipefish: red, yellow, white and black forms can be seen. The ornate ghost pipe fish match their host's colors.

The robust ghost pipefish, *Solenostomus cyanopterus*, the halimeda ghost pipefish, *S. halimeda*, and the roughsnout ghost pipefish, *S. paegnius*, all seek safety by looking like marine plants and algae. There are, of course, many different kinds of marine plants and algae, which gives the ghost pipefishes many kinds of options in their quest for camouflage. Evolution has formed the bodies of each species to resemble one kind of marine plant. For instance, the halimeda ghost pipefish looks like a chain of halimeda algae. The robust ghost pipefish resembles a leaf of sea grass. The roughsnout ghost pipefish looks like a piece of seagrass overgrown with filamentous algae. This coarse genetic tuning of ghost pipefish camouflage (each species resembling one type of invertebrate, algae or plant) is further augmented by a fine-tuning of their looks, adjustable during the life-time of an individual fish. When transferred from a brownish rubble-substrate to a background



An ornate ghost pipefish in front of a crinoid. Dauin, Philippines. Canon EOS 5D Mark II, Hugyfot housing, Inon 240 strobe, Canon EF100mm f/2.8 Macro USM, f22.0, 1/125, ISO400

composed of greenish-yellow algae, color change from brown to yellow took 36 hours in a robust ghost pipefish observed by Gerlach (2009). Within less than 2 days, the ghost pipefish matched the new environment's color again.



(Above) A pair of robust ghost pipefish. Dauin, Philippines. Canon EOS 5D Mark II, Hugyfot housing, Inon z240 strobe, Canon EF50mm f/2.5 Compact Macro, f25.0, 1/125, ISO320

A roughsnout ghost pipefish, S. paegnius. Dauin, Philippines. Canon EOS 5D Mark II, Hugyfot housing, Inon z240 strobe, Canon EF50mm f/2.5 Compact Macro, f25.0, 1/160, ISO200

(Left) Halimeda ghost pipefish among halimeda algae. Dauin, Philippines. Canon EOS 5D Mark II, Hugyfot housing, Inon z240 strobe, EF100mm f/2.8 Macro USM, f20.0, 1/160, ISO320

The fifth known ghost pipefish species is the delicate ghost pipefish (*S. leptosomus*), which looks somewhat like a puny version of the ornate ghost pipefish. Several variants of this fish exist, some seem to be mimicking a crinoid, while others are more reminiscent of a piece of sea weed or a twig. The armored ghost pipefish is very rare and found on deep, rocky reefs.

Given how rare ghost pipefish are, it is quite possible that additional ghost pipefish species exist,

which have not been described yet. What is usually called 'hairy' or 'velvet' ghost pipefish (mimicking chunks of filamentous algae) seem to be variants of *S. paegnius* (mostly) or *S. halimeda* (see Kuitert, 2006, p109-110). It is not unusual even for experts to be confused about the species of ghost pipefish they are looking at - note the question mark under the picture of the hairy variant of *S. halimeda* on page 110 of Kuitert's excellent book on the seahorse relatives. Without counting fin rays & spines and other anatomical features under a microscope, no one can be sure which kind of *Solenostomus* they are really dealing with.

When it comes to feeding themselves, the

ghost pipefish suck - literally! They hunt by sucking up minute invertebrates like tiny shrimp with their pipette-like jaw. If you are lucky enough to see a hunting ghost pipefish, you will notice how they seem to intensely concentrate, and fixate a diminutive crustacean, often with one eye. They twist their bodies slightly to have a better view of their prey. Then, a quick darting-sucking movement follows and the unsuspecting shrimp is on its way to the ghost pipefish stomach. What stands out when watching this feeding behavior is the action of the suction jaw. The presence of such a specialized jaw puts the family of the ghost pipefishes in the order of the Syngnathiformes (Syn - together; gnathos - jaw; the fused jaw fishes). Other families in this order of fishes are the seahorses & non-ghost pipefishes, the trumpetfishes, cornetfishes and shrimpfishes.

While it's spectacular to see a ghost pipefish decimate the shrimp population for lunch, it takes



Roughsnout ghost pipefish jaw. Dauin, Philippines. Canon EOS 5D Mark II, , Hugyfot housing, Inon z240 strobe, Canon EF100mm f/2.8 Macro USM, f20.0, 1/200, ISO200



A trumpetfish mouth, very similar in anatomy and function to the ghost pipefish jaw. Okinawa, Japan. Canon EOS 5D Mark II, Hugyfot housing, Inon z240 strobe, Canon EF100mm f/2.8 Macro USM, f11.0, 1/200, ISO320

quite a bit of luck to encounter this behavior. Additionally, ghost pipefish are small and hence the workings of their jaw are not so easy to observe. It is usually easier to observe a syngnathid jaw at work on a trumpetfish. They are not particularly rare in many tropical waters, and on this much larger fish the very specialized suction jaw is easier to observe in action. If you patiently follow such a trumpetfish on its hunting trip over the reef you will likely see it suck up a careless

damsel fish after a while. The jaw mechanics of this larger predator are very similar to those of the ghost pipefish.

The way ghost pipefish reproduce is only superficially similar to the way their cousins, the seahorses, produce offspring. In seahorses and non-ghost pipefishes the male fish takes care of the eggs, either by keeping them in a brood pouch on its belly (seahorses) or by gluing them to its abdomen (pipefishes). In contrast, in the ghost pipefish the larger females keep the

fertilized eggs near its body, carrying them in a brood pouch formed by its pelvic fins.

Ghost pipefish often travel in pairs of a larger female and a smaller male fish. Before mating the male ghost pipefish courts the female. This is rarely seen and was first described by Fishelson in 1966:

When courting, the male circles around the female at a distance of 8 to 10 cm, approaching her and swimming forwards and backwards. Concomitantly the first dorsal fins

are alternately quickly spread and folded, displaying the conspicuous colouration which is due especially to the black ocelli. The female reacts to this display of courtship by turning her body towards the male and pointing her head sharply downwards. During this his yellow-black pattern becomes very conspicuous. The courtship is interrupted at night but on one occasion was observed to continue for three days.

Three days of courtship is a long time for such a short-lived species!



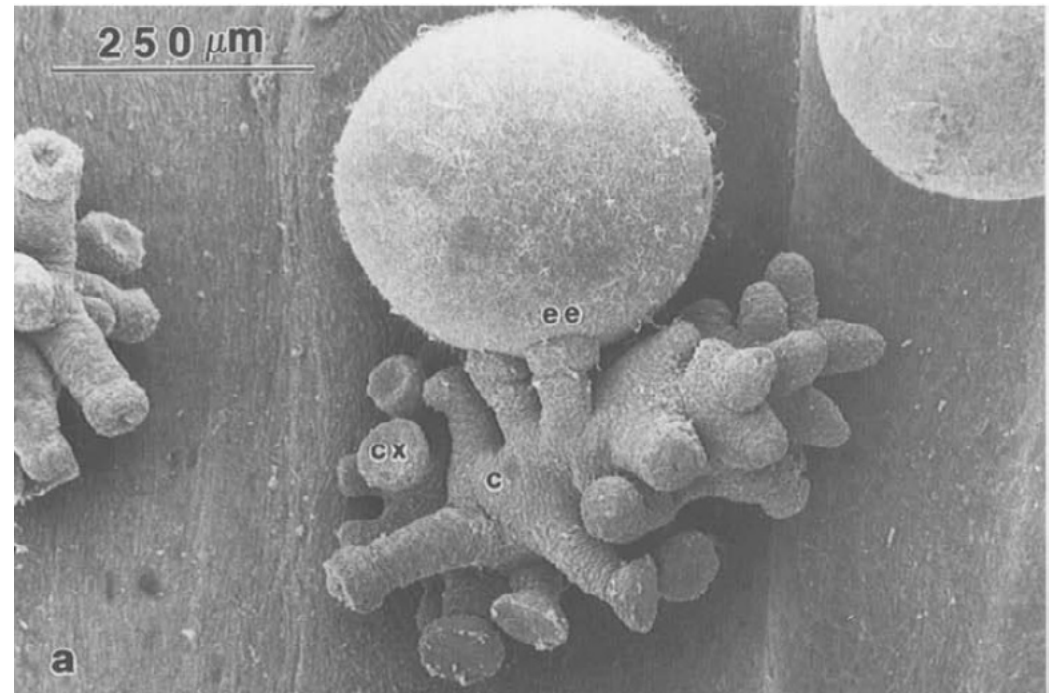
Ornate ghost pipefish brood pouch. Dauin, Philippines. Olympus E-M1, Olympus housing, Inon z240 strobe, Olympus M.60mm F2.8 Macro, f18.0, 1/200, ISO250

What signals does the female ghost pipefish react to? Based on which criteria does she select a mate? There is still insight to be gained into ghost pipefish courtship if lucky underwater videographers manage to capture more of this behavior!

After insemination, the female pulsates her brood pouch, possibly to enhance fertilization of her eggs. You can admire a great video of this behavior on Anna DeLoach's Blennywatcher Youtube channel.

Once fertilized, the eggs develop in the brood pouch. There,

they are anchored to the skin of the female via specialized structures, called cotylephores. Blood vessels run through the stalks of the cotylephores to the developing embryos, likely providing them with nutrients and oxygen. Here we see a case of convergent evolution: the cotylephores are similar in function to a mammalian placenta in that they nourish the developing embryo. This similarity exists even though both organs developed in only very distantly related animals, originating from different bodily tissues. In



Electron microscopic image of a branched cotylephore attached to an egg. Image from Wetzel and Wourms, 1995

retrospect it is not surprising that such structures independently evolved more than once. It makes sense to support the metabolism of your developing eggs!

It seems that ghost pipefish can change sex, like a number of fish species are capable of; this has been observed in aquaria when captured specimen switched from male to female. It is not clear if this happens in nature as well; however it would make sense in a rare and short-lived species, where it is rare to encounter conspecifics to begin with; and in

those rare encounters, the conspecific might by chance not be the right sex for reproduction. In such a situation a strategic sex change might turn two frustrated male ghost pipefish into a female - male couple, ready to reproduce.

I am privileged to live in Dauin, on the Philippine island of Negros, one of the prime destinations in the world for 'muck diving' (diving with the goal of observing small & unusual marine animals). Here we see ghost pipefish regularly, but not all throughout the year.

Occasionally, for a few weeks the dark volcanic sand on the underwater slopes of Negros is teeming with ghost pipefish, and we see them on every dive. On one occasion I spotted a crinoid with eleven (!) individuals of the ornate ghost pipefish. These episodes of ghost pipefish abundance don't last very long, though. After a few weeks, the Solenostomidae are all but gone. This cyclic pattern of occurrence is due to the peculiar life cycle of Solenostomus: They spend a large part of their lives as pelagic larva, floating through the open ocean, only to settle for the last few months of their life-span on a reef or in a coastal sandy region. There they still hunt and grow, but their main aim is to reproduce. They seem to die briefly afterwards - and then sadly leave the reef ghost pipefish free for the following few months. To my knowledge, no study has looked at the pelagic part of ghost-pipefish life in any detail yet. How the larvae grow and feed during their mid-water time is one of the most interesting un-answered questions of ghost pipefish biology.

As I am writing this in the year 2018, I have to mention that many ecosystems on Planet Earth are stressed, and that the populations of many animals are in danger. The ghost pipefishes are not listed as endangered; the conservation status of the different Solenostomus species is either listed as 'least concern', 'data deficient' or 'not evaluated'. But they live in tropical coastal waters, many of which feel the stress of human activity. Healthy tropical coastal ecosystems are declining, and the ghost pipefish are rare inhabitants of these shrinking ecosystems. Protecting the coastlines in the tropics from runoff, pollution and 'development' also protects the ghost pipefish.

Finally, we should discuss the most important



Close up on an eye of an ornate ghost pipefish. Dauin, Philippines. Olympus E-M1, Olympus housing, Inon z240 strobe, Olympus M.60mm F2.8 Macro, f18.0, 1/200, ISO250

question of all things ghost pipefish - how to photograph them! In brief, this needs to be done with patience, and carefully. It will probably take you quite some dive time to find a ghost pipefish, or a pair of them. Even in Dauin, with a really high likelihood of encountering these fish, we might spend the first half hour of a dive checking crinoid after crinoid before we succeed in finding a Solenostomus. Don't despair, go slow, and look closely!

Once you have spotted a ghost, don't stress the animal out. A recent study has shown that the strobes of underwater cameras do not harm the seahorses (Harasti & Gladstone, 2013), so I wouldn't think that firing strobes at a reasonable rate would significantly harm the related ghost pipefishes. But make sure your buoyancy is good, and you don't stir up sediment, or disturb the



A male and a female ghost pipefish swimming as a pair. Dauin, Philippines. Canon EOS 5D Mark II, Hugyfot housing, Inon z240 strobe, Canon EF100mm f1.8 Macro USM, f13.0, 1/200, ISO320

ghost pipefishes on their crinoid home with hectic movements. Besides stressing the animals this looks undignified and makes it harder to get good photographs.

As mentioned above, the ghost pipefish will rarely break camouflage and try to escape from you in a quick burst - they are simply not equipped with the swimming musculature and fins to do that. But they seem to know exactly where you are, and will slowly hover away from you when disturbed. They will cleverly move so that a crinoid or a piece of algae is between you and them. If you move and breathe calmly, they are less likely to show this very subtle escape behavior.

But even when you as an underwater photographer approach a ghost pipefish carefully, it's still a surprisingly tricky photographic subject, given that it's such a slow-moving fish. The reason



Three ornate ghost pipefishes hiding, somewhat unusually, in-between hydroids. Tulamben, Bali, Indonesia. Canon EOS 5D Mark II, Hugyfot housing, Inon z240 strobe, Canon EF100mm f/2.8 Macro USM, f18.0, 1/200, ISO320

show an eye, like we know it from other fishes, placed on the head of a bizarrely looking animal barely recognizable as a vertebrate - stunning!

I also like to photograph ghost pipefish in the context of their environment, the ornate ghost pipefish next to crinoids, and the others in-between the vegetation which they mimic. This nicely shows the type of camouflage these fishes employ for survival. It's a real challenge to photograph the developing eggs in a gravid female's brood pouch. It's difficult to get just the right angle, and with breeding females the responsible underwater photographer should be extra careful - we don't want to play the role of the aforementioned manananggal and harm unborn life.

A photographic technique I want to explore more in the future with ghost pipefish is close-up wide-angle. There is still lots to do when it comes to ghost pipefish biology and photography!

is that they like to twist and turn their oddly-shaped bodies, possibly to get a good view of their surroundings with their laterally placed eyes. I found that they would frequently twist themselves out of the plane of focus of my camera. The remedy for this problem is more patience; you will simply have to wait until your ghost is in the right position, and then quickly press your camera's shutter.

Close ups on the eyes of ghost pipefishes often make for impressive photographs. Shots like that

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Book Review

Galápagos
by Joseph Litt

by Peter Rowlands

I don't think there can be any doubt that the most significant place in the whole of the natural history world has to be the Galápagos Islands where less than 200 years ago the young Charles Darwin observed how similar life varied from island to island. This led to the development of his theory of natural selection explaining evolution, which was presented in *The Origin of Species* in 1859. The rest is, shall we say, natural history.

Fast forward 150 years and the very essence of it's attraction was fast becoming it's undoing with a major tourist onslaught both above and below the water. Very careful and considered controls were put in place to protect this fragile ecosystem yet keep it available for those who wanted to experience such a unique location.

I have never visited the Galápagos Islands and doubt if I ever will but Josef Litt's comprehensive and well illustrated book left me with the impression that he has captured that magical sense of what it must be like to be there. Furthermore, as primarily an underwater photographer, he has avoided that oft tread trap of over doing the underwater images and come up with a good balanced delivery of very well researched information with consistently good visuals above and below. In addition both sets of images have avoided the 'coffee table' look; they all contribute without trying to dazzle and as a result this book



A JOURNEY THROUGH THE GALÁPAGOS

SAN CRISTÓBAL

San Cristóbal is the easternmost island in the archipelago and one of the oldest geologically. It is 2.4–4.0 million years old. Despite such a broad age range, the scientists believe that it is younger than Española. Geologically it is composed of three or four fused volcanoes that are all long extinct. A small lake called *El Junco* in the caldera of one of the volcanoes served as a source of fresh water for the very early settlements on the Galápagos.

The island's official name is derived from the name of the patron saint of travellers and seafarers, St Christopher. The traditional English name, Chatham, was given by Captain James Colnett in honour of William Pitt, 1st Earl of Chatham (1708–1778), who was the British Prime Minister for two years in the second half of the eighteenth century.

San Cristóbal has an area of 558 km² (215 mi²) and reaches a height of over 700 m (2 300 ft) at Cerro San Joaquín. It hosts all the vegetation zones present in the archipelago and is the most fertile island. The capital of the Galápagos, **Puerto Baquerizo Moreno**, lies at the south-western tip of the island. Approximately 7,500 people live on the island, which places it as the second most inhabited island in the archipelago after Santa Cruz. Residents make their living predominantly from work in government, tourism and artisanal fishing. The seaport is home to the largest fishing fleet in the Galápagos. The San Cristóbal Airport is located near the capital and services daily flights from Quito and Guayaquil.

The first settlement was founded by the colonist General Villamil in 1842. The town was named after Alfredo Baquerizo Moreno in 1916, who was the first president of Ecuador who visited the islands, and became the capital of the archipelago. From 1991 the



▲ Arid zone vegetation at Puerto Chino.

number of hotels, bars, restaurants and shops grew and today the promenade and a handful of streets around it bustle with tourists, taxis, mopeds and local life.

Fresh water from the *El Junco* lagoons has enabled a revival of coffee production in the Galápagos. The history of coffee in the archipelago goes back to 1879 when Manuel Julián Cobos established *Hacienda El Progreso*. His workers planted *Arabica Bourbon* beans and Galápagos coffee beans on 100 ha (250 ac) in the section of the hacienda called *El Cafetal*. The coffee plantation survived two uprisings against the Cobos family and it reached a size of 126 ha (311 ac), with about 160,000 coffee plants in 1930. It seems that part of the plantation was abandoned after 1950 when an American, Donald Harrsch, procured the *Hacienda*

▼ Crack of dawn at the busy port of San Cristóbal.



▲ Topographic map of San Cristóbal. Wikimedia Commons. (CC) Bamsa.

El Progreso for \$110,000. His plan to settle on San Cristóbal and earn money by fishing spiny lobster and growing coffee faltered after many setbacks. Don Manuel Cobos Jr. still grew coffee in 1983, but wanted to sell the plantation as he was nearly 87 years old. In the 1990s the Gonzales-Duche family purchased *El Cafetal*. They started to renovate the hacienda, with the help of a number of local workers, into an ecologically sustainable farm and tourist attraction. Visitors can, by prior arrangement, enjoy lunch at the hacienda and try a cup of the local brew.

San Cristóbal has several visitor sites that are accessible either by land or boat. Many of them do not require the presence of a naturalist guide. There are plenty of beaches suitable for swimming and recreation. *Playa Punta Carola* and *Playa Mar* are white sand beaches, a 10-minute walk northeast from Puerto Baquerizo Moreno. The operators offer trips to the more remote beaches, for example, *Playa Puerta Grande*, *Playa Punta Pucuna* with lava cones behind the beach, *Bahía Rosa Blanca*, *Playa Ochao* or *Playa Manglicto* with the adjacent mangrove area.

CHAPTER THREE

INIMITABLE
NATURE



GALÁPAGOS

A comprehensive guide book bringing together history, science and personal travelogue packed with beautiful photography.



GALÁPAGOS



JOSEF LITT

“A must-read for anyone planning to visit the islands and equally for those that already have a place in their heart for Galápagos.”

Dr Alexander Mustard, internationally awarded underwater photographer and a commended author.

will appeal to the widest of audiences; those, like me, who have never been, those who are going and want to be fully informed and those who have been who want a complete volume to show others just how special it was.

but, in this case, that cocktail is most definitely champagne.

Galápagos costs £29.90/\$39.90 and is available from Amazon. It has 288 pages overflowing with more than 300 stunning photographs as well as original illustrations.

I suspect this book was conceived from an uncontrollable passion which led to a self inflicted dedication of both time and finance. Most of the time that can be a dangerous and destructive cocktail

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For more information

<https://mostlyunderwaterbooks.com>

For US sales

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 Issue 101/62



GALÁPAGOS by Josef Litt
www.MostlyUnderwaterBooks.com

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amazon

blurb

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

Sometimes you just have to take advantage of a unique situation.

A small group of four humpback whales were hanging around the coast of Shetland. The day before we went to see if we could see them. Luckily for us we saw all four with two of the humpbacks coming just off the point where we were stood allowing my one and half year old son to see them.

There was a very short weather window so the next day I headed out with a good friend Brydon Thomason to try to shoot the whales for Scotland The Big Picture.

Two of the whales were still there. We spent four hours slowly working with the two whales before an opportunity came to get in the water and within seconds they passed within meters of me.

I had never dreamed that I would be shooting humpback whales off the UK coast.

Shetland Islands, Scotland



Nikon, D4, Nauticam, Nikon 16-35mm F4, iso 1600, F7.1, 1/80, Natural light

Richard Shucksmith

www.shetlandphototours.co.uk

Do you have a shot which has a story within a story?

**If so e mail it with up to 500 words of text
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