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Ike hand-poured our first flashlight and cured it in a kitchen oven in 1962. Today our manufacturing methods are more sophisticated, but our passion for hand crafting flashlights remains the same. Every Gamma flashlight is built with care in the heart of the midwest.



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Underwater Photography

A web magazine Uwp77 Mar/Apr 2014

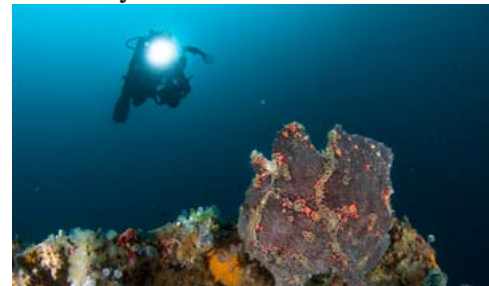
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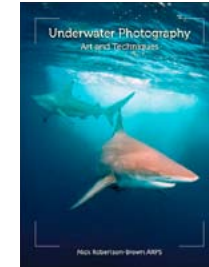


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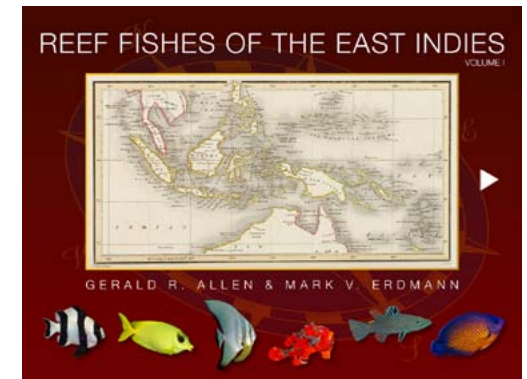


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Underwater Photography 2001 - 2014
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Publisher/Editor Peter Rowlands
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Editorial

Beware of headlines

It can be dangerous just reading the headline. Take the recent ruling in Australia to dredge Queensland ports and dump the contents 'on the Great Barrier Reef'.

Greenpeace were up in arms and, whilst I am no fan at all of their motives, they got me going with their headline "Court challenge to Great Barrier Reef dredge dumping permit". I fell for it hook line and sinker but had I delved just a click or two deeper I would have found that the Great Barrier Reef Marine Park Authority Chairman Dr Russell Reichelt said "It's important to note the seafloor of the approved disposal area consists of sand, silt and clay and does not contain coral reefs or seagrass beds."

That put a much different angle on the story so I thought I would consult 'the oracle', one Bob Halstead, a free thinking ex Brit now residing in Oz who is credited with such good ideas as accepting solo diving and enjoying muck diving.

His response confirmed my suspicions and was eloquently put as follows:

"There have been well funded alarmist campaigns in Australia from both Greenpeace and GetUp about the dredging and dumping of spoil "on the Great Barrier Reef". Both of these organisations can be considered anti-capitalist, socialist movements riding on the back of environmental issues to gain adherents and destroy industry. In fact the dredging and dumping will occur some 40 km from the nearest reef in areas that are already well silted, particularly in the SE trade winds and after cyclones and rainfall runoff. The whole of the GBR lagoon is often naturally silty with limited visibility, and of course corals have adapted to deal with this situation. It has always been thus. The outer reef - such as at Heron Island off the heavily dredged industrial port of Gladstone - is typically clear with exuberant live corals.

Dredging has already been carried out for many years with no detrimental effect to the GBR. In fact recent research lists Crown of Thorns Starfish and Tropical Cyclones as the two biggest threat to coral survival, with coral bleaching a distant third. Ocean acidification remains only theoretical (it is a lousy theory) with no evidence at all of any mortality.

My thinking puts the effects of dredging and dumping, on the actually small scale proposed (see maps attached) and with many safeguards in place - closed seasons, monitoring etc. as trivial compared with what nature dishes out. This was also the opinion of scientists reporting to GBRMPA that enabled them to decide to go ahead with the dredging and expand the ports so necessary for our future prosperity.

Our efforts would much better be spent setting up refuse collection and disposal infrastructure in places like Indonesia and the Solomon Islands to prevent plastic and other junk polluting our oceans. This is real - and we can do something about it - instead of chasing alarmist and political conjecture with a very weak scientific basis.

Lastly here is Dr. Walter Starck's essay (linked below) on the topic entitled "Dredging up another bogus threat". You might remember Walter as the inventor of the "Electrolung" mixed gas rebreather in the early 1970's? I would trust his science over Greenpeace's any day!"

Bob Halstead

"Dredging up another bogus threat"

<http://quadrant.org.au/opinion/doomed-planet/2013/11/dredging-another-bogus-threat/>

BTS competition

On a lighter note I would like to encourage you to look at the results of this years Beneath the Seas photo competition (see a few of the winners on page 26 & 27).

The results are online at the link below or you can go and see them 'for real' at the BTS Exposition, March 28, 29, and 30, 2014, at the Meadowlands Exposition Center in Secaucus, New Jersey.

It must have been a hard task for the judges to pick a clear winner when the standard of the entries was so high. Check out those images which didn't win and I think you'll agree that any one of them stood a good chance of winning, such was the consistently high standard of entries.

You may not agree about competitions in general (I personally gave up entering when I kept losing!) but if they encourage the taking of such exciting images then they must be applauded and encouraged.

Enjoy.

www.beneaththesea.org

Peter Rowlands
peter@uwpmag.com

News, Travel & Events



Backscatter Wakatobi Expedition September 21 - October 2, 2014

Join Backscatter Underwater Video & Photo's Jim Decker for an unforgettable diving holiday at the world-renowned Wakatobi Resort!

Situated on a beautiful tropical island in the remote and peaceful Wakatobi archipelago in the Banda Sea, Wakatobi Dive Resort offers what many consider to be the best reef diving in the world.

Blessed with a house reef where you can begin your dive only 60 feet from the dive center, Wakatobi is often described as a live aboard with a built-in beach! In addition to the spectacular house reef, there are several dozens of easily accessible dive sites offering incredible marine life diversity, color and natural splendor.

In addition to excellent diving on pristine reefs, certified Adobe Photoshop and Lightroom teaching pro, Erin Quigley, AKA: GoAskErin, will be co-leading this trip. She'll be available for one-on-one and small group sessions, based on interest, covering popular Lightroom and Photoshop topics to best edit and share your underwater images.

Standard Package Includes:

- 11 nights accommodations at Wakatobi resort
- Breakfast, Lunch, & Dinner daily
- 3 boat dives per day
- Unlimited shore diving
- Tanks and weights
- Taxes and service charges
- Access to Backscatter pro photo instructors for imaging and technical support

Price: Palm Bungalow \$4,999

www.uwpmag.com

Ocean Bungalow \$5,599
One Bedroom Villa \$7,999
(Based on double occupancy).

As the CEO of Backscatter, Jim is one of the top experts in the world on underwater photo and video equipment and shooting technique. From SLRs to compacts and handycams to broadcast video, Jim has shot video and photo systems from all the major underwater manufacturers and has been a consultant on many of the designs seen in the water today.

Erin Quigley is a Adobe ACE certified digital imaging consultant specializing in customized workflows and editing strategies using Adobe Photoshop and Lightroom. She is an award-winning underwater photographer and video editor, and creator of GoAskErin.com, which provides one-on-one instruction, custom video tutorials, and Photoshop and Lightroom resources specifically developed for underwater shooters.

www.backscatter.com/learn/trips-and-classes/trips.php?ID=164

An underwater scene featuring a large whale shark swimming towards the camera, a diver swimming alongside it, and a manta ray swimming in the background. The text 'Swim with Whale Sharks' is at the top, followed by 'Isla Mujeres, Mexico' and a Mexican flag. The dates 'July 11 - 16 2014' are prominently displayed. Below the dates, it says '4 days on private charter' and 'Limit of 6 guests'. In the bottom right, it says 'Giant Manta Rays!'. The website 'www.GregorySweeney.com' and 'Photography Adventures' are at the bottom.

Swim with Whale Sharks
Isla Mujeres, Mexico
July 11 - 16 2014
4 days on private charter
Limit of 6 guests
Giant Manta Rays!
www.GregorySweeney.com
Photography Adventures

Issue 77/5





Periphylla Safari Gulen Dive Resort , January 03-06 and 08-11, 2015

You still haven't been in the water with the Periphylla periphylla deep-sea jellyfish? In January 2015 we offer two new chances to experience this rare encounter at Gulen Dive Resort on the Norwegian west coast.

The Periphylla jellyfish is unlike anything else above or below the surface, and organized Periphylla diving is only offered by Gulen Dive Resort on the Norwegian west coast.

The Periphylla normally lives from 700 to 3.000 meters deep, but during the winter months it can be encountered close to the surface on spectacular night dives.

PRICE: NOK 5.790,- (ca. € 690,-) incl. diving, lectures and accommodation

The Periphylla Safari gives you a great opportunity to experience this awesome deep-sea creature up close - and the wreck diving is also spectacular this time of the year! If you're interested in a longer stay it is possible to book two extra days between the two safaris.

WARNING: The Periphylla Safari is only for experienced divers. Diving with the Periphylla takes place in water 300 meters deep, in the middle of the night and in the middle of the winter - far from land.

Good buoyancy control and diving skills is a must, for obvious reasons. If you think you're up for it, join us for a truly one-of-a-kind diving experience!

www.scubapixel.com/blog/20644-periphylla-safari-2015



Booking now! Jun-Aug 2014
www.baskingsharkscotland.co.uk



Nudibranch Photo Competition 2014!

The Nudibranch Photo Competition 2014, sponsored by Nauticam UK, has been founded to celebrate nudibranchs and their allies.

There are just two categories in this inaugural contest: 'British Nudibranchs' and 'Nudibranchs of the Rest of the World'. The prizes have been specially selected to appeal to nudibranch photographers; the winner of each category will receive the brand new Super Macro Converter from Nauticam.

Photographers can enter up to 10 images in total, split between the two categories. To enter the NPC, you first need to register and then pay the £5 GBP entry fee.

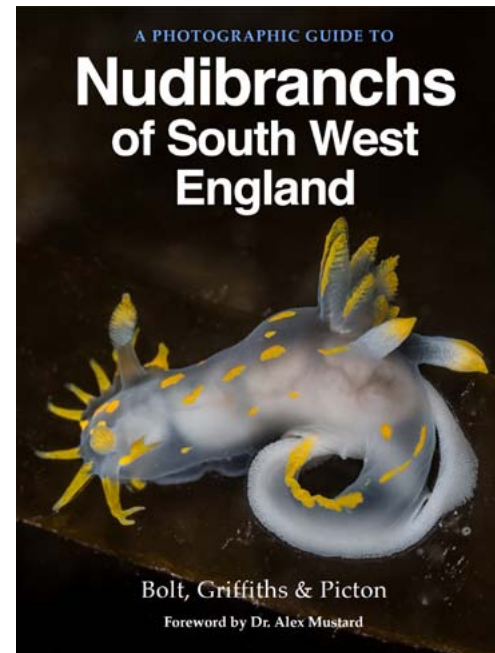
This is our first competition and we're starting small with just

www.uwpmag.com



two categories. If the competition is a success we intend to expand the competition for 2015 with more categories and prizes. But we feel for this first competition we've got prizes and judges that will appeal to all entrants; and nudi-lovers don't need convincing that the best things in life are small!

The aim of the NPC is to celebrate nudibranchs and their kin, by raising awareness and interest in this group. The judges are looking for striking images that showcase these species. The images can be macro or wide angle, and can simply show a beautiful nudibranch, or include behaviour, environment and even divers. Nudibranchs in unnatural conditions, or which the judges feel have been "moved for the shot" are unlikely to be successful. Although there are no restrictions on post processing, images that are clearly



manipulated in Photoshop are also unlikely to win.

The Prizes

The winner of each category will receive a brand new Super Macro Converter from Nauticam, generously supplied by Nauticam UK, we'll even pay the postage!

Runner Up in each category will receive a copy of the new iBook "Photographic Guide To Nudibranchs Of South West England" by Dan Bolt, Terry Griffiths & Bernard Picton.

Prize winning images and a selection of finalists images will be put on display at a nudibranch exhibition at the Ulster Museum in Belfast later in the year.



The Judges are Alex Mustard, Bernard Picton and Constantinos Petros.

The competition will be held over just a few short weeks so for the exact opening and closing dates please see the website.

www.nudibranchphotocomp.com

Nauticam Uk
www.uwvisions.com

Nudibranchs Of South West England
www.southwestnudis.co.uk



DEEP Indonesia 2014 Competition



Image by Mark van Coller - Gold - Animal Behavior - DEEP Indonesia 2013

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2014



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HERE

The prestigious DEEP Indonesia International Underwater Photo Competition is part of a unique series hosted by DivePhotoGuide & Wetpixel, in association with DEEP Indonesia, Indonesia's first-ever diving, adventure travel and extreme sports expo.

Photographers will compete in seven themed categories to win over \$40,000 in prizes, including underwater photo equipment and premium dive travel packages to some of the top photo destinations in the world.

The DEEP Indonesia competition is part of a unique series, that together with the Our World Underwater competition, has a prize pool of over \$90,000. The prestige of these

contests means that winners also achieve the glory of being named among some of the world's best underwater photographers. Esteemed judges include leading professional underwater photographers and magazine editors from around the world.

Deadline for submissions March 10th, 2014

Winners will be announced online, published by our media partners worldwide and exhibited during the DEEP Indonesia Expo.

The fee to enter is \$10 per image. As with all UnderwaterCompetition.com events, 15% of entry proceeds will be donated to marine conservation efforts.

www.underwatercompetition.com/Competitions/deep-indonesia-2014

www.uwpmag.com



Photo by Martyn Guess

www.divequest-diving-holidays.co.uk

Truk: The Art of Underwater Photography with Shannon Conway 4-11th May 2014

Lembah: Critters of the Black Sand with Graham Abbott 4-14 November 2014

Raja Ampat: Including the Blue Water Mangroves with Graham Abbott and Shannon Conway 14-25 November 2014 (FULLY BOOKED)

Ultimate Manado: Underwater and Topside with Nick and Caroline Robertson-Brown 6-20 September 2015

EMAIL: divers@divequest-diving-holidays.co.uk

WORLD SHOOTOUT Underwater Photo Grand Prix

January 1-July 31, 2014



<search>



Login

Register

General

Categories & Prizes

Time Table

Rules

Competition Registration

Previous Competitions

Upload Photos

FAQ's

Contact Us

WORLD SHOOTOUT 2014 IS ON from January-July, 2014!

You're invited to take part in the world's leading global underwater photo competition, the WORLD SHOOTOUT .

This is the 4th year in a row that the World ShootOut global underwater photo competition takes place worldwide.

Introducing new categories and glorious prizes, we are proud to invite all divers, underwater photographers, diving centers, live aboards and media partners to take part in one of the most innovative, creative, international and festive events ever produced!

During January 1st to July 31st, 2014, the whole underwater world will be performing as a huge underwater festival, hosting young, amateur and professional photographers from all over the world, competing with each other for some very worthy prizes, including cash prizes, luxurious diving trips, diving equipment, photo gear and more.

Producer David Pilosof initiated

the first World ShootOut competition in 2011, breaking all boundaries and introducing an international competition as never featured before.

Submit your best and most impressive underwater images, taken anytime and anywhere in the world, and win some of the most valuable prizes ever awarded to underwater photographers, including a \$5,000 check for the 1st prize!

If you haven't registered yet, you can do so on our website. Please note that registration can be carried out until July 31st, 2014.

Images and videos can be submitted to the competition by uploading them to the competition website.

The deadline for submitting images to the competition is July 31st, 2014 . Images submitted later than July 31st, 2014, will not be accepted.

www.worldshootout.org

Issue 77/9



ND AWARDS

Neutral Density Photography Awards 2014

ND Awards 2014 is now accepting entries. Select your best work, submit your photos and have a chance at over \$5,000 in cash prizes.

Participants can compete for the title: ND Photographer of the Year Award in 6 main categories: Advertising, Architecture, Fine Art, Nature, People, Special.

All images will be viewed and judged by a prestigious international jury.

Don't miss the opportunity to participate in the world's premier photographic contest.

www.ndawards.net

Dive the Solitary Islands 16th - 23rd April 2014

South Australian underwater photographer Paul Macdonald of downunderpix will be running an underwater photography focused dive trip to the beautiful Solitary Islands on the 16th - 23rd April 2014. The cost of \$1245 per person includes 7 nights at Mullaway, 12 dives with Dive Quest, tanks/ weights/airfills, return airport transfers (if required).

It will be a fun time full of diving and underwater photography. For those who have not dived here before, you will be pleasantly surprised by the diversity of diving around the five islands located within the Solitary Islands Marine Park. The Northern Solitary Islands in particular boast excellent subtropical diving, with approximately 80 different types of hard corals, soft corals and abundant tropical and pelagic fish life. Expect to see Manta Rays, Spotted Eagle Rays, Grey Nurse Sharks and boat encounters with playful Humpback Whales and friendly pods of Dolphins.

A spectacular feature of North Solitary Island is its extensive Clown Fish and Anemone beds that carpet



the floors of many dive sites. You will also have the pleasure of encountering many beautiful species of marine life, including Turtles, Spanish Dancers, many colorful tropical fish, nudibranchs and much more.

These islands provide fantastic opportunities for underwater photographers and divers of all levels of certification.

Paul will conduct workshops in relation to general underwater photography, lighting, composition and post production.

The offer is limited to the first six paid divers.

www.downunderpix.com

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New Products

Ikelite Nikon D5300



Like every Ikelite product, this housing for the Nikon D5300 Camera is designed, built and tested in the USA. We use locally sourced, top-grade materials. Our housings are built by hand and individually tested for fit, function and waterproof integrity. The average assembly technician is a certified scuba diver and has over 16 years of experience building Ikelite products. We back our products with over 50 years of experience and service within the dive industry.

Special polycarbonate blends allow us to create an extremely strong yet clear and lightweight enclosure.

www.uwpmag.com

We believe there's no substitute for inspecting the actual o-ring seal once your housing is closed. Our signature clear construction lets you see that the housing is watertight and dry before you enter the water, and provides full view of the camera while you're diving. Polycarbonate is fundamentally corrosion-resistant for easy maintenance year after year.

TTL or "Through-The-Lens" flash metering means the camera controls flash duration to properly expose an image. The Ikelite housing for the Nikon D5300 includes built-in proprietary circuitry which tells your camera that a TTL external flash



is attached, allowing the camera to adjust exposure more accurately. Spend more time showing off great

photos, and less time tinkering in Photoshop.

www.ikelite.com

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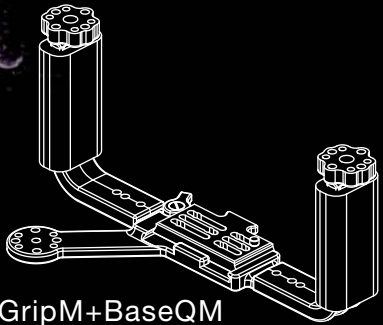
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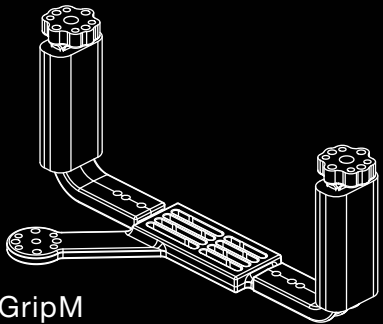




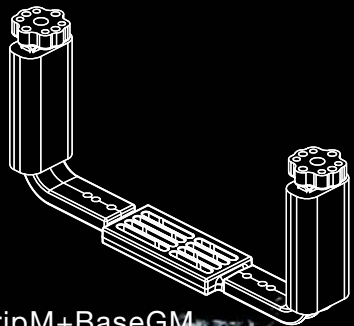
ACQUAPAZZA GripBase



GripM+BaseQM
+ Quick shoe M



GripM
+BaseGTM (With a mount base)



GripM+BaseGM
(General purpose)

<http://acquapazza.jp/en>

Nauticam NA-GX7 housing for Panasonic GX7



Nauticam is pleased to introduce the NA-GX7 aluminum housing for the Panasonic GX7 mirrorless interchangeable lens camera.

The NA-GX7 will be the clear choice for shooters of this versatile new Panasonic. Both camera and housing are bristling with technology packaged in a lightweight, rugged and easy to operate system.

The GX7 is easily Panasonic's most well rounded offering yet and should readily appeal to fans of the popular Micro 4/3 lens format.

The Nauticam philosophy for engineering and building the finest underwater housings in the world is simple. Think beyond what has been done before, work with the most demanding photographers on the planet, deliver beyond expectations, and never rest on past accomplishments.

This philosophy is in full evidence on the compact, but impressive new NA-GX7.

The ability to activate or lower the GX7's built in flash is immediately accessed by the left thumb to rapidly switch from optically triggered strobes to ambient light photography. The LCD display is tilted in the housing for ideal in-water observation.

The extreme programmability of the GX7 is embraced with Fn1-4 all available in the housing. The superior video function that Panasonic is famous for is instantly accessible on the NA-GX7. Camera and housing provide an ergonomic powerhouse that will please the most critical Micro 4/3 shooter.

With the GX-7, Panasonic has introduced a camera that will challenge the best the mirrorless camera market has to offer. Nauticam has created the only underwater housing that is equal to that challenge.

www.nauticamusa.com



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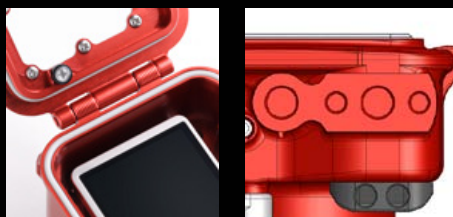


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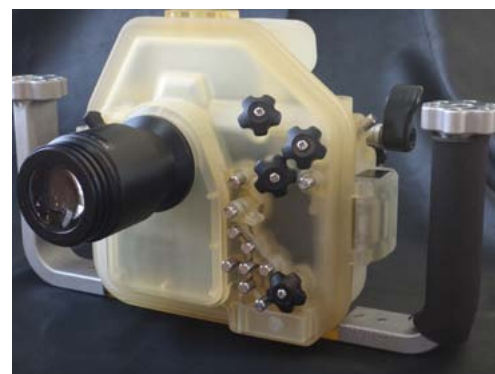
High definition in the palm of your hand. APSO-RX1002

Underwater Camera Housing for SONY RX100 II



<http://acquapazza.jp/en>

Acquapazza Sony A7/A7R housing



Japanese housing manufacturer Acquapazza are developing a housing for the Sony A7/A7R cameras which will have several unique features.

Sony A mount lenses can be used with autofocus and for strobe photography an optical connection will allow TTL exposures.

Two versions will be available with different backs. The first will have a flat rear case to which an optical viewfinder, such as INON's straight viewfinder, can be attached. The second will have a slanted rear cover so that the camera's LCD screen can be tilted up to 45°. In addition a monitor hood can be attached for critical focusing.

Using the LA-EA4 mount adaptor you can use Fisheye SAL16 F2.8 or 50mm MACRO SAL50M 28 or 100mm MACRO SAL100M28 lenses as well as the SEL2870.

Acquapazza are also working on



a housing for the Sony HVL-F 20M strobe and a new design of hand grip.

A lot of thought has been put into the ergonomic design to make the A7/A7R housing very simple to operate and control.

The standard colour will be textured matt black but, as with previous Acquapazza housings, there will also be a choice of 14 other colours.

www.acquapazza.jp/en

NA-S120 housing for Canon PowerShot S120 camera

NA-G16 housing for Canon PowerShot G16 camera

www.nauticam.cn



Housing for Olympus OM-D E-M1



New features:

Signature Nauticam Port Locking Lever

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Integrated Electronic Vacuum Check and Leak Detection Sensor

www.nauticam.com
Gallery: www.nauticam.smugmug.com

New Leak Insure™ GoStrips™ - Absorbent strips for GoPro® Cameras

Like all underwater cameras, GoPro® housings are susceptible to leaks and fogging. GoPro have a solution to reduce fogging but until now GoPro® cameras had no protection against minor leaks. Leak Insure have announced the addition of a new absorbent strip for GoPro® and similar small video and stills cameras to their range of products.

The current range of absorbent sachets from Leak Insure are too big to fit in the small spaces between the GoPro® camera and its housing. This prompted Leak Insure, the world leader in absorbents for underwater cameras, to develop a new type of absorbent specifically designed for use in GoPro® and other similar micro cameras.

Leak Insure GoStrips™ are a laminate of soft paper and a super absorbent. Each GoStrip™ is 42 x 30 x 0.5mm and has been designed to hold up to 15ml of water.

GoStrips™ will absorb water if the camera housing develops a minor leak and will help to reduce



condensation from within the camera housing.

Leak Insure products are available in a range of 4 sizes of sachet as well as the new GoStrips™ and will fit all sizes of camera from GoPro to DSLR's and video cameras. All Leak Insure products are available globally, online or through a network of resellers and distributors.

“GOPRO®, HERO®, & NAKED® are trademarks or registered trademarks of Woodman Labs, Inc. in the United States and other countries.”

www.leakinsure.co.uk

www.uwpmag.com

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SEALUX 4K CC1DC housing for Canon EOS 1D-C



The EOS 1D-C establishes a new benchmark as a trailblazing, high-performance multimedia reflex camera. Based on the EOS 1D-X it was optimized for videography, capable of shooting in True 4K (4096 x 2160 pixels), featuring innovative video functions such as Canon Log Gamma.

To give videographers the best possible support, now and for the first time Sealux presents a housing which allows simultaneous manual zoom and sharpness adjustment by means of control dials on the left and right hand side. This way there are no limits to shooting creative videos of the highest quality.

We have designed the tailor-made CC1DC housing so that you can make full use of the Canon 1D-C under water, too. Safety and easy

operability with minimal dimensions characterize the CC1DC housing.

The housing features the following standard functions: ON-OFF, shutter release, AF-On, front and back thumb wheel, manual zoom, manual focus as well LCD panel illumination buttons, WB, a plus-minus key, ISO, M-Fn button, Live Image, AE lock button, Area Selection Button, Mode, AF-Drive, Flash Adjustment, Menu, Info, Playback button, Magnify/Reduce button, Erase button, Protect button, Card Selection button, Q. Menu button and SET.

Large O-rings, doubly sealed shafts and even quadruply sealed buttons provide the highest degree of safety.

www.sealux.de

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Aditech Mangrove video light VC-4L6X



Mangrove's new line of professional Video and Dive LED lights is an industry breakthrough.

This underwater widebeam video light is designed with an integrated battery and lighting head in a single compact unit. The light weight construction and penetrating beam give excellent colour and light uniformity ensuring a superior performance for video use underwater.

The VC-4L6X specially designed for underwater video and photo is supplied with a solid-State LED module array emitting a staggering 6750 lumens. Featuring two output levels, the 50W light can dim from high to medium power output level allowing you to dim lighting for a quick exposure adjustment. 100° reflected beam angle and approx. 200 W (halogen).

www.aditech-uw.com

Amphibico Pocket Buddy® for the Blackmagic Pocket Cinema Camera



Amphibico is proud to announce its new addition to a super compact line of underwater cinema camera housings.

The housing is built with the same high quality solid aluminum construction as our previous pro line of housings, no compromise was taken to create the New Pocket Buddy® line from Amphibico. Keeping in mind total ergonomics and underwater balance, its super compact design system makes the unit extremely user friendly underwater. Our engineers worked very diligently on its design, keeping in mind size, weight, balance allowing easy and complete access to all key camcorder functions; it will give users the ability to create the best possible underwater imaging.

www.amphibico.com

Nauticam
USA

Nauticam NA-EM1
Olympus OM-D E-M1



“SLR-style Control in a Mirrorless System”

Nauticam, the leading manufacturer of mirrorless housings, is pleased to announce an exceptional housing for the flagship camera in the Olympus Micro4/3 line, the OM-D E-M1. Designed with the pro shooter in mind, this housing features a new integrated handle system reminiscent of Nauticam SLR housings, signature Nauticam Port Locking Lever, fiber optic bulkheads, integrated vacuum check and leak detection system with optional vacuum valve and enhanced viewfinder options.

www.nauticamusa.com

Nauticam NA-A7 housing for the Sony A7R



From a distance, the Nauticam's A7 offering looks like one of the company's SLR housings, but looking closer, one can see that the Nauticam designers have managed to squeeze all of the engineering and ergonomics of those housings into a considerably smaller package. It only makes sense that the housing should be appreciably smaller than an SLR housing given that is one of the prime advantages of the camera.

The new housing for the A7 delivers on the promise of the A7: Full frame camera - small package. A new port system was designed for this camera. The SLR port opening was too large, meaning that the housing would be too large, and the existing mirrorless system port opening is too small for some of the lenses expected in the new Sony FE lens lineup. So, a new line of intermediate size ports is required and is being delivered with this housing.

The patent pending EVF/LCD

switch allows a quick way to alternate between using the large bright LCD display or the high resolution electronic viewfinder (EVF). The housing ships with a standard .66x viewfinder for the EVF, which is easily swapped out for either of the two Nauticam enhanced viewfinders.

The NA-A7 includes a pre-installed Nikonos style 5-pin bulkhead with universal hotshoe connection (x and ground connection only) installed, enabling manual control of the most commonly available strobes.

The NA-A7 ships with Nauticam's new vacuum system with integrated electronic vacuum and leak detection monitoring system for extra piece of mind. A simple coded LED lighting system lets the user know that the watertight integrity is solid. The NA-A7 ships with a bulkhead port for installing the optional vacuum valves.

www.nauticamusa.com

Keldan Luna 8 modular video light



The modular Luna 8 series is a professional video light designed with a modular philosophy. It allows the camera operator the ability to customize underwater lighting for their style of shooting.

It is optimized to produce the highest quality light with very high brightness and a smooth wide beam. The compact form factor and light weight are essential for travel.

Product Specifications:
Variable power with 5 power settings
90° coverage with smooth fall off even when immersed in water
Speckle free, soft beam pattern
Weight 1.1kg, 0.14kg in water
Rated to 200 meters
97 Wh rechargeable Li-Ion battery-pack
Modular design with exchangeable LED Modules and exchangeable reflectors

www.keldanlights.com

Nauticam
USA

Nauticam NA-RX100 II Sony RX100 II



"Simply Awesome"

With 20mp, this camera and housing package offers the complete control and image quality of an SLR system with the size and convenience of a compact system. 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. Full 1080P HD video performance and excellent wet lens options make for one powerful, compact package.

www.nauticamusa.com

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Issue 77/18

Ikelite Steady Tray for GoPro



Is your GoPro footage inducing motion sickness? Let's be honest, there's only so much post-editing work you can do to correct shaky video. Share your underwater footage with confidence by simply adding this lightweight, precision-machined aluminum tray to your GoPro camera.

While light will improve footage taken in shallow water, it's a must-have the deeper you go. At only 30 feet below the surface, red, orange, violet, and yellow are lost. At 60-120 feet, you're left with only blue and green. In order to bring the truly vibrant colors of the underwater world to life, Steady Tray for GoPro encompasses two mounting points, designed to meet both your comfort and lighting needs.

www.ikelite.com

Recsea housing for EOS-70D



Recsea has released details and images of their housing for the Canon EOS-70D SLR camera.

The housing is CNC precision machined aluminum which is lightweight and ergonomically designed.

The RECSEA original Secure-Latch locking system provides easy opening and closing.

The housing has quality silicone O-rings with wider Back Cover contact surface for added protection at greater depths.

All camera functions can be controlled and there is a wide variety of optional Lens Ports, Focus and Zoom Gears.

It can operate to 100 meters (328 feet).

www.recsea.com

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Canon PowerShot D30



The PowerShot D30 camera is waterproof to a record-breaking 82-feet below sea level giving the open water diver 23 more feet of depth to explore in their underwater environment. The PowerShot D30 camera is also temperature-resistant from 14 degrees to 104 degrees Fahrenheit and shockproof to 6.5 feet.

A great travel companion, the PowerShot D30 camera's built-in GPS tracker remembers where and when photos were taken so images can be captured along with the date, time and location of each moment.

With its sleek design and comfortable grip, the PowerShot D30 camera can quickly adapt from under-to-above-water shooting environments through the camera's new Sunlight LCD mode. This feature reduces glare when shooting above water so capturing and sharing outdoor photos is easier than ever before.

While in the water, however, the PowerShot D30 camera screen is bright and intuitive for easy, hassle



free use. Smart AUTO intelligently selects the proper camera settings based on 32 predefined shooting situations giving users the best possible shot composition – while Intelligent IS automatically chooses from six different modes to help image stabilization for the shooting condition.

In addition, the PowerShot D30 camera also delivers excellent low-light shooting capabilities through the Canon HS SYSTEM – powered by a 12.1 Megapixel High-Sensitivity CMOS sensor DIGIC 4 Image Processor.

The PowerShot D30 camera also records stunning 1080p full HD videos through an easy-to-access dedicated movie button so moving images can be captured the instant they happen.

The PowerShot D30 digital camera will be available starting in April for a retail price of \$329.99 in blue.

www.usa.canon.com

ACQUAPAZZA

NEW TYPE

**Not a Digital SLR,
not a film SLR,
but with a picture quality
that exceed the two!**

APSG-DPM

Underwater Camera Housing for SIGMA DP1 Merrill
DP2 Merrill
DP3 Merrill

<http://acquapazza.jp/en>

Issue 77/19



YS-D1

Underwater Strobe

**DS-TTL II with
E/V CONTROL**

MORE RESPONSIVE

MORE PRECISE

MORE RELIABLE



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SEA&SEA
THE UNDERWATER IMAGING COMPANY

Aquatica A1D-C/X housing for the Canon EOS 1D C AND 1D X



In collaboration with Samy's Camera, Aquatica Digital is pleased to announce the release of their A1D-C/X housing, the latest in its fine line of precision crafted aluminum housings. Canon's flagship 1D C and 1D X cameras are professional imaging tools with equally impressive still and video capabilities.

With customized controls, next generation lens gear system and uncompromised viewing, Aquatica's new A1D-C/X housing puts the 1D X and 1D C into the hands of photographers shooting in the world's most demanding underwater environments.

The housing is priced competitively at USD \$4,599.95.

The A1D-C/X is also optimized for video shooters to take advantage of these cameras broadcast quality (1D-C: 4K cinematic quality video,



and 1D-X: 1920 x 1080 HD video capture) HD video functions. All video controls are designed for easy reach and smooth operation through the housing. This includes a next-generation lens gearing system with a smaller housing pinion gear and a larger lens gear, allowing for a much smoother action while zooming in a video sequence.

The Aquatica quick release tray delivers smooth and precise positioning of the camera in the housing and allows the user to insert and remove the camera using a simple push tab. The zoom /focus pinion gear and lens release lever also pull out so that the camera can be removed from the back while keeping a lens and zoom gear attached.

www.aquatica.ca

Nauticam
USA

Nauticam NA-NEX5R
Sony NEX-5R and
Sony NEX-5T



"Back to the Future"

Nauticam continues to evolve the NEX housing design with a myriad of refinements present on the new NA-NEX5R. Designed by photographers to maximize functionality, the new NA-NEX5R exceeds expectations in virtually every regard. The NEX-5T, an upgrade to the NEX-5R, can be used in the NA-NEX5R housing with no modifications. A powerful system at a modest price - the NA-NEX5R is ready to go at a moment's notice.

www.nauticamusa.com

Gates Sony F55 housing

The F55 Housing is a marquis member of the Gates family of housings for digital cinema and broadcast TV.

Designed specifically for the Sony F5 and F55 cameras, the F55 shares many functional features with its cinema brothers including full camera and lens control, support for a wide variety of DSLR and PL mount lenses, fully adjustable buoyancy / trim, and Gates Precision Ports.

The F55 housing is a Gates through and through: Precision machined aluminum shell,



stainless steel hardware, reliable fingertip mechanical controls -- all backed by Gates legendary service and 2 year renewable warranty.

www.gateshousings.com

Aquatica AE-M1 for the Olympus OM-D E-M1



Aquatica Digital is pleased to announce the release of their AE-M1 housing, the latest in its fine line of precision crafted aluminum housings.

This housing will incorporate all of the great features of our current DSLR line of housings, but in a much smaller and compact size. Our designers and engineers have taken full advantage of our 5-Axis machines and have come up with what we feel is the best engineered and best looking aluminum housing on the market, and with its long tradition of making underwater housings, it also has a depth rating of 300 feet.

The housing is priced competitively at USD \$1,699 and will be available in March 2014.

www.aquatica.ca

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Issue 77/21



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 THE UNDERWATER IMAGING COMPANY
FOR COMPATIBLE SEA&SEA HOUSINGS AND STROBES

CMpCam

The CMpCam is the only affordable telescopic pole designed for underwater photographers and videographers on the market today. It comes in three sections and extends out to six feet.

The unique expandable inner core between sections assures that the CMpCam will remain rigid. And because it may be disassembled, it fits inside most travel cases.

Constructed of black anodized aluminum and stainless steel fittings, the rugged CMpCam has a movable head that rotates to any angle, and is compatible with most major brands of underwater housings manufacturers. The waterproof remote triggering system comes with a separate bulkhead, and a cable to attach to the camera inside the housing. A standard Nikonos cable (purchased separately) attaches to the outside of the bulkhead, and connects with a second cable (also purchased separately in either 6' or 15' lengths). The second cable uses an Ikelite fitting to connect with the triggering mechanism.



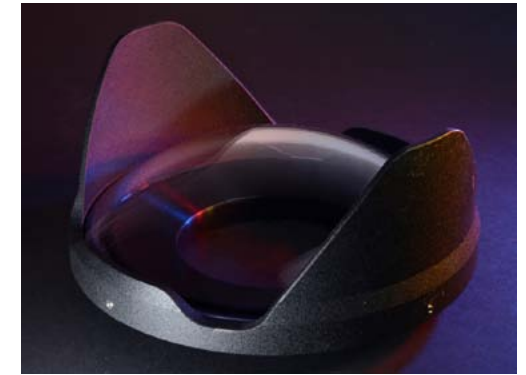
When not being used as an extension above water, the remote trigger system and cables may be used underwater. The camera may be triggered up to 20 feet away. Items may be purchase separately for this application.

www.cmdiffusers.bigcartel.com

Aquatica SW8 Port

Aquatica is proud to introduce the SW8 Port, specially designed to cover Super Wide Angle lenses such as the 114° FOV Panasonic Lumix G Vario 7-14mm F/4 and the 100° FOV Olympus M.Zuiko 9-18mm f/4-5.6. With these ultra wide angle rectilinear lenses, to get the best optical results, the use of a large radius dome port is required.

To achieve the optimum quality over the whole image area, Aquatica uses its legendary 8" diameter dome port with an added twist. The SW8 port only uses the portion of the dome lens required to cover the field of view



of these extreme lenses. Consequently, the resulting dome port is substantially smaller and lighter, while retaining the optical performance associated with these large hemispherical dome ports.

www.aquatica.ca

The advertisement features the 'FANTASEA Line' logo at the top, which is a stylized font with a wave-like underline. Below the logo, the text 'Housings for Canon PowerShot G15 & G16' is prominently displayed. The main image shows a Canon PowerShot G16 camera in a black housing. The camera is shown from a front-three-quarter view, highlighting the lens and the housing's controls. A red tag with the text 'SPECIAL OFFERS Click Here' is attached to the camera. Below the camera, there is a button that says 'Dealer Applications CLICK HERE'. At the bottom of the advertisement, there are three website addresses: 'www.fantasea.com', 'www.canondive.com', and 'info@fantasea.com'. The background is a dark, textured surface.

INON accessories for Fujifilm XQ1/WP-XQ1



INON INC. is pleased to announce some new accessories and current products compatibility for the Fujifilm XQ1 compact camera and WP-XQ1 housing.

The 28LD Mount Base XQ1 enables you to install INON 28LD Mount series attachment lenses such as the UWL-H100 28LD wide conversion lens to shoot wide angle and its super wide option Dome Lens Unit II for UWL-H100. The INON “underwater micro fisheye lens” UFL-M150 ZM80 is also compatible

For macro the UCL-165LD close-up lens and super close-up lens with high quality UCL-100LD are also compatible.

For strobe photography “S-TTL” Auto strobe with the INON S-2000/Z-240/D-200 is available using the Optical D Cable Type L/ Bush W60 Set with Shade Sticker and Optical D Cable SS Type L/Bush W60 Set with Shade Sticker.



Basetrays, handles, ball joint arms and buoyancy arms are also available to make this a complete system camera.

www.inon.co.jp

www.uwpmag.com

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COURSES

Canon, Panasonic, Inon, Sea & Sea, Hugyfot, Nauticam, Light & Motion, Fisheye, Patima GoPro, etc...

Scubazoo Sensational Seas of Sabah

Sabah is a magnet for divers from around the world. With its glorious tropical islands, teeming coral reefs, clear warm water and sandy beaches, this biodiversity hotspot is indeed a diver's dream come true.

The Sensational Seas of Sabah captures the beauty, diversity and breathtaking experiences that attract people to some of the world's best diving.

The Malaysian state of Sabah straddles the northern tip of one of the world's largest island – Borneo. With its ancient rainforests, rugged, granite-peaked mountains, idyllic lagoons and pristine beaches, it encapsulates the very best of this dramatic island.

Sabah is home to some of the world's greatest marine biodiversity and it is this hidden beauty below the surface of the sea that draws divers and snorkelers from around the world. Sabah's tourism industry has become a highly valuable source of income for the state and at any time of the year, visitors from Asia, Europe and America can be seen enjoying the aquatic natural wonders.

Scubazoo will take you on a journey to reveal the amazing diversity of creatures such as the endangered green and hawkbill



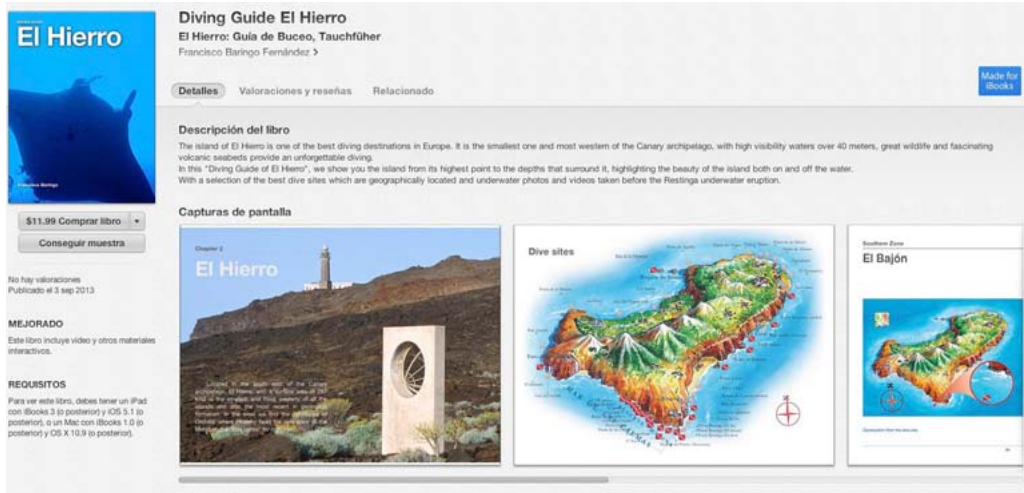
turtles, countless species of sharks, plus thousands of barracuda and jacks. As well as these large inhabitants of the reef, Sabah offers rare critters such as mimic octopus, flamboyant cuttlefish, harlequin ghost pipefish, many strange frogfish, sea horses and colourful nudibranchs.

The Sensational Seas of Sabah presents some 300 powerful and emotive images gathered throughout a journey along the stunning coast. Beginning in the south west on Tiga Island in the South China Sea, we travel north to the tip of Borneo and the Sulu Sea before making our way south through the Celebes Sea where our final dive destination is the world famous Sipadan Island.

www.scubazoo.com

www.uwpmag.com

Diving Guide of El Hierro

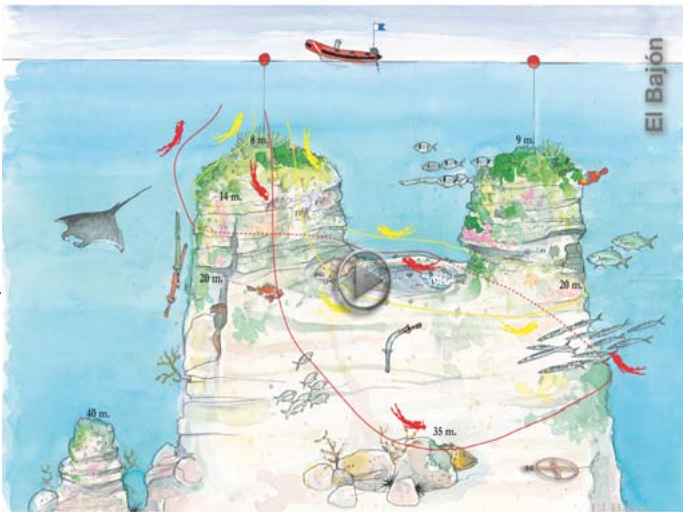


The island of El Hierro is one of the best diving destinations in Europe.

It is the smallest one and most western of the Canary archipelago, with high visibility waters over 40 meters, great wildlife and fascinating volcanic seabeds provide an unforgettable diving.

In this "Diving Guide of El Hierro", we show you the island from its highest point to the depths that surround it, highlighting the beauty of the island both on and off the water.

With a selection of the best dive



sites which are geographically located and underwater photos and videos taken before the Restinga underwater eruption.

<https://itunes.apple.com/gb/book/diving-guide-el-hierro/id755178976?mt=11>

www.uwpmag.com

WORKSHOPS

TIGER BEACH
Jun 9-14

BAHAMAS



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+
VIDEO

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Oct 11-18

INDONESIA



PHOTO
+
VIDEO

BLUE HERON
BRIDGE

PALM BEACH



PHOTO
/
INTENSIVE



www.reefphoto.com

Beneath the Seas Winners 2014

The winners of the Beneath the Seas 2014 International Imaging Competition can be seen at the Film Festival during the weekend of Beneath the Sea's Oceans, Dive and Travel Exposition, March 28, 29, and 30, 2014, at the Meadowlands Exposition Center in Secaucus, New Jersey.

www.BeneathTheSea.org

Best-In-Show Prize
The David Doubilet
Award for Excellence in
Underwater Photography.

MACHO
Uwe Schmolke, Germany
Nikon D200 60mm Macro Nikkor
Location: Indonesia



GREEN/COLD WATER

First Place: Enigma
Giordano Cipriani, Rome, IT
Nikon D700
Location: Bonit o, Brazila

GENERAL/MARINE LIFE

First Place: Crocsmiles
Uwe Schmolke, Germany
Nikon D800 16/35mm Nikkor
Location: Mexico



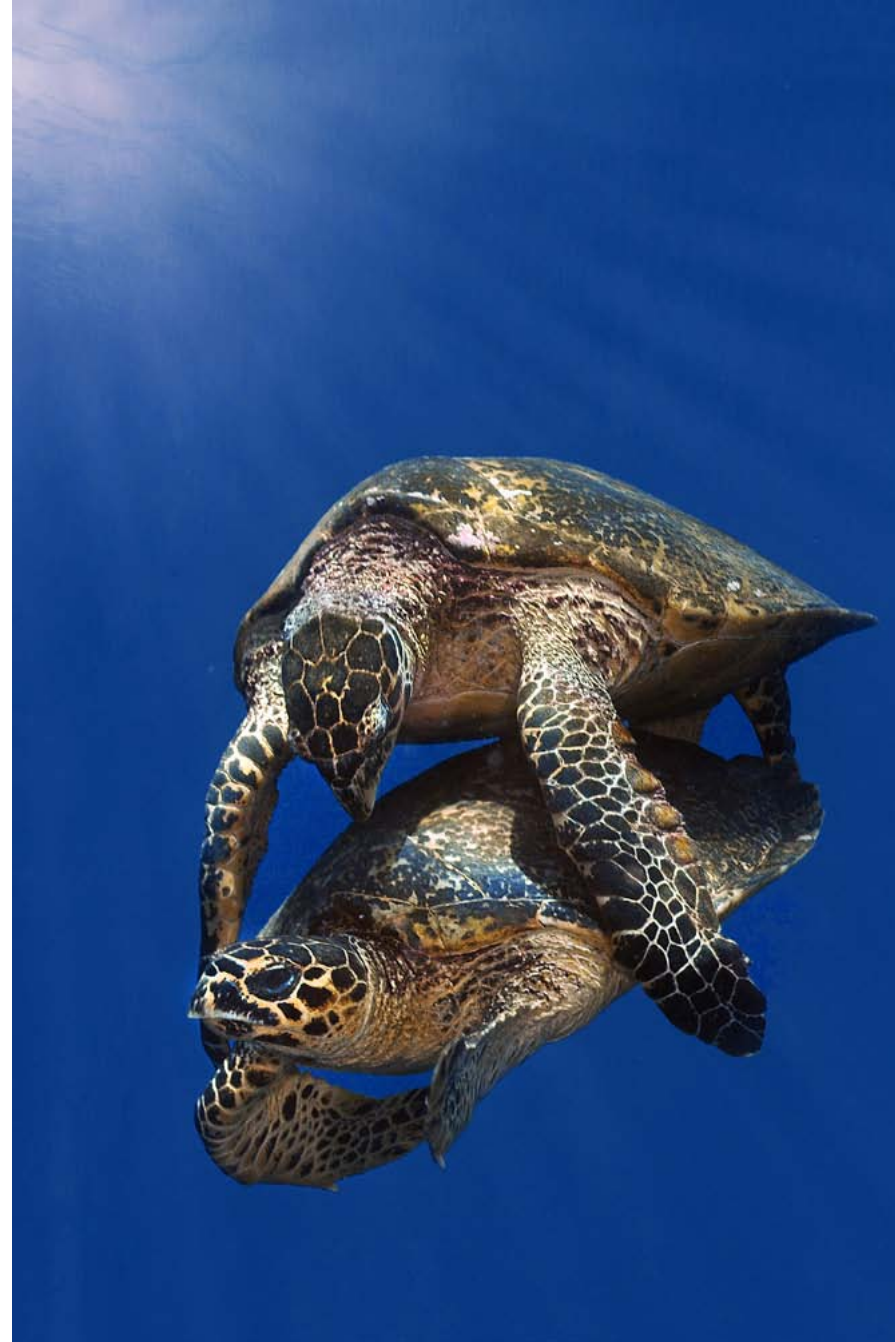


CONSERVATION

First Place: Live In Garbage
Marco Chang Taiwan (R.O.C.)
Nikon D600, anthis housing
Location: North East Coast, Taiwan

NOVICE/POINT & SHOOT

Bug Eye
Filippo Ioni, Italy



UNDERWATER BEHAVIOR

First Place: Mating turtles
Luc Eeckhaut, Belgium
Nikon D300s + Hugyfot housing
Location: Philippines

www.BeneathTheSea.org

Small ads



SOLD! – Ikelite housing for a Canon 5D MKII

Ikelite housing for a Canon 5D MKII, Ikelite 8" dome port (no scratches) for a Canon fish eye lens, Ikelite ports Canon 17-40mm and a macro 100mm IS lens. I am based in Scarborough, U.K. £1100 ovnoroaminrobin@hotmail.com

Your advert could be [here](#) instead for just £5.00



For sale – extrem'vision(up to 100 m!!) and video camera sony vx 2000

I'm selling a fantastic underwater housing extrem'vision(up to 100 m!!) and video camera sony vx 2000 in really good condition!!!coming with a pelican case!!!!The underwater housing is coming with :- 2 lenses (1 macro and 1 wide angle) - 1 red filter. - 2 set of o'rings - Sillicon for the o'rings. - Digital screen.The sony camera vx 2000 is coming with :- A set of batteries (2 large, 1 medium, 1 small) - 5 new dv tapes. - 2 cleaning tapes.Extrem'vision is a French Brand known worldwide.it's strong, reliable and easy to repair if any problems.....REALLY GOOD CONDITION!!!!2000 euros!!!!!!fabien mouret

Email: maddox666@gmail.com [Ref:c147]



SOLD! – Subtronic Nova analog version no ttl converter

Subtronic Nova analog version no ttl converter

The strobe is 3-years-old in good condition

All sockets in S6

800-€

Rudolf Solböck

Ref C146

Your advert could be [here](#) instead for just £5.00



For sale – Aquatica housing 5D, 8 inch dome, dome shade and canon 5D body

Aquatica housing 5D, 8 inch dome, dome shade and canon 5D body including 2 spare batteries and spare charger for sale £1600 + p&p.Housing:Aquatica 5D housing - good to 90m, 8" optical acrylic dome port – some minor scratches but not visible in photos, 8" dome shade / guard, for wide angle lenses, Spare O ring Camera Canon 5D, 3 Batteries, 2 Chargers, StrapAll for £1600+ p&p, will accept paypal, or cash Please feel free to ask any question The equipment has not been used for a while but I have just upgraded to a canon 5D mark II package so have this for sale. I am based in London and if you wish to come round and have a look/examine the equipment prior to parting with your money we can arrange that.

Email: martin.abela@hotmail.co.uk [Ref:c145]

Sell your stuff You'll be amazed at just how quickly your unwanted underwater photography kit could be converted into hard cash with a UwP small ad. You can have your own UwP small ad for just £5.00 and it can have one photo as well as up to 100 words.

Check out small ads here

Buy your small ad here

Our World Underwater 2014 Winners

The winners of the Our World Underwater 2014 Photography Competition have been announced. Best in Show and Wide-Angle Unrestricted Gold was awarded to Sumer Verma with a stunning images of a turtle hatchling.

Winners were announced live on stage during the Our World Underwater film festival in Chicago (February 14 & 15, 2014), and will be published by supporting media partners worldwide. \$50,000 in prizes were

awarded to the winners, who represented more than 15 countries. Congratulations to all the winners and, as always, it is great to see so many members of the Wetpixel community in the placings.

As with all UnderwaterCompetition.com events, 15% of entry proceeds will be donated to marine conservation efforts. The judges and staff at DivePhotoGuide.com and Wetpixel.com congratulate all the participants - the level of imagery was outstanding.



Wide-angle traditional.

“jellyfish” by Hani Bader from Bahrain. Shot in the Kingdom of Bahrain.

Commercial, conceptual and fashion.

“Temple of the Sun” by Shawn Heinrichs of the United States. Shot in Tonga.



Best of Show and Wide-Angle Unrestricted.

“A journey begins” by Sumer Verma from India. Shot in the Lakshadweep Islands.





(Above) Macro Traditional.

“I love Sonia!” by Michele Davino from Italy. Shot at Elba Island, Italy.

(Top right) Macro Unrestricted.

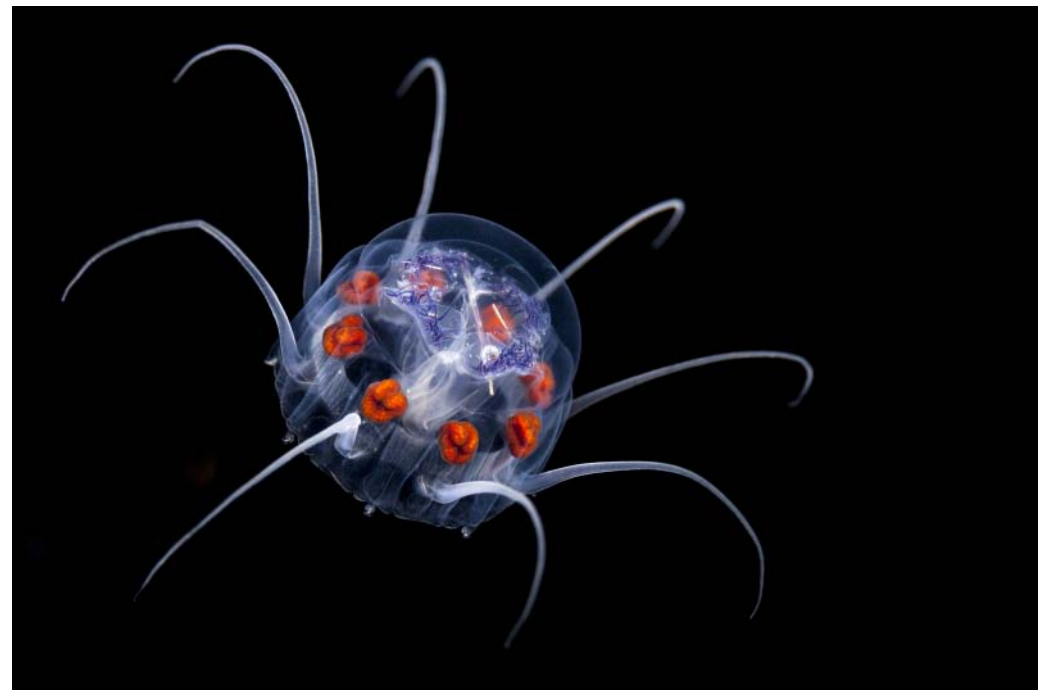
“Jellyfish Nausithoe punctata” by Fabien Michenet from French Polynesia. Shot 3 miles off the coast of Tahiti Island by night.

(Right) Compact.

“tadpoles” by Bert Willaert from Belgium. Shot in Lovendegem, Belgium.

The judges were Abi Smigel Mullens, Keri Wilk, Matt Weiss and Tony Wu.

www.underwatercompetition.com/Competitions/our-world-underwater-2014



Don't settle for 2nd best



Film - No Filter
No White Balance



Digital - No Filter
Manual WB



Magic Filter
Manual WB

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

Fisheye FIX NEO Remote Controller

by Jussi Hokkanen

Fisheye FIX Neo remote kit Almost everything seems to be already invented for underwater photography so it's quite rare to bump on to a novel product. However, when I do, I still get a bit excited. Fisheye's FIX light remote system has been bubbling under for some time so it's not necessarily news for the initiated but now the system is finally physically ready for sale and I have before me one of the first FIX Neo Remote Controller FR1 units in Europe.

Fisheye FIX NEO Remote is a small controller unit for the new Fisheye FIX Neo DX series video lights. You can read about the lights [HERE](#). The FR1 will also work with previous FIX Aquavolt products. Fisheye FIX Neo remote The idea of the unit is of course that you can control your video lights without reaching for them. The remote controller unit itself can be mounted in various positions on your housing set-up where it is easily reachable. The optimal placement would of course be on top of your tray handles, where you could easily use the

remote-buttons with your thumb. For this test I mounted the controller on top of a housing simply by inserting a ball mount through the bracket that ships with the FR1 unit. With a bit of imagination you will easily find a perfect placement for almost all set-ups I'm sure.

Fisheye FIX remote controller FR1 The controller unit itself is a small battery operated light emitting contraption that mirrors the controls of a FIX Neo light proper. I.e. it has all the same buttons than a Fisheye video light has. (Although the uber-cool blue LCD screen is missing) The signals travel to the lights via a standard UW-strobe fibre optic cable that is attached into the two ports on the top of the controller. Correspondingly, all current FIX lights have a YS-type fibre optic cable port on them where the other end of the cable fits. If you have ever used an underwater slave strobe this is all very familiar to you. From the controller you can also to control two lights at the same time or by choosing them individually. The guys from Fisheye also tell me that they are bringing out



WWW.DEEPSHOTS.CO.UK

little extension pieces for the optic ports that allow you to control a total of 4 lights via one unit. This will mean that the lights can be controlled in blocks of 2 or 4 at a time.

Fisheye FIX remote ports on 2000DX Light Once everything is plugged in you have to turn the lights physically on once without the remote. From then on you have a full control of the lights, including a special sleep mode where the lights turn off but will be able to wake up when needed, with the FIX remote. Very clever indeed. You can control the light intensity quickly in 25 – 50 – 75 – 100% increments or manually from 1% to full blast. The only





slightly annoying thing is that you still have to look at your light's LCD screen to figure out what power-level they are set in case you need to know. Adding a screen to the controller unit would have been nice but could have made the unit big and pricey as for now the FIX Neo Controller FR1 sells for very good 150 quid. Of course you will also need to get fibre optic cables for the lights in case you haven't got any yet.

It's good to see the Fisheye-chaps' remote controller finally as a complete product. It's one of these products you don't think you would ever need but once you use it for a while there is no going back. I

mean... You wouldn't go back to a remote-less telly would you now? It is a unique product and if you need to control your lights quickly, even without taking your eyes off the camera screen, this is a product for you. Next time I will be diving with my video lights, that do not work with the remote, I will be missing it. Recommended.

Jussi Hokkanen
www.deepshots.co.uk

*FIX products are available from
Ocean Leisure Cameras in London*
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Best U/w Compact Cameras 2014

By Backscatter Staff



We at Backscatter all fondly remember the excitement (and trepidation) we felt as we purchased our first underwater camera system. This guide is diligently compiled each year to eliminate the hassle and headache often associated with shopping for underwater camera gear. Whether you are just getting started with underwater photography, an intermediate shooter looking to upgrade his/her system or an advanced image-maker looking to assemble a more compact rig for travel to combat those ever-rising baggage fees, this article is for you!

We've searched and tested dozens of compact cameras to find the best match between portability, price and the goals of aspiring and experienced underwater shooters. From our own waters of Monterey, to the Caribbean, to the Coral Triangle, and Micronesia, we've spent hundreds

of hours shooting compact cameras underwater. These top performers will enable you to capture stunning images.

In 2014, we've studied a landscape that has changed considerably from previous years. Point and shoot options are fewer and further between, but exciting new low-cost options such as the GoPro and interchangeable lens mirrorless cameras like the Olympus PEN now provide alternate options for the shooter who is not interested in traveling with a bulky SLR system.

This year, rather than restricting our review to just the point and shoot class, we looked at a broader range of cameras that include everything from the GoPro, point & shoots, Micro 4/3 cameras, and the Sony NEX series. With this roundup, we've put together options for every budget and every shooter. Here are our picks for 2014.

Best Entry Level Camera

GoPro Hero 3+ Black Edition Camera & Housing starting at \$400

In the past few years, the availability of solid point and shoot systems available for less than \$500 has diminished, which GoPro was ready to quickly fill and maintains this year as the top pick in this category. You won't need to break the bank to get started with a GoPro system, and it will deliver high quality video unimaginable even just a few years ago, for the price.

The Hero 3+ Black edition has incredible high quality optics, and a plethora of frame rate and resolution options for capturing the best underwater video or still images. Although GoPro makes a Silver Edition, because of the image quality and additional frame rate options, our recommendation is to simply go with the Hero 3+ Black Edition. The Backscatter Flip3.1 Filter is essential for getting good results with this camera, as it makes a dramatic difference in restoring color and contrast.

While the GoPro can shoot decent stills, if photography is your main goal, we suggest looking at options in the next category as the GoPro has limited capability for stills, especially since there is no way



to make manual adjustments. There is also no way to attach a strobe, which is important for taking high quality photographs underwater. So if your primary goal is underwater photography, then it is probably worth stepping up to a more sophisticated point & shoot camera that offers manual control. But for just grabbing some great footage of your dive adventures at an entry-level price, the GoPro can't be beat.

GoPro Hero 3+ Black Edition \$400
FLIP3.1 Underwater Color Correction System with DIVE \$69
FLIP3.1 Combo Package with SHALLOW, DIVE, and DEEP \$134

www.backscatter.com/learn/article/article.php?ID=57

Best Waterproof Camera

Olympus Tough TG-2 Camera Camera & Housing starting at \$690

The Olympus TG-2 is an update to the previous Olympus Tough series line flagship, the TG-1. The Olympus TG-2 is a splashproof pocket camera, one that you can take snorkeling on its own, or take it deeper while diving using the same PT-053 Underwater Housing as the TG-1. In addition, the TG-2 Tough lives up to its name, as it is shockproof, crushproof, freezeproof and dustproof.

With a fast f2.0 lens, and an impressive depth rating of 50 feet, the Olympus TG-2 is a great camera to keep with you on the boat, and take with you while swimming, or in any damp environment without any concern for it getting wet. The image quality looks quite good, though we are disappointed that Olympus did not include a raw file format.

Snorkelers should be intrigued by the relatively inexpensive FCON-T01 Fisheye Converter Lens that will mount directly onto the camera for use underwater. But for most diving, you will be better off using the PT-053 housing; in addition to increasing the depth rating to 130 feet, it also allows the easy attachment of strobes, making this a



fully-featured rig.

The focus and shutter are incredibly fast, making this one of the quickest firing cameras in our roundup. Even macro shooting, where most compact cameras have an issue with fast focus, was quite fast. The PT-053 underwater housing has 52mm aluminum threads on the front for attaching accessory macro and wide angle lenses.

The camera's native macro capability is very good, which just about eliminates the need for a macro lens. The TG-2 has 2 custom



Today's compact cameras are now able to deliver high quality photos and video that come closer than ever to matching that of higher end SLR systems. All underwater imagery in this article was taken with compact cameras.

white balance presets, allowing you to get accurate colors in wide angle video with no artificial lighting. The 1080/30p video looks good in shallower conditions, but a color filter will be essential for use at deeper depths.

The video from the Olympus Tough TG-2 has great looking color due to a custom white balance feature being added to the Tough series. It works best in the shallows. Any deeper than about 40 feet will benefit

from a color correction filter. Unlike most other compact cameras, the TG-2 has live focus like a camcorder, and it's super fast. This occasionally led to a small amount of focus hunt from time to time like a camcorder, but was not enough to outweigh the benefits of live focus.

Camera & Housing starting at \$690

Best Point & Shoot Camera

Sony DSC-RX100 II

Camera & Housing starting at \$1150

We're excited that Sony has taken their already fantastic RX100 compact to the next level with the Mark II. The difference in low light performance is noticeable, but it's the new hot shoe that has us excited about this camera.

At last, the compact shooter doesn't have to rely on the camera's own flash to recycle, and can have truly instantaneous shot-to-shot performance when using an electronic sync connection for their strobes. We're happy to see that the new NA-RX100II housing accommodates this feature. Easily grabbing your latest underwater photos off of the camera to share with the world on Facebook and Instagram is also a welcome bonus thanks to the new WiFi feature on the RX100 II.

This diminutive camera is a remarkable piece of engineering that delivers outstanding stills and full 1080p video in a sleek, elegant package. Featuring a very large sensor size, the Sony RX100 II has the best of all worlds, with class leading performance and extremely high image quality. Thanks to that large sensor size, the RX100 II sports a stunning resolution of 20 megapixels and still maintains great low-light



performance.

Ergonomically, the Sony RX100 II resembles the tried and true designs from the Canon S series, featuring a ring around the lens that can be programmed to control aperture, zoom, focus, and more. Similar to the S120, the camera also has a rear dial that can control other functions, so the shooter can independently control shutter speed and aperture in manual mode.

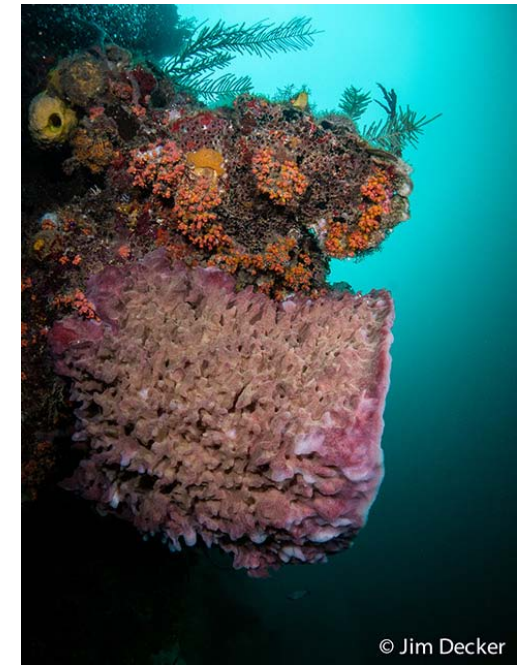
Unlike the S120, TTL flash exposure is available while shooting the camera in manual exposure mode. The lens is 28mm equivalent at the wide end making it a great match for accessory lenses such as the outstanding FIX UWL-28 Compact Wide Lens. This lens allows an extremely wide angle 165 degrees of coverage, and is quite sharp across the frame. Three housing options are available for the RX100 II, from Ikelite, Recsea, and Nauticam. The Ikelite housing represents an affordable option for housing this camera, and the Nauticam is our favorite for its balance of price and

outstanding ergonomics.

The Sony RX100 II does not have a dedicated Macro mode, and must be zoomed all the way wide in order to achieve close focus. This provides a reasonable option for shooting small critters, but most users will find themselves hitting up against the limits of the camera's internal magnification.

Fortunately, accessory lenses such as the Subsee +5 and Subsee +10 can be added to the front of the housing in order to achieve closer focus. One downside of the RX100 II's large sensor is that focus must be much more precise. But the RX100 II makes it a simple matter to switch between auto and manual focus, so it's possible to lock focus and then move the camera in order to achieve maximum sharpness. Fortunately, the high resolution screen makes it easy to see critical focus.

The camera's front ring can also be configured to drive "fly by wire" manual focus adjustments, but this requires long turns in order to cover the camera's full focal range. Like



© Jim Decker

Wide angle is where the Sony RX100 II shines. Even in low light and low vis conditions, you can get smooth gradations on the background water color. Shot with the Fisheye 28M52 168 degree lens. ISO 200 F8, 1/60

Sony mirrorless cameras such as the NEX-5N and NEX-7 (discussed later in this article), The RX100 II features focus peaking which can be a useful aid when dialing in manual focus. In general, sharpness in the corners when shooting macro is a bit disappointing. But given the RX100 II's incredible 20 megapixels, there is plenty room to crop.

Camera & Housing starting at \$1150

Best Entry-Level Mirrorless

Olympus PEN Series

Camera & Housing starting at \$1347

Olympus changed the underwater compact camera world forever with their launch of the PEN series of cameras with underwater housings which we first reviewed in 2010. Now in its fourth generation, the PEN is better than ever with the new E-PL5. The 16MP sensor of the E-PL5 comes from the Olympus OM-D E-M5, which performs excellent in low light and higher ISO's.

We love the PEN cameras for their quick autofocus, snappy performance, and great image quality. Continuous shooting speed has been improved to an amazing 8 frames per second. Raw files delivered by both the E-PL5 are rich and detailed.

With the Olympus housing at \$747, this is the most affordable interchangeable lens underwater camera system in our lineup.

In addition to wet lenses, a wide variety of lenses for the Micro 4/3 system make the PEN series a platform that you can build on for the future. Custom ports for micro 4/3 lenses are available from Zen Underwater that work with the Olympus branded housings, including versions for the Olympus 9-18, Panasonic 7-14, Panasonic 8mm, and Panasonic 45mm Macro. These



are our four favorite lenses to shoot underwater, so it's great to have them all covered.

One of our favorite features of the Olympus PEN cameras is the ability to customize them. On all of our cameras, from compact to SLR, we like to separate the shutter function from focus. This way, we can acquire focus, recompose the image, and the camera is not going to "hunt" to re-acquire focus at the moment we choose to trip the shutter. Fortunately, the PEN cameras are equipped with customizable function buttons which can be programmed to be the equivalent of an "AF-On" button found on many SLRs.

Two custom white balance settings are available. Unfortunately it can only be captured in photo mode, but can be set in both video and photo modes. We preferred to change the record button function to Custom WB. While pressing and holding the record



While shooting splits with a small dome is challenging, having 8 frames per second made getting the shot a lot easier. We were also impressed with the high ISO performance. Olympus PEN E-PL5. Taken with the 8mm Panasonic Fisheye. ISO 1600, 1/160, f18

button, and the pressing the shutter, we were able to quickly capture custom white balance and then have the option of assigning it to one of the two presets. After capturing in manual photo mode it is easy to bump the mode dial over 1 notch to the video mode setting.

The E-PL5 is capable of shooting some great video, and supports full 1080p HD resolution. Full manual exposure is our preferred way to shoot video. While we've found natural

light video works best in the shallows (about 30 feet), the E-PL5 was able to white balance to about 50 feet although the colors looked a little unsaturated but with a little saturation in post, the color perked right up and looked great. This is a big bonus.

Camera & Housing starting at \$1347

Best Advanced Mirrorless Camera

Olympus E-M1

Camera, Housing and Port starting at \$3060

The new E-M1 improves upon the E-M5 by adding a more sophisticated autofocus system and greater customization of all available camera buttons. Although Olympus is still keeping the E-M5 in their OMD lineup, these new features alone make the E-M1 our pick for underwater use. The E-M1 is now the top camera in Olympus' mirrorless lineup.

Some of the more notable features carried over from the E-M5 is the 5 axis image stabilization but the biggest change is a max flash sync speed of 1/320. This is a huge advantage for dialing in the exposure on your background. For wide shots, you can get darker blue water backgrounds and pull in the exposure on sunball shots easier. For macro photography, a high sync speed allows one to more easily knock out any ambient light and just have light from the strobes on the subject, and also accomplish black backgrounds in the daytime.

Other improvements are 10 frames per second with a 41 image RAW buffer, and improved AF function and speed. The viewfinder is now as large as a full frame DSLR viewfinder and the resolution is 2.36 million pixels, making it one of the

highest resolution EVFs on the market.

The 2x2 switch is a dream in fast action. In 1st position, the dials operate shutter speed and aperture. In 2nd position, the dials operate white balance and ISO. No need to hit multiple buttons to make those adjustments, just flip a switch, turn the dial, shoot. And like the E-M5, when changing the ISO it shows you an EV meter so you can tell if you've got the ISO in the range you need without having to pop out of the ISO settings screen.

The customization of controls on this camera are insane. Almost any button can be reassigned to another function. One of the major disadvantages to the Olympus PT-EP08 housing for the E-M5 was that you needed to sacrifice one of the 2 assignable function buttons to the fish mode as this is the only way the flash can fire in the down position inside the housing. Now with the E-M1 you can assign fish mode to one of the 2 custom buttons on the front of the camera, without sacrificing any of the importantly placed custom function buttons on the PT-EP11 housing for the E-M1. For the PT-EP11 housing, I



prefer to move the AF-ON activation to the Fn1 button, which is more ergonomically located than the AF on button.

The camera has 4 custom white balance presets. With all the customization options, you can now assign custom white balance to one of the function buttons and have a true 1 touch white balance. After executing the white balance, you can then assign it to one of the 4 presets. The ease of process is unmatched in any of the Canon or Nikon SLR cameras. Having 4 presets at your disposal is more than any SLR except for the top end flagship models costing over \$6000. We can only hope other camera manufacturers take note and include more presets in the future.

One downside to executing a custom white balance is that it can't be done in video mode. You can

pick one of the presets to use in code mode, but you cannot execute. For that you need to move over to photo mode.

The longest macro lens available is the Olympus 60mm. While this lens is super sharp, the relatively short focal length equates to not much working distance, especially when using a wet diopter like a Subsee +10 lens. SLR's have almost twice the working distance, which is better for more skittish critters.

Images shot with prime lenses look exceptionally sharp. Olympus removed the low pass filter on the sensor and added a new image processor in the E-M1, and the results are sharpness that meets or exceeds that from SLRs.

Camera, Housing and Port starting at \$3060

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Olympus OM-D E-M1 and Nauticam NA-EM1 Field Review

by Phil Rudin

The Olympus E-M1 has been selected as camera of the year for 2013 by a number well respected reviewing sites and magazines who put far more time into pixel peeping than I do. So up front I would just like to begin by saying that I think the E-M1 is the best mirrorless camera made and that anyone interested in underwater photography should take a close look at this camera and housing.

The E-M1 is the second model in the Olympus OM-D series and continues to build on the hugely successful rollout of the OM-D E-M5 model first announced in February of 2012. The E-M1 is the high end of the OM-D line and the new Olympus flagship camera. It is directed at the Pro and high end enthusiast who may be looking to move from a DSLR into a mirrorless camera or for those who may be wishing to move up from the Olympus PEN line or consumer compact line of cameras.

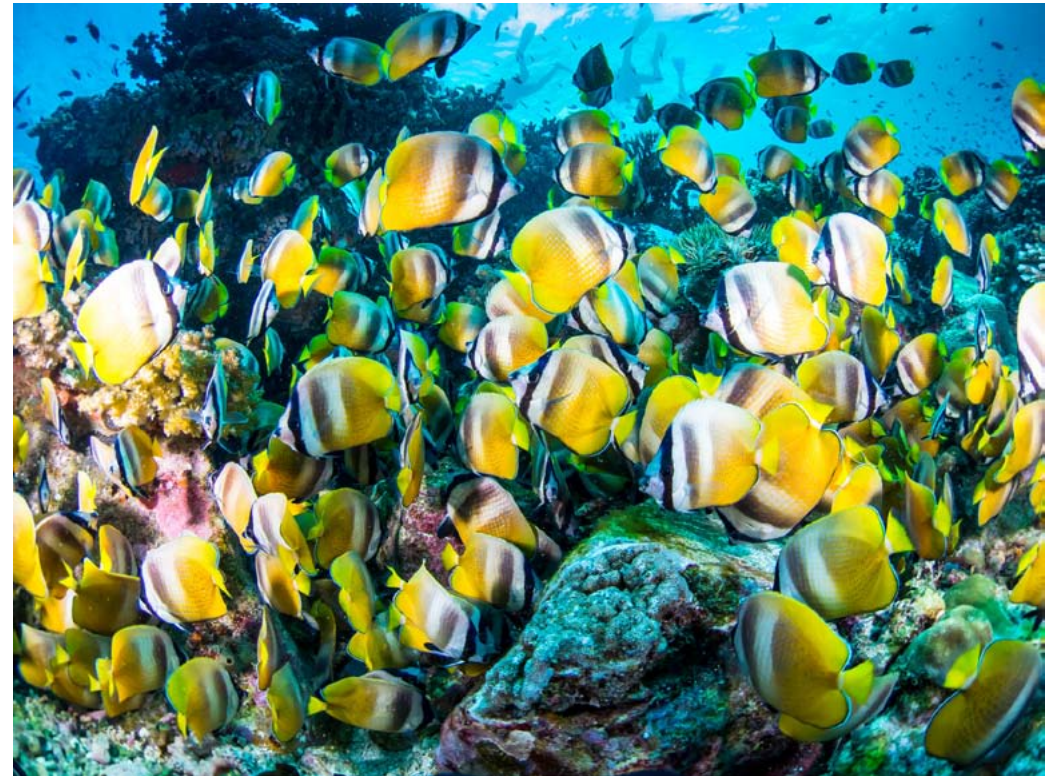
Olympus E-M1

What sets the E-M1 apart from the smaller E-M5 and the just released E-M10 low end camera are

several distinctions well worth your consideration when choosing an underwater camera system. The first is a much more sophisticated autofocus system that greatly improves on the past system. The E-M1 uses a new autofocus system that Olympus calls "Dual Fast AF" This new system uses a sensor chip that has the conventional contrast detection used on previous M43 camera sensors and adds on-chip phase-detection used in DSLR type cameras like the Olympus E-3 and E-5. This chip allows you to use all of the current M43 lenses along with the outstanding line of Olympus DSLR lenses.

To facilitate the use of these DSLR style lenses Nauticam has announced a port extension for use with existing Olympus DSLR type threaded ports like the 50mm macro port and the 170mm glass dome port for wide angle lenses. This new chip also has a new array of auto focus sensors that greatly improve on the rather weak contrast-AF performance of the E-M5.

The E-M1 is also the most programmable camera on the



Butterfly fish feeding on Sergeant Major eggs, E-M1, 8mm fisheye, Inon Z-240 X 2, ISO-250, F/5.6, 1/160th sec.

planet with a wide array of buttons, levers and dials for every possible programming need. Other notable improvements over the E-M5 include

an excellent 2.3M-dot electronic viewfinder that not only gives stellar resolution but also magnification of up to 1.48x which puts it ahead of the



Clownfish, E-M1, Olympus 60mm macro, Inon Z-240 X2, ISO-100, F/13, 1/320th sec.

Nikon Pro D4 and just a bit less than the Canon Pro 1Dx DSLR optical viewfinders.

The new True Pic VII processor includes lens profiles for auto correction. A new 5-axis image stabilization system with auto panning detection, ISO low with a 100 ISO equivalent (can now also be added to the E-M5 in an announced firmware upgrade). The E-M1 has also added a new top shutter sync speed of 1/320th of a second (for better W/A and macro) and a flash X-sync socket for shooting wired strobes in manual.

Olympus has also added built-in Wi-Fi for quick social media uploads, a focus peaking display for manual focusing assist, in-camera HDR blending (with two modes) with a preview in the viewfinder and much much more.

Along with the release of the new E-M1 Olympus has also introduced the excellent new M. Zuiko Digital ED 12-40mm F/2.8 zoom. This is the first in a new line of Olympus "PRO" lenses for the Micro Four Thirds format. The new lens is matched

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New Nauticam front port lock (red) and the vacuum valve, with the new grips.

to the E-M1 camera and sold as a "kit" lens offering in some areas. This new lens has the same dust, splash and freeze proofing found in the new E-M1 body and lighting fast AF speed. The lens will focus to a minimum distance of 0.20 m (7.87") and has a maximum magnification of 0.3x. During my above water testing I have found the lens to have excellent built and image quality, I will review the lens and port options for underwater use in a future issue of UwP.

At \$1399.00 USD for the E-M1 body the camera is as expensive as many mid to high end DSLR's. While many DSLR users in the underwater community may still be turned off by most mirrorless cameras they fully grasp the merits of APS-C over full frame sensor cameras for underwater use. These smaller cameras require smaller housings and smaller lenses resulting in smaller ports all adding up to a more cost effective travel friendly and user friendly system.

Smaller sensors also increase depth of field for



New Nauticam locking camera tray.

macro use and provide better corner sharpness with wide angle lenses. If you apply these merits to the E-M1 along with total system cost you have a very compelling case for the E-M1/NA-EM1 as your underwater photo system.

The overall build quality and finish of the E-M1's all magnesium body is comparable with many top over \$2000.00 PRO quality cameras bodies. It has extremely serious dust, moisture and freeze resistance along with a very easy to grip body surface. The E-M1 while a bit larger than the E-M5 is much easier to hold and operate both in and out of the Nauticam housing. You can find many excellent reviews on the E-M1 which are much more extensive than mine and most point out the fact that you need both hands to turn the camera on and off. This is a result of the on/off switch being located on the left hand top side of the camera. This is a bit inconvenient above water but not a big issue for me underwater. once I turn the camera on at the surface it stays on the entire dive.

While I have seen many rants on the internet about the poor video implementation on the OM-D cameras the E-M1 still has better overall video implementation and video quality than most DSLR's at any price point. If video is your main goal you may want to look into cameras like the Canon 70D, Panasonic GH-4 or even the Black Magic Pocket Cinema body.

When set to high speed at 10 frames per second I can shoot at least forty RAW images before the camera begins to slow at all for buffering. At that point the camera still continues to shoot RAW files at about three frames a second without ever stopping. Many DSLR's that would be considered competitors in the price range or even much more expensive bodies like the 70D, D7100, 1Dx Mk4 and D800 don't come close in burst capacity at even lower frame rates.

The new EVF is very big and bright so while it may not be quite as good as a full frame OVF it does add the ability to have real-time histogram, highlight and shadow warnings, focus pecking for manually focusing lenses along with magnification, real time views of effects like art filters, black & white, HRD and much more shooting information. These options may trump the small difference in overall viewing quality.

The excellent 5-axis in-body image stabilization system is the best on-sensor stabilization made and it works with any lens including legacy lenses regardless of the type of lens mount. The number of lenses choices for both land and underwater use is excellent with very high quality wide angle zooms, primes and macro choices. The E-M1 also has outstanding overall images quality and high dynamic range up to ISO-3200 and quite usable quality way beyond.



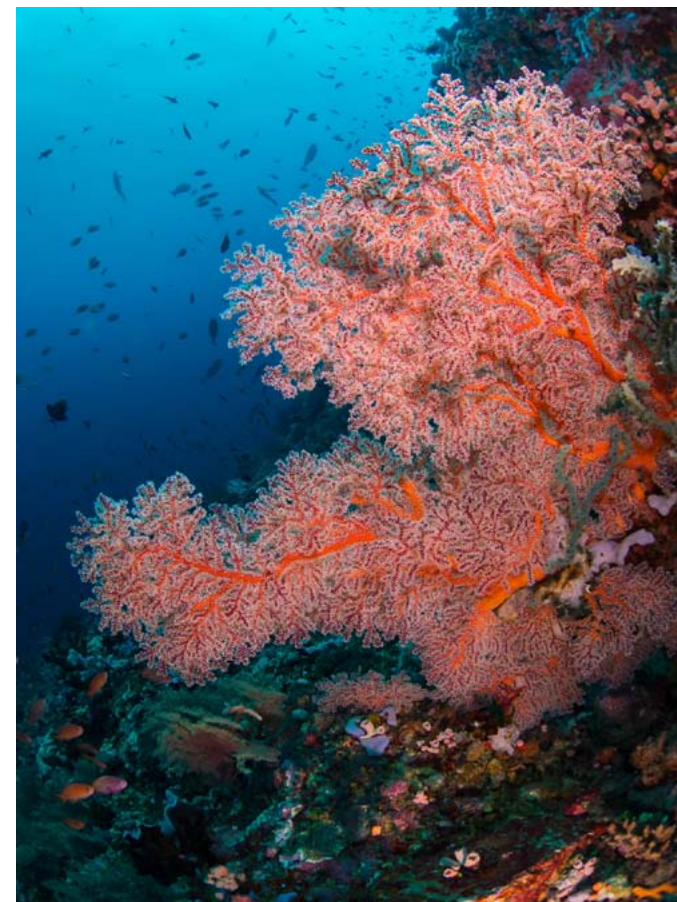
Bluring Octopus, E-M1, Olympus 60mm macro, Inon Z240 X 2, ISO-100, F/11, 1/320th sec.

Nauticam NA-EM1

The Nauticam NA-EM1 is the first of the mirrorless camera housing to adopt the look of the Nauticam DSLR housings. Nauticam has done away with the removable Flex-tray and replaced it with an integrated handle system which fits flush with the bottom of the housing.

The shutter release and the focus lock can now be accessed with the thumb and forefinger using the new vertical control triggers rather than a push control. This allows you to hold the housing by the left hand grip and control both shutter and focus locking while having a firm grip on the handle like a DSLR. I have found this feature alone to be worth the cost of upgrading from the E-M5.

The signature Nauticam handles are also reinforced by laser cut stainless steel brackets making the system more sturdy and stable when adding extra lighting. On the right hand side of the housing is a rubberized zoom/focus knob which is



Coral tree, E-M1, 8mm fisheye, Inon Z240 X 2, ISO-250, F/5.6, 1/100th sec.

quite smooth in use and very easy to control while holding the left grip. The port locking system that is the hallmark of the Nauticam housing systems now includes the red port locking lever so synonymous with the Nauticam DSLR housings. This continues to be both the easiest and the best port locking system I have ever used.

One thing the EM1 housing does not share with the DSLR housings is the removable back plate, instead the housing has a clam shell style



Nudibrance, E-M1, Olympus 60mm macro, Inon Z-240 X 2, ISO-100, F/18, 1/320th sec.

back with the rotary locking system found on other Nauticam mirrorless camera housing.

Another new feature is the locking camera tray, a welcome addition to insure the camera is secure when opening the housing. The locking tray is secured to the bottom of the camera via the tripod screw. The LCD screen needs to be tilted when mounting the tray which allows it to be more easily viewed in the water. To slide the tray into place in the housing you must first lift the on/off control lever then slide the

camera into place. You will hear a click when the tray is properly locked into place and the on/off control can then be mounted over the switch. Once you remember to do this it make the removal of the camera very easy. I like this on/off configuration because I know the switch is aligned prior to entering the water and I will never need to guess about the camera accidentally being turned on.

The NA-EM1 housing also has two fiber optic bulkheads for up to four optically triggered strobes like the Inon Z-240, Inon S-2000, Sea



Rear view with Nauticam 45 degree enhancement view finder installed.

& Sea YS-D1 and YS-01. Strobes can be fired in TTL or manually without the use of electronic sync cables which can flood. Like the E-M5 housing an optical pickup view finder is mounted in the LCD window. I found this finder to work well while shooting super macro with a +15 closeup lens because of the large EVF on the camera. Like the E-M5 an optional LCD window can be user installed for use with the 180 degree and 45 degree Enhanced Viewfinders from Nauticam. I have installed the 45 degree enhanced

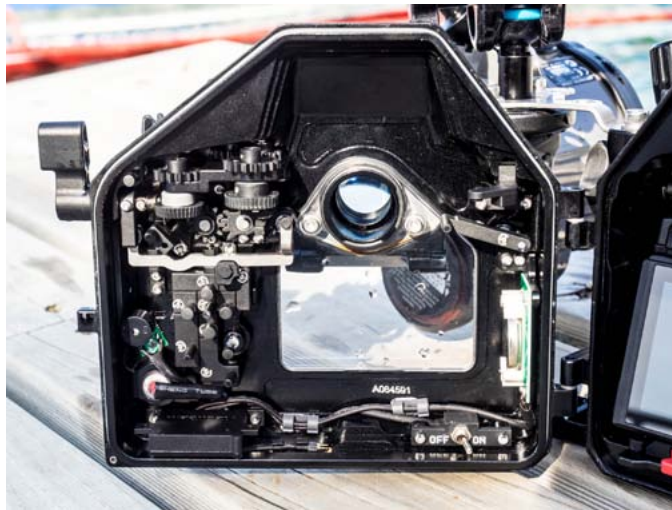
viewfinder on my NA-EM1 housing and it is an excellent up grade at under \$1200.00 USD for the serious macro photographer. The Nauticam NA-EM1 housing was the first to be released with the new vacuum and leak detection electronic system installed. The vacuum system value is an option and you have several choices starting at around \$220.00 USD. My review on the vacuum system is in the last issue #76 of UWPMAG.com. One of the major problems with designing a housing for such a small camera is being able to place the control

buttons and dials far enough apart so that you have fingertip control even while wearing gloves. The button control layout on this housing allows me to effortlessly reach all of the controls without having to look at which buttons I am about to push. The only button on the camera that can not be accessed is the custom white balance button on the front of the camera. Because of the large number of function buttons and endless programability of this camera the custom WB can be easily assigned to a number of controls. Once you have customized and mastered the button layout you will not find yourself turning the camera off or hitting the video button by mistake. I am still assigning functions but find it is a breeze to reach controls once you have made a few dives. All of your current Nauticam mirrorless Mini ports will fit this housing along with the ZEN Underwater ports and ports from Athena. Olympus DSLR style threaded ports for the Olympus DSLR lenses are supported with the optional Nauticam port adapter.

At \$1850.00 USD the Nauticam NA-EM1 housing is a bargain when you consider that it includes the handles, ball-heads for strobe mounting and the Vacuum electronics along with all of the other excellent features.

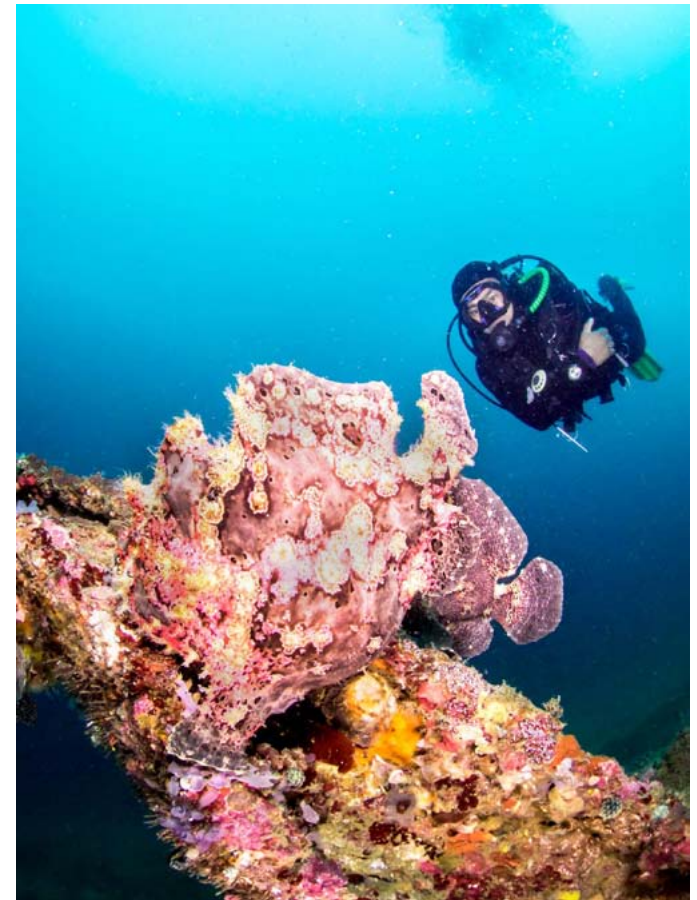
In the field

I tend to use the Olympus 60mm macro with the Nauticam 65 port and the Olympus 7-14mm zoom with the ZEN Underwater port and extension most often. The other lenses I use include the 8mm fisheye with a ZEN 100mm dome port and primes like the super small Olympus 12mm F/2 and the Olympus 17mm F/1.8. I do use several other lenses but the first three lenses are my go to lenses about 90% of the time for open water work. I am



Nauticam rear door with vacuum system electronics and upper left auto focus lock control.

also eager to try the Olympus 12-40 F/2.8 zoom as soon as I get the port extension and gear sorted out. I have my macro port setup with a SAGA flip adapter which I use with +5 +10 and +15 closeup lenses when needed. I currently use two 10" X 2.4" Nauticam float arms and two 8" double ball arms to mount my lighting. I use two Inon Z-240 type four strobes for much of my work both on and off the camera. At times I will use a SAGA optical snoot with one Inon Z-240 off camera and I also shoot with the Athena ring-flash for some of my macro work. In the field the housing required a bit more flotation than my past E-M5 housing especially when carrying the +15 lens mounted on the flip adapter. I highly recommend that you try some type of flotation with every housing to offset the weight of the system. When you are on holiday doing multiple dives over several days or weeks the added of flotation will definitely improve your



Frogfish, E-M1, 8mm fisheye, Inon Z240 X2, ISO-200, F/11, 1/20th sec.

ability to steady your system saving stress to your hands, wrists and forearms. This camera has the best in water auto focus to date from Olympus. This is the first mirrorless housing from Nauticam to include the rear focus locking trigger. I found this to be an excellent improvement over past housings with a focusing button especially for macro work. Lock focus and then move the camera for critical focus. The large, bright and highly detailed EVF



Frogfish, E-M1, Olympus 60mm macro, Inon Z240 X 2, ISO-100, F/11, 1/320th sec.

allowed me to see the finest detail as it came into sharp focus. The aperture and shutter speed dials are also very intuitive and easy to use without moving your eye away from the EVF.

If you are looking for an extremely high quality camera and housing system in a relatively small package you should checkout the E-M1 at your local retailer.



Phil Rudin

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Subal D800



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Lightroom's Radial Filter

by Doug Sloss

The new Radial Filter inside Lightroom 5 is a great tool for creating off-centered vignettes, highlighting important parts in your photos, and when used creatively, it can add more interest and clever flair to your underwater shots.

Like the Adjustment Brush and Graduated Filter, the Radial Filter is also designed for local edits, applying its effects in circular or elliptical forms, as opposed to painting in effects with a brush or laying them down via a gradient, like the other two tools.

Yet, while it differs in the way its effects are applied to a photo, you still have access to the same slider controls for creative edits once you open the tool's Effects panel.

But unlike the Adjustment Brush and Graduated Filter, there's no need to first guess an initial setting to see where an effect will be applied. Just click and drag out a shape on top of your photo and release the mouse. The filter lays down your initial shape, then leaves you with control points along the outside border you can push or pull into position, to further customize an on-image contour. This shape can also be rotated, and every filter you create contains a

center pin, so you can reposition the effect or combined effects of various adjustments anywhere on your image.

And while plenty of keyboard shortcuts let you duplicate, delete, and shape filter effects to suit your needs, it's the slider modifications and their effects that give you the creative freedom to make your photos look more interesting, so let's look at a few examples.

Traditionally, photographic vignettes are used to draw a viewer's attention to the center of a photo. But what do you do when the point of interest in an image is off centered, like the rhinophores on the nudibranch in Figure One? Even though I carefully positioned my camera near the seabed floor, I was unable to capture a head-on portrait to highlight the rhinophores as I envisioned. And without the aid of a snoot to directly channel strobe light to just the front portion of the scene, this effort was the best I was able to achieve in camera at the moment.

But after adding a Radial filter to the image in post, I'm able to reposition, rotate, and extend its shape off the edge of the photo where needed, in order to target the front portion of the nudibranch to make a

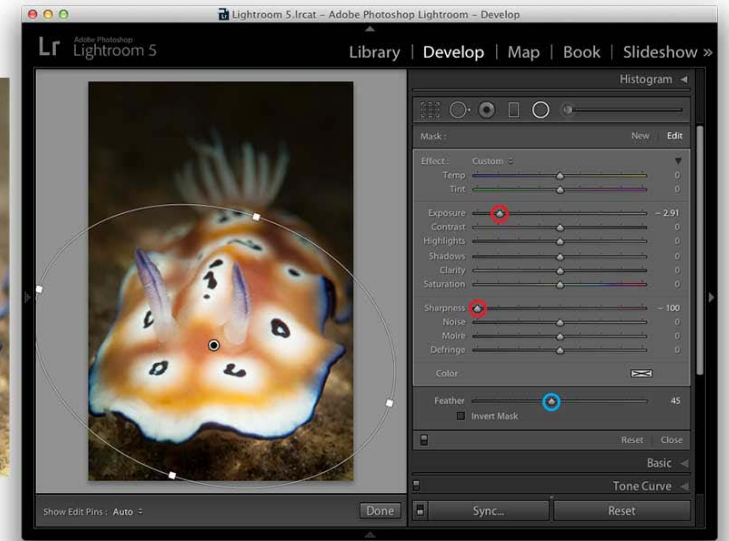


Figure 1: Slider adjustments can be used in combination to create desired effects. Here Exposure and Sharpness (both circled in red) were lowered to remove background distraction and focus attention on the nudibranch. The Feather slider (circled in blue) makes this adjustment believable.

creative adjustment.

By default, the Radial Filter is designed to affect the region outside the shape you draw. And once you put down a filter, any modifications you make to the sliders in the Effects panel are applied to that outside region, and your creative adjustments are then visible. Like Lightroom's other local controls, these effects can stand alone adjustments, or combined with other sliders for a more complex and pleasing result.

For this pin adjustment, the exposure surrounding the nudibranch was darkened, and the sharpness of

the background lowered to draw more attention to the foreground portion of the nudibranch. Feathering was also applied to the filter shape to soften the transition zone and make the edit believable. (Figure 1)

To surely steer the viewer's eye to certain areas in your photo, and attract even more focus, you can stack multiple filters over areas of importance and really grab their attention. Not only can multiple pins add a layering of separate adjustments over the same region, they can also be inverted so your creative enhancements affect the inside areas

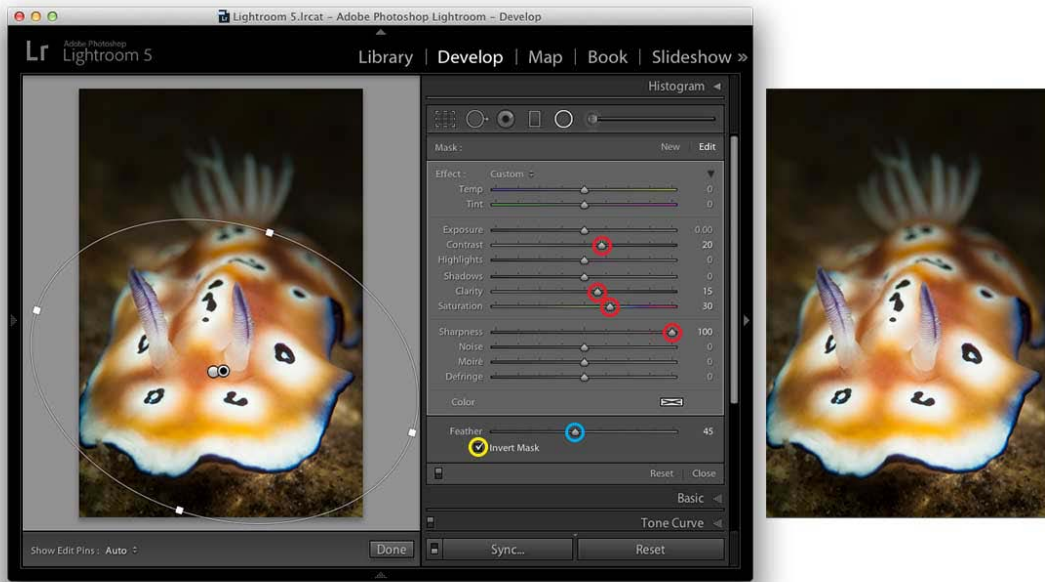


Figure 2: A second pin enhances the nudibranch. That mask is inverted (yellow circle) so pin adjustments (red) affect the inside portion of the filter's shape.

of these circle shapes.

For example, to further optimize the front of this nudibranch, I first added a second filter pin to the region, then checked the Invert Mask box, so modifications to the sliders now affect the region inside the filter, the actual nudibranch itself. Next, contrast, clarity and sharpness were added to further define the rhinophores on this nudibranch. To attract even more focus to the area, saturation was boosted too. Comparing the before and after images in figures One and Two, shows the positive effect these filters have on the final image. (Figure

2)

While the Radial Filter is great for off centered vignette effects and optimizing regions both inside and outside of the filter borders, they can also be used more creatively.

For instance, in the shot of the diver exploring artifacts on the Fujikawa Maru in Chuuk, the light from my strobes wasn't quite able to fully reach and illuminate her face and body, leaving her skin tones a little too cool for the overall shot. But by adding two localized filters that each carried identical white balance settings, I was able to warm the

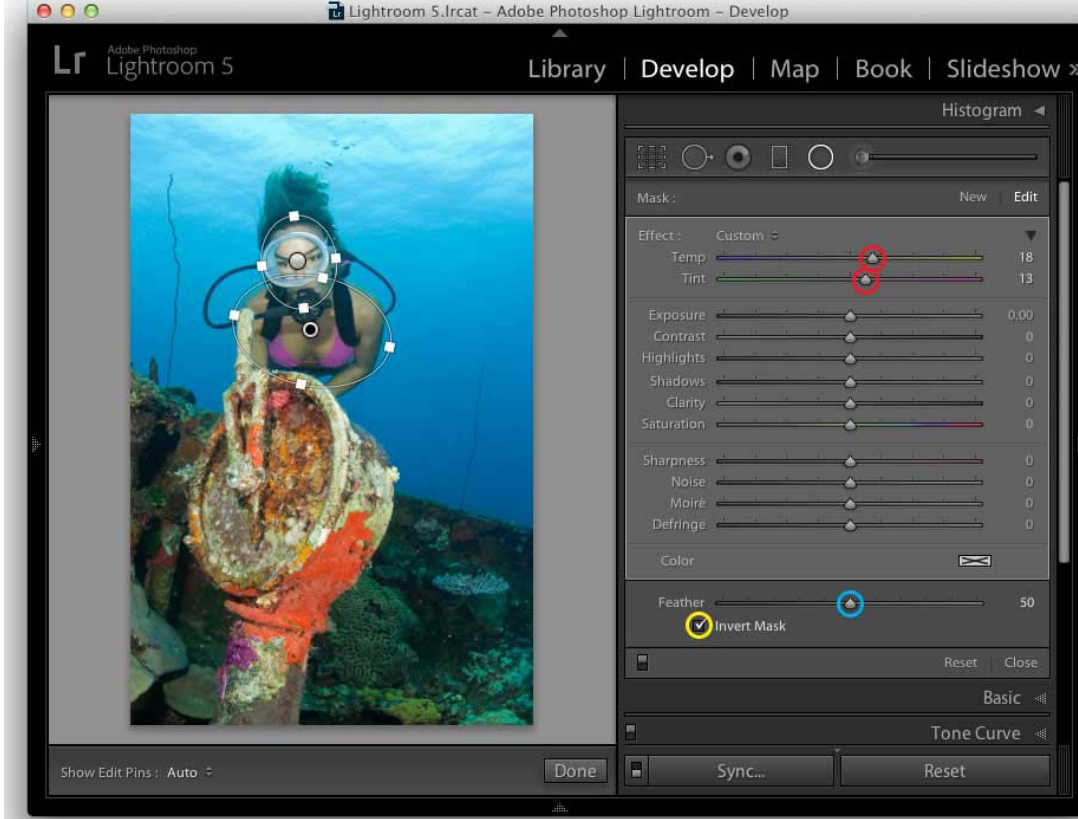


Figure 3: Two inverted filter pins warm the skin tones on the model's face and body. These adjustments carry identical Temperature and Tint values keeping changes to both regions equal. Note: For illustrative purposes, both filter pins are displayed in Figure 3. Normally, when working inside Lightroom, only one filter overlay is visible at a time.

tones of her face and body for a more pleasing shot. (Figure 3)

Lastly, the Radial filter can help make photos more interesting when they're used to enhance light beams or creatively build them from scratch. In Figure Four, we see how a thin elliptical filter helps strengthen the

existing torch light, further defining the connection between the diver and turtle. With this improvement, the viewer's eyes wander back and forth between the diver and turtle more easily, helping to solidify the visual tension already present in the scene. This makes the image more dynamic

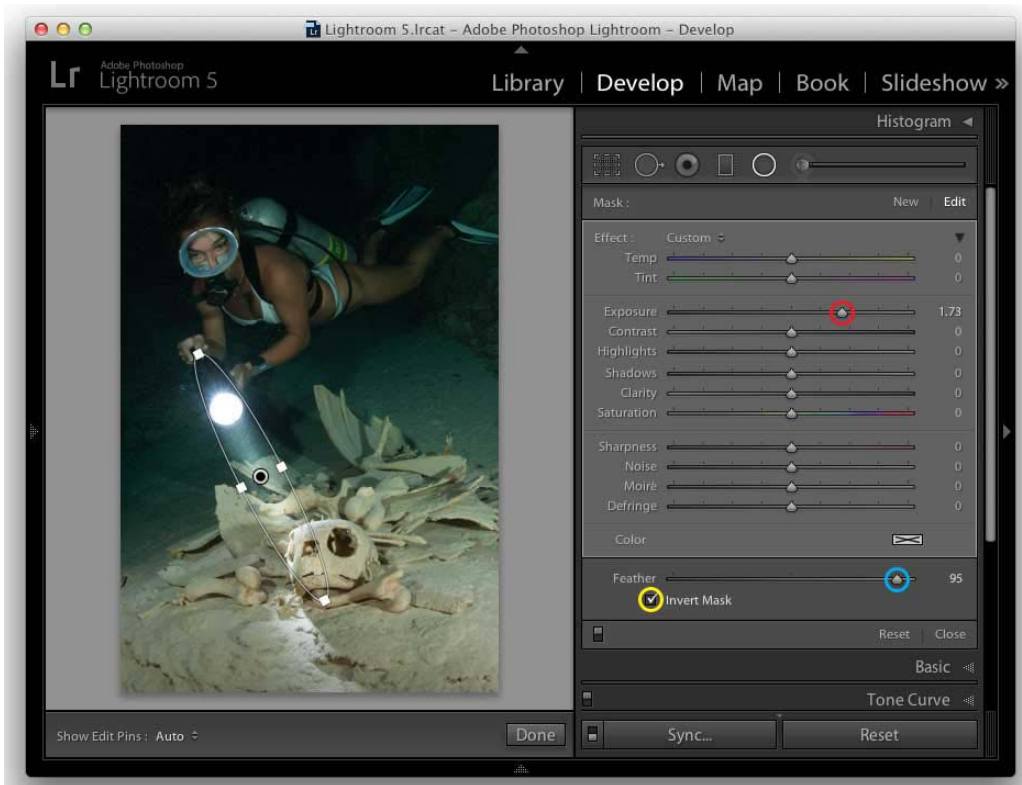


Figure 4: A thin elliptical Radial filter is used to create this torch beam. Heavy feathering (blue) makes this adjustment believable while varying Exposure (red) controls the beam's intensity.

and interesting to look at. (Figure 4)
 With the radial filter Lightroom has given us another fantastic tool to make local edits, and one that does so much more than just simple vignettes.
 To see more informative movies and to find out more on how Lightroom can help improve your underwater photography, please visit

www.underwaterlightroom.com

Doug Sloss

LIGHTRROOM *for the Underwater Photographer*

Free Bonus Video

For a more in-depth analysis and an exclusive look at Lightroom's Radial Filter and the techniques involved to create the final images in this article, please click the hyperlink below to watch a special 13 minute bonus video showcasing what the filter is capable of.

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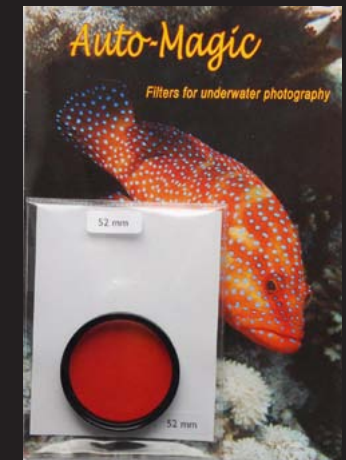
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www.magic-filters.com

Juvenile Fish

by Colin Marshall

We've all seen them. The teenager who is wearing something so weird, often with a haircut that is best described as bizarre, you don't know whether to laugh or cry with despair for the fate of the world. Watching these young oddities, I sometimes ask myself whether there are any similarities between human teenagers and the juveniles of the marine world.

I had a look back in my image files, and found a few examples of the different marine species, in the transition from juveniles to adults. It seems there are plenty of examples of where juvenile marine life is as "weird" as human teenagers, from the perspective of the adult.

This article discusses the possible biological or evolutionary themes regarding why juvenile and adult marine creatures are so different. Then turning to the differences between human teenagers and adults – are there any similarities?

Ridiculous clothes serve a purpose

Many-spotted Sweetlips - Plectorhinchus chaetodonoides

Marine Life : Juvenile marine life often adopt gaudy colors. These bright colors send warnings to potential predators – “don't eat me, don't even touch me”. The “look at me!” pattern and wild swimming motion of the sweetlips below is a good example. Making oneself more visible to evade predation seems counter-intuitive. Some suggest this is successful as there are some highly colored



Juvenile Many-spotted Sweetlips - Plectorhinchus chaetodonoides

creatures (generally nudibranchs and flatworms) out there which are known to be highly toxic and these other juveniles are piggy-backing on the well-deserved poisonous reputation of those flashy-but-dangerous critters.

Teenagers : The odd clothes or haircuts that teenagers wear are subconsciously worn to keep people away, as they know that their verbal skills are so poor they won't be able to have a conversation. Or at least a conversation they want to have (which is just about any conversation with an adult). So the message is similar to the fish “Look, but just don't talk to me”.

Camouflage is cool

Rockmover Wrasse - Novaculichthys taeniourus

Marine Life : Returning to those juveniles with gaudy colors and patterns. Some of these juveniles tend to spend most of their time in environments that provide them with very effective camouflage, like sea grass or colorful soft coral. In other words,



Adult Many-spotted Sweetlips - Plectorhinchus chaetodonoides



Juvenile Rockmover Wrasse - Novaculichthys taeniourus

those colors may seem bright when seen in blue water but in that protective environment they are very well camouflaged.

Teenagers : We may think that teenagers clothing is similarly gaudy and inappropriate, but in the context of the environments that they like, these outfits fit right in. An adult in a club wearing



Adult Rockmover Wrasse - Novaculichthys taeniourus



Juvenile Yellow Boxfish - Ostracion cubicus



Adult Yellow Boxfish - Ostracion cubicus

a 3-piece suit would stick out like a sore thumb; teenagers wearing a pink miniskirt and neon green tank top are everywhere and they easily meld into each other and the background, invisible to hostile and nosy parents.

The other angle is that the adult fish develop some measure of self-protection (as anyone who has been harassed by an adult triggerfish knows), and so they can afford to look drab and boring. Much like human adults really – we tend to dress badly (well, the men at least). We know that we’re not on any predator’s list, we really don’t care what people think and we know how to use lawyers to sue people.

Spots can save your life

Yellow Boxfish - Ostracion cubicus

Marine Life : Spots on Juveniles confuse predators, especially as the spots disguise the front of the fish (the boxfish below showcases this – “where’s the eye?”), preventing the predators from

attacking properly, allowing the juvenile to make a getaway.

Teenagers : Teenagers have spots. When they are complaining about their facial blemishes, just tell them it makes them too ugly to be targeted by predators. That will help.

Stripes are just as good as spots

Yellowtail Damsel - Neoglyphidodon nigroris

Marine Life : Many juveniles go through a period with pronounced stripes, which often disappear completely. The effect of the stripes is to make them blend into each other and the background, confusing predators. Like zebras evading lions on the plains of Africa.

Teenagers : Teenagers manifest the same principle about having stripes by wearing similar clothes to each other to confuse predators. This makes it more difficult for a vicious predator to see them, as they all appear the same, or at least they cannot be clearly spotted. In this case the “vicious



Juvenile Yellowtail Damsel - Neoglyphidodon nigroris



Adult Yellowtail Damsel - Neoglyphidodon nigroris



Juvenile Emperor Angelfish - Pomacanthus imperator



Adult Emperor Angelfish - Pomacanthus imperator



Juvenile Painted Spiny Lobster - Panulirus versicolor

predators” are their parents who potentially could spot them in the mall or on the street, when the kids are doing exactly what they shouldn’t be doing.

Signaling sexual maturity

Emperor Angelfish - Pomacanthus imperator

Marine Life : The change in fish patterns are sometimes coincident with a change in sexual maturity, signaling to potential partners that they are ready to reproduce, a priority for all lifeforms. Clearly, the sooner a species can start the mating process the better, before they get eaten.

Teenagers : Teenage girls wear clothes made from minimal material “because it makes me look hot” (whilst stressing to their parents that “I’m a good girl”). Enough said. The teenage boy who continues to wear his school shorts and cute tie will unlikely be successful with those girls. So he changes his look – just like the fish, he is signaling a sexual maturity by changing his appearance, making

an overt signal to anyone who may be watching. (God knows, he can’t rely on his conversational skills to indicate some kind of maturity).

Invisibility is not just for the movies

Painted Spiny Lobster - Panulirus versicolor

Marine Life : Like the lobster above right, some marine juveniles are nearly completely transparent, obviously for security reasons. If your predators can’t see you, they can’t catch you and eat you.

Teenagers : Remember the highly popular “cloak of invisibility” in the Harry Potter movies? This was to evade capture by various demons (ie adults). (Although allegedly Harry first used the cloak to watch Hermione in the shower). Teenagers seem to have a strong desire to be invisible. Strangely enough, they actually aspire for some kind of “opaque-ness”, rather than transparency



Adult Painted Spiny Lobster - Panulirus versicolor

– think of their reaction when asked a question like “did you get into any trouble last night at the sleepover”? Amusingly teenagers are unable to avoid their genetic coding and they are remarkably transparent – you can see straight through them, just like the lobster.



Juvenile Pinnate Spadefish – Platax pinnatus

Look different to Mom and Dad

Pinnate Spadefish – Platax pinnatus

Marine Life : There is a biological thesis that by looking



Adult Pinnate Spadefish – Platax pinnatus

different to the adults, then predators who normally target the adults will not go for the juveniles, as the juveniles aren't on the predators' menu. So by looking different to your parents,

you won't be picked off by your parents' predators looking for a snack. Note the "looking different" applies to body shape as well as colors and patterns, as in the spadefish below.

Teenagers : Most human parents are not targeted by predators, so it seems difficult to apply the marine creatures logic for human teenagers. But we all know that teenagers would rather die than look remotely like their parents; so what's going on? In fact there is some similarity with the marine creatures looking different to the parents. Teenagers know what their parents do – parents work, they clean the house, they shout at the kids, they are generally fatter and more ugly - and kids want no part of that. So they subconsciously think that if they look different, they won't end up doing all that boring stuff and instead can continue to do really useful things like play video games, watch MTV and dream of being married to Justin Bieber or Miley Cyrus.



Juvenile Yellowtail Coris - Coris gaimard



Adult Yellowtail Coris - Coris gaimard

What a weirdo - no wonder, just look at the parents

Yellowtail Coris - Coris gaimard

Marine Life : Some fish like wrasse and angelfish never seem to mature – even the adults look a little ridiculous. There seems to be a disguise element going on here, especially with the mystifying spots and stripes, along with the “stay away” warning of gaudy colors. Wrasse are the masters of this bizarre coloration, even in the adult phase.

Adults : The human adult equivalent would be the guy who goes to a formal dinner wearing a Hawaiian shirt. Or the fat (male) tourist wearing a thong on the beach, or the fashion victim in a hideous outfit. One is tempted to assume these individuals have a mental issue behind their egotistical and narcissist behavior (or maybe just come from California). But perhaps there is a “biological survival” reason. My theory is these weirdos are displaying a warning along the lines of “I’m crazy and you don’t want to know what I will

do to you”. So whilst we can blame the way the teenagers look on these kind of parents (they must get some ideas at least), unfortunately the children and parents are both simply following a deeply engrained biological survival instinct.

So – is there any connection between how marine creatures change from juvenile to adult stages, and human teenager fashion sense?

Our nearest ancestor from whom both fish and humans evolved was about 400 million years ago. In universe-time terms, that was like the day before yesterday. It is not surprising to me that juveniles and adults in both marine and human species are so similar, as we are so close in terms of DNA. And that explains why my aunt always smelt of fish and my uncle was so greasy.

So returning to the awkward teenagers at the start of this article. Picture the boy trying to look tough (whilst dancing, Bollywood-style, in latex trousers) or the surly “whatever” girl with the “life is so boring” expression. These precious youngsters are the Defenders of our Civilization. The Keepers

of our Destiny. Our Legacy. Before you dissolve into a pool of despair and helplessness at the futility of our species’ survival, perhaps try and convince yourself that our teenagers are simply following some unavoidable evolutionary and biological laws.

These laws have obviously been very successful at maintaining our species – we, like cockroaches, are under no danger of extinction. So we probably owe a debt of gratitude to those bizarre and awkward teenagers. Or, more appropriately, we owe that debt to the marine creatures who created the original survival themes discussed in this article - the themes that our teenagers are now unknowingly, yet slavishly, following.

Colin Marshall

colintrmarshall@yahoo.com

The author is the father of a 2 year old girl (ie he has no experience of raising teenagers), with no formal scientific training regarding biology

or evolution. He is, though, highly aware of the fast-approaching inevitable day when some awkward, frustrated teenage boy with one objective in mind will come to take his little princess out on a date. He is telling his wife that prior to the date we will all sit down for a sensible, mature discussion, clearly explaining the biological and evolutionary forces at play. But in reality he plans to simply have a private discussion with the boy, swearing colorfully and brandishing a loaded gun.



A Different Kind of Dragon

by Paul Macdonald

The Leafy Seadragon (Phycodurus eques) is endemic to the waters of southern Australia and is closely related to seahorses and pipefish. The Leafy Seadragon is the South Australian Marine Emblem and they get their name from the leaf-like appendages on their bodies. They resemble pieces of seaweed, which makes them difficult for predators to find in their natural habitat of kelp and seaweed. Leafies are generally brown to yellow in body color with spectacular olive-tinted appendages. As an adult they can reach a total length of 35 centimetres.

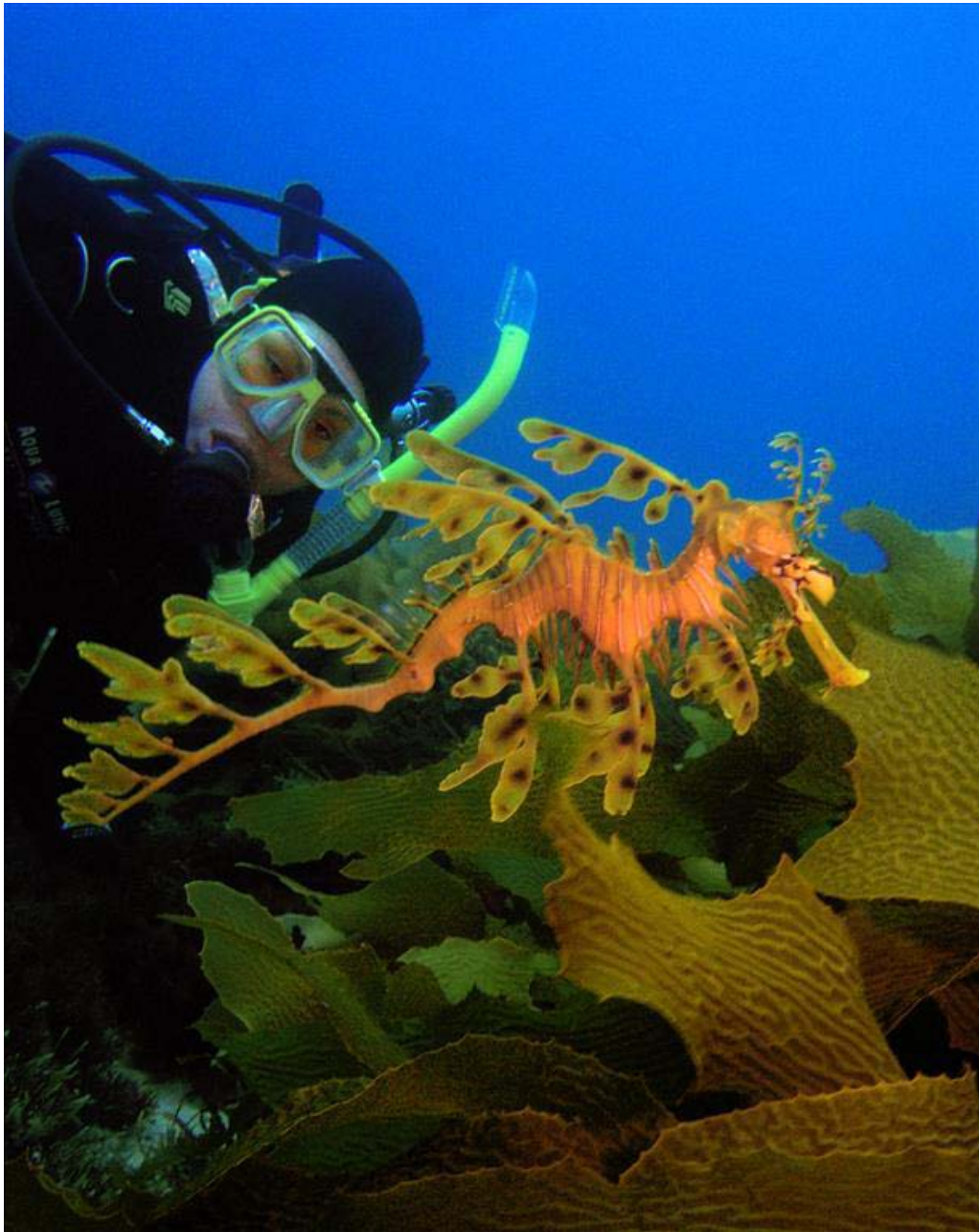
The Leafy Seadragon sucks up its prey using its long pipe-like snout and small mouth. Its favourite food is mysid shrimps. Being slow moving, they rely heavily on camouflage for survival, but also have long sharp spines along the side of the body. They are also able to change colour to some degree. So much so that they blend in very well with their habitat. For novice divers Leafy Seadragons are extremely difficult to locate and many swim past thinking this majestic creature is just a piece of weed. With experience they are more easily spotted and once found are amazing

to watch as their movements mimic the swaying kelp. They steer and turn by moving the tiny, transparent fins along the side of the head and move through the water using the dorsal fins along the spine. Sea dragons have eyes that move independently of one another and the pattern around the eye is unique to each sea dragon. This pattern is used to identify individual animals.

Unlike its relatives the sea horse, the Leafy Seadragon is unable to coil or grasp things with its tail.

Unusually it is the male that gets pregnant and gives birth to live young. The female produces up to 250 bright pink eggs and then deposits them on to the male's tail via a long tube. The eggs then attach themselves to a brood patch on the male's tail, which supplies them with oxygen. It takes a total of nine weeks for the eggs to begin to hatch, depending on water conditions. The eggs turn a bright purple or orange over this period, after which the male pumps its tail until the infants emerge, a process which takes place over 24–48 hours. The male aids in the babies hatching by shaking his tail, and rubbing it against seaweed and rocks. Once born, the infant sea





dragon is completely independent, eating small zooplankton until large enough to hunt mysids. Only

around 5% of infants survive. Leafy Seadragons take about 28 months to reach sexual maturity.

www.uwpmag.com

The Leafy Seadragon generally reside in the same location for their entire life. Divers have recorded seeing the same animal in exactly the same place for many years. The male dragon may travel some distances however to disperse hatching infants to increase their chance of survival. They are then known to return to the same location after eggs have hatched. Often Leafy Seadragons are found in mating pairs and it is widely thought that they mate with the same partner for life.

It is important to have an intimate knowledge of the Leafy Seadragon in order to photographically capture its beauty.

They have a very unique behaviour that needs to be considered to create exceptional photographs.

Paul Macdonald
www.downunderpix.com

Paul Macdonald is an underwater photographer with a passion for Leafy Seadragons. He has been diving with them for over 20 years in his local South Australian waters. With his considerable experience he is an expert at finding and photographing this magnificent marine animal. Diving regularly he is able to locate known individual dragons.

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Seychelles with the Club

by Joss Woolf

It's not often that I choose to go away with my dive club these days. Since my passion for underwater photography took a hold, ten years ago, the mere idea of being part of a mixed ability group of divers, let alone non-photographers, and being led at a pace impossible for taking anything other than snap shots, fills me with horror, choosing instead to join dedicated underwater photography trips. However, when, earlier this year, one of our club instructors decided to organise a trip to the Seychelles, where I had never been before and at an affordable price, the opportunity to "slip in" yet another trip was just too good to turn down. To manage my own expectations, I told myself that this would not be the photographic opportunity of a lifetime and to just chill out with old friends – maybe even go diving without a camera occasionally, hmm...

We had a couple of trainees in our group who so far had only braved the icy waters of Stoney Cove and Wraysbury Lake and were keen to notch up their qualifying dives in the luxury of the Indian Ocean. I hope they will come to realise just how lucky they are.

The only thing I already knew about the Seychelles was that it was the setting for the 1979 rom-com "10" starring Bo Derek and Dudley Moore and "Castaway", that other film starring Tom Hanks and his football-friend, Wilson. It is also the home of that bizarre-looking coconut species, "coco



Nikon D300 in Sea & Sea housing with twin Inon Z240 strobes, Tokina 10-17 lens at 10mm, F8 @ 1/90th. ISO 200.

de mer", endemic to the Seychelles, of which both males and females exist as separate plants, the latter of which looks spectacularly like a lady's bottom.

A couple of things had already warmed me to the place; they drive on the same side of the road and they use the same three-pin plugs.

We were staying at the Hotel Berjaya on Mahe; just fifteen minutes' drive from the airport and after spending what seemed like an eternity sorting out

the rooms (second floor with no lift) I toddled along to meet Glynis and David Rowat who run the PADI Dive Centre there, very conveniently situated in the grounds of the hotel. I later discovered that this iconic couple, there for the last thirty years, are pioneers in whaleshark research. Another day, skimming through a book on whalesharks at the dive centre, whilst waiting to go out for a dive, I was tickled to see images by both Pedro Vieyra



Nikon D300 in Sea & Sea housing with twin Inon Z240 strobes, Tokina 10-17 lens at 17mm, F8 @ 1/125th. ISO 200.

and Tony Baskeyfield; both old BSoUP members. Unfortunately, we had just missed the whaleshark season.

As with all first days of any diving holiday, they like to try you out with something rather shallow and unchallenging; ours was no exception. What was unusual was that our dive guide Simon turned out to be no less than the Vice Consul.

Much of the underwater topography is of large granite boulders formed aeons ago by volcanic activity. There are swim-throughs and gulleys, many completely plastered with red, orange and purple; but without the benefit of a strobe, appear brown to the non-photographer. I'm a real sucker for over-hangs too as, likely as not, there will be one or more white tip or nurse sharks lurking underneath, either being cleaned, or resting from a hard night's work. In our very own Beau Vallon bay, a coral garden stretched as far as the eye could see, (viz permitting, of course) densely populated with pale green or blue damsel-fish and the very prettily

spotted long-nose filefish, wafting around in small gangs of five or six.

Having run for shelter one lunchtime from one of the many tropical rainstorms we hadn't anticipated at this time of year, we struck up a conversation with a French woman, forced outside by her need to smoke. On learning that we were divers she asked if we had heard the story about the shark? A young couple had been almost completely devoured while swimming off a neighbouring island by a 6m shark four years ago. To our enormous relief, she did conclude the tale by saying that it had since been killed, confirmed by matching the shark's teeth to those found in the remains of the poor couple.

After a second day of boulders and brown coral (the result of El Nino) suddenly, things seemed to get better, not least by the presence of our lovely dive-guide, Juliane; an escaped GP who had spent the last three years there in exile. In a conversation about the surprising lack of anthias in these parts,



Nikon D300 in Sea & Sea housing with twin Inon Z240 strobes, Tokina 10-17 lens at 14mm, F9.5 @ 1/125th. ISO 200.

as compared to the Red Sea, I commented on the fact that usually there are about ten females to every male. Juliane told me that the situation was pretty much the same on Mahe too, and not with the fish!

It turned out that being the only photographer was actually a great advantage – it suddenly dawned on me that here was a rare opportunity to photograph divers, people. My buddy, Alan, after



Nikon D300 in Sea & Sea housing with an Inon ringflash, 60mm Nikkor, F13 @ 1/125th. ISO 200.

a few hints and tips, soon became a very willing model. Just about every time we came to a gulley or a shoal or a turtle, for example, there he was, always striving to get into the right position for that coveted “cover” shot. In fact he was so keen that he kept getting into shots where I didn’t want him! But the hard bit was explaining just how close they need to be to the lens; only by showing your model your images afterwards, can they begin to understand where they need to be.

After a fabulous morning dive at Concepcion, we prepared for our second dive back at “Grouper”, a boulder site we had already been to which some might describe as less than spectacular. However, whilst waiting for our rather crowded boatload of thirteen guests to kit up, (which is exactly the kind of thing I had wanted to avoid) buddy Alan and I decided to go down and wait at the bottom. Almost immediately, four large rays swam by really close and we felt privileged to have seen them alone. Then Alan started swimming off into the blue and I



Nikon D300 in Sea & Sea housing with twin Inon Z240 strobes, Tokina 10-17 lens at 14mm, F11 @ 1/125th. ISO 200.

could vaguely make out the shape of a large turtle. I decided not to follow as it is usually a waste of time chasing stuff into the blue so hung back a while. When, after a couple of minutes, he didn’t come back to the reef I relented and went to join him. My reward was an unprecedented encounter with not one but two large hawksbill turtles, interacting with each other and with us. Evidently it was mating season and these two were clearly interested in each other’s nether regions although we later learned though that they were both males - I suppose there’s no accounting for taste. But what an opportunity for us – and one that we would have missed had we held back and waited for the group.

Several times I had to back away from a turtle determined to attack its own reflection in my dome port. It was a good ten minutes before the rest of the boat-load slowly trickled down to join in the spectacle. Even then, the turtles made no attempt to leave, until finally, they had to go up for air. I only hope our two novices won’t be too spoiled by the



Nikon D300 in Sea & Sea housing with twin Inon Z240 strobes, Tokina 10-17 lens at 17mm, F9.5 @ 1/180th. ISO 200.

event; that sort of encounter is far from normal.

You knew it was going to be a heavy dive as soon as the boat departed, not least because of the presence of Tony, an expert shark spotter, who would lead the dive together with Finn, from Ireland and Michael, French Creole, tall and lean like a praying mantis. For sure, as we left the relative tranquillity of Beau Vallon Bay, the wind was up, a current was running and a bail-out plan had already been hatched for the feint of heart. After a vote, we stuck to the original plan and before we knew it, we were plunging in and climbing down an eternal shot line. It was heavy going and we were like wind socks, pulling hand over hand. It was especially difficult for me as I had to hold on to my



Nikon D300 in Sea & Sea housing with twin Inon Z240 strobes, Tokina 10-17 lens at 17mm, F11 @ 1/250th. ISO 200.

cumbersome camera rig and could only manage with one hand. By the time I got to the bottom I was quite out of breath and a quarter of my air was gone. But at least on the sea bed it was relatively calm and I had time to adjust the settings on the camera. Dammit; the camera wouldn't work – after all that effort of getting it down there.

After chilling out with several thousand yellow snappers, we made our way, with stealth, between the now customary granite boulders, to a very special place where several rays of various species and sizes

were hanging out in the current; truly magical. Just when you need your camera the most it had decided to play up. It turned out that the ISO button was stuck down and although I could take pictures, I could not review them or change any settings and had no idea how the pictures would work out, if at all. Sadly, we were only allowed a few minutes there because the newbies in our group were already low on air and we had to start making our way back.

Thanks to Tony's amazing navigational skills, the shot line reappeared out of the gloom, as if



Nikon D300 in Sea & Sea housing with twin Inon Z240 strobes, Tokina 10-17 lens at 17mm, F8 @ 1/125th. ISO 200.

by magic, and we wafted on to it to make our stops. Whilst hanging on, rather enjoying pretending to be a flag, a compact camera, clearly on an independent mission to the surface, (unknown to its white-suited, white gloved, blingy Russian owner further down the line), came floating by. 'I'll have that', I said to myself, and grabbed it. What should I do? Wait till we're back on the boat? I pondered teasing her for a while but no, her incredible surprise when I handed it back whilst still on the line, was reward enough.

Meanwhile, for others on the

dive, their return to the surface was much more exciting; Finn, having spotted what later turned out to be "the wrong shot line" led his disciples on to it. Whilst hanging on at 16m, the boat to which it was attached, started to pull it up and move off and our friends, who happily survived the event, later described the feeling as similar to underwater water-skiing. It didn't take rocket science for them to decide to jump off and ascend naturally to the surface.

A great site for both macro and wide-angle photography is that of the twin-barges. Deliberately sunk to



Nikon D300 in Sea & Sea housing with an Inon ringflash, 60mm Nikkor, F13 @ 1/125th. ISO 200.

create an artificial reef not far from shore, the passage of time has allowed a rich mixture of coral and marine life to develop. Here you will find peppered morays in threes, a ménage-a-trois of stone-fish on the deck at the lower end of the deeper barge along with a delightful collection of hingeback shrimps. After a relatively short visit here, as a result of the time we had clocked up on our earlier

dive, we wafted up to the shallows of a rather boring coral garden. I came across the carapace of a dead crayfish – and then its head and legs. To while away the remainder of the dive-time (there was little else to see or do) I carefully reassembled the still brightly-coloured components and lay the poor creature to rest on a small table coral. A gentle current even made it move slightly, adding to the



reality.....

Philip, whose name has been changed to save any further embarrassment, not usually the first to spot anything interesting underwater, was most grateful when I pointed it out to him and took several photographs with his strobeless compact from various angles. How my mask leaked with laughter! I know I should have left it at that but couldn't resist telling him on the surface. "But it was moving", he said in his defence. Doh – as if crayfish sit out in the open!

Joss Woolf



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As you know, the current issue of Underwater Photography is free to download but all of the previous issues, going right back to Issue 1, are still available to download for just 99p per issue. It's a fantastic reference library chronicling all that has happened in underwater photography over the past 10 years.

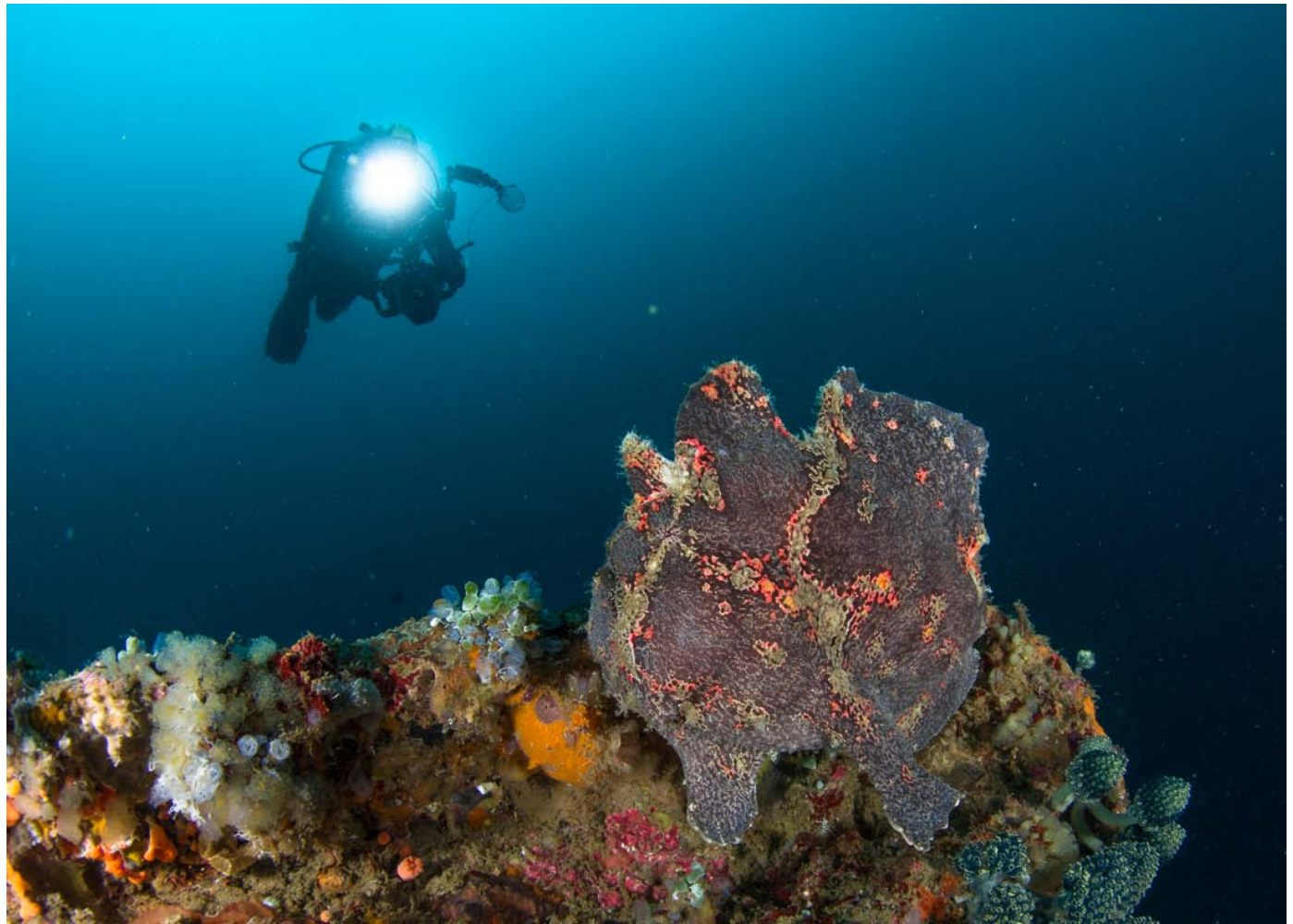


Anilao, Philippines

by Mark Webster

Underwater photographers are always keen to find new locations that offer good image opportunities and comfortable amenities between dives. This may be to hunt down a specific marine species or pursuing a seasonal event or, as in this case, a happy mix of reef diving and exotic macro life. The Philippines is of course not unknown to photographers, but it seems to me that more attention is often given to locations in neighbouring Indonesia but the conditions and image opportunities are very similar. I had been to the Philippines previously and explored the sites around Dumaguete so for this trip I was keen to explore a new area. The Philippines archipelago covers a huge area but only certain locations have been developed for diving so whether you choose a resort or a live aboard you will only scratch the surface and you need to be guided to the best locations through the experience of others.

One of the better known locations is Puerto Galera but this has always sounded a little too developed and busy for my vision of a tropical idyll. But with a little further investigation and one or two recommendations we homed in on the alternate location of Anilao on the Calumpan Peninsula in the municipality of Mabini, Batangas. This area offers equally good diving but with much lower key development and in fact you will find only a handful of dive resorts here. The other advantage is that it is an easy run by road of around three hours (approx 120km) from Manila so you can spend a couple of days in the busy city adjusting a little to



The wreckage of a former floating casino at Daryl Laut is covered in coral and invertebrate growth and is home to all sort of fish species including several giant frog fish that make great CFWA compositions. Nikon D7100, Subal ND7100, 10-17mm FE zoom, Inon Z240 flash guns, ISO250 f10 1/80.

the jet lag before appreciating the tranquil contrast of your resort in Anilao. Being relatively close to Manila this area can be popular at the week ends particularly during holiday periods. So consider this when planning your trip and maximize the number of week days in your stay. We stayed at the Crystal

Blue Resort in the middle of January which was a good period to choose after the Christmas and New Year holidays and we generally had dive sites all to ourselves.

Most of the resorts here are set into the hillside of this narrow peninsular, so your room here will



The banca style dive boats arrive on the beach just a few steps from the dive deck and with only four divers plus the guide offer plenty of space. Nikon D7100, 18-200mm zoom, Programme Mode

have a sea view and small terrace or balcony. The rooms at Crystal Blue are comfortable and air conditioned, but we found we did not spend much time in it if you are maximising the diving day. There is a restaurant and lounge area (with WiFi) overlooking the beach and below this a very well designed camera room with spacious individual cubicles that have dedicated power supplies and lighting and good storage space for camera bags and boxes. The dive deck is a few steps away just above beach level

with plenty of room for kitting up and separate tanks for wet suits and cameras.

The diving is from local banca outrigger boats that arrive each morning on the beach front a few steps from the dive deck. Once you have set your kit up on the first day your dive gear will be rigged for you for each dive and then taken to the boat together with your camera after you have dip tested or vacuumed your housing. The boat crews are very helpful and cheerful and pay particular



Crystal Blue resort is set up with photographers in mind and has a well designed and spacious camera room which is close to the dive deck. Nikon D7100, 18-200mm zoom, Programme Mode.

attention to ladies in the party and handle the camera gear gently, which is stored in a safe area in the centre of the boat during transit. Crystal Blue limit the number of divers per boat to four plus the guide, so there is plenty of space and you don't have to share the subjects with too many others during the dive, which is good news if you take your time and want to try a number of lighting angles or techniques. The usual routine here is a two tank trip in the morning, return for lunch then a further two tank

trip in the afternoon or a single tank followed by a night dive.

Many of the dive sites are within 10-20 minutes of the resort along the coast and most fall within the local marine reserve which was established in 1991. There is also a house reef directly in front of the resort (Arthur's Rock) if you still have the energy after the four available boat dives each day. The sites provide a good variety of habitats to choose from ranging from classic muck, coral rubble, fringing reef and offshore reef and wall sites



There are frog fish of all sizes here from the giant species to this dwarf species which is about the size of a grape and has a terrific deep red colour. Nikon D7100, Subal ND7100, 105mm micro, Inon Z240 flash guns, ISO 125 f20 1/60.



Both the mimic and in this case the wonderpus octopus will be seen on the muck sites in Anilao and some are more keen than others to put on a display for you. Nikon D7100, Subal ND7100, 60mm micro, Inon Z240 flash guns, ISO250 f22 1/50.



Imperial shrimps live symbiotically with many hosts but are most often found on large sea cucumbers. Look first at the rear end of the host as this seems to be where the shrimps prefer to be! Nikon D7100, Subal ND7100, 105mm micro, Inon Z240 flash guns, ISO100 f29 1/125.

which have thriving coral formations and structures. There is also a wreck site of sorts (Daryl Laut wreck) comprising a large steel structure close to Caban Island which apparently is all that is left of the superstructure of a floating casino. I am not sure of this provenance but the framework covers a large area from a few metres depth at the shoreline to 28-30m and is well covered with hard and soft corals and home to a wide variety of marine life including schooling bat fish and some giant frogfish.

No matter how good your spotting skills may be you are very unlikely to be as good as the local guides. The guides have immense knowledge of the habitat and feeding habits of most if not all the species you may request and have endless patience with photographers who want to take multiple shots of a subject. As with all the well known muck

destinations, in order to find the more challenging hidden species the guides will need to lift rocks and dead coral in their search, so if this offends your personal standards of marine life intervention be sure to mention it before you start. Be sure to come with a species wants list as the guides will enjoy the challenge of finding a particular species for you and there seems to be good cooperation between the guides from other resorts in passing on current species information. Come equipped with a muck stick or buy one on arrival as these are invaluable for holding your position on dead coral or in soft sandy slopes to steady yourself for the shot.

Although the temptation may be to stick with your macro lenses in order not to miss the next critter it is worth planning at least a couple of days or mornings for your wide angle lens. There



Schooling bat fish are found on several of the wide angle sites and are always a cooperative subject for the photographer if you make a slow approach. Nikon D7100, Subal ND7100, 10-17mm FE zoom, Inon Z240 flash guns, ISO250 f10 1/250.

are some very good wide angle compositions to be found with healthy coral and colourful sponges, crinoids and invertebrates. The Twin Rocks site also has a resident school of big eye jacks and barracuda as well as a stunning display of orange tubastrea which are fully extended during the day when the current is running. Most of the wide angle sites are best dived with a little current running as that will encourage the anthias and other schooling reef fish to perform and

the crinoids to extend - add a splash of sunlight to illuminate the blue water and maybe a diver and that will complete the composition.

I found that most of the macro subjects fit well with the 105mm macro lens (I am using DX format) with a few of the larger species better suited to the 60mm macro lens. There are also numerous subjects which require additional magnification into the super macro range and a +10 wet lens is the ideal tool for this which can



Flamboyant cuttlefish are always a colourful macro subject but it is unusual to find them guarding eggs which makes a great behaviour shot. Nikon D7100, Subal ND7100, 60mm macro, Inon Z240 flash guns, ISO250 f22 1/30.

be installed and removed during the dive as the critters present themselves. You can expect to see everything from hairy shrimp to hairy frogfish with a host of other aquatic stars in something a little different. Staying here for a typical 7-10 day trip gives you the opportunity to return to a site more than once if you are not happy with your results for a particular subject or to experiment with a different technique or approach to the

subject.

A short list of my favourite sites at the end of the trip summarises the diversity of this location:

Secret Bay is big enough to have three separate dive areas that vary between a classic muck site with dark volcanic sands and coral rubble which regularly produce boxer crabs, tiger shrimp, bumble bee shrimp, mimic and wonderpus octopus, ghost pipefish, hairy frog fish etc. Most of the dive is quite shallow on a gentle



The sun does not shine on every dive and often disappears at the crucial moment when using your wide angle lens. You can compensate in part by using a fellow photographer with a torch or focus light for a classic composition. Nikon D7100, Subal ND7100, 10-17mm FE zoom, Inon Z240 flash guns, ISO250 f10 1/100.

slope so you have plenty of time to capture good images here.

Twin Rocks comprises two submerged pinnacles connected via a shallow saddle and gully between them. They are just a stones throw from the shore but even so are exposed to some strong currents, particularly during new and full moon. But it is this strong water flow that makes the site so attractive and keeps a resident school of big eye

jacks and yellow fin barracuda on location. The two rocks have healthy corals and masses of colourful orange and green tubastrea. The surrounding shallows also boast very attractive coral gardens with all the usual reef species in residence.

Sombrero Island apparently looks like a hat, hence the name, and there are several dives around it. It is exposed to the tide so if you don't like a little current strike this off your



A first for me this trip was the discovery of a bamboo shark which is very similar to the small dog fish found in UK waters. This one patiently ignored our attempts to capture the perfect composition with the wrong lens for the job.....a 105mm for the critters of course. Nikon D7100, Subal ND7100, 105mm micro, Inon Z240 flash guns, ISO250 f18 1/125.

to do list. Our first dive here was to photograph marbled (Saron) shrimp which are reliably found in a cave at 18m, but having seen the quality of the reef I was keen to return with the wide angle lens. The depth on the reef is no more than 10-12m and topography of bommies and large reef patches provides shelter from the tide so the dive is not much of a struggle due to current. There are some nice soft corals and large sponges here,

masses of reef fish and the Anilao trademark tubastrea corals in bright orange and green.

Bethlehem starts on a fringing reef and then follows a fairly steep sandy slope which flattens out around 25m on an area which is rich in algae and broken corals that attract a large population of fire urchins, so many that it is essential to use your muck stick to keep out of harms way. This is a very good site for Coleman shrimp



There are numerous examples of mantis shrimps to be found here but this was the first time I had seen a pure orange coloured one which seemed almost fluorescent against the sandy seabed. Nikon D7100, Subal ND7100, 105mm micro, Inon Z240 flash guns, ISO100 f29 1/40.

denizens here, but this won't be a disappointment as the variety of critters, reef fish and corals will keep a photographer sated throughout your stay.

Whilst there are a number of resorts to choose from here, Crystal Blue resort was a good choice for us offering a comfortable accommodation, informal atmosphere with a good focus on the small details that keep clients happy and relaxed in order to get the most out of the photography and diving experience.

which may be found on one in 30 or 40 of the urchins, but once one pair is found you will often find three or four other urchins hosting shrimps close by. Also look out for squat lobsters on these urchins and zebra crabs. The algae are also an excellent hunting ground for numerous colourful nudibranchs and it is easy to run out of time here even if you are using nitrox.

Occasionally bigger pelagic species turn up in the waters of Anilao and everything from whale sharks, mantas, tuna and the occasional shark might be seen. However, you shouldn't plan on seeing the bigger

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'Underwater Photography Art and Techniques'

by Nick Robertson-Brown

Reviewed by Dan Bolt

I always enjoy being asked to do a book review for UwP, because no matter how much I think I know about this underwater photography game there's always a new approach, technique or idea I've not come across before and this new book from Nick Robertson-Brown doesn't disappoint.

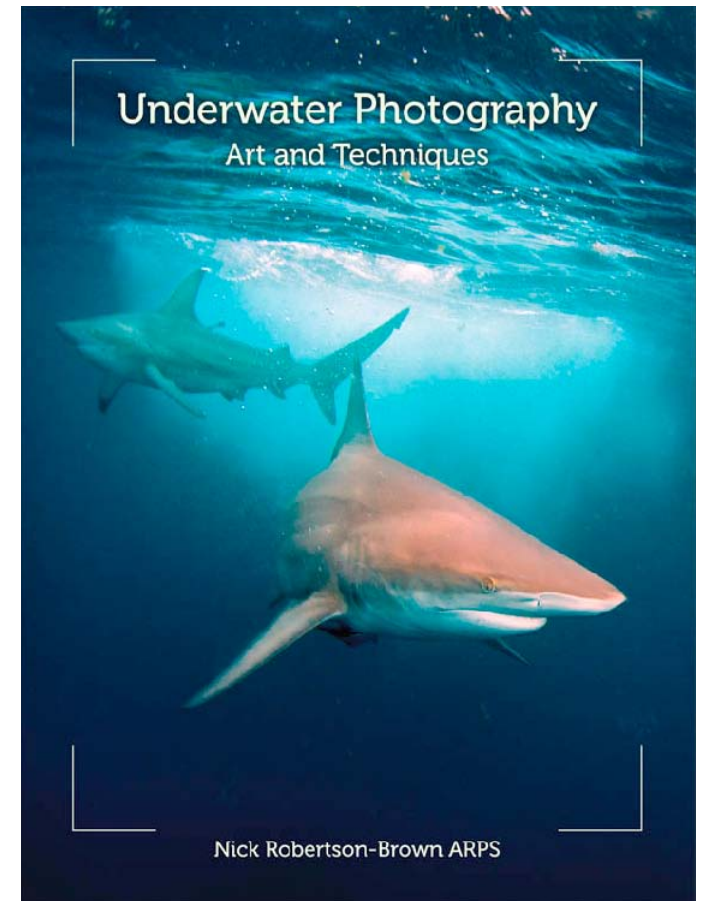
Before cracking on with the review, I have to admit that I was slightly mis-led by the title: 'Underwater Photography Art and Techniques' (UPAT). This is not the fault of anyone or any thing, just my mis-interpretation of what that could mean. This is in fact a 'generalist' underwater photography book which covers everything from camera/housing selection, through learning about exposure and composition and ending with the obligatory chapter on post-processing. That's not to say it's a bad book, far from it, but I was looking forward to getting into some semi-esoteric philosophy about the subjective 'art' of underwater photography. My bad. (Note: I had to explain this term to our esteemed Editor!).

As with many books which choose to cover this subject (this is the third I've reviewed for UwP), UPAT follows the same tried and tested pattern by taking the reader on a journey. This book's opening chapter starts with an historic look at the camera that builds nicely into explaining why we have the complicated system of shutter speed, aperture and ISO to give us this thing called exposure. A whole chapter is dedicated to a more in-depth look at exposure later in the book too, but setting out the basics at the beginning is a nice touch.

In all there are 14 chapters, covering everything from wreck photography, habitats and composition, through to both artificial and natural lighting techniques. 14 chapters in a 175 page book (actually if you take out the comprehensive glossary - I'm pleased this was included to help explain all the technical terms used in the book - and initial intro chapters, it's about a 150 page book) doesn't give a huge amount of column space for each subject. I do take my hat off to Nick for putting together a fantastic publication that covers all the necessary areas for beginner/intermediate shooters, but sometimes it does feel a little rushed. For example, the otherwise spot-on Natural Lighting chapter demotes filter photography to a single paragraph and gave no photographic examples of how effective they can be.

The chapter on artificial lighting was very well thought through and explored all the options available. With the current flood of high-powered, and progressively cheaper, video lights now coming onto the market, it was a timely piece of writing to discuss the pros and cons of using them for photography in this chapter. Other topics included strobe positioning, using one or two light sources, as well as snoots and remote triggers for off-camera lighting.

I must admit that the first chapter I always jump to is the one on Low Visibility shooting - a subject close to my own heart. I have to say I chuckled when I read that one of the causes of poor visibility was 'careless finning' techniques - well



done Nick for putting that in! The thorny issue of strobe positioning in low visibility is not covered to any great extent, but a raft of other techniques are mentioned giving the reader plenty to think about and ways to combat the dreaded backscatter.

The book itself, when viewed as a 'product', is a good quality paperback, but on three or four occasions I felt the photos used to make a point were let down by the printing. That's not to say that the quality is bad, far from it, but the subtle nuances of a point to be made, for example, in post-processing were slightly lost because the difference between the before & after photos was very small in



in the print version; all my worries vanished as now being displayed on-screen, the photographs chosen to illustrate every technical point did so very well indeed.

Herein lies the quandary currently facing authors and publishers; to print or not to print. In this particular case the nicer ‘product’ is definitely the printed book, but viewing the electronic version on a good screen definitely helps to make the most of the authors’ well chosen photographic illustrations - heck, buy both!

Nick is a well travelled photographer and journalist and the the selection of images used throughout the book reflect this depth of experience. With photos from all around the globe taken in clear, and not so clear, warm and not so warm waters it is also a eye opener for the newbie photographer wishing to explore the globe. As a UK shooter myself it’s nice to see the inclusion of quite a few images from around the British Isles.

The tone is very clear and topics are discussed in an easily readable manner but, apart from one paragraph at the end, there is little emphasis on experimentation. An important point to remember with all books like this is that, outside the absolutes of exposure and kit selection, the rest of the advice given is built upon the experiences of the author and what they think does or does not make a ‘successful’ image.

Nick is a very popular underwater photographer and his images are regularly published in magazines so he certainly is in a very good position to teach others about what makes such a successful image. But, and this isn’t to detract from the content of this really very good book, there are other other ideas of what makes a successful image out there and it all depends on personal style

and the reason for shooting. Images that do well in competitions may not necessarily translate into popular magazine images and vice-versa.

A prime example of this was the book’s description on how to make use of a model; without going into any detail at all I felt that if you followed the author’s advice to the letter your images would do well in magazines but to my eye they would look a little formulaic and ‘samey’. I recently gave a talk to a group of photographers, many of whom were college students, and a part of the talk was about models. I tried to emphasise that divers do more than just ‘dive’; they breath - so make use of the bubbles, they swim - so make use of the curves of the leg/fin, and they don’t always have a torch on every dive either! I only mention this because no matter how good this book is, it should be seen as part of a wider arsenal of knowledge for the budding underwater photographer.

In summary then, this is a great book for beginner/intermediate photographers and draws superbly from the author’s breadth of experience from taking underwater images around the world. I know just how much effort goes into the creation of such a publication and I applaud Nick and his team for producing a book that not only educates, but also enthuses; a hard trick to pull off.

Dan Bolt

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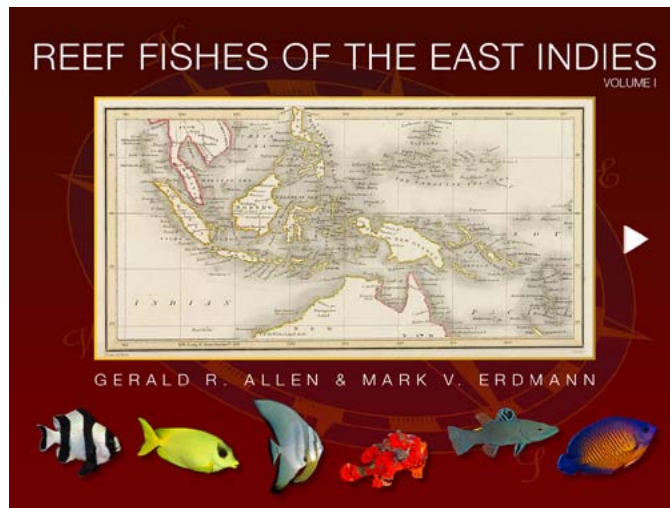
The publishers were kind enough to supply both a printed copy of the book, as well as a rights-managed ePub file. I was eager to see how this worked as a technology, being heavily into the iBook format myself and not having had much exposure to full-colour ePubs. To my delight (and as you’d expect) the images in the electronic version of the book all looked bright, sharp and crisp on the screen of my MacBook Air, despite Adobe’s ‘Digital Editions’ ePub reading software not being the nicest thing in the world to use. Skipping ahead to the images that I thought had been less successful

Reef Fishes of the East Indies review

by Gerald Allen and Mark Erdmann

by Peter Rowlands

In today's electronic age it's great to see the capability of the digital world being harnessed to provide practical solutions in publishing. The 3 Volumes of Reef Fishes of the East Indies take up no space on your iPad or Kindle yet they contain all the information, and more, that was in the printed versions at a fraction of the price.



The presentation is graphically simple and easy to follow through and, as you'd expect from such learned men, it contains everything you need to know to identify and learn more about the marine life you encounter in this amazingly diverse area.

Organized by Classification, Family, and Species in the photo grid or list format, it allows you to navigate effortlessly between each category.

The photographs are excellent and make identification quick and simple. Tap on the photo and a larger version appears. Tap bottom right and a text box is revealed to provide you

everything you need to know.

If you are going to this area and you are keen to identify and find out more about the creatures, these 3 volumes are a no brainer.

Volumes 1 & 2 are \$22.99 each and Vol 3 is free. They can be purchased through iTunes or Amazon.

www.reef-fishes.com

Peter Rowlands
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ReefID's Caribbean Reef app

ReefID's Caribbean Reef app has been created to help people get more out of their adventures in the Caribbean. Hundreds of detailed images searchable using simple silhouettes give users the ability to identify, record and share marine life as well as research and book land based attractions they are interested in.

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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

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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:

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2. Images must be attached to the e mail and they need to be 144dpi

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

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

Capturing images of animal behaviour is one of the hardest things to do underwater. Some you can plan with a lot of research and being in the right spot at the right time, but the great majority of these shots are pure luck. On a recent trip to Loloata Island, off Port Moresby, I had one of those lucky moments, but didn't even know it!

I was on my second trip to Loloata Island to explore its many wonderful reefs and wrecks, which most divers miss when they by-pass the capital to dive more exotic parts of Papua New Guinea. One of my favourite sites is very close to the island, a muck diving site at Lion Island.

Located at the northern end of the island is a sloping sandy bottom which is home to a great range of critters. But the best concentration of marine life at this site is found on a scuttled yacht called the Lady Jules. Covered in corals and home to numerous small reef fish, this yacht is also occupied by hundreds of cleaner shrimps and also groups of ghost pipefish.

Locating a group of three ornate ghost pipefish hiding in the soft black corals under the bow I proceeded to shoot numerous images of these cute fish. I shot group photos when they aligned, but spent most of my time focusing on the largest female of the group.

When changing camera positions I noticed out of the corner of my eye the female suddenly yawn. I was annoyed to have missed the photo opportunity of the yawn and proceeded to shoot several more images of this lovely creature and then moved onto other subjects.

Later that day I downloaded the images and



while reviewing the ghost pipefish shots I noticed that the large female appeared to have grown some extra chin whiskers from one image to the next. I then arrived at this close up and realised that when I had seen her yawn she had actually captured a tiny shrimp - that was hanging out of her mouth!

A wonderful behaviour image captured completely by accident.

Nikon D90, Ikelite housing, 60mm lens, 1/100, f16, ISO 200, single Inon Z240 strobe

Do you have an image which has a 'story within a story'?

If so, we'd love to hear from you.

E mail us and yours could be the next "Parting shot".

peter@uwpmag.com

Nigel Marsh
www.nigelmarshphotography.com