

Larval anemone photographed on black water dive in Anilao, Philippines

Text and photos by Mike Bartick

Many would look across the ocean at night and feel a tinge of fear. I guess that is normal—fear of the unknown, fear of the dark, fear that something out there is coming to get you. But for those that have embarked on diving in the open ocean at night, it can bring on a feeling of curiosity, excitement and discovery.

Jumping off a boat and into the black ocean at night, far away from any landmass, is not for everyone, but more and more divers are quenching their fears and venturing out to experience this "not-so-new" form of black water diving first hand.

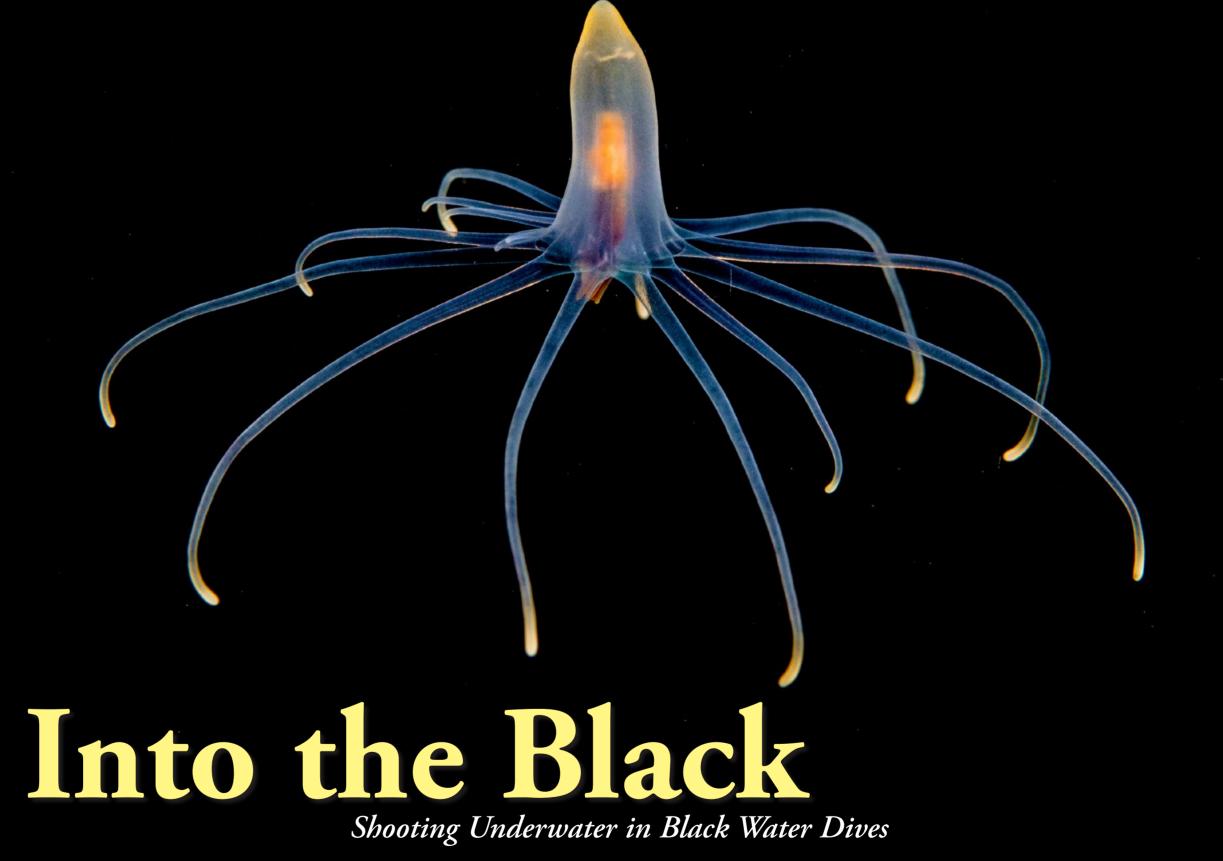
Origins

The term "blue water diving," coined by William Hammer and company, happened as a need for effective research. While attempting to study planktons, they discovered that the fine mesh nets they were using to collect them were actually destroying some of them. Curiosity drove

them to dive down to observe and record them in their natural habitat—open ocean.

the "greatest migration of animals on the planet that happens every night, just off-shore". Millions of planktons migrate vertically from the depths. They disperse, feed and then return to the depths, all under

the cover of darkness, when most filterfeeding marine mammals are resting. stunning images were actually captured by placing as many as 20 torches into the sand, facing upwards at night, which in turn, attracted inshore planktons and the subjects that feed on them. We now call



David Attenborough eloquently describes the movement of planktons as

The term "black water diving" was coined by a Japanese award-winning photographer named Ryo Minemuzo. His su



X-RAY MAG: 83: 2018 EDITORIAL FEATURES TRAVEL NEWS WRECKS EQUIPMENT BOOKS SCIENCE & ECOLOGY TECH EDUCATION PROFILES PHOTO & VIDEO PORTE



Smoking squid. These smaller pencil squids will dart in to feed on the small subjects attracted by the lights, occasionally running right into us.

Most of the time, they will leave small ink trails, which tip us off to their presence, without ever seeing them.

this method "bonfire," which is conducted in the shallow waters over sand or rubble and near, or over, a reef. While bonfire diving is a great way to study larval subjects in the shallow waters, the real black water experience only happens in open ocean.

For the real black water diving experience, open ocean is your destination, over very deep water, away from any reefs and the sea bottom. The differences between these two habitats are quite significant, and both are just as interesting, fun and as surprising as the other. In fact, you are most assured to say, "What is that thing?" repeatedly, both on the dive and while processing your images in post.

Personal experience

My first experiences began much like the scientists above, when a group of friends in the United States invited me along to join them in hopes of photographing jellyfish off the Southern California coastline. The continental shelf approaches the coast near Dana Point, approximately five miles from shore where the substrate drops off to abysmal depths. Here, the currents push up and bring



Japanese snake blenny. There is no telling what will be attracted by the lights as you drift on the current. Most of the time, you will only get a few chances to shoot a subject. On this occasion, this snake blenny made several approaches, allowing me to get a few extra shots of it.



with them giant salp chains, comb jelly and a myriad of other horizontal drifters.

A few years later and after seeing a friend's images of black water subjects, my interest churned again, which compelled me to get out there and see it for myself. I have always been curious by nature, and this next step seemed like the most logical one for me, jumping into the open ocean at night.

Dangers and safety measures

There are several ways to get set up for a safe black water experience. Some divers prefer to tether themselves to a downline while others, like myself, prefer the freedom of not being tethered at all. As one could imagine, this style of diving has an inherent exposure to danger, so a few precautions should be taken to mitigate it. It is not what is in the water that poses the real danger—the real danger in black water diving is complacency.

In the beginning, our dive team would simply tie off a rope with a light on it to the balancer of our banca boat. More than once the surface wind picked up, and the boat began dragging the line faster than we could kick. Watching a line that is attached to a boat while drifting and searching for small subjects in open ocean at night, does not exactly make for a relaxing experience.

After some time of doing this and many more black water dives under the belt, our system has been improved to create a safer and more conducive dive experience. The latest version of our rig has a lit buoy attached to the top of our 30m downline.

Our downline is equipped with video lights pushing 35,000 lumens of inviting warmth out into the dark night waters. The buoy line drifts free from the boat, with the current, this style of black water diving is like being suspended in space with nothing moving around you. The boat follows closely behind as we drift, sometimes several kilometers on a single dive, without even knowing it. This technique is by far the best method we have used so far.

A couple of things that I like the most about black water diving is that it is impossible to set up a shot. There is just no way to stop something or to get a second chance





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82 X-RAY MAG: 83: 2018

2018

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Juvenile Moorish idol in settling phase photographed on black water dive in Anilao, Philippines (left)

Flying fish (right). Black water diving is not always about going deep. In fact, some of the coolest stuff can be right on the surface. I always leave a little gas in my tank to search just below the surface for subjects like flying fish. These are what I would call a "high value target."

if you missed it the first time. It is all about hunting, drifting and shooting your subject as best as you possibly can at that moment. The other thing I like and probably the most, is the opportunity to see something that is truly unique.

Safety tips

Drifting in the dark of night in open ocean should be taken seriously and prepared for properly so that you may enjoy the experience enough to repeat it over and over. Keep safety first and secure yourself physically and mentally with proper preparation:

- Discuss a bail-out plan or measures to take if a diver should drift out of sight from the line.
- Do an emergency recall from the boat.
- Limit the amount of people to small groups.
- Turn on focus lights.
- Never let your ego, or anyone else's, override common sense.



Larval mantis shrimp photographed on black water dive in Anilao, Philippines



Polish your dive skills

Your diving technique is almost as critical as your shooting technique while drifting and will take some practice. The more times you do this style of diving, the better you will become at both recognizing subjects and how to approach them. Give yourself three or four attempts before the magic begins to happen.

In this new black world, transparency rules the night. As you drift along, your torch will become your best friend for finding and tracking your subjects. Slowly move around with the current and search for your subject. Once a subject is spotted, advance slowly. Try to use its momentum in your favor. Remember that your personal pressure wave can



X-RAY MAG: 83: 2018 PHOTO & VIDEO



Lionfish larvae (left) and jelly with driftfish (below) on black water dives in the Mimpi Channel, Bali, Indonesia

ilao, Philippines, we do a lot of black water dives using a map of the depths of the local bay and channel. This helps us to figure out the best places to jump in and for what reasons. I can say, confidently, where we can find one kind of subject like jellyfish versus subjects like fish larvae, but the truth of the matter is, one cannot really predict what will be seen.

Another way to attract planktons can be done on any night dive. Simply use a torch that is at least 2,000 lumens positioned in

the sand and facing deeper water. We call this style "bonfire" diving. This style is more inclusive of divers learning buoyancy, or those that are not comfortable with open water diving. I use two or three torches but have had just as much luck with a single torch. I have even dangled a light from a boat over deeper water, while tied off to a mooring ball. There really are many ways to experiment, and again, there is no way to tell what will show up.

United States. Black water diving is agining popularity and in many different areas, making it possible to plan for it as a part of your next dive trip. The dive operations in Kona, in the US state of Hawaii, have been doing this for many years and are probably the first operations to do

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cause the delicate little drifters to close up or get spooked. Try to let them come to you and use as little movement as possible. The idea is to find a subject and calmly drift along with it and photograph it as best as you can. Being auick on the shutter release and timing your shot are important. Keep your eye in the viewfinder, and your head in the game.

Some black water locations

Bali. I recently indoctrinated several new divers to black water diving while hosting a work-shop on Bali in Indonesia. Black water diving was just a side dish to the workshop, but it quickly became the hot topic and everyone wanted to join. I am certain we were the first in that area, if

not the entire island, to do black water diving, and it was well worth it.

We ventured out into the open ocean from the Mimpi Channel until it felt deep. Judging by the proximity to a local island and, of course, the local knowledge of the dive guides and boatmen. The dive started out well and finished even better, with many unique finds and many happy divers. In fact, the chattering on the boat after the dive was a stark contrast to how it sounded on the way out to do the dive. Nerves were a bit tense amongst the newbies as the boat puttered out further and further.

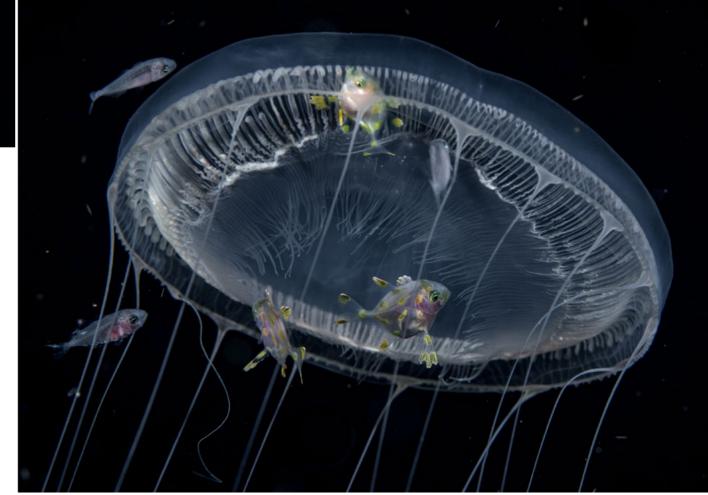
Philippines. In my dive courses at An-

it commercially, when they introduced the "Pelaaic Magic" experience. Funny as this seems, with all of my diving in Hawaii, I have not done it there yet.

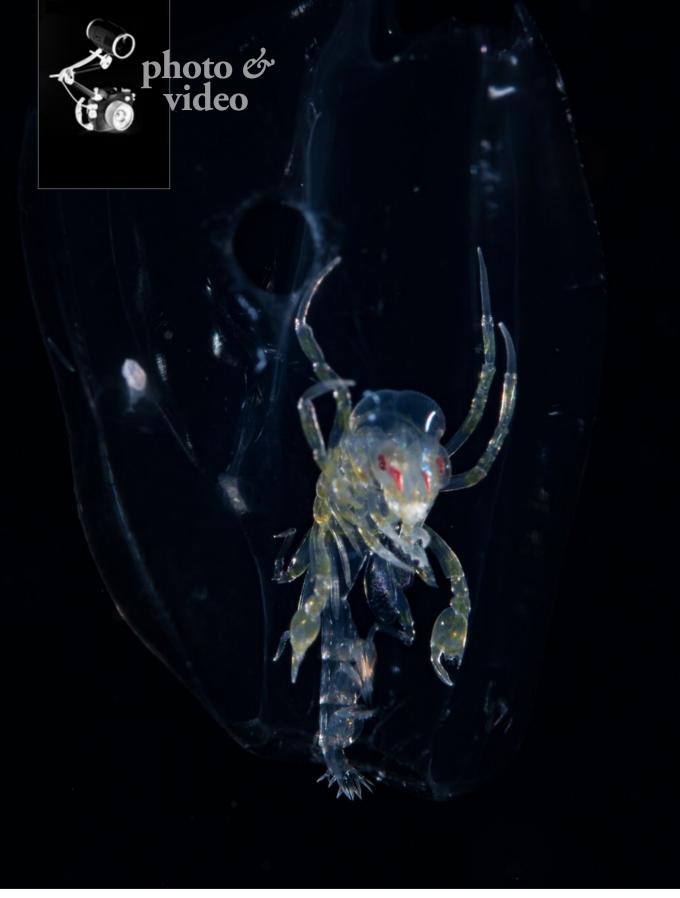
Another really active US location is West Palm Beach, Florida. Approximately five miles from the coast, the gulf stream approaches the shoreline, and the locals have been finding some very special subjects. The dive operations offer black water diving several times a week, and you will most certainly have several locals on the boat to help with any questions.

Photo technique

Be ready for the shot by gearing up properly. The best lens for an Advanced Photo System type-C (APS-C) framed SLR is hands down



X-RAY MAG: 83: 2018



Phronima sp., also known as a pram bug, is an aggressive little amphipod that can be found in every ocean throughout the world, with the exception of the polar regions. They are thought to be either parasitoid or parasitic, but cannot be thoroughly studied unless you are in their environment. Similar to crabs, Phronimas leave the safety of the sea bed to take up residence in salps. The Phronima will settle on a single salp, eat the interior guts, lay their eggs and use them to raise their young, moving around with ease in their protected, hydro-dynamic nursery, and saving their energy for momma duties.



A juvenile pelagic octopus riding a *Pelagia nocturna* jellyfish photographed on black water dive in Bali, Indonesia

the 60mm lens. I have used the 105 but ended up missing several great opportunities. For full-frame (FF) camera rigs, I suggest the Nikon in DX mode and a 60mm lens, or for Canon FF, a 50mm macro lens.

Strobe position is important too, and water clarity must be judged often to determine the best ways to light your subject. Remember the subjects are small, for the most part, palm-sized at best, barring the occasional squadron of squids that might come in to investigate.

For the close work, my strobes are usually turned in, facing the 8 and 4 o'clock positions on the opposing strobes. For shooting further away, I will swing my strobes back to an outward position. Backscatter is a big issue for black water diving, but it is not such a bad thing. Open water is the habitat

of the subjects we are shooting, and as long as the backscatter is not critical, then do not worry about it. Just try to limit the amount of backscatter in the frame, think fast and work those strobes.

What you will see

Depending on the depth of the water, time of night and luck, much can be seen. You do not need to go deep, though, so stay with the hunt all through the dive. (See the images and captions for examples of marine life seen on black water dives.)

Anilao is set on a peninsula with two bays, one on either side. My team of divers has been exploring the depths now for a couple of years. Recently, we have acquired a map of the sea floor, which has helped us to determine the areas to target. Drifting in the "deep end of the Verde Island Pass" has been

a long-time goal of mine. With the construction of our new downline, we plan to do a lot more of it.

Black water diving is an exciting way to add a new dimension to your portfolio, guaranteed to re-ignite your curiosity for the ocean. Once accomplished, you will soon find yourself counting down the hours of daylight before getting out to do it again.

Now get out there and have an adventure! ■

Mike Bartick is a widely published underwater photographer and dive writer based in Anilao, Philippines. A small animal expert, he leads groups of photographers into Asia's underwater realm to seek out that special critter. For more information, visit: **Saltwaterphoto.com**.



X-RAY MAG: 83: 2018

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User Review: The Olympus Tough TG-5

Text and underwater photos by Lawson Wood

I was sent recently a new small compact camera by Olympus to test on home grounds as opposed to taking it away to perfectly warm, perfectly clear, overseas destinations. Considering that most new compact cameras are aimed at a local market, it made sense to try this one out at home. The new little compact is the Olympus Tough TG-5.



This review is NOT a scientific test, nor is it a blow-by-blow account of how every setting works. This is a user review written after taking the camera into the water for the first time and exploring its capabilities as I went along on the dive.

Features

Maybe it is just me, but when I first get my hands on a new camera, I kind of explore it before I even look at an instruction manual. Speaking of which, you really have to download the BIG and expanded manual (free) to get the most out of this amazing little device. (See: http://cs.olympus-imaging.jp/en/support/imsg/digicamera/download/manual/tg/man_tg5_e.pdf).

Settings. So, checking out the dials on the back, there are a couple of new settings. Undoubtedly this is the King of the macro compact cameras as there is not only an "Underwater" setting (more on that later) there is also a microscope mode, also with

three settings. By far this is the greatest magnification ratio available on any compact cameras in the market today. I was able to zoom in to a small cowrie and even smaller nudibranchs. Thank goodness, I had the camera to be able to see the subject!

Sensors. This handheld compact also has a 12MP CMOS backlit sensor. It is the same as the sensor in the topof-the-range Olympus

OMD E-M1, which makes for massive sharp images, high speed writing to the memory card and allows a maximum of 20 fps. The raw buffer is 14fps, but in only JPEG mode, it is almost like a slow-motion movie. Speaking of which, this Olympus TG-5 is able to shoot at 4K high speed and a full 1080 120p, which can be slowed down in post-production to only 30p



for some amazing slow action shots.

The camera also includes full image stabilization, so video and stills are always sharp. There is a dedicated movie button for the full 4K, but one can operate recording in any other modes, including the microscope setting, but at 60p.

The 12-megapixel image sensor gives the best image quality, with

86 X-RAY MAG: 83: 2018

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increased image detail and much less noise than anything else out there of this size and style of camera. The TruePic VIII image processor is able to deliver high resolution photographs, especially when shooting in low ISO. This image processor, taken from the Olympus Pro flagship system camera OM-D E-M1 Mark II, has an improved image processing algorithm, which is even more powerful, delivering higher image resolution in lowcontrast areas especially when shooting at low ISO sensitivity, which can go to 12,800.

Zoom lens. There is also a 4x zoom lens, which is standard, giving the 35mm equivalent of





25-100mm zoom telephoto. With an F:2 setting at maximum aperture, it is perfect for low-light shots.

Modes. For underwater photographers, there are special modes incorporated: Underwater Wide, Underwater Macro, Underwater HDR or Underwater Snapshot. And for all us fans of macro, the TG 5 has an advanced, four mode variable macro system, with micro-

scope, microscope control, focus bracketing and focus stacking modes.

Internal flash. The camera's internal flash is easily accessible through the rear control wheel, allowing you to change settings to suit the subject and situation, whether you want it at full power, fill-in only or off—you can do this as you go. Similarly, you can

adjust the resolution of the photograph the same way.

Underwater settings. The underwater settings on the camera can also be changed as you go, with Underwater Snapshot—in which there is a compensation filter added when close to the



7 X-RAY MAG: 83: 2018

EDITORIAL

FEATURE

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nated across the screen warning you of the depth. At 15m (50ft), this warning is a much more obvious signal, with a large red triangle and depth warning. I am sure that if it could make noises, it would!

Housing. Should you wish to extend your depth range, there is an underwater housing also made by Olympus. All the camera's functions are accessible. and this case is waterproof depth rated to 45m (150ft). There is a fibre-optic connector to connect an external flash, such as the UFL-3. This is in effect operated as a slave flash by the firing of the camera's internal flash when taking a photograph. The housing is also neutrally buoyant underwa-

Flash diffuser. The one item that I really love with this camera is the flash diffuser—the FD-1. As we all know, using the integral flash with a compact camera is often a challenge, particularly in macro, as the flash is located in the top

left portion of the camera with a light output that may be cut off by the position of the lens in relation to the flash—particularly in macro or close focus/wide anale shots.

the lens, creating a ring flash something which many underwater photographers would love to use for macro and extreme close up photography. This allows an even output of light to illuminate a subject. The diffuser even incorporates a lever for adjusting the strength of the flash. By controlling the exposure of the subject in the foreground, one can darken the background and make the subject stand out—to spectacular effect.

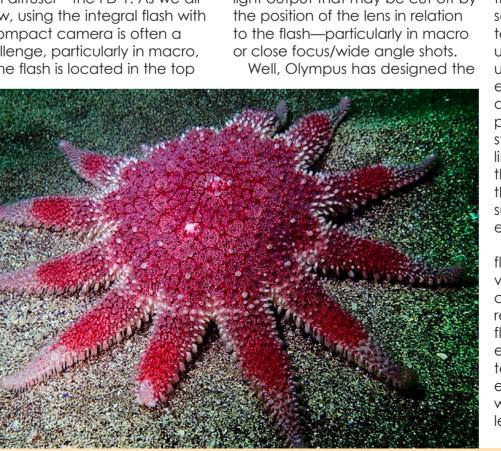
flash diffuser to fit directly around

Although you cannot use this flash diffuser with the fisheye converter, this wide-anale lens can be connected whilst underwater or removed at your whim, fitting the flash diffuser as usual, to greatly expand your versatility underwater. Unlike other compact cameras of this type, you can attach waterproof converters and 45mm lens filters, using the conversion

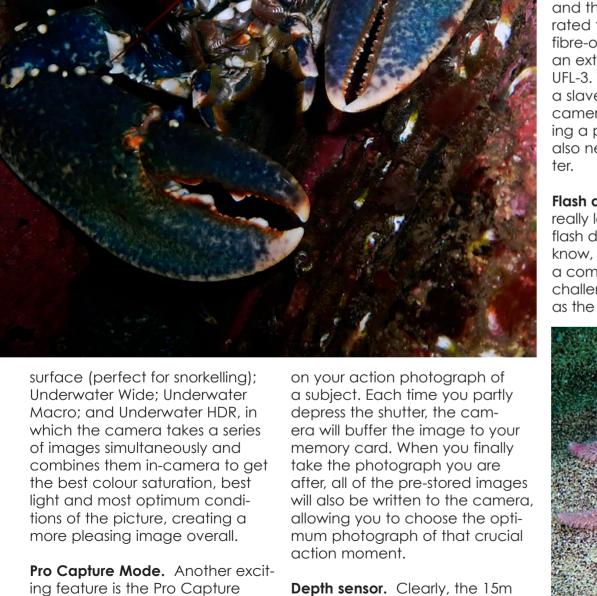
lens adapter. This fisheye lens allows for full wide-anale shooting, without sacrificing the brightness of the TG-5's F:2 lens. The angle of coverage is 130-degrees and has an extended focal lenath of 19mm.

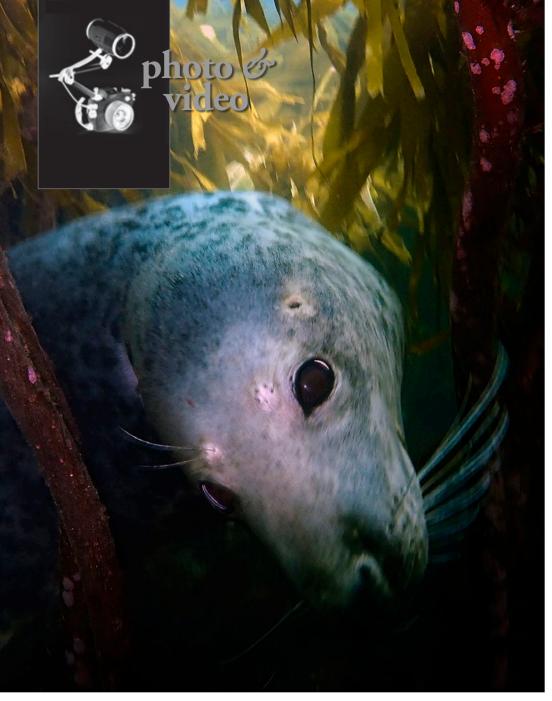
Tele-converter lens. Last, but not least, is the tele-converter lens, which is able to extend your actual focal length from 100 to 170mm. With its incredible, superresolution zoom, it will reach a maximum of 13.6x magnification and still at the F:2-rated lens.

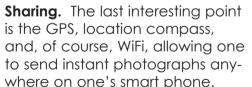
Flash. Olympus does have its own flash and it recycles at two seconds, has a respectable quide number of 22 and is depth-rated to 75m. But the camera will, of course, accept any proprietary flash that is fired by slave through an optical lead.











Maintenance and cleaning There are two waterproofed com-

partments. One underneath the camera, which holds the battery and memory SD card; the other is on the left-hand side, protecting the charging ports (USB & HDMI). Both have a double-lock mechanism, so please make sure that there are no hairs or dust anywhere near the silicone gasket

before closing the camera.

After a dive, remove any attachments and place all of the bits into warm water for ten minutes or so to allow any salt particles to dissipate. Allow the camera and accessories to dry naturally, and wipe with a dry, lint-free cloth. Then you are ready to go again!

So, the questions are: **Am I impressed?** Yes absolutely! The Olympus Tough TG-5 is small and lightweight, with lenses that are interchangeable underwater; it is waterproof to 15m and has



the best macro and micro facility of any waterproof underwater camera on the market.

Does it do what it says on the packet? Much more than that! I was totally blown away by how versatile the camera is and how easily adaptable it is for changing lenses underwater without any loss of clarity or quality of photograph. The ring-flash gizmo is superb!

How does it handle underwater? It is quite small and compact, but that is the nature of the beast. It would be nigh on impossible to operate the camera with thick neoprene gloves on, but

for adventure sports; any wet or muddy work and yes, even an hour underwater off the St. Abbs and Evemouth Marine Reserve in Scotland's North Sea, did not leave me undeterred.

There is one point though. I tend to use a small movie light by LUME CUBE [see my next review], which I fix onto the handle of a small bracket via the accessory screw on the bottom of the camera. Working in micro close-up, the variable output from this little light negated the effect of needina flash. The camera responded extremely well for "natural" light, even in wide-angle mode. It handled this type of light on the Automatic setting, allowing the

camera to do the thinking for me, and it worked amazinaly well.

Would I own one? Certainly! This would be an easy add-on to my other Olympus equipment, as I currently use the OMD EM-1. The price for many can be prohibitive, particularly if you want all of the must-haves that go with it. But overall. I feel that the innovations are well worth the price tag.

and accessories to others? Much more difficult to answer, as I have also to think of others and perhaps what their uses would be. You should never just look at a camera as a single entity; rather it is the start of a comprehensive and versatile system. The Olympus Tough TG-5 fits that bill admirably, as the supplementary lenses and flash diffuser raise this little waterproof camera to a much greater level of status.

Final thoughts

Overall, I have no hesitation in camera for everyone. I am con-

Would I recommend the camera

stantly amazed at how technology is advancing. I look forward to the next generation of underwater cameras, which are becoming more and more like the old Nikonos film cameras. These new, digital compact cameras just need a better depth-rating, and we will have moved full circle.

The Olympus Tough TG-5 is a joy to use, and I am learning more about its excellent capabilities every time I enter the water with it.

Lawson Wood is a widely published underwater photographer and author of many dive guides and books. For more information, visit: lawsonwood.com.

recommending this BIG, little





Olympus TG-5 digital camera US\$ 449.00* / GB£ 399.00

Underwater case PT-058 US\$ 299.99* / GB£ 259.00

External flash UFL-3 US\$ 499.00* / GB£ 319.00

Flash diffuser FD-1 US\$ 47.95* / GB£ 49.99

Wide-angle fisheye converter FCON-T01 US\$ 169.00* / GB£ 120.00

Tele-converter TCON-T01 US\$ 129.00* / GB£ 129.99

Conversion lens adapter CLA-T01 US\$ 19.00* / GB£ 20.00

Silicone protective cover TG-5 US\$ 26.95* / GB£ 29.99

(Additional arms, brackets, connecting shoes and optical lead will cost extra, but all are made by a variety of companies, and all are a standard fit and design).

* Prices listed are approximate.

X-RAY MAG: 83: 2018 PHOTO & VIDEO



THIS PAGE: First place winners in the Open Class;

RIGHT: Open Class, Cephalopod, 1st Place: Lilian Koh of Singapore. Koh also won the DOT-PAL Photographer of the Year Award for this image.



Fifth Anilao Underwater Shootout winners announced

Anilao in the Philippines is home to some of the rarest underwater species on the planet. This location was also the base of the 5th Anilao Underwater Shootout, presented by the Department of Tourism (DOT) and co-organized by Philippine Airlines (PAL), in Mabini, Batangas.

Dubbed the "World Cup of Photo Competitions," the Anilao Underwater Shootout drew 173 divers and underwater photographers from Asia, Europe and

North America. The awards night and closing ceremonies at Camp Netanya were officiated by DOT Undersecretary Benito Bengzon Jr., with a keynote address by Secretary Wanda Corazon Tulfo-

Open Class

Macro/Supermacro category, winners included: Wu Yung Sen of Taiwan, 1st place; Hongchao Yao of China, 2nd place; and Navapan Janjarasskul of Thailand, 3rd place. Marine Behavior category winners included: Cem Gazivekili of Turkey, 1st place; Seungchul Yang of South Korea, 2nd place; and Wen Chih Yen of Taiwan, 3rd place. Nudibranch



Open Class, Marine Behavior, 1st Place: Cem Gazivekili of Turkev



Open Class, Nudibranch, 1st Place: Cem Gazivekili of Turkey

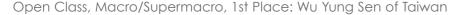


Open Class, Fish Portrait, 1st Place: Wen Chih Yen of Taiwan

category winners included: Cem Gazivekili of Turkey, 1st place; Songda Cai of China, 2nd place; and Hakan Basar of Turkey, 3rd place. Fish Portrait category winners included: Wen Chih Yen of Taiwan, 1st place; Wayne Jones of Austria, 2nd place; and Dennis Corpuz of the Philippines, 3rd place. Winners of the new Cephalopod category included: Lilian Koh of Singapore, 1st place; Wen Chih Yen of Taiwan, 2nd place; and Peichi Chiang of Taiwan, 3rd place.

Compact Class

All the Macro/Supermacro category winners were from the Philippines: PJ Aristorenas, 1st place; Penn De Los Santos, 2nd place; and Ma. Nerissa Fajardo, 3rd place. Marine Behavior category winners included: PJ Aristorenas of the Philippines, 1st place; Penn De Los Santos of the Philippines 2nd place; and Virginie Barfuss-Gofart of France, 3rd place. All the Nudibranch category winners were from the Philippines: Ronald Dalawampu,



X-RAY MAG: 83: 2018

EDITORIAL

SCIENCE & ECOLOGY



1st place; East Pardillo, 2nd place; and

Jonathan Christopher Veridiano, 3rd

place. Fish Portrait category winners

included: Jorge Ida of the Philippines,

1st place; Nancy Berg of the United

States, 2nd place; and PJ Aristorenas

of the Philippines, 3rd place. All the

Cephalopod category winners were

Special prizes were awarded to Ryan Berg of the United States in the Special

Beginners category, and Yung Sen Wu of

Taiwan in the Blackwater/Bonfire category.

DOT-PAL Photographer of the Year

Two photographers were awarded the

Award, sponsored by The Department

DOT-PAL Photographers of the Year

Yee, 3rd place.

Honorable mention

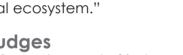
were from the Philippines: Ian Amboy, 1st place; PJ Aristorenas, 2nd place; and Eric THIS PAGE: First place winners in the Compact Class. BELOW: Compact Class, Fish Portrait, 1st Place: Jorge Ida of the Philippines. BOTTOM CENTER: Compact Class, Marine Behavior, 1st Place: PJ Aristorenas of the Philippines

of Tourism (DOT) and Philippine Airlines (PAL): Singapore's Lilian Koh for her Open-Cephalopod image, and the Philippines' PJ Aristorenas for his Compact-Macro photo. During the awards ceremony at Camp

Netanya in Mabini, Batangas, Tourism Undersecretary Benito Bengzon Jr. said: "As the event grows and evolves, so does our goal in recognizing and highlighting the importance of Anilao as a dive destination with a unique and critical ecosystem."



This year's panel of judges tojournalist and aquatic



included renown names in underwater photography, such as veteran National Geographic photographer David Doubilet; pho-





biologist Jennifer Hayes; William Tan of Singapore; Tobias Friedrich of Germany; Cannes Palme d'Or winning photographer Scott "Gutsy" Tuason; and Cebu-based Japanese marine researcher Yoshi Hirata.

Compact Class, Cephalopod, 1st Place: Ian Amboy of the Philippines

Sponsors The 5th Anilao Underwater Shootout took place in partnership with Nauticam and ScubaLamp Underwater Photography Equipment (SUPE), and was sponsored by Aiyanar Beach and Dive Resort,

Azure Dive

Resort, Balicasag Island Dive Resort, Buceo Anilao Beach and Dive Resort, Camp Netanya Resort and Spa, Fun In Taiwan (FIT), Pacifica Dive, Pier Uno Resort and Dive Center, RGBlue and Weefine.









Compact Class, Nudibranch, 1st Place: Ronald Dalawampu of the Philippines

91 X-RAY MAG: 83: 2018

EDITORIAL

FEATURES

TRAVEL

WRECKS

NEWS

SCIENCE & ECOLOGY