



# AQUATICA™

## Digital



*“The Aquatica monitor expands my creativity, giving me clear vision to shoot a variety of low angles and imaginative shots that are otherwise done blind.” - Jill Heinerth*

Deep down you want Aquatica  
[www.aquatica.ca](http://www.aquatica.ca)



## AZ6/7 Housing for the Nikon Z6 & Z7 Aquatica A5HD monitor

### AZ6/7 Housing

- ★ Stainless steel self-centering controls, just close and shoot!
- ★ Supports new Z-mount lenses and FTZ adapter
- ★ Ergonomic controls
- ★ Full access to camera controls
- ★ Machined 6061 T6 aluminum

Retail: \$2,995 USD

*Includes surveyor valve & pump*

### A5HD Monitor

- ★ Full HD 1920x1080
- ★ 1400:1 Contrast Ratio
- ★ 5.7" IPS LED-Backlit Display
- ★ Accepts 4K HDMI Input
- ★ Up to 4 hours running time\*
- ★ Peaking focus & false color tools
- ★ Available in black or red

Retail: \$2,195 USD

*\*Battery and charger not included*

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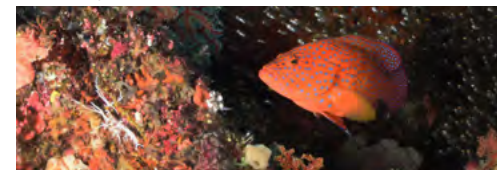


Cover shot by  
Phil Rudin

# Underwater Photography

A web magazine UwP112 Jan/Feb 2020

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Underwater Photography 2001 - 2020  
© PR Productions  
Publisher/Editor Peter Rowlands  
[www.pr-productions.co.uk](http://www.pr-productions.co.uk)  
[peter@uwpmag.com](mailto:peter@uwpmag.com)

## Is it photography any more?

My research into smartphone housings got me thinking. On land the vast majority of us take pictures with our phones; all we do is press a virtual button and we get an image. In the main we don't think about apertures and shutter speeds and, even in most scenarios, focus. We just 'take a shot'.

Then there's the fact that there are now cameras which allow you to refocus an image after it has been taken not to mention phone apps and computer software which will transform your image with another touch of the virtual button.

They allow us to do things that photographically were either impossible or certainly only possible after a lot of time consuming work. Colour correction, unsharp masking and solarisation are three that spring to mind but there are dozens of others.

So my point is the photography part of image creation has changed beyond all recognition. Fortunately the photographer's eye is still important in terms of composition but there are apps which will warn you that the horizon's not straight and I'm sure it won't be long before they'll be able to flag up a composition warning.

At that stage, will it be photography anymore?

# Editorial

## Flashguns

I was delighted to read Phil Rudin's review of the Backscatter Mini Flash MF-1 and it's SN-1 Snoot. Not because it was an excellent review (which Phil's always are) but because the powers that be at Backscatter have called it a flash rather than a strobe.

They say the English and the Americans are divided by a common language but not when it comes to sidewalks and pavements, boots and trunks, fannies and fannies and comparatively recently flashguns and strobes!

Sure we can have different words for the same thing but not the wrong word. You see, a flashgun creates a single pulse of light and a strobe emits multiple pulses as in stroboscopic. When underwater photography evolved from disposable flash bulbs to the wonders of an electronic flash that's what we continued to call them. But somewhere down the line I think it's fair for me to accuse the Americans of calling them strobes (which is actually short for stroboscopes!)

So I say good on you Backscatter. I hope you've started something which will catch on with other manufacturers :-)

## Killer iPhone

Despite coming into an already developed market in 2007 the iPhone has become the most popular smartphone but it has killed a lot of products in it's path.

Calculators, sat navs, compasses, voice recorders, the list can go on and does, to a certain extent, include cameras; but not, to any significant extent, underwater cameras. Why?

Well I think it's because most of the housings are not controlling the functions which would make it an underwater camera killer.

On land, for photography the iPhone sucks ergonomically, but if you housed it with handles and a good shutter release you'd be part way there but for reasons which I think Apple are to blame, nearly all housings do not control the Pano or SloMo functions on the camera and to my mind those two functions could well become an underwater camera killer. Wide angle vistas without the need for a wide angle lens? 1080p HD video at 240fps? Perfect.

Just as the iPhone entered an already developed market so too could an underwater housing manufacturer by providing something which exploited all of the amazing functions which the iPhone camera is capable of.

## Featured Product

I decided in this issue to highlight a product which I think is different. This issue on page 26 it is the Kraken Ball to Ball arm QD adaptor which allows you to Quick Disconnect a ball joint arm.

I am always on the lookout for products that improve life and the Kraken adaptor certainly does that but if you think a certain product makes a difference please let me know and I will highlight it.

Ideally it should do something that nothing else does (until it is copied!) so thinking caps on and I look forward to hearing from you.

**Peter Rowlands**  
[peter@uwpmag.com](mailto:peter@uwpmag.com)

# News, Travel & Events

## Houston Underwater Film Festival

April 18 and 19, 2020

The first annual Houston Underwater Film Festival (HUFF) is now open for submissions of original underwater videos. Anyone can enter and there are no entry fees!

HUFF aims to promote underwater film making and appreciation of the beauty and diversity of all things underwater as well as encouraging the art of underwater film making. Underwater videographers from around the world are invited to submit entries for consideration for screening. The deadline for entries is January 10, 2020 and the festival will take place April 18-19, 2020 at the 14 Pews Theater in Houston, Texas.

5 Categories:

Novice (up 2 minutes) - Open to new filmmakers who seek assistance in post processing. Each film will be assigned to an experienced videographer from the Houston Underwater Photographic Society who will help edit and color correct



the film, add titles, music, etc.

Fixed Lens (up to 2 minutes)  
Films shot with cameras without interchangeable lenses. (Go Pro, SeaLife, etc.)

Short Video (up to 2 minutes)  
Feature Length (2-5 minutes)  
Made in Texas - Films made by underwater videographers living in Texas

[www.hups.org](http://www.hups.org)



## Ikelite Ambassador Elena Kalis

Ikelite Ambassador Elena Kalis picked up underwater photography as a way to extend her traditional art background. Using her Bahamian “backyard” as the backdrop and her young daughter as a model, she started creating.

The resulting Alice in Waterland series went viral on the web and garnered the attention of thousands of fans around the world. Now in addition to her art exhibitions and commercial work, she devotes much of her underwater energy to promoting environmental conservation efforts.

“For more than a decade I have been creating underwater photographic images that have drawn enthusiastic response from around the world.

With my daughter, who has been appointed the first ambassador for the Bahamas National Trust, we are bringing attention to the Trust’s conservation work and management of over two million acres of National Marine Parks.

[www.ikelite.com](http://www.ikelite.com)  
[www.elenakalisphoto.com](http://www.elenakalisphoto.com)

[www.uwpmag.com](http://www.uwpmag.com)

GregorySweeney.com Photography Adventures

Baja, Mexico  
*Striped Marlin*

Isla Mujeres, Mexico  
*Whale Sharks*

Magalena Bay, La Paz, and Cabo Pulmo Park  
November 2020 July 2020

## Tiger shark & Great Hammerhead Diving 9 Day Live Aboard



Underwater at Tiger Beach Bahamas several large tiger sharks cruise in a pattern while lemon sharks mingle with graceful Caribbean reef shark. At nearby Bimini, migrating great hammerheads arrive to snack on stingrays while bull sharks lurk in the same waters.

Diving without a cage among these large sharks allows you to get up close and personal for a thrilling adventure full of action. Seeing this many species of sharks is an opportunity to appreciate and value their role in our oceans.

February and March is prime shark season. Choosing a charter that departs from/returns to West Palm, Beach Florida makes for easy flight connections to any southeast Florida airport whether by train or car..

Our boat is the MV Dolphin Dream, a 86' expedition charter yacht with 5 shared cabins, diving

platform, and a large galley with plenty of deck and upper deck space.

It holds 10 guests plus crew and is very stable and comfortable to ride through the Caribbean waters. Divers must be experienced: these are long and multiple dives with no cages and filled with the consuming action of sharks swirling around you.

Photographers will enjoy the clear water and bright sand bottom and taking images of sharks over the green sea grass or reefs. The hammerheads and tigers come close to divers creating opportunities for beautifully detailed video or stills.

Underwater photographer host Gregory Sweeney is your host and is available to offer photography help and tips during the trip and while preparing for travel.

[www.TigerSharkDive.com](http://www.TigerSharkDive.com)


GregorySweeney Photography Adventures

Tiger Shark & Hammerhead  
Diving Adventure

[www.TigerSharkDive.com](http://www.TigerSharkDive.com) Feb & March 2020



Tiger Beach & Bimini Is., Bahamas

## Baja Mexico Dive Safari November 2020




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**DAVID FLEETHAM**      **ERIK LUKAS**



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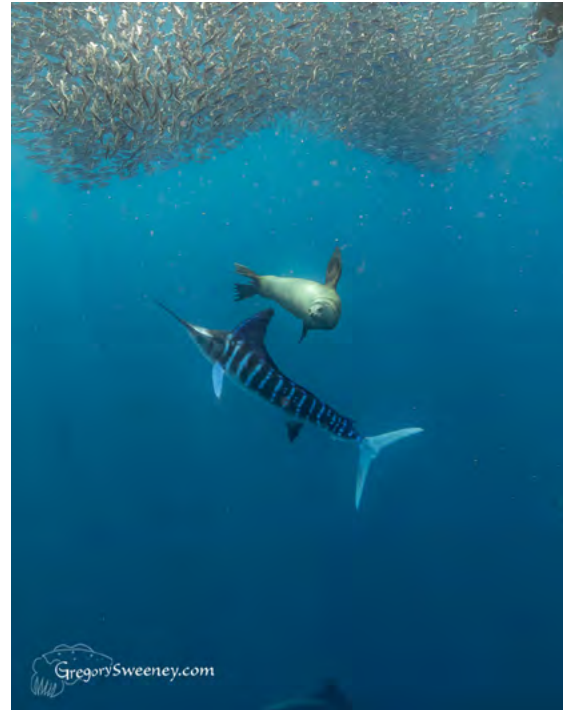
Join us on a real marine adventure for photographers as we dive with sharks, dive a pristine reef with a chance for humpbacks, join a moonlight ballet with mobula rays, then chase bait balls with striped marlin and other predators: we will be in the action with fast and elusive predators

### Trip Overview:

The adventure starts in Cabo Pulmo National Park where protected marine habitat and pristine coral draws an enormous amount of tropical fish, seals, turtles, and more. Large schools of jacks are an awesome sight as the formation pulses and morphs before us. We do dives specifically for bull sharks who lurk and patrol on the scattered remains of ship wrecks.

After 2 days of diving, we transfer to La Paz where we do a dive unique to La Paz: a night dive with Mobula Rays. Plankton are drawn like a magnet to our lights and schools of rays come swooping in to dive down to feed in the sand. It is non-stop swirling action at night.

On to Port San Carlos where



Magdalena Bay is host to the largest striped marlin migration in the world. We will be on our own boat from 7am to 4pm looking for sea birds who will point us to the epic hunting action going on underwater. The marlins hunt the sardines as do the sharks and seals. Under the surface will be a frenzy of action as marlin hunt in cooperation containing and maneuvering the bait balls. One by one they attack the sardines and take their meal. To conclude the trip we transfer back to La Paz for our return travels.

### Includes:

- 9 nights accommodation in Single Room (discount for Sharing)
- All transfers between Cabo airport, Cabo Pulmo, La Paz, Port San Carlos, back to La Paz airport
- 2 days of 2 tank diving in Cabo Pulmo, 1 night dive with Mobula ray in La Paz
- 4 full days on boat for striped marlin

[www.GregorySweeney.com](http://www.GregorySweeney.com)



[www.bunakenoasis.com](http://www.bunakenoasis.com)  
[info@bunakenoasis.com](mailto:info@bunakenoasis.com)



Set in the world-famous Bunaken National Marine Park, Bunaken Oasis offers a truly luxurious diving experience.

Exceptional air-conditioned cottages with sea-view balconies. Chill-out bar, and gourmet panoramic restaurant.

Custom-built spa with qualified therapists.

Panoramic freshwater infinity pool

From water-makers, with UV treatment, to black water treatment, Oasis was designed to minimise any impact on the environment.

5\* PADI-affiliated dive centre, designed for photographers, and dive boats that are second to none, with freshwater deck showers, toilets and, above all, space.



## Basking Shark Weeks

With just under a third of spaces left for summer 2020 and our busy booking time coming up then we suggest booking spaces as soon as possible. Our week tours are the best length of tour as gives enough time to encounters good conditions, with the variables of the exposed Atlantic coast and shark food movements.

Tours run Sat-Sat from the Inner Hebrides of Scotland. Also chances to see seals, whales, dolphins, eagles, seabirds including the enigmatic puffin!



## Underwater Photography Week

We're running our scuba based underwater photography week again this spring. 5 days diving around Oban and the Inner Hebrides, a mix of animal encounter, stunning scenic diving, wrecks and hopefully some encounters with basking and spurdog sharks!

## Orca & Humpbacks!

We had a really great time in November past having moved our base much further north. We lost coast of the numerous humpback encounters and the week ended with a dramatic carousel feeding event! We really love our new lodge location in the fjords, which provided a great backdrop for northern lights with the added bonus of a bbq hut! November 2020 we're running two weeks with spaces already been taken. Come join us for an epic arctic adventure!

[www.baskingsharkscotland.co.uk](http://www.baskingsharkscotland.co.uk)

[www.uwpmag.com](http://www.uwpmag.com)



GRAHW EXHIBITION GROUP  
鸿威会展集团

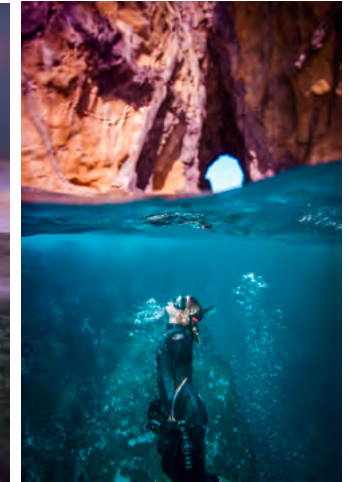


# Dive Guangzhou 2020

🕒 May 10<sup>th</sup>-12<sup>th</sup>, 2020

📍 China Import and Export Fair Complex

Land And Sea Photography Shootout With Scott Portelli  
11th - 18th April 2020  
\$3,950.00



*Photos © Adam Thompson*

## Land and Sea Photography

Shootout with Scott Portelli is proudly sponsored by Olympus.

WIN Amazing Prizes!

Package prices include:

Return flights departing from Sydney with QantasLink

7 nights accommodation at Leanda Lei Apartments

Return island airport transfers

Airport taxes

10 dives for divers, and 2 half day boat trips for non divers as either a snorkeler or passenger

Practical workshops with Scott Portelli

Dive and snorkel gear

Dive and snorkel leaders

Olympus camera equipment available for use amongst the group

Dinner on arrival

Gala Dinner to announce the winners and celebrate the event

Categories (Maximum 25

Photos)

Creative

Landscape / Seascape

Wildlife/Birds

Surf (Above and Underwater)

Macro Underwater

Wide Underwater

Portrait Underwater

Split shots (Over / Under)

Black and white Underwater

Portfolio (6 photos)

📧 [grand.fa@grahw.com](mailto:grand.fa@grahw.com)

☎ (+86)188 9869 2801

[www.prodivelordhoweisland.com.au/products/shootout](http://www.prodivelordhoweisland.com.au/products/shootout)

[www.uwpmag.com](http://www.uwpmag.com)

# Frame And Focus On Saba

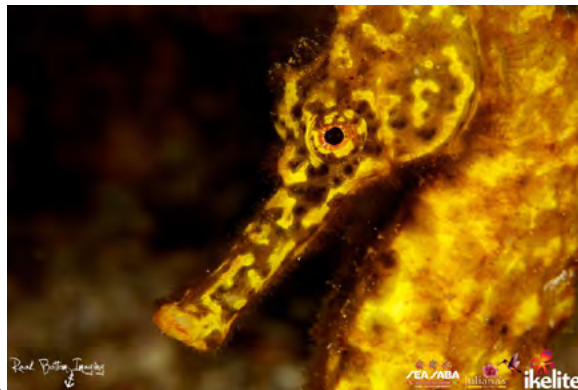
## September 26 - October 3, 2020

Underwater workshops are perhaps the fastest way to make dramatic improvements in your underwater photography. Join Ikelite Ambassador Andrew Raak for a week of photography workshops, presentation, and one-on-one interaction.

Saba is the Unspoiled Queen of the Caribbean: beloved for its old world charm and barely touched landscape. 28 miles southwest of St. Maarten, Saba is officially part of the Kingdom of the Netherlands. The Saba Marine Park protects 30 dive sites around the perimeter of the island.

This trip includes lodging in the charming Juliana's Hotel and diving with Sea Saba. Also included:

- 7 nights, 5 days of diving, 11 dives (includes 1 free afternoon dive)
- Afternoon Photography Workshops, and Evening Photography Presentations by Andrew Raak
- Tanks and Weights include (Nitrox Additional Add-On Fee)
- Includes airport/ferry transfers from Saba AirPort/Fort Bay Harbor
- Daily transport to and from harbor
- Daily breakfast
- Wine at happy hour (except Mondays)
- Two dinners and one to go lunch



Welcome drink at opening night presentation

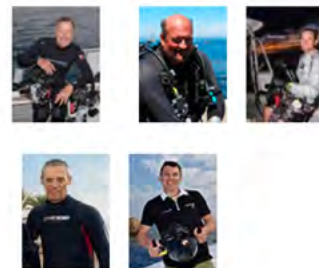
Hotel Amenities: Pool Access, DVD, Hair Dryer, Wifi, Pool and Dive Towel, Shampoos/Soaps, Flat Screen TV with satellite, Ironing Facilities, Coffee Maker, Mini Fridge

Starting at only \$1,419 based on double occupancy.

[www.RaakBottomImaging.com](http://www.RaakBottomImaging.com)



### Photo Pros



2019 - DSLR - 2nd Place - Reef Scenic - Judy Bennett

## 13th Annual MantaFest Photography School & Contest 2020 Yap, Micronesia, August 30st to September 12th

### Package includes;

- Hotel room w/ late check-out
- 2-tank dive days
- Nitrox
- Participation in photo contest
- Seminars and workshops
- Evening Media Presentations
- Shark split photo opportunity
- Land/culture photo opportunities
- Beach BBQ
- 1/2 day land/culture tour
- Local dinner
- Breakfast
- Roundtrip airport transfers
- Free Wi-Fi in public areas
- Hotel Taxes
- Wake-up service with coffee and tea

### 2020 packages:

- 4 night / 6 dives from: \$1,109
- 7 night / 10 dives from: \$1,799
- 11 night / 18 dives from: \$2,849
- 14 night / 22 dives from: \$3,489

### Photo Contest Categories

Digital SLR	Compact Cameras	Video	Beginner
<ul style="list-style-type: none"> <li>• Big Animals</li> <li>• Behavior</li> <li>• Land/Culture</li> <li>• Macro</li> <li>• Fish/Creature Portrait</li> <li>• Open / Creative</li> </ul>	<ul style="list-style-type: none"> <li>• Big Animals</li> <li>• Behavior</li> <li>• Land/Culture</li> <li>• Macro</li> <li>• Fish/Creature Portrait</li> <li>• Open / Creative</li> </ul>	<ul style="list-style-type: none"> <li>• Best Submission</li> </ul>	<ul style="list-style-type: none"> <li>• Best Beginner Photo</li> </ul>

[www.mantafest.com](http://www.mantafest.com)



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4 Day & 7 Day Tours - 100% Success in 2017 (2-3 Day Tours 83%)

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- Biggest Numbers & Most Consistent Worldwide Basking Shark Hotspot
- Based in Hebridean Isles
- Grey & Common Seals
- Whale & Dolphin Hotspot
- Puffins, Seabirds & Eagles
- Evening Photography Dives
- Stunning Scenery
- One - Seven Day Tours
- Guided by Marine Biologists
- Scientific Research Programme

## Photography with Fotografit & Lars Kirkegaard Egypt Nov 2020



Lars Kirkegaard is one of Scandinavia's most experienced underwater photo/video teachers doing several talks and workshops every year and judging numerous photo contests. He has now teamed up with Kingfish Dive & Travel to offer a fantastic photo safari heading to the Deep South & St. Johns in the Red Sea.



The trip is for people with special interest in photo- or videography and is aimed at anyone interested in seriously improving their underwater photography in an informal, friendly and non-competitive environment.

Lars will be on hand each day throughout the trip and there will be a team of Lars' staff along on the trip. The level of knowledge is high, and the trip is aimed at anyone who wish to learn and dive at the same time. Should you only have a GoPro or an old video camera it does not matter - the team cares more about the person behind the camera!

The whole trip is based on "having good time" and to get the best pictures and our experience is, that being this many people together with the same purpose will make sure you do "just that".

Along the trip there will be an opportunity to try out a selection of Nauticam wetlenses and iDivesite lights that Lars will bring.

Lars has been taking pictures underwater for more than 25 years and he owns the online shop FOTOGRAFIT.eu and sells underwater photo equipment all over Europe.

[www.kingfish.dk/egypt-photography-liveaboard-fall-0](http://www.kingfish.dk/egypt-photography-liveaboard-fall-0)

[www.uwpmag.com](http://www.uwpmag.com)

# Snorkeling with Sperm Whales in Dominica 2020

March 7 - 13

March 12 - 18



Our past experience has observed Dominica's west coast hosting approximately five sperm whale families, each with five to nine cetaceans. Females and their calves comprise the majority of these groups, although we occasionally encounter males, who are 45 to 55 feet long; thirty percent larger than the females. Families frequently socialize by playing in the water. Other times, they may remain stationary in a vertical position.

Sometimes the pod swims slowly allowing us to fin with them, while other times their speed picks up. We always follow them at a safe distance

until they abruptly stop, waiting for us to catch up. Each encounter offers a different opportunity, one more exciting than the next.

Professional Nikon Photographer specializing in underwater imagery. As an avid scuba diver and ocean enthusiast, Amanda's goal is to help the general public embrace the beauty below the waves, in hopes that with awareness comes concern. The conservation and preservation of this ecosystem is of the highest priority to Amanda.

[www.biganimals.com](http://www.biganimals.com)



Issue 112/12

# ALOR

## DIVERS

*a resort where diving is passion*



## DIVE RESORT

### ALOR ARCHIPELAGO

INDONESIAN SEAS

[www.alor-divers.com](http://www.alor-divers.com)

# BEST MID-RANGE CAMERA SYSTEM

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- True TTL flash exposure
- Half the size & weight of a DSLR
- The best wide angle & macro lenses
- Optional magnifying viewfinders
- Over 1,000 shots per charge

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**ikelite**



# New Products

## Backscatter Mini Flash MF-1 & Optical Snoot OS-1



The Backscatter Mini Flash MF-1 is the perfect light + snoot combination for any serious underwater macro photographer. Its tiny size can get into the tightest spots and the companion Optical Snoot OS-1 makes it the perfect macro strobe to give you the creativity you've been missing.

If you've ever used a larger strobe made for wide angle, you know it can be hard to get in tight spots, especially with dual strobes and managing a separate focus light as well.

The small size of the Backscatter Mini Flash MF-1 makes it easy to maneuver and get into tight spaces. With powerful LED focus lights built-in, there's no need for a separate focus light to manage on your rig. It makes a perfect companion for compact camera shooters looking

for a great all-around streamlined strobe solution. It's also the perfect solution for Advanced mirrorless and SLR shooters looking to reduce their footprint and simplify their lighting and lighten their rig for easier shooting.

We designed the Mini Flash and Optical Snoot together with the purpose of making shooting with a snoot as easy as possible.

With bright LED lights that project the same beam pattern as the flash through the snoot, you can easily see the exact placement of the snoot beam on your subject when framing a shot and know you are hitting your target. Have a critter that doesn't like a constant light on all the time? Use our short duration modeling flash to check your snoot placement without continuously disturbing a light sensitive critter.



The Optical Snoot OS-1 is easy to mount, with a simple click on/click off. The Optical Snoot OS-1 is small enough to keep in a pocket, allowing for a quick and easy switch from wide to macro.

The base price is \$399. Battery & charger are not included.

[www.backscatter.com](http://www.backscatter.com)

# D-200

Guide Number **20**  
220 lumen Focus Light  
Underwater **110** degree coverage

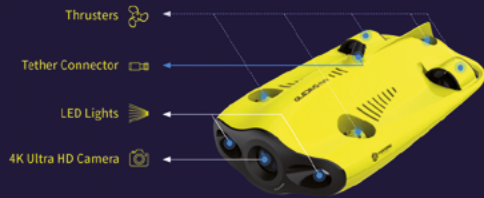


**INON**

Made in Japan

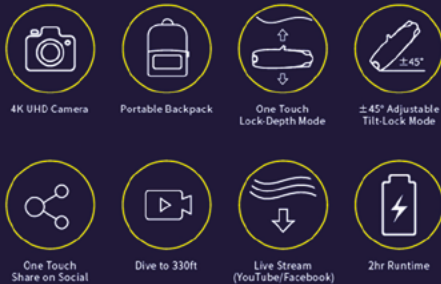
# WE ARE UNDERWATER PHOTOGRAPHERS JUST LIKE YOU!

4K UNDERWATER DRONE WITH 100M CABLE



## GLADIUS MINI

is the first five thruster minisize underwater drone in the world. Equipped with a 4K ultra HD camera, it can dive up to 330 feet deep and is perfect for underwater photography and exploring. The submarine-like five thruster design ensures stable underwater footage. Any underwater exciting moment can be recorded and ONE-STEP shared to your families and friends. With a backpack, you can start your trip right away. Whatever adventure you go on with friends or family, the GLADIUS MINI is a highly entertaining and unique underwater drone for everyone to enjoy.



## CineBags Underwater releases 2020 CB70 Square Grouper



After a successful introduction of the CineBags CB70 Square Grouper at the 2016 DEMA, we are now excited to release the latest version of your housings best friend.

New features include an updated shoulder strap, zipped pouches in the flap, updated traction material on the underside, and a heat welded bottom insert.

The CineBags CB70 Square Grouper is designed to be a compact and collapsible home base for your camera rig to and from the dive boat. With the Grouper, there is no need to share a rinse bucket with your fellow divers. Knowing that your rig is protected, you can focus on the adventure.

- Main features include:
- Saltwater resistant YKK zippers
  - Cargo Lops
  - Reflective fabric
  - Mesh cargo pouches
  - Padded shoulder strap
  - Center carry strap
  - Detachable shoulder strap
  - Heavy duty tarpaulin fabric
  - Collapsible design
  - Mesh pouches in inside flap
  - water tight to be used as a rinse tank

The CB70 Square Grouper is available immediately through CineBags' network of professional underwater imaging dealers.

[www.cinebagsunderwater.com](http://www.cinebagsunderwater.com)



## Nauticam NA-D850 for Nikon D850



### "The Next Frontier"

Proving that speed and resolution can indeed coexist, the Nikon D850 is a multimedia DSLR that brings together robust stills capabilities along with apt movie and time-lapse recording. Revolving around a newly designed 45.7MP BSI CMOS sensor and proven EXPEED 5 image processor, the D850 is clearly distinguished by its high resolution for recording detailed imagery. Nauticam is the market leader in build quality, ergonomics, and reliability. Built on a foundation of innovative product design and modern manufacturing technology, NA-D850 is the ultimate accessory for the exciting new Nikon D850 camera.

[www.reefphoto.com](http://www.reefphoto.com)

**NIKON**  
**Z 7**  
**FULL FRAME**  
**MIRRORLESS**



**BACKSCATTER**

**UNDERWATER**  
**CAMERA REVIEW**

## Nauticam Wet Wide Lens For Compact Cameras (WWL-C)



The next evolution of the WWL-1 is coming soon! As the versatility and capability of compact cameras increases, Nauticam has developed a smaller and lighter water contact wide angle lens tailored specifically to the compact camera user. Designed from the ground up to match the compact camera's form factor without sacrificing optical quality, the WWL-C is a powerful addition to not only Nauticam compact housings but also, via an optional adapter, to those from other manufacturers such as the Olympus TG-6 and their PT-059 housing.

**Technical Specifications**  
**Dimensions** Dia. 146mm x 79mm  
**Weight in Air** 1.05kg  
**Weight in Water** 0.25kg  
**Lens Construction** 4 elements  
**Lens Coatings** Anti-reflective on both



sides  
**Dome Coating** Multi-layer Broad-band Antireflective Coating  
**Focal Range** Front Element to Infinity  
**Maximum Field of View (underwater)** 130° for 24mm equivalent lens  
**Mounting System** Bayonet Mount  
**Depth Rating** 100m

[www.nauticam.com](http://www.nauticam.com)



## Nauticam NA-A7RIV for Sony a7R IV



### "Resolution Rethought"

Sony, has come up with yet another addition to their a7 line that is sure to impress. This fourth edition of the a7R sees the inclusion of an updated 61MP Exmor R BSI CMOS sensor and enhanced BIONZ X image processor. Despite its high resolution, it can shoot at up to 10 frames per second with full autofocus and shoot 4K video either from the full width of its sensor or from a Super 35 crop. The NA-A7RIV underwater housing provides fingertip access to all key camera controls in a rugged and reliable aluminum underwater housing. Ergonomic camera control access is one of the defining strengths of a Nauticam housing, and the NA-7RIV continues this tradition.

[www.reefphoto.com](http://www.reefphoto.com)

# NA-A7RIV

Sony A7RIV Camera



**Nauticam**  
innovation underwater

## Ikelite 200DLM/A Underwater Housing for Olympus OM-D E-M5 Mark III



The third in the series E-M5 cameras is not just a name change, but a redesigned camera body which is actually several millimeters smaller than its predecessor. The camera features the same 20 megapixel micro four-thirds sensor as the more expensive and highly respected E-M1 Mark II camera. The camera is quite capable with a 121-point hybrid autofocus system and 5-axis in-body image stabilization system. For videophiles, the E-M5 II can capture 4K 30p and 24p, plus high speed 1080/120p.

200DLM/A Underwater Housing  
Features

- \* 200 ft (60m) depth rating
- \* Extendable shutter release lever
- \* Extendable AE-L/AF-L button thumb lever for back button focus
- \* Interchangeable Dry Lock Micro port system including flat ports, 6" dome ports, and 8" dome ports

- \* Corrosion-proof ABS-PC construction
- \* Clear view back with laser engraved control markings
- \* Ergonomic, field serviceable direct-drive controls
- \* Accessory port for optional vacuum system
- \* Optional DL3 DS Link Olympus TTL Converter for the fastest, most accurate strobe exposure

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HD & 4K input - underwater field monitor

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## Isotta Housing for Canon PowerShot G7X Mark III



ISOTECNIC SRL is pleased to announce the launch of its new underwater camera housing for the powerful Canon PowerShot G7X Mark III - 100% crafted and made in Italy.

The durable, corrosion-resistant anodized aluminum body in its signature red colour weighs only 770 grams. It's designed to give photographers use of all buttons and functionalities of the Canon PowerShot G7X Mark III.

The compact Isotta housing offers an ergonomic interface with all aluminum controls placed within easy reach of the user's hand. To make the interface even more convenient all function icons are laser engraved into the housing and the buttons so photographers always know which functions they are using – a unique feature of Isotta housings. Also unique for Isotta is its single handed opening mechanism making it easy to access

the camera.

The back housing features a large window of coated, scratch-resistant glass for the camera display. Different to compact housings of other brands the entire back housing is detachable from the front body making it convenient for the user to access the camera. The housing comes with two solid feet providing stable footing on the camera table and avoiding scratching.

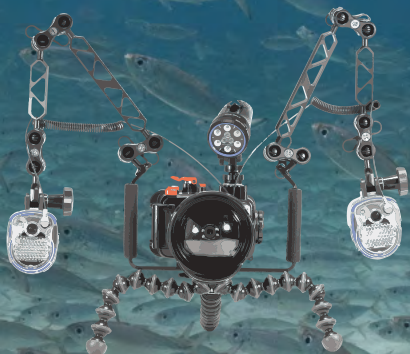
Another unique feature of Isotta housings are the double O-rings on all buttons, dials and removable parts that are the best possible guarantee for a watertight seal. Just in case there's a red LED moisture alarm inside the housing which is powered by a replaceable battery. Working depth of this housing is 100 metres.

The housing will carry a retail price of 950.00 including VAT.

[www.isotecnic.com](http://www.isotecnic.com)

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# BACKSCATTER OLYMPUS TG-6 PACKAGES



# PACKAGES FOR ALL SKILL LEVELS

## UW Camera Store Maintenance, repairs and pressure tests

Our technical department for maintenance, repairs and pressure tests is located at our shop in Oud Gastel. Besides that we also do custom projects for, for example, underwater inspections or special recordings by film companies. We have two pressure tanks to test your housing for watertightness.

### Maintenance

Behind the various (push) buttons, controls and connections of an underwater housing or strobe are also o-rings that ensure the watertightness. These o-rings should be checked and maintained regularly. Please contact our technical service for service of your underwater housing or strobe. Prices and descriptions of the different services can be found below.

### Repairs

Please contact us during or after the warranty period if the products you have purchased are defective. Our technical service can repair a lot by themselves. We are an official service center for brands like INON and Nauticam. If we can't solve the problem ourselves then we will send the product to the supplier / manufacturer. Our technical service is located at our showroom in Oud Gastel.



### Pressure tests

Do you doubt the waterproofness of your underwater housing?

We have two pressure tanks to test your housing. We use these after the maintenance of a housing or strobe, but it is also possible to test your housing. We can do the tests from Monday till Friday. On Saturdays it is often too busy.

Damage report for (travel) insurance

Damage to your camera, lens, underwater house or flash etc? If you need a damage report for insurance coverage, please contact us. For a damage report it is necessary that we have the ability to evaluate the product ourselves.

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## SeaFrogs Universal Vacuum System



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All included valve that has built-in battery and red/green indicator.

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123,75 EUR (incl. VAT)

[www.fotografit.eu](http://www.fotografit.eu)

## UMI UMI UU-TG6 housing for TG-6 and TG-5 cameras

UU-TG6 housing is compatible with TG-6 and TG-5 camera. It is ergonomically designed such as thumb rest, finger hook, etc. Brought trigger type shutter lever, you can feel the shutter from the housing shutter lever easily. And all the control buttons are easy to operate.

You can enjoy macro shooting with the ring diffuser (included). If you would like to use wide angle conversion lens with the housing, just remove the ring diffuser and attach the wide-angle conversion lens (sold separately).



Material ABS Resin  
Depth Rate 60m (196ft)  
Size (W)165x(H)119x(D)99mm  
Weight Approximately 690g / 24.3 oz (Housing body only)

[www.umiumi.jp](http://www.umiumi.jp)

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# BLACKMAGIC BMPCCII 4K / 6K

Nauticam NA-BMPCCII goes beyond just housing the Pocket Cinema Camera 4K & 6K. It includes additional batteries capability, portable SSD slot and the use of external monitors or recorders.

For more information, please visit our website\_

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# Isotta RED64 Strobe



Over 30 years after its first breakthrough flash, the Isomat 33, Isotta has returned to its roots with this brand new and powerful underwater strobe. Isotta is proud to announce the Isotta RED64 with guide number 64 in its signature red anodized aluminum finish and double O-rings.

Isotta's RED64 was designed and produced in Italy as a result of 4 years of research and development in reverse engineering. It's TTL protocol has been tested on all Nikon DSLR and an extensive test series on functionality and endurance and will soon be completed for all other relevant camera brands.

Isotta's RED64 features a guide number n.22 in water (at 1 meter of distance, 100 ISO) allowing for a great power underwater and ideal to shoot against the sunlight and with big or distant subjects. Its beam angle



of 130° degrees is achieved with its parabolic aluminum dish, spreading light without a diffuser and avoiding backscatter. The strobe has a two color target light (white and red) from which to choose depending on the photographer's needs.

Different to all other high-power strobes in the market the batteries section allows photographers to use their own 8 Ni-MH-AA rechargeable high quality batteries, in a compartment sealed and separated from electronics. This not only allows for flexibility at location but also a big cost saving.

The strobe can be controlled both automatically and manually: RED64 can be operated with an optical fiber cable working in TTL mode and as well in Manual. Alternatively it can be used with sync cables through a S6 bulkhead or Nikonos V or in even in slave mode to work without cables.

It is also neutrally buoyant in water and waterproof up to 100 meters.

[www.isotecnic.it](http://www.isotecnic.it)

# SONY RX100VI



# UNDERWATER CAMERA REVIEW



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**Navatics MITO**



Navatics MITO is a recreational underwater drone that can be used for explorations.

At only 7.6 lbs., Navatics MITO is designed to fit airline specification for carry-on luggage.

Navatics MITO can record underwater video at a 4K resolution at up to 30 fps and shoot 12 MP still images.

It is equipped with two 1000 lumen LED lights to bring back colorful images, diving at up to 130 ft. deep.

Leveraging an advanced active stabilization algorithm developed by Navatics team, Navatics MITO can hover even in a strong 1.5 m/s current and keep its orientation and focus regardless of the complex environment underwater, allowing it

to manage new levels of underwater video shooting steadiness previously thought impossible in such a small underwater drone.

Powered by Senseplay's wireless communication solution, all visuals captured by Navatics MITO can be live-streamed at 1080p resolution up to 500m directly to the Navatics' smartphone app.

With an easy-to-use wireless controller and smartphone app, it brings a refined user experience to diving, fishing, underwater photography and videography lovers.

Users can even use the smartphone app for color correction and to share images and videos directly to social media.

[www.fourseas.com](http://www.fourseas.com)



**Nauticam NA-RX100VII**  
for Sony DSC-RX100 VII



**"The Pocket A9"**

The Sony RX100 VII is the newest iteration of the popular compact rx100 series. It has a new stacked CMOS sensor created with the idea of faster, more accurate autofocus and high speed photographing without any blackout that, before now, was only offered on their high-end mirrorless cameras.

The NA-RX100VII has an interchangeable m50 port system that provides the ability to utilize the RX100 VII's full 24-200mm zoom range with the standard port and various m67 accessories with the N50 short port.

[www.reefphoto.com](http://www.reefphoto.com)

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## Ikelite Canon PowerShot G7 X Mark III Compatibility



After a long three year wait, the Canon PowerShot G7X Mark III was announced in July 2019 and came to market in the US in late August. The Canon G7 X series has been a long favorite for underwater photographers due to its compact size, fast lens, and manual exposure modes.

The new Underwater Housing for Canon PowerShot G7 X Mark III # 6146.09 started shipping in early September 2019. Changes in the physical design of the camera prevent the new camera from being used in or adapted to housings for older Canon G7 X series cameras.

Underwater Housing Features

- \* 200ft (60m) depth rating
- \* Extendable shutter release lever
- \* Glass lens port with 67mm threads for direct attachment of wide

angle and macro accessories

- \* ABS-PC construction is corrosion-proof and lighter than aluminum

- \* Clear view removable back with laser engraved control markings

- \* Ergonomic, field serviceable direct-drive controls with premium soft-touch knobs

- \* Dual fiber optic ports for strobe triggering

- \* 1/2-20 accessory port for optional vacuum valve

- \* Made in the USA

There is a slight dimensional difference which affects the ability to use the Canon PowerShot G7 X Mark III camera

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## Ikelite DL3 DS Link Panasonic / Olympus TTL Converter Ikelite PT2 Hotshoe Kit



TTL strobe exposure opens up a whole new world of creative possibilities for both wide angle and macro photographer. Let your camera control the strobe output so that you can devote your attention to adjusting your camera's settings, composing the shot, and focusing on your subject.

### Key Advantages

- Faster, more accurate, and more reliable than fiber optic TTL triggers
- Always ready when you are - no batteries required
- Switch between TTL and manual exposure with the press of a button
- Supports flash exposure (EV) compensation set in the camera
- Supports rear curtain sync
- Improves strobe battery life and recycle time
- One TTL converter supports a wide selection of camera models
- Independently waterproof sealed

[www.ikelite.com](http://www.ikelite.com)

## Sea & Sea MDXL-α7IV housing for Sony α7RIV



Revised ergonomic design, improved safety features and eye-catching exterior. The new MDX-L series housings are now upgraded with more standard features to ensure better handling and greater protection for your camera.

The Port Lock prevents the port from turning or loosening and the Port Lock lever is specifically located to avoid being unlocked accidentally.

The housing is equipped with a lens-lock release button which makes it possible to change lenses easily, without opening the housing.

Pulling out the Focus/Zoom Dial gives sufficient room inside the housing to easily accommodate larger diameter lenses.

The camera's diopter adjustment dial can be operated from outside the housing. This feature is useful when two or more people with different



eyesight use the housing.

All controls have luminescence stickers which glow in dark environment.

Equipped with the Optical Viewfinder 0.5x as standard. Other optional viewfinders such as the VF180 1.2x, VF45 1.2x and Optical Viewfinder 0.66x, 0.8x can be used.

Sync Cord 2-pin Connector enables use of conventional hardwired Sync cable (Manual mode only).

Equipped with two sacrificial zinc diodes to prevent electrolysis damage.

Built-in leak sensor immediately alerts you to water ingress.

Tripod screw mount is located on the centre underside of the housing.

Equipped with under guard to protect from scratch.

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## Anglerfish 4K monitor

The AFCL-57 is a most advanced underwater video monitor designed specifically for underwater video and photographer. MSRP \$1350 USD. Price includes slim design 4K monitor, custom underwater HDMI cable with 8K signal capacity (2mm thk TPU jacket, Kevlar reinforcement and solid core, cut resistance and pull strength of 1000kg), M14x1 custom design bulkhead (200 bar rating), and custom bulkhead adaptor to fit any housing port size.

Bulkhead is designed with underwater videographer in mind, designed so you can remove cable without getting water droplets on the connector. Also cable and connector are designed for fatigue and cyclic use without failure. You can remove cable while the camera is vacuum sealed.

This monitor design addresses a lot of reliability problem with other monitor manufacturers. It's an integral type monitor only used for underwater application so it's thinner and lighter. And designed for underwater. You can't remove the monitor from the housing. You can only change the battery and the battery compartment is completely sealed from the rest of the housing. So even if the battery floods the monitor is still protected.

Monitor can work for 6.5hrs on a single battery charge. More information including features are shown in the product info sheet. Shipped from Canada. Please contact us to preorder.



## DJI Osmo housing



The Waterproof Case is water resistant at depths of up to 60 m.

The precise fit inside the case keeps Osmo Pocket secure while avoiding unwanted movements. The Waterproof Case also includes two mounting brackets that allow you to attach the case to other equipment. Two buttons on the outside grant precise control of Osmo Pocket.



The anti-fog inserts effectively prevents the case from fogging up.

**Highlights**

Supports water resistance at depths of up to 60 m.

Includes two mounting brackets for additional accessories.

[www.uwcamerastore.com](http://www.uwcamerastore.com)

[www.dji.com](http://www.dji.com)

## Featured Product of the Month

### Kraken Ball to Ball arm QD adaptor

Like it or lump it, 1" ball arms are the design of choice for most manufacturers and therefore most underwater photographers have no choice but to use them.

True, they combine great positioning flexibility with strength and provide almost limitless configuration possibilities but when it comes to assembly and disassembly they aren't perfect because you have to hold both sides as you undo the centre clamping knob and on one side might be a heavy strobe or video light.

Enter the Kraken Ball to Ball arm QD adaptor.

Now I'm not suggesting you replace all your ball arms overnight but just consider the base section so that your strobe or video light arm system can be removed very easily with the turn of a bayonet.

I have used other quick release adaptors in the past but they had an annoying 'wobble' once assembled

*Do you have a product which you think deserves a mention in this section? Something that makes life simpler, something which no one else makes or something that solves a problem? It can be big or small, expensive or cheap and even come from out of the underwater photography world i.e. Costco, Aldi, Lidl etc. If you have such a thing, let me know at:*



but the Kraken Ball to Ball arm QD adaptor has a very strong internal spring which eliminates any slight movement (which gets exaggerated the longer the ball arm) and provides as secure a fitting as the solid ball arm itself.

Ball Ball QD Arm - \$42 MSRP

Ball YS QD Arm - \$42 MSRP

[www.krakensports.ca](http://www.krakensports.ca)

**Peter Rowlands**  
[peter@uwpmag.com](mailto:peter@uwpmag.com)

# MIRRORLESS MIRRORLESS ON THE WALL



## WHO HAS THE LARGEST SELECTION OF THEM ALL?

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# Sony Alpha A7R MKIV & Aquatica A7rIV Pro Housing

by Phil Rudin

The Sony A7R IV was named DP Review's 2019 Product of the year and High End Interchangeable Lens Camera of the year. The Sony was also named the best camera of 2019 for landscape and portrait photography and is one of the top full frame cameras for underwater photography.

In November the DEMA show was held in Orlando, Florida, USA. DEMA is the largest business to business dive trade show in the world and the imaging section is one of the largest areas of the DEMA show. During this year's show housing and accessories for the Sony A7R IV were featured from every major housing manufacturer in the world.

## Sony Alpha A7R MKIV camera

In the last issue #111 of UWPMAG.com I reviewed the A7R IV so rather than repeat that rather extensive portion in this review I would refer you to my article which is in the back issues as a free PDF

download. I have copied into this article the features of the Sony A7R IV that I have found most useful for underwater photography.

The A7R IV has a new imaging processor and autofocus algorithms which include realtime tracking in AF-C. This auto focus system works so well that I have abandoned back button focusing and AF-S relying instead on the Lock-on AF Expanded Flexible Spot AF in the AF-C mode. This combination allows me to lock focus with a half press of the shutter and then drag the focus point around the frame while maintaining the original focus area. This means I can focus on an animal's eye in the center of the frame then drag the eye around the frame for the best composition without losing the tack sharp focus on the eye.

Lock-on expanded flexible spot also allows you to adjust the speed that you drag the focused point around the frame. I have changed the factory default setting and sped up the movement to meet my needs. Another subtle but very useful update in the



*Split Shot, Ginnie Springs, Florida-Aquatica A7rIV Pro housing, Sony A7R IV, Sony 12-24mm F/4 zoom at 12mm, Two Inon Z330 strobes, ISO320, F/13, 1/100th sec*

A7R IV is that the focus area box can be reduced or enlarged in size to fit the user's needs. The box can also be set to white or red which makes it much easier to see compared to the original gray box in older Sony A7/A7R versions.

Many readers have asked me about the new implementation of animal eye autofocus in the A7R IV and A7R III firmware update. With limited testing I have found the animal eye AF is at best hit and miss underwater while human eye-AF has worked well with models.

The most endlessly discussed feature of the new A7R IV in forums and chat rooms is its 61MP full frame sensor. Who is it for, why does anyone need so much resolution, will I need a new computer to handle the file sizes and on and on. The 61MP A7R IV provides exceptional image quality with plenty of dynamic range and an ability to do large crops. In the APS-C mode the image and focus points cover the entire frame and produce an excellent 26.2MP image which is larger than most current APS-C cameras. This matters to me because I get a faster work flow and additional options when shooting, especially in macro.

The Sony FE 90mm F/2.8 macro lens is a must-have for underwater macro shooters and a one push toggle to APS-C gives an AOV equivalent

of a 135mm macro lens extending my lens range. I have already found this to be quite useful with the Sony FE 90mm and FE 50mm macro lenses. I am aware that I can just crop the FF image to achieve APS-C or other format sizes. However what I see in the viewfinder in APS-C mode is exactly what I get giving me two cameras in one with all of the additional features of the A7R IV system.

## Aquatica A7rIV Pro Housing and Ports

Aquatica is a Montreal based Canadian company founded in 1982 as Aqua Vision Systems and later renamed Aquatica. Aquatica is the leading manufacturer of quality aluminum underwater housings in North America.

Every Aquatica housing is machined in-house from a single aluminum block on a highly specialized five-axis machine. The housing is then anodized to military specifications and powder-coated with a special environmental-resistant paint. The finished product is durable and the craftsmanship is first rate.

The housing has excellent ergonomics, which are user friendly and the control layout is simple even for those wearing heavy gloves. I owned two Aquatica housings



for Nikon F-3 film camera back in the mid 1990s before moving to a Nikonos RS. I sold one of the F-3 housings to a Professor now living in California who contacted me about two years ago looking for recommendations on moving to digital.

After a brief conversation I asked about the Aquatica F-3 housing and the Professor advised he was still shooting with the F-3 housing on a regular basis. The quality and durability of the Aquatica line has

been well documented for decades.

The Aquatica Pro A7rIV housing is the third generation of Aquatica housings for the Sony A7R line of full frame mirrorless cameras. This is my first Aquatica digital housing review for UWPMAG.com and when the test housing arrived one of the first things I noticed was the excellent finish on the housing.

The housing ships with the Surveyor Vacuum system, valve, sensor and pump included as standard equipment. The housing

sells with three different bulkhead configurations, twin Nikonos sync cord connectors, one Ikelite connector or dual optical connectors. My test housing used the dual optical connectors which support a verity of strobes from Backscatter, Inon, OneUW, Retra, Sea & Sea and more.

For this review I used two Inon Z-330 strobes or two Backscatter Mini Flash OS-1's both with fiber optic cords. The housing also supports the HDMI large 23.75mm bulkhead opening for the optional monitor cables and the Aquatica 5HD monitor.

The A7rIV Pro housing uses aerospace grade 6061 T6 aluminum with T304 stainless steel push buttons. All of the camera's function buttons and dials are accessible including support for back button auto focus with the AF-On control using the right thumb and triggering with the right forefinger.

I have programmed the left C3 button on the A7R IV to toggle between EVF and LCD, I also programmed the right AEL button to toggle between full frame and APS-C. Both of these controls have larger than normal push buttons that fall directly under my thumbs so finding these buttons without looking away from the viewfinder is a breeze.

All of the other buttons and dials on the rear of the housing can easily be controlled with your thumbs even



while wearing gloves. The rear of the housing has two sets of up/down right/left OK button arrays. The set on the top right of the housing can be used to scroll over the more than 500 auto focus points on the sensor. The lower right set controls control the display, ISO, drive mode and more. The control buttons and dials can also be reprogrammed to satisfy just about any need.

Levers on the right side of the housing control back button AF and Video on/off with a second lever controlling focus area while the left hand thumb lever controls image review. Again these camera functions can be reprogrammed for just about any need. I reprogrammed the video



*Little Devil Springs, Florida-Aquatica A7rIV Pro housing, Sony A7R IV, Sony 12-24mm F/4 zoom at 20mm, Two Inon Z330 strobes, ISO400, F/16, 1/125th sec*

on/off and moved it onto the mode dial to avoid accidental recording while shooting stills.

To record video I select the video mode on the mode dial and use the shutter lever to start and stop recording.

The back half of the housing has a pickup viewfinder which works well with the spectacular 5.76M dot electronic viewfinder. My recommendation for the A7rIV Pro housing would be to add one of Aquatica's excellent 45 or 180 degree Aqua View accessory viewfinders to

take full advantage of the outstanding EVF.

The back half of the housing also contains the vacuum system electronics which have a user replaceable 3V CR 2032 battery. Two stainless pins at the bottom of the back align with the front of the housing to assist in a proper seal. Two locking buckles secure the front and rear of the housing.

The housing comes with an excellent camera tray that attaches to the bottom of the camera using the tripod thread mount. The tray includes

the lens release control and a positive locking device. Once mounted on the tray the camera will not shift at all keeping it perfectly aligned. To install the camera pull up the mode control wheel and slide the tray onto the two stainless rods in the front half of the housing. Once the tray locks into place the camera will not move or fall out of the housing even if held upside-down and the controls align perfectly.

To change camera batteries the camera needs to be removed from the housing but the tray can remain in place. Both flash cards can be removed and reinstalled while the camera is locked into the front half of the housing. Once the camera is installed in the housing it is easy to mount the Aquatica flash trigger for Sony on the camera hot shoe. The flash trigger is for manual flash control (not TTL) using two fiber optic cords. The flash trigger is powered by two 3V CR 2450 batteries that slide into the sides of the trigger. A small switch on the left rear of the flash trigger turns on the trigger test, firing the two small LED lights. A green LED on the rear of the trigger also lights to show the trigger is activated and then turns off to conserve battery power. While field testing the housing system the flash trigger worked flawlessly. The housing also has plenty of room for an after market Sony TTL flash trigger if that is one's preference.

For this review Aquatica sent me ports, gears and port extensions to support several FE lenses. The ports and extensions are the same as those used for Aquatica DSLR housings making it a bit more cost effective for DSLR owners making the move to Sony full frame.

## Field Testing the Aquatica Pro A7rIV Housing System

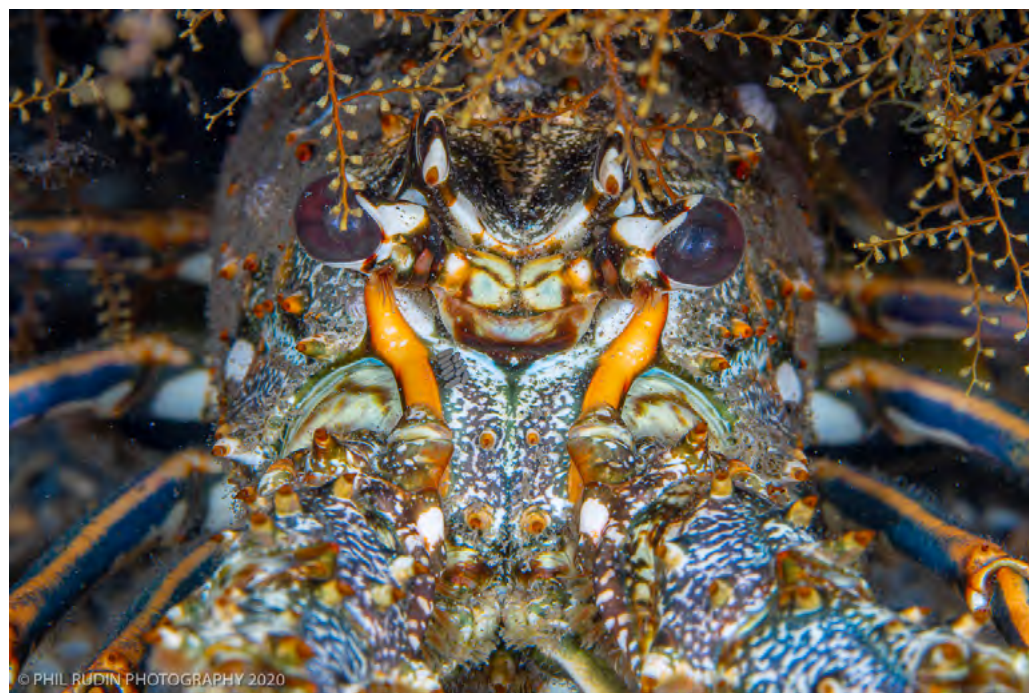
Let me start by saying that Sony has definitely arrived and that the A7RIV system is no longer a work in progress. While the A7RIV is a huge improvement over the A7R III I reviewed in 2017 Sony is still filling in its lens lineup which is incomplete compared to Canon and Nikon DSLR's but much improved since the 2017 review. Sony has been concentrating on the full frame premium lenses line and each new release has been very well received.

For this review I selected the Sony FE 90mm F/2.8 macro G OSS lens which easily handles the larger A7RIV 61MP sensor and is without question the best macro lens I have

*Caribbean Spiny Lobster, Blue Heron Bridge, Florida, Aquatica A7rIV Pro housing, Sony A7R IV, Sony FE 90mm F/2.8 macro, Two Backscatter MF-1 strobes ISO100, F/16, 1/125th sec*



*Phil Rudin field testing the Aquatica Pro A7rIV housing. Photo by Christian Baki.*



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ever used with any camera. The 90macro was paired with the Aquatica 1840 macro port and 28.5mm port extension 48453. Aquatica also provided the ACU10 +10 close-up lens (19353) and the ACU 19355 single flip adapter. The flip adapter and closeup lenses is perfect for shooting in full frame or APS-C formats.

For wide angle I used the super wide (12-84 AOV) rectilinear Sony FE 12-24mm F/4 G zoom. This lens was paired with the 200mm (8 inch) acrylic dome port with removable shade blades (18405), 63.5mm port extension 48458 and zoom gear 49107. This combination works well at high (F/13 and above) F-numbers but I would recommend the Aquatica 230mm (9.25 inch #18407) glass dome for best corner sharpness.

I also used the 200mm port with 28.5mm port extension 48453 for the 114 degree AOV Rokinon AF 14mm F/2.8 FE for Sony which is not listed on Aquatica's port chart. Again I would recommend the 230mm (9.25 inch #18407) glass dome for best corner sharpness.

Sony has not yet released any FE fisheye lenses so I have been using the Canon 8-15mm F/4L Fisheye with a Metabones IV lens adapter. The Canon Fisheye was also used with the 200mm dome port with shade blades removed for circular Fisheye and 39.5mm port extension 48462. All four of the Aquatica's dome ports including the small 152mm (6 inch) acrylic can be used with the Canon fisheye zoom.

Be aware that like all 200mm acrylic ports buoyancy is an issue compared to Aquatica's 230mm and 200mm glass ports. The acrylic ports have a tendency to turn port up putting a strain on your right wrist while holding the housing for long periods. The Aquatica dome shade is drilled for

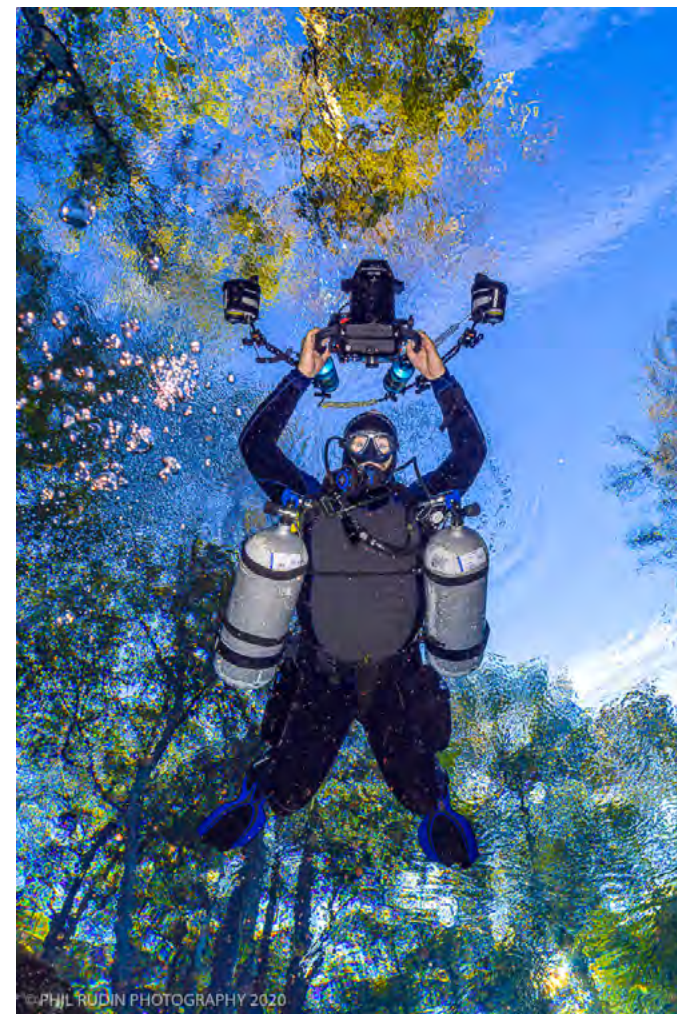


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*Diver Silhouette, Devil's Ear Springs, Florida, Aquatica A7rIV Pro housing, Sony A7R IV, Sony 12-24mm F/4 zoom at 12mm, Two Inon Z330 strobes, ISO640, F/8, 1/125th sec*

attaching counter weights to help resolve this issue.

I configure the 90mm macro lens with the focus limiter set from 1:1 to infinity in auto focus. On past Sony A7 cameras I always set the focus limiter from 1:1 to 0.5 meters which renders



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*Christian Baki at Devil's Eye Springs, Florida- Aquatica A7rIV Pro housing, Sony A7R IV, Sony 12-24mm F/4 zoom at 24mm, Two Inon Z330 strobes, ISO400, F/13, 1/125th sec*

everything from life size, 1:1 to about 1:10 in focus. I find that most of the macro/closeup subjects I want to photograph fall well within that shooting range.

As I have said in past reviews it takes a few dives to get the hang of shooting within this rather



*Ginnie Springs Ballroom Entrance, Aquatica A7rIV Pro housing, Sony A7R IV, Sony 12-24mm F/4 zoom at 12mm, Two Inon Z330 strobes, ISO640, F/16, 1/30th sec*

short focusing range. By using the focus limiter I find that the lens is less likely to hunt and that the lens acquires focus more quickly than when it is set from 1:1 to infinity.

With the A7R IV set to AF-C with tracking flexible spot the camera does not hunt like it did with prior versions set to infinity. Aquatica also offers a manual focus gear for the 90mm macro allowing you to switch from AF to manual in the super menu. This allows me to rack the lens out to 1:1 and leave it there while using the ACU+10 for greatest magnification.

Once I have a subject in focus at 1:1 I can flip the ACU+10 into place and just move the port closer to the subject to regain focus in the viewfinder. I used the ACU+10 close-up lens in AF for this review but some subjects are easier to acquire using manual focus. I use the same F/13 starting point and shoot at ISO-64 to ISO-200 for most macro work. I set shutter speed at 1/250th sec. and tweak for best background results. With the recommended Aquatica macro port configuration the housing was very well balanced without the



*Sharptail Eel, Blue Heron Bridge, Florida, Aquatica A7rIV Pro housing, Sony A7R IV, Sony FE 90mm F/2.8 macro, Two Backscatter MF-1 strobes ISO100, F/16, 1/125th sec*

need for any added buoyancy.

The Aquatica zoom gear for the Sony FE 12mm to 24mm F/4 is 3D printed and just slides over the lens being held in place by thin rubber tubing on the inside of the gear. I found that this simple system worked very well and that the gear remained in place once mounted in the housing. The camera and FE 12-24mm zoom can be mounted from the rear of the housing or the front before the port and extension are mounted over the lens.

Once installed the lens zooms

smoothly and auto focus is excellent all the way to the dome port. Best results for depth of field and corner sharpness are at F/13 or higher. Most photographers will be more than happy in the F/8 to F/16 range but for best corner sharpness F/13 or greater renders the best results. The F/13 and above aperture setting is my standard starting point across all full frame DSLR or mirrorless cameras with like AOV lenses not just the Sony cameras.

The very last thing I do before heading out for a dive is turn on

the flash trigger, test fire the strobes then seal the housing and draw the vacuum. To draw the vacuum you must turn on the system before closing the housing using the on/off switch on the electronics. Once the housing buckles are secure the plug is removed from the vacuum valve and the pump is attached. Use the pump to draw the vacuum until the green LED on the left rear of the housing remains a steady green, **DO NOT OVER PUMP**. The green light will then remain on throughout the dive until the vacuum is released by opening the port of the pump. Don't forget to replace the plug (which is secured to the valve by a chain) in the vacuum valve. The pump supplied with my test housing was a bit flimsy and not up to Aquatica's high standards.

For my review I shot stills using four Delta 3 Technical Lighting Control eight inch strobe arms with TLC clamps. Technical Lighting Control is an Aquatica owned lighting support company that offers arms, clamps, ball heads and other support equipment. These arms integrate easily with the one inch ball heads on the two Inon Z-330 strobes and two Backscatter Mini Flash OS-1's I used for this review. I really like the TLC arms and clamps; they are smooth and very easy to move yet never droop or collapse while in the water.

For those of you thinking about



moving from a sub-full frame system to a full frame system remember the reduced depth of field at any given F/stop over sub-full frame can present a few issues. The shallower DOF associated with full frame cameras requires more critical focus so taking a machine-gun approach to shooting may result in high numbers of poorly focused images. Also high megapixel cameras like the Sony A7R III and especially the A7R IV tend to highlight the flaws associated with many lenses of inferior quality, I recommend choosing wisely when making lens purchases.

In the water the Aquatica A7rIV Pro housing is well balanced and easy to use. All of the controls fall at your finger tips and after a few dives I did

not find myself having to look away from the viewfinder to change any of my camera settings. The bayonet mounted ports and extensions were easy to change in the field and I often did lens changes from the front of the housing without needing to remove the camera. The extension rings for the type 4 port system have a unique lock on the outside of the extension which is very easy to use.

This housing is compact and very easy to carry. The housing grips are removable making the housing simple to pack for carry-on or shipping. The ACU flip adapter held the ACU +10 close-up lens out of the way of the

port and strobes at all times when not in use.

The Aquatica A7rIV housing retails in the US with any of the bulkhead configurations for \$2949.00. The eight inch acrylic port is around \$580.00, the 9.25 inch optical glass port is \$1760.00 and the Macro port is \$419.00. Extensions with lock begin at around \$250.00.

If you are seeking the very best in image quality and a full frame camera with quality lenses is within your budget the Sony Alpha A7R IV and Aquatica Pro A7rIV housing should be on your short list for consideration.

Thanks to Aquatica.ca for providing the equipment for my review and to Pura Vida Divers (puravidadivers.com) for assistance during some diving operations.

**Phil Rudin**  
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# DiveVolk SeaTouch 3 Pro with Apple iPhone 11 Pro Max

By Christian Baki

Having recently upgraded my mobile device to the latest iPhone offering, I entered the 42nd 2019 (DEMA) Diving Equipment and Marketing Association show with a special goal in mind which was to deep dive all the various mobile housing options.

The annual DEMA Show which started in 1977, is the largest trade-only event in the world for hundreds of companies doing business in the scuba diving, ocean water sports, underwater photography and adventure/dive travel industries. It is also my impression that DEMA brings out the hard-core dive professionals as compared to the consumer shows.

DiveVolk, formed in 2016, is a dedicated housing manufacturer and their dive housing weighs approximately 310 g / 11 Oz and the material of the housing body is constructed with a PC + ABS plastic material, the metal component is 316 stainless steel.

By using an insulating liquid in between the membranes (screen), this allows for touch feedback to your mobile device while underwater. The

SeaGrip handle uses their patented pressure supply system which is embedded in the handle. The inside and outside pressure are balanced up to 40m / 131 ft ensuring operational sensitivity within recreational depths. Having big hands or gloves on this makes one handed operation much more comfortable.

In addition to the amazing underwater touch focus, wireless charging makes it even easier to charge without having to open the housing on the way to your dive site, surface interval, or post if your smartphone supports this type of charging.

With a depth rating of 80 m / 262 ft and touch rating of 40m / 131ft, the housing is secured by a small opening with a triple o-ring design with locking thumbscrews.

The assembly was very simple and straight forward and having a bright white o-ring makes it simple to identify and remove sand, salt, hairs, etc. to prevent flooding. Also, with the lack of buttons, you reduce the potential areas for flooding your housing. I am also testing



the housing with the optional Housing Clamp for tools expansion with the DiveVolk Color Correction Filter.

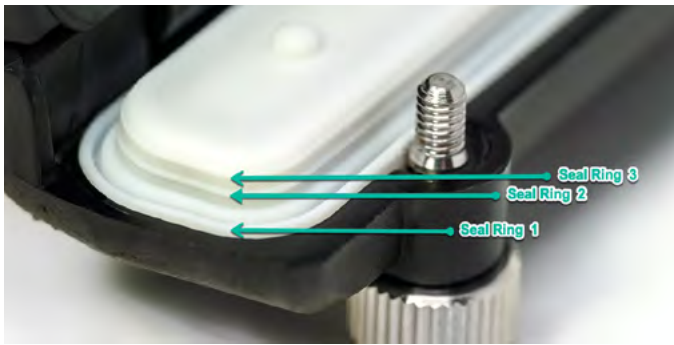
It is worth noting that this clamp has a cold shoe mount and two screw mounts for another add-on such as an underwater macro light.

The bottom of the clamp has 3 screw points to allow for a tripod or camera tray system. There is a place to attach a bolt snap with cave line or the included hand strap.

The following DiveVolk accessories are currently available for this housing are:  
Underwater Wide-angle Lens  
Underwater Macro-Lens



Color Correction Filter  
Expansion Clamp  
Wireless Charger  
Underwater Flexible Macro-Light  
Underwater Tripod



*Triple O ring seals*



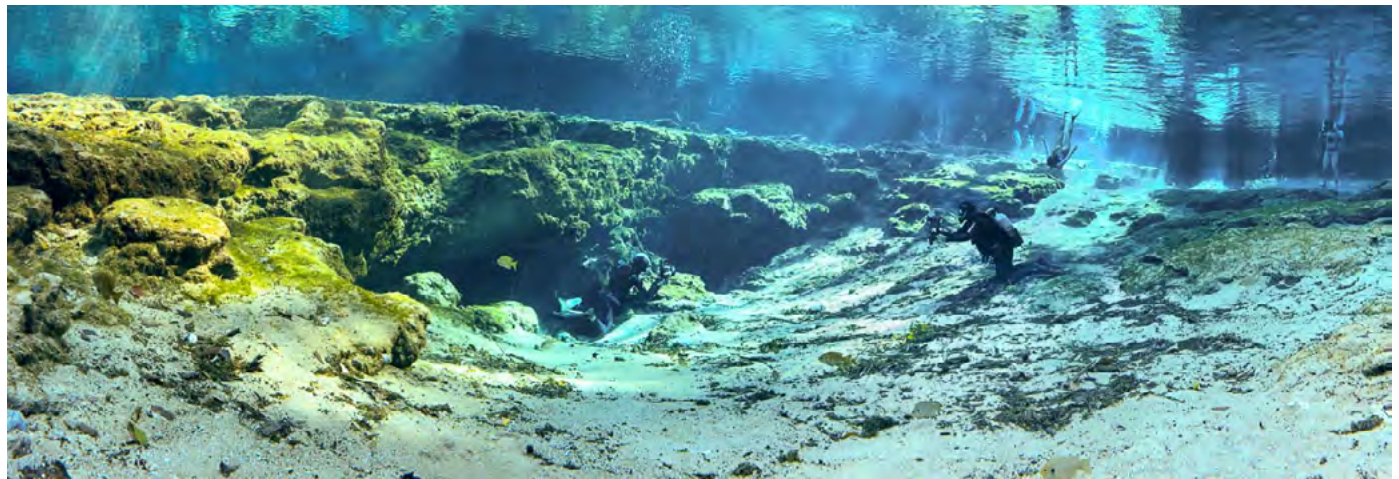
*The iPhone 11 Pro Max has a bright 6.5" screen*

The product manual advises that the end user should remove the protective phone screen cover to perform underwater and I found this to be true. On my surface interval, I removed the cover from my phone, and I was able to use the housing with my mobile phone as expected.

I really liked the sturdy feeling of the housing in my hands while diving and was taking shots right away while not being worried I had that I might damage it.

It takes a little to get used to using the touch, but after a while it became second nature.

I was really impressed at how bright and vivid the display was easy to see what you were framing in your shot or video. The size is perfect to hold



*Pano mode – iPhone 11 pro max back camera 4.25mm f/1.8 ISO 125 @ 26mm*

out in front of you with both hands for stability. One handed action is possible and requires a little practice to line your finger with the shutter button on the screen. Having pockets on my wetsuit, made it easy to stow the housing while traveling to another section of the reef.

In the water I was able to select JPEG or RAW image formats by using the different IOS applications. This really makes it easy to post directly from your device to your social media platform of choice or your photo gallery.

While testing the housing, I was challenged when diving in a dry suit, and there is a necessity to operate the Sea Touch 3 underwater while using dry gloves with cotton finger cots. It took a little more effort to engage the shutter button, but once you find the correct finger position you are good to go. I would like to thank the customer obsessed DiveVolk tech support team for troubleshooting this problem with me over a couple of days.

The Apple iPhone 11 Pro Max has three very capable cameras, and I was curious to see if

could also perform underwater as well as it's done on the land. Having side conversations with my colleagues, we all came to a similar conclusion which was that we desired to use our mobile devices natively with any app as we do on land.

The DiveVolk SeaTouch 3 Pro appeared to be just the device which boasts a real underwater touchscreen, and a button free design to name just a few features. It is also worth noting that the housing supports both IOS and Android based mobile devices by utilizing a custom insert for your device.

Starting with the native Apple Camera application, I snapped a few still images, followed by a video. Moving to time-lapse mode I framed the scene and left the SeaTouch 3 Pro running while I joined the other divers in the angle of view and could think of endless possibilities for adding clips to your dive video. Finally, I selected panorama mode and set the device into a portrait orientation and selected a diver as my focal point.

After a wide pass the iPhone flawlessly



**4K Video Screen grab. H.264 codec. External video light**

stitched the moving divers into an underwater panorama! Boosting the display to full brightness before starting your dive makes viewing and reviewing underwater like using the device on land.

Camera+ and ProCamera bring more advanced control to your images and offer manual mode adjustments to achieve your desired results. In addition, these programs allow the end user to save the image in a hires TIF file compared to just JPEG format.

Camera+ brings a grid, level, zoom, focus peaking, and clipping to aid, and I found these to be extremely useful when composing the image.

ProCamera brings more shooting modes and a feature to allow the camera to take an image once the

movement of the camera is more stable for instance.

Taking videos are a breeze, but at a deeper depth you get the usual bluish haze without using white balancing red filters. I enabled the video light on my iPhone and was greeted with backscatter bliss thanks to the location of the light in relation to the camera diving in Salt water VIS around 4.5 m. Next, I used my dive torch as off camera lighting and once I found the proper angle, the quality had improved dramatically. Another configuration, I added a cold shoe ball mount along with an off-camera video light.

This yielded the best look and I was able to position the video light to reduce the backscatter in silty areas.

I employed Dive+ to edit some of



the images and videos I captured with the iPhone and I was really impressed at how easy it was to adjust the white balance with on click. The free version will add a Dive+ watermark along with the name you signed in with on your images or you can pay to have their watermark removed. This application is great for all levels of users and makes it quick and easy to send on to family, friends or even social media.

I also tried the following IOS applications:

### Camera+ 2

The level was really helpful  
Focus peaking  
TIFF (RAW) image files  
Full manual mode



### ProCamera

More Modes e.g. Portrait, Video, Photo, HDR, Lowlight, and more  
A secondary shutter button which waits for the camera to become stable before taking the shot  
TIFF (RAW)  
Image editor built in



### Lightroom Mobile

The familiar Lr mobile interface with advanced editing features



### Hyperlapse

Functionality for adjusting the time-lapse speed prior to saving  
Easy to use underwater



### Dive+

One touch photo or video white balance adjustment



The DiveVolk SeaTouch 3 Pro is an extremely capable underwater still, video, time-lapse, panorama, etc camera solution. I could imagine using this camera in several ways, and even in addition to my full frame camera set up as it fits easily into the dive pockets on my wetsuit.

Thinking back to diving in Bali earlier this year, my full frame camera was configured for super

*If you're online, click this link to watch a short video shot on the iPhone 11 in the DiveVolk housing in waters off Seattle and Florida*



macro, and ended the dive with a giant fish bait ball at the end of my dive. I could have easily pulled out the SeaTouch and taken stills and/ or video. I also found it easier to create a folder in the center on the screen, which has the best touch sensitivity, to allow for easier switching between applications.

Another feature is the ability to type a message to your dive buddy, which is much easier to read than using a slate or wet notes for instance. I do have lousy penmanship, so I am sure my dive buddies appreciate this. I was able to receive a text message near the surface of the water, but no need to worry about your boss using this feature with you.

If you have a cell signal, you could also contact emergency services or let your love ones know you are on the surface again. I would even consider using this housing while kayaking or poolside to protect your

mobile device even further.

Lastly, if you have a long Deco stop, you can entertain yourself with games, books, music, or videos, so please be mindful of other divers who may not be interested in rocking out with you on their dive.

To learn more about the DiveVolk SeaTouch 3 Pro please head over to their website, and you can find the DiveVolk the current housings for sale on here and [www.amazon.com](http://www.amazon.com) in the next month.

DiveVolk SeaTouch 3 can also house HUAWEI P10 Plus, P20, P20 PRO, P30, P30 PRO, MATE 10, MATE 10 PRO, MATE 20, MATE 20 PRO, SAMSUNG support frame:, , S10, S10+, S10E, S9, S9+, S8, S8+, iPhone 11, iPhone 11 Pro, iPhone 11 Pro Max.

**Christian Baki**

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# THE SOURCE



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# WETPIXEL

# Smartphone housings round up

by Peter Rowlands

Back in Issue UwP103 Jul/Aug 2018 I wrote a Parting Shot about the amazing capability of the iPhone Pano function and I illustrated it with a straight out of the camera, far from perfect, image of a diver in British waters.

The housing I used was a LenzO from Canada for my iPhone 6s which, at the time, was a great improvement camera-wise over the 5. Fast forward and the 6 became 7 then 8, they missed out 9 followed by X and now 11. In addition each model had at least two screen sizes to suit all requirements.

I jumped from 6 to X but decided that Apple's miserly part ex offer wasn't worth it as the old 6 would be ideal as a housed 'camera'. And I think that is one of the main reasons we haven't seen many serious shooters using their iPhones; they don't want to risk their current iPhone because, if there was a flood, they'd lose all of their data etc etc. True we should all have back ups in the clouds or on our desktops but the loss of one's current iPhone would be just too bad to contemplate.

However the iPhone is a great camera with several modes, some of which could almost have been developed with underwater photography in mind so I'm going to try and persuade you to consider buying a used iPhone and thinking of it as a camera.

As I banged on in UwP103 I think that the Pano capability of the iPhone is a greatly underused technique underwater and one of the main reasons for it's lack of use is that the big majority of housings do not offer control over this capability. The reason, as far as I can gather, is because Apple won't release the 'code' to allow developers to build it into their 'apps' which are invariably used to control the iPhone in a housing and that, as far as I'm concerned, is short sighted.

So keen was I to be able to use the Pano function that I thought I'd do some research and 'invest' in a selection of housings which are, compared to higher end metal housings, surprisingly inexpensive.

What I have found is that, for my particular desires, there is no one



housing which ticks all the boxes. Some tick most and some only a few so it has become a 'that's the best you can get' result.

Let me start by listing my main criteria. In order of priority - the ability to shoot Panos, the availability of a vacuum leak detection system and finally the ability to turn the 'camera' on and off. The ultimate dream would be to fully control the camera functions, have a vacuum and on/off facility.

In no particular order I'll go through each housing and start with the LenzO because that was the first one I used.

## Lenzo 6s

The LenzO housing I have is for the iPhone 6s but they do make newer housings for models up to the X and XS. They are at the top end of the price range at \$550 but, albeit rather awkwardly, they do allow full control of all the camera functions by using physical push buttons and levers. It



also has a dome port which would be very useful if they make an iPhone 11 housing with it's extra wide angle lens. Dual colour filters and an On/Off button complete an impressive package. Unfortunately there is no vacuum system available.

## Pulux X



This basic housing uses physical push buttons and can control all of the camera functions together with

an on/off control. Unfortunately it has no vacuum system which is important because this housing failed the pressure test without the camera and until I can establish the cause of the problem I'm not going to trust my iPhone 10 which is a real shame because it works really well.

Price approx \$80

## Diveroid



This is a universal housing with an app which is under development but I'm told that should be finalised by February. What is being promised is

1. Real time color correction
2. Free diving mode
3. Power saving improvement
4. High resolution video(4k)
5. Multi lens support (ultra wide/wide/zoom)
6. Dive information tagged picture sharing

There is the added bonus of the Diveroid Mini dive computer but unfortunately no vacuum system.

Price TBA

## Kraken Universal



As the name implies this will take several models of smartphone and is the only aluminium housing so it scores highly on robustness. It can also take external wide and macro lenses and/or filters.

The controlling app is the very impressive Dive+ with the added bonus of a dive computer and vacuum system. The app allows an impressive zoom in and out function.

The housing is the only housing which is powered by 2xAAA batteries but unfortunately there is no On/Off switch so you have to remove the batteries after a dive otherwise they will most likely be flat next time you want to use it.

If this housing could only allow control of the Pano function it would top my list.

Base price approx \$325

## Seafrogs 6/7/8/X & Xr



To my mind this has the most potential as it has an optional vacuum system, dome port, dual filters and zoom in and out capability as well as being able to take several models of iPhone with removable inserts. Whilst the app does not control the Pano function I did stumble across the fact that if you set the iPhone to Camera mode and Pano, it will. Bingo! You obviously can't switch underwater but I'm happy with that so this makes this my first choice. The only slight downside is that there is no On/Off control.

Base price approx €170

## DiveVolk

This is the most interesting housing which has been thoroughly reviewed by Christian Baki in this issue of UwP. It is unique in that it has a touch sensitive membrane panel so you can use it just as you would on land. There are no through housing O ring controls and there is a very clever pressure compensation device in the handgrip. Having read Christian's



review I am keen to put this housing through it's paces in the future. There is also a range of accessory wide and macro lenses and/or filters.

This housing offers the best user experience with total control of not just the camera function but also control of any other apps you have on your phone. The other significant advantage of this housing is that you can open previously shot images full screen and that's something none of the other housings will allow.

Price approx \$200

This round up is very much a work in progress and, as UwP owns all of these housings, we will have an opportunity to continue using them during the coming dive season and produce a return review later in the year.

**Peter Rowlands**  
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# FIX Under Warmer Vest

by Peter Rowlands

Keen UwP readers will remember we included details of the FIX Under Warmer Vest in the New Products Section of UwP111 and I have been fortunate enough to be given one to review.

As an all year round UK diver I have to admit that as life progresses the winter water temperatures do dampen the enthusiasm somewhat and certainly limit dive times. Fingers become uncooperatively numb and feet chill as the body naturally withdraws heat to it's core to preserve vital functions. Winter water temperatures in the UK can dip to 8°C (46F) with fresh water lakes even more consistently colder.

And so it was a welcome task to review this vest and I was again fortunate to have the top of the range version to try.

There are three models all rated to 100 metres - SD, DX and PRO. The SD is for wetsuits only with a wired controller, the DX has a back heating element while the Pro has elements front and back and both are wirelessly controlled.

There are two battery versions available - 2.6ah (Type 2600) and 5.2ah (Type 5200). All three models have three power settings - Low, Medium and High providing 45, 50 and 55°C respectively and the Type 2600 battery, for example, gives 5.2, 3.2 and 2.6 hours respectively at those settings. Times for the Type 5200 battery are twice as long. The PRO version with its two heated panels can only be used with Type 5200 batteries.

Such burn times make it entirely possible to do two full 1 hour dives and still have some heat left before needing to recharge the batteries. So straight

away this vest can double your dives in winter because, speaking personally, one full dive was enough 'in the old unheated days'. Turn the power down a notch and you'll still be warm but with even more burn time to spare.

Fully charging empty batteries takes just over 7 hours so it is obviously being done at a sensible rate which ensures long healthy battery life. The Type 5200 batteries weigh just over half a kilo each so you will need to lighten your weight belt accordingly. Speaking of weight belts I have always used a shoulder harness design which alleviates the need to have the waste belt tight as all of the weight is on the shoulders. As a 5' 6" person I think using a conventional weigh belt would take a bit of getting used to to get the right level above the hips yet out of the way of the batteries.

Donning the vest is via the side entry zip which is very simple and a zip in extension panel is available to make it more comfortable for 'the fuller figure'. Needless to say I found the extension very useful! If you are in the market for one of these I would recommend taking time to chose the right size for you as the weight of the batteries needs to be firmly supported for maximum comfort.

The primary battery pockets are at the front sides but there are also two at the rear which may suit you more but you would need to buy an extension cable for this.

It's difficult to put into words the 'glow' which this vest creates. Press the large button on the remote wrist controller and a physical buzz indicates 'lift off'. Press it again for two buzzes and



again for three. Almost immediately the heat starts and as a sensation it is second only to the other one which I won't mention (but I hope you'll get my drift) and it really is a very close second! Heat as we know is guttural and to be warm is bliss.

It's human nature to turn up the volume to start with but I recommend starting your dive at the base setting and you can always turn it up if you feel a chill starting. That's much more pleasant than starting at full power and having nothing in reserve if you do feel a chill.

There are so many obvious benefits which the FIX Under Warmer Vest provides; more comfort, longer dive times and all year round diving not to mention the safety aspect of hands which remain agile and a brain that can still think. From an underwater photographer's point of view there are even more; the ability to stay still and



concentrate on macro subjects in comfort, eliminating shivering helps longer hand held exposures if needed and, most important of all, a warm body means a warm brain which can concentrate better, and for longer, on composition, camera settings and lighting; all of which makes for better, more consistent images.

The final possibility which I won't be able to try until later in the diving season is that this vest could get me back into a semi dry suit in the summer months with all the added benefit of less weights, ease of movement and that special feeling of being in the environment rather than next to it in a drysuit.

With that thought in mind I lent my vest to my buddy Dan Bolt who

is an avid wet suit guy but who has succumbed to a dry suit for the winter months. I hired a local unheated pool (12°C) and invited him along to try the vest and here are his thoughts:

Despite diving the UK's temperate waters all year round, I've only taken to using a drysuit during the winter months in the past 3 years. I much prefer to use a well cut, snug fitting wetsuit - but I do appreciate that diving in water temperatures less than 10 degrees Celsius in a wetsuit is a little bit on the daft side and not something many folks would countenance.

So when Peter asked if I would be willing to try the new FIX Under Warmer Vest I was very interested to see if it would be up to the job of

keeping me warm in the cool winter months when temperatures here go as low as 7-8 degrees.

The vest comes with a couple of extension cables that allows the two batteries to be kept in your BCD pocket - this means that you can use the vest under a tight-fitting wetsuit without discomfort. At this point I should point out that I wear a Cressi 7mm two-piece spearfishing suit, so that means that the cables first have to run from my waist to my neck (at the top of my 'farmer john' bottoms) and then over the top and down to my waist again when I put my no-zip, integrated-hood wetsuit-top on. That's a lot of cable under a tight-fitting suit, but actually I didn't notice it at all, and there was still enough reach left so I could easily have one battery in each BCD pocket.

The wrist-mounted remote control was easy to use even with thick gloves on, and the vibrating

alert that lets you know when the vest is on, and which power-level you've set and was not dulled by all that neoprene.

So what about the vest? Well; I've not used a heated vest in a wetsuit before, and I'd liken the experience to the first time you sit in a car with heated seats. Initially it feels a little odd and, how do I say this politely..., like you've just lost control of your bladder! But once your brain realises what is really happening, this vest is amazing. With two large heat-panels (the bib-style design means it spans your entire chest & back) it gives an enormous amount of additional heat and with the ease of changing settings during your immersion you can easily control how that warmth is delivered throughout your dive.

This vest should also appeal to snorkellers/freedivers who like to brave the cool winter months, with the long extension cables the two batteries would easily fit into a 'vest' style weight-harness and the heat provided will extend your time in the water by hours if you wanted it to - I was stunned to learn that at full heat it would last for over 2.5 hours.

The bottom line from me..? I love this heated vest, and if you're a cool-water diver/snorkeller like me, I think you should give it some serious consideration."

So that's Dan's summary and

Product Name	<b>FIX UNDER WARMER HEAT VEST WL5200FB</b>
Maximum temperature	LOW:45°C(113°F)/MEDIUM:50°C(122°F)/HIGH:55°C(131°F)
Temperature setting level	3Level (OFF→LOW→MEDIUM→HIGH)
Continuous heating time	LOW:310min./MEDIUM:180min./HIGH:150min.
Usability in air	N/A
Battery capacity	FUW65200 Li-ion battery/11.1V/5200mAh/57.72Wh
Charge time	Approx.7.5hours
Weight of remote controller	42g
Materials	Polyester 100%
Heating elements	Front & Back
Depth rating	<b>100m (330feet)</b>
Size(chest)	XXS:76-84/XS:84-90/S:88-94/M:90-96/L:95-101/XL:100-106/XXL:105-111/3XL:110-116/4XL:114-120cm
Weight of suit	XXS:485g/XS:500g/S:513g/M:529g/L:545g/XL:565g/XXL:585g/3XL:606g/4XL:628g
Weight of battery	538g
Bundled items	FUW65200 Li-ion Batteryx2, FUW65200 Charger, FUW Y-splitter Charging Cable, FUW Remote Controller RCWL-1, FUW Charging Cradle, FUW USB Cable

here's mine:

Go for the top spec vest. A local dive contact of mine bought another brand without a remote controller and has lived to regret it ever since.

And the final, final suggestion is:

If you are put off by the price then why not think about buying one between you and your local dive buddy? Think about it. That would make a lot of sense.

If you are a cold or temperate water diver I cannot recommend the FIX Under Warmer Vest highly enough. "Sure" I hear you say. "That's easy for you to say when you were given one for free" and you'd be right but my reply would be "Dive shops should invest in one of these to loan to

temperate waters divers because once they'd experienced the benefits of 'the heat' they would almost certainly get a sale. Just like the saying goes about the National Lottery - "You've got to be in it to win it" the same is true about this vest - "Try it and I'll you'll buy it".

Finally, and please don't tell FIX this, if they'd have just loaned me a vest, I would have definitely bought it after I'd discovered all of the benefits detailed in this review.

The FIX Under Warmer Vest starts at \$399 and goes up to \$649 plus accessories.

**Peter Rowlands**  
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# Dive Guangzhou 2020

🕒 **May 10<sup>th</sup>-12<sup>th</sup>, 2020**

📍 **China Import and Export Fair Complex**



# Backscatter Mini Flash MF-1 and Optical Snoot OS-1

By Phil Rudin

Every year dive industry professionals from around the world make their way to the US for DEMA, the Diving Equipment and Marketing Association business to business trade show.

DEMA is the largest trade-only dive industry show in the world and since 1977 underwater photography has been a feature of the DEMA show.

Every November DEMA draws a large media core to cover all the equipment and events related to the water sports industry. When I attended my first DEMA show in the early 80s the underwater photography community was a somewhat regionalized group of individuals who were mainly acquainted through dive businesses and photography clubs like SFUPS.org my local south Florida club. With the explosion of the internet sharing U/W photo information and training has given rise to a truly international community of like minded underwater photography professionals & enthusiasts.

Underwater Photography magazine uwpmag.com has helped unite the international UWPhoto

community since its first issue in August 2001 and attending DEMA is a given for the UWPMAG staff.

As Senior Reviewer for UWP I spend a lot of my time on the DEMA show floor networking with professionals from the underwater photography industry and seeking out the latest new photography products. I always leave the show with at least one new product which has grabbed my interest and that I am keen to review. The November 2019 DEMA show was no exception and for me this was the year of the strobe. Nearly every established strobe manufacturer had a new or revamped strobe model and several new manufacturers have entered into the strobe market.

The biggest surprise this year for me was Backscatter's debut as a manufacturer in the strobe market. Backscatter Underwater Video & Photo is a Monterey, California based USA company with a second showroom in Derry, Hampshire USA. For over twenty years Backscatter has been providing excellent retail sales and service to underwater photography community. Backscatter



sells and services a large selection of UW Photography equipment for compact, mirrorless, DSLR, GoPro, pro video, lighting, hardware, and more, also providing photography trips and training classes.

## Backscatter Mini Flash MF-1

The new Backscatter strobe which premiered at DEMA is called the Backscatter Mini Flash 1 or MF-1 and Optical Snoot 1 or OS-1. The MF-1 strobe retails for \$399.00 and the OS-1 snoot retails for \$149.00 or a combo package is available with strobe and snoot retailing for \$499.00 saving \$50.00 over buying separately.

Backscatter designed the MF-1

as the ultimate compact strobe for compact cameras shooting both macro and close focus wide angle scenes. The MF-1 has a narrow beam angle which is particularly well suited to fish portraits and macro with any housing system.

The first thing I noticed about the MF-1 is how small and compact the strobe is measuring just 65 mm in diameter (2.56 inches) by 184 mm (7.24 inches). The strobe is machined from anodized aluminum and weighs just 275 grams (9.70 ounce) in air.

The MF-1 ships with a one inch ball head, a Sea & Sea type ball mounting clamp, an Allen wrench to install the ball mounts, two extra O-rings with lube and a clip on white



*Shrimp, Aquatica A7rIV Pro Housing, Sony A7R IV, Two Backscatter MF-1 strobes, Sony FE 90mm F/2.8 Macro with ACU+10 Closeup Lens, with Aquatica Macro Port, ISO100, F/18, 1/160th sec*



of the strobe and has an excellent double O-ring seal design. If the battery compartment should flood the rear of the compartment has a pressure relief valve to release any gas buildup. Just unscrew the battery compartment, drop in a charged battery with the positive end facing up and reinstall.

The only battery recommended by Backscatter for the MF-1 strobe is the Nitecore NL1835HP 3500 mAh 8A 3.5v 12.6 Wh Li-Ion battery. My two test strobes came with four of these batteries, two Nitecore dual battery chargers and two water proof plastic battery boxes. I was cautioned by Backscatter staff to be extremely careful when charging the batteries in light of recent fires associated with battery charging. A warning on the battery compartment also advises not to travel with a battery installed in the flash and to only use approved batteries.

Battery life is excellent with up to 1400 flashes or one hour of continuous LED run time. The bottom of the MF-1 strobe has a threaded mounting

point for the ball head attachment and a standard fiber optic cord socket. I used the strobe with a fiber optic cord which has 90 degree port sockets with a small retention O-rings. During my several test dives the cord never dislodged from the port socket.

The top of the flash has a round red power level dial and behind the dial is a round stainless power on switch, both can easily be used while wearing heavy drysuit gloves. The power dial has a standby setting and six levels of power with number six being the brightest.

To turn the strobe on chose one of the six power settings and then rapidly press down the power on switch five times. A blue light under the on switch will indicate that the power is on. To check the power level just turn the power dial to the standby setting and the light will blink green, yellow or red to indicate the level of remaining power. When you return the power dial to any of the six settings the blue light will return.

With the power dial set at any of the six levels you can press and hold the power switch to activate a continuous flashing light for a duration of about three-seconds. This can be used to locate a subject which may shy away from the continuous LED lights.

To activate the twin LED's just press the power button and the LED's turn on at the lowest power level. Press again to increase the power level and on the fourth press the LED's will turn off.

Turn the MF-1 off by setting the power dial to



plastic strobe defuser with a retention lanyard. The recommended battery and battery charger are not included in the price of the MF-1 strobe.

The strobe is depth rated to 100m/330ft and is built and assembled in China. The single straight flash tube is in the center of the strobe face and has a polished chrome reflector. The strobe has two LED aiming lights which are located directly above and below the flash tube. The LED lights can be left off or set to three increasing levels of light intensity depending on the users needs.

The battery compartment threads into the rear

standby and then rapidly depress the power button five times.

The MF-1 is compatible with a wide variety of cameras from compact to DSLR using onboard camera flash or LED flash triggers. To pair the MF-1 with your camera simply connect the fiber cord and trigger the camera flash while the strobe is turned on. This will program the MF-1 with the camera's pre-flash cycle and allow proper manual flash triggering within your camera's flash sync range.

While Backscatter is calling MF-1 the ultimate strobe for compact cameras I would say it is the ultimate strobe for macro photographers because of its size and flexibility. The strobe has a narrower beam angle to keep light from straying over onto dark backgrounds making it ideal for macro work.

The small strobes can be placed extremely close to the macro port for reaching into tight spaces. The dual LED's eliminate the need for a focusing light and are exactly the same angle of coverage as the strobe beam making it easy to properly aim the strobes. The strobes are also very powerful for their size and when properly positioned allow excellent exposures with any macro lens in a range as high as ISO-50 at F/32.

## Backscatter Optical Snoot OS-1

The OS-1 optical snoot was designed in conjunction with the MF-1 to be the most powerful macro strobe and snoot combination in today's market.

The snoot is 18cm X 6.5cm (7.09 X 2.56 inches) and weighs about 300 grams (10.58 oz) with an aperture card inserted.

Inside the snoot is a frosted filter to soften the light and at the front end of the snoot is an optical



light shaping element. The OS-1 snoot has a rubber collar that slides over the front of the strobe to hold it securely in place. It can easily be installed or removed underwater. I keep the snoot in my wetsuit pocket when I enter the water and then mount it when I find an appropriate sized subject to photograph.

The snoot can be rotated to adjust the shape of the light beam when using an oval aperture card. The snoot ships with two aperture cards one with four circular shaped holes and one with four oval shaped holes. The holes produce a beam as small as 6 mm to as large as a dinner plate covering a wide range of macro, super macro and closeup subjects.

The aperture cards slide through the center of the snoot and have spring loaded stops to hold the cards in place at any of the four hole sizes. With the oval aperture card rotating the snoot can adjust the beam angle from round too elongated covering a wide variety of macro subject shapes and sizes.

With the LCD lights turned on, the beam angle of the light from the snoot is the same as the beam coverage from the MF-1 so what you see is what



*Scorpionfish Eye, Aquatica A7rIV Pro Housing, Sony A7R IV, Two Backscatter MF-1 strobes with OS-1 snoot, Sony FE 90mm F/2.8 Macro, with Aquatica Macro Port, ISO100, F/16, 1/125th sec*

you will get. When the strobe is fired the LED lights turn off during exposure and then turn back on so that you won't lose sight of the subject.

Backscatter claims that the MF-1 strobe and OS-1 snoot combination have the most powerful light of any strobe/snoot combination currently on the market. The snoot can also be used with optional color filters for additional creative lighting opportunities.

## Field testing the MF-1 Strobe and OS-1 Snoot

I had an opportunity to test the strobe with and without the snoot using strobe arms from Aquatica and Nauticam. I also mounted the strobe on a small tripod and used it off camera with the snoot.

With the strobe defuser attached you lose about one stop of light but have plenty of power for close focus and close focus wide angle shots with

lenses as wide as a fisheye.

For my field test I used two MF-1 strobes with Aquatica and Nauticam housings. At times I was only using one MF-1 with the OS-1 snoot mounted on and off the housing.

Because of the compact size of the MF-1s moving through the water with the system was as easy as it gets with a full frame camera housing. I was shooting macro with the Sony A7R IV and Sony FE 90mm F/2.8 macro lens using the Aquatica ACU10 and Nauticam SMC-1 closeup lenses for super macro.

All of the Nauticam images are from night dives where the focus lights were all the lighting I used for the entire dive. Even at night on 2 1/2 to 3 hour dives in shallow water all I needed were the focus lights on the lowest or mid power.

The narrow beam angle of the MF-1 with and without snoots allows you to separate the subject from the background making the colors pop while maintaining a dark background. For blue water backgrounds the narrow beam reduces backscatter in the ambient light areas. The MF-1 is extremely easy to move around the macro port on the housing allowing a wide variety of multiple lighting combinations like overhead lighting, extreme side lighting, back lighting, inward lighting and much more.

Placing the light on a tripod off



*Common Octopus Eye Detail, Nauticam NA-A7RIV housing, Sony A7R IV, Sony FE 90mm Macro, two Backscatter MF-1 Strobes, Night Dive, ISO100, F/18, 1/250th sec*

camera increases the possibilities with both a single light or combination of lights. I use a small stainless RGBBlue tripod for extreme side and back lighting.

I noticed that at the highest power levels the MF-1s are a bit slower recycling than my Inon Z-330s. This is not an issue for me when shooting macro because I try to take my time with critical focus and



*Bandtail Puffer, Aquatica A7rIV Pro Housing, Sony A7R IV, Backscatter MF-1 strobe with OS-1 snoot, Sony FE 90mm F/2.8 Macro, with Aquatica Macro Port, ISO100, F/16, 1/125th sec*

composition especially when shooting full frame cameras.

With the 90mm macro I shoot most of the time at ISO-100, F/13 to F/22 at 1/250th sec. With both housings I used eight inch arms without any flotation. I was able to get proper exposures at ISO50 at F/18-F/22 using power levels 4 or 5. At F/2.8 for shallow DOF at ISO-50 I was getting proper exposures at power level 1. This is shooting in a range from about 10 to 18 inches from lens to subject with the strobes about flush with the front of the port.

With the +10 closeup lenses the settings remain about the same but the lens to subject distance is reduced by about 50% because of the C/U lens. With the white plastic strobe defusers light is a bit softer at the expense of about one stop, so one power level higher for the same exposure range.

After diving I rinse the strobes and snoots before removing the batteries then dry for storage.

Doing 2 1/2 hour macro dives shooting stills with the focus lights on low power I never reached the RED low power level. Recycle times



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*Juvenile Scorpionfish Nauticam NA-A7RIV housing, Sony A7R IV, Sony FE 90mm Macro, Two Backscatter MF-1 Strobes, Night Dive, ISO100, F/18, 1/250th sec*

remain the same at any given power level through the entire dive as well.

Shooting the strobe on a small tripod off camera is best done with an extra long fiber optic cord or remote flash trigger. This allows you to place the strobe behind or side lighting a subject. The strobes could also be used for wide angle shots like wreck interiors where you want to back light a feature of the wreck or a person.

The possibilities with the small Backscatter MF-1 strobes does not end with macro and I am sure we will be seeing some killer examples with these little strobes when they get out into consumers hands. I would also mention that color filters are coming for the MF-1 so backlighting with colors or creating colorful bokeh balls will be much easier with these strobes.

Like most of the equipment I review the Backscatter MF-1 strobes and snoot were pre production models that did not include instruction manuals. As I have stated in past reviews I consider having no instruction manual to be a good

thing because if I can't figure out how to use the equipment without the manual it will likely be complicated underwater.

The MF-1 is extremely simple to setup and use for anyone familiar with shooting strobes using manual power settings. While I have tried to warm up to shooting macro with TTL strobes I still find the simplicity of selecting lighting ratios in manual to be easier for my workflow.

I would once again like to thank the staff at backscatter.com for loaning me these superb little MF-1 strobes for this review, they have landed at the top of my wish list going into 2020.

**Phil Rudin**



[www.instagram.com/philrudinphotography](https://www.instagram.com/philrudinphotography)

# Chasing Dory review

By Peter Rowlands

Chasing-Innovation, a Chinese company started in 2016, and I go back quite a while now for I have long been a fan of their small ROVs and back in 2017 I pledged on Indiegogo for their first product - The Gladius Submersible Drone (GSD). I reviewed it in Issue UwP99 Nov/Dec and it has proved a most useful and reliable vehicle.

In my review I congratulated them for having made such a good product right from the start. It provided the capability of ROVs costing several times more and was extremely easy to deploy and operate.

In early 2019 when I heard that they had developed the GSD into the Gladius Mini Submersible Drone my original purchase was 'Ebayed' and now resides in Turkey with a marine surveyor!

The Gladius Mini has proved to be a significant improvement; one of the most important being the ability to tilt and hold it's angle which makes searching for anything on the seabed so much more productive. In addition the ability to hold depth and stabilise makes the Mini perfect for filming steady footage and stills. The wide angle 4k lens produces excellent image quality so the whole package is very productive.

Before I had had time to write an in depth review, at the DEMA Show in Orlando I met Craig Glover, Market Development Manager at Chasing Technology and he urged me to review their latest offspring - Chasing Dory; a much smaller ROV aimed at the leisure market at a much lower price.

Within days Craig had organised a review unit

to be sent to me and all I can say is that it performs nearly as well as the Gladius Mini but is much easier to set up and so is really fun to use.

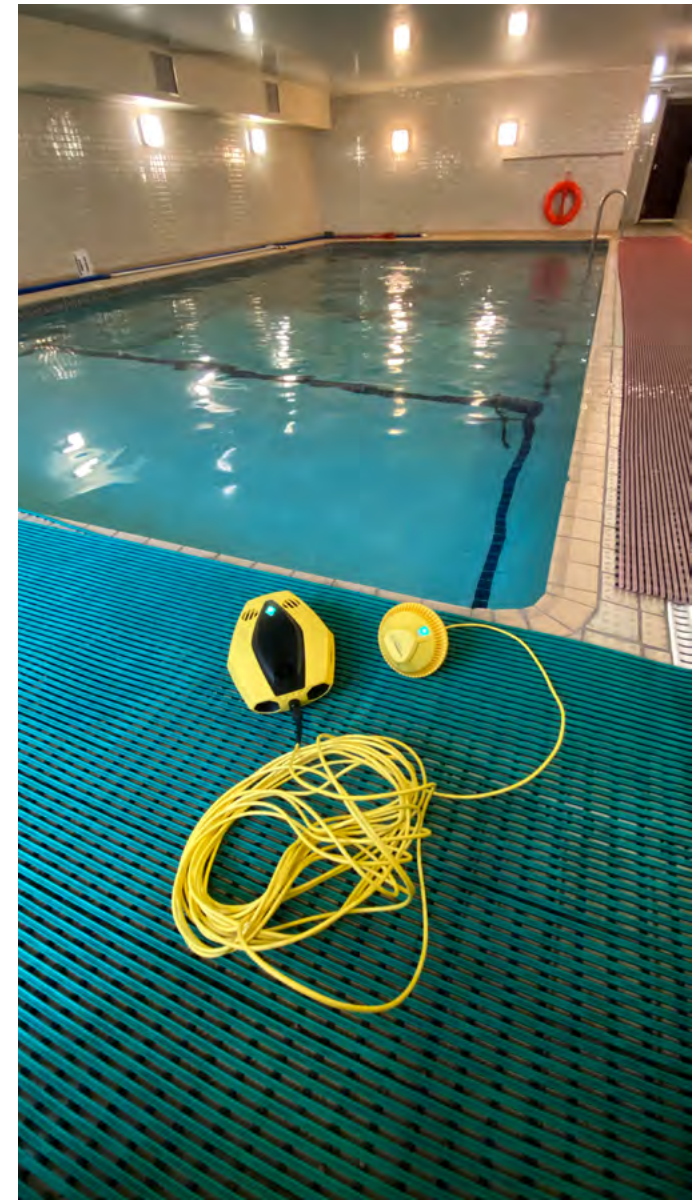
Being fun to use might imply that, like so many 'toys', they end up in a cupboard once the initial excitement has worn off but the Chasing Dory is much more than a play thing if you want it to be. In fact it performs nearly all the tasks which it's big brother can do just within a more limited depth range.

Initially I thought the 15 metre umbilical would limit it's capabilities but that's far from the case and the sheer portability and ease of use mean it can be considered for many other purposes than just filming the kids in the backyard pool (which it is very good at by the way!).

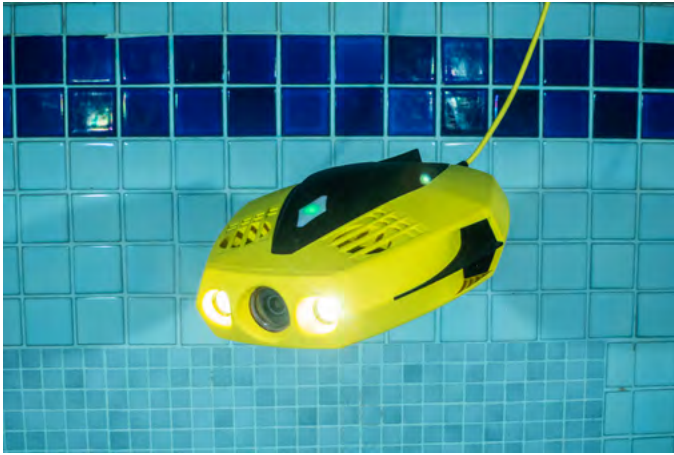
A marine engineer friend of mine has used it to provide visual evidence of boat engine and hull condition for a client and so saved them several hundreds of pounds not having to have the boat craned out for inspection. Another contact in the aquarium world sees a very valuable use inspecting tank and coral conditions which would otherwise involve a physical diver with all of the health and safety implications, not to mention the cost.

As with so many devices today Chasing Dory is controlled by a smartphone or tablet screen swiping app rather than a joystick games console and this makes operation incredibly easy; No wires and just a wifi link to the floating buoy so you can operate from almost anywhere to suit your requirements.

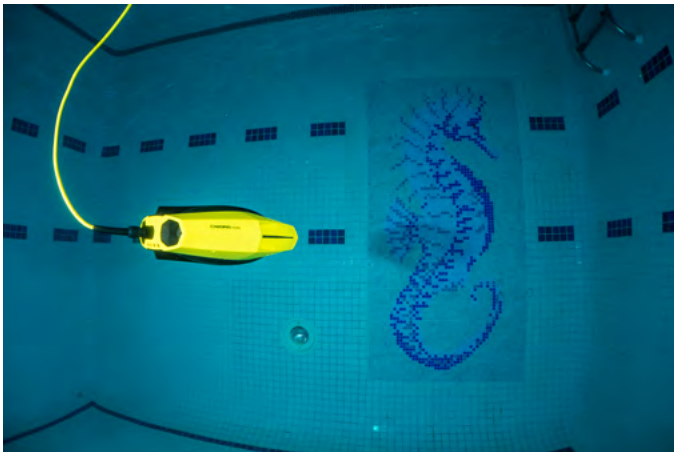
In terms of use I think the bigger the screen the



*Chasing Dory is very portable, extremely simple to set up and very easy to control via a smartphone or tablet app.*



*The onboard batteries provide an hour of use and there are two very useful LED lights for use when the water is clear.*



*Chasing Dory is extremely stable and produces excellent stills and 1080p video.*

better it is. I started with my 6" iPhone which was fine but things got so much easier when I used my iPad Mini and then even more so with my full size iPad.

The app has some very useful image control functions and the 1080p video camera and still images are smooth and recorded onto the 16gb built



*The onboard motors must be very quiet underwater because on my first sea dive to ten metres I was able to find and get very close to firstly a cuttlefish and secondly this octopus. Neither seemed spooked by Chasing Dory and I was able to get some pleasing footage although British sea conditions in winter are notoriously poor in terms of clarity as the above left shot shows but corrected in the excellent Dive+ app the image is really brought to life.*



in memory for later downloading.

Anyone who has flown a drone will be at home right away for there is a choice of Japanese or American controls as well as the ability to fully customise the controls to your own individual tastes. The other two decisions to make are how fast you want to go and what angle to set the viewing tilt. Even if you haven't flown a drone there is a logic to the controls which is almost intuitive and five minutes in a swimming pool will make you feel very much in control.

From a learning point of view it makes sense to start on the slower of the two speed settings until you get a sense of how it reacts to your screen swipes but if you're anything like me the higher speed setting is when the real fun starts.

As with most aerial drones, if you take your hands off, Chasing Dory will just stay there

awaiting orders while you gather your thoughts and decide what to do next. It really couldn't be simpler.

The onboard batteries provide an hour of use and there are two very useful LED lights but it should be realised that in turbid conditions these could be counter productive.

I know myself well enough to know that the likelihood of me sending the review unit back was pretty slim so I now own and have paid for a Chasing Dory AND a Gladius Mini because they both have their purposes and I am sure will provide many hours of productive pleasure. One thing's for certain neither will end up in a cupboard :-)

**Peter Rowlands**  
[peter@uwpmag.com](mailto:peter@uwpmag.com)

# We've got you covered!



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

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

[www.magic-filters.com](http://www.magic-filters.com)

# Rokinon/Samyang AF 14mm

## F/2.8 FE & RF for Canon & Sony

By Phil Rudin

Since 1979 Samyang Optical Company LTD, a Korean based company has continued to push the boundaries for innovation and craftsmanship in the camera lens industry.

Rokinon is owned and operated by Elite Brands Inc. which is the sole provider of Rokinon, Xeen by Rokinon and Samyang branded products in North America, Central America and South America. Samyang/Rokinon lenses and accessories are distributed in over fifty countries world wide. Samyang has focused on manual focus fixed focal length camera lenses and the XEEN Cinema lens line for years.

This will be the first in a series of lens reviews using third party “budget” lenses for high resolution cameras. The lenses I will be testing cost anywhere from one-half to one-third the price of the camera manufactures lenses.

Quality full frame cameras like the Canon EOS R and Nikon Z 6 & Z7 were released less than fourteen months ago and already have dramatic price reductions with the EOS R discounted \$500.00 to \$1799.00, Z 6 & Z 7 now discounted \$547.00 to \$1696.00 and \$947.00 to \$2697.00 respectively. The Sony A7R III released just over two years ago is also discounted \$700.00 to \$2500.00 from original retail price on first being released.

These reductions make many full frame mirrorless cameras very competitive with APS-C and even M43 cameras. Like housings and

accessories in both the new and used market are also very competitive and often cheaper than those for full frame and APS-C DSLR's.

My first experience with a Rokinon lens was for a review of the Sony A7R II and Ikelite housing I did for the May/June 2016 issue #90 of uwpmag.com. I was using the Rokinon 12mm F/2.8 ED AS IF NCS Fisheye for Sony full frame cameras with an Ikelite focus gear using the Ikelite eight inch dome port.

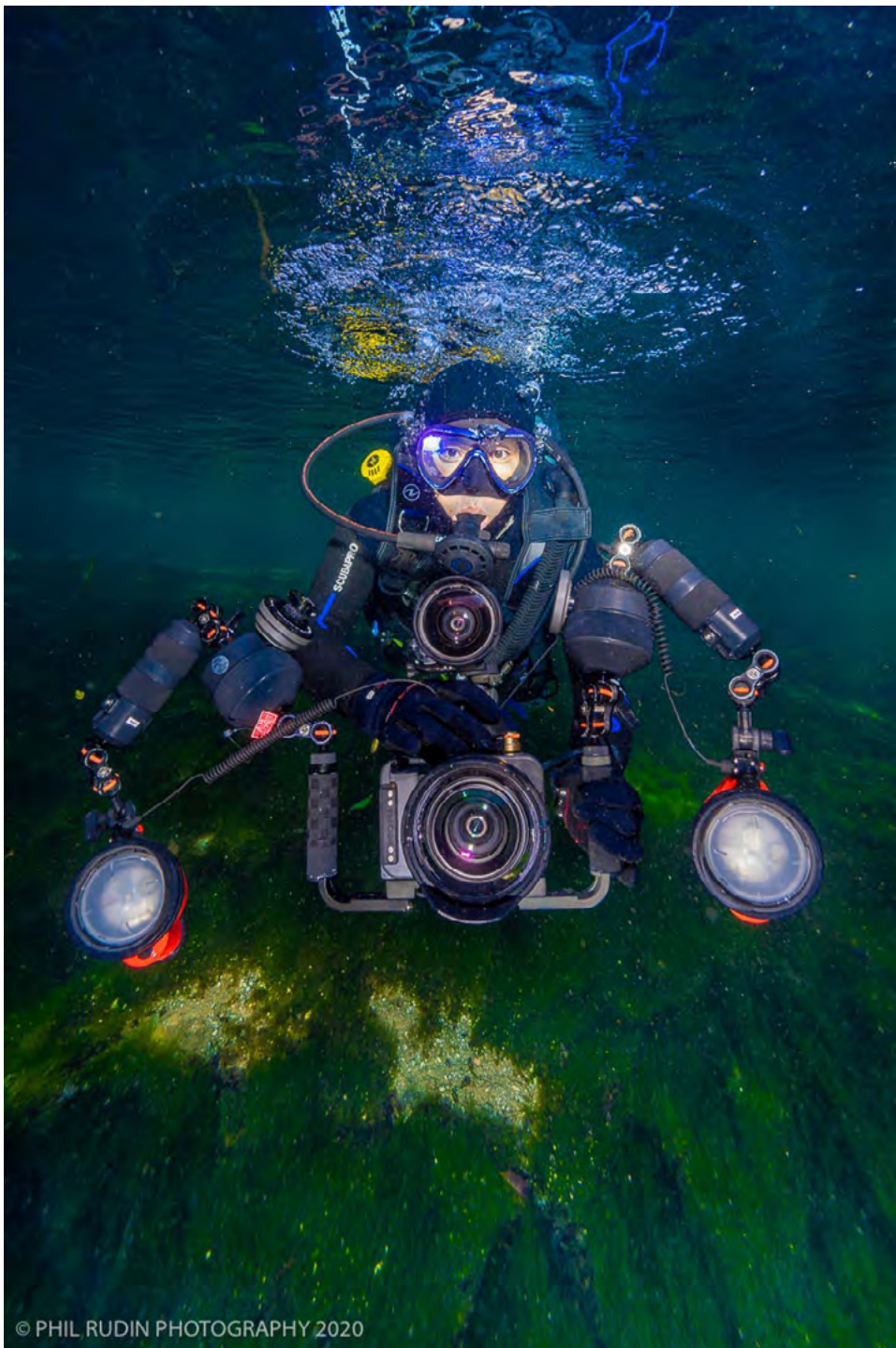
I shot with both front and rear curtain shutter with the aperture in the F/8 to F/16 range. The aperture setting needed to be preset prior to entering the water because I had no aperture control once the housing was closed. To achieve proper exposures I was using ISO values from 50 to 320 and shutter speeds from 1/15th sec to 1/250th sec.

The 180 degree fisheye angle of view produced excellent sharpness with the Sony A7R II's 42.4MP CMOS sensor, with great color rendering and the build quality was excellent for such an inexpensive lens. The only real downside to the fisheye lens was the plasticky feel, lack of quality weather-sealing and connectivity for EXIF data attached to the images in post.

Fast forward from 1979 to May 2016 and Samyang's announcement of their first ever auto focus lenses exclusively for Sony full frame mirrorless cameras. The first offerings were the Samyang 50mm F/1.4 AS IF UMC and the 14mm



*Housing System waiting for testing, Ginnie Springs, Florida, Aquatica A7rIV Pro Housing, Sony A7R IV, Two Inon-Z330 strobes, Rokinon 14mm F/2.8 AF, with Aquatica 200mm Acrylic Dome Port, ISO320, F/14, 1/15th sec*



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***Takuya Torii (Inon Torii san) Ginnie Springs, Florida, Aquatica A7rIV Pro Housing, Sony A7R IV, Two Inon-Z330 strobes, Rokinon 14mm F/2.8 AF, with Aquatica 200mm Acrylic Dome Port, ISO320, F/10, 1/125th sec.***

F/2.8 ED AS IF UMC.

Unlike the 12mm fisheye I tested in 2016, the 50mm F/1.4 and 14mm F/2.8 are designed for the flange distance of the Sony E mount full frame mirrorless cameras. The 12mm fisheye is a manual DSLR lens with an extension added to the rear of the lens replicating the distance from the rear of the lens to the sensor if a mirror box was included in the mirrorless camera body.

The Rokinon 14mm F/2.8 AF lens tested for this review is a super-wide prime lens with a 114 degree rectilinear angle of view on full frame and 21mm equivalent on Sony APS-C with a 91 degree AOV. The lens is designed with fourteen elements in ten groups including three aspherical elements to control spherical aberration for increased resolution edge to edge. The lens also has two extra-low dispersion glass elements to help reduce chromatic aberration, increase image sharpness and boost color fidelity. A multi-coating has also been applied to several of the elements to aid in the reduction of ghosting and flare.

The front element is rounded like

most lenses of this AOV and does not accept lens filters or color gels. Color gels can be mounted on the rear of the lens if desired.

The lens has seven rounded diaphragm blades and a fixed lens hood. The Rokinon 14mm F/2.8 AF ships with a pouch for storage, a rear lens cap and an excellent plastic lens cap that snaps over the lens hood and front element.

The lens is small and light for a 14mm F/2.8 at only 505g (1.11 Lb) and 86 x 97.5mm (3.39 x 3.84 inches) with the lens hood. The diameter of the lens allows it to be mounted from the rear of a Sony A7 series Nauticam housing with the 100 mm port opening.

Like the 14mm F/2.8 DSLR lenses from Canon, Nikon and others the minimum focus distance is 20 cm, the Sigma 14mm F/1.8 for Sony has a minimum focus distance of 27 cm.

The Rokinon 14mm F/2.8 is on sale in the US for \$499.00 which makes it a real bargain when compared to the Canon, Nikon and Sigma versions at \$2099.00, \$1892.00 and \$1599.00 respectively. Sony offers three wide angle zoom lenses the FE 12-24mm F/4 and FE 16-35 F/4 zooms which I have reviewed in past issues of uwpmag.com and the FE 16-35mm F/2.8 at \$1773.00, \$1348.00 and \$2198.00 respectively. Sony's widest prime lens is the excellent FE 24mm F/1.4 GM lens retails for \$1398.00.

The Rokinon AF 14mm F/2.8

is a no frills lens that offers no in-lens image stabilization, advanced weather-sealing, AF-Manual focus on/off switch or focus hold button on the lens barrel. For underwater photography I use the lens in AF-C auto focus mode. You can switch the Sony A7-series cameras to manual focus in the super menu very quickly but since no focus gear is available for the housings I tested with the lens this is a moot point.

For land photography the lens has a large and smooth manual focus ring which works very well for things like astro photography. I have manual focus set so that as soon as I turn the focus ring the area around the focus box is magnified about ten times in the viewfinder. Once I achieve critical focus and half press the shutter the image in the viewfinder returns to the full frame view. I also have focus peaking set to red which assists with achieving critical focus. This lens is quite robust but still has a bit of a plasticky feel. Mounted on the camera the lens seems smaller and lighter compared to lenses like the Sony FE 16-35 F/4, FE 12-24 F/4 and the Zeiss Batis 18mm F/2.8.

Be aware that Rokinin bundles a “lens station for Sony E” with several of the Sony FE full frame auto focus lenses they sell. The lens station has the Sony E mount and is used to update firmware for the Rokinin AF lenses. You first download the lens station software for Windows or Mac then chose the AF lens firmware you want to update using the provided mini USB cord. Updates can be made to the auto focus Sony FE 14mm F/2.8, Canon EF and 14mm F/2.8 Nikon F versions of this lens using the proper lens station. So far I have found firmware updates for all seven of the Rokinin auto focus lenses for Sony full frame cameras.

I have tested four of Rokinin’s Sony AF lenses



and they all arrived factory new needing firmware updates. This is a good thing for photographers because it allows new camera bodies to be added and lens quality can continually be tweaked for better results. The Rokinin lens station for Sony E sells for around \$60.00, when bundled with a lens the cost remains about the same.

### Field testing the Rokinin 14mm F/2.8

Currently the Rokinin 14mm F/2.8 AF is not included on the A7-series or Sony A9-series port charts for Aquatica, Ikelite, Isotta, Meikon/Sea Frogs, Nauticam, Sea & Sea or Subal housing. As a result I was on my own to come up with a dome port and extension combination to support the Rokinin lens.

For the Aquatica A7rIV Pro housing I used the Aquatica 200mm (eight inch) acrylic dome port and the 28.5mm port extension. For even better corner sharpness I would recommend the Aquatica 230mm (9.25 inch) optical glass dome port. For the Nauticam housings for A9, A7 & A7R II, III & IV with an N100 to N120 35.5mm port adapter I



*Rebreather Training, over Devil's Eye Springs, Florida, Aquatica A7rIV Pro Housing, Sony A7R IV, Two Inon-Z330 strobes, Rokinin 14mm F/2.8 AF, with Aquatica 200mm Acrylic Dome Port, ISO500, F/13, 1/250th sec.*

selected the Zen Underwater 230 mm optical glass dome port and a 20 mm port extension.

Since the purpose of this review is to offer less expensive options that offer excellent high



*Paddle boarding over Devil's Ear Springs, Florida, Aquatica A7rIV Pro Housing, Sony A7R IV, Two Inon-Z330 strobes, Rokinon 14mm F/2.8 AF, with Aquatica 200mm Acrylic Dome Port, ISO500, F/13, 1/250th sec.*

resolution image quality I would also suggest that the Nauticam N120 216mm (8.5 inch) acrylic dome port could also work well with the proper port extension. I have not yet tested this port to offer an extension suggestion. The Aquatica and Nauticam large acrylic dome ports are both about one-third the cost of the 230mm optical glass ports.

With the acrylic ports the dome has a tendency to turn port up putting extra strain on the right wrist while the 230mm optical glass port are much heavier but still have large air pockets. I have tested the 230mm glass ports with buoyancy arms and found that they provided too much

additional flotation compared to a pair of standard eight or ten inch arms. Weights can be added to the dome shade for both acrylic port to help offset the added port buoyancy. I prefer the optical glass ports for split images because they appear to shed water better and I see less ghosting and reflection in the images. For split images I try to shoot at F/16 to F/22 for maximum depth of field.

I tested the Rokinon lens with the Sony A7R IV camera in both the Aquatica A7rIV Pro housing and Nauticam NA-A7RIV housing with two Inon Z-330 strobes using manual power settings. The A7R IV camera was setup using AF-C with Lock-on

AF Expand Flexible Spot, with ISO sensitivity ranging from 100 to 640 and aperture settings from F/2.8 to F/18.

I first tested the lens in a swimming pool to see if my port and port extension selections were in a range where I would have sharp corners without vignetting. The 5.5 stops of image stabilization in camera allowed me to shoot at shutter speeds as slow as 1/15th of a second while maintaining excellent sharpness in the image with static subjects, anything much slower than 1/15th sec. is not very useful for most underwater work.

With the described auto focus settings the lens locked focus with excellent speed and accuracy even in low light inside the Ginnie Springs cavern. I was able to lock focus with a half press and drag the focus point around the frame for best composition without dropping the focus point. For humans the eye auto focus locked on even with divers wearing a black mask.

With lenses this wide strobe placement is critical to avoid

backscatter. Just like with fisheye lenses looking into the corners of the EVF or LCD while composing the image is very important. Items like your own fin tips, strobe cables, unwanted diver parts, sun flare and more can sneak into the corners of your image and ruin an otherwise excellent composition.

With a minimum focus distance of 20 cm the lens focuses to the port however the larger port can interfere with your ability to shoot CFWA without banging the shade on something. Shooting in portrait/vertical orientation may reduce this.

At the higher F/stop numbers I found corner sharpness with the Aquatica 200mm acrylic port and the Nauticam 230mm optical glass port to be sufficient for publication. Each has its own tradeoffs but the Rokinon lens works very well with both.

I had to reconfigure my travel kit to accommodate the additional weight and size of a 230mm optical glass dome port. I have opted to cushion the port with bubble wrap and stand it on its side in my ThinkTank Urban Disguise 60V2.0 shoulder bag rather than try to fit it into my ThinkTank Roller bag. With additional items besides the port added to my shoulder bag it exceeded the airline weight restrictions by a few kilos, a risk I am willing to accept since my shoulder bag is weighed far less often at the



*Technical Diver, Devil's Ear Springs, Florida, Aquatica A7rIV Pro Housing, Sony A7R IV, Two Inon-Z330 strobes, Rokinin 14mm F/2.8 AF, with Aquatica 200mm Acrylic Dome Port, ISO500, F/13, 1/125th sec.*

airport than my roller bag.

When the image files from the Rokinin lens are downloaded into LightRoom all of the EFIX data appears and lens profiles are accessible. In the LightRoom library the meta data always lists the lens as a Samyang 14mm while in the development module the lens profile appears as a Rokinin/Samyang 14mm.

The Rokinin/Samyang 14mm F/2.8 AF offers outstanding

performance for an under \$600.00 lens and I would highly recommend it as an entry lens for wide angle rectilinear underwater photography. I would expect the results to be quite similar from the Canon and Nikon versions of this lens.

I would like to thank aquatica, ca, Nauticam.com and zenunderwater.com for assistance with equipment and support for this review.

**Phil Rudin**

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# Papua New Guinea

By Mike Bartick

Papua New Guinea is one of those destinations that I've always heard about but never imagined myself going to, that is until I received a phone call on Christmas morning informing me that I had won the world shootout! The Grand Prize was 21 days of travel in PNG with flights, for 2. Holy cow, you gotta be kidding me man PNG?

Instantly I began to search for info on the diving there, only to find it scarce and uninformative, mostly fluffy trip reports. As a macro guy I didn't really see anything regarding macro for Kimbe Bay either, so I wasn't sure how to prepare. Naturally, instead of being caught short, I brought everything I could, including clothes this time which for anyone that travels with camera gear will know, a change of clothes is a luxury!

Getting to PNG is simple enough with daily flights arriving Port Moresby (POM) from around the world. Inter island flights aren't difficult either but can be a little unreliable, particularly afternoon flights.

The bonus is, that if you present your C-card to either of the inter-island carriers, you will be granted an

extra allowance for scuba gear! finally some love for divers.

Contrary to what I had read on the internet, I found the people of PNG to be friendly and helpful. Almost everyone spoke English there and sported a giant red toothed smile anytime you said hello. On the first trip down we connected through with short layovers. We stayed in the local Hilton on the way out and I highly recommend the restaurant adjacent to the Hotel. One of the best steaks I've ever eaten and it wasn't expensive. On the second trip I made a few months later, I was forced to grab a day room at a local resort in POM. There were plenty to choose from so that was simple and all of them offered free airport shuttles.

You can also opt for cultural tours, birdwatching, butterfly watching even a trip to the highlands.

## When In Kimbe:

Walindi plantation was built by Max Benjamin and his lovely wife 32 years ago on the shoreline of Kimbe Bay, Papua New Guinea of which it is also the capital city of the province of West New Britain. Kimbe Bay, aprx. 1500 sq. miles is also a nature reserve



*Barracudas are present on several of the dives. The schools are good sized and if approached slowly, they will hang out and allow you to get some nice keeper shots. I've found that approaching schools like this can be done slowly and moving sideways to the school. A head on approach will spook them so take your time. Allow them to come to you if you can and you will keep the best benefits.*



banning commercial fishing as early 1993, “but its the natural geography of the place that is the real police here, the real protector” as explained by the captain of the Febrina, Alan Raabe.

The Febrina one of 2 liveaboards that also operate out of Walindi are the only 2 LOB’s in the whole of Kimbe operating at this time. In fact there are only 3 LOB’s in the entire country which means at any given time, the only other divers you will ever see here while diving, will be from your boat.

The resort name is in itself, indicative of the grounds on which it is built, being 100% plantation style. Low slung bungalow style rooms, surrounded by sprawling gardens, lovely tropical foliage, exotic birds, colorful butterflies and all connected by a nice footpath. Rooms are pleasant with comfy beds, a workspace for cameras, refrigerator, kettle and even some great local PNG coffee.

The main lodge is the heart of the resort with the dining facility, the bar, a swimming pool and a great deck for watching the sun drop



*Walls, pinnacles, sponges, corals, swim throughs and more can all be accessed from the Walindi resorts fast speed boats. Lunch is also served on the boat and most dive days are planned around a 3 dive schedule.*



*Goby and bubbles. Using the Backscatter Minifish and snoot along with some items I grabbed from the boats galley, Digger helped me to make some fun macro images.*



***Nudibranch surrounded by a bubble raft and eggs. These slugs live inside of this little bubble, super small too. Thanks Digger!***

over the horizon.

Of course the real magic is offshore and I only found myself at the resort for a quick drink, a meal and a little rest before heading out to dive in the vast Kimbe Bay once again.

As a diver and or photographer expect natural undisturbed reefs with great corals and a healthy balance of subjects on every dive. Giant colorful sea fans, sea whips, unusually shaped orange sponges, hard coral gardens and soft coral trees growing right up to the surface. Black sand dives, white sand muck dives, even a well preserved Japanese Zero resting just offshore in aprx. 50 feet/15 meter or water.



***Bruce on the Zero- The Japanese Zero lays in shallow water and is in very good condition. Discovered only a short time ago, this well preserved WW2 artifact makes for a great dive and is accessed either from the resort proper or from either of the LOB's operating there. Try to get down to the wreck before the other guests arrive for a chance at cleaner water.***

Dive conditions in Kimbe bay are very predictable and generally offer flat calm seas with little current for much of the year. This is both good and bad. Due to rains, the lack of current can lead to poor visibility during certain times of the year so do your home work and plan accordingly:

Off reef, you can see schooling fish including a variety of barracuda, rainbow runners, jacks,

Travails, bumphead's and a variety of sharks including silver tips.

Overall the diving is easy once your in the water and made even easier with nitrox.

Most dive days from the resort will keep a diver out for 3 dives coordinated the day prior by a dive manager. The boat rides from the the resort can be a bit lengthy so I suggest packing a dry bag



*This lovely frogfish was the only one I had seen on either trip*

*Knowing that I would see some blennies on this trip i was prepared. I love bennies for their personality, big eyes and thick lips. They can be a bit reluctant to photograph at first but will pose once relaxed. Using my 105 and +6 diopter to frame and the Backscatter Mini Flash to snoot.*

*Squid Reflection at Resorts Island. I enjoy shooting squids and with the light from the boat's dive deck, the squids gather in nice numbers after sundown. If the water is calm like it is in PNG then reflection shots are a snap!*

for lens and battery swaps throughout the day. I chose to take advantage of the morning sunlight everyday by shooting wide angle but carried my macro gear for the afternoon dive before heading back in. Walindi has a great house reef which I recommend for Macro and should not be missed.

It will require a short boat ride though.

Diving on the Febrina is another experience. We boarded the boat late in the afternoon and steamed for the Vitu (Wee-Too) Islands stopping and visiting different reefs along the way.

The boat itself is simple with an attentive staff, comfy rooms, a big





*My trusty model and Mate posing while I framed her through a hole in a red sea fan. Many of the dive sites also have massive sea fans.*

clean salon area and a very functional dive deck that includes a camera workstation for each guest.

The Witu's are a small group of islands that surround a volcano some 2 days away from Walindi proper.

The diving is done from the mother ship, moored right at the dive sites. The FeBrina has a nice dive platform with a big dive ladder on the stern so stepping in is all you need to do and after the staff hands down your camera, your on your way!

Be prepared for wide angle on almost any dive site and you cant miss. The Witu islands itinerary also

has some decent Macro but overall I would say that the diving in Kimbe bay is mainly wide angle work.

Vitu Island's main attraction is the Garove island Volcano. The FeBrina actually motors into the flooded crater creating a one of a kind topside experience where your totally surrounded 360 degrees by lush green jungle, similar to being on a lake. The water is warm, the sand is black and the muck dives were are on!

### **Be prepared:**

Dive conditions can vary in Kimbe bay due to run off so try to



*The Percula is an endemic anemone fish in PNG. This one was on the house reef for Walindi plantation which i found to be a great dive and a good way to wind down a day of reef dives. I used my 60mm with a reflection tube which i find to be a fun tool on some occasions*

plan accordingly.

My trips were made in September and December and we enjoyed flat calm waters.

Water temps: 27-31

Best dive times: September -November/May - June, best overall travel time is May-December.

January - March is the rainy season with poor visibility

### **Best Lens choices:**

Wide angle: Full Frame-15mm

Cropped sensor- Tokina 10-17

Best Macro lens: 60mm, 100 or

105mm. Diopters-Yes

Macro subjects can range from pygmy seahorses, hairy shrimps and nudibranchs to flasher wrasse, Anthaes and the endemic Anemone fish. There was also some great Blenny action!

The dive style on the FeBrina was a bit more relaxed, offering 5 dives a day including a night dive, these done at decent intervals which made it very easy to do all 5 in a day if your choose to.

Digger, a lifer on the FeBrina



*Odd shaped sponges adorned the walls and reefs on most of the dives. This one looked like a giant head to me and the black crinoid looked like a slight mohawk. Granted I was a little deep, so use your imagination!*

staff of guides is legendary, full of energy and always on the hunt for great subject matter. He has dived with all of the the scuba industries greats and is extremely insightful when it comes to photo ops, current, tides and angles. He works with each guest with a contagious smile and he also makes a great model underwater.

Wide angle shots were all made with my D850 and Sigma 15mm lens. I used my Sea and Sea YSD2-J strobes and the 100 degree diffuser. Sadly in my packing haste, I forgot my domed diffusers, take them if you own them.

During the second trip I used the new Backscatter MF-1 Mini flash for wide angle fill and with the OS-1 optical snoot for macro. I find the compact MF-1 and OS-1 strobe kit easy to pack, easy to use and powerful.

Macro Images were shot with my D850, 60mm and 105mm. I used my Sea and Sea YSD2-J and MF-1 Mini Flash and OS-1 optical snoot.

Garove Island was certainly well worth the trip and lived up to everything I had hoped it would.

Heading back into the bay for the final days of diving we hit Barneys, Krakafat and Restorf Islands. All

of these are signature dive sites of Kimbe bay. I shot so many photos that even now I am stuck on choices of which dive I liked more. Between the lush corals, the fish life or the sheer fact that were the only divers out there made made both of these trips memorable.

Overall I would say, Kimbe Bay's Walindi resort and FebRina LOB were definitely worth going back to which says a lot for me. I'm not totally jaded but having a reef in my own backyard can certainly qualify me as being a bit selective.

Please feel free to contact me for information regarding the trip to PNG and ill do my best to point you in the right direction.

Special Thanks to:

Max Benjamin and Alan Raabe

David Polosof and The World

Shootout Judges

**Mike Bartick**

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# Raja Ampat impressions

by Albert Kok

Trips to Raja Ampat start and end in Sorong, Papua New Guinea. Most people fly to Jakarta, Bali, or Singapore first. My late November trip went from Amsterdam via a 2 stops in Medan to Jakarta. Here I spent 8 hours rest in the airport hotel that helped to break up the long trip, before starting the final leg – a night flight- to Sorong.

All my flights were with Garuda, a member of Sky team that checked my heavy 26 kilo bag through from Amsterdam to Sorong without any additional charges. I carried a second 10 kilo roller bag with the camera lenses with me. I here report my major impressions of the trip, without going too much into all the details.

The region The Indonesian archipelago of Raja Ampat (Indonesian for 'Four Kings) is part of the Coral Triangle that stretches from the Philippines to Timor to Papua New Guinea. Extending over more than 24,000 square kilometers, the archipelago of Raja Ampat, with its four large islands Waigeo, Batanta, Salawati and Misool and its more than 1,500 islets, is home to the last remaining nature preserves in their pure state, seemingly unaltered by

modern civilization.

The islands are located in a region on the western border of the equatorial Pacific Ocean and at the Northeastern 'entrance' of the Indonesian Through flow from the Pacific to the Indian Ocean. The high marine diversity in Raja Ampat must be related to its favorable position between the Indian and Pacific Oceans, as coral and fish larvae are more easily shared between the two oceans.

The four larger islands make up the vast majority of the landmass in the area, but are surrounded by numerous other small islands, some of which are part of atolls, covered with green jungle forest and surrounded by blue water and strips of white sandy beaches. The smaller mushroom (or: beehive?) shaped 'karst' (limestone) islets, create a unique landscape of spectacular rock islands that dominate the region. Especially the more remote locations south of Misool looked like a tropical paradise, far from the rest of the world worrying about climate change, environmental pollution and the loss of biodiversity.

In many respects our boat, the



*Nikon D7200,  
Ikelite housing,  
Tokina 10-17,  
14.0 mm, dual DS  
161 strobes, f11.0,  
1/160, ISO 200*

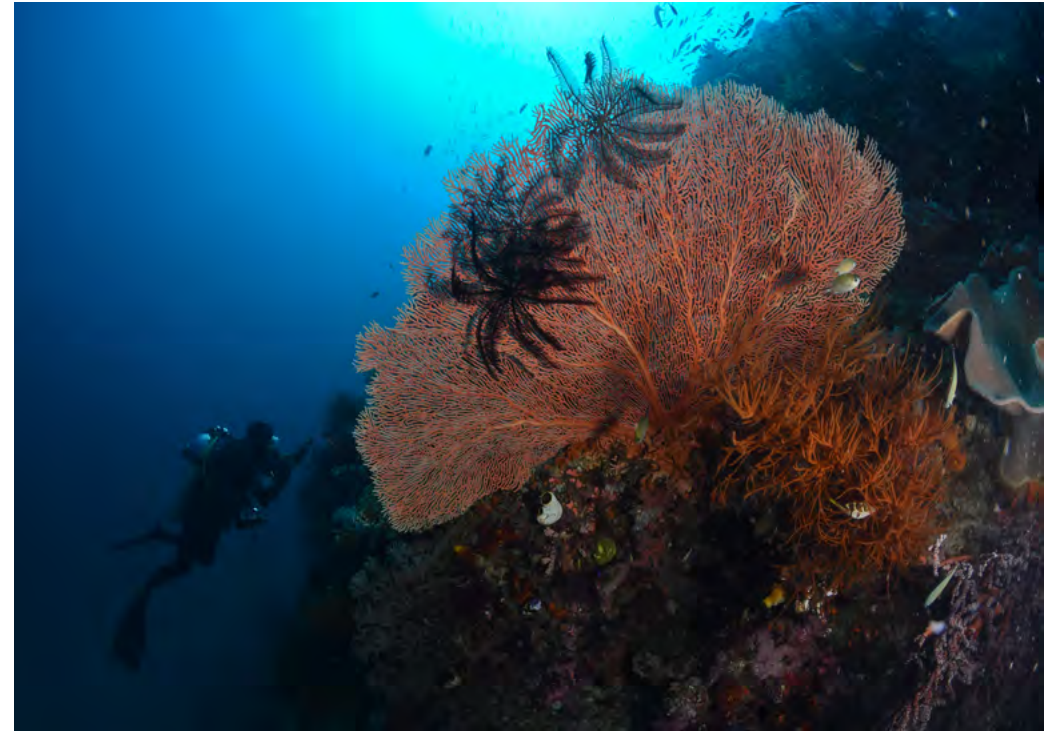




*Olympus E-EPL5, Olympus 8mm, dual DS 161 strobes, f11.0, 1/60, ISO 200*

Indo-Siren, was the ideal live-aboard, with spacious cabins, excellent cooking and perfect assistance of the super friendly Indonesian crew in accompanying each dive, checking our cylinder pressure and nitrox level and helping us getting in and out the three dinghies. We had our own drawers, enough electrical charging stations, free beers and free gear rental. Everyone had their own numbered station, and plenty of room to suit up. Briefings by our Anglo-American dive supervisor Tristan were short but adequate with a general

emphasis on ‘no solo’ diving and the details of the diving site. During our 9 days itinerary in which most divers were able to log 30 dives, we followed the north to south and back to north, route. This went from Sorong to the northern island of Batanta, then south to Daram and Pelee south of Misool, and back north again to the Dayang, Pianemo, Kri and Blue Magic sites, south of Waigeo. Batanta is known for its “muck diving” where critter seekers have a chance to spot the blue ring octopus, pygmy seahorse, and nudibranchs of all



*Nikon D7200, Ikelite housing, Tokina 10-17, 10mm, dual DS 161 strobes, f11.0, 1/125, ISO 200*

shapes and colors. Kri, Blue magic and Tapokren jetty are dive sites at the western edge of Dampier Strait in the northern section of Raja Ampat. Here vibrant schools of fish thrive in the strong currents of the strait south of GAM island. The crew did a pretty good job of timing our dives so we never saw divers from other boats underwater.

The underwater world of Raja Ampat contains an amazing number of stony corals (Scleractinia) and huge gorgonian fans covered with crinoids, and more than 1,700

species of reef fish. The famous ichthyologist, Dr. Gerald Allen, also the author of the excellent fish guide of the Indo-Pacific ocean, claimed to have counted over 280 fish species on a single dive! With its abundance of fusiliers, jacks, napoleon wrasse, bumphead parrotfish, tuna, batfish, several trevally species, sweetlips, snappers, and rainbow runners it's no wonder the Raja Ampat area is reputed to have the greatest diversity of marine life on earth. Occasional sightings included mobula rays, turtles and a couple of sharks that



*Olympus E-EPL5, Olympus 8mm, dual DS 161 strobes, f 11.0, 1/100, ISO 200*

kept their distance. We missed larger groups of barracuda. The night dives, some at the piers, had loads of macro subjects, such as blue ring octopus, bobtail squid, ghost pipefish and pygmy seahorses. The current was a major factor of most of the dives. Where the current strikes the offshore reefs, it often splits, attracting a dazzling variety of congregating fish, such as pulsating masses of sweepers, yellow snappers, fusiliers pursued by huge giant trevallies, packs of bluefin

jacks and huge Spanish mackerel. And not to forget the batfish swarming in groups. A great thrill were the reef Mantas that we encountered at Magic mountain (a submerged reef south of Misool) and in the north, hovering over a shallow sandy cleaning station plateau. Other spectacular sights were the dense groups of hundreds of jacks and various species of sweetlips (*Plectorhinchus*) huddling together.

My buddy Jack and I were the only two experienced UW



*Nikon D7200, Ikelite housing, Tokina 10-17, 10.0 mm, dual DS 161 strobes, f13.0, 1/125, ISO 200*

photographers in the 16 persons group of mixed nationalities. Curiously enough, although our dives were categorized as 'macro' and 'wide angle' dives, critter seeking by the dive guides formed a central element of most dives. Being the only diver with a fish-eye lens on my Nikon as well as Olympus rig this initially caused some frustration. This was when I had to follow the group, with little time to linger behind on occasional interesting spots higher

up the reef. During a drift dive or a situation of lower visibility this easily leads to a loss of eye contact with the group, creating inevitably a 'solo diver' situation. Luckily, Laura the American assistant dive master was so kind to accompany me during a number of dives, which I otherwise would have finished with a solo ascent and release of the marker buoy. The dinghy captains were always attentive and divers surfacing were always spotted and transported



*Nikon D7200, Ikelite housing, Tokina 10-17, 11.5 mm, dual DS 161 strobes, f11.0, 1/125, ISO 200*

directly to the boat were they were treated with a refreshment served by hostess Ing. The dinghies were equipped with ladders which made climbing in a lot easier.

The guided group system of Indo Siren is an excellent and safe option when diving in more difficult conditions such as low visibility, strong currents, or when exploring new and photogenic diving locations. Given that the divers share a common (exploratory) interest and have no specific buddies. In my earlier UW

photographers-only workshops, most divers were used to follow a more individual diving plan. Here the dive supervisors usually follow a lenient regime with respect to the rules of buddy and group diving. The take home message is: when you book on a non-workshop dive trip be sure that there is a 'buddy' (that is: a person in the group) that is willing to stay with you. Especially when you have a specific photo (e.g. wide angle) interest, that may not follow the dive plan of the guided group.



*Nikon D7200, Ikelite housing, Tokina 10-17, 10.0 mm, dual DS 161 strobes, f11.0, 1/80, ISO 200*

Summing up, Raya Ampat has been an amazingly rich diving experience on an excellent live-aboard boat. Schools of fish of different species with a great variety of colors, sizes and shapes swarmed around the islands, with a stunning array of colored stony corals and gorgonians as a background. Mantas showed up at different locations, while the pretty-much constant sunshine and high water temperatures created a comfortable diving environment. As compared with the Red Sea,

underwater visibility may not always be optimal, and around the island, in particular the submerged reefs, there can be pretty strong currents constantly splitting in direction. I hope that pictures that go with the article illustrate -at least a part- of this magic underwater world!

**Albert Kok**  
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Magic Filter Manual  
White Balance

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

*[www.magic-filters.com](http://www.magic-filters.com)*

# Uncommissionable

by Pete Atkinson



Some of my favourite photos are those that can't be copied. Or at least can't be copied without a huge amount of effort and expense. This used to be the value of rights-managed stock photography (before Getty Images killed the market), enabling a client to license an image, exclusively if necessary, knowing that they can't commission another photographer to go out and shoot substantially the same image.

Often they are created by hanging out in the same place for many days, habituating animals to your presence. At other times it's just a question of

waiting for the right conditions.

During five visits to Beveridge Reef in the South Pacific over a period of 20 years I had these conditions only twice; low water, almost no wind, a biological slick coming off the reef to windward, and exceptionally clear water. Think 60m visibility. I would love to go back, but even if you could spend a couple of weeks there, the chance of those conditions being repeated is vanishingly small.

In Tonga while swimming over a sandy slope I noticed garden eels intertwining occasionally. But to shoot this with a macro lens required habituation



*Exceptionally clear water at Beveridge Reef. Nikon F4, 18mm lens, home-made housing, Fuji Velvia, 1/500th, f5.6.*

*Garden eels in Vava'u, Tonga. Nikon F4, 105 micro, home-made housing, housed SB-24 flash guns, Fuji Velvia, 1/125th at f11*

and breath-holding on scuba well beyond my comfort zone.

*Pseudanthias regalis*  
at *Fatu Hiva* in the  
*Marquesas Islands*  
of *French Polynesia*.  
*Nikon F4, 55mm*  
*micro lens, home-*  
*made housing, housed*  
*SB-24 flashguns, Fuji*  
*Velvia, 1/125th at f16*



Geographical rarity may come into play. In the Marquesas I shot *Pseudanthias regalis* which is rare in a Google search and unavailable on Getty Images. And even if you do get to dive there, the chances are that you will be shooting with a wider lens in anticipation of bigger fish with teeth. In Mopelia on the other (west) side of French Polynesia almost a thousand miles away I was able to shoot the wreck of the German raider *Seeadler*, not a place you can get to without your own boat.

At Fanning Island in Kiribati in 1991 we discovered large squadrons of manta rays, aggregations that had not been reported before and long before the Maldivian mantas of Hanifaru became fashionable.

*The wreck of Count*  
*Felix von Luckner's*  
*Seeadler just outside*  
*the pass at Mopelia.*  
*Nikon F4, 18mm*  
*lens, home-made*  
*housing, Fuji*  
*Velvia, housed SB-*  
*24 flash guns, f11,*  
*1/60*



*A squadron of reef manta rays (Mobula alfredi) gathering to feed*  
*outside the pass at Fanning Island in Kiribati. Nikon F4, Fuji*  
*Velvia, 1/125, f11.*  
*Having steps up the mast is essential!*



*My best encounter with humpback whales in Vava'u several miles offshore when they didn't want to leave. Subeye Reflex camera, Nikonos 13mm fisheye with adapter, Fuji Velvia, 1/125, f5.6*

*In a perfect calm at Apataki in the Tuamotus Archipelago of French Polynesia. Nikon F4, 18mm lens, home-made housing, Fuji Velvia, f16, 1/60.*

Half and half pictures benefit from flat water and something interesting above and below. In Apataki in the Tuamotus of French Polynesia I had those conditions, even though both lens and dome were far from perfect. Sometimes it's the story that is uncommissionable. Also in Apataki we had a unique encounter with a solitary spinner dolphin, who cavorted with us for several days until the weather forced us to leave.

Once in Tonga we were a few miles offshore in my yacht with a couple of humpback whales. I only had two cameras but the whales were so obliging I was able to shoot my films, get out of the water, change films and get back in where they were waiting patiently.

The yachts (I owned two over 23 years) were a fantastic vantage point with



steps up the mast. Combined with exceptional conditions (and having people to model on board) near the Ile de Pins of New Caledonia I was able to shoot this picture of Nokanhui.

Feeding and habituating animals always produced the best results. At Wailagilala, north of Taveuni in Fiji, Tobi Bernhard found a 1.5m barracuda beneath his boat. We took down a tape measure to check! I had a girl on board who thought she couldn't dive, but we needed a model. Fortunately it was shallow.



With the grey reef sharks at Beveridge Reef, having someone to model with these habituated fish was always a bonus and it was always the fearless Tobi Bernhard.



At Cod Hole on the Great Barrier Reef two cod were performing their mating ritual, oblivious to all, including my wife Darin who inadvertently managed to get amongst the action.



Late one afternoon in Fiji I dropped in the water with a jellyfish. Perhaps I had forgotten my weightbelt. But twisting around underwater to create a shot with the area around the Snell's Window only reflecting only the deep dark water below, and through the window a beautiful stratocumulus sky. Only later by rotating the picture 90 degrees did I see the image at its best.

Finally, I dropped into the ocean 6 miles north of Moorea in French Polynesia. What greeted me were two humpback whales, 100 melonhead whales, some rough-tooth dolphins and a few oceanic whitetip sharks. I jumped back in the dinghy in a hurry when the sharks came to investigate. In retrospect

my fear may have been justified; a French woman recently had both hands torn off doing just this with pilot whales accompanied by oceanic white tips off Moorea.

These pictures had value at one time and could sell for premium prices. The oversupply and Instagram disposability of great imagery has devalued all pictures, even those that can never be commissioned.

**Pete Atkinson**

[www.peteatkinson.com](http://www.peteatkinson.com)

*Pete's ebook of Polynesia – An Ocean Realm is available from his website*

# Dreamland or homeland?

by Lorenzo Buccio

Every time we surf the net or read a scuba magazine we see many corners of paradise: far away islands in the middle of the ocean, mysterious reefs or muddy bottoms with plenty of macro treasures. We plan a long trip, take our precious camera, strobes and housing and begin the search for the perfect shot. That's fair enough, it's the dream of every diver, but what about the ordinary homeland dives? Today I want to describe one of those. Rather, I want to describe one of the less significant seabeds you can find in the sea.

Why? Because we mustn't forget that every dive is, or can be, a beautiful dive. Beautiful because if we pay attention we can find interesting animals everywhere or curious behaviours to observe. Beautiful because the experience from everyday dives can help the way we will dive and take pictures when we visit a dreamland.

## Follonica beach, Tyrrhenian Sea, Italy

One of the pearls of Mediterranean sea is the Tuscan archipelago National Park. In the park there are beautiful dive spots quite literally everywhere, from Montecristo, the island of Dumas's Count that is completely protected from tourism, to Giannutri, Gorgona, Pianosa, Giglio and finally Elba, with more than 40 dive centers and where this year the Italian National Trophy of Underwater Photography was held.

From Elba, the biggest island, move your eyes to the continent, and you will find the gulf of Follonica. Follonica is a little touristic city that in a year can host about half a million tourists. Originally this big gulf had plenty of *Posidonia oceanica* meadows. This plant has an important nursery effect and is a good habitat for a lot of fish and invertebrates.

As a result of economic and urban development in the sixties, the meadows slowly slowly began to disappear. Coastal erosion become more and more important and for that reason in front of the sandy beach has been built a submerged artificial reef



*The typical fishermen's houses just on the beach have been transformed into concrete buildings during the Italian economic and industrial boom of the sixties and seventies. Originally, behind the seashore there was a dune environment, ecologically important for maintaining biodiversity.*

*Nikon D200 – Vivitar Series I 19-35mm f/3.5-4.5 – 35mm – f/13-1/250-ISO 250*

in order to block waves. I will talk now about photographic dives on this artificial reef.

## Shallow is worst

When we dive we know that mastery of buoyancy skills is crucial for taking good pictures. Not just to protect delicate corals but also to preserve the reefs naturalness, but also not to stir up the silty and muddy seabed. Diving in a shallow dive spot,





*Diplodus sp. (vulgaris?) juvenile form*

*During the year you can observe, in the same place, all the vital cycle of some organism. Observe, in this picture, all the skeletal structure, with all the hard rays of fins structure clearly visible. Note also as are evident all the cells that have a role in coloration: from the dark melanophores to the clear iridophores that have inside a crystal of guanine that reflect the light depending by his position inside the cell. Nikon D200 in Subal ND20 – AF Micro Nikkor 105mm F/2.8 D – 105mm – f/10-1/200-ISO 100 – 1 strobe SB900 in Subal SN900 – Subsee 5 diopters wet lens*

like this which is only 1.5 metres deep, it is double important.

We know that pressure increases with depth, but we also know that this increasing is not linear. In the first meter pressure changes are much faster than if we were at 20 or 30 metres down.

Diving in shallow water is therefore the perfect training for improving your lung use and breathing rhythm. Manage breathing,

without holding it, helps us to manage our excitement and keep calm when, during a trip, a strange silhouette or a big shadow appear over our heads. Being confident with ourselves underwater means being ready to shot, lucidly and safely, when we have a once in a lifetime opportunity in front of us.



*Leptomysis sp.*

*These crustaceans usually swim in the shadowed corner between rocks, maybe near to some anemones. If you are careful, you will discover that one of them is a different kind of animal, swimming right in the middle of the group. The microscopic world is far more differentiated and complex than the macroscopic one.*

*Nikon D200 in Subal ND20 – AF-P DX Nikkor 18-55mm f/3.5-5.6 G VR DX – 55mm – f/16-1/320-ISO 100 – 1 strobe SB900 in Subal SN900 – Subsee 5 diopters wet lens*

## Shooting in the fog

Sometimes conditions are not as we expect. Currents, winds and rain can radically influence the visibility and the choice of our shooting set up. This dive spot is situated at the end of a river in a sandy gulf with plenty of

tiny sediment brought down by rivers through a really extensive marsh system.

This means that we need to find some tricks to take photos. First of all, leaving the wide-angle lens at home helps us to take pictures in which the muddy and brown water is not the



***Gobius buchicchi***

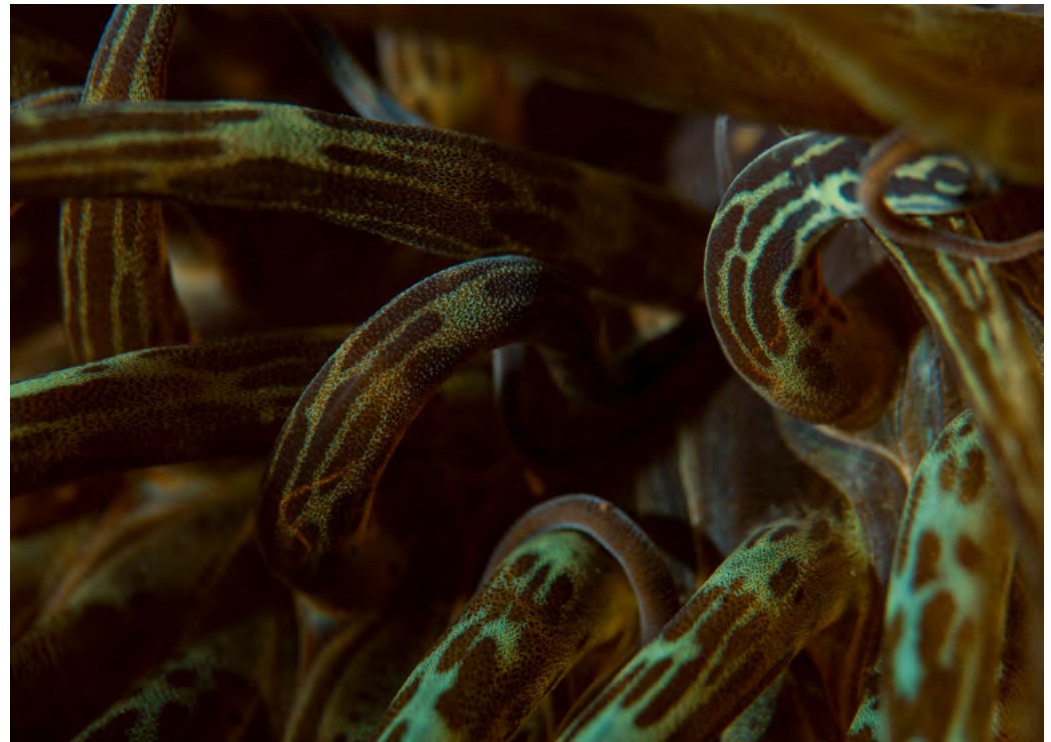
*Every day there is a fight: eat or be eaten. This gobidae has just caught something in the sand. With the mouth he has blocked the prey hidden in the bottom, and now he will eat her. Every day there are wonderful moments of normal life.*

*Nikon D200 in Subal ND20 –AF-P DX Nikkor 18-55mm f/3.5-5.6 G VR DX – 55mm – f/7.1-1/250-ISO 100 – 1 strobe SB900 in Subal SN900 – Subsee 5 diopters wet lens*

main subject. Then, the closer we get to the subject the clearer our pictures will be. To do that, we need to use wet diopter lenses that reduce the minimum focus working distance. In addition, we have to manage the flash position properly to avoid highlighting exactly what we don't want to show in the picture: backscatter.

Another trick that I have learnt

is not to trust the camera's autofocus capabilities. In these conditions it is better use manual focus because otherwise you will sometimes focus on the silt and not on the big fish just behind. For that reason being able to manually focus fast is another important skill to develop and master.



***Aipstasia mutabilis***

*This anemone, at night, shows a strange light-green fluorescence. All the arms come out from the central body, with the mouth (that is also the anus) in the middle of them. During the day the green zones are quite transparent. There are a lot of phenomena related to fluorescence, but very little is known and the specific use of this really particular kind of light emission is quite uncertain.*

*Nikon D200 in Subal ND20 –AF Micro Nikkor 105mm F/2.8 D – 105mm – f/10-1/200-ISO 100 – 1 strobe SB900 in Subal SN900 – Subsee 5 diopters wet lens*

**Night and day, Seasonality and reproduction**

Local dive spots give us the possibilities that no travel dreamland can easily give us. We can experience how the same place changes during the day and the night, summer and

winter. We can observe as planktonic life forms come out during the night from their refuges to swim in the black water. We can meet the same fish of the day sleeping and dreaming in their nests and wake up in the morning with the first sun.

During several dives we can also

experience the seasons changing, the algal composition that changes depending on the light availability and water temperature, the little fishes just born appear and slowly slowly grow until they disappear into the open water searching for a deeper place to live.

Shallower water is ideal for photosynthetic organisms and juvenile forms, both depending on light availability and temperature fluctuations. Monitoring this kind of environment can so give us a lot of subject variability through seasons and various times of the day.

## Magic book in my hand, who is the the most hidden in the land?

Another aspect that familiarity with an environment can give us is the opportunity to fully understand ecological and biological facts about a lot of species and relationships between species. Improving our skill in searching and identify organisms, just as important in a temperate rocky coast as in a tropical reef, can contribute to the knowledge base. Then, when we find what we were searching for, because we knew where and what we were searching, makes these things easier to find. Our eye needs to identify shapes and textures; starting from easy things (which we

know are supposed to be there) to arrive at hard things (which we never imagined being there). This can lead us to a mastering of fine observation capabilities useful for both a tropical macro muck dive or in a photographic contest with others divers challenging in the same space and time.

## Time to try

Training, as we have said, is important in underwater photography. Knowing your camera means being choose the camera settings quickly together with strobe position and power. To do that, we need to be really confident with our equipment. Practice makes perfect. But this is normal in underwater photography.

In fact, we also need time to develop skills that can distinguish us from other photographers, to create our own style. Photography needs creative capabilities and creative effects, both of which take time to develop.

Taking shoots of planktonic animals, that need micro focus skills, also needs time to wait and try, shot after shot. Enhancing natural fluorescence with not only the knowledge of the species that show this particular character, but also the time to find the right light balance to not cover the green glimmer with the impressive white strobe's light.



### *Parablennius pilicornis*

*Blennidae can be easily recognized because they have only one, unique, dorsal fin. They also have a lot of little teeth, because, despite looking cute, they are also predators. Between the eyes they also have some typical ramification, that can be also used to distinguish the different species. Don't be fooled by skin colouration, because it can be really variable! Depending on flashlights position and power, eyes of blennies can take wonderful shines and shades.*

*Nikon D200 in Subal ND20 –AF-P DX Nikkor 18-55mm f/3.5-5.6 G VR DX – 55mm – f/5.6-1/200-ISO 100 – 1 strobe SB900 in Subal SN900 – Subsee 5 diopters wet lens*

Snoots, repetitive strobe lighting effects, diopter wet lenses, detached and - why not? -coloured lighting, coloured backgrounds, focus and bokeh effects. These require a quiet place to find the right subject and master the technique. When we become confident, we can try to add additional effects especially we will not have a second opportunity.

## Curious blenny

Follonica's artificial shallow reef is also one of the favourite habitats of several species of blenny. This curious animal is a false friend of photographers. They wait, watching you, and as soon as you get them in the viewfinder, focus and choose the right composition... then they jump onto the nearest rock, not so far as to



*Sepia officinalis*

Cuttlefishes are famous for their skin, capable to change colour and texture depending by their mood and their behaviour. Colour, as the arms position, is also used in communication skills, both intraspecific that extraspecific. Some people say that they know how to talk with cuttlefishes, earning their trust and arriving to caress them. Also eyes, as all others Cephalopoda, are really developed. With their fins they can move back and forth, ready to disappear expelling water from their palleal cavity in a black cloud of ink.

*Panasonic Lumix DMC-TZ1 – f/2.8-1/30-ISO 80 – 1 strobe Ikelite AF-35*

disappear but neither so near either. So you have to watch out, move, set everything and then try another time to take a good shoot.

Being able to understand the

signals of the animals, like fin position such as the dorsal fin, can give you a way to understand your limits: how near you can go? Are you are stressing the animal with the light of the



*Sparus aurata.* The gilthead seabream is a hunter. He looks for his prey in the sandy bottom and on the rocks. With his teeth he can break mussel shells and crustacean bodies. Sometimes water turbidity can create difficulties in seeing and taking pictures of these animals which appear and disappear very quickly in the fog. The lateral line, one of the most important sensitive organs of fishes, is the only way with whom they can have a perception of the environment: in the picture you can clearly see that, the golden line on the gilthead seabream's side.

*Nikon D200 in Subal ND20 –AF-P DX Nikkor 18-55mm f/3.5-5.6 G VR DX – 55mm – f/5.6-1/400-ISO 100 – 1 strobe SB900 in Subal SN900*

strobes? Does the animal feel scared?

Trying to understand body communication can give you not only an instrument to conserve a friendly approach to the subject, but can also help you to understand how close you can go without scaring the subject and losing the occasion.

### Strange meetings

The saying ‘the more you dive the more you see’ is true. In today’s age, there are a lot of environmental changes. Consequently, we might see strange things. Not only big cuttlefish in the mating season or smaller ones trying to camouflage themselves with the dead algae but big fish hunting



*Dictyota dichotoma with zooplankton. This algae can show fluorescence at the end of his leaves. Observe how on the leaves there is also a lot of epibiosis (the white concretions). The pink-white dot in the water are little organism that come out from the algae and swim during the night. During the day they can not be observed: they are hunted by labridae and sparidae, so they wait until the fall of darkness.*

*Nikon D200 in Subal ND20 – AF Micro Nikkor 105mm F/2.8 D – 105mm – f/10-1/200-ISO 100 – 1 strobe SB900 in Subal SN900 – Subsee 5 diopters wet lens*

in the evening, octopus out of their holes. Occasionally also tropical nudibranch that come from Red Sea can be observed. Obviously this only happens when you don't have the camera with you because, when you have the same place every time, why I should bring it with me?

The sea is not something that can be predicted. We have to be curious

and open to new encounters, every time.

## Conclusion

The dive spot which I described is not a beautiful place. If someone brought you here you would probably ask for your money back.



*Sunset during summer season. In the background you can see the two chimneys of Piombino's electrical plant. All the coastal region has been a really important iron and steel district for a long time.*

Nevertheless it is underwater and it is a wonderful place to take pictures, observe animals and algae, and keep in training. This is what I have tried to focus on in this article: never be unsatisfied about the dives you do, because if you don't take good pictures or you don't see anything probably it is probably because you should pay more attention to the world around you and continue to improve your photographic skills. Love the sea everywhere, on a dreamland and in your homeland. And try to preserve it, because little niches of beauty are everywhere.

Sadly this place does not exist

any more, because a new pile of rocks has been dropped to prevent more coastal erosion and it has buried the older reef. It was my place, where I trained myself and where, as soon I could, I used to discover new things about the sea. But I will found another place, underwater, where I can observe and fall in love every time with new things, as you can also do near your home.

**Lorenzo Buccio**

[www.underwaterwonder.org](http://www.underwaterwonder.org)

# Guidelines for contributors

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

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

**Uw photo techniques** - Balanced light, composition, etc

**Locations** - Photo friendly dive sites, countries or liveaboards,

**Subjects** -, Anything from whale sharks to nudibranchs in full detail

**Equipment reviews** - Detailed appraisals of the latest equipment

**Personalities** - Interviews/features about leading underwater photographers

**If you have an idea for an article,  
contact me first before putting pen to paper.  
E mail [peter@uwpmag.com](mailto:peter@uwpmag.com)**

## How to submit articles

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

1. The text should be saved as a TEXT file and attached to the e mail

2. Images must be attached to the e mail and they need to be 150dpi

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

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

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

# Parting Shot

The island of Yap in Micronesia has two passages in the surrounding outer reef, Goofnuw and Mi'l channels, where manta rays come to visit cleaning stations. I had patiently spent the previous day with a wide angle lens in Goofnuw with my fingers crossed. I roamed back and forth between the two known hot spots but to no avail. Huge stands of various hard corals and some cooperative angelfish where my take away this day. I did spot an unusual shrimp in a mushroom coral and decided my next dive would be with a 100mm macro lens to capture this eye candy crustacean.

Luckily Yap Divers and Manta Ray Bay Resort are flexible with their schedules and I switched boats the next morning to return again to Goofnuw.

I attempted to ignore the two manta rays I passed on my way to the shrimp, who was beautiful and cooperative. With my mental macro blinders on, I decide to check out the cleaning station to just take in the majesty of the manta swooping over the coral to nearly Hoover while cleaner wrasse and butterflyfish checked her over for parasitic morsels. Now I would not recommend anyone gear up with a macro lens, let alone



*Canon 5D mark IV and a Canon EF100mm f/2.8 macro, f/14, 1/80sec, ISO320, in an Ikelite dry-lock housing with twin Ikelite 161 strobes on TTL.*

a 100mm macro lens with the intent to capture one of these creatures with your camera, but after the fourth close pass by I thought what the hell. I moved my strobes out to the extent of my arms and fired a few shots. To my

surprise and delight and with a few tweaks in Lightroom and Photoshop I came away with this image.

**David Fleetham**  
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**Do you have a shot  
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