Underwater Photography

a web magazine
Issue 36
May/Jun 2007

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Discover UNDERWATER Photography

SLR-DC Housings

The Ikelite SLR-DC housing takes full advantage of the digital SLR camera's innovative features. The housing is injection molded of clear, lightweight polycarbonate for strength, visual access to the camera, LCD screens and camera controls. The housing provides controls for most camera functions. Most Ikelite SLR-DC Housings include conversion circuitry that provide TTL compatibility with the latest Ikelite DS Substrobes. Many Housings also include a Flash Compensation Module which provides over and under-exposure compensation in the TTL mode and easily allow you to switch to Manual Exposure Mode which provides eight power settings. All exposure compensation is done on the back of the housing. There is no need to access complicated camera menus.

Canon
EOS 5D
EOS 10D
EOS 20D
EOS 300D
EOS 350D, Rebel XT
EOS 400D, Rebel XTi

Nikon
D-200
D-80
D-70, 70s
D-50
D-40

Olympus
E-330
E-300
E-500

Sony
DSLR-A100

ikelite
Underwater Systems
50 W. 33rd. Street
Indianapolis, IN
46208
317-923-4523

www.ikelite.com

Compact Digital Still Housings for
Canon • Fuji • Nikon • Olympus • Sony

Ikelite offers housings for more than fifty different digital still camera models to meet the diverse demands of the underwater photographer community. Ikelite's Compact Digital Still Housings are molded of clear polycarbonate. Dive while knowing your system is safe and have complete visual access to the camera, LCD, monitor and control functions. Most housings are rated to 60m (200'). When you invest in an Ikelite housing, you invest in a system. Ikelite offers a full line of accessories for their Compact Digital Still Housings. Add a Tray and Release Handle for easier handling underwater. The Release Handle incorporates a quick-release for mounting and removing Ikelite's articulating ball socket arm system. Ikelite's DS Substrobes provide more power, faster recycle times, wider coverage and help eliminate backscatter. Choose the ever popular DS51 or DS125 Substrobe. Some camera models offer auto exposure with DS Substrobes, or use the EV-Controller which provides 10 manual power settings in 1/2 f-stop increments for precision lighting. Add the Ikelite W-20 waterproof wide-angle lens to your system to widen the camera's angle of coverage, allowing you to get closer to your subject for enhanced color and clarity.

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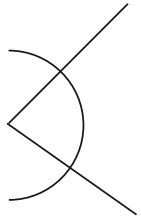


by Pete Atkinson

by Mario Lebrato

by Rob Harcourt

Underwater Photography

Publisher/Editor Peter Rowlands

www.pr-productions.co.uk
peter@uwpmag.com

Editorial

Please donate to your UwP contributors

You may not know this but none of the UwP contributors get paid. They provide their articles and photo talent in support of the cause of UwP which aims to keep the magazine free for anyone to download.

I've been involved commercially in underwater photography for a long time and I see UwP as my way of putting something back into the hobby I find so absorbing.

In order to renumerate contributors and encourage even better articles for UwP I would like you to consider making a small donation per issue or consider a larger Annual donation.

Have you learnt something invaluable by reading UwP? Have you saved a lot of time benefitting for the experience of UwP contributors or do you simply just enjoy UwP and want to support its philosophy?

The answer is to make a donation and help UwP continue to provide you with informative, well illustrated articles.

Donations are all handled in total security through PayPal and you can also pay securely by credit card using the PayPal links.

Your donations will be distributed to the contributors on a pro rata basis i.e. the more pages they contribute, the more their percentage. 2007 Annual payments will be distributed to all that years contributors.

When deciding how much you want to donate, please bear in mind that PayPal's charge for amounts smaller than £3 or $6 can be as high as 24%!! Whilst I accept that PayPal is absolutely brilliant and safe, I don't want this to become a 'Donate a lot to PayPal"!!

You can make a donation in either US $ dollars, UK £ sterling or € Euros

To make a donation, please follow this link:

www.uwpmag.com/donate.html

PayPal DONATE

Disposable digital

Having been involved in repairing underwater photography equipment for over 30 years I have a train of thought that all things mechanical should be repairable as long as spare parts are available.

I accept that electronic boards are cheaper to replace than repair reliably but when I'm told by Olympus UK that no spare parts are available to repair their excellent range of underwater digital housings I think it is a sad endictment of our throw away society encouraged by equipment manufacturers.

Climate change

There's an old saying (which I've just made up) which says "Nothing much happens until the media take it onboard" and this could well apply to global warming and greenhouse gases.

The recent Intergovernmental Panel on Climate Change (IPCC) report predicts that average global temperatures will rise by between 2°C and 4.5°C by 2100. This comes at a time when the heavily computer aided Met Office can't accurately predict what the weather will be like this afternoon but it does make chilling reading.

We are the only animal on the planet which doesn't really rely on anything or anyone else. We can grow our own food, shoot animals that might eat us and produce medicines to save us from disease but every other living thing relies for its very survival on something else.

Whales need krill, seabirds need sandeels and elephants need foliage and water etc etc. Each living being, apart from us, is part of a large chain of life. Removing one link from that chain will produce a domino effect.

Up until now the equilibrium of the food chain has maintained a balance but with global warming caused by greenhouse gases that delicate balance is under threat and nowhere more so than life in the sea.

If the predictions are right we are heading for possibly terminal chaos which only we can do something about. And that, as I see it, is where we face a huge dilemma.

We can't all walk to work, we all want to go on dive trips and we want to have new cameras to lust over. It's human nature and I really can't see how that is going to change.

But change it must and we can all do something to make a difference.

I made a start yesterday and locked my greenhouse door.

peter@uwpmag.com

News, Travel & Events

Galapagos with Jason and Wendy Heller and Michael Field

September 8th - 15th 2008

This 7 day expedition will begin in by flying into San Cristobal. The primary objective is to dive the sites with the highest concentration of the dramatic marine life that is the Galapagos Islands - Sea Lions, Whale Sharks, Hammerheads, Dolphins, Turtles, Manta Rays, schooling fish by the thousands, and more.

During the week, we will stop for at least three land excursions on various islands, including a stop at the infamous Darwin Station. You will have a chance to see the giant Galapagos Tortoises that can live over 150 years, the endemic Marine Iguanas found nowhere else on earth, Blue Footed Boobies, and other rare

and exciting wildlife. However, the focus of the expedition is diving the northern most islands of Wolf and Darwin, home to a plethora of marine life that can boggle one's mind

www.divephotoguide.com

Upcoming International Photo & Video Competitions

May and June seem to be big months for underwater photo competitions. With 6 competitions across 4 countries, you have more chances of walking away with prizes and the glory of a placing in an international competition. Good luck!

May 4th
PAF Tachov (Czech Republic)
May 12th
Under the Blue :: SCUBA Show 2007 (USA)
May 26th
California Beach Dive Photo Competition (USA)
June 5th
Terengganu ShutterSeaBug - X'plore 2007 (Malaysia)
June 29th
2007 Malaysia International Dive Expo Photo Contest (Malaysia)
June 30th
3rd Annual Underwater.com.au Photo Competition 06/07 (Australia)

In conjunction with the Island of Bonaire's "Dive Into Summer" promotion, five businesses located adjacent to the world famous Bari Reef are joining together to offer a month long program for digital underwater photography and videography during July 2007.

Digital Summer Camp 2007 is one month of digital underwater photography and video activities on Bonaire organized by Fish-Eye Photo. Activities are seminars on how to improve your photo/video skills, guided photo/video dives, navigation and camera buoyancy skill activities, photo/video contests with great prizes, photo/video editing support and an evening entertainment program with slide and video presentations, happy hours, BBQ's. Food and drink coupons are also included.

www.fisheyephoto.com

International Kemer Underwater Days (IKUD) is a week of activities organized jointly by the Underwater Archeological Research Association (AASAM) and the Foundation for the Promotion of Kemer (KETAV), whose goal is to introduce to the world the natural and the archeological beauties of the deep waters of Kemer - Antalya (Turkey) in the Mediterranean.

International Kemer Underwater Days contains many activities on underwater imaging and underwater archaeology. It also contains underwater photography and videography competitions which happen in the crystal waters of Kemer on May 18, 2007.

www.ketav.org

Celebrate the Sea

16th - 23rd Sept 2007

Manila

OceanNEnvironment Australia is pleased to announce the collaboration with Department of Tourism (DOT) and Philippine Commission on Sports Scuba Diving (PCSSD) to present; 'Celebrate the Sea Marine Imagery Festival Philippines 2007'.

Celebrate the Sea Marine Imagery Festival is the biggest imaging event of the sea staged in the Asia Pacific. Since 2002 the annual festival held in Singapore and Malaysia have attracted entries from over 38 countries. The festival is schedule for 21 to 23 September in Manila and international and local photographers will compete in a shoot out competition at five resorts on 16 - 20 September.

Held in association with the World Festival of Underwater Pictures, Antibes, the presenters proposed to bring Celebrate the Sea to Manila in 2007 with intent to make the city the permanent home for the festival for three years. This will position Manila as the capital of underwater imagery in the Asia Pacific.

Now in its sixth year, Celebrate the Sea Festival promote the beauty of our ocean to not only entertain and inspire, but more importantly to motivate people to take action to preserve our natural environment. The 'Oscars' of underwater imagery is the highlight of Celebrate the Sea – the winners of the CTS International Underwater Imagery Competition and the Philippines Shoot Out competition will be revealed during a gala award ceremony on 22 September. Along with medals, cash and holiday prizes, the most coveted title for 2007 is the 'President Grand Award of Highest Achievement 2007' (US$2000 cash prize).

www.celebratethesea.com

BSoUP Splash-In Championship

Plymouth, Devon

July 7th 2007

The British Society of Underwater Photographers has teamed up with the National Marine Aquarium to stage the first British Splash-In Championship. The event is being held on Saturday July 7, 2007 in Plymouth and the overall winner will be jetting off to the Red Sea to enjoy the top prize of a one week liveaboard diving trip.

This year's event is a development of the Society's highly successful annual underwater photography Splash-Ins first held in the late 1960's, which established the format for similar events that now take place around the world.

All underwater photographers, including the winners of all the splash-ins that took place in the UK during 2006, are being invited to participate in this new event to find the UK's best underwater photographer.

2006 winning entry by Alan James

During the evening of the event the audience at the National Marine Aquarium will be invited to vote for their favourite images from those taken on the day. An independent panel of judges will then choose the best of those images to decide who will win the top prize of the live-aboard holiday, which has been generously donated by Tony Backhurst Scuba Travel.

In addition to the Splash-In, a Print Competition is being held. The entries will be displayed at the National Marine Aquarium where thousands of visitors will be invited to vote for their favourite pictures. To encourage the many new photographers using compact digital cameras separate categories have been introduced so that they do not have to compete with established winners of underwater photography competitions.

Full details of both events can be found on BSoUP's web site: http://www.bsoup.org/splash.

Closing date for submitting entries for the print competition is Wednesday, May 23, 2007.

www.bsoup.org/splash

Sex on the reefs with Emperor Divers

28 June - 5 July 2007

Learn all about corals and reef ecology, fish and fish ecology, sex on the reefs, sharks and reef conservation. Emperor Divers has launched a new Eco-dive safari, which will teach guests the fundamentals of underwater ecosystems and why marine life behaves the way it does.

Leading the trips will be Bent Christensen, an associate professor at the University of Umeå, Sweden. He has a PhD in fish ecology and is also involved in research projects in Sabah, Borneo.

A typical Eco-safari day includes an introductory-level lecture, three dives focused on the subject of the day and an informal evening de-brief and picture show. The pace of dives will be relaxed and at moderate depths to allow guests time to study, enjoy and photograph their subjects; ideal for learning about eco-systems and photo techniques.

Dive sites include Marsa Abu Dabab (for dugong), Elphinstone (for sharks), Shaab Sataya (for dolphins), Shaab Claude, El Malahi, Umm Aruk and Abu Ralahib (St John's Caves).

All Eco-safaris sail on Emperor Fleet liveaboard, Emperor Asmaa, offering air-con ensuite cabins and salon, a large dive deck and sun deck plus lighter luggage as each guest receives two towels and a bathrobe!

www.emperordivers.com

Dominica

July 6th - 15th 2007

Dive Fest is an annual event, now in its 14th year, organised by the Dominica Watersports Association (DWA) to focus attention the sport of diving, to educate the public about scuba diving as a tourism product and possible career path, and to raise awareness about Dominica's stunning and unique marine environment.

Along with our major sponsor, Cable and Wireless, who provide great prizes and support for the event, this year Dive Training Magazine, Oceanic and Sealife will be adding to the weeks festivities.

Oceanic will be introducing their newest "Datamask" heads up display where you can read your dive profile right in the mask, including your air pressure! The masks will be available for anyone to try.

Sealife cameras will bring their new cameras down and divers will have the chance to test them out and to take part in photo shoots and a "Best of week" competition.

Dive Training will be sending down two photographers Barry and Ruth Guimbellot who will be putting on seminars and workshops on both underwater and waterfall photography!

Along with these events for divers, there is also excitement for non divers too! Wine and Cheese Sunset Cruises, Happy Hour dances, Traditional Boat Races and whale watching to name a few.

The Dominica Watersports Association will be putting together great packages for the summer that will make Dive Fest a great time to visit Dominica. Great diving, discounted packages, the newest hi tech cameras and equipment to try, photography seminars and workshops and some great prizes! Including cases of Kubuli (our international prize winning beer), to phones from Cable and Wireless, along with other great prizes from Oceanic and Sealife.

www.discoverdominica.com

‘Muck, Macro & Wall’

with Tony White

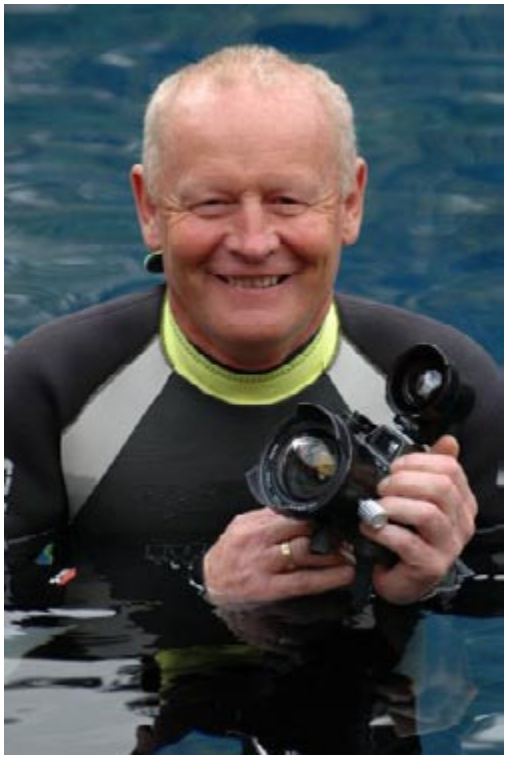
North Sulawesi is where the world’s top underwater photographers regularly go to capture the kaleidoscope of colours and weird and wonderful creatures on both film and digital photography.

Tony White, acclaimed underwater photographer journalist, will be sharing his vast experience at a Photo Workshop with Eco Divers in North Sulawesi from 21 September to 6 October, where guests can learn and improve their shots and techniques.

“The courses are aimed at all levels as we can all learn from each other. The emphasis is on flexibility and encouragement whilst capturing great shots of the stunning underwater vistas of Bunaken’s ‘wall and wreck diving delights’ and Lembeh’s ‘magical macro muck diving’,” says Tony.

The diving is at a comfortable 10-15m and the sites are within an easy boat ride from both of Eco Divers’ dive centres at Tasik Ria Resort for Bunaken National Park and Kungkungan Bay Resort for Lembeh Straits.

Each day consists of two dives with the chance for night dives as required and Tony will be offering



advice on all photo mediums, including E6 processing for those using film.

This is a great opportunity to dive one or both resorts and experience two very different worlds of diving in Bunaken and the Lembeh Strait with the expertise of a fabulous photographer.

www.eco-divers.com

Island Sun Splash '07
June 10-16 2007

Warm water and warm hearts are to welcome water-lovers at Island Sun Splash '07, slated for Sunday, June 10, through Saturday, June 16.

Organized by the Upper Keys Association of Dive and Snorkel Operators, the event includes activities for everyone from experienced diving experts to families visiting North America's only living coral barrier reef for the first time.

Underwater photography and video seminars are to be accompanied by photo and video contests, with separate divisions for kids and adults. World-renowned underwater photographers Tom and Therisa Stack and Emmy-winning videographer Frazier Nivens are to present "how to" seminars and direct the contests.

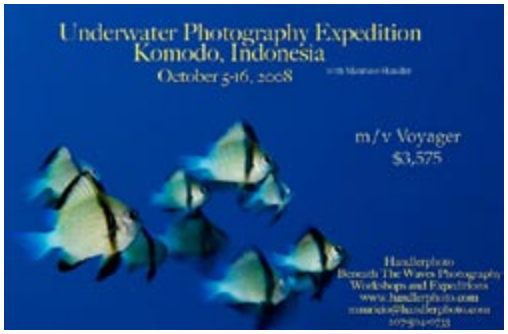
The Reef Environmental Education Foundation is to conduct its popular fish ID classes so no introductions will be necessary when snorkelers and divers come nose to snout with the local underwater inhabitants.

For extremely experienced divers, seminars are to focus on deep technical diving. One of the week's anticipated highlights is a trip to the new Florida Keys History of Diving Museum, which houses an unparalleled collection of historic dive gear. The museum features a special collection dedicated to Art McKee, a treasure diver from Islamorada regarded as the "father of recreational diving."

Drs. Joe and Sally Bauer, founders of the museum, are to offer seminars on the history of diving and show how recreational diving actually got its start in the waters off Islamorada.

Modern treasure hunter Carl Fismer is to conduct two seminars on the 1733 Spanish Fleet that was forced onto Keys reefs by a powerful hurricane. Fismer plans to lead tours to local wreck sites after each session.

www.divecapital.org



Komodo Underwater Photography Expedition
with Mauricio Handler
October 5-16, 2008

This unique ten day photography expedition will include The Komodo National Marine Park which was officially declared a World Heritage Site in 1991.

I will be offering technical and creative support as well as photography guidance on equipment trouble shooting and maintenance, image composition, multiple light sources, macro, extreme macro photography and much more.

In addition I will give several presentations on "shooting a story" as well as "managing your digital image library".

For those that want to go even further, I will be reviewing images daily in personal one on one critiques and guidance.

www.handlerphoto.comv

Socorro with Cheng and Mustard
Feb 2nd-10th 2008

Join photographers Eric Cheng and Dr. Alexander Mustard on an expedition aboard the M/V Solmar V to the Revillagigedos Islands (also known as the Socorro Islands), 250 miles south of the southern tip of Baja California, Mexico.

Manta rays are there to be cleaned by clarion angelfish, and are what the islands are best known for.

Our trip dates in early February also present us with the highest chance for encounters with humpback whales. In years past, the Solmar V has had excellent encounters with a mother and calf pair. Note that while humpbacks will most likely be in the area, encounters (as with all wildlife encounters) are not guaranteed!

http://wetpixel.com/i.php/socorro

Under the Blue 2007

Over $20,000 in Prizes!

Next in the series of UnderwaterCompetition.com underwater imagery events, and on the heels of the popular Our World Underwater & DEEP Indonesia competitions, Wetpixel, DivePhotoGuide and the 2007 SCUBA Show are proud to bring you "UNDER THE BLUE 2007".

Photographers will compete in four still image categories, including a category for images that focus on California's unique and beautiful underwater environment, and one video category. Winners will share in more than $20,000 in prizes, including premium dive travel, underwater photography and diving equipment! Travel prizes include trips to some of the top photo destinations in the world including Fiji, Indonesia, Papua New Guinea, South Africa and Australia.

www.underwatercompetition.com

Eilat Shoot-out competition SanDisk Red Sea November 12th - 17th 2007

The SanDisk Red Sea 2007 - World of Underwater images is sponsored by the international SanDisk corporation; "YAM", the Israeli diving magazine; Isrotel hotel chain .The Israeli Ministry of Tourism encourages the competition and assistance is kindly provided by Manta Diving Club in Eilat

The motivating spirit behind the competition is David Pilosof (Pilo), a veteran underwater photographer and creator of the renowned photo album, "Samantha". Pilo has participated in many underwater photography competitions himself, and shaped the genre of underwater fashion and nude photography.

"I took part in many photography competitions, and it was very nice to win a few trophies and medals", says Pilosof. "But I always felt that something was missing – some sort of financial reward, a prize that could help and encourage photographers to continue joining those competitions and adventures. SanDisk, the international flashcard manufacturer, rose to the challenge, and allows us to offer you, the participating underwater photographers, the chance to win that cash prize. I am proud to invite you all to Eilat, to take part in the competition and perhaps win the jackpot.

Remember: we'll meet on November 17, 2007 20:30 at Isrotel's Ambassador Hotel lawn, and one of you will go back home with a check in the amount of $10,000."

Online competition:

An online contest between all former winners (of months March-August) will begin in September. Surfers and judges will choose one of the winners as the best photographer, who'll be invited to join our SanDisk Red Sea 2007 Competition in Eilat, Israel.

The prize include:flights, Half-Board based accommodations and diving during the competition in Eilat.

www.sandiskredsea.com

OWUSS Australia

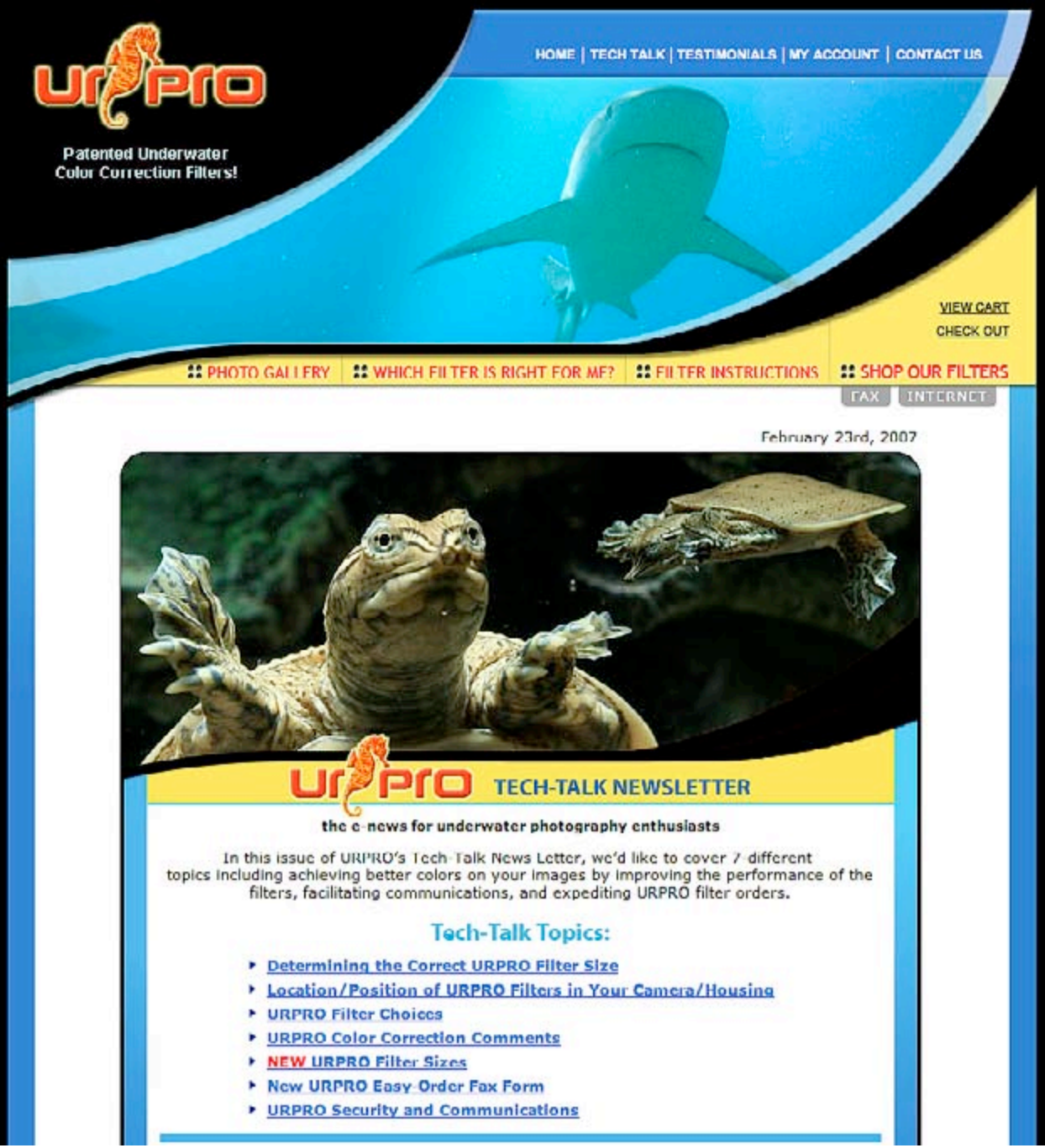
Jim Corry, OWUS President from USA, Mathew Kertesz and Richard de Leyser, Rolex Australia

For the past 32 years the Our World-Underwater Scholarship Society (OWUSS) has offered scholarships in the USA and more recently Europe. In April 2006 the Our World – Underwater Scholarship Society with the support of Rolex, expanded its outreach to offer an Australasian Scholarship.

For Australasia's first year there was an impressive list of entries. It was a difficult choice getting to the two finalists, for which a panel interview was run to decide the winner.

After a tough decision the first Australasian scholarship was awarded unanimously to Mathew Kertesz.

www.owuscholarship.org



Click on the link below to go to the Tech-Talk Newsletter

www.urprofilters.com

New Products

New SeaLife Cameras

ECOshot SL321

ReefMaster Mini SL320

ReefMaster Mini SL320 rear

Cameras Underwater, the UK and Ireland's leading supplier of underwater photographic equipment, are please to announce the release of two new, long awaited cameras; the ReefMaster Mini and the ECOshot.

These new models compliment the existing range perfectly. The ReefMaster Mini is a rugged 6 mp digital camera designed with adventure in mind.

With a coating of rubber armour the ReefMaster will withstand being dropped from up to 2 meters. It is also waterproof down to 40m-enough for most divers. It has a large 2" LCD screen for easy shot composition and review, it also features fast start up and shutter response-so no more missed shots. The ReefMaster will accept SeaLife's new add-on wide angle lens enabling the user to get closer to the subject giving clearer shots and fitting more into the picture.

The ECOshot boasts the same specification as the ReefMaster Mini except it is waterproofed to 23m. This camera is ideally suited to yachting, surfing, snorkelling or any other camera-hazardous environment.

The ReefMaster Mini costs £199.99 inc. VAT and the ECOshot is £174.99 inc. VAT.

www.camerasunderwater.co.uk

Ikelite Sony HDR HC-5 housing

The Sony HDR HC-5 and housing are compact and easy to travel with. A complete housing and camera combination weighs approximately 4kg (9 pounds). Housing has a working depth of 60 meters (200 feet).

The housing with base and handles measures 27cm (11") width; 20cm (8") height; 20cm (8") length. Sony NP-FH50, FH60, FH70 and FH100 batteries are accommodated.

The housing port is threaded allowing the use of optional 67mm threaded wide-angle conversion lens available from Inon, Epoque, or the #6420 Ikelite lens.

The Base removes instantly with a unique toggle clamp for traveling or attaching of the optional Pro Video-Lite 3 battery pack. The handle assembly detaches from the housing by removal of just two nuts for packing.

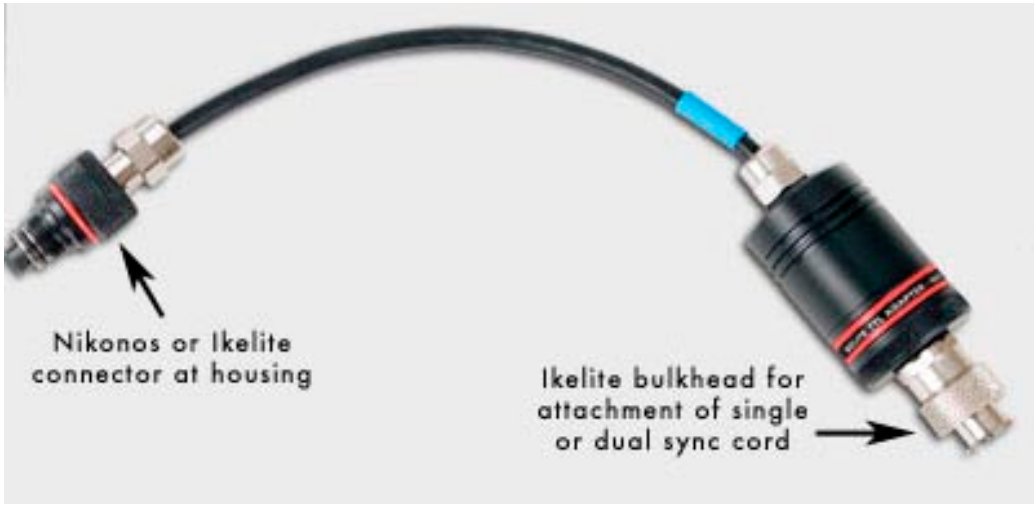
The camera's LCD monitor can be viewed from the rear of the housing, using the External Mirror featured on the side of the housing.

This housing includes (IRC) Image Reversing Circuitry. The circuit reverses (flips) the image and text on the LCD screen so that when the image is reflected in the External Mirror, it appears correct left-to-right.

Included UR/Pro Color Filter provides color correction in tropical blue water. An optional filter #6441.81 is also available to achieve more natural tones in green water settings.

www.ikelite.com

Ikelite iTTL Adapter for Nikon digital SLR cameras



Ikelite's proven Nikon iTTL conversion circuitry is now available in a detachable adapter.

Take advantage of true Nikon TTL exposure to get perfect results every time. They use the same iTTL conversion circuitry proven effective in Ikelite housings for Nikon dSLR cameras and are compatible with many brands of underwater camera housings.

www.ikelite.com

Heinrichs Weikamp Mark II TTL housing

Heinrichs Weikamp will shortly have a housing for their Mark II TTL converters available.

Two strobes can be connected to it and it offers TTL with -3EV to +3EV correction, manual mode with 8 power steps and manual mode with selectable ratio between left and right strobe such as 1/3:2/3, 1/4:3/4 and 1/6:5/6. All these settings can be adjusted during the dive with control knobs. A display will also be integrated in the housing.

The housing can be used for all our Mk. II converters. Hence Canon ETTL, Nikon iTTL, Olympus TTL as well as Sony-alpha and will be shipped with one of the converters installed.

www.heinrichsweikamp.com

Aquatica with Ikelite TTL adaptors

Aquatica is pleased to announce that coming soon, its housings will be available with Ikelite's time proven strobe connector. An agreement with Ikelite, the world renowned maker of fine underwater strobes, will now allow users of Aquatica housings to benefit from this rugged strobe connector and have access to the new Ikelite TTL adapter. The bulkhead and its hot shoe attachment are original parts supplied to us from the Indianapolis based manufacturer and are factory installed and tested by Aquatica.

www.aquatica.ca

Patima Nikon D80 housing

The Patima PDCH-D80 housing is machined from a solid block of aluminium and has a 100mm screw thread port fitting.

There is a 60mm flat and 160mm dome ports available as well as a 40mm extension ring. There is a choice of Patima sync sockets or Nikonos type.

The housing is rated to 120 metres with an operational depth of 80 metres. Without the handles it measures 189 x 171 x 144 and a complete macro set up weighs just under 4kg on land and is virtuall neutral underwater.

www.patimahousing.com

Amphibico HD monitor

The Amphibico ACHDM043 16:9 HD 4.2" Color LCD monitor will be available in May; this HD monitor will highly compliment Phenom and EVO Pro users. It will facilitate fine focusing for macro shooting which is unforgiving in HD and requires the best possible resolution that only an HD monitor can give. We are now taking pre-orders, so do not wait as quality is limited on the first production run.

www.amphibico.com

New Ultralight buoyancy arms

If your current camera rig is quite heavy and results in wrist strain after a while Ultralight's new buoyancy arms might well be your saviour.

The new arms are 2" (50mm) in diameter and so displace more volume of water to provide positive buoyancy.

Because the arms have an increased diameter an optional new style clamp (AC-CSL) is needed if you want to fold the arms so that they are side by side.

The amount of buoyancy depends on the configuration you have but, for example, with a two arm set up including base adaptor, 3 clamps and a strobe adaptor, with two 8" lengths the buoyancy is neutral. Increase the length to two 12" lengths and suddenly you have 11.2oz (0.3kg) of lift. Go to the longest length of two

The new arms (top) are 2" (50mm) in diameter

The new style clamp (AC-CSL) is on the right

16" and you will get an amazing 1lb 9oz (0.7kg) of lift!

www.ulcs.com

Bali High

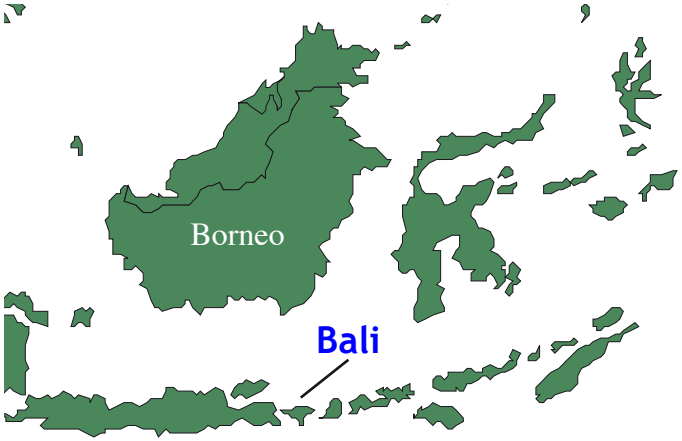
by Mark Webster

For many years Bali has enjoyed a reputation as an exotic and romantic destination for a beach holiday and a taste of far eastern culture. The island has also been the departure point for live aboard trips to the more remote areas of the Indonesian archipelago, but Bali's own attractions as a stand alone diving destination has remained somewhat hidden in the constant search for the next 'untouched' area. However, discerning photographers should not only be enticed by the promise of virgin reefs as Bali itself offers some excellent diving, many rare and unusual photographic subjects and some very comfortable and reasonably priced resorts and dive centres.

I have traveled to and dived in Bali several times en route to or returning from a live aboard trip, but it was not until my last visit that we decided to dedicate the whole trip to diving from the island. Arranging travel, diving and accommodation is very simple using the internet and unless you feel you need a travel agent you can easily construct an itinerary to suit yourself. The majority of the diving in Bali is on the east coast, extending up to the island's most northerly tip at Menjangan.

Depending on how long you have here you can choose to resort hop along the coast, or base yourself at one location and explore as far as a day trip will take you. We elected to stay at Tauch Terminal in Tulamben Bay, which is perhaps the best known diving location in Bali due to the wreck of the USS Liberty which lies just off the beach. There are a number of resorts here and in the immediate surrounding area of various grades, but having stayed here before I knew that the location offered a number of advantages, in particular the selection of beach dives. Tauch Terminal is right on the beach in the centre of the bay, has good facilities

Schooling jacks at Tulamben - Nikon D200, Subal ND20, 12-24mm zoom, twin Subtronic Minis, ISO 100, f8 @ 1/60



Divers return from a dive at Tulamben, even the boulders in the shallows hide all sorts of macro life. Nikon D200, Subal ND20, 10.5mm FE, ISO 100, f11 @ 1/60

Soft corals grow on the stern of the USS Liberty - Nikon D200, Subal ND20, 10.5mm FE, twin Subtronic Minis, ISO 100, f11 @ 1/125.
(Right) Young Balinese girl carries a scuba set on her head across the beach at Tulamben.

for the photographer and you are only a short stroll away from the centre of Tulamben 'village' with its selection of restaurants and small shops.

What makes Tulamben so attractive is that within a few metres stumbling distance (I will elaborate that more fully in a moment!) you have a truly world class wreck dive, muck diving, shallow reef diving and a wall dive. Whilst the coral growth here (with the exception of the wreck) is not as lush as say the reefs in Komodo, there is a stunning variety of marine life and different habitats to keep your camera busy for a week or more.

The beach is a product of the active volcanic history of this island and comprises pebbles and boulders of various sizes which don't look too challenging at first glance, until you try and walk any distance with a scuba set. Because we, mostly, pampered divers have such soft feet the local villagers have established a co-operative whose sole (pardon the pun) activity is carrying the scuba sets from the dive centres to the point of entry, which saves your feet and preserves your dignity but also leaves you feeling totally inadequate. This is because small girls and old grannies will carry one or two tanks (complete with BC and regulators) on their heads across this marine scree slope in only a pair of worn flip lops whilst you struggle to keep pace carrying only your camera and fins. In fact for the sake of your pride the best procedure is to put your desired location and time on the dive schedule board and then totter along the beach when the tanks have been deposited! When you finish your dive you just shed your tank on the beach and it will be collected and returned - bliss!

Cottage rooms in lush gardens at Tauch Terminal, Tulamben. The USS Liberty wreck is a shore dive from here. - Nikon D200, 18-200mm zoom, programme mode.

Soft corals grow on the stern of the USS Liberty - Nikon D200, Subal ND20, 10.5mm FE, twin Subtronic Minis, ISO 100, f11 @ 1/125.

Triple fin blenny on sponge - Nikon D200, Subal ND20, 105mm micro, Inon Quad flash, ISO 100 f22 @ 1/125

The wreck of the USS Liberty is now broken into several large sections and is a spectacular dive. At nearly 400ft (120m) in length and a 55ft (17m) beam this is a big ship and every square inch of her is now covered in colourful corals and marine life. The dive starts at the stern which in early morning is the rendezvous point for a school of large bumphead parrot fish who settle on the grey sand to be cleaned before departing for the day's feeding on the reef. It took me a while to realise that the trails of white sand that contrasted so well with the dark seabed were in fact produced by these Neanderthal looking fish - I will leave you to imagine how!

The rudder and stern section are mostly intact and now covered in sea whips, sea fans, soft corals, sponges and all manner of invertebrates. This colonisation is a common theme all the way to the bow section, which is the deepest point of the wreck at 27-30m. Here there is a sea fan with resident pigmy sea horses, but they are difficult to spot without a guide and you don't get long to photograph them at this depth. Fish life on the wreck is as varied as any reef and there are numerous exotic finds for sharp eyed divers. Frog fish, leaf scorpion fish, ghost pipe fish, cuttle fish, octopus and many species of nudibranch and crustacean are found regularly and with the help of one of the local dive guides you are almost guaranteed success. There is also a spectacular resident school of several hundred jacks that move between the wreck and the wall dive at the other end of the bay and show no concern at yet another close approach from a diver with a camera.

For me the wreck is so good that I dive it again and again - wide angle in the early morning and macro in the afternoon when visibility is poorer. At busy times of the year avoid the wreck between 10 am and 4 pm when groups of divers from other locations on the

Mating nudibranchs Tulamben - Nikon D200, Subal ND20, 105mm micro, Inon Quad flash, ISO 100 f16 @ 1/125

Hinge back shrimps on USS Liberty Tulamben - Nikon D200, Subal ND20, 105mm micro, Inon Quad flash, ISO 100 f16 @ 1/125

Diver swims down from Jukung fishing boat - Nikon D200, Subal ND20, 10.5 FE, ISO 100, f16 @ 1/100

island arrive to dive here.

Between wreck dives there is the house reef (right in front of Tauch Terminal and called the Coral Garden by other centres) in the centre of the bay which has some wonderful macro subjects and good fish life and is a particularly good night dive - look out for numerous species of urchins, crinoids and sea pens which all have commensal crabs, shrimps, squat lobsters or tiny gobies living on them. During the day the shallows are filled with numerous juvenile fish including some tiny black tip sharks who scoot up and down the shoreline trying to look menacing!

At the southern end of the bay is a headland featuring a wall dive which has some impressive sea fans and barrel sponges and offers the chance to see some larger pelagics - almost anything can pass by from large Mola mola (sun fish) to schools of dog tooth tuna and apparently even a whale sharks. One morning as we ate breakfast overlooking the bay we gazed in awe at several whales breaking the surface for air as the came around this headland and moved across the bay.

Between these sites and the wreck itself are small reef outcrops and areas of dark volcanic sand and rubble. These patches are classic muck environments and harbour a surprising variety of exotic and unusual creatures - the area close to the entry for the wall dive is particularly good for nudibranchs. There are now also a couple of steel frame structures (one in the shape of an airplane) installed in the shallows to measure coral growth and these are already attracting residents including ghost pipe fish and schools of glass fish. As with most muck sites you need to move slowly and let your eyes adjust to reveal nudibranchs, snake eels, blue ribbon eels, exotic dragonets, Inimicus scorpion fish, stonefish, seahorses and a host of other well camouflaged species. Pick up any marine guide book to Indonesia and you will find numerous species which have been photographed at Tulamben and a high proportion are to be found in these 'muck' sites.

There are also some excellent dives outside the bay and you should not miss the chance to take one of the local 'jukung' outrigger fishing boats to visit them. These are surprisingly stable and give you a great view of the coast and mount Angung as you

Diver amongst schooling jacks at Tulamben - Nikon D200, Subal ND20, 12-24mm zoom, twin Subtronic Minis, ISO 100, f8 @ 1/60

Swimming pool on the beach at Tauch Terminal, Tulamben - Nikon D200, 10.5 FE, programme mode.

Harlequin shrimp with starfish on red gorgonian at Seraya Secrets - Nikon D200, Subal ND20, 105mm

make gentle progress to the dive. You can choose to dive directly from the jukung, donning your tank in the water, or from the beach when you arrive at your destination.

To the north is the small village of Kubu which has a very healthy reef with a dense carpet of miniature staghorn corals covering a submerged volcanic headland. Here we encountered schools of bat fish and barracuda, swarms of glassy sweepers and yet more pigmy seahorses on fans at 25-30m. There was also a particularly aggressive titan trigger fish who made this dive all the more memorable - fortunately only my fins bear the scars. You can make a second dive here on an adjacent spur which has numerous coral outcrops and bommies and seems to be a good place for frog fish - my guide found a mated pair of tiny clown frog fish, one yellow and one white who were perfectly camouflaged amongst the sponges and hydroids.

You can also go south from Tulamben to Batu Kelebit and the Alamanda and Emerald reefs where, strangely, the dark volcanic sand of Tulamben is replaced with the more familiar pale coral sand running between steeply sloping coral spurs and numerous coral heads and pinnacles. We spent several dives here looking for the numerous different species of shrimp to be found within anemones and on feather stars, starfish, urchins, sea cucumbers and even riding on the backs of gaudily coloured nudibranchs. At the end of one dive we came to a close stand off with two male giant cuttle fish who were determined to stay between us and their mate who was carefully depositing her eggs between the fold of a cabbage coral just a meter or so away.

A little further to the south is 'Seraya Secrets' which is gaining a reputation as a classic muck dive site. The seabed topography here is gently sloping with raised ridges and is home to harlequin shrimps, boxer crabs and Coleman shrimps and zebra crabs on fire urchins amongst a host of other subjects. We found two pairs of harlequin shrimps here, one pair was considerately consuming their starfish on the base of a bright red gorgonian fan coral. In the shallows is a steel frame dome structure, again to monitor coral growths, which attracts all sorts of interesting species, including a pair of ornate ghost pipe fish and numerous dwarf lion fish.

If you want to venture further a field then

A diver photographs glass fish inside the Japanese wreck at Amed - Nikon D200, Subal ND20, 10.5mm FE, twin Subtronic Minis, ISO 100, f11 @ 1/60

day trips can be arranged to sites at Amed, Pandangbai, Menjangan, and the island of Nusa Pendida which has some exhilarating wall and drift dives. My favourite is Amed which is the location of the 'Japanese wreck", which does not appear on any of the 'must do' sites at the dive centre but is perfect for photographers. This is a small wreck (perhaps 30m long) and lies in 6-10m of water a stones throw from the beach. It is smothered in coral growth and has all sorts of attractive residents - a small school of batfish, glassy sweepers in side the wreck, resident leaf scorpion fish, numerous scorpion fish, and countless reef fish to keep you busy. A short swim away to the north around the headland is a spectacular reef on a steep slope with just about every species you could hope for. This site is around 45 minutes by road from Tulamben and is certainly worth a couple of days diving to explore fully. There is a small restaurant right on the beach where you can enjoy a cool drink and some lunch whilst you prepare cameras and change lenses between dives and even a fresh water

Information about Bali:

Getting There:

There are a number of routes from Europe to Denpaser in Bali via Kuala Lumpur, Singapore and Jakarta. We flew with KLM and Garuda Indonesia via Jakarta - KLM offer a 'scuba equipment' rate of EU40 each way for 20kg (book before you fly) and Garuda allow 30kg free hold allowance.

Diving:

The diving will suit all levels of experience, although less experienced divers should be cautious of sites with strong currents.

When To Go:

Bali can be dived year round. The European winter months are the 'rainy' season but this is normally limited to occasional short down pours between sunny spells with calm seas.

Air temperature:

27-30c and humid

Water temperature:

27-29c but can be 20-25c in the cold currents - 3-5mm wetsuit advised

Time:

Bali is GMT +8 hours

Health:

currently Bali has no requirement for anti malarial pills - but you should consult your pharmacist or MASTA or the current situation and prophylactic

Voltage:

220V with European style two pin plugs

Entry Requirements:

you can purchase a 30 tourist visa on arrival ($25) and passport must be valid for at least 6 months with 4 blank pages.

Money:

bring US Dollars to change locally into Rupiah. There are money changers everywhere but exchange rates are often best in the banks and you can withdraw cash from ATM's

Cost:

Flights will cost between £550-750, shop on the internet for best prices. Mark Webster dived with the Tauch Terminal Resort at Tulamben where packages cost between $480 and $780 For a 4 to 7 day packages.

www.tulamben.com
www.tourismindonesia.com

Classical Balinese dancer at Ubud temple - Nikon D200, 18-200mm zoom, programme mode.

shower.

Having traveled all this way you should not miss the opportunity of seeing what else this wonderful island has to offer. Away from the tourist hot spots of Kuta and Sanur the pace of life is totally relaxed and the scenery amongst the volcanic highlands, jungle, sculpted rice terraces and temples is simply stunning. If you are keen to experience a little culture then Ubud is worth a visit - this is the craft centre of Bali and has a fantastic market area as well as numerous shops. It is also the place to see the traditional Balinese dances and shadow puppet shows.

Although Bali has hit the headlines in the past (along with other 'diving' destinations) for all the wrong reasons, it is very quiet away from the tourist centres and as potentially safe as any other location in the world today. We felt nothing but secure and relaxed and all the Balinese we met were warm and welcoming and grateful for those tourists making the effort to visit. It puzzles me to know that New York, London and other major cities can suffer terrorist outrages and our Foreign Office would not dream of advising against travel to these locations. But sadly the same logic does not seem to apply to Indonesia - it is up to you to decide where you will feel safer.

Mark Webster
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Judas Returns with a Nikon

The Aquatica AD200 and Aqua View in the Cayman Islands

by Tim Rock

While everyone was walking around indoors in jackets last November and talking about diving, I was actually doing some.

DEMA is the diving world's convention venue to show off the latest and greatest. I didn't go. I went to Grand Cayman. The fine folks at Aquatica did go. They were among those with some cool stuff to present to the diving world. In the offerings was a new D200 housing with a slide out camera mounting tray and an eye-popping viewfinder called the Aqua View. They had just finished the viewfinder prototype about a day prior to the November 2006 DEMA Show and installed it into the new Ad200 housing for the Nikon D200 camera. Intrepid pro Mauricio Handler had a chance to dive with it... in a pool. So when the Aquatica folks got wind I was cooling my fins in Grand Cayman at the lovely Cobalt Coast with the DiveTech folks, they decided to put me to work.

"Want to test our new housing and viewfinder in the sea?" they asked.

"Sure, send it on down to DiveTech here in the Caymans," I said. "But I only have my Canon gear with me."

"Not to worry, we'll send ya a body and some lenses, too."

Yikes, could I remember how to use a Nikon again? Must be like riding a bike or throwing a boomerang. It all comes back.

I guessed that he wanted me to put it through its paces, as the shooting schedule I was on was heavy. I was updating a Lonely Planet Diving and Snorkeling Guide to the Cayman Islands and would have to shoot a lot above and below the surface in the coming weeks. I suspected he needed my innate skills as a deft shooter and creative genius.

It was probably more like he needed any near-sighted old guy to test the viewfinder and possibly come up with one or two images in focus and I happened to be there.

Now, you can do a search here on Wetpixel.com and find a diatribe/ review about my switching to Canon after about 30 years as a Nikon user. I did this for the most part because I needed something to write RAW fast and then faster. Canon was light years ahead of Nikon in this department

two years ago. So I got outfitted with 20Ds and Aquatica housings and spent a couple of not bad years with Canon gear in my bags. And that's what I had with me in Grand Cayman until the ever resourceful Blake Stoughton packed up a D200, a 10.5mm lens, a 105 D Nikkor Macro lens and a shiny, new D200 housing already equipped with the new Aqua View finder. He knew I had ports with me already. All Aquatica ports are interchangeable on all of the housings so that was covered.

So like a kid at Christmas (closer to Thanksgiving actually) I unwrapped my FedEx box and spent an evening assembling a set-up somewhat familiar to me.

I found the nicest new feature for this housing aside from its compact size is the slide in tray. You secure the camera with a single set screw and align it with a couple of stainless steel fingers at the inside bottom of the housing and the camera slides perfectly into place and locks in there. Before I knew it, I had a handy, dandy wide angle package hooked up with the 10.5, the 8" dome and Ikelite wires and Ike DS125 strobes. Looked pretty functional and Stingray City was on the agenda for the next day's diving. We'd see how fast this baby could write RAW in no time.

When I switched to Canon, I did talk to many friends and my brother who is a camera nut. Jim Watt and my brother were high on Canon. Watt likes to stuff his rig down the

mouths of tiger sharks and Komodo dragons and my brother's tamer aspirations are those of shooting loons in Minnesota. Don Doll, possibly National Geographic's only contract Jesuit, said he had been waffling between Nikon and Leica but was currently shooting Nikon. Tom Langdon, a truly creative pro who is never at loss for an opinion told me Canons don't even feel like cameras. He later told me they even smell funny and he had one once in his Gargoyle Studio but got rid of it due to its objectionable olfactory essence. He is obviously a Nikon guy.

I actually like many Canon features. There is no doubt they are fine cameras. I also like a good many Nikon features and lenses. I still don't think Canon has a proper lens range for underwater although the Tokina

10-17mm may remedy that (sweet, sweet lens). But getting that Nikon back in my hands was a shot of heroin to my Nikon starved system.

November can have its windy days in Grand Cayman and it was so windy when I first arrived the tour ops hadn't been to the stingrays in a couple of days. This is highly unusual. So the rays were hungry for handouts when we hit the water. Big guys mobbed us. There were rays everywhere. My model Olga Spoelstra had them on her head, swimming up her arms and coming straight at her and me! We couldn't stop laughing. This has to be one of the finest, wildest dives anywhere. The water is clear and blue and the bottom reflective.

Now this new Aqua View finder is blurry to look through on land as it's corrected for underwater use. So it looked kinda good in the hotel room. But Wow! I was blown away when I got a gander at it underwater. The brightness and detail is eye-popping. I was back in 13mm RS heaven. It reminded me of how big and bright the image was back in the days of the water contact RS lens days.

Now, I am not spring chicken so I have been celebrating my 39th birthday for quite a few years. Still, the eyes are pretty good and I didn't think I was going to be that impressed by this thing. But after that dive, I did not put this down the whole trip. It became the wide angle camera of choice. The viewfinder was truly a revelation. This combined with the D200 housing's nice, big playback window to make both focusing and composing, shooting and then checking your image a pleasure.

I was able to fill a 4 gig card on the dive and remembered fondly how handy the Nikon controls are. Aperture and shutter speed are a one hand, couple of fingers operation on an Aquatica housing and I was able to adjust the varying light and distance conditions with ease. Even though it was still a bit currenty in shallow Stingray City, I came away with some pretty nice shots. We went back two days later when conditions were perfect and did a repeat performance with the same happy results. We also used it on some of the big dropoffs like Orange Canyon and Ghost Mountain.

The in-water functionality for wide angle half-half shots was also not a problem. Even though in the air the VF appears blurry, it is easy to compose with it just partially submerged. We snorkeled around a bit and looked for conch and starfish and had a nice session at Rum Point doing some over-under shots.

So if this thing worked so well with wide angle, what would it do for my macro? Here's where my eyes are fooling me a bit. With my normal 20D viewfinder, I find I have a tendency with macro critters to miss the exact spot of focus on occasion. Sometimes I get lucky and there's enough depth of field to save the shot. But sometimes its pretty obvious where I thought I was getting the eye of a grouper, I actually got the nose (sound familiar?).

So we hooked up the 105mm and headed for the Doc Polson shipwreck, which has some nice little macro critters like lettuce slugs, arrow crabs, blennies and a jawfish or two. I descended to the ship and I sat down on the top of the bridge. I saw there was a certain resting spot and I nestled in to

my favorite place to read up on things and studied the housing (see photo). I then headed into the ship in search of critters. The focus was fast and I was able to see cleanly the subject detail. I was truly jazzed and proceeded to wreak havoc on everything the size of my hand or smaller. I was able to really pick out the fine points of each subject. Another 4 gig card drained. This new VF will not fit a 20D housing but will fit most of the rest of the new models in the Aquatica line-up.

So what's the moral here? First, don't tell Mike Veitch you're switching back to Nikon after a big Canon move. He will give you grief.

But the main points here are the robust nature of the Aqua View and its bright, 7 element body. This well-constructed viewfinder is worth looking onto whether you have Canon or Nikon. I liked it so much I used it as an excuse to sell my Canon 20D gear and get set up with Nikon again. I could have just gone to the Canon 30D, too, as this new VF fits on most of the new housings and pops out easily for travel and packing. If you already have one of the newer Aquatica housings, then you can just buy the VF and you should be able to install it yourself.

So first, even though this hunk of glass retails for $1149, it's well worth the extra expense. Just get it. I did have a day or two of adjustment with my mask, which is an older twin lens frame. I kept putting it in the center mask lens divider. Once I got used to situating it, it was not an issue. Olga had a single faceplate new Scubapro mask and the VF gave her

no problems at all. Aquatica did look into an eye cup but decided against the extra cost and also most people didn't find it a necessity. She was also impressed with the lens clarity as she does get on the other side of the camera on occasions.

Second, in this digital age, selling camera gear is kind of part of the ongoing process. If you like Nikon, stay with it as its on a par with Canon once again after lagging miserably behind. I now have my beloved 10.5mm and a new Tokina 10-17mm zoom for Nikon and am a happy camper in the wide-angle department once again. (Yes, Aquatica is generous, but not THAT generous. I had to send back the test housing and camera after the trip.)

Third, the new Aquatica housing with the slide out tray is a sturdy and fully functional piece of equipment. The focusing, shutter and aperture controls are all close to one another and easy to get to in situations that require fast reaction. Plus, Aquatica has announced a new dome super wide optical glass port and an optical glass flat port. Aside from improving optics, the glass port should be a boon to guys like Jimmy Hall who routinely let tiger sharks eat their acrylic domes. Both the housing and VF go to a tested 100 meters so even tech guys will be in business. The new visibility at great depth is a real plus for tekkies as well as normal imaging for aging shooters.

So I am back to Nikon. I am using the new Nikkor 105mm VR as well so we'll see how that goes. I got a couple of AD200 housings with Aqau View finders on them and I am a happy camper. Mike Veitch won't sell me back the 80-400 VR lens I sold him when I switched to Canon. What a guy. But other than that, I am back in business. I do miss the Canon scroll wheel but I just really like the feel of a Nikon. Different strokes. I promise not to switch back to Canon again anytime soon (at least another year).

Tim Rock
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Late Night Thoughts on the Seacam Nikon D200 housing

by Pete Atkinson

I like Toyotas. Reliable and value for money. However, I had admired Seacam housings every time I saw them at the Antibes Festival in France. These were the Rolls-Royce of underwater housings, beautifully engineered, the best materials, a superb finish and attention to every detail. At that time I was using home-made Perspex housings. Later I switched to Subeye cameras.

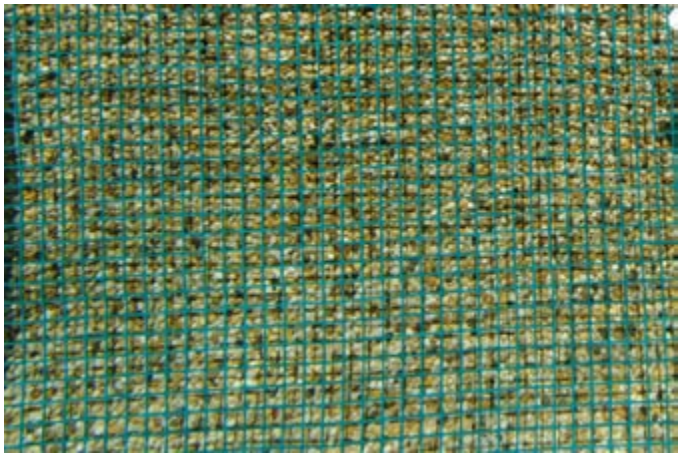
It was the advent of digital that finally persuaded me that building a housing with about 23 controls would be no fun at all. So Seacam seemed the logical choice. I wanted a great housing with the best optics to make the film/digital transition as smooth as possible. There would be enough problems with managing the workflow; I didn't need additional difficulties from the housing. You can see where this is going... I live in Cairns, Australia. You can buy a new Holden Barina car for less than I paid for a D200 housing, the Superdome and S180 viewfinder, macro port and a few other bits and pieces. Which gives you an idea of comparative costs. Admittedly, it's a crap car, but you can get a new Toyota for not much more.

So for all that money you might expect everything to be perfect...

Port side of housing showing focus (top) and zoom (bottom) and also flash compensation control. Flash

Starboard side of Seacam showing S180 viewfinder with Superdome and shutter, command dial, AF/AE lock and sub-command dial controls.

Seacam recommended 35mm extension with Superdome. No dioptre. Quarter crop, corner bottom left. 12-24mm at f8. 1/125th ISO 100

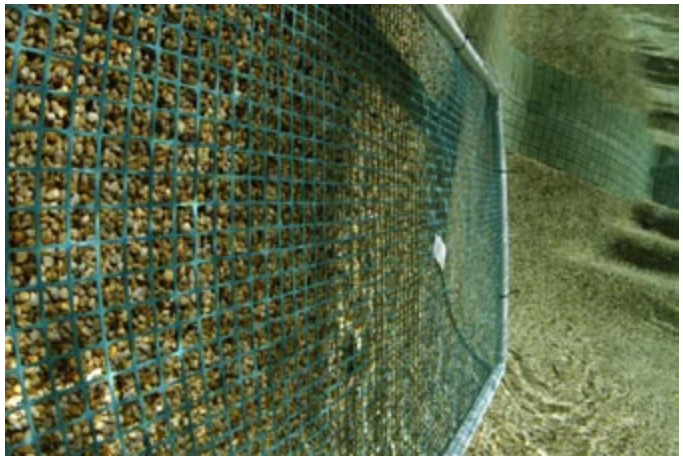


55mm extension with Superdome and B&W +3 dioptre. Quarter crop, corner bottom left. 12-24mm at f8. 1/100th ISO 100

OPTICS and PORTS

The first problem was the 12-24mm zoom. The recommended port extension with the Superdome was 35mm. I tried this, and the corners were the worst I had ever seen, with any underwater optical system. The softness extended a quarter of the way into the picture. It was unusable. I calculated where the dome should be and it was 20mm out, so I added another 20mm extension and a +3 B&W dioptre (not recommended by Seacam at the time) and now the corners are good. I'll address this more fully in another article. I felt I could manage

10.5mm fisheye, f11, 1/15th



Sigma 15mm fisheye and Superdome. No extension. f8 1/90th iso 100

Rear of the housing with the S180 viewfinder

Home-made Superdome cover made from 225mm UPVC end-cap and a short piece of pipe. With Darin Limsuansub!

with only the Superdome and the 60 macro port with extenders. The Superdome is very forgiving with the 10.5mm fisheye (without port extenders) even though the dome is theoretically in the wrong place. The corners are pretty good so I can't justify the hemispherical fisheye port and its extra weight and cost. The Superdome I ordered came with an optical coating which I can't see and I can't tell you if it's worth it. Standard is a foam neoprene cover, which is more rugged than a piece of old wetsuit. However, I wanted something more substantial. Fortunately a 225mm UPVC end cap is exactly the right size to fit over the lens shade. I glued a section of pipe inside to fit the shade precisely. (see photo) Generally I put the housing down on the lens shade, leaving the glass about 6mm clear of the surface. Be warned, if you pick it up one-handed off concrete, as it rolls, the glass dome will hit the concrete. I can show you the scratches. The lens shade is great, firmly attached with machine screws. Aquatica could learn from this.

The Sigma 15mm fisheye works well in the Superdome too, with good corners.

Mine is a manual lens so I have to control focus and aperture with gears. I can use an extender on the 60 macro port for the 105 macro. The port extensions are plastic, beautifully made with green nitrile O-rings. I like green, it's far easier to see dirt on them.

The ports are installed with what Seacam call a bayonet screw. This is just marketing because screw threads have had a bad rap. Seacam ports have a coarse screw thread which installs in a single turn. It's well engineered, works faultlessly and would be impossible for a sane person to cross-thread. The O-ring is a piston fit in the housing. Why Nexus persist with that face seal for their ports I have no idea.

VIEWFINDER

I bought the S180 viewfinder, which is fantastic. But it's heavy, expensive (1800 euros) and I'm not sure it's necessary. It also obscures some of the rear LCD display. I tried a Nexus D2X housing the other day, which had a simple viewfinder with a lens you screw on the camera. I could see all the frame without moving my head. Subal has a 180 GS viewfinder with a similar view as the Seacam for about half the price and a lot less weight. Seacam have a rotating 45 degree viewfinder too. But the Subeye had a 35 degree viewfinder which took some getting used to. It's ok for horizontals, but for vertical macros it's a nightmare. I'd recommend a straight-through finder.

ERGONOMICS and CONTROLS

The trim in the water will depend on which dome and extensions you are using and which viewfinder you have. For me (I never wear gloves and try not to go near cold water, even in the bath) the handles were too far from the controls. So I took them off, filed off some plastic at an angle and reassembled them with the anode plates on the outside of the handles, to get them a bit closer. So long as the anode is in electrical contact with the housing it will do its job. I also had to file some of the handle away so the catches still had swinging room. Now I can reach the command and sub-command dial controls with ease.

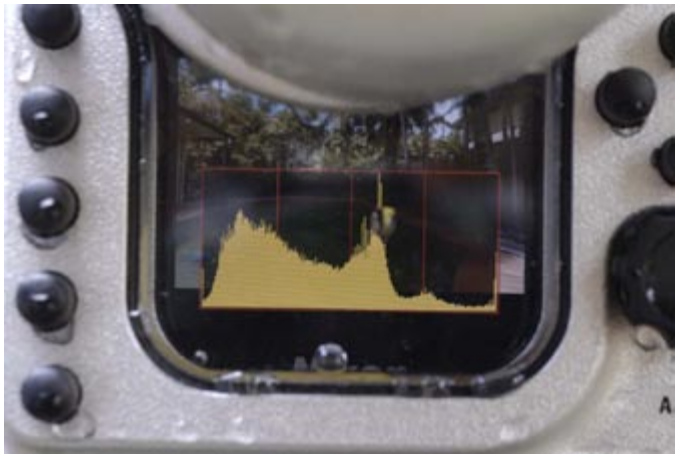
Reverse the functions of command and sub-command dials on the camera to put aperture control on the command dial at the back; this makes life far easier.

The layout of the shutter release, command dial controls, AF/AE lock on the starboard side is perfect. The shutter release is spring loaded and long enough to give precise control of the metering switch without accidentally taking a picture. The Nexus D2X housing I tried had a short shutter release without being spring loaded. It felt dead and was designed with no thought at all. How hard, really, is it to get these simple things right? On the port side, there are two controls for zoom and focus. You can use one for aperture (as I do for my manual Sigma 15mm) but that puts focusing on the bottom control which is awkward to use. The housing is designed to have zoom on the bottom and focus on the top, which makes sense. With the 12-24 you can't have manual focus if you want zoom control, but modern AF is generally far better than focusing by eye.

All other controls can't be reached while you are holding the handles (except with your nose), but this is a problem with most housings. The housing has all the controls you need and some you probably don't, including the flash adjustment button missing on the Subal. I elected not to have the CSM switch at an additional cost of 275 euros! But I'm sure it was gold plated.

LCDs

I have a prescription mask, usually with lingering spit, and I can't see much useful even on the nice 2.5" LCD of the D200 in a housing. To obscure the picture even more, I have the big yellow histogram on all the time. This is the information I want; I can see my lousy composition when I take the picture. I want to make sure the highlights aren't burnt out and the hump of the histogram is in the middle or to the right of the middle. I set the camera



Much of the LCD picture is obscured by the histogram and the viewfinder.

Image Review to "ON" so the picture shows after every shot. This way I can check the histogram without fiddling with buttons. One other major area of concern is the window for the top LCD. It's sloping and offers an angled view of the LCD. If you are in sunlight, it's almost impossible to see the figures on the LCD and I struggle to read the ISO and compensation displays on the front edge which often fall into shadow in sunshine whether the LCD backlight is on or off. My eyes aren't great but other housings (Nexus and Subal for example) have windows directly above the display which are easy to read. Perhaps an additional LED inside the housing to illuminate the display might help; this could be run off the leak detector battery and triggered by the LCD illumination on/off control. You can set the camera to have the top LCD backlight on any time the meter is on. But it doesn't help much except at night.

Sloping window for top LCD frequently throws shadow across part of the LCD.

GEARS

On most housings these cost about half the GDP of some African nations. The Aquatica has metal gears, unnecessarily heavy. I bought a zoom gear for the 12-24 (128 euro) and made the rest myself for about 15 quid each. They are white polyacetal spur gears with 85 teeth, 10mm wide and about 87mm diameter. On the packet it says SH 10 85. (85 is the pitch diameter.) I bought mine from www.tea.net.au PVC drainpipe (about 69mm o.d.), a scrap of innertube and a few drops of Superglue comprised the remainder of the components with a bit of lathe work. I sprayed them black to prevent internal reflections.

ACCESS

The back is held on with two over-centre catches with locks to prevent accidental opening. These are great.

Home-made gears for the 10.5 fisheye and Sigma 15mm fisheye.

Once the back is open I can plug in the USB cable to download, or eject the card without removing the camera. To change the battery, I need to remove the camera, but it is a simple matter to unscrew it.

With the back open, you can see plenty of space around the camera. If you want the smallest and lightest D200 housing, I doubt the Seacam is it. When you put the back on, the AF select control must be in the right position (Aquatica sensibly have this control spring-loaded) as must the on/off switch. Aquatica and Subal also have elegant spring-loaded command wheel controls which engage consistently with the camera controls.

LEAK DETECTOR

This is an optional extra, but really it's crazy to be without one. In an acrylic housing you can see the water pouring in, but with a metal housing you have no idea until the camera is pushing up daisies.

FLASH

I use Ikelite Substrobe 200 flashguns because I like paying for excess baggage. If they died, I might look at the Sea&Sea YS 110 flashguns and see if they had an adequate beam spread. I can do without the power of the SS200 but not the coverage. You need strobes that will keep going for as many shots as your CF card can hold. I removed all but the centre pin in the hotshoe connector to keep the camera happy and so far I don't find the lack of TTL a problem; but I shoot mostly wide angle.

CONCLUSION

Well I guess the Seacam is still the Rolls-Royce of housings. If I were doing it again, I would look carefully at Aquatica , Subal and Nexus and see if I could modify any irritations out of them. I tried Tobi Bernhard's Subal D2X at the weekend, and liked it, the ports and shades are great, the GS viewfinder impressive, controls smooth and well placed. The Seacam angled window for the top LCD is beyond modification unless the shape of the back casting is changed. Perhaps a white LED inside might help illuminate this. It is superbly engineered with no compromises. But it's big and heavy; 7kg with the Superdome, S180 viewfinder and D200 with a lens. The small viewfinder would save a lot of weight and size and I should have tried it first. Test the dome optics yourself, don't rely on any manufacturers recommendations. Or, for that matter, mine!

Pete Atkinson
yachtvigia@hotmail.com

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Subal ND80 housing for the Nikon D80

by Peter Rowlands

The Subal ND80 follows the design philosophy of their Nikon D200 housing with two quicklock closures, two flash arm shoes and two flash sync sockets. All Subal bayonet ports are compatible

As usual with Subal the camera is a snug fit in the housing. The main O ring seal is 4mm in diameter providing a large sealing surface area. The push button controls on the rear of the housing are smoothe to operate and work accurately.

Having resisted the temptation to upgrade my Nikon D70 when the D200 arrived, I was rewarded, soon after, by the announcement of the Nikon D80 which 'ticked a lot of boxes' for me. It was time to consider an upgrade.

There were three main features about the Nikon D80 which attracted me. In the order of their priority they were much improved high ISO quality, larger (2.5") LDC screen and finally increased megapixels. Add the fact that the D80 was half the price of a D200 (at the time) and I could justify a second body as back up. I thought I'd achieved this rather cleverly by buying a second body (camera body, that is) for my long suffering wife, Debbie, as a Christmas present. She saw through me immediately.

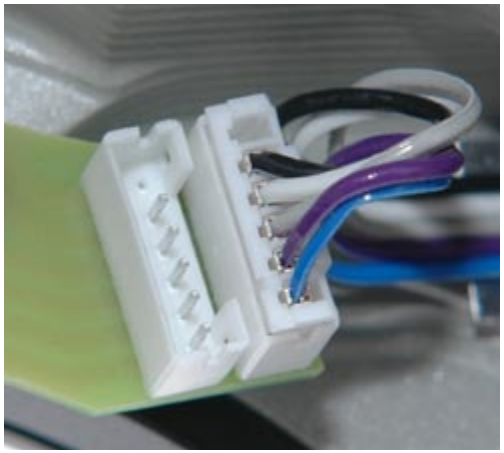
Just under four months later my Subal housing arrived. How a small company can design and produce a housing from scratch so quickly amazes me. Arnold Stepanek, Subal's founder and designer has embraced computer design and aluminium block machining to perfection and his ND80 housing for the Nikon D80 is a testament to his talent.

For me picking up a new Subal housing is like greeting an old friend. The livery, the feel of the handles and smoothness of the controls are all there. The controls knobs and levers are round edged injection moulded plastic which are soft

Subal's slotted basetray and locating guiderails are a design which other housing manufacturers have adopted.

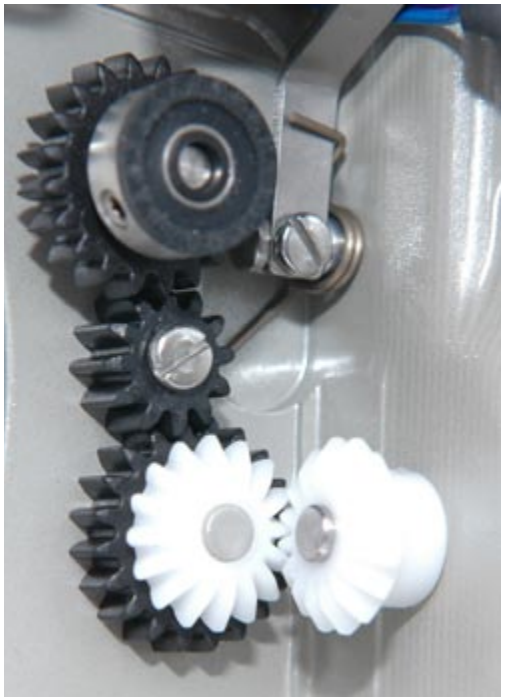
The GS viewfinder protrudes from the back of the housing quite a way but the viewing image more than makes up for the extra bulk.

The LCD viewing port gives an undistorted view of the essential camera data.



Subal provide a choice of TTL or Manual flash connectors. The socket on the right is Manual with only 3 pins. If you want to use TTL with the Nikon SB800 in a housing, unplug the connector and push it into the 5 pin connector on the left.

The front command dial gearing has been improved with two larger, plastic/ Delrin bevel gears. They provide a much smoother operation.



to the touch. The quality and detail of the machining is, to me, quite breathtaking. How a machine can produce such curves and contours is beyond me. I am reminded of a quote from Hugh Hefner (I think) when describing one of his newest playmates "She's got curves in places other girls haven't even got places". The same is true with Subal.

The Subal ND80 housing is very similar to the ND20 for the D200 in that there are two Quicklock levers as opposed to just one on the ND70 for the D70. Similarly there are two flash arm shoes as opposed to one on the D70. Following the ND20 design philosophy results in a slightly larger housing but without sacrificing facilities.

The important controls fall easily to hand - shutter release, aperture and AF lock are the most important to me but I still maintain that the right handle position needs to be nearer the housing for even better handling.

I counted 24 seperate controls giving total control over the camera including focus AF/MF and both flash compensation and type (rear curtain etc) which is achieved through the pop up flash control. All in all there are controls for Power On-Off, Display Light, Shutter Release, Front Main Dial, Manual Focus/Zoom, Mode, Lens Release, Focus Mode, Rear Main Dial, AF-Lock, Flash compensation. Push Buttons for: Metering, Exposure Compensation, Quality, White Balance, ISO, Delete, Playback, Menu, Thumbnail, AF, Protect, Ok, Multi Selector.

The front command wheel control has been improved with a larger plastic bevel gear rather than the previous small brass design.

This makes the operation much smoother and, despite its increased size, the LCD viewing port is totally unobstructed even when using the gorgeous GS viewfinder.

Every housing designer has one impossible conundrum to solve - where to split the housing. Splitting towards the front allows access to the flash card and battery door but limits flash shoe mounting and space for certain controls. Subal have chosen to slit the housing towards the rear which provides perfect positioning to view the top LCD window but at the

Even with the GS viewfinder the large rear LCD window provides an unobstructed view of the screen.

The lens release lever allows lenses to be changed without dismounting the camera.

expense of having to slide the camera out of the housing to access the flash card/USB socket or battery changing. I don't know of a perfect solution but the Subal baseplate design with guiding rails does make removing the camera very easy.

Prior to mounting or dismounting the camera you have to pull out the MF/ AF lever control.

I agree with Mark Webster in his ND20 review in UwP that the focus light shoe should ideally be threaded aluminium rather than helicoiled plastic but as I don't use focus lights it's not an issue for me.

As you've probably guessed by now this is what I call a 'dry' review as I have yet to immerse the housing in saltwater. Given time and fair weather I'll do that in the next issue of UwP.

Peter Rowlands
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Stuck in the middle?

by Alex Mustard

It is no great revelation that the lenses we use for underwater photography tend to come from two extremes: wide angle and macro. It is with good reason: both focus close, allowing us to shoot through as little water as possible and get the best quality image. But are we held back by adhering to the dogma of this great divide? Shouldn't we be searching for a middle ground?

The bipolar division between wide angle and macro runs deep through underwater photography. It is ubiquitous: dive guides categorise dive sites this way, most photographic competitions pigeonhole entries using it and some underwater photographers even describe themselves as one or the other. The suggestion is that no middle ground exists. In this article I want to discuss the lenses that prove otherwise: the mid-range zooms.

Mid-range or standard zooms have been around in underwater photography for many years, but recently they have attracted renewed interest for two reasons. First the likes of Canon and Nikon are giving them away almost free as kit lenses with the most popular models of their DSLRs. And second the small sensors of many DSLR cameras have made the venerable and flexible 60mm macro lens a little too long, and we are looking to zooms to fill the void.

Our first decision is which of the many lenses on the market should we choose. For many this decision is already made because the lens came with the camera, but for the rest of us, if we don't already have a lens there are a few considerations. First we must decide on budget. Mid range zooms usually fall into two categories: expensive, fixed aperture (usually F2.8) lenses and cheaper, slower, variable aperture zooms. If the lens is only going to see occasional use, then a cheaper model might well suffice; there is no point spending over $1000 USD on a lens that is going to spend most of its life in a camera bag. It is well worth looking at third party lenses. I am a particularly big fan of Sigma lenses, which are usually able to focus closer than their counterparts from camera manufacturers.

Most of the other considerations are related to using the lens in the housing. First, it is important not to get too greedy with zoom range. Zooms that travel more that 50mm are usually difficult to

Mid-range zooms provide with a perspective that is not offered by either the more traditional wide angle or macro lenses. Nikon D2X + 28-70mm @ 34mm. Subal housing. Flat port. Subtronic strobes. 1/125th @ F6.3.

Zooms are often referred to as fish lenses because they are so well suited to shooting our piscine friends either alone or in groups. Nikon D2X + 17-35mm @ 17mm. Subal housing. Dome port + dioptre. Subtronic strobes. 1/100th @ F6.3.

Behaviour photography is a challenge because it can be hard to predict how close we will be able to approach our subjects without disturbing them. Zooms offer excellent flexibility for this type of photography. Nikon D2X + 28-70mm @ 55mm. Subal housing. Flat port. Subtronic strobes. 1/250th @ F4.5.

Zooms are well suited to larger marine life, allowing us to shoot both whole animal and detail shots during the same encounter. Nikon D2X + 28-70mm @ 40mm. Subal housing. Flat port. Sea & Sea strobes. 1/60th @ F10.

I use zooms with a minimum focal length wider than 24mm of APS-C and 35mm on full frame with dome ports. This photo taken at 28mm on full frame is getting a little naughty in the corners. Nikon F100 + 28-70mm @ 28mm. Subal housing. Flat port.

house, vignetting at their widest focal length. Most of the more expensive lenses have internal zooming, i.e. the length of the lens barrel does not change during zooming, which is advantageous when housing them. Some lenses, such as my favoured Sigma 28-70mm (F2.8), actually get physically longer at shorter focal lengths, making them ideal for avoiding port vignetting.

Physical size can be a fundamental concern, especially as high quality lenses seem to be growing ever larger (while cameras seem to be getting ever smaller). The girth of these new lenses can make them a real squeeze in the ports of some housings. My Subal took some persuading to accept the two zooms (Nikon 17-55mm and Sigma 28-70) that I favour. And with lenses seemingly swelling incessantly these problems are likely to get worse in the future. Another practicality is the position of the zoom ring in the barrel, where the zoom gear will be attached. As a general rule it is better to have this close to the camera (and behind any large switches) for ease of access from the housing. Although this is dependant on the housing brand and how its zoom gear works.

The final consideration is what zoom range to choose. Partly this will be driven by what we want to shoot, but it is also important to think about whether we will house the lens behind a flat port or a dome port. Opinions vary on the focal length at which we must use a dome port. My rule of thumb, derived from what I have deemed acceptable in my photos, is to use domes when the zoom range includes focal lengths wider than 24mm on APS-C sensors and 35mm on full frame. For me, this means that for one of my mid-range zooms, the 17-55mm, I use it with a dioptre and dome, and the other, 28-70mm, I use it with a flat port on my D2X (with its APS-C sized sensor). Mid-range zooms rarely get as much work as our wide angle or macro lenses,

On shark feeds we can be assured of close encounters, but on other dives a zoom lens is a bonus for filling the frame with the subject. Nikon D2X + 28-70mm @ 36mm. Subal housing. Flat port. Subtronic strobes. 1/80th @ F4.5.

Longer focal lengths can create different diver shots, with more eye contact. Nikon D2X + 28-70mm @ 42mm. Subal housing. Flat port. Subtronic strobes. 1/60th @ F7.1.

and therefore it is best if they fit in one of our existing ports to save excess baggage and extra expense.

When I started working on this article I tried to draw up a list of all the potential mid-range zooms suitable for underwater photography. But the list soon got out of hand. There are many suitable lenses, and your choice will depend on the various factors above. I fully recommend the two lenses I use. The Nikon AFS 17-55mm F2.8 is excellent, although expensive and not full frame future proof! And I really like my Sigma 28-70mm F2.8, which is optically very good and much cheaper and lighter than Nikon's mammoth 28-70mm F2.8. At the cheaper end the Sigma 17-70mm F2.8-4.5 is also popular although it's longer zoom range may make it harder to house.

As with any underwater photography set up, correct subject selection is a key element of success. Mid-range zooms are often referred to as fish lenses and are certainly ideal for shooting fish, both singly and in small schools. I have also enjoyed using them to shoot detail shots of large schools, especially when I have had several repeat dives to try different lenses. Behaviour photography is a challenging discipline because it is usually hard to predict how close we will be able to approach without disturbing the very thing we are hoping to capture. Zooms give us flexibility to frame accurately without unsettling subjects.

These lenses are also particularly well suited to photographing larger marine life, such as sharks, dolphins, turtles etc, especially when we are unsure how close the encounter will be. In some destinations we can be certain that creatures will be right on the dome, but when we're not a zoom is a powerful ally. Even when a large subject is approachable the mid range offers the chance for different types of images, shooting the whole subject or cropping in to show details.

From a creative viewpoint mid-range lenses offer an alternative perspective for traditional wide angle subject matter, such as reef scenics or diver photographs. Ultra-wide angle lenses create dramatic forced perspectives and excellent subject separation, but a longer mid-range lens allows us to shoot a subject in its environment. Tightly framed diver shots capture far more human personality than wide angle photographs, which helps them connect to a non-diving audience.

A common pitfall when using a zoom is to get stuck shooting only at its two focal length extremes and missing out on the middle. Also we must be careful that zooms don't make us lazy when it comes to stalking our subjects. The best way to use a zoom underwater is to leave it on its widest setting and then endeavour to get as close to the subject as possible, only then zooming in to fill the frame as desired. This also ensures we make the most of all the focal lengths available.

I would usually shoot a reef scenic with a wide angle lens, but a mid-range zoom allowed me to photograph this soft coral with a different perspective that let me capture its reflected background. Nikon D2X + 17-55mm @ 24mm. Subal housing. Dome port + dioptre. Subtronic strobes. 1/30th @ F9.

Another mistake we can make with zooms it to get overwhelmed by subject greed. With wide angle or macro lenses we are fairly restricted with what we can shoot, and therefore spend more time optimising lighting, settings etc for specific subjects. Zooms open up far more potential subjects per dive and this can encourage us to rush from one to the next without making the most of each opportunity, both technically and artistically. When shooting a zoom we need the same discipline as with other lenses.

In conclusion, the strength of the mid range zooms is filling in the gap in the bipolar world of underwater photographic lens choice. They can often be bought cheaply, and if we can fit them in our existing ports, they really extend our capabilities. They are particularly useful for mid sized subjects and are great lenses for fish and larger marine life. And if you regularly give talks or AVs they add considerable visual variety to these larger collections of images, breaking up the repetitive perspective of macro and wide angle photos.

The middle ground of underwater photography lens selection is never going to compete with macro or wide angle for popularity, productivity or for making eye-popping photos. But mid-range zooms add flexibility and possibilities to our arsenal, and I find there are plenty of dives when they seem bespoke for the job.

Alex Mustard
www.amustard.com

DOMES

by Pete Atkinson

The advent of digital has raised the spectre of fuzzy corners again, after being largely banished with film. I spent years trying to get the best results with my home-made housings until I finally thought I knew what I was doing. And then I bought a commercial housing...

It seems a lot of people are having trouble correcting the Nikon 12-24mm zoom, partly because the manufacturers recommendations are wrong.

Seacam recommended a 35mm port extension with the Superdome so this is what I bought. The corners were the worst I had ever seen, on anything, anywhere.

In general you want the centre of curvature of the dome in the same place as the apparent front entrance pupil of the lens. And then maybe a + dioptre.

DOME CENTRE OF CURVATURE

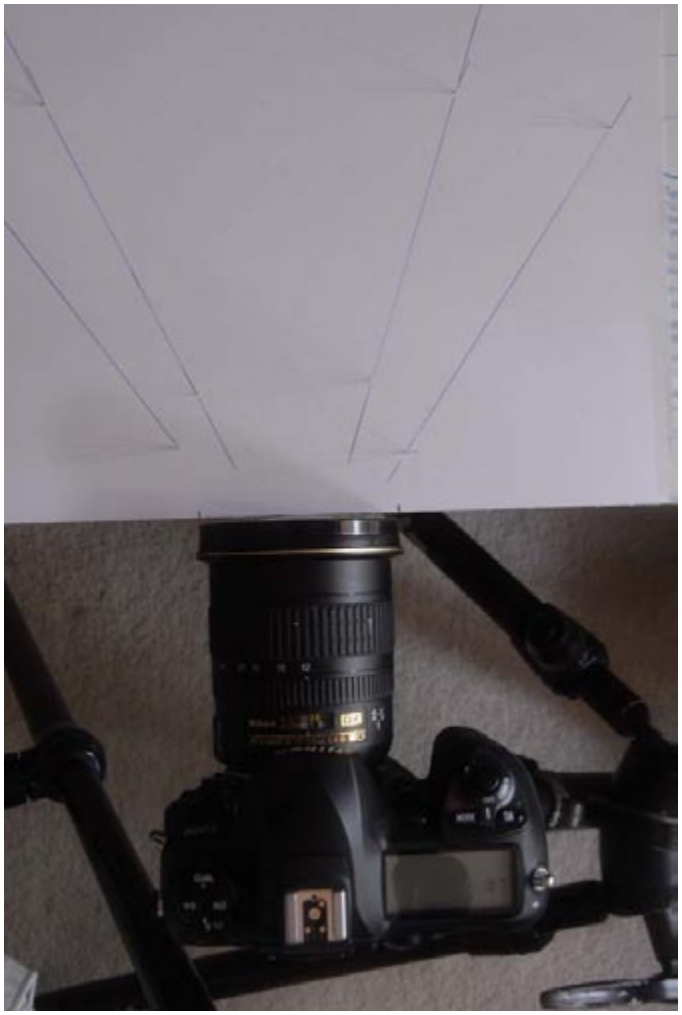
If the housing manufacturer doesn't provide this data, you can measure it. I draw part of a half-circle on light card about the right internal radius of the dome. I cut it out with scissors and see if it fits perfectly, flush with the interior of the dome. It's easy to see if it's too big or too small, so just keep adjusting the radius until you get a perfect fit. When you do, the centre of curvature is this radius distance from the inside of the front of the dome.

Darryl Torckler and Pete Atkinson calculate what dome extension Darryl needs for his Aquatica dome.

APPARENT FRONT ENTRANCE PUPIL

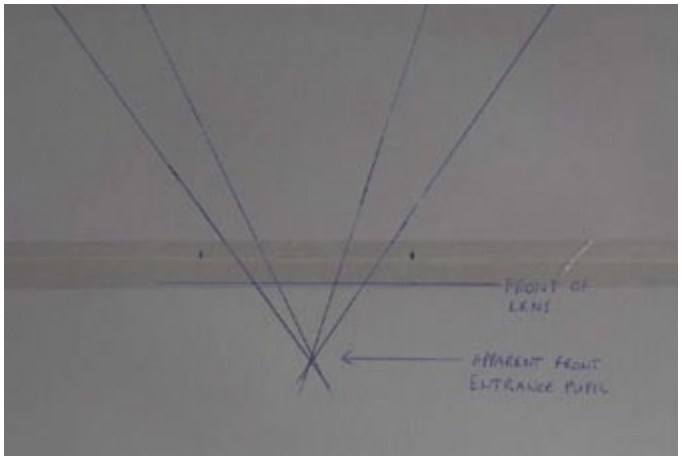
I used to call this the front node, but the above term is more accurate. If effect, it's the apparent position of the aperture diaphragm when you look through the front of the lens. Hold the camera backwards towards a window. Look into the lens. The position of the white dot is the apparent front entrance pupil. It's not the actual position of the diaphragm. There are several ways to measure this. The best is to Google it. (See the link later.) The panoramic photography people need to know this so they can rotate their camera around the apparent front entrance pupil when they shoot frames they want to stitch together. And they have done the calculations for the lenses we use.

If you want to check this the hard way, set the camera and lens up on a tripod with the lens almost touching and bisected by the edge of a table. Put

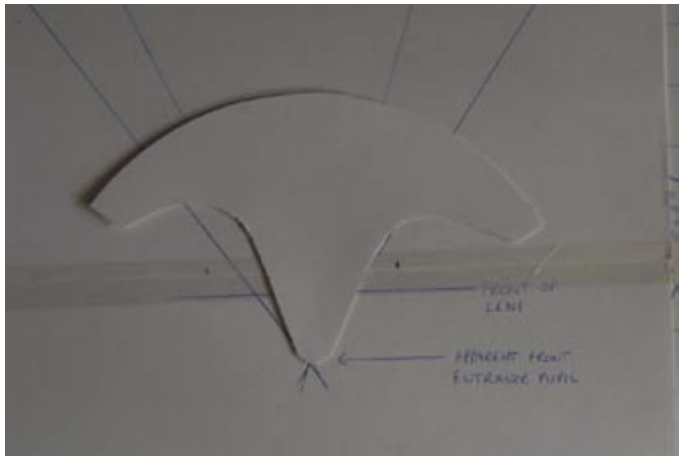


Line up pins looking through the viewfinder and draw lines along the aligned pins.

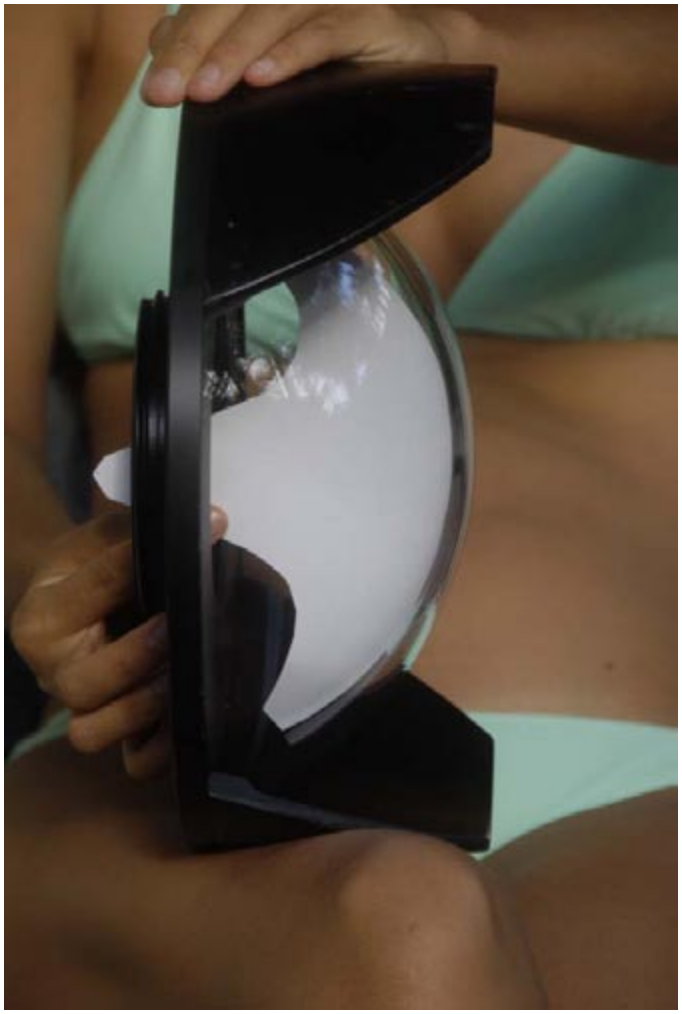
a sheet of A4 paper in front of the lens, touching the filter thread. Stick a pin vertically in the paper about 20cm away from the lens, about 45 degrees from the lens axis. Look through the viewfinder and stick another pin in about 10cm away so it appears to be lined up with the other. Draw a line



Project the lines on another piece of paper till they cross at the apparent front entrance pupil. This is where the centre of curvature of the dome should be.



The centre of curvature of the dome and the apparent front entrance pupil should be in the same place.



Measuring the internal radius of a dome by trial and error with paper cut-outs.

through these two points. Do this about 45 degrees the other side and for good measure, at a few other angles, right to the edge of the field of view. Move the camera somewhere else and project these lines so they meet, on another piece of paper taped to the first. This is the position of the apparent front node. Apparently.

Now you have the information you need to calculate what dome extension is required to make the apparent entrance pupil and the centre of curvature coincide.

DIOPTRES

The dome in water acts as a negative lens, creating a virtual image about four times the radius of the dome in front of the camera on which the lens must focus. Some lenses can do this without a dioptre, but in my opinion all wide lenses except fisheyes should be used with a dioptre.

When I built my own housings, I would have plano-convex dioptres (flat on the back) made in obscure powers, like +3.3 for a 6" dome and +2.4 for an 8" dome.

For the 12-24 I had a plano-convex dioptre made here in Cairns, but although in theory it has some benefits for lens correction, it didn't give as good results as a B&W dioptre. (Which is not made anywhere near Cairns...).

By matching the dioptre to the dome, the lens will then focus where it says it's focusing, so at 2m when something is 2m away. This maximises the focusing range of the lens.

In theory, I thought a +2 would be a closer match to the Seacam Superdome (about 111.5mm radius) but in fact the +3 gives me better corners.

CURVATURE OF FIELD

One reason corners are blurred is that they are not in focus. The plane of focus in a dome system is curved, so when you focus on the middle of the picture, unless the depth of focus encompasses the distance to the corners of the curved field of view, they will be blurred. The smaller the dome, the more tightly curved the curvature of field and the more difficult it is to include them in the depth

of focus. So big domes and small apertures are the best ingredients to reduce this problem.

HOW DIOPTRES AND DOME POSITION AFFECT ANGLE OF VIEW.

If the dome extension is too short, you will lose angle of view. Also, when you add a dioptre, you lose some angle of view too. Don't ask me why.

FISHEYES

The Nikon 10.5 fisheye seems very forgiving. In theory, it should be behind a hemispherical dome. However it gives acceptable results behind some section domes and no one seems to have trouble getting good results with this. Equally, fisheye lenses designed for film cameras seem to work well on digital cameras (Nikon ones, at least) behind section domes. The apparent front pupil of the 10.5 fisheye is said to be 39.5mm in front of the lens mount. If you can, mount a hemispherical dome with its centre of curvature 39.5mm in front of the lens mount for this lens.

NIKON 12-24mm ZOOM

If you correct this lens at the 12mm end, the 24mm end will work fine. A great resource for getting front entrance pupil data is Joseph Wisniewski's site, http://www.swissarmyfork.com/lens_table_1.htm

He puts the front entrance pupil for this lens at 12mm at 112.5mm in front of the film plane, or about 66.5mm in front of the mount. This is a couple of mm in front of the rubber zoom grip. My measurements with a +3 on the lens puts the front entrance pupil about 110mm from the film plane, or about 28mm behind the filter thread of the 12-24. I use 55mm extension with the Superdome and a B&W +3 dioptre and the corners seem acceptable to me.

None of the major manufacturers recommend a dioptre for this lens. I wonder what tests they have done?

Hopefully by now, you are as paranoid as I am about corner sharpness and will spend hours in the nearest pool fretting over lens tests.

Let me know how you get on. Let the housing manufacturers know too!

Pete Atkinson
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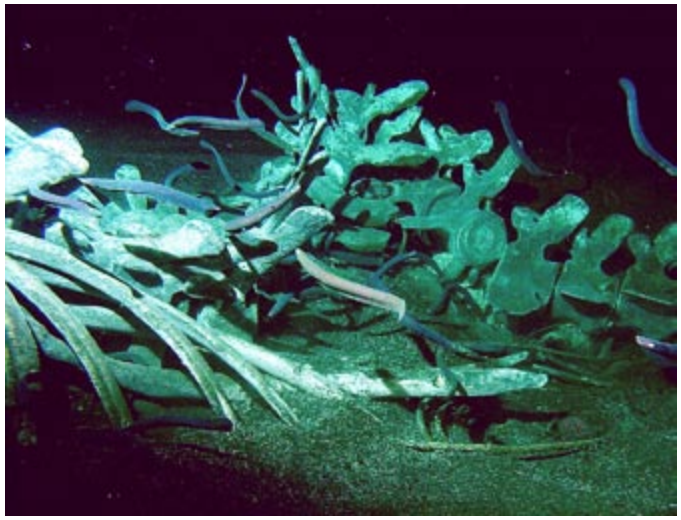
Mysteries of the abyss:

Whale falls as biodiversity hotspot

by Mario Lebrato

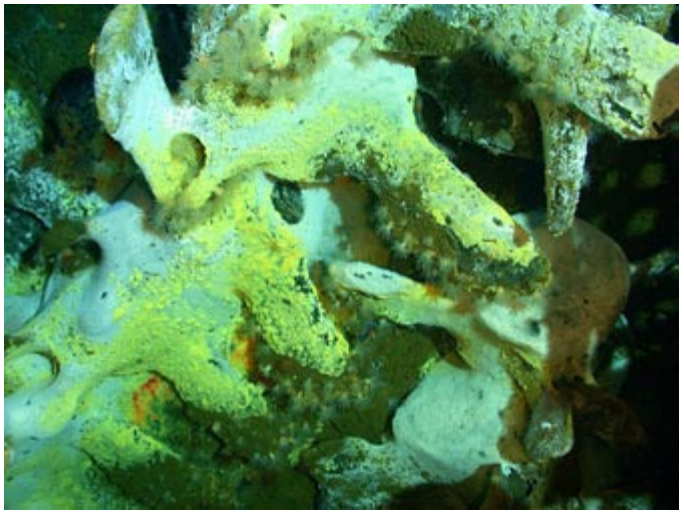
Cetaceans or whales as they are normally known are interesting from an evolutionary point of view, since they are so different from their ancestors. Fur-covered land mammals were once the predecessors of these magnificent creatures that roam the oceans today. They have followed a macroevolutionary transition from a terrestrial to an aquatic way of life, making them the biggest "parcels" of organic matter swimming in the seas. Classified within the Cetacea, this order is divided further into two distinct groups: toothed whales in the suborder Odontoceti, and baleen whales in the suborder Mysticeti. After this brief characterisation, lets leave apart their bioecological classification and peculiarities, and concentrate in an important aspect of their existence. Whales are wonderful animals when alive from different perspectives, however, for the oceans, they constitute the biggest reservoirs of labile organic matter alive once dead. They may be regarded as "micro islands" supporting an ample community of animals depending on their fate: the deep-sea seafloor or the intertidal realm. Wherever they end up, they are not going to be wasted; what is more, they are going to enter the carbon cycle and its pathways, regenerating and coming back as organic matter on their own to an environment that "supported them" for many years.



(Left) Whale carcass in Santa Cruz (California) after 18 months on the seafloor. Note the complete removal of flesh, and the only presence of the whale bones that will support further communities. Note also the numerous hagfishes present scavenging on the remains. (Copyright, Craig Smith and Mike Degruy).
(Right) Whales carcass after 4.5 years showing red mats as well as other filter feeding animal in a reef-stage. (Copyright, Craig Smith).

Whale carcasses bonanza: a reservoir for the ocean

Organic detritus is known to play fundamental roles in the structure and dynamics of all marine ecosystems. The importance of a particular type of organic detritus (i.e., nonliving organic matter) in an ecosystem depends on several key characteristics of the material, including (a) the size of the detrital particles; (b) the origin of organic materials contained within the particles; (c) the available flux of organic carbon, or limiting nutrient, entering the ecosystem in the form of the detritus; (d) the frequency of occurrence of the detrital particles. Dead-whale detritus has remarkable characteristics and thus may play unusual roles in marine ecosystems. The enormous size of adult great whales provides a refuge from most predators, with the consequence that much of the natural whale mortality may occur from nutritional or disease stresses occurring during migrations. Whale carcasses initially dead at the surface may follow different stages until they reach the seafloor. At the very surface of the ocean they do normally float due to gases produced by the rotten flesh and decomposition processes, and become swollen. They may travel great distances in this state, but in areas patrolled by scavengers, such as in the case of White Shark in the coasts of South Africa and California, they may be severed by their feeding frenzies on such an easy meal. They may constitute in this way an additional food item to their diet, which provides instant energy in the form of blubber. It is observed as seen in the photography



Whale carcass in Santa Cruz (California) after 6 years on the seafloor showing yellow mats as well as other filter feeding animals such as deep-sea anemones attached to the bone. (Copyright, Craig Smith).

the removal of the blubber, but the abandonment of the muscle and tissues. White sharks do concentrate their efforts around these carcasses on the fatty tissues, which may provide more energy per unit of effort in terms of feeding and digestion. However, once the remains of the whale wash ashore, a different community may take advantage. Intertidal communities and other opportunistic ecological entities on shore may profit of the situation. Whale detritus is however a relatively minor source of carrion on beaches and coastal environments, but has been observed to be important for Polar Bears and Artic Foxes. Invertebrates from the intertidal realm, as well as shore birds are the main animal groups exploiting such a massive source of food.

The most normal destiny of a whale carcass is however the deep-sea floor, once the animal has sunk and settled on to the seabed. Ecosystems of the deep-sea are thus a matter of interest and speculation in the way they may respond to these massive inputs of organic matter from the surface waters. Despite of being poorly studied, deep-sea ecosystems created by the whale parcels delivered are known to create significant habitats and could be subjected to periodicity. Four main stages have been recognized (mainly after the work of Prof. Craig. R Smith from the University of Hawaii, which provides footage in this article and colleagues), which follow the deposition of a whale body on to the seabed. (a) A mobile-scavenger stage, during which necrophagous fish and invertebrates rapidly remove whale soft tissues. (b) An enrichment-opportunist stage, during which dense assemblages of heterotrophic bacteria and invertebrates colonize the lipid-laden skeleton and surrounding sediments enriched by whale tissues "fallout". (c) A sulphophilic stage, during which chemoautotrophic assemblages colonize the skeleton as it emits sulphide from anaerobic decomposition of internal lipids. (d) A reef stage, during which the hard, elevated skeletal remains are colonized by suspension feeders exploiting flow enhancement.

Unique biodiversity microislands

Deep-sea whale-fall communities, particularly those in the sulphophilic stage, may sustain remarkable levels of both local and global species richness. Whale falls are perhaps the least studied chemosynthetic habitats in the deep-sea, having been intensively sampled only along the California slope as pointed out by Prof. Craig Smith (University of Hawaii). The high species richness sustained in these reservoirs acting as biodiversity microislands against a background of low productivity in the deep-sea, is probably the result of the ample range of nutritional modes that can be derived from the organic matter detritus. A whale skeleton remains supports sulphophiles (e.g., species with chemoautotrophic endosymbionts), bone-matrix feeders, saprophages, generalized organic-enrichment respondents, and typical deep-sea deposit feeders and suspension feeders, all in close proximity (Baco and Smith, 2003). Evidence is becoming available that these habitats may provide shelter for a highly specialized fauna that has adapted to specifically live in whale parcels. Specialists may come from an ample range of taxonomic groups, which diversity suggests that a variety of taxa and trophic "links" have become specifically adapted to whale-fall niches and depend on a variety of resources provided by the whale-fall habitat.

Human impact on whale detritus: the other side of the story

Among the many ways humans influence negatively in the oceans, whale hunting frenzy in the past centuries has caused massive reductions in populations throughout the world oceans. The patterns of whale population depletion, carcass utilization, and, in some cases, whale population recovery, have differed substantially over time, among cetacean species, and among ocean basins. The consequence is that whaling has had complex effects on the availability of great-whale detritus to marine ecosystems. Whaling efforts intensified in the tropical and temperate Pacific in the mid nineteenth century, in Antarctic waters after 1910, and in higher latitudes of the North Pacific and in

Humpback whale (Megaptera novaeangliae) in Dyer Island (South Africa), after being dead and stranded. Note the removal of fat from the body caused by White Sharks activities, but the presence of the muscle and tissues, which are normally not consumed.

the Bering Sea as late as the 1950s. However, for many large species (e.g., Fin, Sperm, Blue, Humpback, and Minke whales), the bulk of the worldwide take occurred between approximately 1920 and 1980 (i.e., during 1-2 generations of a great whale), with the International Whale Commission estimating that roughly 2 million great whales were harvested from the oceans over this period.

Modern whaling leaves little detritus anywhere for the marine ecosystem because entire carcasses are processed on factory ships or on shore. Thus, with very localized exceptions (e.g., the inter- and subtidal in the immediate vicinity of whaling stations), harvested carcasses were essentially removed from pelagic, shelf, and intertidal ecosystems. As in the case of shallow marine systems, whaling could potentially have caused a dramatic decline in whale-fall habitats at the deep-sea floor, leading to extinction of whale-fall specialists and limiting the dispersal capabilities of species dependent on sulphide-rich whale skeletons as habitat steppingstones. Natural whale mortality is likely to have spread along migration routes, in calving grounds, or in regions where whales spend substantial portions of their life cycles. Second, ultimately, whaling decreased the flux of carcasses to the deep-sea floor because whale populations were driven downward, leaving far fewer whales to suffer natural mortality and sink to the seafloor. All this may have caused a retarded effect on episodic extinction events, and the oceans may now be suffering from the activities of the past.

Whale carcasses are defined as end members in a wide spectrum of marine detritus, constituting the largest, most energy-rich organic parcels in the ocean. Most great-whale carcasses sink in a semi-intact state to the deep-sea floor, where they are recycled by a succession of scavenger, enrichment-opportunist, and sulphophilic assemblages of biota. Commercial whaling has drastically reduced the flux of this whale detritus to the marine ecosystems. In i.e., intertidal habitats, this may have caused population declines in some highly scavenging species dependent on whale remains. At the deep-sea floor, whaling may have led to substantial habitat loss to whale-fall communities and probably caused the first anthropogenic extinctions of marine invertebrates in the 1800s in the North Atlantic. Once again, human intervention is changing the course of natural events in ways that may be highly unpredictable. Human beings are well-defined by their predatory nature, since it constitutes one of the only ways of successfully surviving in a complicate environment. Yet, we do not normally tend to think that our proximate actions may have a repercussion ultimately far away from us. If we keep ignoring the alerting signals that our surroundings give us we are only harming ourselves. Probably this will not happen in the near future, but unless a widespread public understanding of the science is achieved soon, natural events will be modified in ways with unprecedented consequences for all.

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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 pubication for you to increase your profile in the underwater photography community.

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

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

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

How to submit articles

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

1. The text should be saved as a TEXT file and attached to the e mail
2. Images must be attached to the e mail and they need to be 144dpi

Size - Maximum length 15cm i.e. horizontal pictures would be 15 cm wide and verticals would be 15cm.

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

My student Mat Kertesz and I were down at Jervis Bay on the east coast of NSW, Australia (about 2 hours south of Sydney) where he is doing his Honours project with the Marine Park Authority on Underwater Visual Census Techniques. Mat must have a charmed life, his Honours project consists of doing dozens of dives counting fish in one of the most beautiful bays in NSW and one that is teeming with fish life, of all shapes and sizes.

I had come down to see him in action and had brought my camera down to get some photos of him working so that he can use them in seminars once he completes his field work. I have a Nikon D70 in a NEXUS housing and splashed out earlier in the year to put a NikonN 12-24mm DX behind the dome port. A lovely system and my trusty old Nikonos SB105 still does a fair job for lighting even if I no longer have TTL now I've gone digital. What this means is that just for once I had the wide angle lens sitting ready to shoot.

We had just completed the first dive for the day when Sue our boat driver from marine parks received reports of an oil slick near the head of the bay. So we motored over to see if we could find the source. As we were moving Mat yelled out "Shark". Sue and I looked back and there was an enormous floppy fin sticking out of the water. I've seen sunfish on several whale surveys but never when I've had my dive gear, and especially not with my camera sitting in its housing.

So I suited up and slipped over the side and snorkeled towards where I thought the sunfish would be. We were in 40m water and it was not all that clear and Mat and Sue kept yelling "It's straight in front of you". Eventually it loomed up out of the gloom and I started firing away as I snorkeled as fast as I could. A dark shadow gradually became a huge, beautiful fish.

The Ocean Sunfish (Mola mola) is very common off these coasts and is a boating hazard for the Sydney Hobart yacht race (*Shouldn't that be the other way round? Ed*), but ones as big as this are not seen that often. I kept swimming closer and closer but as I was looking through my viewfinder I couldn't tell exactly how big it was. Mat joined me and when he swam around the back of the fish I realized it was probably 3.5 to 4m from wingtip to wingtip. Keeping the whole fish in the frame put me a long way away even on 12mm. We swam with it for only a few minutes and it graced us with several turns about then just before it left us it turned and headed straight for me which is when I got this shot of Mat and Mola mola.

As I said before Mat must have a charmed life. Not only has he swum with the biggest sunfish that I can find records for, but he has just been named the Inaugral OW-USS Australasian Rolex Scholar 2007/8 (www.owuscholarship.org/) and will spend the next 12 months sponsored to dive all over the place with all sorts of amazing marine creatures while promoting marine conservation.

Rob Harcourt
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Ps we never did find the source of the slick but it smelt more like vegetable than motor oil and might have been cooking oil dumped by a passing yacht. Will they never learn?

Nikon D70 in Nexus Housing, 12-24mm DX lens set at 12mm, SB105 full power, f8, 1/125 sec

Do you have a nice shot with a short story behind it?
If so e mail me and yours could be the next "Parting shot".

peter@uwpmag.com