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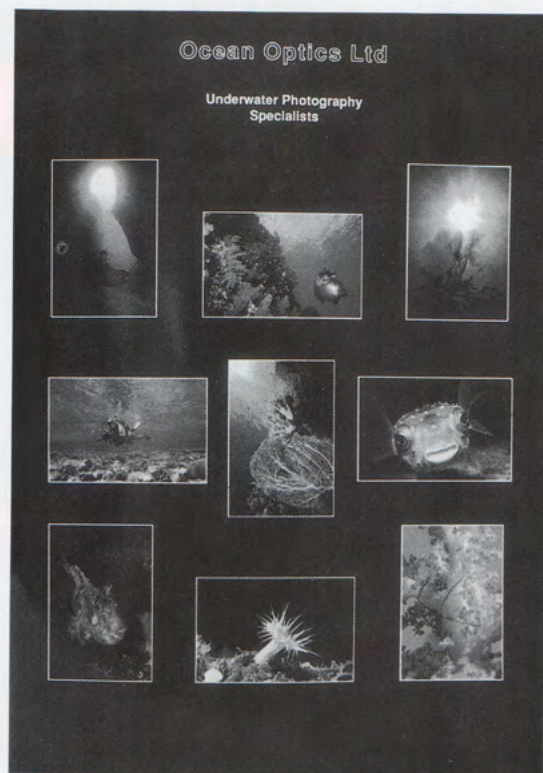
UP9
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Underwater Photography



May/June 1988

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Underwater Photography Magazine

Issue No 9
May/June 1988

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Editorial

This issue's cover shot of a Longnosed Hawkfish was taken by National Geographic underwater photographer David Doubilet and was shot way back in 1974 when divers and underwater photographers were just beginning to "see" and come to appreciate the contents of the Red Sea in more detail than ever before. Taken with a Nikon F camera in an OceanEye housing, the lens was a 55mm macro and lighting was from a SubSea Mk150 flash/strobe. Taken in 120 feet of water on Kodachrome 64 film, it was used to illustrate a general article on the Red Sea for National Geographic - a magazine which now has over 11 million circulation. The advent of cheaper air travel combined with improved on site facilities has since encouraged more divers to visit the Red Sea and sample for the first time the incredible underwater life and scenery.

But this expansion in interest is a little "chicken and egg" for it was only with the worldwide coverage of quality magazines such as National Geographic that areas of such beauty were brought to the attention of the diving public. This attention resulted in demand for diving in the area which entrepreneurs sought to satisfy. So it could be claimed that it was the underwater photographs which started off the demand.

Since those early days there can be no doubt that it has been the Red Sea which has encouraged more people to take up underwater photography than ever before and that is whether or not they have actually been there. Those who have been know what a productive location it is but for those who haven't (and they are still the majority) they cannot fail to have been influenced by some of the spectacular images which have come out of those waters. It is the impact of these images which encourages many people to take up underwater photography and maybe even learn to dive in the first place.

Look at any diving brochure selling either equipment or holidays and you will see underwater photographs being used as a major form of communication. Suitable images will result in a much improved presentation which in turn will lead to increased business. Underwater photographs play a very important role in forming the image of diving whether it be to the general public or the more specialised diving fraternity.

Underwater Photography is published bi-monthly by Ocean Optics Ltd

Subscriptions are available by mail order. Annual costs are £15 UK, £18 Europe and £20 Overseas.

Diver replies re Brighton '87

I have been sent photocopies of the last two issues of Underwater Photography and I am both amazed and saddened by what I have read.

Quite apart from the letters, most of which are grossly unfair, your editorial replies reveal astonishing venom and antagonism, not to mention hypocrisy.

For instance, as a person who has been familiar with my activities on the underwater photographic competition front for a considerable time, you perfectly well know how much support and consideration Diver has given to underwater photographers in the past.

In particular, you were Chairman of BSoUP at the time of Brighton 83, and you know better than most how much time, effort and expense is put into the event, how much attention is paid to the needs of contestants and how much the views of BSoUP are deferred to.

On the latter score, you are also well aware that BSoUP are not only put in charge of the projection at Brighton but are also consulted before the launching of each Festival. The comments and suggestions that result are always seriously taken into account and almost without exception cause changes to be made.

You will remember, for instance, that an audio-visual category was introduced in 1983 at your instigation, which, in the event, turned out to be very much to your own advantage. The choice of Sir George Pollack as a judge was also one of your suggestions.

The question of when winners should be called on to the platform and awarded their prizes was another matter raised in 1983, BSoUP's point then being that it should not be left to the very end of the show because people tended to walk out. This, too, was changed.

There are many other instances of changes in rules and procedures willingly made by me as a result of BSoUP's overtures.

Brighton 87 was no exception when it comes to consultation with the Society, and the idea of having a Grand Master category (which, in truth, is hardly a major change) was first raised when Peter Scoones was Chairman - and agreed - more than a year before the event.

Neither then nor when the matter was again discussed with Brian Pitkin were any objections raised from anyone on the BSoUP committee. As President of BSoUP, where have you been all this time?

In fact, the main suggestion made by Brian Pitkin in connection with Brighton 87 was that everything should not be left until Sunday afternoon. As a result, we moved one of the three sessions to Sunday morning.

Now to the judges. Are you seriously questioning their credentials? Isn't it amazing that Festival after Festival judges are criticised, mainly by losers, but always seem impartially to choose as winner the photographers who are widely regarded as being the hottest shots at the time? Geoff Harwood, Peter Scoones, Colin Doeg, Warren Williams, you and Steve Birchall to name but a few.

Now, as far as the winning slide session at Brighton 87 is concerned, I am not going to join in the bashing of Berwin, but any unbiased person knows that you don't blame the impresario if one of the stars of a weekend's show is a disappointment on the day.

How unexpected that was can be judged by the fact that Derek is a highly qualified professional photographer and that his performances at two previous Festivals were exceptional. That is why he was chosen again, both as a judge and as a presenter.

If you needed to know what else, if anything, contributed to the shortcomings of his session, you could have asked me, or invited me to comment on the letters submitted to you.

There are always two sides to a story, as anyone who has ever been involved in the organisation of any event of substance knows. Things do go wrong (inadvertently fogged competition entries, for example). Fortunately, most people are gracious enough to excuse such accidents and not make capital out of it.

Finally, it is my view that you are among the main beneficiaries, both in terms of personal reward and professional advantage, of the various competitions that have been sponsored and organised at considerable trouble and expense by Diver.

Taking that and other things in to consideration, it would have been fairer and far more appropriate if you had leapt to my defence rather than invite, publish and endorse such criticism.

Bernard Eaton, Diver Magazine

Thank you for your letter regarding the coverage of Brighton 87 in Underwater Photography Magazine. I fully appreciate how you must feel after all of the hard work and financial commitment which Brighton Festivals entail but I can-

not, as you request, defend the competition side of the 1987 event (regardless of having any possible financial and personal rewards). Defence would be inappropriate and that my and the readers' comments have surfaced in such a way is an indication of the growing concern which underwater photographers have about Brighton. It is a concern which has only been expressed verbally in the past but now we have a medium in which we can openly express our views.

BSoUP has always been keen to help with both advice and action but, as President, I will remember the Committee meeting when we discovered that you had already printed the rules for the Brighton 87 Competition before we had had the opportunity to offer our suggestions. Had we been shown a draft set of rules I am sure we would have spotted the lack of a British Waters section in the Grand Masters Section. This is a prime example of how we are supposedly involved and then blamed when mistakes are made. My advice to BSoUP at the time was to pull out of Brighton 87 and I requested that I have nothing further to do with the organisation.

The idea behind the Grand Master was to try and establish a section where any photographic techniques could be employed and so open up the artistic barriers which Brighton had always stifled by insisting on a "no darkroom trickery" clause. This clause was always an example of how Brighton has not kept up with the times in terms of underwater photographic developments and is one which BSoUP has always wanted removed. It was the continued inclusion of such a clause which, I feel, has contributed to Brighton's slide in international standing within the underwater photographic community. The Grand Master section looked like redressing that imbalance but without a separate British Waters Category there was little incentive to explore the "darkroom trickery" so often needed to improve shots in our comparatively limited visibility. This lack of incentive must affect both the event and the future of underwater photography and leave one with a feeling of diverging wavelengths, wondering whether the interests of underwater photographers are really being given serious and informed consideration.

Diving wavelengths apply equally to the judges for they were not really up to date with all that is happening in the underwater stills photographic world. The result was not who they chose as winners but the type of shots. These shots influence the up and coming underwater photographers and

play a vital role in directing future efforts. Derek Berwin's presentation deserves no more coverage, save to say that it was the straw which broke the camel's back and gave many people the final impetus to voice their opinion about the Event. These are people who had spent a great deal of money taking the photographs, paying for the Competition entry fees and Festival tickets. In previous correspondence to me, you refer to his presentation as a "hiccup" in the proceedings which confirms how lightly you must regard what underwater photographers take so seriously.

I would like to stress that the comments raised are in no way personally aimed. They stem from a genuine general concern about the future of underwater photography and about Britain's standing in the underwater photographic community. I am sure that I speak for all our readers in saying that our door is always open for discussion about any aspect of underwater photography. It is our hobby, our sport and our driving force. We want it to continue to improve. (PR)

Your above reply is self-righteous and dishonest, and does not stand up to scrutiny. I'm afraid you are seeing things through Rowlands-coloured spectacles.

Bernard Eaton, Diver Magazine

UK Photo College

Just a quick note to put your article on the PADI Underwater Photo College into context. Your comments about "ther e being very few, if any, good courses offering tuition" and "no consistent facility in existence" is not quite true. We have been running an underwater photo course at this college since the mid seventies. Unfortunately, it is only associated with a full-time vocational photography course. If any of your readers are thinking of doing such a course I can supply further details on request.

Russell Milligan,
Plymouth College of Art

Angry American

My husband and I have been receiving your magazine for the past year and we've enjoyed the photography and articles very much. Because I've enjoyed them I can't help but write when something upsets me.

In the Jan/Feb 88 issue the photograph with the caption about Kurt Amsler on page 20 caught my attention. I feel the description used of the diver "a very fat American woman" was not only rude but

uncalled for - I can empathise with his frustration when someone stirs up silt but I have never read a caption as inappropriate as this one. Doesn't he think Americans subscribe to this magazine - I am sure there are many British/European divers who could have been as guilty of causing the same situation. We have strict regulations regarding photographing the manatees - I assume from this photo he chose to ignore these restrictions. I hope this criticism is taken well as we share a common interest - diving and underwater photography.

Pat Antonelli, Florida, USA

Film Company request

We are looking into the possibility of making a number of diving films and would be interested to hear of any diving expeditions that any of your readers might know of or might be planning this year, wherever in the world. We would also be interested to hear of any unusual underwater films or footage, recent or old, natural history or "expedition", video or celluloid, that could be of interest to a television audience.

Simon Normanton, Lighthouse Films,
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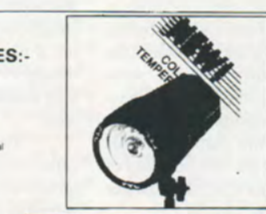


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Sony's V90 Camcorder video and Hypertech's housing

The latest Video 8 camcorders from Sony look set to strengthen their hold on the market at the time when they most need encouragement. The VHS-C format is still proving popular since it's small tapes can be replayed on the widely used domestic video recorders but, with the arrival of the Handycam Pro V90 (it's the V9 in the States), Sony have produced a smaller, higher quality imaging camcorder which is knocking on the door of broadcast quality results.

Of greater benefit to the underwater photographer is the smaller and more convenient size of the Handycam Pro V90. It needs no alteration to slide into a 6" diameter tube which is both the most cost effective and pressure effective vessel design. This convenience has caught the eye of several housing manufacturers and the recent DEMA show in New Orleans saw no fewer than four models - three tubular plastic housings and one cast aluminium. Of these four, Hypertech from Florida are providing the least expensive. Their Hypertech Pro 9 sells in the UK for £595 inc Vat. Add the cost of the Pro V90 in the UK which is just under £1500 and you have a big lump of money to find. However, the capability of what you get is truly impressive both in terms of ease of use quality of image and practicality.

Sony Handycam Pro V90

The camera itself is very small yet still handles well and has all of the facilities, and some more, that we are coming to expect from these technologically amazing machines.

The Video 8 tapes are available in all lengths up to 90 minutes and this can be doubled in the long play setting without appreciably affecting the quality of the end result. The battery is at the rear of the camera and the standard version will give up to 40 minute's filming. A larger capacity pack is available giving up to 80 minutes and this should be seriously considered as an optional extra.

The 2/3" viewfinder is fine on land but could do with magnification underwater and Hypertech say they are "working" on something. In practice, the wide angle coverage and enormous depth of field make the viewfinder become a final reassurance as to the camera's functions.

The built-in lens zooms from a 12mm wide angle to a hard-to-keep-still



(Above) The housing for the V90 is just 6" in diameter and the V90 camera is not that much bigger than a Nikonos V

(Below) The Sony V90 is a record and playback unit with a variable shutter speed for better replay of fast action



72mm telephoto. There is a macro setting at the wide angle end for ultra close work.

Of little use to the underwater photographer is a variable shutter which can be adjusted in high light level conditions to give sharper replay on fast moving subjects. When all of the controls are set to Auto, the camera is remarkably accurate with exposure and colour balance but the new digital/contrast autofocus does not seem as good as the earlier infra-red models. This is more pronounced at the telephoto end of the zooming so does not affect underwater photographers so much.

The V 90 can play back directly through it's viewfinder or your domestic TV/monitor for instant confirmation that all is well.

The quality of the 380,000 pixel CCD chip is very impressive. At the recent DEMA show in New Orleans, a TV company were videoing the stands with a V90 and were going to transfer the 8mm tape straight onto 1" broadcast format and transmit it directly from there. The Sony Handycam Pro V90 was the only camera that they considered capable of performing so well.

The capability of these small camcorders in specialist fields such as underwater may well see them being accepted as sufficient standard to consider for broadcasting. That development alone makes the V90 an exciting arrival in terms of ease of use and comparative economy of operation.

(Right)

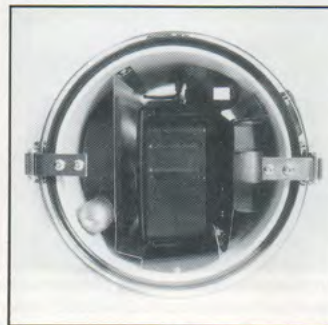
The complete system with twin 50 watt lights is a neat and versatile package. The buoyancy is neutral and the handling is well balanced. The bulbs are seawater cooled and last 30 minutes before needing to be recharged.

(Below left)

The camera is mounted from the front of the housing and held in place by thin metal bulkheads.

(Below right)

A wide angle lens adaptor is supplied with the housing which behind the Ikelite dome port gives coverage of around 100° although the manufacturers do not give an exact figure.



Hypertech Pro 9 housing

The basic construction of the Pro 9 housing is heavy duty PVC tube with machined perspex end plates. These are compression O ring sealed and held in place with two standard overcentre catches at either end. The total package measures 6" in diameter and 17" long including the front Ikelite dome port. It will keep your V90 camcorder watertight and operational down to 250 feet.

Three separate ballast weights are provided to ensure that the buoyancy is both neutral and horizontal. This is very important with moving image cameras and is often overlooked by other manufacturers. The all-up weight is just over 20 lbs which is very light compared to previous packages. It becomes possible to travel abroad with the Pro 9 housing without stretching your arms. This load could be substantially lightened by leaving the ballast at home when travelling abroad and adding weights when you arrive at the dive destination. The balance may not be as perfect but at least you have the choice.

The camera slides in from the front and is held in place by thin metal bulkheads. These also keep the ballast in position. A



wide angle lens converter is included with the housing to give over 100° coverage. (They don't quote an exact angle but that's the maximum before edge cutoff). The lens is screwed onto the camera's lens and the zoom set to 14mm to give maximum angle without cut off. The focus must be set manually to 4 feet and then, in average light conditions, you will be in focus from a few inches to infinity. A zoom control is available as an optional extra but it is advisable to use this sparingly. Zooming to the telephoto end will reduce depth of field and you will eventually lose focus. You can preset the camera for macro use and go for some really colourful close ups but, as with stills, the depth of field is critical the closer you get, so keeping the camera still is imperative.

Unbreakable plastic handles are screwed either side. They are strong enough but the positioning is not quite right for convenient access to the "Start record" lever. It would be a simple job to drill four small holes to reposition the handle.

A bracket is available as an optional extra for mounting a Nikonos and a travel case for holding the entire Pro 9 system.

The Hypertech Pro 9 housing is supplied in kit form from the manufacturer for ease of transportation but it would feel so

much better if you were to find a completed housing when you open your package. Although the assembly procedure requires no more than a screwdriver, I feel that not everyone want the responsibility of mounting dome ports, however easy it may be.

The lighting system

Hypertech produce a novel lighting system to compliment the Pro 9 housing. It consists of twin 50 watt heads with the nicad battery pack replacing the ballast inside the housing. Sealoc/Neilsen connectors are fitted to the housing so that the system can easily be removed when not required.

The interesting feature of the lighting system is that the small halogen bulbs are exposed to water. This is very practical as it keeps the bulb extremely cool but you should not turn the lights on above the water and then go diving as the sudden cooling would almost certainly cause the bulb glass to break. The other slight disadvantage is when the bulbs blow. Although they are good for at least 50 hours of filming, you will need to cut the bulb out from it's silicone rubber mounting, resolder a new bulb and then re-pot it with silicone rubber.

The reflector design gives 120° coverage 90% free of hot spots and one bulb will last for an hour, two bulbs for 30 minutes before the batteries need recharging. The mains charger supplied will fully recharge the batteries in 3 hours and will not overcharge them.

The lights will automatically come on as soon as you press the camera trigger. This is a useful facility when using lights but it can be over-ridden if required.

The delrin mounting arms are a little basic but they are sufficient for the job since they do not have to support much weight and lighting positioning is usually much simpler for moving images. They screw onto the top of the handles and will fold down quite neatly for storage.

Available from Ocean Optics Ltd, the combination of the Sony Handycam Pro V90 camcorder and the Hypertech Pro 9 housing make an impressive pair. Add the lighting system and you have a very capable and comprehensive package which produces really excellent results. The only drawback, and it is the only one, is having to part with just over £2000 for the camera and housing or £2700 for the complete system with lights. Those are big lumps of money in anybody's vocabulary but once you've committed your cash you will have a package which it is hard to imagine being bettered for a long time.

Peter Rowlands



One of his particular favourites, David took this shot of a sleeping shark in 1974 in Isla Mujeres, Mexico. It was the first shot ever taken which shows that sharks do not have to keep swimming, as was previously thought. The small jacks add interest and scale which is further enhanced by the available light in the top right hand corner. Nikon F in OceanEye housing, 24mm lens, Subsea Mk150 strobe high up and to the left to bounce off the sand.

In his present job as underwater photographer contracted to National Geographic Magazine, David Doubilet has operated in most of the world's prime underwater locations and dived with most of the leading authorities in the marine field. The results of his efforts are featured regularly in the magazine (affectionately referred to as "Geographic") where they illustrate articles which may vary from location reports to scientific studies or from discoveries to just plain experiences.

Whatever the theme of the article, you can be sure that a photo essay illustrated, and sometimes written, by David Doubilet will not only leave you more informed and visually stimulated but will almost certainly leave you with a sense of pride that underwater photography is being used so effectively as a communicating and entertaining medium. The images delivered manage to achieve that rare level of being able to satisfy the specialist underwater photographer and communicate with the public at large. That his images work so well is due to a lifetime of work pushing the barriers, getting the most out of the film and striving for better and better shots.

Another child of the "Silent World"

era, David spent his youth diving off the New Jersey coast where conditions are very similar to the UK with low water clarity and cool temperatures. His first attempts at underwater photography revolved around a Brownie Hawkeye and improvised rubber bags, solving problems as he went along. The earliest version of what was eventually to become the Nemrod Siluro followed from there and kept David exposing large format film underwater in an era when 35mm was still considered a miniature film size. After a brief period using a 35mm Leica (they were selling for around \$20 in those days as people part exchanged them for the early Nikons!) housed in a far from perfect Lewis Photomarine housing, it was the 6x6cm format of the RolleiMarine which was to see him through the formative years of what was shaping up to become his career.

Using black and white negative film, his main battle was to get enough contrast so he experimented with X-ray film which was then contacted onto printing paper to obtain the maximum contrast! His efforts had him winning prizes at America's Underwater Photographic Society and, when he was still just a young teenager, he sold his first un-

derwater picture. The bug had bit.

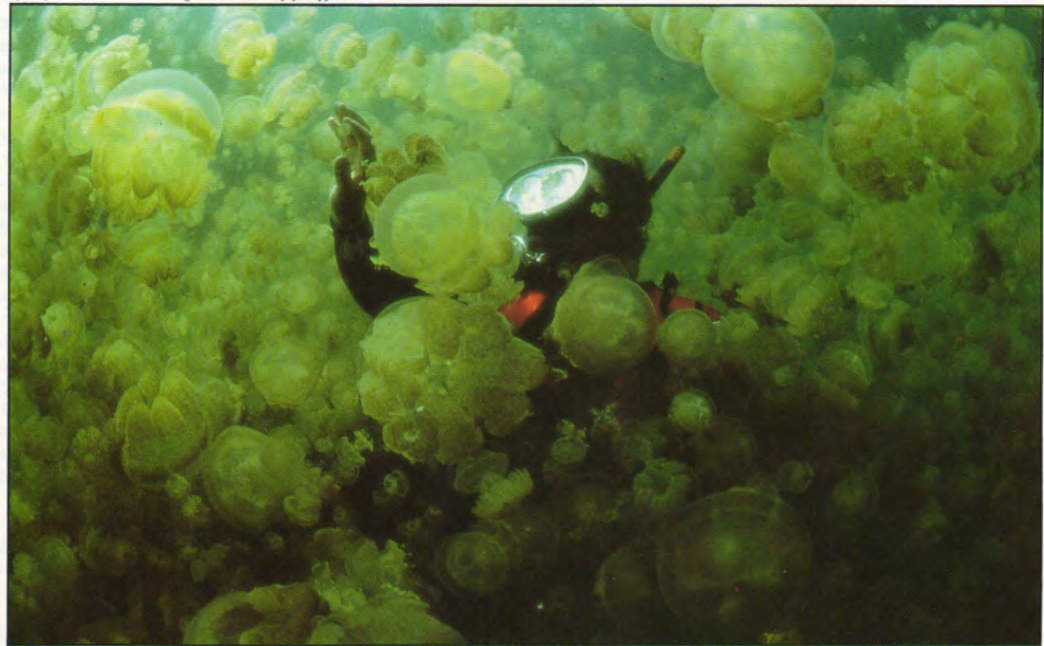
In his early twenties, he loaded the Rollei with its first rolls of colour film and was beginning to build up a portfolio. It was now that he was to make an appointment to see the Picture Editor of "Geographic" and receive his first blow of reality.

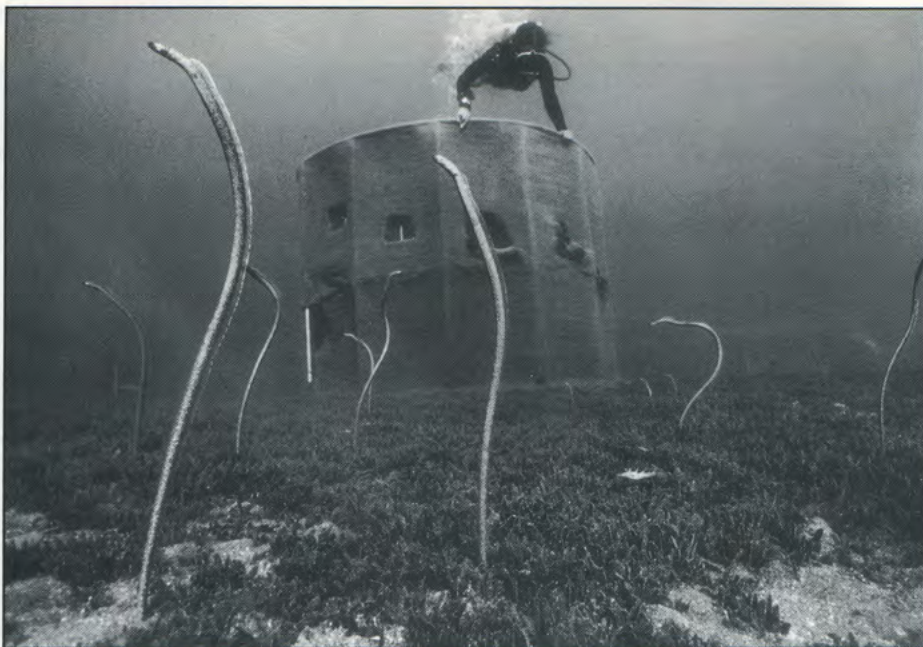
"There's nothing new here," said the Editor scowling at David's pride and joy laid out all over the New York office desk. "There's nothing special about underwater photography. Any of my staffers can do it." David picked up his pride and his prints and asked if he might come back when he had some more, hopefully improved images. The hardskinned Editor didn't reply immediately but eventually growled back. "The door's always open for new material". David kept on in there and made sure he returned with new images. That same Editor has now had to accept that underwater photographers are not made, they make themselves.

Doubilet's first outing for Geographic was unofficial. He sold a camera to help finance his film and worked alongside Jim Stanfield and Eugene Clarke on a commission to the Red Sea in 1971. He watched Jim operating and was given a



(Above) This 15 foot Great White was shot with a 20mm lens in Australia while working with Rodney Fox, Eugene Clarke and Anne, his wife. Shot from a cage, they were lucky on this trip to encounter several good specimens but on a previous trip they had not seen one Great White. (Below) William Hamner, a scientist, is caught in mid-jellyfish in Palau after a one hour trek up a hill in 98°F heat. William had instructions to look up to the light and raise a hand to a single jellyfish. Despite using a 16mm lens, David has managed to create a feeling of sepeation in amongst this sea of jellyfish.





This is the shot which launched David Doubilet's career into overdrive back in 1971. He modified his OceanEye housing for a Nikon F to accept a 40' remote lead so that he could set up the housing on a tripod with a 24mm lens and retreat to the hide above which Eugene Clarke is hovering. Plenty of telephoto/close ups had been taken from the hide but the story would have had no impact without a wide shot such as this. Hours were spent each day in the hide waiting for these Garden Eels to shake off their caution and rise out of their holes. Hours became days and eventually, their perseverance paid off and got David the shot. Once again he had broken new ground and produced a shot which not only impressed underwater photographers but illustrated the subject and completed the article so well.

great deal of help and encouragement despite being possible future competition.

It was on this trip that he turned up with a 40 foot long remote release trigger for his OceanEye housing. A few eyebrows were raised at this newcomer but they were to see this strange device produce the first ever effective wide angle shots of Garden Eels. David had arrived. His equipment planning had paid off but it was only after skin-wrinkling hours spent underwater that the best shots were achieved (See main caption with the Garden Eels shot).

From there it was forward all the way. His gifted ability to capture man at work underwater and to record the intimate behaviour of marine life has led him all around the world. He is accompanied on most trips by his wife, Anne, herself an accomplished underwater photographer with many fine Geographic images to her credit.

To work for such a magazine as National Geographic must be both euphoric and frightening. There can be no finer calling card when looking for work than a Geographic front cover but there can be no harder taskmaster in terms of the standards required and expected. Second best is your

last assignment and there are plenty of hungry underwater photographers waiting in the shallows, pushing for the opportunity to get their first foot on the ladder.

Unlimited time and endless film stock are the trade mark of a Geographic assignment but excessive quantity alone does not guarantee success. Most of David's assignments involve hundred's of hours underwater trying to capture new images and improve on existing ones. One particularly large assignment was for a major feature on sharks. It took eight months and involved two trips to Japan, the Red Sea and Australia as well as single forays to California and Mexico. The result was a 50 page story containing some of the most exciting shots of sharks ever seen.

Each year, Geographic aims to do around seven underwater stories and this keeps David out of his New York home for most of the year. His time spent at home is taken up with planning new features and coping with the demand for his pictures. He retains the rights to most of his unpublished work and acts as his own agent.

With the financial might of the National Geographic Society behind you, equipment isn't a problem. If it's needed

and it exists, buy it and if it doesn't, have it made. The legendary Geographic OceanEye housings for Nikon F cameras have captured most of the images but these are now being phased out in favour of the Aquatica housing from Canada. This is made by Aquavision and it must be one of the best endorsements they could wish for.

Lenses range from fisheyes to telephotos but the most widely used are the 16mm and 20mm Nikkors, 55mm and 105mm micro Nikkors and recently the Medical Nikkors 105mm and 200mm with their ring flashes. The ring flashes don't see much use but the requirement for very versatile, bitingly sharp macro shots has led to Zeiss Contax 50mm and 100mm macro lenses (which focus continuously down to 1:1) being modified to fit onto Canon F1 cameras (Canon rather than Nikon because it was physically impossible to mount the Zeiss onto a Nikon so a camera system had to be changed).

David believes the optical performance to be the best yet but if anything comes along to better it, he will have no hesitation in changing in the interests of image enhancement.

For flashguns/strobes, Sea and Sea



(Above) A species of Tiger Moray Eel only found in Japan proved an illusive subject for a while but eventually succumbed to a 105mm micro Nikkor and Sea and Sea YS150 flash. (Below) Just to prove it's not all warm water and good visibility, in 1976 David spent weeks in Loch Ness hoping to be the first to capture the monster on film. The nearest he got was Alan Hunter and Gordon McKenzie with Urquart Castle through the surface. Three strobes were needed to light up the gloom.



YS150's are well regarded with Sonic Research SR2000's being used as slaves. EO connectors are used throughout for performance, compatibility and interchangeability and maintenance of all of this array is considered vital to the success of each assignment. When you might go three months without seeing your results (as he did in New Guinea and the Solomons once) you have to test your gear well beforehand and keep an eye on it in the field. Very high temperatures tended to seep oil onto the iris blades of the early 55mm micro Nikkors and an unfortunately placed hair on the rear of a 105mm micro Nikkor was pin sharp in every shot. One sand grain on a pressure plate could ruin a complete roll of possibly unique shots. When so much is at stake, the equipment must be constantly maintained.

For film stock, it's Kodachrome all the way. 25 and 64 are the only speeds with the odd exception being the new Kodachrome 200 in deeper water although the latter's tendency to a green bias has not granted it a wholeheartedly open armed acceptance.

All of this equipment means dozens of carrying cases when setting off on an assignment but it is all vital to the production of the best shots possible. Despite having gained his University Degree in Cinematography, he has no leaning towards the moving image at all and remains solely pointed at the underwater still image.

Although he appreciates "gallery" shots which stand up on their own for admiration, David prefers the well composed working shots which communicate and contribute so much to an informed article. It is this working partnership which has continued to produce results and looks like setting the standard for some years to come.

Peter Rowlands

UP in the UK

Kevin Cullimore dips into Gildenberg Pit



The majority of underwater photographers take their pictures in the sea in various parts of the world from Swanage Pier to the Great Barrier Reef, an increasing number visit the Red Sea - they go there for the colour and diversity of life that the marine environment offers. For those of us who perhaps cannot get away to these more exotic locations, a clear British lake can offer some very interesting subjects and scenery. You just have to look for them.

Lake diving in this country seems to revolve around a place to train novices or to

carry out tests on equipment but on a sunny summer's day, it can offer lots of photographic opportunities. It helps obviously if the lake is reasonably clear and that is why I dive in a pit called Gildenberg which is near Peterborough and about a one and a half hour drive from London. It is well-dived and therefore the fish life is very accustomed to divers which makes fish photography a little easier. The visibility is usually excellent (20 feet plus) most days. The big factor being the amount of rain which has fallen in previous days and it is

The calm conditions of an inland lake make ideal studios for experimental and effective work. Gildenberg Pit, just off the A1 near Peterborough is a maximum 70' deep and the land facilities include a dive shop with air and a bar. A small entrance fee is charged and weekends are best avoided if you want the clearest water. Despite supporting fewer subjects than salt water, freshwater is not the barren medium some would claim. Perhaps more effort is needed to find and arrange suitable subjects. This moody and dramatic double exposure was combined in the darkroom after the diver silhouette was shot with a Bronica and 40mm lens and the pike was shot with a 28mm lens on a Pentax MX. I have always made my own housings from perspex and, until recently used Pentax MX's but have recently completed one for a Pentax LX. Flashes are housed Vivitar 283's with the occasional housed slave flash being used to add highlight. My preferred film is Fuji 100 which I process as soon as I get home and then use Cibachrome if prints are required. I have dived in the Med and all around Britain but still keep returning to Gildenberg for the convenience, the practice and the pictures.

also best to avoid weekends as the bottom is very silty and tends to get very stirred up if there have been a lot of divers using the pit.

If it is fish you are after for your photography then the most common subjects are Perch, quite a photogenic fish, and obviously our largest fresh water fish and predator, the Pike. These two species can usually be found in shallow areas close to the bank in amongst the overhanging tree branches and bullrushes. For photographers, the fact that these fish prefer shallow water is an advantage as there is ample light



(Above) A shot which surprised me was this, taken to illustrate a fishing magazine article. The Perch had already been hooked but I hadn't envisaged that the reflections and timing of the shot would work so well. It wasn't used in the end but has since gone on to win a prize or two in competitions. It was taken with a Bronica ETR and 40mm lens and lit with a single flash at F16. The beauty of the Bronica is its leaf shutter which gives flash sync speeds up to 1/500th.



(Left)

Pike are a particular favourite of mine and I find the 28mm lens is just about the right lens for them. They tend to hover in midwater around trees and will not move too much unless you get too close or threaten them.

They may appear pleasantly green but their silvery sides do throw back the light so I usually bounce my Vivitar 283 flash off a 12' square reflector to soften the light and reduce bounce back.

Despite bouncing the flash, I am still able to use 1/60th @ F8 with 100 asa film.

At other times I have been able to position a buddy diver behind the Pike to give an idea of size but these fish have to be treated with respect for they are capable of turning nasty if they feel hemmed in.

(Right)

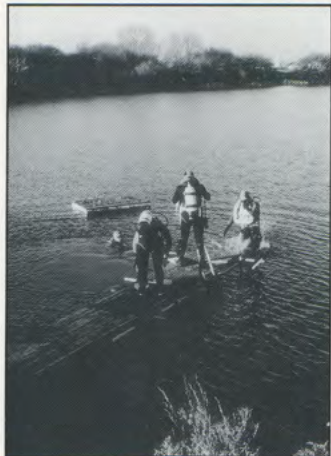
Backlit overhanging trees make good subjects for wide angle lenses. I've used a 16mm full frame fisheye on a Pentax MX for this one and added a sparkle of light from a single flash.

(Below)

Access to the calm water couldn't be easier and there is usually plenty of space for everyone. The freshwater is cool but not perishing and gloves will help keep your hands warm.

(Below right)

Michael Wong often dives with me at Gildenberg to try out new equipment or techniques before going overseas.



for natural light shots, which I personally prefer to use, as the pictures have a better quality. If you do use flash, be careful of reflections back from the sides of fish, particularly Pike, who although they appear green are in fact very silvery and the flash can be just reflected back. There are a few ways of avoiding this, one is to use a diffuser over the flash, something like opaque perspex or alternatively a sheet of white plastic bag can be draped over the flash. With the more powerful types of flashgun, I prefer to use a reflector positioned above the flash head to bounce the light at the subject. This gives a very soft light which is well balanced with the natural light.

On a sunny day, which is obviously

the best time for any sort of available light photography, it is possible to use 100 ASA film to shoot at F8 at a 1/60th of a second and this is a technique I use for most of my Pike photography which has proved very successful. A diffused flash can be added to give just enough light to restore some of the absorbed colours but bounce back off the fish can spoil the shots if too much light is used

I have photographed Pike for several years now and find them to be one of the most fascinating fish in our British waters. I have not been fortunate enough (yet) to see them attacking prey and show off their impressive power. I have, however, been the victim of this aggressiveness but luckily

it was only a small Jack. I do not want to give the impression that they are dangerous but they are powerful fish which should be treated with respect.

Don't, for example, corner a large Pike (3' or more) so that there is no way of escape, they do not like it and it makes them very nervous. You'll soon spot a nervous one as they expand their gills and open and close their mouths very quickly, the effect of which is to make their head appear much bigger than it actually is, so deterring the intruder. I have seen them perform this ritual with each other and it usually results in the smaller one beating a hasty retreat.

They certainly also seem to fight, probably due to mating, judging by the scars and cuts on some of the bodies of the Pike I have photographed. I think part of the attraction in wanting to capture them on film is that they are such a powerful fish. I am still trying to get that perfect shot of a Pike catching its prey!

Although Pike are one of my favourite and most captivating subjects for freshwater photography, they are by no means the only available subjects, you have a variety of subjects from weeds, trees against the sun and even shots looking out of the lake through Snell's Window.

There is even scope for macro shots in British waters - small insects which live among the reeds can make unusual subjects, and although I have not come across any myself, Dragonfly lava hatch among the reeds and that would be something to capture on film.

The tiny Redthroat Stickleback, which lives in the shallows is also a challenging subject, especially when they are building a small nest and the male vigorously guards the eggs which have been laid. A macro lens of at least 1:2 would be necessary for this colourful but very small fish.

Personally I think British fresh water has a lot to offer us British photographers both in terms of ease of access and the control it can give so the next time it is blowing a gale on the coast, don't abandon the dive, look inland at your local fresh water pit or lake, you may be pleasantly surprised at what you find!

Kevin Cullimore

UP Overseas in Palau

With W.Gregory Brown

It was a perfect morning in Palau. The ocean was calm, absolutely flat, and the water extremely clear. From the boat, I could easily discern every contour of the reef some sixty feet below. Above, the sky was a cloudless heavenly blue and a resplendent sun poured artistically arranged beams of light into the warm, transparent sea. But the best was yet to come, for we were about to dive the now famous Blue Corner.

At 60 feet we reached the bottom and began our short swim toward the drop off. Visibility was at least 120 feet and the reef was pulsating with activity. In one section, clouds of Pyramid Butterflyfish congregated just above the reef whilst another area was occupied by hordes of wary snappers. As we approached the wall, schooling jacks swam back and forth across our paths, golden trevally raced through our exhaust bubbles, and hundreds of barracuda cruised in formation a mere fifteen feet overhead. Once on the wall's vertical face, we made our descent to a depth of eighty feet. Immediately, I began to realise what made Blue Corner so unique. Cold, nutrient rich waters were creating a highly productive area known as an upwelling zone. This area was concentrating a remarkably diverse marine community. Out in the blue as far as I could see in any direction, large pelagics and massive schools of baitfish were swarming. Wahoo, jacks, yellowfin tuna, rainbow runner and assorted reef sharks were all well represented. Occasionally one of the grey reef sharks would bolt from out of nowhere, snatch a rainbow runner and return from whence it came. During the attack, there was total, chaotic movement in the water column, followed by a period of deceptive tranquility. Without question, the big fish action at Blue Corner was electrifying.

Whilst divers are likely to rate Blue Corner as one of the world's finest sites, Palau offers much, much more, above and below the surface. Comprised of over 300 islands this independent island nation (officially known as the Republic of Belau) is situated seven degrees north of the equator approximately 900 miles southwest of Guam and 600 miles east of the Philippines (15 hours flying time from Los Angeles). Babelthup, Palau's largest island some 40 miles long, is the main population centre. Located here are the airport, the capital city Koror, the major hotels and the dive operations. They are all within a short distance of one another. Unlike Babelthup, a majority of Palau's island community is uninhabited.



(Left)
The lush reefs of Palau form great foregrounds for diver shots. This seafan in Turtle Cove was shot at 1/90th @ F8 using a Nikonos V, 15mm lens and Subsea Mk 150 strobe. Kodachrome 64 film has captured the subtle tones well.

(Right)
The islands rise exotically out of the deep blue sea with shallow reefs and steep drop offs



(Right)
A white tip reef shark cruises by in time to join a sunburst and give a feeling of space on the reef. Nikonos V with 15mm lens and Sub Sea Mk150 strobe. Kodachrome 64 film 1/90th @ F11.



(Left)
A blotched fairy basslet in Turtle Cove was taken with a Nikon F3 in a Tussey housing and a 105mm macro lens. An Ikelite 225 strobe gave 1/80th @ F11 with Kodachrome 64 film.

Featuring luxuriant, jungle like vegetation, these predominantly small emerald isles have been undercut at sea level by a combination of physical (weathering) and biological (chitons) forces, giving many of the islands a characteristic mushroom shape. On a clear day, a flight over the 'rock islands' as they are often called, is guaranteed to provide some breathtaking scenery. The aerial perspective also hints at the various underwater treasures awaiting the diver.

Until last year diving in Palau meant utilising the services of land based operators. This in turn often involved bone-jarring speedboat rides in cramped conditions. Travel times to the better sites routinely took from 45-90 minutes. The two dives per day was usually the rule, three the exception. Photographers piled their gear in the small uncovered craft, hoping their camera systems would survive the trip. Changing film on these excursions was a major feat since typically, nothing stayed dry. The inconveniences were quite annoying, but Palau continued to attract tourists because of the spectacular diving.

Since the Fall of 1986, however, all that has changed. A brand new live-aboard now plies the waters of Palau. She is the Sun Tamarin, a luxurious sixty foot sloop, owned and operated by Captain Avi Klapfer and his lovely wife Orly. The Sun Tamarin easily accommodates up to 6 divers in 3 private, air-conditioned staterooms and is completely outfitted for scuba diving. She has plenty of storage space for cameras/dive gear and most importantly, she enables divers to enjoy unlimited diving, day or night, on the numerous reefs, walls and wrecks of Palau. In Palau, the Sun Tamarin is unequivocally the ultimate way to dive. Like the infamous Truk Lagoon, and many of the archipelagos in this part of the Pacific, Palau was once an extremely active battle zone. During the World War II era, 38 ships are known to have gone down in the surrounding waters.

Today, these historical shipwrecks offer us an exciting glimpse into the past. Probably the most popular of these wrecks is the Japanese fleet tanker, Iro Maru. Resting upright in 140 feet of water, her deck starts at 80 feet and her photogenic masts rise to within 25 feet of the surface. The Iro is home to large numbers of small tropicals such as white-striped anemonefish, exquisite lyre-tail coral fish, and several red and blue-spotted coral trout. Invertebrates include colourful nudibranchs and majestic soft corals. The Iro Maru is a great dive for either wide angle or macro-photographers.

A truly bizarre snorkel dive that

(Right)

A nautilus, the "living fossil", taken at night with a Nikon F3 in a Tussey housing with a 55mm macro lens. The Kodachrome 64 film was exposed at 1/80th @ F16 and was lit with an Ikelite 225 strobe.



(Right)

The reefs are rich in both hard and soft corals and the water is pleasantly warm. This diver is on Iro maru wreck and was shot with a Nikonos V and 15mm lens loaded with Kodachrome 64 film and lit with a SubSea Mk150 strobe to give 1/90th @ F8



must be experienced takes place in a land-locked marine lake on the island of Eil Malk. Appropriately named Jellyfish Lake, this body of water is inundated with pink, non-stinging jellyfish...literally millions of them! Swimming through these pulsating coelenterates in the 90°F waters of the clear lake is a very strange sensation. Indeed, time and Diving evolution have combined to create a wonderfully unique ecosystem in this lake. It merits hours of exploration.

One of the premier reef dives in the 'rock islands' has to be Turtle Cove. This elegant expanse of reef is carpeted with stately sea fans, soft corals and scarlet sea whips. On practically every golden fan we find one or more black and white crinoids. These ancestral echinoderms are the crowning glory to an already magnificent photo opportunity. The fish life is abundant as well. Regal angelfish are scattered throughout the reef complex, eyeing us with caution as we glide by. Darting in and out of the coral crevices, ornately-designed blennies provide yet another challenge for our photographic skills. The careful observer may discover a beautifully camouflaged octopus or a cuttlefish. These incredible cephalopods are capable of performing astounding feats of body magic by changing their colour and texture at will. It is perhaps one of the most fascinating sights in the animal kingdom.

Palau is every diver's fantasy brought to life. The variety of diving is unparalleled and the marine resources that abound here are intensely beautiful. It is a premier dive destination you don't want to miss!

W.Gregory Brown



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Photography without scuba

by Nancy Sefton

One of the frustrations inherent in a tropical dive vacation is the need to sit through surface intervals in-between tanks, wasting precious shooting time. In many cases, one could be obtaining quality photos in the shallows, without scuba, instead of twiddling thumbs impatiently on the surface. It may surprise the die-hard photographer to discover that given the right area, the right equipment, and the right conditions, a snorkeller can achieve satisfying results from macro to super wide angle photo portraits.

Some of my best photos and certainly some of my most enjoyable photo forays, have been accomplished as a snorkeller. I've found an adolescent octopus in its conchshell home, busy prying open a scallop: I've photographed stingrays, 'cudas, squid and even young nurse sharks in waist-deep waters.

Snorkellers enjoy a unique kind of freedom denied to the scuba diver who is burdened not only by a tank, but by the rules of diving on pressurised air. The snorkeller need not check gauges constantly or feel hindered by considerations of air supply, time or depth.

Although coral reef zones are best for snorkelling photography, colder seas have their own interesting subjects, a profusion of colourful, shallow-water marine life. Ideal conditions in any ocean include lack of strong currents and surge, relatively calm water, and for wide-angle work, good visibility.

Snorkellers are likely to find underwater photography more physically demanding than scuba divers do. For example, a certain amount of lung power is called for in order to pursue subjects that lie deeper than an arm's reach from the surface. While skilful free divers can meander along the bottom at 20 feet or more looking for subjects, most of us have to settle for shallower subject matter.

You should first scan the bottom from the surface, and choose a subject. Complete all necessary camera settings BEFORE kicking downward. When you make that plunge toward the subject, a weight belt will help you stay down long enough to get the shot. If you have a free hand, it helps to grasp something solid on the bottom. (Remember that living corals are damaged by our touch; hold onto something else.)

For wide-angle work, bright, shallow barrier or fringing reefs are ideal, par-



(Above) Schools of snapper and grunts hang around at just 20 feet. Underexposing the background by one stop and using a powerful strobe creates an illusion of extra depth.

ticularly where there are large coral formations such as the Caribbean's elkhorns, and soft sea whips and plumes with fish and other snorkellers to pose near them.

At these depths, an underwater flash is rarely necessary; ambient light overpowers a strobe. Unless your intention is to illuminate areas in shadow or to bring out colours, rely on that Big Strobe in the Sky and use it to your advantage.

For best results, place your back to the sun (assuming it's at an angle) when you

shoot. This means that the sun will shine onto your subject; if you aim against the sun, the picture appears hazy, lacking colour and contrast.

The use of a strobe with wide-angle lens allows the snorkelling photographer to create the illusion of depth, merely by getting close to the subject, which usually necessitates closing down the aperture. This in turn darkens the blue water background, suggesting a deeper locale.

Both snorkellers and scuba divers



(Above) This Hermit Crab was placed on a colourful soft coral with the first breath and then, when it had emerged from its shell, a second dive captured the shot. (Below) A lobster caught with a 20mm lens in just 7 feet of water.



are advised to get low and shoot upward. Branching corals both hard and soft, and other snorkellers too, look far more dramatic against a bright surface as background. Test this rule by shooting downward from the surface; then dive to the bottom and snap the same scene using an upward angle. You'll be surprised at the difference.

Even with the aid of scuba equipment, fish can be difficult to capture on film. Snorkellers should watch for the small, bright schools of fish that often throng around barrier reefs. Schooling fish are usually easier to approach than solitary ones; they've learned that there's safety in numbers and are therefore complacent enough to allow a close approach.

Camera systems without automatic exposure should include a light meter; in

the shallows, determining available light exposures can be tricky, especially for divers used to the lower light levels of scuba depths. It may be practical to make one plunge solely for meter-reading; back on the surface, preset the exposure. Finally, dive once again for the shot.

Slower films, those with a speed of ASA 64 and 100 will suffice in the shallows, thanks to increased light levels. Overcast conditions or less-than-gin-clear water may require faster films with ratings of ASA 200 and 400.

Some bottom-dwellers such as stingrays and flounders, rest against white sand, a troublesome background because it reflects both sun and strobe light; your shots will be overexposed unless you compensate for this by closing down the aperture, for

non-automatic systems.

For macro photography, artificial light is, of course, a must. The answer is a lightweight system; keep it simple. Easy to handle is a Nikonos camera with 35mm or 28mm lens, and the appropriate extension tube and framer.

The tube fits between lens and camera, effectively moving the lens elements farther from the film plane. The result is close-up capability with no fuss. A 3-sided framer, fastened to the tube, indicates the exact lens-to-subject distance and picture area.

What's more, the exposure, distance and shutter speed settings you'll be using are constant. Most close-up systems of this type call for the smallest aperture opening (f22), a shutter speed of 1/60th second, and a preset minimum lens distance. All that's required of you, the photographer is to find the right-sized subject, place the framer around it and shoot.

A small narrow-beamed strobe fastened to a camera bracket in the proper macro position, is easily manipulated with one hand, leaving the other free to grab the bottom. You will bless those new batteries or that fresh charge, because a fast recycle time will allow you to take several shots on the same breath.

A delightful variety of macro critters live close to the surface in seas both warm and cold. In the Caribbean, flamingo tongue snails, Christmas tree and feather duster worms, hermit crabs, nudibranchs and even coral polyps are ideal subjects, all at home in waters 15' deep or less. The Indo-Pacific region may harbour an even greater profusion of marine life in the shallows. There's yet one magic ingredient in this recipe for successful snorkelling photography; it's called, simply, an "eye" for the picture, and is not easy to come by.

Where macro critters are concerned, experience teaches one where to find the obscure, the cryptic, the non-descript. Fascinating animals that every photographer dreams of capturing on film are literally at the fingertips of those snorkellers who know where to find them.

Divers too often pass blindly over so-called "barren" shallows, oblivious to what lies just inches away. Transparent tentacles extend from beneath an algae-encrusted rock; almost unseen, four peppermint-striped antennae wave among the tentacles advertising the presence of a mated pair of red pistol shrimps living symbiotically with a corkscrew anemone.

Another rock, overturned gently, reveals a brilliant purple sea anemone; nearby, two red sea urchins compete for living space with three brittle stars and a tiny



(Left)
Silhouettes are good for giving a feeling of depth. Using a wide angle lens also adds to this effect and elkhorn coral rarely seems to look wrong in a picture

blue crab.

In the Red Sea, I have photographed lavender anemones making their homes in less than 2 feet of water, each individual playing host to juvenile clown fishes.

I the snorkeller, float silently overhead; there are no loud exhalations to disturb the peace around me. A 4-foot barracuda passes, hugging the surface, accompanied by two young bar jacks. Discovering me, the little hangers-on abandon their natural host and swim over to adopt me instead. The barracuda, jealous and indignant, sneers and turns tail. Confused, the fickle jacks follow after. They know where their fortunes lie.

I stand a moment, waist-deep and survey the shimmering sea spread around me. There's movement below. A large grey stingray has sidled up to my fins to inspect them. But I'm only a distraction. He turns his shovel nose and glides away.

It would serve many photographers well to widen their horizons by carrying a camera while snorkelling; not only is valuable vacation time put to good use, but a new photographic experience, with its own inherent challenges, awaits you in the shallows.

Nancy Sefton

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How was it done? Adrian O'Neill turns one on it's side



This shot was taken while Abu Rimathi near Hurgada and was on one of the last dives from the Lady Jenny V on her successful trip down to Sudan and back. We were diving a pinnacle in fairly shallow water and I had my Nikons 111 and 15mm lens loaded with Kodachrome 64 together with an SB101 flash kindly loaned to me by Shirley, one of the guests. The exposure was 1/60th @ F16.

There were a lot of fish unafraid of divers on this pinnacle, especially a couple of large Grouper. Even the usually shy lemon and antenna butterfly fish were cooperative but none however as friendly as this Moray. He was a big chap with a head as big as a rugby player's thigh. He was peaking his head out of a hole in a fairly featureless part of the coral. As I approached, he emerged further until a third of him protruded. He let me come very close and allowed me to take several shots, bracketing the aperture, but I could not achieve a shot to make him stand out against the background.

I did shoot a couple of shots from

lower down looking towards the surface with the wide angle lens which is always good for a dramatic result. Looking through the viewfinder was impractical as I was so close to the subject so I guessed it.

I would have shot a couple more but a movement caught my eye and coming towards me was another Moray - probably my model's mate - slowly approaching my ear. Now Morays are not normally aggressive but they are near sighted and, to my approaching Moray, my ear could have looked like a piece of bacon. After all, the last Skipper of the Lady Jenny V had his lip ripped off by a Moray so I decided to leave it at that.

Once developed, there was only one shot which was passable and another which was interesting but otherwise unacceptable. And then there was this one which, when projected vertically, as it was shot, induced distinct vertigo so it stayed on the shelf.

At Christmas, I had one of my periodic appraisals and culling periods and, flicking through my collection, came across this one. I decided to see if I could do

something with it on my slide duplicator. I have an inexpensive slide duplicator from Panagor which I use for duplicating slides and cropping frames. Whilst trying various ideas, I came across this one which, when viewed horizontally, became quite decent so I included it in my weekly slide show which I give to clients on board where it received one or two encouraging comments, so I left it in the show.

Two weeks later, the Underwater Photography Magazine Photo Course were on board and when this slide was projected, Peter Rowlands noted that it was odd and remarked on it and that's why you see it here.

Maybe some of you have similar shots which can be more effective if viewed differently from the way in which they were actually taken. You'd be surprised how different some shots can look when viewed the wrong way round and even upside down so don't store them straight away. Look at them again from all angles.

Adrian O'Neill

Back to Basics

Available light

Taking underwater photographs by available light is very simple but it can also be as complicated as you like to make it. Mastering shots of this type will enable you to capture good pictures without all that expensive and potentially confusing equipment.

When starting out to shoot by available light, the cardinal rule is to try and arrange it so that you have as much light as possible. Dive at midday when there is a cloudless sky and you will have the maximum amount available. Combine this with a day when the water surface is calm and you will be stacking the odds very much in your favour. As soon as there are clouds and choppy seas the light levels will drop considerably. Don't, however, insist on diving only when it's perfect, otherwise, in Britain, you may have to wait a while.

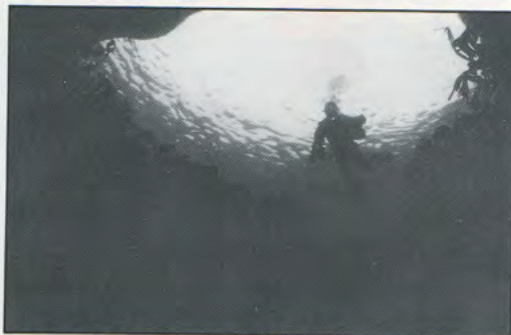
Assuming that the conditions are workable, stay in as shallow water as possible and concentrate in this depth. Between the surface and 10 feet is a very productive area which is easy to work with basic equipment since you have the most available light. A well known guide to producing good quality shots in available light is "Never shoot subjects which are further away than 1/3rd of the visibility". So if you can see 30 feet, don't shoot subjects over 10 feet away. This is a good guide for shots with maximum contrast and impact.

To obtain the correct exposure with available light, you must either use a camera with a built-in/automatic meter or have a separate lightmeter. Without these you will be guessing and this will lead to inaccurate and disappointing results.

The following guidelines apply to all types of equipment whether it is a separate light meter or a built-in system.

Since nearly all of the available light underwater comes from the surface, you must make sure that this top heavy lighting doesn't fool the metering system into thinking that there's more light than there actually is. If you want the underwater scene to be correctly exposed you must tilt the meter/camera down slightly and away from the surface so that it is not overinfluenced. Tilting it too far down (i.e. vertically down) will cause overexposure if you will eventually be shooting horizontally so don't overdo it and you'll get the correct exposure.

The one snag with automatic cameras is that they will readjust to the light levels when you tilt the camera up to take a



(Above) When there are large areas of brighter surface in the frame, metering systems will be fooled into thinking that there's more light than there is and give underexposed results.

(Below) An evenly lit scene with the sun behind you is much easier for a metering system to cope with. The more even the tones, the more accurate the light reading.



shot. The solution is to set the camera manually for the "tilted" exposure and then line the camera up for the shot, ignoring the readings it will now be giving.

If you find that the difference in readings is not much then you can leave the camera on automatic and fire away.

To reduce this heavy toplighting, try and keep the sun behind you and this will make the light much more even. All but the most sophisticated metering systems are fooled when there is an area of highlight in the frame so evening out that light level will suit the meter much more.

Choosing what combination of aperture and shutter speed and what film to use has already been covered in previous issues so you now only have to concentrate on composing a pleasant picture.

In shallow water, the reflections both through and back from the surface are

exciting possibilities. Capturing them is not so easy as you are usually in midwater, moving all the time, and so too is your subject. Keeping everything as still as possible will help but this is often easier said than done. Take a few extra frames just in case.

In deeper water (about 20 metres plus), the light levels drop considerably and will make available light work more tricky. This is especially true in sediment suspended waters where the light is both being absorbed and reflected back at the same time. What you are left with is a fraction of what you started out with at the surface. Two solutions are to use a faster film or to hold the camera very still and use long shutter speeds. The faster film solution is the easier of the two since you can continue to operate as normal but the long shutter speeds have great potential to capture un-



(Above) Colour correcting filters are available to screw onto the front of the Nikonos lens to reduce the colour casts.

(Below) Snell's Window is when the light from the sun reaches a certain angle when it reaches the surface and is reflected back.



(Below) With the camera held completely still, long exposures help to capture the available light, and amplify it, even at depth.



derwater scenes at depths where your own eyes are struggling to see.

For long shutter speed exposures, an automatic camera is best as all you do is set it to A for auto and it does the rest. The results you get back will be surprising and will capture the mood of the scene much better than if you had tried to use flash or other lighting.

Filters

Water absorbs light very efficiently and in doing so it also absorbs the colours at

varying rates. The first to go are the vivid reds. They will be muted in just 10 feet of water and will disappear around 30 feet. Oranges and pinks follow until, at depths around 20 metres plus, you are left with just blue and black if you are in the tropics or green and black if it's like the UK.

The deeper you go, the less you can do about restoring the lost colours but, in shallow water, it is possible to restore that colourful sparkle that you saw when you took the shot which can so often come back

from the processors as a muted shot with a contrast reducing colour cast.

In Britain we have an overall green cast which can be reduced by placing a magenta filter in front of the lens. Since the rate of absorption, and therefore the strength of the cast, depends on the depth of water, the deeper we go the stronger the filter must be to counteract the cast. Since filters reduce the light reaching the film, you start to chase your tail after a while and a compromise is recommended.

As a general rule, for every foot of light path (light path is the total of the distance from the surface to the camera plus the camera to subject distance) you need to place 4 units of filter in front of the lens. For example, if you are in 10 feet of water shooting a scene 20 feet away, that's 30 units. Filters are supplied with a note of their strength in units. The higher the number, the stronger they are. Every 30 units of filter cuts the light down by one stop so imagine if you were in 40 feet shooting something 40 feet away. That's 80 units which is nearly 3 stops extra exposure! As you can see it all gets impractical after a certain depth/light path so we compromise with a 30 unit filter and give one more stop exposure.

In the tropics where the overall cast tends to be blue, all of the above guidelines apply except that the filter is red instead of magenta.

Colour correcting filters should only be used with colour slide film and available light. If you add flash, the daylight of the flash will become the colour of the filter and so look unnatural. (If you still want to use flash and colour correcting filters you will have to use the opposite colour over the flash to counteract the filter over the lens but more of that in later issues).

As with most aspects of underwater photography, you can make it become as complicated as you like and filters are no exception but using a CC 30 strength filter is a simple and generally effective compromise.

For available light work it is best to try shooting divers and scenes rather than close ups since most close ups require additional light for perfection. Subjects such as wrecks in shallow water (or even slightly deeper water with the long shutter speed technique) are best captured with available light since additional light can spoil the mood of the scene.

Keep as shallow as possible and you will have as much available light as possible.

Next issue we'll look at adding a little artificial light.

Short Ends

DIVE & SAIL - Egypt 1988/89

Dive & Sail are running 'live aboard' dive charters out of Eilat on the newly refitted 'Jarata', a 66' three mast schooner which sleeps 7. After flying to Eilat you will board the 'Jarata' and spend 6 days cruising the Gulf of Aqaba and Gulf of Suez along the Sinai desert. The price is £495 per person for 7 nights - group discount available - for full board & diving. Flights and transfers to & from Eilat not included. Video available. Contact Dive & Sail.

TROPICAL MARINE EXPEDITION SURVEY

The TMES, an international educational/recreational organisation will begin its new travel programme this summer with diving expeditions to the Red Sea. The TMES concept is based around a curriculum of various marine ecological/biological topics tailored to the specific sites being dived. The week-long courses are operated in live-aboard yachts and a biologist/instructor travels and dives with the group to provide guidance and instruction. The first trip departs from Eilat August 27 1988.

Further details available from

DIVE & SAIL TURKEY with Jack Jackson

Jack Jackson is sailing from Turkey on a 20m Turkish 'Ketch' Yacht in September 1988 for a photographic week in the Gulf of Gokava and Gulf of Doris. Full board and accommodation, diving and flights to Dalaman £550 per person.

Contact

SAFETY WEEKEND

All three major diving associations will be present at a safety weekend organised by the Diving Diseases Research Centre at Fort Bovisand May 28/29/30th 1988. Subjects covered will include First Aid, Safe Diving Suit Use, Decompression and Safety Communications. The cost will be £20 with all proceeds going to the Chamber fund.

Details from

CAIRO UW PHOTO EXHIBITION

Cairo Divers Club are presenting their 3rd annual photo exhibition, "The Underwater Temples of Egypt" from May 26th 1988. The club, comprising of members from around the world, will present their work to convey the beauty of the Red Sea to the general public and promote exploration of Egypt's underwater life.

IKELITE BRACKET

Ikelite now supply a bracket to attach to their video housings to enable the underwater photographer to take still and video pictures at the same time. Price £35.00.

VIDEO HIRE

Weymouth Aquatic Video Equipment now have a Sony Handycam M8 system & housing complete with wide angle lens and dome port available for hire. They also provide an underwater video survey service to yacht and hardboat owners as well as transfer and editing of 8mm video to the tape of your choice.

TWICKERS WORLD 1988/89 Diving Brochure

Despite having a fire at their Twickers World premises, Twickers World now have their 1988/89 diving brochure available.

The 26 page brochure and inserts includes diving details for Ireland, Turkey, Malta, 6 Red Sea locations, Caymans, Bonaire, Thailand, Maldives, Galapagos, Truk and Comores!

For your copy, please contact Len

SPEEDWING LAUNCH MALTA DIVE PROGRAMME

Malta offers a great deal in terms of value for money and Speedwing are offering a comprehensive range of dive packages to this Mediterranean island.

For further details please contact

POLAROID PROCESSING ON LADY JENNY V

Dive masters Alex and Tamara Double have organised a Polaroid film processor on board Lady Jenny V so that clients can bring their Polaroid instant slide film and check that everything is working OK.

The Polaroid instant slide film takes just a couple of minutes to process and is a simple and cost effective way of reassurance.

The films are available in 12 and 36 exposure lengths and each film is supplied with a processing pack of chemicals which when used in conjunction with the processor will give you instant slides without the need for a darkroom or running water. The 12 exposure films cost £9.80 and £13.75 for the 36 exposure.

UK ARTICLES WANTED FOR UP

Underwater Photography Magazine are looking for articles about dive sites in the UK. There are plenty of articles from overseas locations but very few UK ones so let's hear from you.

We appreciate that it's not as easy to take good shots in the UK but it's not impossible and we're sure that there are good shots and stories available.

If you have an idea for a UK article and already have some shots, please contact us to discuss it. We are always open to suggestions for new articles.

As an example of UK based material, we are looking for good shots which show some marine biological event happening or some behavioural pattern/habit being displayed. This would be accompanied by about 250 words on what's happening, where it took place and how it was shot.

Any ideas?

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