JANUARY / FEBRUARY 2016

OZ DIVER

AUSTRALIA'S PREMIER DIVE MAGAZINE

DRAGONS DOWN UNDER

RAJA AMPAT

SALEM EXPRESS

WAVES PART 1

ADAPT TO CLIMATE

DIVING A VOLCANO




Peter Pinnock

Editor's Deco stop

And so 2016 starts. What happened to last year? It flashed passed our lives like a runaway train.

We just got time to jump off the train a couple of times for a few dives and before we knew it we were back on the train again chasing life.

Great, summer is back! That does not mean I will only start diving now. I don't stop diving during winter. All it means is that I will now no longer freeze to death when I get out of the water.

In every sport and hobby there are some rules and etiquette you should not break or bend. If you stick to those rules it will only make you better at your chosen sport. With this in mind, I put together my top 10 rules for diving which you can use this summer to help you become more like a fish. (Isn't that our goal anyway?)

Rule 1: The most important one. You cannot breathe water. (I did try it once, and take this from a professional, you can't.)

Rule 2: You can't swim through rock. (In this case metal objects also form part of the rule. How many times have you tried to swim through rock and objects? How many times have you seen divers trying to swim through the metal parts of the old timer at Rockingham wreck trail or the HMAS Swan in Dunsborough?)

Rule 3: Search yourself thoroughly before getting into a wetsuit. (How many times have you seen people taking their cell phones or their car keys with them for a dive?)

Rule 4: Do not pee in a rental wetsuit. (If it is yours you are welcome to do whatever you want but please not if you are renting one.)

Rule 5: Don't just put anything in your mouth. (I'm sure your mother told you this when you were small. Don't suck on anything – test your gas.)

Rule 6: Macho man – the only time that you can brag about your diving career is when you have a world record and I know all of the world record holders and you are not one of them.

Rule 7: Bubbles must go up. (Always make sure that the bubbles go up – as soon as they start going in a different direction, get out of the water immediately.)

Rule 8: Penetration. (When doing any type of penetration dive, make sure you fit through the hole and make sure you know your way out.)

Rule 9: Sex at depth. (You will ether run out of air or out of bottom time. It just doesn't work.)

Rule 10: Nitrogen narcosis. (When your buddy starts looking like Spiderman and asks you if you want chicken or beef, you know you are too deep on air.)

I hope that some of these tips will help you in the water and help you to become a better diver. If you don't know what you are doing, don't get wet.

I hope these tips will keep you safe in the water and help you become a better diver. If you don't know what you are doing, stick to the shallows and keep your head above water.

The Editor & Publisher

Johan Boshoff

-it is all about the journey and not the destination

Genesis 1
1 In the beginning God created the heaven and the earth. 2 And the earth was without form, and void; and darkness was upon the face of the deep. And the Spirit of God moved upon the face of the waters.

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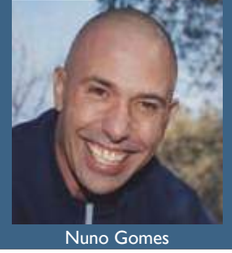
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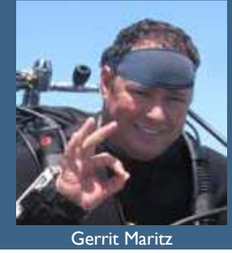
Gerrit Maritz

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Peter Pinnock

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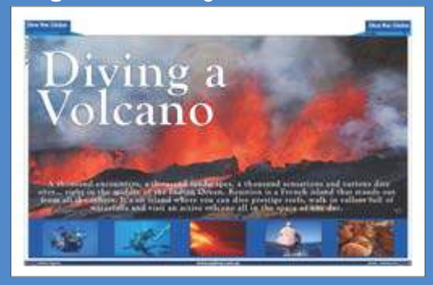

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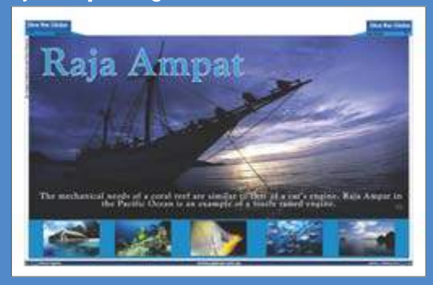

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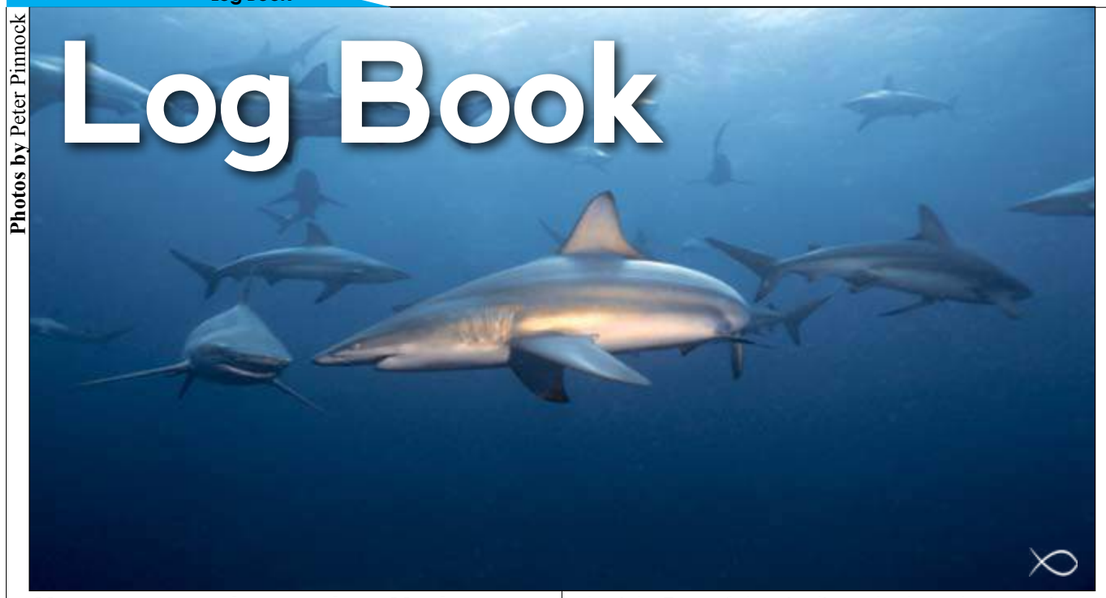
FEATURE

Log Book



Photos by Peter Pinnock

You are never better than Mother Nature

Trevor Howard works at a research and development company as an electronic engineer and scientific diver. All jobs require sacrifices and Trevor's is no different, but in his business it can mean sacrificing your life.

A year ago, on a diving job, we needed to place high-tech measuring equipment in the water on a specific spot that would give us the most accurate results. The equipment is used to measure the reaction of certain objects' shapes in extreme weather conditions. According to the weather info, that day was the last day before a storm would hit and we had to find the spot, get the large equipment in the water and strategically place them, all in one day.

Typically, Murphy had his say and the trip was delayed due to people forgetting equipment and the boat giving problems. Behind schedule, we eventually left Cape the harbour with one thing in mind: time was running out. We did a couple of bounce dives to determine the best place for the experiment, found one and at last the placing of equipment could start.

Since a hectic storm was on its way, it was crucial to anchor the equipment to prevent it from being washed away. The original plan was to use 1m-long steel rods, which experience has taught us will do the job. Four of the six divers had reach saturation levels, so it was left to Paul and I to finish the work. Paul, a very experienced diver, was my dive instructor when I did my course four years ago. As a 26-year-old, reasonably experienced diver, I tended to get brave and cocky, thinking I am bulletproof. "Yes Paul, of course we are going to finish the job," was my famous, almost last, words.

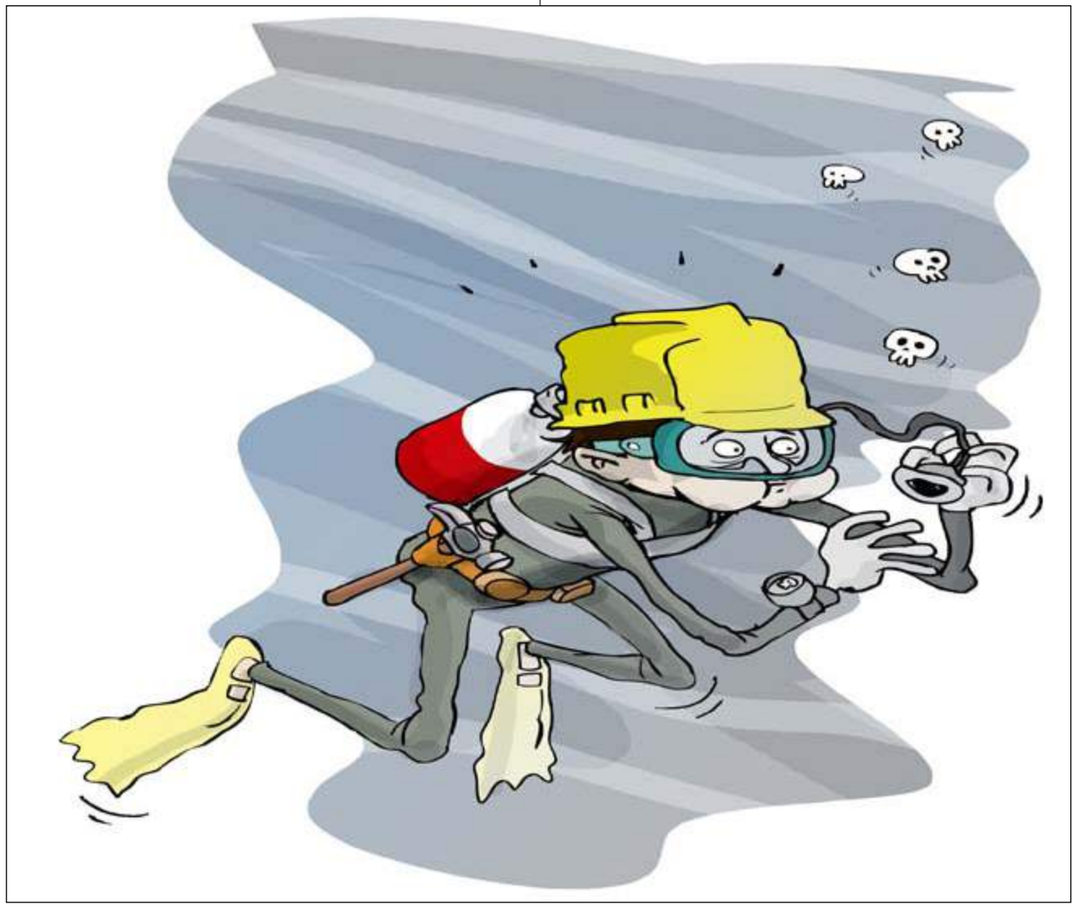
The more experienced you get, the more risks you tend to take, and we split up at the end of the blob line, 25m down. We each had his specific duty and set off in different directions. I was on a mission, hammering the rods into the sand at the main frame. That finished, the only thing left to do was to anchor another piece of equipment 20m away from the blob line. You are suppose to surface there, no matter what, if you don't want your head to be chopped off by passing Robin Island passenger boats.

On my way there I checked my pressure gauge, which indicated 60 bar. Usually, you start surfacing at 50 bar, but I was bulletproof, remember! At the spot I started hammering in steel rods again, not realising that I was breathing faster. As I was smacking that last rod, something told me to check my air again. According to the gauge, I had run out of air! A million things went through my mind at 25m under water with no air left, but first I had to get back to the blob line and get air from Paul.

One thing that he had taught me was that in a jam you do not panic – if you panic, you die. As I got to the blob line, Paul was nowhere to be seen. With the DV still in my mouth, I was screaming his name out loud. My last breath was taken with about another 22m to go before I could breathe again. That's a long way without air!

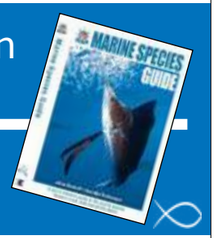
Fortunately, a third of the way up, Paul appeared and gave me some air. We buddy-breathed to the top and I lived to see another day. Thank God that Paul is an excellent diver and that sound travels far underwater.

I thought to myself afterwards that yes, work is important, but is it more important than my life? I realised that it isn't and that I'm not invincible. I also learned that no matter how good you are, you are never stronger than Mother Nature.



WIN

Send your letter to us and win a Marine Life Species Guide



Here is a chance to be heard! If you have anything that you would like to share with OZDiver Magazine and other divers, send an email to Log Book at johan@ozdiver.com.au. Remember that letters have more impact when they are short and sweet. We have the right to edit and shorten letters. In every issue, the winning letter will receive a Marine Life Species Guide.

OZ News

AUSTRALIA INTERNATIONAL DIVE EXPO (AIDE) 2016

The third installation of the AUSTRALIA INTERNATIONAL DIVE EXPO (AIDE) 2016 is set to be held from 10 -11 September 2016 at the Royal Hall of Industries, Moore Park, Sydney. Staged at the precise time when divers are gearing up for the diving season that starts in September, the Expo will spare no expenses to ensure divers are aware of the Expo.

Inspiring newbies to attend the show and satisfying the thirst for knowledge and information of the thousands of active divers, while encouraging inactive divers to re-activate their diving passion will be a major focus for next year.

Australia's diving market is becoming more and more important in both emerging and developed economies. Diving tourism is rapidly becoming one of the key pillars of socio-economic development, contributing to economic growth exports and jobs. We strongly believe it is now time to generate new business in the Australia diving market.

A dedicate trade session (B2B) will be also take place in 2016 as part of AIDE's business platform to further engage and bring together industry suppliers and partners.
Activities will include a feature on the history of diving, a presentation by Disabled Divers International (DDI), a photographic display of the underwater world by various photographers from Australia including South East Asia and presentation by experts from various dive field. Free photography for Uni students will also be part of the program too. The entrance fee will be AUD$7.00 onsite. Online registered fee will be at AUD$5.00. Trade Visitors, Media Representatives, Disabled Divers, Senior Divers, University Students and Children aged under 17 will get free expo admission.

Exhibitors keen to participate in AIDE 2016 are advised to register their interest from 1 November 2015. Visit www.australiadiveexpo.com for more information.

AUSTRALIA INTERNATIONAL DIVE EXPO AIDE

Aussie tuna transformation a consumer success story

For the first time ever the majority of tuna brands on Australian supermarket shelves have converted to sourcing from environmentally responsible fishing methods.

These methods can avoid needlessly killing marine life like sharks, turtles, small whales and juvenile tuna, according to the 2015 Greenpeace canned tuna ranking.

"Most canned tuna in the world is caught using destructive fishing methods that wantonly destroy marine life and put tuna stocks at risk. Thanks to consumer pressure that no longer applies in the Australian market," said Nathaniel Pelle, Greenpeace Australia Pacific oceans campaigner.

Greenpeace Australia Pacific launched the sixth edition of its successful canned tuna guide on World Tuna day, 2 May 2014. For the first time the brands that have converted to responsible fishing methods outnumber the brands who are yet to convert.

"Tuna's the most popular seafood product in Australia and with several tuna stocks being in a precarious state, the environmental significance of this dramatic change is hard to overestimate," said Pelle. "When we first introduced the guide in 2010 most brands couldn't even tell us what species of tuna was in their cans, let alone where it came from or how it was caught."

"For those brands to have negotiated directly with the fishing companies to ensure they only source from responsible fishing methods is a dramatic turnaround."

Australians consume over 40,000 tonnes of canned tuna every year, most of it sourced in the waters of our Pacific Island neighbours. More than 2.5 million tonnes of tuna is caught in the Pacific every year, which contributes over 70% of the world's tuna catch. All tuna species are in decline, with the use of fish aggregating devices (FADs) and purse seine nets being a major cause.

FADs attract marine life, including tuna, making the fish easier to catch with giant 'purse seine' nets, however this method results in a dramatic increase in catch of juvenile yellowfin and bigeye tuna, and non-tuna species known as bycatch.

All major Australian brands have committed to end the use of FADs with purse seine nets in favour of FAD-free and 'pole and line' fishing.

"The best thing Aussie consumers can do is use our canned tuna guide, find a brand that labels its cans correctly, and choose a product that has already switched to using skipjack tuna caught by 'pole and line' or FAD-free fishing methods," said Pelle.
www.greenpeace.org

Greenpeace

Seizing the Depths – OZTek2017

Excitement is building toward another MASSIVE event in 2017!

Bookmark your diaries to avoid disappointment.

When: March 18/19, 2017 – make a note now!
Where: Australian Technology Park - a premier Sydney venue minutes away from the city's CBD, shopping and entertainment districts

OZTek is a genuinely awe-inspiring weekend of talks, films, debate and laughter with diving's international A-list – minus any red carpet barotrauma and elitism.

If you are interested in adventure, exploration, excitement, new technology and listening to amazing feats of daring – OZTek will not disappoint.

The action-packed weekend includes:

•**Real-life adventure & exploration** told by those who succeeded and survived. Rub shoulders, literally, with remarkably accomplished, brave, intelligent and passionate boundary-pushers. Established since 1999, OZTek is the gathering place for the world's extreme divers to showcase their adventures and promote the gear that got them there.

•**A full-scale dive exhibition.** OZTek showcases the equipment and training techniques designed to keep you safely below the surface for as long as possible. Be it warmer wetsuits, better buoyancy control skills, more streamlined BCs, redundant instruments, careful dive planning or gases mixed to stage more efficient decompression.
Touch, feel and ask questions from the experts. Everything divers require; from cameras to compressors, regulators to rebreathers, snorkels to scooters, face masks to fins. Big or little - it'll be on display;

•**Dive travel** to take your breath away and soar the spirit. Discover your next travel destination with liveaboards, resorts and awesome dive sites waiting to be unearthed;

•**Dive Training**. Dive training is the wave you'll want to ride after the OZTek experience. Chat with those who invented technical & recreational dive training. Sign up with the best instructors in the field. Just come & find more – no pressure, just curiosity! Debunk those 'tekkie' myths for yourself and get excited about what's possible.

•**Underwater Photography** – Unbelievable, amazing, brilliant, awesome images on display from world class photographers, as well as the winners of the 2017 OZTek 2017 Underwater Imagery competition (to be announced later this year);

•**OZTek2017 Gala Dinner** at The Aerial Centre UTS, in exciting inner city, with scenic city views across the City and the ANZAC bridge, completes the weekend.
A ticketed event including a magnificent meal, unlimited beers, wines and soft drinks, guest speakers and the presentation of the OZTek2017 Awards (nominations will be called for in early 2016). Relax, socialise and unwind - the perfect finish to a memorable weekend.
Already attracting strong interest from exhibitors keen to tap into a quality audience of passionate and dedicated divers with a proven willingness to invest in equipment and travel, OZTek2017 offers an inspirational journey into the entire world of diving adventure and excitement.

To find out more about OZTek2017, check out the website www.oztek.com.au or contact the organisers at info@diveoztek.com.au

McKenzie Finalist in United Nations Association of Australia World Environment Day Awards.

RAID has been informed by the Association of Marine Park Tourism Operators (AMPTO) that one of their Executive Directors, Mr Col McKenzie, also of RAID Asia, has been selected in the United Nations Association of Australia World Environment Day Awards in the Individual Category.

Mr McKenzie is one of four finalists in the Individual Category which recognises significant environmental achievement over many years. "Mr McKenzie has been the driving force behind the Crown of Thorns Starfish (COTS) since 1998 and has successfully lobbied for millions of dollars to help control the pest and to protect the Great Barrier Reef (GBR)." Said Mr Baker the Chair of AMPTO. The Crown of Thorns has contributed to approximately 50% of the live coral loss on the GBR and not only reduce the live coral, but also effect the whole coral ecosystem. Mr McKenzie was working effectively in this space for years before becoming the Executive Director of AMPTO and he has a history of environmental activity. He has worked very hard on environmental issues over many years."

Mr McKenzie's consulting company: Gempearl, was also one of the first companies in Far North Queensland to be carbon neutral. He was one of just a handful of Far North Queensland people to do the Al Gore "An Inconvenient Truth" presentation training and did presentations in Victoria, South Australia and Queensland.

During the rezoning of the GBR 12 years ago, Mr McKenzie was the marine tourism industry's public face and even received death threats for taking the stance that increasing the "no-take" zones from 4.7% to 33% was the right thing to do. Furthermore, last year Mr McKenzie headed up the court challenge by the marine tourism industry against the dumping of dredge spoil on the GBR. Legislation was passed only this month in the Australian Federal Parliament to stop dredge spoil dumping.

The health of the GBR has been much maligned in the last 12 months and it is the activities of people like Mr McKenzie that will help determine the GBR's future and ongoing health.

RAID International and RAID Australia South Pacific joins AMPTO in wishing Mr McKenzie luck on the presentation evening and is pleased to see him reach the finalist stage in this prestigious award.

Dive Schools / Operators / Organisers / Instructors

Do you have any interesting, newsworthy info to share with the industry? If so, we would like to invite you to send us your OZ News section for possible inclusion in the magazine (please note that inclusion is FREE of charge).

Here's what we need:
- Newsworthy stories (promotional material will not be accepted)
- Word limit: 100 words
- Text prepared in a Word document
- Accompanying high-resolution image(s) are welcome (please supply caption and image credit)

Please send to info@ozdiver.com.au

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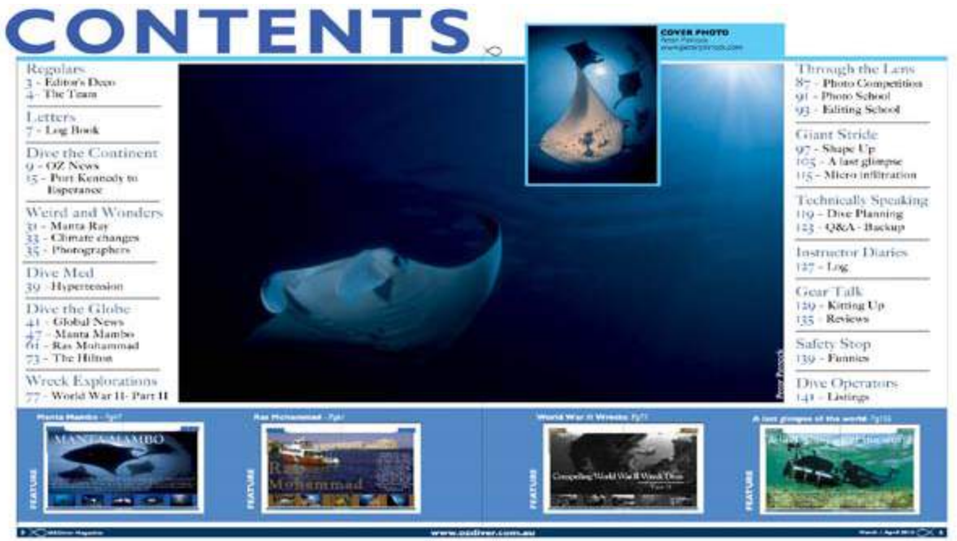

OZDIVER

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Dive the Continent
Dive OZ

By Gordon Patterson

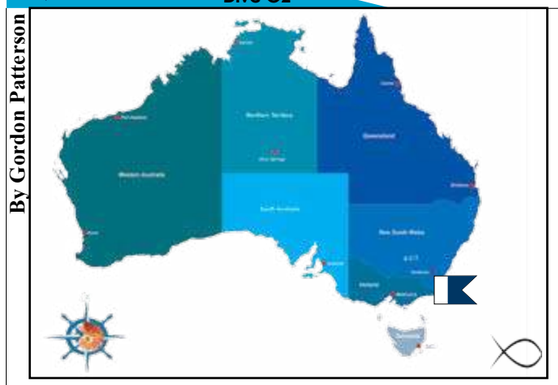
Dragons Down Under!

Whenever anyone talks about Australia inevitably the conversation turns to the Great Barrier Reef (GBR). White sand, warm water…blue sky, reefs extending out forever and a comprehensive dive industry to meet the expectation of even the most discerning diver. And make no mistake about it it's amazing that it's the only animal built structure on earth visible from space.





By Gordon Patterson



I've always wanted to dive Australia and in June this year my fiancée and I jumped on a plane…dive kit packed plus padding (clothing to the weight limit !) plus cabin luggage full off camera gear and off we went.

Being seasoned South African divers with many overseas trips behind us we decided to do things slightly differently.

The GBR would have to wait!
We wanted to experience what makes diving Australia different ….and that meant seeking out the odd, the strange and bazaar. We reached out to friends and fellow divers scattered around the various key Australian dive destinations and frankly found little differentiation. By and large Australia has more or less exactly what we have South Africa.

But there had to be something and there was;
-Phyllopteryx taeniolatus (Weedy Sea dragon)
-Crocodylus porosus(Salt Water Crocodiles)
-Dugongs (sea cows).

With limited time available we planned our trip…and like all best laid plans the unexpected happened and at the last minute. We had expected to start the dive trip in Melbourne then move onto Darwin then back to Sydney for the Dugongs and time permitting Brisbane for some general diving.

Well this simply did not happen! We arrived in Melbourne and we stayed there for the entire duration of the trip….but that's

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Join Us & Explore "Business of Diving" at AIDE 2016

AUSTRALIA INTERNATIONAL DIVE EXPO
AIDE

10-11 September 2016 | Royal Hall of Industries
Moore Park, Sydney. Australia

www.australiadiveexpo.com

DIVE & DISCOVER

Photo by Matthew James Smith

By Gordon Patterson

another story.

The dive infrastructure in Melbourne really surprized me. The various dive shops I visited where incredibly helpful if a little surprized that a SA diver would come all this way to look for Sea Dragons and in winter. Yes I'd forgotten about that…winter! OOPS!

I decided to explore two areas that seemed to be my best bet, namely Port Sea at the trip of the Melbourne bay and Flinders reef where David Attenborough had found the Weedy Sea Dragons years before.

Port Sea proved to be a real eye opener…. no white sand, no blue sky (forget the neon bikini's) nor reef! Just a jetty, pebble beach and several bemused fisherman looking on. Certainly this was not what I expected but I'd come all this way I was determined to try and find the Weedy Sea Dragons. Two uneventful 45 minute shallow dives behind me in 15 degree water and I was chilled… even in my dry suit. A tip…..for those thinking about diving off Port Sea jetty is to order and pay for a large hot chocolate drink at the café next to the jetty before you dive. After the dive my fingers could hardly press the camera shutter button let alone retrieve cash out of my wallet.

Next stop was Flinders Jetty, about 45 km away….but this was scheduled later in the week.

A few days later I collected filled cylinders and a weight belt from Port Sea and went through to Flinders Jetty located on the outside / ocean side of the bay.

Immediately obvious was the commercial fishing history. The small harbour buzzed with activity and despite a comprehensive search of the facilities I could not locate any designated scuba diving area or amenities. Looked like I was on my own…solo diving with fishing boats.

After a long walk down the new concrete jetty in full kit with camera I climbed down to a lowered section of the jetty designed for offloading the catch from fishing boats. The water was crisp, cold and had a slight oiliness on the surface. As I immediate started drifting away I decided to drop to the bottom so I could settle, sort out the camera strobes etc. and adjust my buoyancy.

Adjustments compete I heard a strange noise…a rhythmical churning…next a shadow moved over me and I instinctively went flat on the bottom. Yes a fishing boat had just gone over me. I'd had this in South Africa several times but not in only 6 meters of water! Clearly I would have to be extra careful.

I retreated under the jetty and crawled along the bottom in the sea grass looking into the bleak green water. Time was going slowly…I was getting cold and still no Sea Dragons. About 15 minutes into the dive I had wandered away from the protection of the jetty, the sun was shining through the water and suddenly I noticed something small rise above the sea grass…then disappear. With the active fishing in the area I had already seen several small sharks but as fleeting as it was it was nevertheless enough motivation for me to speed across to the area where I'd noticed the movement…If nothing else I would be a little warmer and I'd use some air up (I hate finishing a dive with more than 50 bar left!). There it was; a small Weedy Sea Dragon minding its own business… completely disinterested in me and my 7 inch dome port.

What an experience…what a privilege, like a dragon from a Steven Spielberg movie. Over the next 30 or so minutes my camera clicked and flashed almost constantly.
The coldness was gone and so was my air….
I had lost my sense of direction and had clearly moved well away from the jetty.

Since I was still in shallow water I decided to deploy the SMB and slowly I surfaced. The sky was blue for the first time since I had arrived in Australia and I could feel the sun cracking the chilled muscles in my face. I

By Gordon Patterson

By Gordon Patterson

was happy I had some pics.
That evening I shared the pictures and decided that I had to dive again to see if I could improve the quality and test other setting.

Sonja, my fiancée who had not dive yet on the trip was determined to see them for herself. Problem was that determination and a 3 mmm wetsuit in cold water don't go well together.

The weather and diving conditions looked good for the next weekend so I made arrangements to hire a 7mm wet suit for her, charged the equipment and setup both sets of scuba.

Flinders had not changed…it was still windy and cold, although the absence of working fishing boats was a welcome sight.
We started the dive in more or less the same place and conscious of the fact that we probably only had 30 minutes before the cold would be too much I started searching.

The water temperature had dropped to 9 degrees….which added more motivation.
This time rather than moving through the grass I floated above it and in a clearing between outcrops I spotted a large Weedy Sea Dragon….and then another one…smaller in size. Immediately Sonja removed her hood and closed in to be part of the pictures I was taking. The great thing about diving with the same person is that they know what you're thinking. Every time the camera was pointed at the Sea Dragon and Sonja she stopped breathing…to avoid bubbles! Very thoughtful.
We'd been under for just over 20 minutes… and the cold was no longer fun so we headed back. This time I'd taken a bearing so we surfaced near the jetty.

Back in the car we sat and reviewed a few of the new photos….albeit through the back screen of the housing. We were happy…warm and looking forward to a good meal.
Now back in South Africa we reminisce on our Australian diving holiday and know …with certainty that we'll return to cover off on the salt water crocs and Dugongs.
The GBR will have to wait!

About the author:
Gordon is a PADI Master Instructor with the largest Scuba diving club in South Africa, namely Scubaversity. He's a passionate diver, trainer and published underwater photographer.

Big Thanks to:
Bayplay Mornington Peninsula

Aquability (Mike Ryan)

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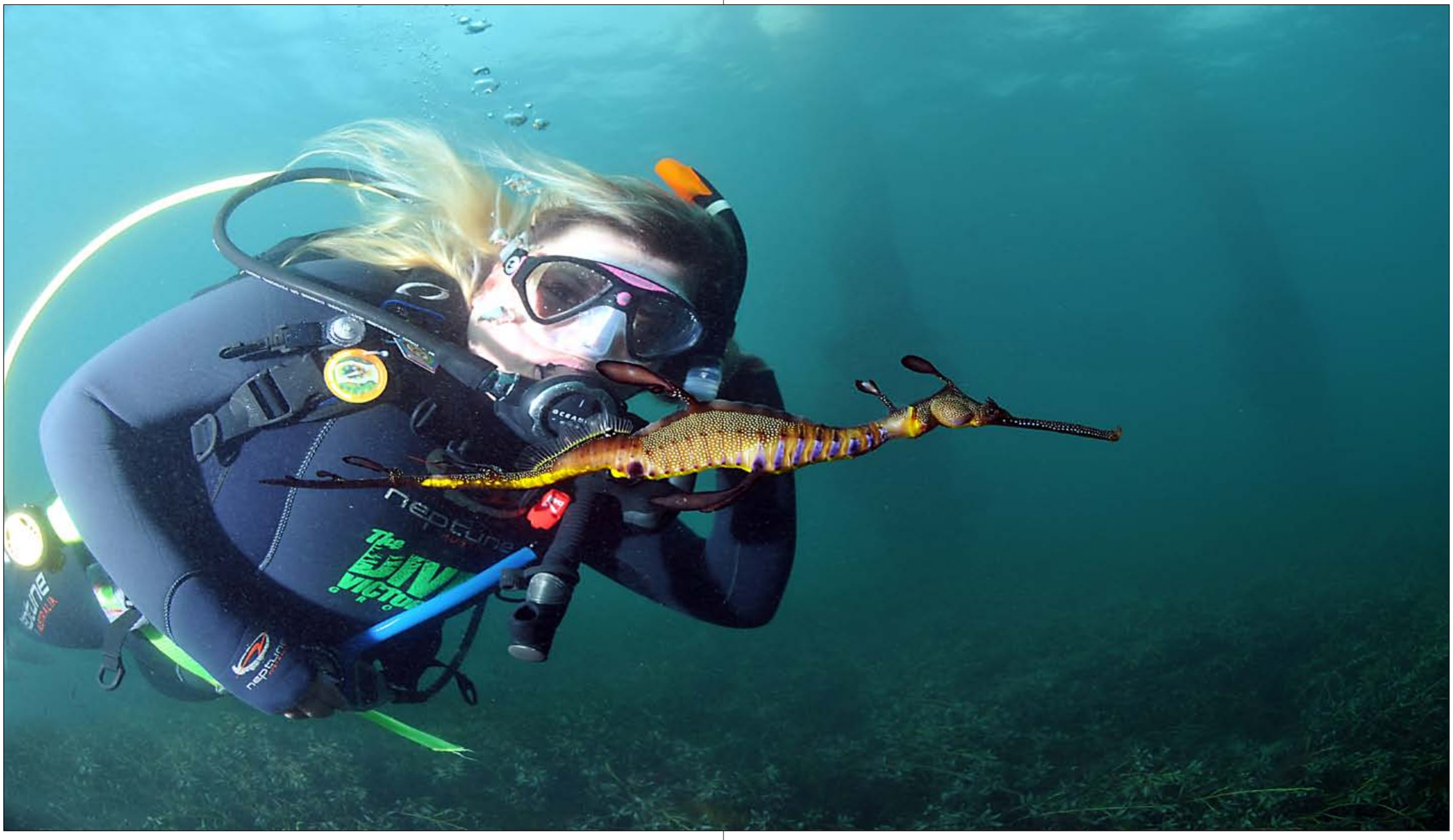

DEEP DOWN YOU WANT THE BEST

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CHROMIS

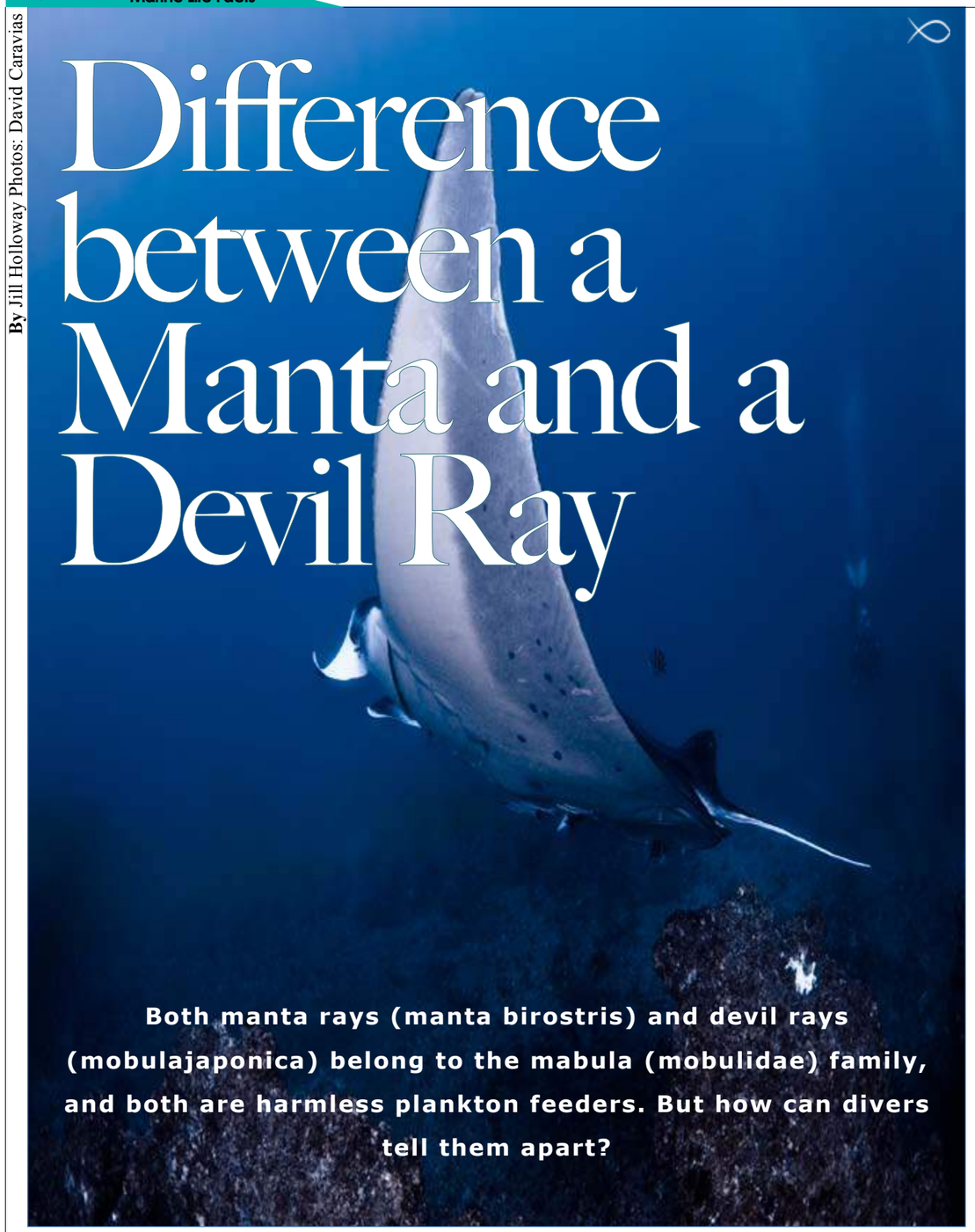
The new CHROMIS wrist computer is ready for your next adventure, in or out of the water. Reaching a new level of clarity, the large display and Katana-sharp characters are proven to be exceptionally readable under water. And wherever the journey leads, you'll have a host of tools at your fingertips, including a full-featured dive computer, apnea gauge, timepiece, and patented stroke counter.

NEW COLOUR RANGE

DEEP DOWN YOU WANT THE BEST

Difference between a Manta and a Devil Ray

By Jill Holloway Photos: David Caravias



Both manta rays (manta birostris) and devil rays (mobulajaponica) belong to the mabula (mobulidae) family, and both are harmless plankton feeders. But how can divers tell them apart?

They both have shortish oval bodies with curved, paddle-like cephalic fins in front on either side of the huge mouth. They curl these up into a corkscrew while they swim for greater streamlining, and they both relax them into scoops to make a bigger collection net while they slurp up plankton, their principle diet. Both are cartilaginous, like sharks.

They both have to swim to stay afloat as neither has a swim bladder, as fish do. They both have extended lateral fins, like graceful wings, and they both give divers a little jolt of pure joy when they are spotted in mid water.

They both mate the way sharks do, with the male using claspers to fertilise the female internally through the female's cloaca or genital opening. The manta gives birth to two live young pups, fully functional from the first minute.

The female has been seen to somersault out of the water, expelling the pup as she does, and as they splash into the water they are fully ready to start feeding on their own. Toothless, the pups can only scoop plankton into their already large mouth.

Both are intelligent, with complex means of communication and with complex behaviour, the manta more so than the devil ray.

So how do they differ?

The manta ray's mouth is at the end of its head, and it is a smooth cartilaginous cavity and an extension of its body. The devil ray's mouth is under and slightly behind its head and they have small teeth. The manta has a vestigial tail, sometimes just a stub depending on its age while the devil ray has a full tail, quite long in some species.

In our waters, the mantas are around when the plankton is around, so often the water is slightly opaque with a plankton bloom, and we rarely see them in crystal clarity at Sodwana. They are fully pelagic and appear all over the world, but at Sodwana they have been seen mainly on Bikini and on Stringer. There is a pair of devil rays that appears on Hotspot and over Uniform and Gotham from time to time, and these appear to be residents in the area.

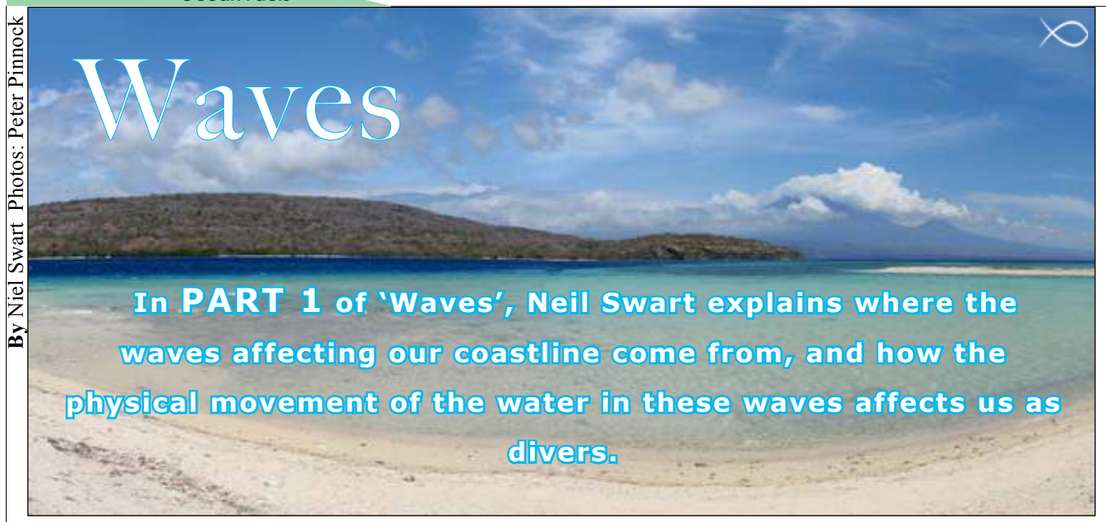
The primary difference between the two is of course their size. The devil ray grows to a maximum of 1,2 metre in size. A full grown manta ray weighs in at 1 400kg, so the manta ray is huge – its wingspan can reach 6,7m, as big as a dive boat.

It is difficult to take photographs of a devil ray, as they do not hang around to be photographed. They are quite timid and rarely approach a diver, possibly because they are smaller than we are. Usually seen in pairs, mantas have a massive presence in the water, but it is a benign, benevolent presence.

If you hang with your arms curved in imitation of the manta's own feeding pose, he will come right up to you and look at you, first just a glance, then with a deeper more intense communication – come on, let's fly... and that is when the magic happens. You spread your arms and fingertips to its wingtip, fly with him, and you stop caring about your depth, your buddy, the distance from the group, you care only about flying through space with this amazing gentle giant.

You come back to reality with a bit of a jolt, because by now your air is low, your buddy is long gone and it's time to do a 'lost diver' ascent. But you just don't care.

Waves



In PART 1 of 'Waves', Neil Swart explains where the waves affecting our coastline come from, and how the physical movement of the water in these waves affects us as divers.

By Niel Swart Photos: Peter Pinnock

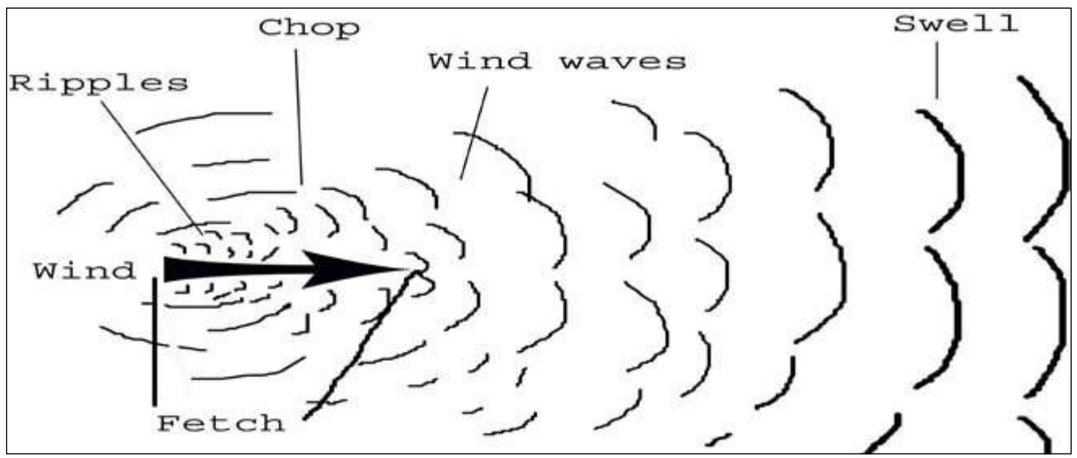
The exposed nature of the South African coastline means that waves usually form an important consideration when attempting a dive.

Whether the combination of waves and rocks form a hazard on a shore dive, or the prospect of a bumpy boat ride is unsettling, everyone is affected. A relatively shallow dive done under fair swell normally results in vigorous 'forward and backward' horizontal motions at the bottom, while on any dive large waves overhead at the safety stop can cause a sudden and unwanted vertical motion of several metres.

Oceanographers categorize waves using several standard measures. Where the crest is the highest point of a wave, and the trough the lowest point, the wave height is the vertical distance from crest to trough (fig. 1). The wave length is the horizontal distance between successive crests or troughs, while the wave period is the time in seconds that it takes a full wave length (from trough to trough) to pass a fixed point.
There is a full spectrum of waves in the ocean, from small ripples through to tides. Here however, we are only interested in the waves which we find continuously breaking along our shoreline, which are generated by the wind, and whose periods are between 1 and 16 seconds.

The first questions then are how and where these waves are formed. If we start with a perfectly smooth piece of water, and then introduce a wind, the pressure differences and frictional drag caused by the wind moving across the water creates ripples (fig. 2).

The presence of ripples means that there is then



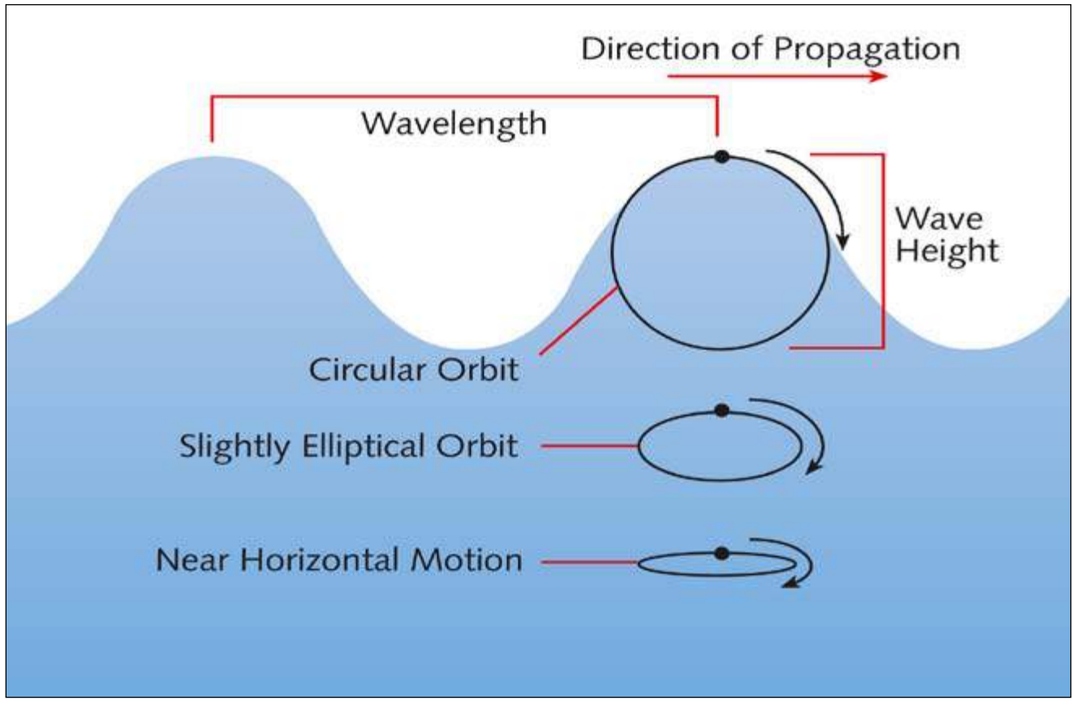
a steep side against which the wind can push, and therefore the small waves grow rapidly in size. However, there is a limit on how large these waves can grow - the wave height cannot be larger than 1/7 of the wavelength. If our small waves exceed this critical limit they break, forming white water and the resulting sea state is said to be choppy. When these small waves break, they contribute their energy to waves which have longer wave lengths, and which can therefore grow higher (without exceeding the limit).

Therefore under a constant wind there is a continual progression from small, low waves, which hold little energy, to much longer and higher waves which hold far more energy - i.e. from ripples to chop to wind waves (fig. 2).

There are three factors which determine just how large these waves can get. They are 1) the wind speed, 2) the length of time for which the wind blows and 3) the distance over which the wind blows (called the fetch) - see fig. 2. Waves occurring around the coast lines may have one of several origins. The first source is local winds, generated by high pressure systems, which cause waves of a meagre size and a messy, 'choppy' nature. The larger, sometimes massive waves which occur along our coast are the result of large storm systems out in the ocean. The most common of these storms are called mid-latitude cyclones (MCs) although they are more widely known by their infamous 'cold fronts'. Large MCs over the Southern Ocean are associated with strong winds and sizable fetches, which lead to the development of large wind waves. As these wind waves move out and away from the storm, they become organised into groups of similar period and height, as well as becoming more rounded and symmetrical. At this stage they become known as swell (fig. 2).

As this swell moves towards land, it interacts with other swell, either from the same storm, or from a completely different storm system. By the time the swell reaches the coastline from the distant reaches of the oceans, it is a mixed match and combination of several different 'wavetrains' superimposed onto each other. A crest from one wavetrain may combine with a crest from another wavetrain in order to form a particularly large wave, or visa versa. It is this interaction which leads to 'sets' of waves arriving at the coastline, or the idea that 'every 7th wave is a big one'. While MCs are the primary source of the swell reaching the South African coastline, other large storms at sea also generate swell. These include the odd tropical storm or cyclone (Hurricane) in the Indian Ocean, which generates large waves on the east coast.

More about waves in the next publication.



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Can leatherback turtles adapt to climate change?

By Annatjie Rademeyer

Apart from the fact that leatherback turtles are on the Red Data list, they are also threatened by climate change. Will they adapt and survive?

Leatherback turtles (Dermochelys coriacea) are the largest of the sea and land turtles. They can weigh up to 500kg and reach lengths of almost 2m from head to tail end. The largest one ever recorded weighed a massive 916kg.

Now, if you do not know the difference between a leatherback turtle and other sea turtles, here are a few pointers. They have smooth, leathery shells (hence the name) which is softer than other turtle shells. The shell has ridges running from the shoulder to the tail end while other turtles have harder shells which usually have multiple sided individual 'scales' on them. Leatherbacks are the only member of their family and are unique among reptiles in their ability to maintain a constant internal body temperature higher than the surrounding water.

Individual turtles have been found as far north as Alaska and Norway, and as far south as the Cape of Good Hope in South Africa, southern Chile and Argentina. They are found in all the large oceans: the Atlantic, Indian and Pacific. Leatherback nesting sites are found in many countries around the world, including those in the Americas, Africa, Asia and Australasia. They need wide, soft sandy beaches with easy access from the ocean to build their nests. Once the nests are dug, they deposit up to 100 billiard-ball sized eggs and close the hole carefully. This nesting process is repeated 4-7 times during egg-laying season with 10 days intervals. The female returns to the ocean and only after the season is over, will she eat again. The incubation period for the leatherback turtle eggs are 60 days. This is a critical period in which the temperature must be perfect. Colder temperatures produce males and warmer temperatures females. This is where global warming – or climate change – comes into play for the first time with the lifecycle of these majestic giants. The overall rise in the earth's temperature will cause only females to develop, which will have a devastating effect on the population, because all the eggs cannot be fertilised by the few males which might be still around – their life expectancy is a maximum of 40 years. This is after they have run the gauntlet of birds, crustaceans, humans, reptiles and feral animals like dogs and pigs... Now they have to survive until adulthood which takes between six and 10 years for females.

Once they are big enough so that the predators in the sea cannot eat them anymore (except for tiger sharks) they still have to contend with what we humans dump into the sea. Jellyfish are the major food ingredient for leatherbacks; these floating animals are found in great numbers where ocean currents meet, and where cool, nutrient-laden water moves upwards from lower depths. These sites may be thousands of kilometres away from the turtles' nesting sites, and are the reason for their huge migratory distances – further than any other marine turtle species. And hence the problem arises. Plastic bags and balloons look very similar to jellyfish when they are drifting in the ocean currents. Ingestion of these can cause malabsorption and internal blockages.
Coastal development is another problem for the turtles. Beaches are prime property for developers and because top dollar is paid, owners expect to be as close to the beach as possible. In order to stabilise the soil, sea walls are built to keep the sea away from the very expensive houses, but the cost to the environment is much more severe. Beach sand is washed away because of the unnatural movement of the waves against the sea walls and other blockages. Waste water and other runoffs also cause nests to be contaminated. The increased activity close to beaches results in more vehicles using the beaches and more people to move around on them. This is a major threat to turtle nests. The movement of cars and people on dunes also causes degradation of the dunes, which in turn causes wind patterns to change when moving over the dunes and the destruction of the plants which anchor these dunes. This has a major impact on important nesting beaches.

Another by-product of more people close to beaches, are the obstacles they leave on the beaches. For example, plastic lawn chairs. Females cannot climb over the rubble and hatchlings get caught in them and cannot make it to the ocean. Beach craft-like boats and jet skis are another danger to turtles. They are a major cause of turtle deaths when they collide with turtles coming up to breathe air – in California up to 80% of green turtle deaths are credited to beach craft. Furthermore, hatchlings are guided by the moon when they emerge the first time and beachfront lighting can disorientate them and lead them away from the ocean.

The list goes on and on and if you are really interested in all the causes of turtle numbers declining, you will find a host of information on the web. But the question remains, can the turtles adapt to all of this happening on their doorstep?

The wonder of biological evolution lies in its definition – 'a gradual change in the characteristics of a population of animals or plants over successive generations.' Marine turtles have been around since the late Triassic period – that is roughly 227-206 million years ago – and have evolved to their current day equivalents, gradually updating and improving their body shapes and adapting to their environment. So we know that they are adaptable.

The problem which arises is the speed at which their environment has been changing in the past 100 years or so. Taking into account the period they have been in existence, the past 100 years is quicker than the blink of an eye. In that period, their whole ecosystem has changed rapidly; more carbon dioxide, warmer waters, smaller beaches, less beaches and more pollution. These rapid changes in combination with the leatherback's long and slow-maturing lifecycle, will limit the species' ability to adapt quickly enough to prevent a catastrophic population impact.

But the good news is that they may be able to adapt a bit quicker behaviourally in order to survive the climate change. Unlike other species of sea turtles, leatherback females are flexible and can change nesting beaches, though they tend to stay in the same region. Given time, this flexibility may help them adapt their nesting site to a more favourable area. Northward extensions of both nesting and feeding areas have been observed with leatherbacks. For this to be viable, coastal developers need to take this into consideration and rather help protect a species from total destruction.

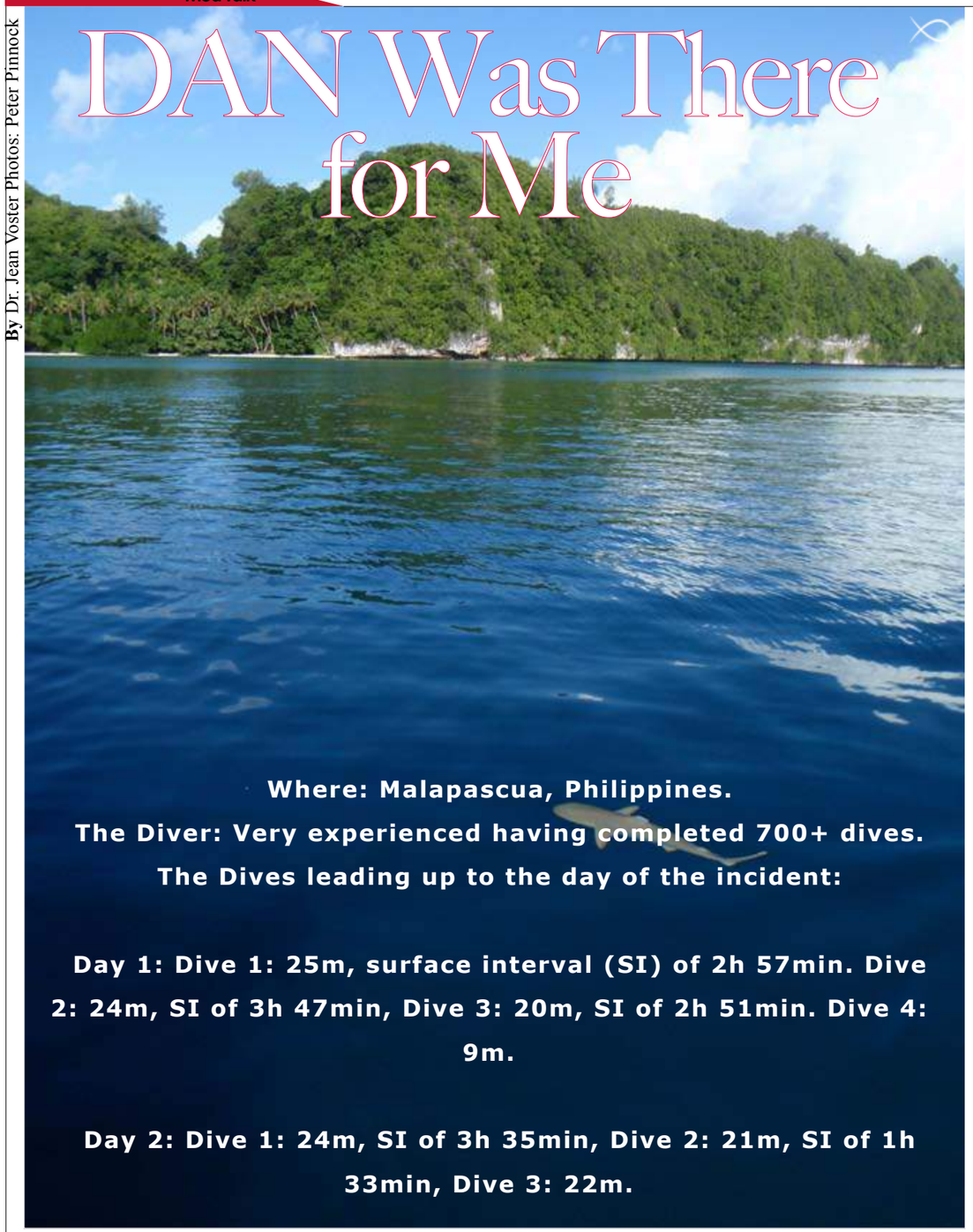
Leatherbacks' ability to adapt to climate change may be further limited by other factors already contributing to their Critically Endangered status. They already face an array of threats, which include human harvesting, accidental capture by fisheries, coastal development and mistaken consumption of plastic debris. Such ongoing threats are likely to make Leatherbacks less resilient to further pressures, especially those arising from climate change.

The IUCN report: 2009 says, "Sea turtles are truly resilient creatures that have survived millions of years of global change, yet today they are in decline pan-globally due to the unprecedented pace of climate change and other human-generated impacts. Sea turtles are bellwethers, whose message to man is that slowing and reversing climate change is urgent.
Healthy oceans are the underpinning of human well-being in coastal regions across the planet, and through ecosystem services like oxygen production and carbon sequestration, they are undisputedly critical to overall human survival.
The bottom line in saving the seas lies in controlling what humans put into and take out of it – it is all about human behaviour as they relate to consumption and waste. Sea turtles have proven again and again to be exceedingly good flagships for engaging people and "selling" the concepts of ocean conservation to the public."

Most humans tend to plough forth without any regard for the consequences of our actions, more so when it comes to protecting our sea life. There is a clear need for greater protection of leatherback turtles and marine turtles as whole. You can help the turtles adapt by slowing down global warming – start in your backyard today.

DAN Was There for Me

By Dr. Jean Voster Photos: Peter Pinnock



Where: Malapascua, Philippines.

The Diver: Very experienced having completed 700+ dives.

The Dives leading up to the day of the incident:

Day 1: Dive 1: 25m, surface interval (SI) of 2h 57min. Dive 2: 24m, SI of 3h 47min, Dive 3: 20m, SI of 2h 51min. Dive 4: 9m.

Day 2: Dive 1: 24m, SI of 3h 35min, Dive 2: 21m, SI of 1h 33min, Dive 3: 22m.

Day of the Incident: Not wanting to miss the chance to see the Thresher Sharks again, it was the third early morning start for the diver, who was feeling tired. The dive was to 28m for 59 minutes and she was breathing EAN32.

When tired the diver sometimes experiences sinus pressure problems, which gives her discomfort when descending. That morning she experienced no discomfort.

The diver says: "The unusual part of the dive is that this time I was feeling sinus pressure when I was ascending, so we managed to ascend even slower than usual to deal with the sinus pressure, while still feeling discomfort".

The Onset of Symptoms: On the way back to shore the diver started to feel a minor tingling in her knees. She asked for oxygen. Fortunately the boat was equipped and she started breathing O2 and continued doing so until the boat arrived at shore (approx 25mins), at which point the dive shop manager checked the diver's symptoms and immediately called the DAN Diving Emergency Service hotline.

The diver was advised to continue breathing 100% O2 for a few hours, rest and see if symptoms decreased. During this time she drank lots of water and took Ibuprofen on the DAN doctor's suggestion. Unfortunately the diver's condition did not improve. The diver says: "I started to feel very weird, like if I was walking on the clouds. I was awake and talking to people, but I didn't feel like it was real".

DAN advised that Chamber Treatment was required and as such the diver, with the assistance from the dive centre, travelled to Cebu, the nearest appropriate facility, by boat and then car. She was provided with O2 all the way to the chamber.

The total journey time was close to 4 hours. This was longer than usual due to a local festival taking place. The diver arrived at the Chamber at 10:00pm where the doctor, nurses and chamber operators were ready and waiting, following co-ordination by DAN. The diver was examined and then a voluntary military nurse joined the diver in the chamber for the four hours and 50 minutes treatment. Being locked in a small and confined environment and not being allowed to sleep (in order to ensure that the oxygen was been properly administered) was not easy for the diver. Fortunately, only one treatment was required.

The Diver Says: I never thought I would have DCI and I never thought I would need to be treated in a chamber. My diving profiles are always conservative: diving within my limits, always with the assistance of a dive computer and using EAN Nitrox for most of my dives. I now realise that you cannot be 100% sure as to how your body will respond. I was quite tired and had I decided not to undertake that dive, maybe I would not have had DCI. My advice is to listen to your body signals carefully. If your body says "I'm tired", don't ignore it, no matter what. In the end you are there to enjoy your holiday, not to end up in a chamber.

Thanks to everyone that helped me. It is because of them that I am well and healthy today. DAN was of great help from the moment they received the call about my condition; their professionalism and care was so efficient and touching.

Final Comment by John Lippmann: DAN Asia-Pacific Executive Director

When the doctor on the hotline received the call he diagnosed that the diver's headache was likely due to sinus barotrauma given her description of how it occurred. He suspected that her tingling was likely DCI. Ibuprofen and other similar non-steroidal anti-inflammatory medications can be helpful in the management of both of these. She initially improved with oxygen breathing and this is not uncommon as the oxygen breathing helps to eliminate the excess nitrogen in the bubbles and body tissues.

However, the fact that further symptoms then arose was concerning and we soon advised that she go to the chamber. There was some initial difficulty gaining access to this chamber but this was overcome. Fortunately she responded very well to treatment.

The diver herself has given good advice in that we shouldn't dive if we are feeling overly tired or unwell. She might have already been suffering very mild DCI from the earlier diving and exacerbated it on this dive.

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Global News

Egyptian Scuba Diver Breaks World Record For Longest Dive Time

How long can you stay down on a tank of air?

Egyptian scuba diver Walaa Hafez set a new Guinness World Record on Saturday for the longest open saltwater scuba dive, staying down for a total of 51 hours and 20 minutes. The dive took place at the Red Sea Resort off Hurghada, Egypt at a depth of around 10 meters (33 feet) with a water temperature of 22°C (about 72 degrees F).

Even with the shallow depth of 10 meters, the dive time of more than 55 hours required extensive and complex decompression planning. Hafez also battled potential hypothermia, using both a dry suit as well as a battery-powered heating system to stay warm. A very carefully planned and timed diet of liquid food and drinks maintained his energy levels as well as kept his blood chemistry stable. By completing the dive, Walaa beat the previous world record which was set by the American Allen Sherrod in 2014, standing at 51 hours and 4 minutes.

A screenshot showing preparations for the Longest Open Saltwater Scuba Dive Project.
Walaa Hafez is a Marine Pilot at Suez Canal Authority. He is also a former naval special forces SEAL team leader, an IDEA Master Instructor, and a self-defense instructor. He is 36 years old.

In addition to entering yet another Egyptian into the Guinness World Records, Hafez also wanted to promote tourism to Egypt and "send a message of security to the world". Haze said he aimed to "motivate Egyptian youth to use their skills, imagination and abilities to flourish in their own country."

On Thursday, Egyptian diver Ahmed Gabr led the "World's Biggest Dive", diving with 400 other divers to clean up garbage from the Red Sea's seabed. That event was sponsored by the Ministry of Tourism and the Red Sea Governorate.

In September 2014, the same diver, Ahmed Gabr, broke the world scuba diving depth record, submerging to 332.35 meters off the Red Sea resort of Dahab.

Saturation Dive Record: China Sets Depth of 330.2 Metres

A monitor shows a diver with the Chinese navy walks out of a 19-cubic-meter cylinder to perform a saturation dive effort, a technique involving a pressurized environment that allows for longer dives while reducing the risk of decompression sickness. [Photo: Chinanews.com]

Saturation Dive Record

Four divers with the Chinese navy have reached a depth of over 330 meters during a saturation dive effort, a technique involving a pressurized environment that allows for longer dives while reducing the risk of decompression sickness.

The four entered a 19-cubic-meter cylinder on January 4th and pressure was slowly increased to the equivalent of a depth of 300 meters.

Gao Jie, one of the divers, describes the experience in the deep sea.

"We thought 300-meter-deep seabed would be nothing but darkness, but when we opened the chamber, we found the visibility was good."

Xu Xiao is the first diver to exit the chamber at a depth of 300 meters to check the diving bell and the environment.

"I felt like it was very cold and it was hard to breathe."

Saturation diving technology enables human beings to withstand high water pressure by saturating human tissue with inert gas.

The divers were released from the cylinder yesterday after the decompression process was finally completed.

To date, eight countries, including Britain, the United States, and Russia have succeeded in 400-meter saturation dive.

Saturation diving is commonly used in deep sea exploration, in rescue operations and in engineering construction.

Chinese divers successfully reached 300 meters during a saturation dive for the first time last year, though have only experienced conditions over 490 meters during lab experiments.

RAID Asia Expands Its Territory to Include the Philippines

RAID International CEO, Jim Holliday has announced that RAID Philippines will immediately become under the already successful banner of RAID Asia. Highly acclaimed dive industry personalities Col McKenzie and Steve Moon will take on the role of CEO (Chief Executive Officer) and COO (Chief Operations Officer) respectively of a totally new RAID Asia. RAID Asia will now include India, Sri Lanka, Thailand, Vietnam, Cambodia and the Philippines.

Jim Holliday said; "while we would first of all like to thank Mary Schoeninger for her work and dedication in getting RAID started in the Philippines, incorporating RAID Philippines into a new RAID Asia will lift the entire region to a new level under the experienced leadership of Col, Steve and their staff".

"Together Col and Steve have many years of experience in the dive industry together and are a proven and successful team" said Terry Cummins, RAID International Director of Business and Marketing. Cummins went on to say; as COO of RAID Asia, Steve will bring to the region his expertise that ranges from an impressive naval career to his widely acknowledged contributions working with dive centres and resorts, tourist groups Government and non-Government bodies over a variety of activities within the dive industry and over several countries".

Steve Moon said: Col and I are going to be working hard in helping develop RAID Freediving and World Series Freediving locally and throughout RAID Asia in conjunction with Mike Wells, Director of Freediving for RAID international who has his HQ in the Philippines. RAID Asia will also announce in the not too distant future the appointment of a Field Service Manager for the Philippines to supplement similar positions we have in other parts of RAID Asia's territory. We will be appointing an individual of high quality and as always, someone with great local knowledge and experience to service local RAIDers".

Send us your news.

Do you have any interesting, newsworthy info to share with the diving world? If so, we would like to invite you to send us your Global News section for possible inclusion in the magazine (Inclusion is FREE of charge).

Here's what we need:
- Newsworthy stories (promotional material will not be accepted)
- Word limit: 150 words
- Text prepared in a Word document
- Accompanying high-resolution image(s) are welcome (please supply caption and image credit)

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Dive the Globe
Reunion

By Johan Boshoff

Diving a Volcano

A thousand encounters, a thousand landscapes, a thousand sensations and various dive sites... right in the middle of the Indian Ocean. Reunion is a French island that stands out from all the others. It's an island where you can dive prestige reefs, walk in valleys full of waterfalls and visit an active volcano all in the space of one day.





By Johan Boshoff

The first time I heard about this island I thought it was too good to be true. I fell in love with the place immediately. Reunion is an island that rises 3 069m straight out of the ocean and has thousands of valleys surrounding its active volcano. The entire island is covered in mountains and the waters provide some of the best dive sites the Indian Ocean has to offer.

La Reunion Island is 39km long and 45km wide, covering a total area of 2 512km². It's located to the east of Madagascar, 200km southwest of Mauritius and is less than four hours flight from Johannesburg. The island was born from two major volcanic events. The first took place hundreds thousands of years ago, when magma gushing out of the crater spread around and into the ocean, making up what is today the highest point of the island, the Piton des Neiges (Snow peak). The peak is some 3 069m above sea-level and has been dormant for hundreds of years. When the second volcanic event occurred, about 30km to the southeast, a new volcanic mount formed and became attached to the first. This is how the Piton de la Fournaise (Furnace Peak) was formed. It sits 2 632m above sea-level and is active to this day with regular eruptions. These volcanic activities provide spectacular viewing and what makes it even more amazing is that you can safely approach the lava flows from previous eruptions.

The island of Reunion has a similar history to that of Mauritius and was uninhabited up to the middle of the 17th century. Then it became a stopover on the trade routes, appreciated for its abundance of fresh water which was available near the coast. As a result of this, many navigators visited the islands. While the Arabic, Portuguese and English travellers all visited the island, it was the French who were first to find a use for it. They used Reunion as a prison, or rather a penal colony for "undesirables" from Madagascar. The first convicts landed on the shores in 1643. They discovered the "prison" of their dreams. No buildings, no shackles, no cells… just forests, wild game running free and rivers for Africa. The first colonists arrived on the Reunion beaches in around 1663 and were accompanied by Malagasy servants. It was during the French Revolution that the island changed its name: The "Sans-culottes" (French revolutionaries) renamed it Reunion in memory of the meeting of the revolutionary forces at Paris in 1790. The island briefly passed into English hands from 1810 to 1815, before finally being returned to the King of France.

There was no great rush to populate and develop the island and from around about 1685, Indian Ocean pirates began using Ile Bourbon as a trading base. Until 1715 the French East India Company was content to provide only for its own needs and for those of passing ships, but then coffee was introduced to international trade, and between 1715 and 1730, it became the island's main cash crop, changing the economy dramatically. The French enslaved Africans to provide for the intensive labour required for coffee cultivation, and during this period, grains, spices and cotton were also brought in as cash crops.

It was soon discovered that Reunion could produce Geranium and Vetiver. When distilled, they provided oils that were highly prized by the major perfume makers. New and delightful smelling plantations flourished on the favourable heights of the western and southern regions of the island. The economy has traditionally been based on agriculture and sugarcane has been the primary crop for over a century. In some years it accounts for 85% of total exports. The government has been pushing the development of a tourist industry to relieve high unemployment levels, which amounts to more than 40% of the labour force. Since the middle of the 1990s, tourism has become one of the major resources of the island.

Reunion is considered an "overseas extension" of France and is therefore included in the European Union. This means the currency used on the island is the Euro. The principal towns are Saint-Denis, the administrative centre; Saint-Paul, the first "capital" and Saint-Pierre the most southerly town. There, the beautiful

Dive the Globe
Reunion

By Johan Boshoff

By Johan Boshoff

Creole architecture is protected from the assaults of modernity. The souls of these cities that were built by tough pioneers have been preserved well through the years. Reunion offers the incredible diversity of countryside, luxuriant vegetation bathed in tropical heat, rocky landscapes invigorated by the mountain air and heavenly beaches – natural charms that will tickle any tourist's fancies.

When deciding when you'd like to visit Reunion, its best to take the climate into consideration. Temperatures on the coast average 22°C during winter and 27°C in summer. In the mountain regions, the temperature drops to 11°C and 18°C respectively. The year is divided into two seasons - the cool, dry season which lasts from May to October and the hot, wet season which runs from November to April. Winter is only in name and it's not really cold along the coast. During the summer months, two thirds of the annual rainfall is experienced and temperatures and rainfall vary according to the altitude and exposure to the elements. There can be significant variation from one end of the island to the other.

This is a truly unbelievable island. It felt like every day I was lucky enough to spend there was in another destination. There was something new to discover every day and I was eager to experience the wonderful surprises it held in store for me. You can be driving along the coast with a temperature of 29°C, drive 10km inland and find yourself in the middle of a rain forest, and then carry on for another 20km and be in a desert. The island makes you feel like a god who is sitting on top of the world. If the 14°C temperature near the volcano becomes too chilly for you, you can always return to the beach and have tropical warmth again.

What's not to be missed on Reunion

Cilaos

Cilaos is a small town nestled inside a mountain crater, called a "cirque". With fantastic views of the surrounding landscape, plus a small museum and thermal spas to rejuvenate you after going on hikes through the area. Longer day hikes are possible to areas like the Cirque de Mafate, a very remote and difficult region to access. It is filled with ridges and small villages and is

By Johan Boshoff

only accessible by foot or helicopter. You could always venture up to the Cirque de Salazie. It's far more accessible and is filled with waterfalls like le Voile de la Mariée - the Bride's Veil. There is a picturesque viewing point of Cirque de Mafate called Piton Maido and it's truly breathtaking!

Piton de la Fournaise

The island is home to an active volcano in the south eastern corner of the island, which occasionally erupts and sends lava flowing into the ocean. During these eruptions, the lava flows cross over the roads in its path and detours need to be taken. There is also the Volcano Museum in Bourg Murat, which is on the way to the volcano itself. If you want to spend time exploring the volcano, its advisable to depart early from your destination as later in the day the volcano becomes covered by clouds. The same goes for other high lying areas on the island.

Paragliding

Optimum air conditions for paragliding are experienced all year round, but the best time for this sport is during the winter months when there is less rain and more sunshine along the mountain slopes. You can view the entire coastline of Reunion, including the beautiful coral reefs and crystal clear water along St Leu.

Diving Reunion

The island of Reunion doesn't guarantee regular spotting of big marine life, but the two things you can be guaranteed of experiencing while underwater is visibility of up to 50m in the bluest water you will ever see and scenery that will blow your mask off.

There's a variety of dive sites around the island, but only certain sections are divable. The coral forms a discontinuous reef of about 15km to the west and south of the island. The magnificent

Dive the Globe
Reunion

By Johan Boshoff

smooth turquoise waters sits on top of white sand and the majestic basalt cliffs rapidly give way to the great depths. There are 150 species of coral and 500 species of fish which makes for relaxed and enjoyable diving. The eastern and southern sides of the island are known as the wilder sides of the island.

There are high cliffs sitting right next to the ocean, huge waves and gale force winds which makes diving only possible for about 40 days each year. There are some dive charters from the west that will accommodate you diving all the way to Ste Rose, but it could end up being a very costly experience.

Most of the dive operators are situated on the north-western side of Reunion, where there are three main areas for launching boats. Most of the dive centres are situated in the harbours, where boats are ready and waiting to take you out on the warm, quiet waters of the western side of the island. The diving is quite different to what we are used to in South Africa; the boats range from rubber ducks to big steel boats. They're launched from the harbour and there are no waves to cut through, just a few small swells. On the north-western side of the island, near the town of Le Port, is the dive centre Dodo le Palme. They took me to a dive site that I consider to be unique because there is a cavern in the cliff face where you can ascend and breathe above the water. There are two openings in the wall and the bright sunlight shines straight through.

One more descent and you can continue with your dive. The rest of the site has large rock formations that sit on the sandy sea floor. They range in size from 5m to 15m and the coral formations are home to many colourful tropical fish. On the way back from the dive site, there is a good chance that you can dive and snorkel with dolphins in the bluest water you've ever seen. Night dives are also possible because of the calm water and almost non-existent current. You will get to experience the marine life that tends to be so shy during the day, such as lobsters, crabs, spanish dancers and squid and cuttlefish.

St Gilles les Bains can be found on the western side of Reunion and the Blue Marine dive centre operates from the harbour there. The reefs that they frequently dive on are fairly young and have very little coral on them. There is however, a wide variety of fish life and the bigger species can being found on a dive site near the lagoon and along the gullies and tunnel systems of some other sites.

There are wall dives of up to 40m and they are brilliantly coloured with various marine creatures. With great visibility and warm tropical waters, what more could a diver ask for?

If you want to experience more coral during your dives, you will need to visit L'Excelsus dive centre in St Leu. The diving there is a totally different experience - coral formations between 5 and 7m in depth and gullies reaching 16m in depth give you the feeling you're swimming in an aquarium with the clear water, sun shining on the coral and lovely tropical fish swimming about in their usual way. This charter has a relaxed feel about them. Onboard you are given a quick briefing, the boat is then anchored and off you go.

There is no group diving, so you and a buddy can go off and explore the waters for yourselves. Once you're done, simply surface and make your way over to the boat at your own pace.

Diving in the waters of Reunion can be done throughout the year and if you go at the end of the season, July to October, you could join the whale sharks and whales for a dive. The ocean waters are teaming with marine life, even close in to the shore. The reef slope provides a prefect habitat for coral fauna and flora that brings joy to divers' hearts. Beyond the reefs, the kingdom of the large migratory fish begins - blue marlin, common dolphin fish, sailfish, tuna and barracuda fill the waters. The great visibility, relaxed atmosphere and beautiful scenery make diving here an absolute must. There are also two wreck sites to dive, but they are in deeper water and its best to leave them to the more experienced diver. If the weather permits, you can make this a trip to remember by diving on the lava formations of the erupted De la Fournaise volcano.

Dive the Globe
Reunion

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Dive the Globe
Raja Ampat

Raja Ampat

By Jeanne Liebetrau and Peter Pinnock

The mechanical needs of a coral reef are similar to that of a car's engine. Raja Ampat in the Pacific Ocean is an example of a finely tuned engine.





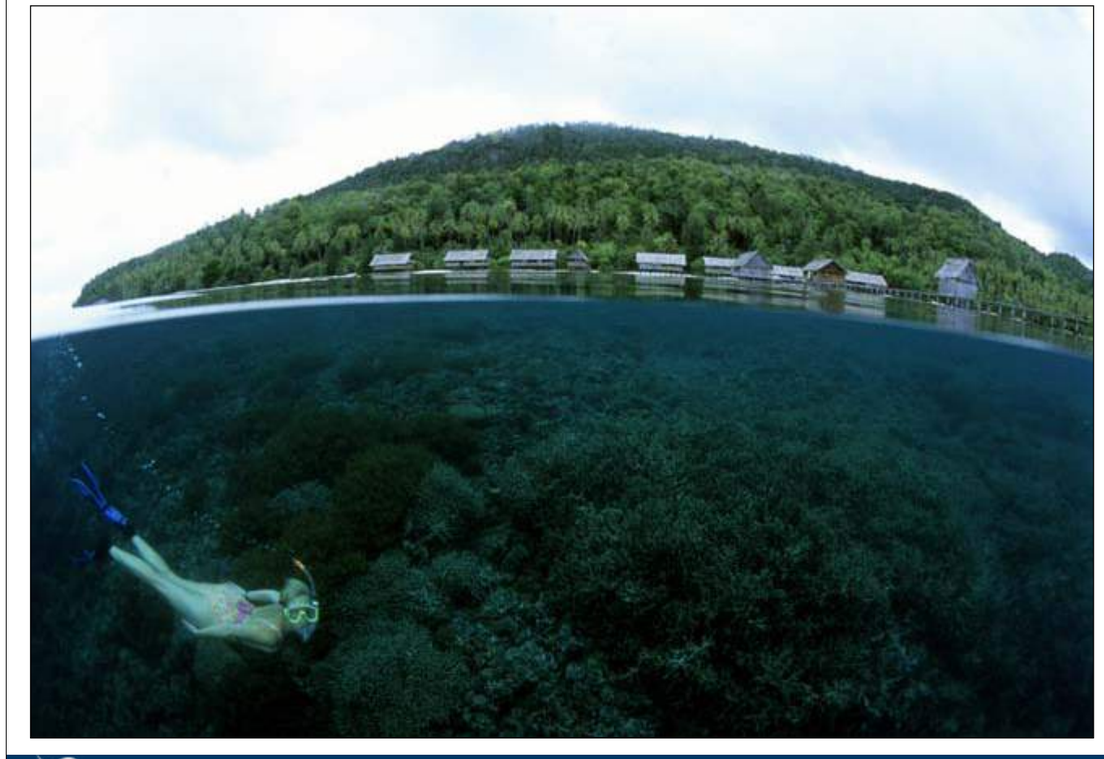
By Jeanne Liebetrau and Peter Pinnock

Rich in diversity beyond imagination, scientists are constantly breaking fish-recording records on Raja Ampat. During a Rapid Ecological Assessment by Nature Conservation's Indonesia programme, the renowned ichthyologist Gerald Allen broke the record for the most fish ever recorded on a single dive – 283. His mate, coral expert Charles Vernon, recorded more than 450 species of hard corals.

Raja Ampat has all the required elements for a dynamic engine. Located on the equator, it has plenty of sunshine essential for rapid coral growth. The water temperature is a constant 28°C and human impact is minimal. Currents from the nearby Philippines, Maluku Islands and Australian seas converge here, bringing nutrient-rich waters to fortify the reefs. It is also protected from tropical cyclones by the mainland island of Papua (formerly Irian Jaya) lying to the east.

The Indonesian name Raja Ampat means "Four Kings" and is a reference to the four main island groups, namely Salawati, Batanta, Waigeo

and Misool. Even though there are over 15 000 islands in the area, there is only one dive resort and very few live-aboard boats. SMY Ondina, a wooden Buginese-style schooner, has explored these waters for a number of years. The Ondina sails through Raja Ampat from October to January, departing from Sarong. Co-owner Ricardo Buxo is fluent in at least three languages, while his charismatic dinghy driver, Michael, makes up for his lack of English



with plenty of loud laughter and huge smiles. "Salamat pagi," Michael greets us as we board. "Welcome. We go to Misool. Good, good." Then he laughs loudly and gives us a bear hug.

The remote islands of Misool are a range of inhospitable limestone structures created millions of years ago by the tectonic forces of Mother Nature. With precipitous cliffs, craggy spires and razor- sharp rocks, even the hardiest of trees battle to find root anchorage. Many small islands are carved into mushrooms by the constant gnawing of the currents. The only fresh water is donated by the heavens. Fishermen venturing south in their outriggers are frustrated by endless days at sea with land in sight, but nowhere to beach. The fish, however, love it, since they have only their natural enemies to contend with.

"Aros," yells Michael excitedly as he looks at the sea bubbling ahead. It indicates a strong current and we must hurry to get the best of it. "Satu, dua, tiga," he shouts, counting us down for the descent. We roll off the boat into the richness below. The reef is vividly plastered with brightly coloured soft corals. Whoever nicknamed Fiji the soft coral capital hasn't visited Misool. The dense soft coral jungle begins in the first meter. Orange soft corals, frequently only encountered at depths, bloom in the shallows. A wall reminiscent of a sunflower field is festooned with yellow soft corals. Huge bouquets of purple, crimson, pinks and reds cascade down the side of bommies. Then there are the fish – and there is certainly no shortage here. Phenomenally large schools of fusiliers, surgeons and jacks shoal near the drop offs. It's as if we are watching a Discovery Channel documentary.

As we progress, the current drops and the soft corals, so resplendent when pumped full of water, relax. Their dinnertime is over. Billowing waves of feeding anthias stop and instead mingle closer to the reef. The predatory attacks by the jacks and trevallies diminish. All is seemingly quiet, but a distinctive crunching sound is heard above the crustaceans' clicking chorus. A hawksbill turtle is chewing on a sponge. Turtles are on the endangered species

Raja Ampat

By Jeanne Liebetrau and Peter Pinnock

By Jeanne Liebetrau and Peter Pinnock

list, because in Indonesia they are relished for their meat. This hawksbill is safe from humans in Misool, but to where will its travels lead? Brought back to reality by this thought, I realise that the show is over and that it's time to surface. Michael grins as he loads the dive gear. "Munching barracuda," he chortles. I have no idea what he is talking about, but he is happy and so am I.

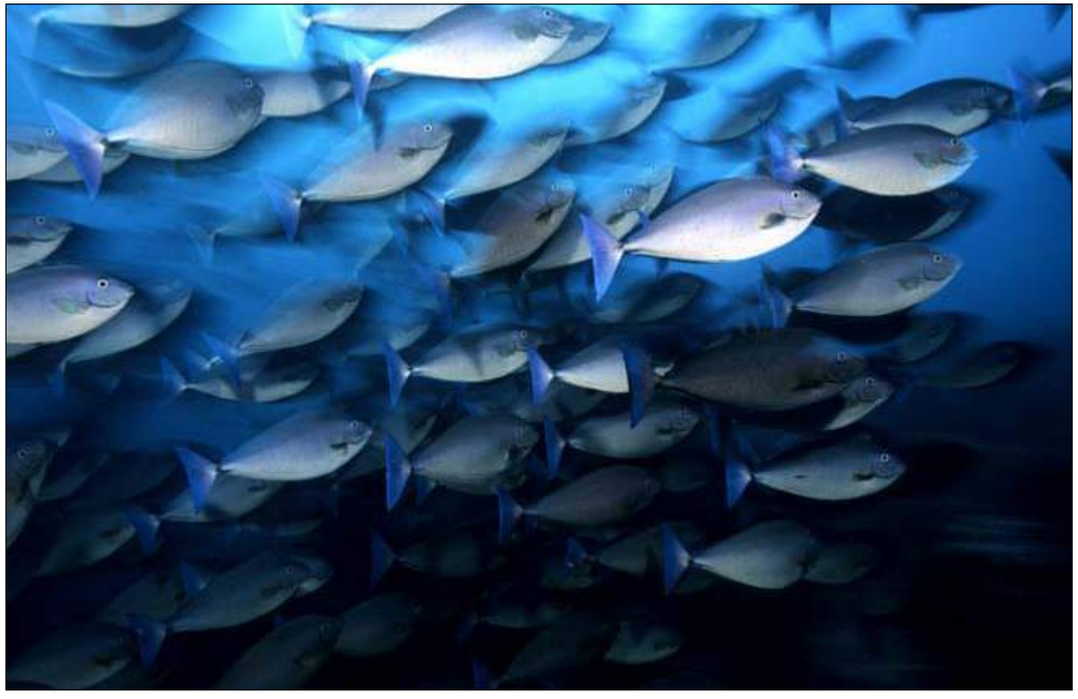
The islands near Batanta are not as inhospitable as those around Misool. Small primitive villages line the narrow beaches against a backdrop of forest and palm trees. Local legend Papa Yafat, his family and Jason the cockatoo occupy the island Wai. Papa Yafat has an enviable hard coral garden on his doorstep. Boulders of brain corals, pockets of mushroom corals and shelves of plate coral intersperse with green coral trees and long whip corals. The hard corals are not just the standard military brown, but red, blue and orange.

World War II wreck enthusiasts usually visit Wai to dive a P47B plane lying in 27m of water. It is one of seven planes that went down near Wai; another lies at 45m, while a third one is no longer recognisable in the prolific shallow hard coral gardens.

A tidal current called The Passage rips between the islands of Gam and Waigeo, bringing nutrients to the reefs. With its brownish water and cliff faces on either side, the current resembles a river. Parrotfish, goatfish and shrimp gobies swim among sea fans, clams and stony corals. Rays of sunshine filter through the dense foliage and cast a dappled light on the waters below. In the calm waters of the coves and bays, archerfish swim parallel to the surface, darting amongst fallen logs and sea fans as they search for insects in the jungle overhead.

The Ondina usually ends diving near Kri. Papua Diving, based at Kri Eco Resort, also operates in the area. These islands have the most diverse mechanics to service the reefs. Fish, crustaceans, nudibranchs and cephalopods all work the reef day and night. Sardine Reef is not named after sardines, but for the feeling of being packed in a can one gets when diving. Mike's Point is famous for huge schools of sweetlips, while Mioskon has a bit of everything – hard corals, soft corals, pygmy seahorses and

Dive the Globe
Raja Ampat



By Jeanne Liebetrau and Peter Pinnock

giant trevally.

At the right tide, the point of Cape Kri pumps with activity. Huge schools of surgeonfish block out the sunlight as they move down the length of the reef. Otto, Papua Diving's guide, draws our attention away from the circling barracuda and shoaling batfish and points to the delicate strands of a hydroid. Something resembling reef dandruff purposefully drifts from one hydroid to another. It is a pygmy seahorse no bigger than 5mm, sporting a yellowish body and a reddish head. (Max Ammer, the owner of Kri, is hoping that this seahorse, not yet described by science, will be named after Otto who first discovered it.)

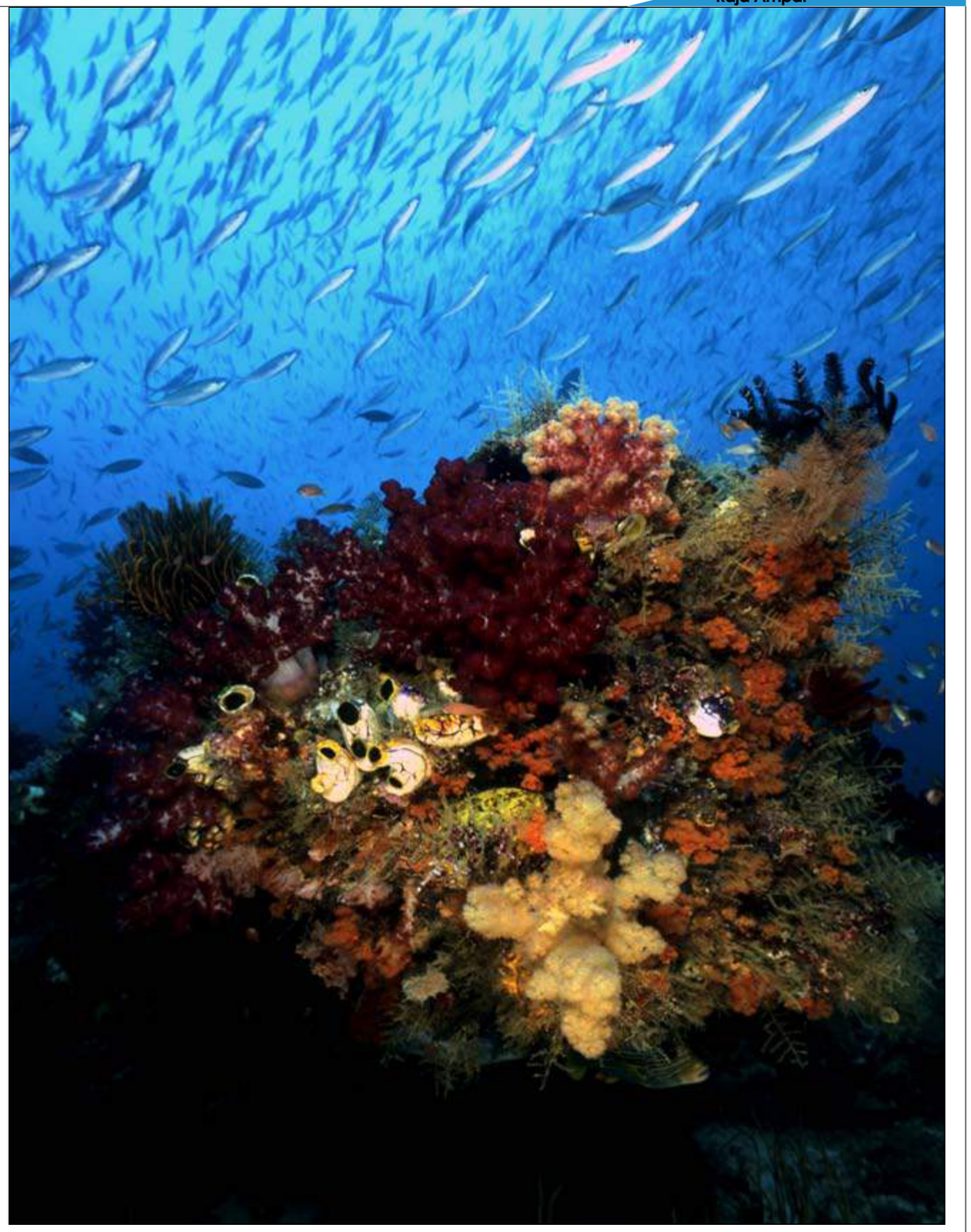
Next, a pack of kingfish attacks some fusiliers overhead. One is singled out and with lightning speed the kingfish sweep in for the attack. Soon a few scales drift down. Otto calls again. This time he points out a pink pygmy seahorse (hippocampus bargibanti), which is perfectly camouflaged in a fan. Thanks, Otto, but the big fish action has my full attention.

The giant barracuda have settled in a hollow on top of the reef and a blue-striped cleaner wrasse is busy grooming the scales of the largest one. Three other barracuda wait their turn. This is weird stuff: the big hunters being cleaned by fish that would normally suffice as hors d'oeuvres.

Manta Point, where tidal currents torrent over a shallow reef, is the perfect spot for mantas to stop and hover. Here they can dine on plankton while having their wings and gills preened by diligent cleaner wrasse. There are mantas large and small, some with dark bellies and white markings, others black-on-white, some with short tails and others with crooked tails. They all congregate to partake of the free cleaning service and we spot more than 25 mantas at once.

Raja Ampat is a booming healthy engine with a bounty of fish, corals and critters. The scientists completed their preliminary study in 2002 and recommended that it be declared it a World Heritage Site. May it happen soon – it is imperative that we look after this "engine of the Pacific".
For more underwater images and stories, visit PeterPinnock.com.

Dive the Globe
Raja Ampat



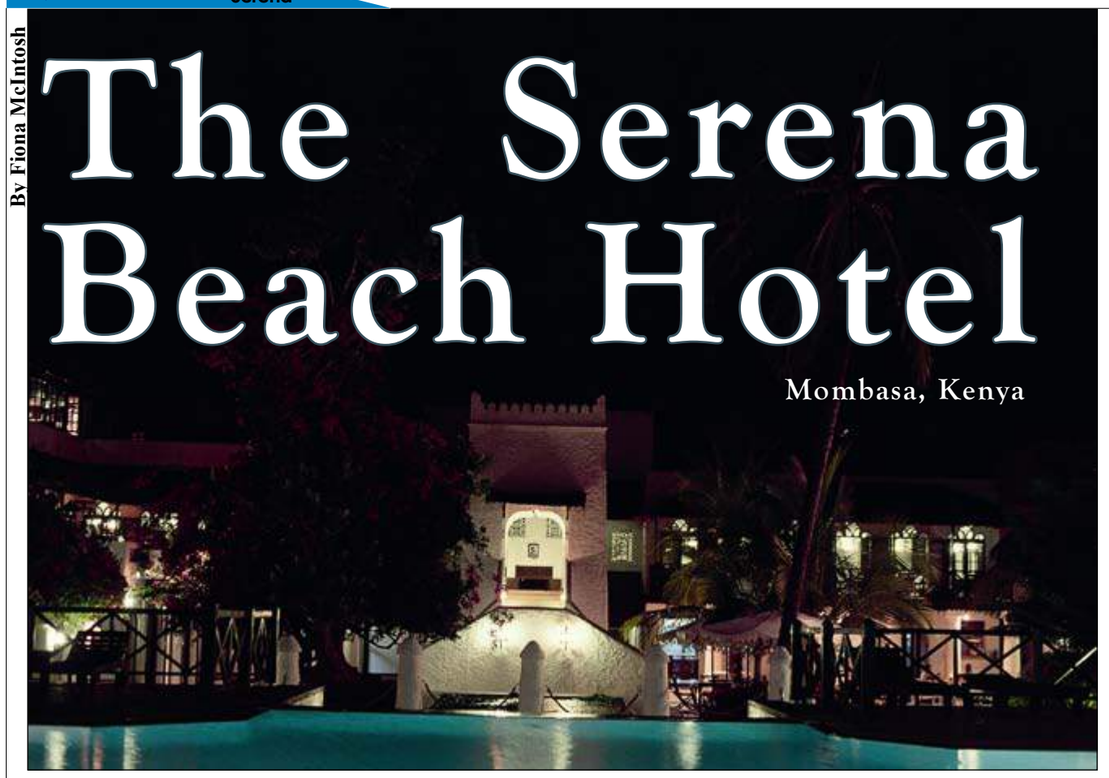
Raja Ampat

By Jeanne Liebetrau and Peter Pinnock

By Fiona McIntosh

The Serena Beach Hotel

Mombasa, Kenya



Kenya is rightly famous for its wildlife and a safari is what most visitors seek when they touch down in Nairobi. But the country is incredibly diverse and many of its attractions are overlooked. Not surprisingly, the political unrest that followed the elections late last year had a pretty negative effect on tourism at the beginning of 2008, but things have settled down again and there are some great offers to be had from hotels and travel agents seeking to entice visitors back to the country. So if you're looking for an affordable beach or diving holiday, the Kenyan coast – particularly the glorious beaches between the popular hubs of Mombasa and Malindi – is a good bet.

The Serena Beach Hotel & Spa just outside of Mombasa is a tranquil retreat boasting its own on-site dive centre. The professionally run outfit offers the full range of dive courses, rents out good quality gear and has a friendly staff complement that knows the sites well. Diving is in the Mombasa Marine Park where the reefs are in pretty good condition and only a short boat ride away. There are plenty of colourful corals and little reef fish to amuse those who enjoy pretty underwater scenes, as well as some challenging dives for more experienced divers. The top site is the wreck of the MV Dania, which was sunk to create an artificial reef in 2002. The visibility was great when I dived it and we saw plenty of jacks, a school barracuda and of course the ever curious Batfish. We didn't see any, but apparently Whale sharks often cruise up the coast – now that would be quite something!

The hotel itself is unusually styled to resemble an old Swahili town – complete with winding lanes and bustling market – set among a tropical garden of palms and exotic flowers. Each room has a private balcony and a view onto the ocean or the gardens – and, of course, all the mod cons. But it is the local Zanzibari design features that you'll remember – the carved doors and balconies, coral pillars, stone-carved niches and the lavish, traditional Lamu-styled

Dive the Globe
Serena

By Fiona McIntosh

furniture. And although there are 164 rooms and suites, it's extensive enough so you never feel part of a crowd.

Five restaurants ensure that you can have a different dining experience almost every night of your stay. My favourite was the Swahili-themed Jahazi Grill. Right on the shoreline, and built to resemble a traditional Swahili dhow complete with sanded decks, lashed sails and kanga-decked tables, the Jahazi specialises in freshly-caught seafood – everything from crab to local fish.

The Serena Beach Resort's location gives easy access to the rest of the coast, so if you tire of the beach, complementary water sports, floodlit swimming pool, gym, tennis and squash courts, spa and on-site pampering, the hotel will organise safaris to the nearby Tsavo East game reserve and tours of the other local attractions, including Mombasa.

The city has a long history as an important trading settlement for generations of Arab, Portuguese and Indian sub-continent traders, and its main attractions reflect this cultural mix. The Old Town is a fascinating place to explore, admiring the old Islamic and Portuguese architecture or wandering through the warren of Arab and Indian trading stores. There are no shortages of organised tours and activities, but one of the best nights out is to take to the water on a traditional Arab dhow and enjoy the views of the Old Town and the colossal bastion of Fort Jesus before sitting down to a romantic candlelit seafood dinner followed by dancing on the deck.

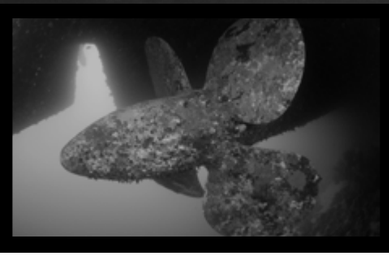
But one of the best things to do at the Serena is to sit and look at the Indian Ocean. As Karen Blixen so famously insisted, "The sea at Mombasa is as blue as a cornflower, and, outside the inlet to the harbour, the long breakers of the Indian Ocean draw a thin crooked white line, and give out a low thunder even in the calmest weather." Simply magic.

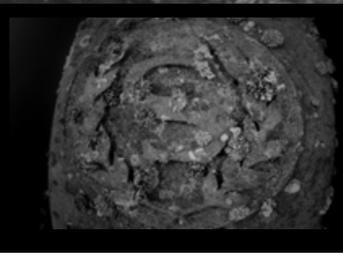
Wreck Explorations
Salem Express

The Salem Express

By Chris Gooda Photos: Johan Boshoff

This wreck is rapidly becoming one of the best known and most controversial wreck dives in the Red Sea. There is much debate in Egypt and beyond as to whether visitors should be allowed to dive on the wreck and, with so many rumours and fallacies surrounding its demise, it is difficult for divers to make an informed decision about whether the dive is right for them.




By Chris Gooda Photos: Johan Boshoff

On Monday, November 30, 1964 the Fred Scamaroni, named after a Corsican resistance leader in the Second World War, was launched in La Seyne (near Toulon), France. After her first sea trials, fire ravaged the engine room at the end of June 1965 and it was only after 11 months of rebuilding that she was finally able to make her maiden voyage from Marseille on Tuesday, May 17, 1966.

She was a very advanced vessel for her time. One of the earliest 'roll-on/roll-off' ferries, she boasted liftable car decks, adjustable pitch propellers (allowing improved acceleration and better efficiency at speed) and a cutting-edge ballast system allowing the vessel to adjust to the heights of different docks.

Troubled with further engine fires and small collisions, she spent 11 years plying her trade in the Mediterranean for a variety of French shipping companies until, in 1980, she was sold to Ole Lauritzen for $4m, and renamed the Nuits Saint Georges. He planned to use this vessel to start a new shipping line and its first route was to be between Ramsgate and Dunkerque. This venture was only to last for five months as, because the of exposed nature of Ramsgate, inadequate dredging of its harbour and blockades of Dunkerque by protesting French fisherman, the company was liquidated in September 1980. The ship was then immediately sent to Vlissingen in Holland to be decommissioned.

A year later in November 1981, the ship was sold to the Lord Maritime Enterprise in Egypt for 3,6m guilders, and after being renamed the Lord Sinai, she began working in the Red Sea in what was to become the final chapter in her story. From 1982 she provided a service between Suez and Aqaba (being renamed the El Tahrir in 1984).

In 1988 she was sold for the final time, to the Samatour Shipping Company, and was given her now infamous name – the Salem Express. For the following years she provided a popular service between Suez, Safaga (in Egypt) and Jedda (in Saudi Arabia) until tragedy struck on the night of December 15-16, 1991.

She departed Jedda with 578 passengers (mainly Egyptian workers returning to their families from Saudi Arabia) and 72 crew, on her 800km journey to Safaga. Captain Moro, a former teacher at the Egyptian Naval Academy and an experienced seaman, was at the helm. The majority of the voyage passed without incident despite very strong winds and high waves.

As the ship neared Safaga the captain made the fateful decision to take a short-cut through the Hyndman Reefs, which would put the boat in calmer waters and shave at least an hour from the journey time compared with the normal offshore route.

Just before midnight the ship struck the southernmost of the Hyndman Reefs, opening the hull on the starboard side. The force of the impact also opened the bow doors and the ferry's fate was sealed. Water rushed into the undivided car deck and the ship immediately began to list

Wreck Explorations
Salem Express

By Chris Gooda Photos: Johan Boshoff

heavily to her starboard side. Panic quickly spread amongst the passengers and soon the engines and generators stopped, near darkness aggravating the situation.

Within 20 minutes the Salem Express had sunk, the speed of the incident and the immediate heavy listing meant that none of the lifeboats could be properly launched and other, smaller vessels in the area could only watch in horror as the situation unfolded, unable to assist due to the horrendous weather.

A total of 470 people lost their lives that night. The majority of the 180 survivors battled the storm force wind and waves to swim the 6km to shore. Many of the victims went down with the ship and, despite a valiant recovery operation, the wreck was eventually sealed with many bodies still inside. Today the wreck lies on her starboard side in 30m of water, her shallow port side just over 12m from the surface. The wreck has become a haven of marine life. Frogfish are often spotted on the two masts protruding from the upper decks, beautiful red tube sponges adorn the wreck and the profusion of acropora and pocillopora finger corals shelter a dazzling array of brightly coloured coral guard crabs. The almost horizontal port side of the ship is densely populated with many different species of pipefish and several different species of parrotfish graze on the algae covered surfaces.

When divers first explored the wreck, many pieces of luggage and personal belongings were scattered across the sea floor. Whilst over time weather and irresponsible divers have dispersed the majority of this debris, there are still tell-tale reminders of the ships tragic demise.

Currently there are no restrictions on diving the wreck and it is ultimately a matter of personal choice to decide whether you will jump in the water here. This article should provide the information you need to make that decision (which should not be taken

Wreck Explorations
Salem Express

By Chris Gooda Photos: Johan Boshoff

lightly). For those who choose not to visit the ferry there is a small gotta (reef) to the east of the wreck which offers a pleasant dive and a chance to see a collection of nudibranchs and juvenile wrasse.

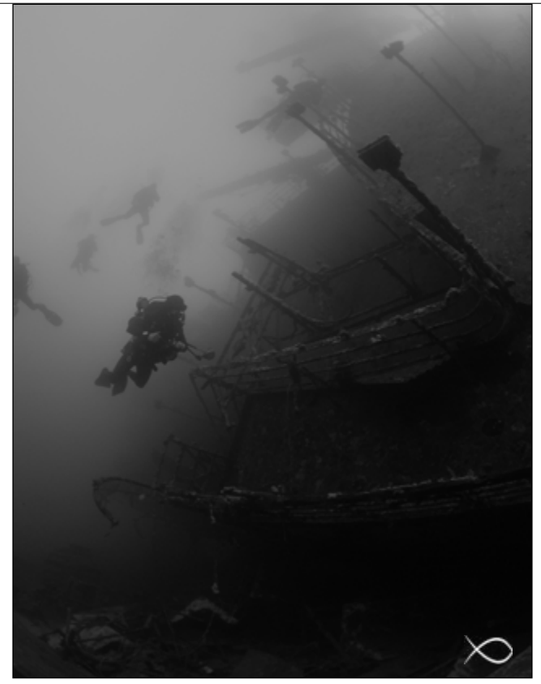
If you do choose to dive the wreck, please stay outside – the wreck is a grave and victims do remain trapped within. Unfortunately some disrespectful and ill-informed divers do still penetrate the ship to steal trophies and take irreverent pictures which they later publish on the internet.

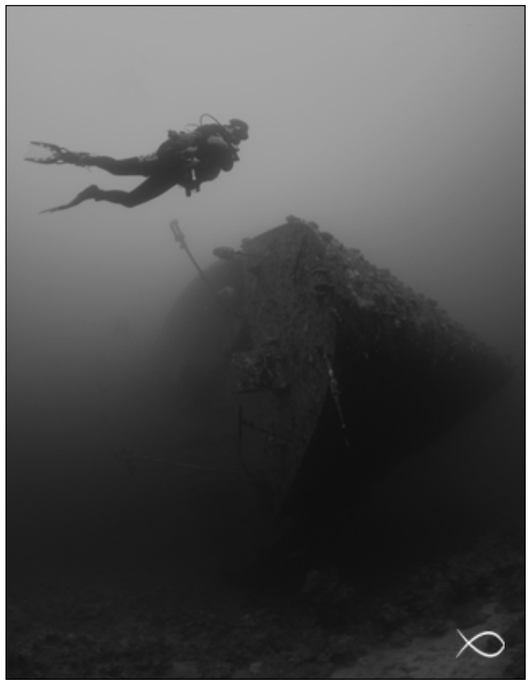
Salem Express myths

*The Salem Express was filled with pilgrims returning from the Hadj – The Hadj pilgrimage had taken place in June 1991 and, whilst there will have been some pilgrims travelling outside of this time, most passengers will have been Egyptian workers returning to their families.
* An extra deck had been added to the ferry, making it top heavy and allowing it to roll over – This is simply not true, photographs of the boat from when it was first built show an identical design to the wreck that remains today. The myth probably arose from confusion with another ship-wreck.
* The ferry was massively overloaded – According to the Saudi Arabian authorities the ferry was officially carrying 578 passengers and there is no reason to doubt this figure. When new the boat was licensed to carry 1 120 passengers at night, so regardless of changes to the boat's licensed capacity the boat was undeniably not overloaded.

Statistics (as published in 1966):

Length: 115m
Width: 17,83m
Draft: 4,92m
Power 14,880hp
Top speed: 20 knots
Vehicle capacity 140/230
Cargo capacity: 192 LIM (Lanes in metres)
Passenger capacity: 1 256 (day)/1 120 (night)
Crew: 11 officers and 63 seamen





DEEP DOWN YOU WANT THE BEST

EVOLUTION IN ACTION

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EVOLUTION IN ACTION

This season sees the launch of a new series of regulator innovations from SCUBAPRO, ushering in a new era of cold-water protection for the industry. The most significant being the patent-pending Extended Thermal Insulating System (XTIS) Available in EVO first stages, XTIS fully insulates the inner mechanical components for extra protection. With it, the cold-water protection rating for MK25 EVO surges another 30 percent, with an impressive 50 percent boost for the MK2 EVO.

DEEP DOWN YOU WANT THE BEST

Through the Lens
Photographic Competition

Photographic Competition

Anja Bomman

Bertie Nel

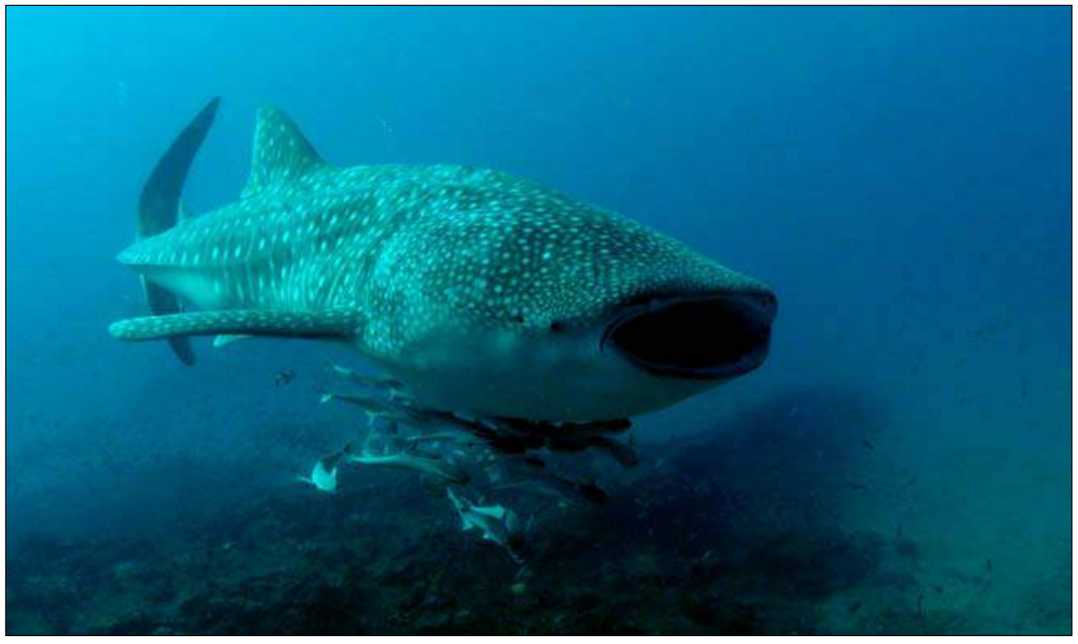
John Moffat

Lee Otten

Marie Venter

Marnus Lyon

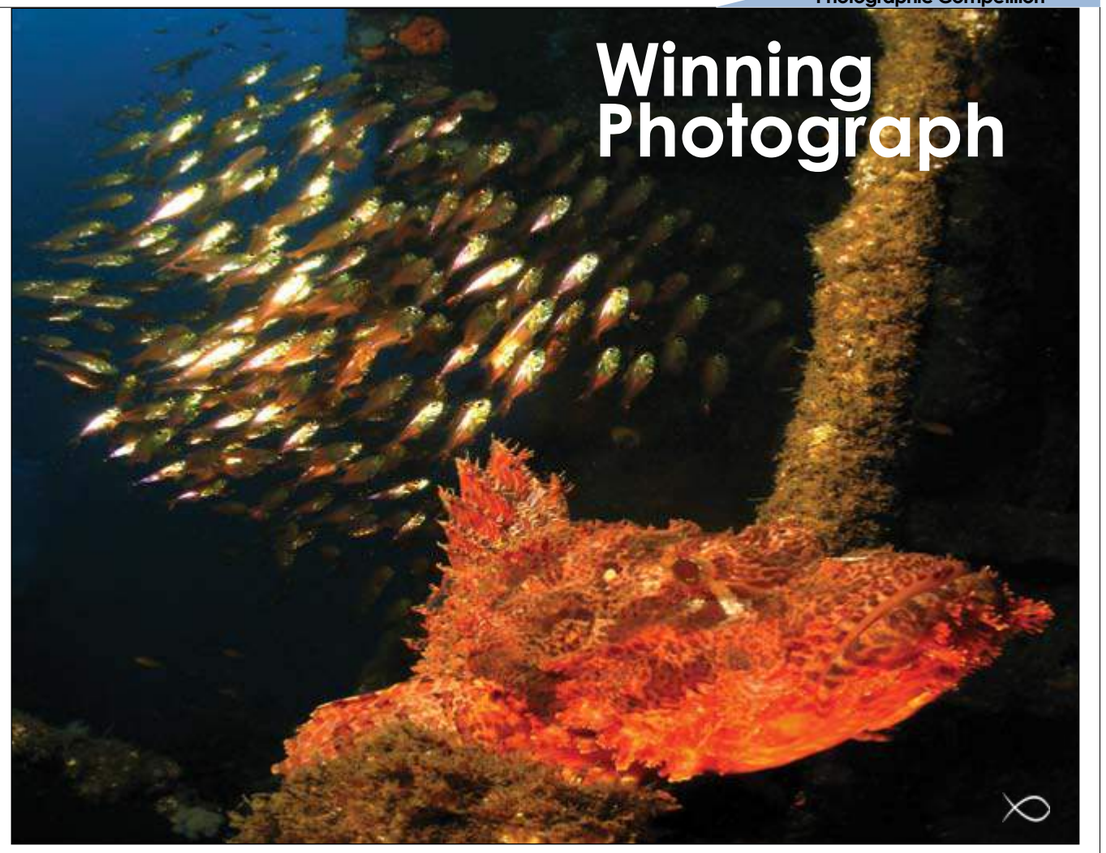
Leigh Sleight



Andries Scholtz

Through the Lens
Photographic Competition

Winning Photograph



Bryan Hart

How to enter your photograph

Whether you're an amateur or professional photographer, this is a photo competition for all levels of photographers. We're looking for pictures that capture the true experience of scuba diving and the wonders of the underwater world.

Submit your photo!

-- Photographs may be taken above or below the water, as long as diving remains the theme.

-- The Name of the photograph must be the photographer's name.

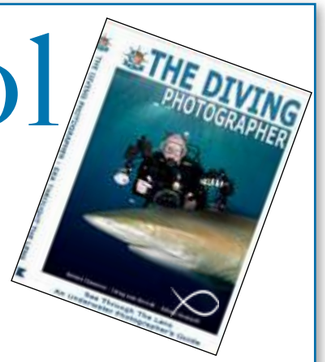
-- Photographs must not be bigger than 5 MB per photo.

-- Submit your snaps in high-resolution (at least 150 dpi) in jpeg format.

Visit www.ozdiver.com.au, click on the "photographic competition" link and follow the steps.

Photo School

The Rule of thirds (Part 1).

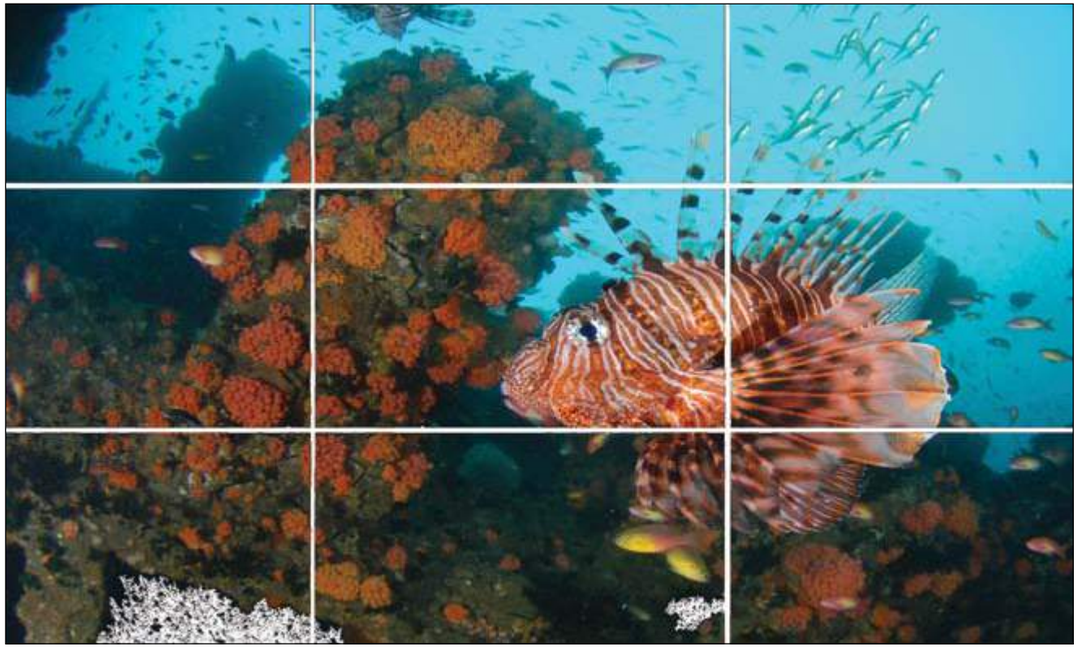


By Karlien Euvrard

Without us being conscious of it, artists, designers and film producers have been employing a concept called the rule of thirds for centuries. The reason why this technique is so important is because it establishes a sense of balance. It also allows more background to enhance the story and provide perspective to your image.

What is the rule of thirds?
The rule of thirds is a concept which divides an image into nine vertical and horizontal imaginary sections. This creates reference points which act as a guide for framing the image. The point or line of interest should appear a third or two thirds away from the frame or on one of the guidelines as opposed to simply aiming to get the object in the middle of the shot. The rule of thirds applies to both portrait and landscape orientation but more particularly to the latter.

Most cameras' today have an option to superimpose a rule of thirds grid over the LCD screen, making it easier for the photographer to align the subject with the horizontal and vertical lines. As your experience grows, this rule will come naturally to you and you will automatically apply this rule without thinking about it.



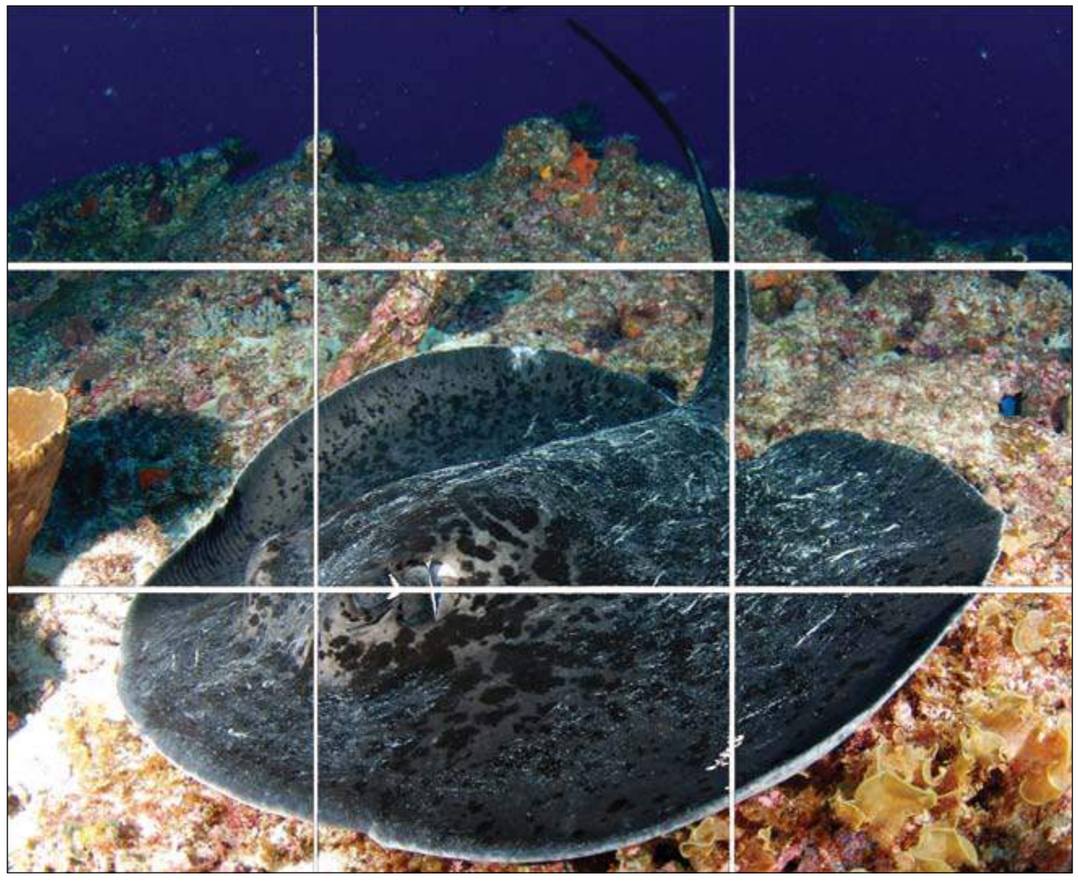
The rule of thirds should generally be applied when taking pictures, but, it must be said that great pictures can be taken by violating this rule, so don't be afraid to go against the rules. This is especially the case when taking close up shots – use your intuition when taking photographs.

A few simple things to remember

If the subject of your photograph is a fish, try and get the eye of the fish in one of the focus points and make sure that the eye is in sharp focus. This is a rule which has been applied by most wildlife photographers. The sharpness of the eye will capture the attention of your audience. Where a landscape photograph is taken of a shoreline, water level, coral reef or horizon, aim the horizontal line on one of the two horizontal lines provided by the rule of thirds.

Try and avoid placing the horizon in the middle of your picture. Look at the detail available above and below the horizontal line and move your camera up and down to get the best effect. By applying the rule of thirds on the subject, more depth and dimension is provided in the photograph. This is a powerful technique which will immediately improve the composition of your images.

If you have forgotten about the rule of thirds at the time the photograph was taken, the rule of thirds can be established by making use of the crop tool on any photograph editing software.



By David Caravias

Photo Editing

In most photographs there is something that will bug you that you would love to remove to enhance the overall impact of the image. You may look at the photograph and think, "If only that was not in the photograph then it would be great," whether it be a diver's fin or a bait rope on a shark cage. Fortunately there are very useful tools available to help you easily and effectively remove most unwanted objects from your image. The overall result of your edit will be mainly down to your patience and perseverance when removing an object from your image. Depending on the object you want to remove and the composition of the photograph this may take five minutes or five hours.
We will now show you how to use the Clone tool to effectively remove an unwanted object from your photograph.

The Clone tool

The Clone tool is exactly that, it clones an area of your choice in the photograph into another selected area in your photograph. The Clone tool uses the brush tool to copy from an image or pattern from another part of the image. This technique takes a while and patience to learn, but in the hands of a skilled user it is very powerful.
Once you have the hang of the tool it is very useful and easy to remove objects from photographs. In my photograph I have a diver with bright light at the bottom of the picture which is a very distracting object. To remove this I selected the Clone tool.
The first thing I need to do is make a duplicate layer of the image to work on. As before it is very important to do this, as if you make a mistake and ruin the photograph then all you need to do is delete the layer and try again on a new duplicate layer. You will not then harm the original image, and by turning the layer are working on off and on you can see the difference between the original and the image you are working on as a guide.

Selecting the tool:
- From the Top Menu in Gimp click on Tools, Paint Tools, Clone.
- Click on the Icon on the tools Palette.

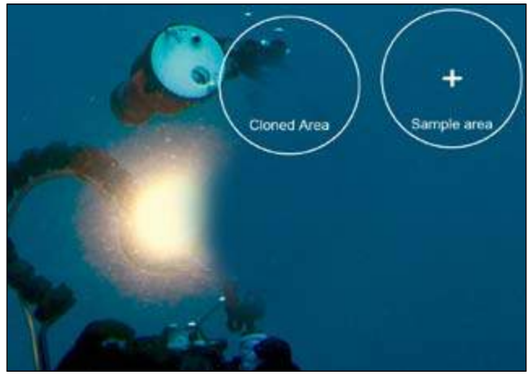
Opacity
This controls the strength of the brush you are using – the lower the opacity the more 'invisible' your brush strokes are and the slower the blending will take to clone the area you are working on. 100% opacity is the maximum and is very harsh so it is best to work with at least 50% to gradually change your image.

Brush
Select a soft brush with faded edges. This will avoid distinct streaks and lines along the edge of your cloning. This will allow you to change the image by slowly blending the changes on the photograph so the results of your touch-up are not visible. When using a mouse you do not need to use the Brush Dynamics settings and there is no need to select 'Fade Out', 'Apply Jitter' or 'Hard Edge'.

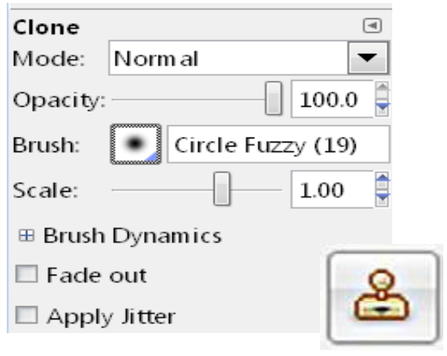
Scale
This ranges from 0-10 but it is much easier using the square brackets on the keyboard [= smaller] = Bigger;

Source
Tick 'Image' and then ignore 'Sample Merged' as this would include all layers in the clone and not just the one you are working on. Pattern is also not needed for removing objects from an image as this is basically used for creative effects such as adding a pine floor pattern to an image.

Alignment
There are a couple of tools that you can use with this option. The first is 'aligned' which I used for this example. As the water column around the diver to be removed was fairly consistent with the water next to him, this was easy to work on. I selected a spot parallel to the diver and then swept the brush over the image. The sample that is being used to clone is then aligned with this and used over the diver.



The 'Registered' option is not really useful for this purpose as this is mainly used when utilising multiple layers.
The 'Fixed' option can also be quite handy, although restrictive. If your background is very basic and one standard colour then this is a great option to use. The sample area when engaged (ctrl and left click) stays where it is and the clone is based on only one spot in the image. This will allow you to quickly run over the object replacing it with the sample area. The only downfall with this tool in Gimp is that the sample area is quite small.
Using the Clone tool is very easy and effective when deleting objects in underwater scenes. This works well with the Healing tool which does a similar job but is more advanced and a great tool to finish off your editing. The Heal works like the Clone but also takes into consideration the area that you are working on when blending in the Clone. The best practice is to use the Clone tool to roughly delete the object and then use the Heal tool to smarten up the image to cover up any evidence of the edit.



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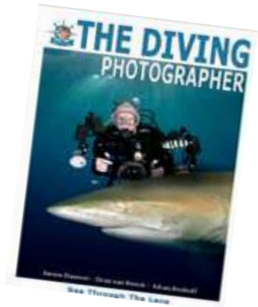

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Giant Stride
Creatures of the Night

By Jeanne Liebetrau and Peter Pinnock

Creatures of the night

By Jeanne Liebetrau and Peter Pinnock

It's rush hour underwater. Daylight is fading and night is creeping in. Traffic is building up as nocturnal fish are slow to wake and venture away from the sanctity of the reef. Diurnal fish are desperately looking for safe parking space for the night but the parking lots are still occupied. Adding to the chaos and causing multiple accidents are the voracious feeders that attack the homeless fish. Each attack scatters the queuing fish, causing many to crash into the reef barriers as they attempt to flee from the chaos. The wounded limp into crevices to recuperate, only to find that the hospital staff are off duty for the night. The hustle and bustle of a coral reef can be likened to a giant underwater city with many different buildings, apartment blocks, tunnels, alleys, freeways and parks – all in a cosmopolitan atmosphere.

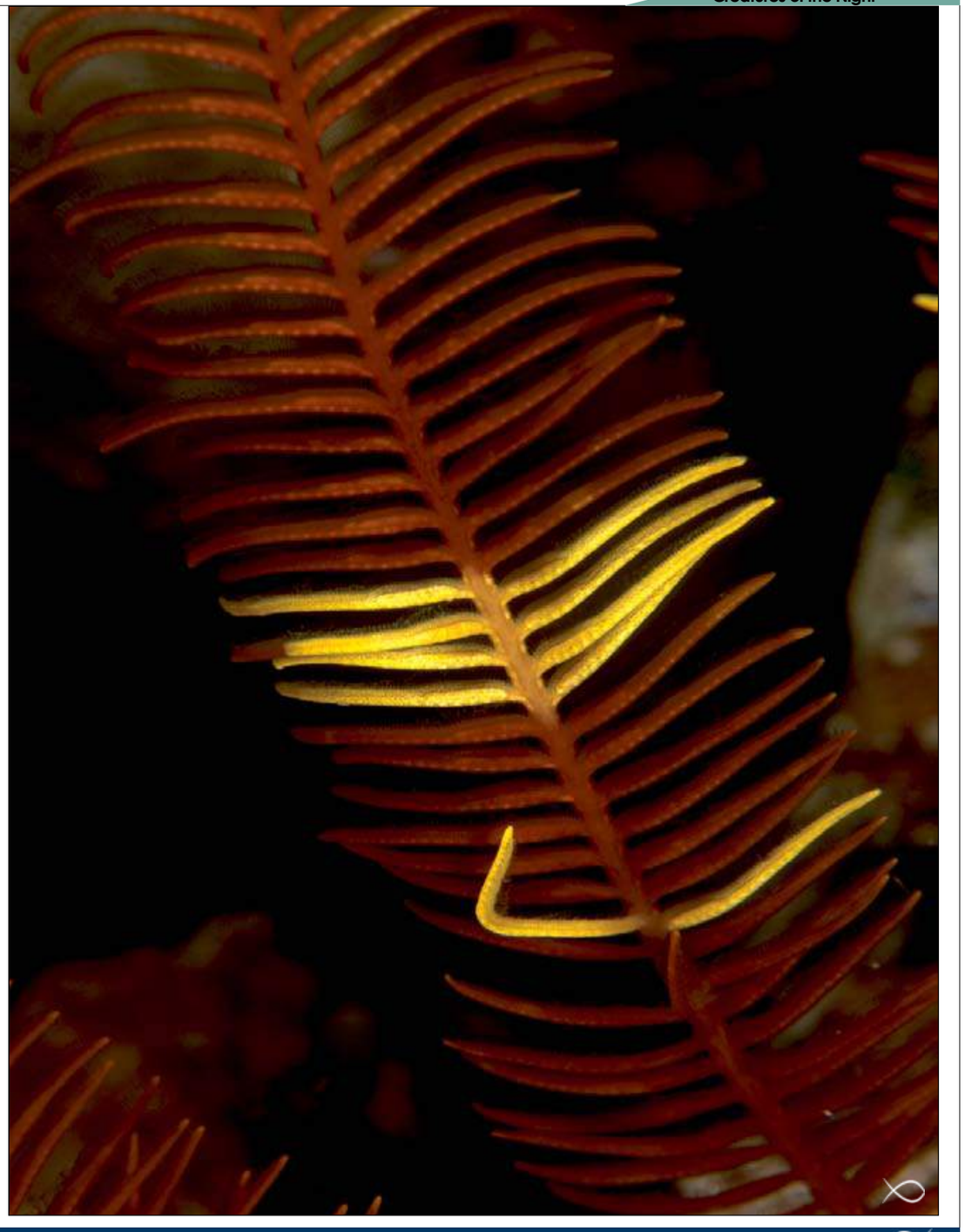
At night the buildings remain the same but the activities and occupants are different. The blackness is apparent – there are no streetlights or neon lit shop fronts to illuminate the reef. Occasionally moonlight is reflected off sandy patches and on cloudless nights during full moon there is incandescent lighting. Adapting to the dimness, some nocturnal fish have developed extremely good eyesight. For example, the aptly named Big eyes have extremely large eyes with massive pupils to allow in more light. Their eyes also have more rods than cones which, although don't help colour vision, enable the fish to differentiate shapes in the darkness. Furthermore, these high-tech eyes simulate a mirror effect that reflects light back onto the visual cells thus doubling the visual perception. Flashlight fish go one step further – they have their own headlights and the ability to switch them on and off. Behind each eye lives a patch of luminescence bacteria. A retractable membrane covers these bacteria, effectively turning the lights off, but if the Flashlight fish want to attract plankton, find their way in the dark or communicate with mates, the membrane is kept open. With their acute night vision these nocturnal fish travel great distances hunting for food. The darker the night, the greater the distance they feel safe to travel.

The start of rush hour

Usually the first to hit the road at night are the Feather stars. Feather stars relinquish their parking lots early as they vie for prime real estate – skyscrapers or penthouses with a view into the open current. The more precarious the position the better the chance they have of catching passing plankton with their sticky arms. Basket stars, close relatives, are not such early risers – the moon is high before they stir. Resembling tangled balls of string, the Basket stars unwind to create a net of sticky lace, the filigree strands constantly recoiling as caught plankton is fed down the arms towards the mouth at the base. The more delicate Brittle stars twine their arms around sturdy structures that are situated in current rich areas.

When the parking lots are full, fish need an alternative form of protection. Acting as bouncers, the heavyweight Potato bass evict

Giant Stride
Creatures of the Night



By Jeanne Liebetrau and Peter Pinnock

By Jeanne Liebetrau and Peter Pinnock

any existing tenants to dominate large caves and overhangs. But for the average size Parrots and Pufferfish there may not always be sufficient shelters – or they may be occupied. They must resort to their own defense mechanisms. The Parrotfish ingeniously secretes a mucus sleeping bag around its body. This flimsy cocoon masks its body odour, thus providing some protection against the bloodhounds of the night. Pufferfish don't bother to hide as they continually exude poisonous mucus and therefore don't appear on anyone's menu. Yet even smaller creatures such as Periclimenes shrimps rely on their hosts to provide protection. Choosing the ideal host is a personal decision. Living amongst crinoids' spiky arms is one popular hangout. Crinoids though are fairly stationary creatures and some shrimps prefer the more adventurous lifestyle on hosts that also act as a public transport system. Popular modes of transport are sea cucumbers and starfish. The sea cucumbers are slow movers but offer good protection as they too exude poisonous substances. The starfish may cover more ground but they offer less protection.

A noisy setting

Many fish may be snoozing peacefully but the reef is far from quiet at night. Making the most noise is the crustacean family. As crayfish, lobsters and crabs scuttle over the reef searching for food, their rigid shells and hard legs clatter across the hard corals. Ungainly Slipper lobsters shuffle around scraping their carapaces noisily across the rocks. Adding to the underwater chaos, the Slipper lobsters use their modified shovels to dig prey out of the reef. Hermit crabs struggle to carry their heavy shells as they scour the reef for food and, in order to communicate, crustaceans snap their pincers shut. It is possible that the noise stuns prey but mostly it's used to warn others that they are trespassing on private property. As a result the reef sounds like a mini construction site.

The dress code at night is pretty simple. The vibrant colours of diurnal fish are not noticeable in the darkness and have no value in attracting the opposite sex. Red, however, is a dominant colour of many nocturnal creatures – fish, lobsters, shrimps, urchins, starfish and even krill. The technical reason is that as light enters water it is diffracted. Red is lost a few metres below the surface - reds therefore appear brownish – an excellent camouflage colour. Hence the reason Coral rockcod and Big eye squirrelfish often hang out in the back of caves during the day. But at night they become ferocious predators combing the reef. Even diurnal fish sporting day-glo colours are required to change their attire to pyjama colours for the night. The brilliant yellows of the Butterflyfish soon fade to drab mottled creams and the striking

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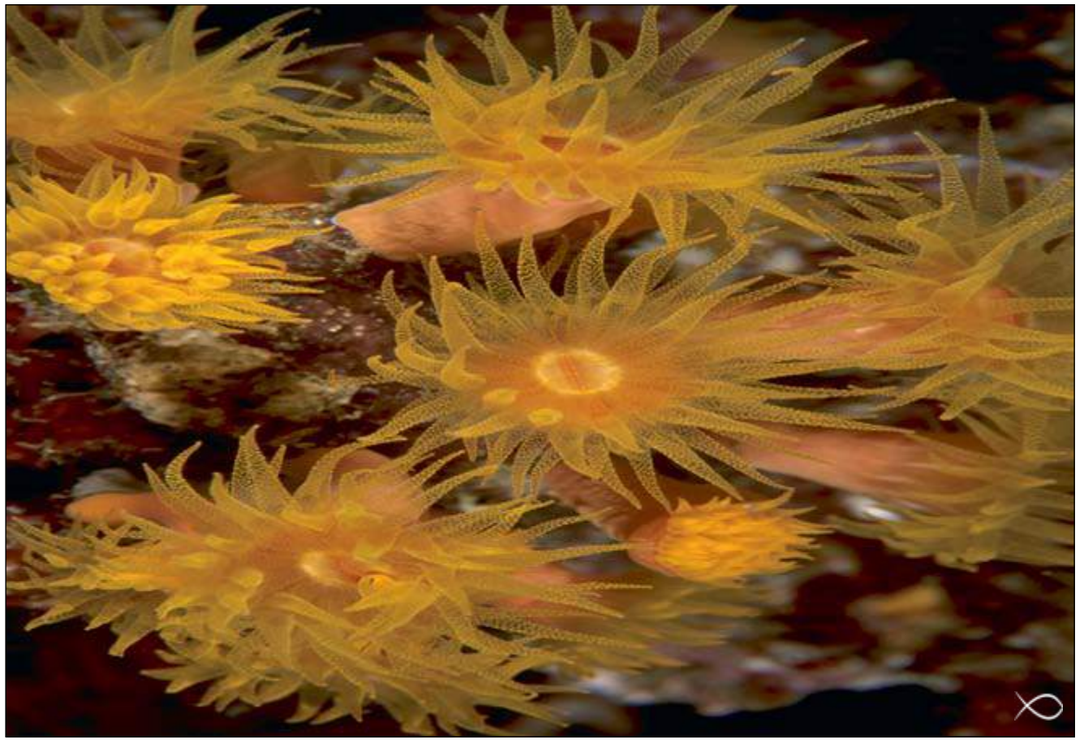
By Jeanne Liebetrau and Peter Pinnock

Blue damsels fade to grey. The crimson red Spanish dancer nudibranchs are famous for their flamenco dancing which is spectacularly preformed in the disco lights formed by phosphorescence in the water. Plankton disturbed by movement releases protein that mixes with an enzyme causing a chemical reaction producing glitter sparkles known as phosphorescence or bioluminescence.

Coral reefs even have nighttime street sweepers. Moving slowly across the substrate, starfish feed on detritus while spiny urchins roll along like pincushions scouring algae off the reef. Sea cucumbers work the sands recycling it as fresh sand. Also working at night are the restaurateurs – plankton is the nutritious soup of the ocean served 24-hours a day as it drifts with the oceans currents. However, with fewer predators around at night and therefore less chance of being nipped by corallivores, both soft and hard corals enjoy the plankton feast at night. During the day hard corals resemble boulders and stones carved into miniature mazes, yet at night, with polyps extended, they are instantly converted into beautiful flower gardens in full bloom. The bedraggled and limp soft corals gorge themselves with water, inflating their size many times over as they too partake of the nutritious soup. Enjoying the flower show and adding to its beauty are Glass shrimps and Decorator crabs. Decorator crabs, apprehensive about being eaten, attach polyps and spinules of soft corals to their bodies in order to blend in with the delicate soft corals.

Although they will dine during the day if the opportunity arises, eels frequently dine at night. Their favourite meal is shrimps and prawns followed closely by octopus. Like shrimps, the octopus also eat out at night. Under cover of darkness they flush out critters hiding in the sands – the hunters become the hunted. In midwater, Cuttlefish also feed on crustaceans and fish, manipulating their internal light organs to create magnificent chromatic displays, often mesmerising their prey with the lightshow. The traffic congestion has settled. The reef city is ablaze with flickering lights, abuzz with noise, and while the night owls are dining, other sea creatures have settled in for a good night.

For more underwater images and stories, visit PeterPinnock.com



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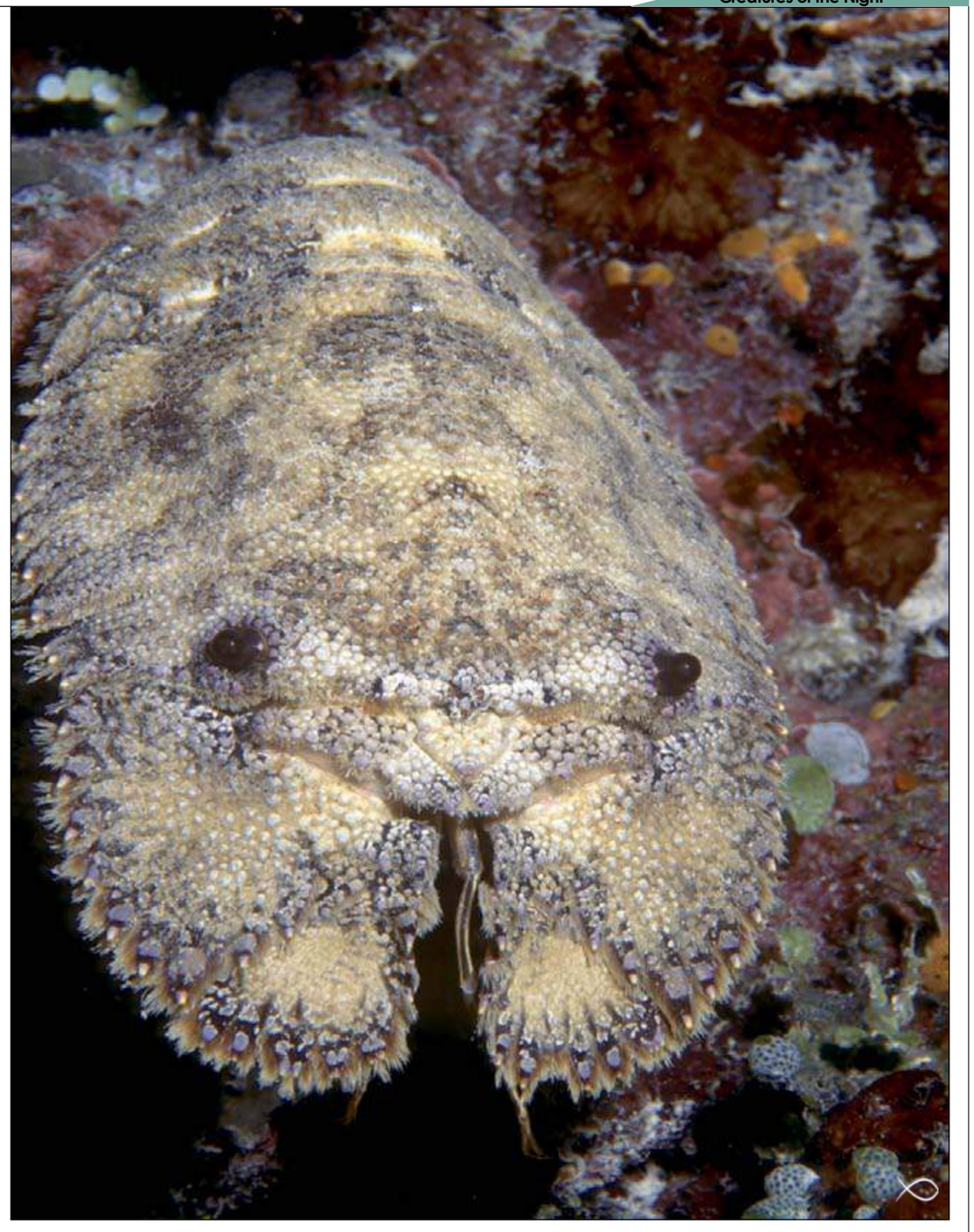

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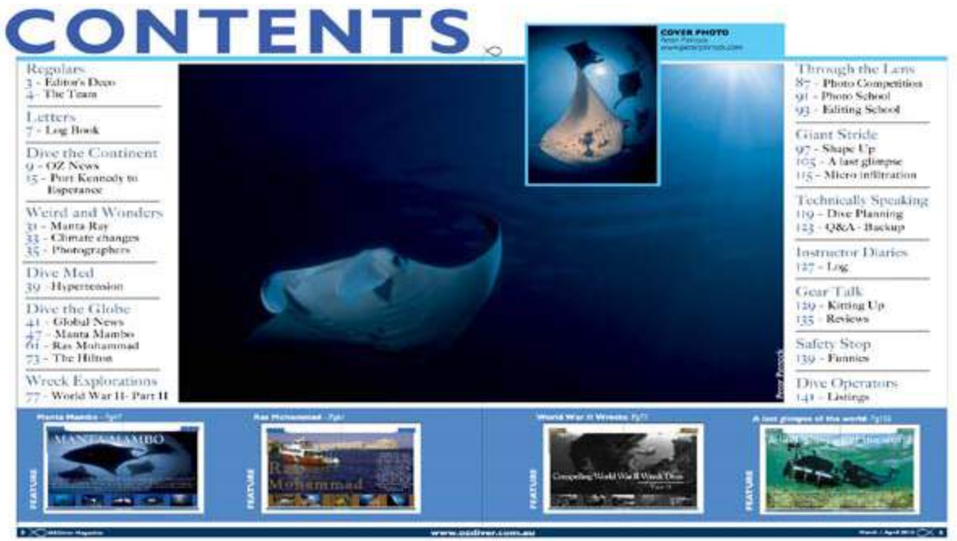

WWW.OZDIVER.COM.AU

By Celia Coleman

How the Poseidon Mk6 Discovery rebreather was born.

In 2003 I enquired of Barry Coleman, "Can't you design a fully automatic, ready to dive rebreather, so I can just take photographs and not bother with driving the unit?", after much complaining during my Rebreather Course.

Barry already had the design on paper – but we needed to put an infrastructure in place. Then one morning Barry was chatting about this to one of our regular customers and in no time at all a plan was put into action. Kurt would go back to Sweden and source/purchase a manufacturing factory (Poseidon Diving) and Barry knew the Cis-Lunar rebreather licence was for sale in the USA, so he made contact with Bill Stone in Texas.

Barry then put a team together and they flew to Paul Heinerth in Florida, a very good friend of Barry's and an avid Cis-Lunar rebreather diver. Together, meetings were set up with Bill Stone, who invented the Cis-Lunar Mk1 rebreather 24 years ago, weighing 94kg!

Plans developed after much deliberation and Barry's insisted that this fully automatic rebreather would work for recreational divers with a completely automated electronic system. The team flew to Sweden in 2006 to put the design into practice, and after two years of development and manufacturing, the Cis-Lunar Mk6 was produced and christened the Mk6 Discovery.

So what made the unit so diver friendly? The mouthpiece is a breakthrough in design by Barry. Bill Stone, the original designer of the first open/closed circuit Cis-Lunar mouthpiece was very sceptical that an improvement could be made to the design he had already developed. The original mouthpiece design had about 14 o-rings and was rather bulky. The switching method generally required two hands to switch from closed circuit (rebreather loop) and the open circuit bail out. There was a low pressure (LP) hose feeding the mouthpiece for the open circuit bail out and another LP hose to the automatic diluent valve (ADV). This valve supplied gas directly into the breathing loop without the diver having to manually add gas himself when needed. The mouthpiece and the ADV, two individual parts or units on the Cis-Lunar design rebreather, were in their day a revolution.

Barry's newly designed mouthpiece was smaller and compact, only had two o-rings,

Giant Stride
MK6

By Celia Coleman

By Celia Coleman

incorporates the ADV as well making this the very first mouthpiece to include the open circuit bail out option and the ADV. Furthermore, it cuts out one LP hose and requires only one hand to switch from the breathing loop to open circuit.

When Barry first proposed the design, the rest of the design team at first ignored the suggestion and Bill said it could not be done. The project manager and Kurt said that if Barry could not come up with a working example within two weeks, then his mouthpiece would be scrapped. Barry spent the next eight days in the workshop, not bothering with drawings, building the prototype. Upon presentation the team said it would not work, following which Barry completed a dive to 50m to prove could.

The mouthpiece is the cornerstone of the design of any rebreather and the new design made the rebreather much easier to dive. The other innovation of the design is the Mk6 electronics, which have a gradient fixed oxygen partial pressure limit or what is known as 'set points'. Barry had calculated that with automatically adjusting the set points up to six different settings in accordance with specific depths as opposed to the traditional two set points, the unit would allow better buoyancy control, maximum dive times (NDL & CNS limits) on a single dive and over a 24 hour period, thus allowing for more 'dives' in a day than traditionally held concepts. This concept has now been incorporated into other rebreathers such as the AP Diving units.

The Mk6 required many test dives and Barry completed the experimental dives in waters north of the Arctic Sea, the Red Sea and in our home waters at Aliwal Shoal and Sodwana. The electronics required as much testing as possible and during this time the design of the new mouthpiece changed very little with only small adjustments required – the variable 'set points' did not change.

Following production in 2009 Barry then trained the first Mk6 Instructor Trainers who have gone on to train other instructors and divers worldwide.

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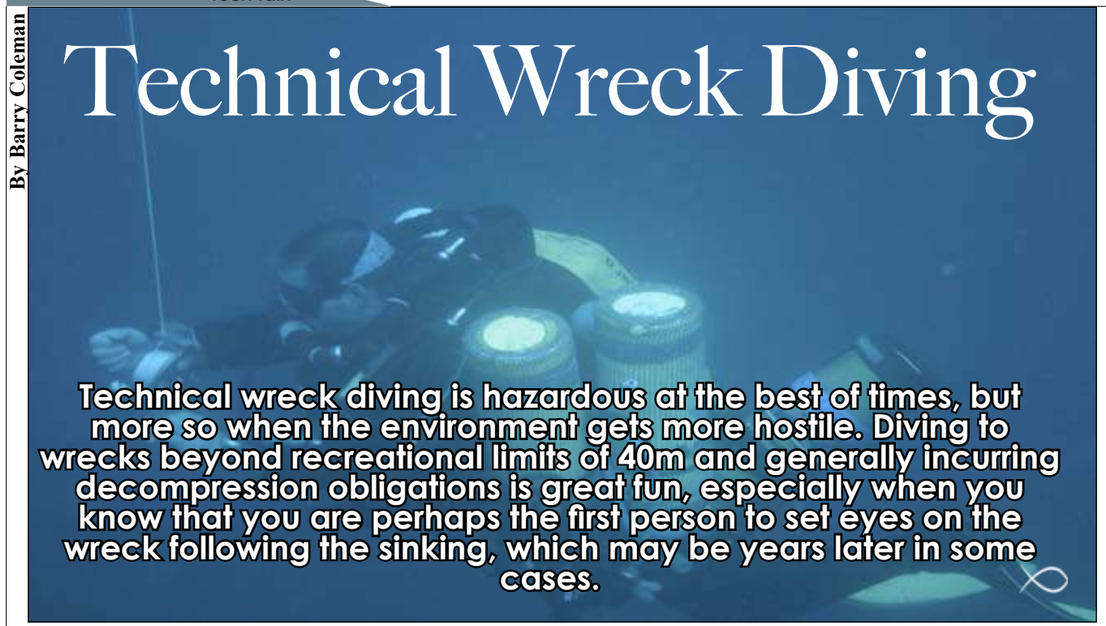
Technical Wreck Diving

By Barry Coleman



Technical wreck diving is hazardous at the best of times, but more so when the environment gets more hostile. Diving to wrecks beyond recreational limits of 40m and generally incurring decompression obligations is great fun, especially when you know that you are perhaps the first person to set eyes on the wreck following the sinking, which may be years later in some cases.

Before we look at tech diving, we need to define recreational scuba diving. It is widely accepted that recreational diving is no-stop diving using air or enriched air, to a maximum depth of 40 metres, within the no-decompression limits suggested by recreational dive tables.

Technical diving – better known as tech diving – can be defined as diving other than conventional, commercial or research diving that takes divers beyond recreational diving limits. This will include, but is not limited to, the following: diving beyond 40 metres; required stage decompression; diving an overhead environment that is beyond the light zone; the use of variable gas mixtures during the dive to reduce the equivalent nitrogen depth and/or to accelerate decompression obligations. Tech diving is equipment intensive and uses extensive methodologies, training and technologies to manage the additional risk. The deeper the dive, the more hazardous it becomes.

Over the years, various instructional philosophies have been employed to meet the challenging nature of technical diving. Unfortunately, this is not an exact science and we are all on the evolution ladder.
Accident-free diving doesn't just happen – tech divers must take calculated risks. A good training programme can help by developing the skills level, discipline and survival attitude, which together reduce the probability of accidents.

But it doesn't stop there. One must maintain

By Barry Coleman

a comprehensive effort that includes, among other things, an attitude of awareness, training, ongoing practice and planning.

Technical diving is not for everyone – it is a very disciplined sport and divers need the correct attitude. It is not a sport that you learn overnight and dive the next day. Even though recreational diving is closely related, it can seem worlds apart. Remember, diving beyond 40 metres on recreational equipment is not tech diving – it's stupidity!

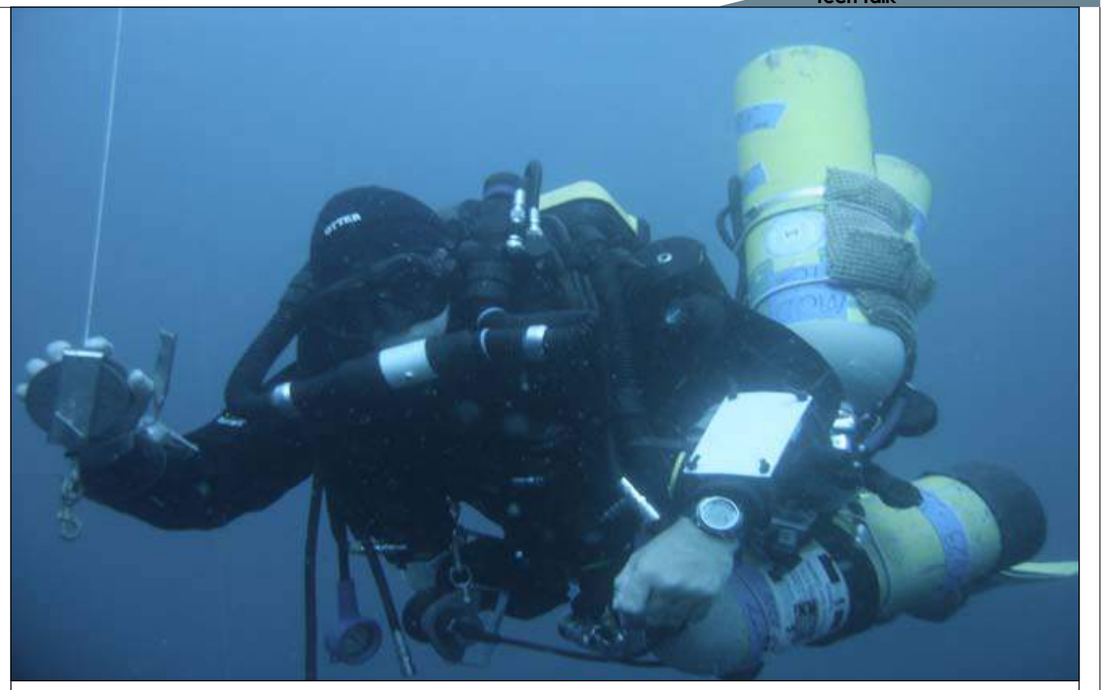
Technical diving has come a long way since the 1960s when the use of a harness with a single cylinder outlet (or individual cylinders twinned with individual outlets with no manifolds) and the standard recreational regulator configuration were accepted as the norm.

Like anything, technologies improve, too, for open circuit. Until today, the standard has been twin cylinders with isolation manifold on a harness with duel bladders and tec first- and second-stage regulator configuration. Now many of us use closed-circuit rebreathers for anything up to 12 hours of underwater dive time, at any depth. The US military is using closed-circuit rebreathers at 500 metres when deployed from submarines.

Those contemplating tech diving should investigate the training available, as this type of diving needs to be taught by those with the experience behind them, and the instructors must keep themselves up-to-date with the evolution of the sport, whose methodologies and techniques are constantly improving and being analysed. You'll find your tech-diving course one of the most intensive and extensive you've taken – anything less than your full and serious commitment will not be enough, and that's after you've met all the pre-requisites. It will require hours of practicing and mastering new skills, followed by the strict application of all you have learnt, without compromise. But if you invest the effort and money required, you will find tech diving to be one of the most rewarding diving experiences.

So, why do technical diving? I would imagine non-divers ask recreational divers the same question all the time… I enjoy it for all the things that diving offers and more: the challenge, the discipline, the adventure, to find wrecks that have been long forgotten or never visited … to go where no man has gone before and seek out new life. Have I heard that somewhere before?

Technically Speaking
Tech Talk



What has been the biggest achievement of your diving career?

Q & A

Nuno Gomes

TWithout any doubt, the biggest achievement in my diving career is being the holder of two Guinness World Records simultaneously. The 2008 Guinness Book of World Records reads:

* Deepest Seawater Scuba Dive – "Nuno Gomes (South Africa) dived to a depth of 318,25 meters (1 044 feet) in the Red Sea off Dahab, Egypt, on 10 June 2005. While the descent was accomplished in a matter of minutes the ascent took more than 12 hours to allow for decompression."
* Deepest Freshwater Scuba Cave Dive – "On 23 August 1996, Nuno Gomes (South Africa) scuba-dived to a depth of 282,60 meters (927 feet) at the Boesmansgat Cave in the Northern Cape Province of South Africa. Essentially a very deep sinkhole, the cave at the surface resembles a small lake with vertical sides."

To hold both world records concurrently and to be the only diver in the world to have dived four times below 250m (820 feet), with twice as many dives to that depth as any other diver ever, has to be the biggest achievement of my diving career. There are only a total of 14 proven dives below 250m done by eight divers of which three of those divers have since died in diving accidents.
Nuno Gomes

Barry Coleman

The biggest achievement in my diving career, as apposed to my actual diving, must be my involvement in the design and development of the Poseidon Discovery sport rebreather and RAID (Rebreather Association of International Divers) e-Learning. The Discovery is designed specifically for the recreational market – divers get all the benefits of diving a closed circuit rebreather without all the complication. The unique patented mouthpiece with open circuit, closed circuit and automatic diluents valve is proudly my design.

RAID training, (www.diveraid.com) provides for on-line education for all persons wanting to learn to dive with rebreathers, from beginners to instructors. RAID e-Learning is not just a continued education diver training system, but it also incorporates an on-line quality management system that provides three login sections for students, dive centres and instructors. All the academic material, quick quizzes and exams are completed on-line and are monitored and assisted by the appointed dive centre and instructor. All practical training skills are confirmed on-line by the instructor and certification is issued by the dive centre. Due to popular demand, normal open circuit scuba courses will also be offered in the very near future. This has required many hours of dedication to meet the European and the English HSE standards.

Pieter Smith

The biggest achievement in my diving career was most certainly being a part of the coelacanth expeditions which made international news when discovered. We started talking about searching for the coelacanths in 1996 after a group of us completed trimix qualification with the late Rehan Bouwer. We were around a dozen very eager CMAS divers who wanted a challenge.
In those days it was quite a sacrifice for the divers in terms of time, money and family life to organise and execute such an expedition. We also did not have all the modern equipment, and gas blending, dive planning and the like took many hours. I remember that we used to start 5:30am and ended the day at 12pm – that was just to get two teams of four trimix divers in the water. Dives were done in the 105-120m range in two groups of four divers. We alternated between support divers and deep divers. An expedition would be for 10 days up to two weeks and we were privileged to have had Peter Timm from Triton Dive Charters in Sodwana with us as part of the coelacanth expeditions from the start. He provided accommodation, boats and, most importantly, knowledge and skills to make the expeditions successful. As has been well documented, we eventually discovered the coelacanths!
Coelacanth expeditions have become a tradition over the years and the last expedition was as recent as August 2008.

Pieter Venter

I have done a few things in my diving career, but I do not think that I have achieved anything. I have pursued diving for fun, recreation and exploration and I have not set any specific goals to achieve. On a more philosophical note, I suppose coming back from all previous expeditions unscathed, and since 2001 without any incident, is an achievement in itself. Luck played its part, especially due to a slight of the lack of experience in the early days and the complexity of some of the expeditions.
A further possible achievement, which was not goal driven, was when I realised the importance of the experience and that all dives should be appropriately prepared for, not just dived into.

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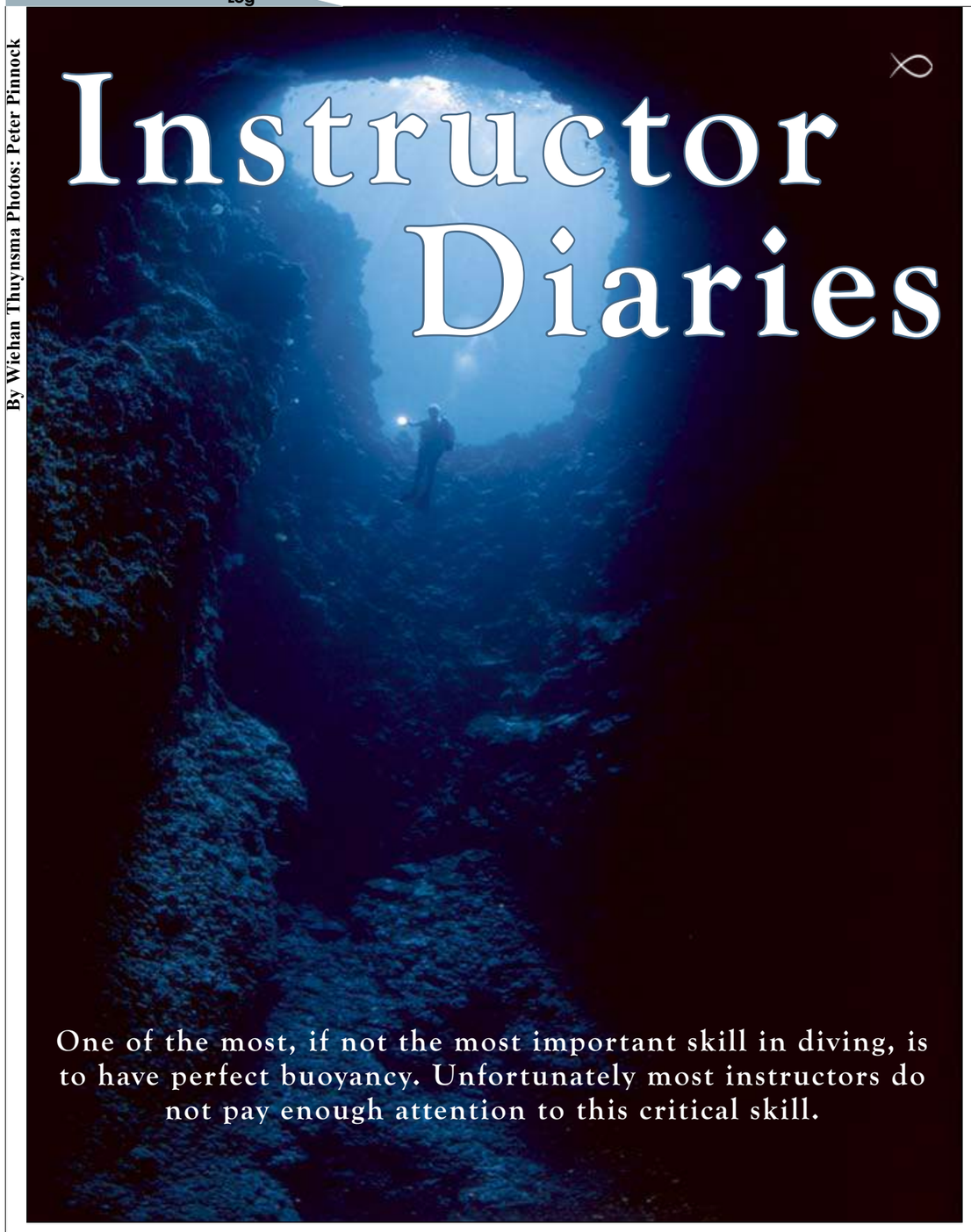
By Wichan Thuynsma Photos: Peter Pinnock

Instructor Diaries



One of the most, if not the most important skill in diving, is to have perfect buoyancy. Unfortunately most instructors do not pay enough attention to this critical skill.

Instructor Diaries
Log

Buoyancy is used when diving to 'float' in water above the reef or object you are exploring. Buoyancy has three basic forms. If negatively buoyant, it means you will sink. If positively buoyant you will float, and when neutrally buoyant, you will remain at a certain level underwater. Being neutrally buoyant is what you want to achieve when diving. It means that at a particular depth you will displace enough water not to sink and not to ascend to the surface – you will be 'floating'.

To achieve buoyancy you will have to regulate the amount of air or back gas in your buoyancy compensating device (BCD). Your BCD's primary function is to manage buoyancy, hence the so-called bladders or wings fixed to the 'jacket'. The bladders can have different sizes and depending on the type of BCD can be positioned around the midriff area as pockets or normally on the back. The reason for these bladders being positioned on the diver's back is to get him or her in a horizontal position over the reef that makes exploring the reef much easier. Remember that you want to fin over the reef not walk across it.

So why is it important to focus on getting your buoyancy in order? One of the main reasons is the consumption of your air or back-gas. Remember, you are inflating your BCD using the cylinder strapped to your back and that cylinder only has a certain amount of air in it. Not being able to control descending will translate into the diver overinflating the BCD to stop themself from falling to quickly. This can be hazardous to your ears because you will probably be so focused on getting the inflator button that you will forget to equalise.

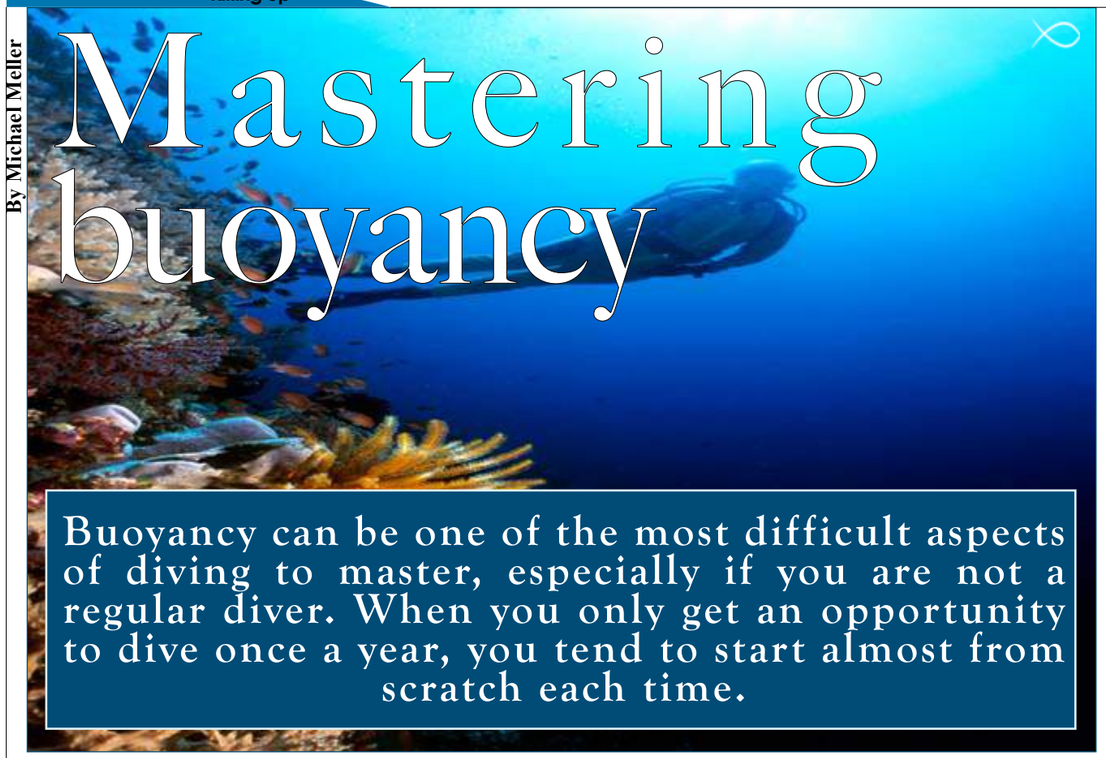
In addition to your ears potentially receiving a hammering, you might end up crashing into the reef, damaging the reef and potentially hurting yourself. It is therefore important to regulate the air in your BCD when descending. The deeper you go underwater the more air you will have to put into your BCD because you will have to displace more water in order to reach neutral buoyancy.

The next challenge is of course not to put too much air into your BCD because you will become positively buoyant which means that you will start ascending to the surface. If this happens some divers panic and dump all the air from their BCD's to stop ascending. It will work but the diver will start descending again, and pick up speed as they get deeper. You can imagine the air usage as the diver goes up and down in the water trying to get neutrally buoyant.

In water things are a bit slower. When you deflate your BCD you won't immediately start free falling. The same goes for inflating your BCD – you won't start going up at a rapid speed – thus you can 'play' around with buoyancy a bit. Add air a little by little into the BCD and 'feel' what happens. Don't 'see' what happens.

Some divers control their buoyancy through their breathing as your lungs are tools that can be used to control buoyancy. Once you have reached a neutrally buoyant position, take a deep breath in and you will probably start going up. When you exhale as much as possible you will probably go down again. Practice makes perfect so keep practicing your buoyancy, it will make your dive much more relaxed and fun!

Mastering buoyancy



By Michael Meller

Buoyancy can be one of the most difficult aspects of diving to master, especially if you are not a regular diver. When you only get an opportunity to dive once a year, you tend to start almost from scratch each time.

Buoyancy can be defined as the perfect state in which a diver can be – if they stop finning and just relax and breath normally, they will neither ascend nor descend from the point where they started. If you need to change location, you simply fin there without having to inflate or deflate your BCD. Once this state has been perfected, an experienced diver can control buoyancy by regulating the air in their lungs, enabling upward and downward movement.

How to perfect buoyancy

The first step is to have the correct amount of weights. For a beginner diver, 10% of your body weight should be enough, although this can differ from person to person. The process is best done in a pool with your instructor during open water training. Fully kitted, deflate and lie face down on the bottom of the pool. Now begin inflating your BCD until you start to become positively buoyant (if your weighting is correct this shouldn't take too much inflation).

Repeat this procedure on your own so that you can get used to the amount of air needed as well as getting the 'feel' for maintaining this buoyancy. Your body should be in a horizontal position when buoyant and there shouldn't be any strain or effort while doing this.

If your feet are lower than the rest of your body, try and remove some weights, a little at a time, until you have levelled out.

Equipment that can assist with improving buoyancy

Neoprene – Neoprene can work both ways – it can either assist your buoyancy or it can make it worse. The important thing to know is what effect extra or less neoprene will have on your buoyancy. What may seem like common sense often gets forgotten when a new short wetsuit is bought and you experience problems with your buoyancy after the first dive. Something as simple as dropping a weight could probably solve the problem. Likewise, when moving

By Michael Meller

to a suit that has more neoprene – like a Farmer John – more weight will be needed to maintain ideal buoyancy.

Weighting systems – Various weighting systems exist that can assist various different types of buoyancy problems. Ankle weights will assist legs that are too buoyant, while tank weights will assist a diver who needs extra weights, who is uncomfortable with weight belts or who just needs to correct a balancing problem.

Types of cylinders – The decision on which type of cylinder to use (steel or aluminium) can also influence buoyancy, especially if it is a trait that has not yet been mastered.

A steel cylinder will require slightly less extra weight than an aluminium cylinder and will maintain a relatively constant weight during the dive. An aluminium cylinder will require a little more extra weight, but it becomes a lot more buoyant when empty, thus making the diver more buoyant towards the end of a dive.

Gear Talk
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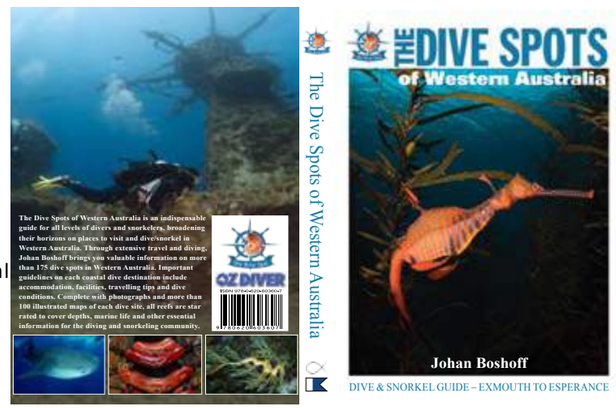
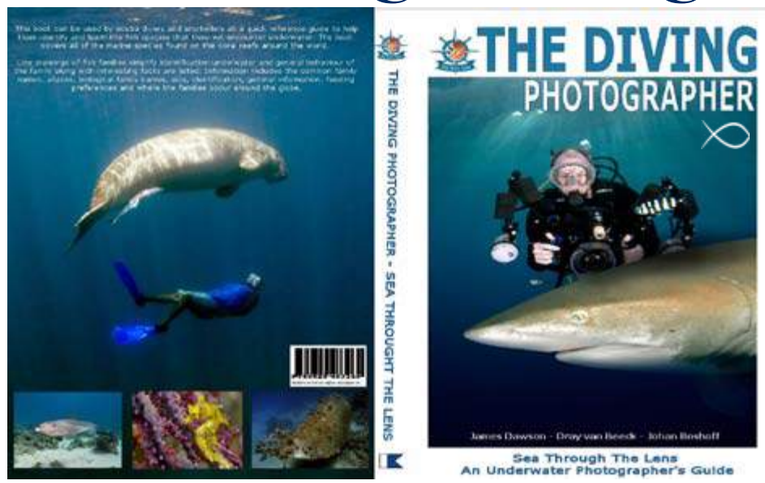
For more information visit www.thedivespot.com.au



The Diving Photographer –



As scuba divers, we are not always the best photographers, but we do learn very quickly. And if we have a handy guide book, the time spent with our cameras underwater will increase rapidly.

This easy-to-use guide book for the diving photographer can be used by all levels of photographers. It helps you with choosing the right type of camera for your ability – although with all the information presented you will learn so quickly that you will have to buy a better camera after working through the book! Preparing and setting up your equipment becomes a breeze with easy pointers on how to check and replace o-rings, quick tips on keeping your housing dry and other small things we usually forget to check.

The technical advice on how to perform manual camera settings, lighting techniques and editing the not-so-perfect shot was a great help. One of the main things I took from this book was learning to back up my photographs and then trying anything and everything with them in the photo editing programmes until it looks like the professionally taken shot that you have been aiming for the whole time. Some other topics covered are strobe positioning, ambient light, photographing wrecks, long exposures and equipment maintenance.

I must say that this book has proved to be a great help in improving my photographing and editing techniques. Photographer is available in all good scuba diving and book shops or online at www.thedivespot.com.au. Cost: $20

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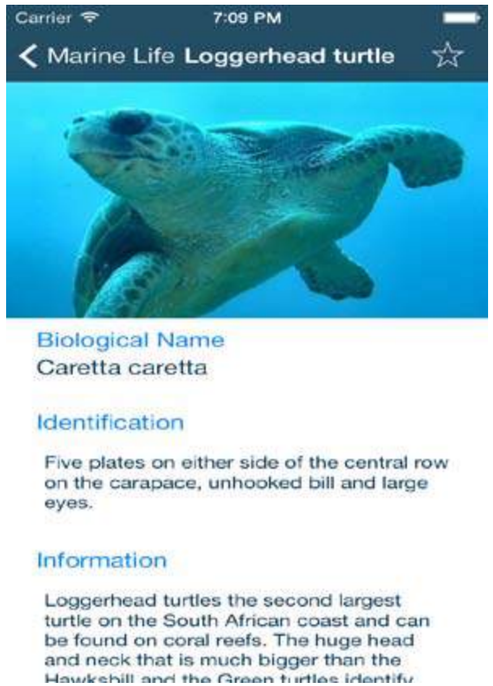
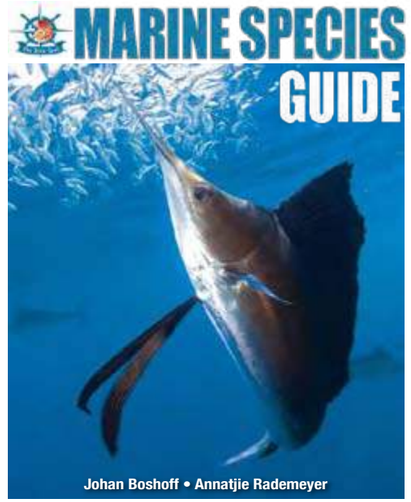


Marine Species Guide –



Yes, it happened…I had to buy a larger bookshelf. The latest book from The Dive Spot has landed on our shores – The Marine Species Guide.

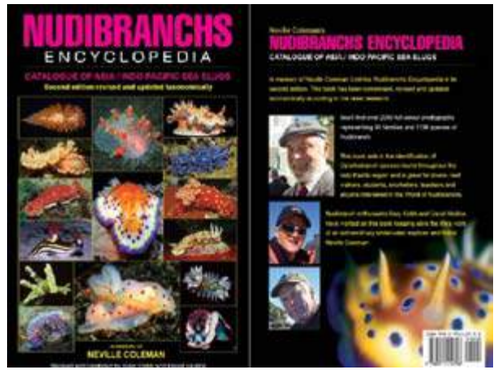
A book for both scuba divers and snorkelers to identify and learn all about the different fish species they will come across under water.
The book covers most of the marine species found within coral reefs around the world. Line drawings of fish families simplifies identification underwater, while general behaviour of the family along with other interesting facts are listed.

Information include common family names, aliases, biological family names, size, identification, general information, feeding preferences and where the families occur around the globe. Photographs of the most common of the species found when scuba diving or snorkeling are included and the fish families are organised for easy reference.

The book works very well in accompaniment with the Marine Species Slate, which can be taken underwater to help with fish identification.

To buy your copy for $ 22, visit www.thedivespot.com.au or email info@thedivespot.com.au

New Nudibranchs Encyclopedia: in memory of Neville Coleman–



We are proud to announce the launch of the 2nd edition of the popular 'Neville Coleman's Nudibranchs Encyclopedia - Catalogue of Asia / Indo Pacific Sea Slugs'. A large hole has been left in many people's hearts after the passing of one of the most passionate underwater naturalists in the world, Neville Coleman in 2012. His most popular book, the Nudibranchs Encyclopedia sold out a while ago and we decided to publish a revised and updated 2nd edition of this bestseller in memory of Neville.

Significant part of the proceeds of this book support the Neville Coleman Legacy, a fund that aims to make his life's work available to the world in digital form.

This book contains over 2000 full colour photographs presenting 54 families and 1198 Species of Nudibranch. Gary Cobb and David Mullins, both keen Nudibranch enthusiasts, have worked on this book keeping alive the life's work of an extraordinary underwater explorer and friend, Neville Coleman.

This book is being published by underwater.com.au (Australia) and Masalai press (USA). It is currently available at a special launch price of A$49.95 (inc GST) at https://underwater.com.au/shop/nudibranchs-encyclopedia-catalogue-of-indo-pacific-sea-slugs.html

Is your buddy experienced if:

* He asks, "Which one of these thingies goes in my mouth?"
* He offers to carry everyone's gear to the boat?
* He thinks BC is a comic strip about cavemen?
* He's upset when you tell him his dive computer doesn't run Windows 98?
* He pees in his wetsuit before he gets in the water?
* He argues that nitrox was a monster who battled Godzilla?
* He says, "Oh, I just wait until I get that 'tingling feeling' then I know it's time to surface"?

An interesting experience

A young lad arrived at the dive camp with only his Open Water C Card in his hand and he wanted to dive. He hired the full kit and proceeded with his kit up. He started with his wetsuit where he put one leg through the arm and the other through the leg. When he was corrected he started to kit up with his cylinder back to front and his hoses crossing in the front of the BCD. No one could possibly don a BCD in this way. We gave him an equipment refresher and went down to the boat to launch. He then tried to push the boat with his weight belt on. The divemaster was nervous – what quality of diver did we have on board? He surprised us in being a good diver but a good laugh was had on the kit up and launch.

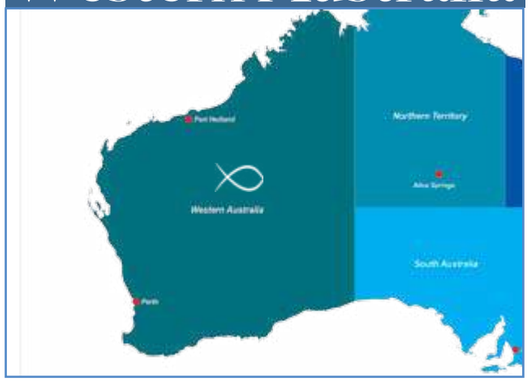
An interesting experience

Whilst kitting up and getting ready to dive, a young lady enquired as to the rental of a cylinder. The staff pointed to a stack of school cylinders that were available. She replied that she couldn't possibly use one of those cylinders as they were all broken. The confused staff member asked why she thought that they were broken. Her reply: "They are all taped up," pointing to the masking tape that is used in most places to show a recently filled cylinder.

Send your funnies to
johan@ozdiver.com.au

Safety Stop
WTH

Western Australia



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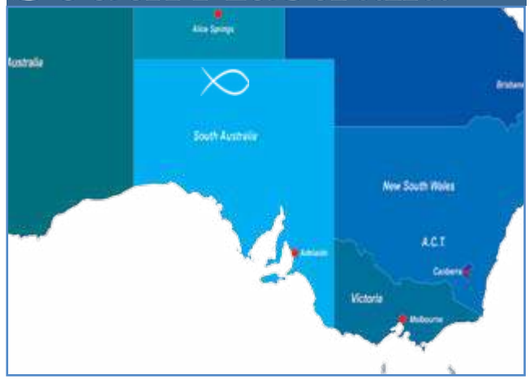
Web: www.esperancedivingandfishing.com.au

South Australia



Port Lincoln

Calypso Star Charters - Port Lincoln

PDA Hillarys for all of your dive and snorkelling requirements local and friendly staff to help you make the right choices open 7 days come and see us down at the Hillarys Boat Harbour just north of the boat ramp see you there
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Web: www.sharkcagediving.com.au

ND Scuba - McLaren Vale

We are a small business that go above and beyond .we pride ourselves on providing safe and fun-filled courses at affordable prices. You get trained on a more personal level through to one on one, or small group tuition.
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Mail: barrettn80@hotmail.com
Web: www.nbscuba.com.au

Adelaide

Diving Adelaide

Diving Adelaide is Adelaide's newest PADI 5 Star Dive Centre. We run all PADI courses as well as Leafy Sea Dragon Tours. Diving Adelaide is located next to the tram and bus-stop in Adelaide; easy to reach with public transport.
Phone: +61 (0) 8 73 250 331
Mail: info@divingadelaide.com.au
Web: www.divingadelaide.com.au

Underwater Explorer's Club of SA

The UEC is the oldest recreational scuba diving club in Australia, established in 1954. We do regular dives at locations within metropolitan Adelaide and have frequent trips to regional South Australia. Why not come and join us for a dive.
Phone: +61 (0) 417 838 387
Mail: secretary@uecofsa.org.au
Web: www.uecofsa.org.au

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Glengowrie

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Downunderpix is an underwater photography business established in South Australia. We provide all things underwater photography to the local, national and international markets. This includes supplying a range of underwater photography services as well as selling underwater camera equipment and scuba diving equipment.
Phone: +61 (0) 41 981 9083
Mail:info@downunderpix.com
Web: www.downunderpix.com

Victoria

Geelong

Australian Diving Instruction

Australian Diving Instruction is a PADI 5 Star IDC facility Offering everything for the Diver from Learn to Scuba Dive to Instructor including PADI Tec 40,45,50, Equipment Sales and Service National and International Dive Trips and Dive Holidays also Dive Charter Boat.
Phone: +61 (0) 40 836 5216
Mail: adigeelong@optusnet.com.au
Web: www.ausdivinginstruction.com.au

Bay City Scuba

Bay City Scuba is Geelong's premier dive shop. Offering all levels of training from Freediving through to Technical training and offering a huge selection of equipment to your diving needs. A RAID training facility offering extensive technical OC & CC rebreather training.
Phone: +61 (0) 35 248 1488
Mail: info@baycityscuba.com
Web: www.baycityscuba.com

Extreme Watersport

Extreme Watersport Specialises in all recreational, educational and technical SCUBA diver training, charters and tours. Extreme Watersport is Melbourne's premier 5 Star SDI/ TDI Instructor Scuba Diving Training Centre. We are also house a wide range of scuba gear for sale.
Phone: +61 (0) 3 5982 3432
Mail: info@extremewatersport.com.au
Web: www.extremewatersport.com.au

Dive Victoria Group

Our Training, Dive Charter and Group Accommodation services cater for local, interstate and international divers. On our doorstep we have amazing wall dives from 10-100m that we can dive every day and wrecks 8-80m in the Ships Graveyard
Phone: +61 (0) 3 5258 4188
Mail: info@divevictoria.com.au
Web: www.divevictoria.com.au

Rye

The Scuba Doctor Australia

The Scuba Doctor is an online and in-store dive shop stocked with quality brand recreational, technical and commercial diving products.
Low prices on scuba, spearfishing, freediving, snorkelling and watersports equipment, plus Air, Nitrox and Trimix fills.
Phone: +61 (0) 3 5985 1700
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Web: www.scubadoctor.com.au

New South Wales

Sydney

Plunge Diving

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Mail: info@plungediving.com.au
Web: www.plungediving.com.au

Southern Cross Divers

Southern Cross Divers is best known for rebreathers and "tec" diving – we do nothing else but "tec". We will not stock a unit unless we can offer the customers a complete solution to all their CCR needs. We are Australia's CCR specialist store.
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Mail: barry@southerncrossdivers.com.au
Web: www.southerncrossdivers.com.au

Underwater Research Group of NSW

URG is a not-for-profit scuba diving club with a regular boat & shore dive schedule in Sydney and surrounds. Join our club to explore local dive sites and if you like, get involved in research projects to help marine conservation.
Phone: +61 (0) 418 257 462
Mail: info@urgdiveclub.org.au
Web: www.urgdiveclub.org.au

Killarney Vale

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Mail: info@prodivecentralcoast.com.au
Web: www.prodivecentralcoast.com.au

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Nelson Bay

Feet First Dive

Jump in FEET FIRST with Nelson Bay's friendliest dive centre. Explore & enjoy the amazement of our Marine Sanctuary from the shore; take our boat to the local Grey Nurse Shark colony; OR Rebreathe our selection of Wrecks
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Web: www.feetfirstdive.com.au

South West Rocks

South West Rocks Dive Centre

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Phone: +61 (0) 2 656 66474
Mail: info@southwestrocksdive.com.au
Web: www.southwestrocksdive.com.au

Queensland

Sunshine Coast

Sunreef Mooloolaba

Sunreef Mooloolaba offers the ultimate water experiences on Queensland's Sunshine Coast. From diving the HMAS Brisbane and local reefs, to Swimming with Humpback Whales from July to November, to stand up paddle boarding, kayaking and bubblemaker kids programs.
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Mail: dive@sunreef.com.au
Web: www.sunreef.com.au

Scuba World

Dive one of Australia's top ten dive sites the Ex-HMAS Brisbane.We are the only operator that comes back to the sheltered waters of Mooloolaba bay for a relaxing morning tea. Enjoy hassle free diving from our private marina berth.
Phone: +61 (0) 7 5444 8595
Mail: rob@scubaworld.com.au
Web: www.scubaworld.com.au

Brisbane

Ozaquatec- Brisbane

Brisbane's largest dedicated scuba service centre, Ozaquatec has all of your servicing needs in one place at competitive rates. Our fast, friendly and professional customer service gives you, the diver, complete peace of mind.
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Mail: admin@ozaquatec.com
Web: www.ozaquatec.com

Gold Coast

Devocean Dive- Gold Coast

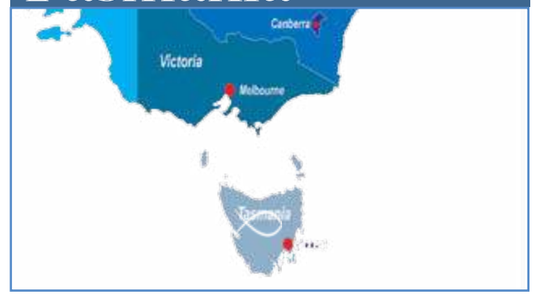
Devocean Dive is South East QLD's Premier PADI 5 star Instructor Development Centre. We offer unsurpassed service is a safe, fun environment with qualified, experienced Instructors. We look forward helping you achieve your SCUBA diving goals.
Phone: +61 (0) 75 528 0655
Mail: admin@devoceandive.com
Web: www.devoceandive.com

Brisbane

Tech Dive Academy- Port Douglas

You deserve the multi-award winning service of the ORIGINAL bespoke private diver training company - Serving Port Douglas since 2003. First for Bespoke Diver Training, the Dive Centre offers all levels of Recreational and Technical Dive courses.
Phone: +61 (0) 422 016 517
Mail: info@tech-dive-academy.com
Web: www.tech-dive-academy.com

Tasmania



Bicheno

Bicheno Dive Centre

Tasmainan diving at its best 32 different boat sites 16-40 meters 8 different shore dives with max depth of 20mtrs Boat travel time under 5 mins. Home of the weedy sea dragon.
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Peter Pinnock