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POINT & CLICK
ON BOLD LINKS



Holiday Gifts & Trips

& Stocking Stuffers for Divers

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Sea Ornaments

Okay, so they're not reindeer or snowmen ornaments. But surely this oversight can be overlooked once you tell your guests that these set of ornaments are made of jewelled glass? However, if crabs are still not your thing, this range also has fish and starfish ornaments as well.

www.sienajulia.com



Twin Tanks

Be sure to order this item at least a month in advance to be in time for Christmas (or promise it for New Year's or Valentines Day). Why? For the simple reason that quality requires time to materialise. Far from being mere pendants, these are 14-kt white gold pendants. Their components are handcrafted, inspected and polished, and have undergone a precision manufacturing method that ensures dimensional stability for the tanks. A perfect gift for the technical diver.

www.explorationdesign2.com



Star light, Star bright...

Here's an interesting twist to those typically symmetrical starfish. With its stylish slant to the starfish outline, this 14-karat yellow gold pendant (with its 14-karat yellow gold chain) is sure to find its way into quite a number of Christmas wish lists (Hint, hint, guys!). Matching earrings available.

www.divingdesigns.com



Antarctic Holiday

While everyone else is headed home this Christmas, why not treat yourself to some extreme adventure? Why not embark on a cruise to the ends of the world -namely, Antarctica. Your Christmas vacation will be the awesome experience of an Antarctic expedition, with the options of scuba diving in the icy waters or climbing the similarly icy peaks. Beats roasting chestnuts over an open fire, eh?

www.responsibletravel.com

Wreck Dive Game

Explore the RMS Gigantic for sunken treasure! This shipwreck, measuring an entire 18 inches, ought to be enough to tantalise your thirst for adventure. Get ready to discover hidden coins, jewels, a shark and even a human skull (yikes!). All this without getting your flippers wet!



www.recsupply.com



Eelusive

Is it really safe to go back into the water? These red, blue, green and yellow wiggly snakes are bound to make some people think twice about diving in. Once the excitement is over, let them loose in a swimming pool to keep kids busy in a fun game of retrieval.

www.recsupply.com



gifts



Sea Glass Ornaments

These colorful sea glass ornaments are intended for a mini Christmas tree. They measure between 1 and 1 1/4 inches in length, not including the attached silver wire hook. Each ornament is adorned with a silver triple leaf decoration. Sea Glass colors are brown, seafoam green, light blue, cobalt blue, amethyst, white, emerald green, and lime green. They would also look great as year-round decorations, perhaps on a twig tree. www.etsy.com

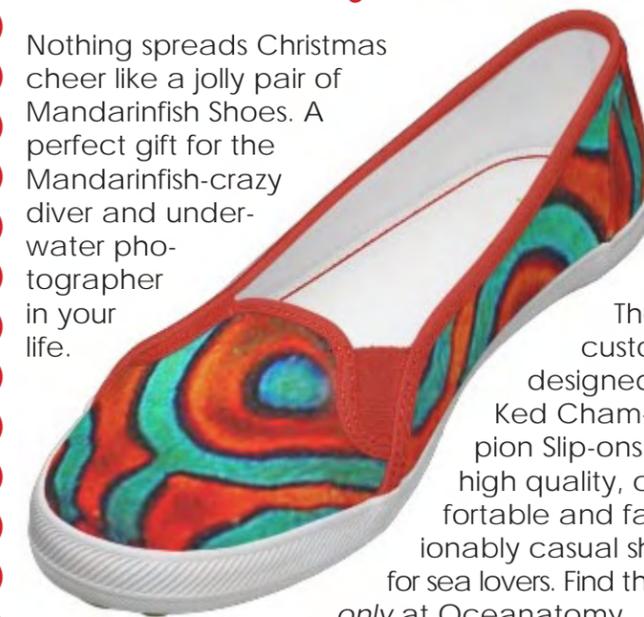


Haircare for Divers

Finally, the world's first professional hair and skincare for divers! Subseries has created over nine reef safe formulas that include a state-of-the-art hair protectant that protects hair while submerged. Their products have been used and tested by a cosmetologist and their own chemists who are divers. Subseries products are not tested on animals. Subseries.com

Mandarinfish Shoes

Nothing spreads Christmas cheer like a jolly pair of Mandarinfish Shoes. A perfect gift for the Mandarinfish-crazy diver and underwater photographer in your life.



These custom designed Ked Champion Slip-ons are high quality, comfortable and fashionably casual shoes for sea lovers. Find them only at Oceanatomy.

www.zazzle.com/oceanatomy



Drink it up

NEW! A sports drink for divers? Yes, just launched at DEMA 2009, this refreshing drink is formulated specifically for the active scuba diver. Diver's D\Lyte™ provides essential assistance to your body for safe, enjoyable diving. Enticing point of sale displays available for dive shops. www.diversdlyte.com

The Tank Banger Signalling Device is simply that. You slip it



Knock, knock...

over your scuba tank and use it to attract your buddy's attention by pulling on the plastic ball and letting it snap back.

But don't just stop at that. Have one of these around each of your tanks, and perhaps you can consider forming an underwater musical band? www.joediveramerica.com

Dive Junkie

Can't get enough scuba? Stuck top-side? Missing that snug feeling of having a regulator and diving gauge wrapped around you? No worries. Now you can have the scuba regulator and gauges as close to you as a t-shirt, with the Reg-Gauge T by Dive Junkie. A 100% fully-combed cotton round-neck t-shirt of 150gsm light-weight fabric and finely-singled ring-spun yarn, with soft and comfortable ribbed bound collar, and flat-locked stitch trimmings Available in men's and women's sizes. Divejunkie.com.sg



Nifty Security

Here's a little number that's tough enough to thwart even the more determined thieves. Use it to secure your precious scuba gear or luggage. It's small size (just two inches long) and dark colour is discreet, so not to attract unwanted attention to your valuables (we're talking about the scuba gear, of course!) www.joediveramerica.com



Philippines Christmas

Enough of snow-covered roofs and carrot-nosed snowmen! We'd like to tempt you to pencil in a holiday in tropical Philippines. This luxurious accommodations is ideal for the family, small groups and couples. The nature-oriented activities at this eco-friendly resort – scuba-diving, sailing, whale shark tours, mountain walks, mangrove tours – is sure to awaken the nature-lover in you. www.responsibletravel.com

Great White Shark Dive

with Amos Nachoum

Edited by Gunild Symes
Photos by Amos Nachoum
and Jeb Corliss

How to get out of the protective cage and swim with the Great White shark—that's what Big Animals expeditions founder and leader, Amos Nachoum, helps the adventurous and steely-nerved diver and underwater photographer do. We sat down with him at the DEMA Show 2009 and asked Amos about his Great White shark encounter, an experience he calls "the Mount Everest of diving".



AMOS NACHOUM

X-RAY MAG: Tell us how it all began. What inspired you to start the Great White shark encounters?

AN: The whole idea started with the fact that we've become such a society more and more concerned about the environment and making an effort in the mainstream of our living to correct our behaviour and to be more environmentally correct. And that starts with how we use energy and how we use plastic, or not

use plastic, and how we deal with our garbage, or how we deal with the elements that we don't want or don't need, how much we purchase, how much we throw out, and so forth.

Well, it is also related to diving in a way, and one point of which is the flooding of shark in cultures, and the shark-feeding behaviour, which actually is against the environment. It's totally against the environment. There are so many studies that have been done all

over the world on what the effects are: Are we conditioning sharks? So, many more shark accidents are happening. Either it is because of shark-feeding, or there is an increasing number of people in the ocean. So, there are so many other elements.

Well, I looked at one of the elements and said, what if we don't feed the sharks, what will happen? And if we don't irritate them, what will happen? And the fact of the matter is that we will

learn by experience, which I have done many times in the past for other purposes. For major television, we did out-of-the-cage shooting, but it was only to supplement other kinds of sensationalism rather than to focus on the fact that we can swim with the shark in open water without being afraid or concerned. And the fact is, the sharks never attacked us.

So, I started to take people, individuals, into the water (to encounter the Great White shark). And all of this with a lot of

precautions, since "what if" is the big question—and if something happened, did somebody have to be responsible? I took it upon myself and built procedures, or a protocol of behaviour, out of the water and in the water, which proved successful, as I have already done at least two trips in the past three years and introduced about 12-15 people in to and out of the cage (with Great White sharks), and everybody returned happily. Otherwise, I would not be able to be sit-





CLOCKWISE: Diver and Great White shark; Amos is on the edge of comfort and cage; Amos faces a Great White shark from three feet away

Amos Nachoum



ity from the strobe from three feet away does affect the sharks—I don't know exactly what element of the shark's anatomy is affected, but it affects something, because the shark just turns around and moves away. And what happens when a shark bumps into you, it just moves away, because it is not used to bumping into anything, and they don't like it. And that's how we make it very safe and how it happens very safely.

In addition, I also have my dive master/safety diver wear an AGA mask with communication to the surface just in case something happens—a remote chance—at least we can act as fast as possible and give help and assistance, but we have never had to use it. However, I take the responsibility to deploy all humanly known meas-

JEB CORLISS



JEB CORLISS

ting here and talking to all of you and smiling about it, with the pictures to show.

As I started to tell people, in all businesses especially new ones, there are two elements which are the most dangerous: one, being short on time; and two, being short on money. I decided to eliminate those two issues. If I can have all the time in the world and I charge enough to take this kind of project on hand, hopefully, I will be successful.

So, I wanted to go on a three-day trip to Guadelupe. We now have a trip with five days in the water. So, we have all the time in the world. I have five days. Rather than take 20 people, I take ten people in the boat. And from these ten people, only five are allowed to go out of the cage. And those five, I take only one at a time out of the cage.

So, now people know that

they only get one time out of the cage, and for this, they pay extra, whatever that extra is. And I don't promise more than one encounter. And for this, they are willing to do it, because it is so avant garde, it's so unique, it's so exotic, or so whatever it is. And so, people are willing to make this effort and this investment in time and money. As it happens during the trip, people get three to five times a day, and over five days, 25 chances to be out of the cage with the sharks and totally safely.

Every time I go out of the cage, I have a safety diver with me. The safety diver is actually a shark researcher. The shark researcher/safety diver has a stick, not a bent stick, just a stick in his hand. And the customer is sandwiched between the two of us. And that's how we conduct it. We go out for 15-20 minutes at a time, half

an hour, the sharks stay around us, because the other boat has already been chumming on the surface, and we take the cage, and we go to 30-40 feet below.

The sharks are roaming in mid-water and they come at us, they look at us, they pass by us, and that's when we are able to take those wonderful pictures and to be with them in the same water. And they are not irritated by our presence. On the contrary, they come by and take a look, come very close, and as long as we are flashing them with the cameras—we are taking pictures, because that is what we do in the water or what everybody wants to do, either because the camera and strobe is like a safety shield or you want to hide behind the camera.

All of a sudden, you don't seem in danger, perhaps because the shock or electric-

profile

ures in case something happens, so we can minimize the damage that could happen even though it is not necessary, and it has been proven that it is not necessary.

We want to be prepared, and we want to do it. Just like we have airbags in cars... even when you sell a car for 20 or 30 or half a million dollars, with the most intelligent person sitting behind the wheel, and all the electronics the car has, you still have a safety system, because accidents do happen, despite the fact that we have been developing cars for almost 80 years and shark diving is

only two years old!

Still we can take all that we have learned from other disciplines or other industries and apply it to ourselves and be as safety-cautious as possible, but at the same time, we are also challenging, not the shark—we are not irritating it—we are challenging only the perception that is embedded in people's minds wrongly for so many years since (the film) *Jaws* or before that about shark behaviour.

X-RAY MAG: Can you give us a description of what happens to

one of your clients when they came back up from such an experience?

AN: They could not wait to go back into the water. It was just amazing (for them). First of all, I would have looked out to see if they were shaking or not shaking. Yes, some of them said they wanted to wait until the next turn (to swim with the sharks), and of course, they did... nobody pushed them. So, those more forthcoming got in first. Then, the others see the first person go in and get out and say that they could not wait to go

Amos Nachoum

in the second time, they couldn't wait to swim again with the sharks, and that's how every day continued.

What's happening is... it is like melting ice, because you are melting all this resistance, all those preconceived notions, and all those messages you had in your mind before. And every time the ice melts, or the resistance melts, or the negative sentiments melt, the more each person could have the sensation of really being with these animals at once in the same water, without all this sensationalism and all this irritation, and experience peace and joy and appreciation of being with them in the water.

X-RAY MAG: Have you had any women do it?

AN: Yep. We have women do it. Young and old. (The youngest was) about 29.

And men... one in his twenties. And we had in the last trip, an elderly man. He was 75.

So, the whole gamut. It makes no difference... American, European, men, women, I have seen each one of them have an enjoyable experience.

X-RAY MAG: Where and how often do you do this encounter?

AN: Guadelupe, off Mexico. I start with once (per year). I need at least ten people to run a trip, and if we have enough, then we run a second trip. But we usually start with one at least.

X-RAY MAG: How do divers contact you and sign up for the encounter?



JEB CORLISS

CLOCKWISE FROM LEFT: Great White shark with divers inside and outside protective cage; Portrait of Amos Nachoum; Amos facing a Great White shark

AN: The simplest way is to go to BigAnimals.com. That's what I do, that's my expertise in the past 35 years. I gave myself a mission to search for and locate encounters, safe encounters, with all of the big animals in the ocean including the Great White and the polar bear, including the leopard seals, the Blue whales and the Anaconda.

There is no difference between any of these animals (when talking about behaviour). All these animals have only one mechanism. If we irritate them and aggravate them, yes, they will attack the source of aggravation. If we actually enclose them or box them in, then they will try to break the box, like they tried to do with Steve Irwin, but when we keep the number of people to a minimum, and we are not more than one target in the water—like with Humpback whales, with Blue whales, with Great White sharks—a small number of people together as one unit, the animal does not

feel trapped.

They see us as only one target, and they can deal with it. As long as they can deal with it, there is no aggression I have ever felt from any of them. Some animals just run away when the group separates for one reason or another, and it was mostly the case of separation. They just left us behind, which they do very easily. They are much faster than us. And with the Great White, it just turns around, and it's gone. We turn them off with the camera flash or one reason or another, and never do we have the chance or reason, really, to push them with the stick.

X-RAY MAG: What preparation and orientation do you give to divers that sign up for the Great White encounter?

AN: The diver will go through a very thorough orientation and very thorough preparation before the trip. Not everybody is qualified to do the encounter. I



AMOS NACHOUM



AMOS NACHOUM

need to know in the interview that I run with each passenger before the trip, or if they express interest, to go out of the cage. They have to sign a quite lengthy document—a legal document—that is signed not just by the person him/herself, but also by a family or business lawyer. It has to be signed by a notary public to make sure that the information and the lawyer are legal and authenticated. So, everybody is aware.

Like any drysuit or a motorcycle, utilizing this equipment can be dangerous for your life. You might die if you do that. And the people

This year's team on Nachoum's Great White Shark expedition

sign their life away and learn the ramifications of it all. Even then, they are not yet qualified to go out of the cage, because the second element that is very important for me is total and absolutely perfect buoyancy control in the water. It is something I work on with the diver when they get on the trip and before we get out of the cage. When people perform at this level, only then do they go out of the cage.

During the process, there is something that I have learned profoundly from a classic event that happened several years ago on Mount Everest, which has become a motto in my life, and is

in the book, *Into the Thin Air*, (by Jon Krakauer, the mountaineer's epic account of the 1996 tragedy on Everest that claimed five lives)—a story in which a recreational climber wants to reach the top of Mount Everest. (People) are going to Everest on a regular basis now. There are actually pilgrims... tens, if not, a hundred teams every year during the season of recreational climbers.

I call this trip with the Great White shark the Mount Everest of diving, because if not climbing physically, we are all climbing emotionally, overcoming our fear, overcoming the sentiment of fear and danger that has been

embedded in our minds.

So, what happened at Everest is that despite the warning from the leaders, six or eight of the customers tried to go without the leaders to the top. One of the leaders joined them for whatever reason, and I am not going to judge what happened at Everest, however, the result was very devastating, and people perished including the leader that led them and joined them on the trip. I learned a good lesson from that, and the lesson that I apply is the fact that I tell everybody that is coming on the trip that during the trip, during the out-of-the-cage operation, there is only one god, and it is not the one



Classic smiling Great White shark (left); Amos with Great White (below)

Amos Nachoum

with the Great White.

X-RAY MAG: Do people change after such an encounter?

AN: Oh yeah, they change internally. Because they go back home, and they tell the story. They become ambassadors of the big animals. That's the key. If I am the ambassador of taking pictures of the big animals, they become the ambassadors of telling the stories, because these are stories that operators, or other magazines, claim they cannot make public. Then the public will not know.

The public should know through the experience of the individual, because those other editorial magazines are constrained by the big—I am sorry to say—squareness of the publications, or because of liability or whatever else they may have, or because they cannot endorse what I have been doing because I do it personally.

Well, the reality is that's not

the case. People drive fast anyway. They go to the statusphere anyway because they have 30 million dollars they can pay.

People will do a lot of different things because of their imagination and are able to push their own limits and are not constrained, like the companies that have liability issues are and therefore cannot talk about it. People can go to the stars as well, and people can buy Ducates and drive 180 miles per hour, like myself (laughs), or people buy Porches because they can and they will and they can take the risk and manage their own risk and do it safely.

X-RAY MAG: There is quite a passion underlying it all. Is there anything else you would like to add?

AN: Just do it! (laughs)

X-RAY MAG: Yes, I think that sums it up nicely. ■



JEB CORLISS

above, it the one by your side, and that's me. Only if they give me this right and allow me to make the calls—no if's, but's or maybe's—I will let them in, and I will let them out of the cage, and I will lead them back to the cage. And that is safety for me, and that is leadership.

I guess I have the upbringing of being a leader, being in the military in Israel, being an officer, going through a military activity in the battlefield for numerous years and numerous occasions, working undercover in many environments and foreign environments. There is not much more danger in those fields compared to being with sharks, compared to being in the

water.

There is, interestingly enough, another part of my history that is important to share.

Anybody who has dived the Red Sea knows the part that is called the Blue Hole. Many people have perished in the Blue Hole—about a hundred people, if one looks at the records.

For the record, for anybody reading this material, in 1988, I ran single-handedly over 3000 people to the Red Sea and introducing at least 500 of them to diving in the Blue Hole. And we did not lose one person. This was 29 years ago between 1980-88.

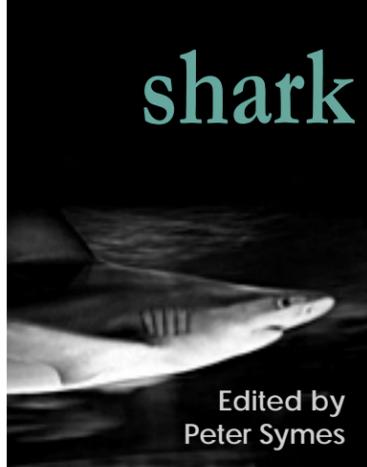
I introduced, personally, groups of 10-12 people down to 180 feet

or 200 feet and went through the passage and out the opposite side and lost not even one person. No one got bent, and there were no embolisms, simply because we adhered to basic rules and protocol of behaviour and lead by them, despite other things that are known today.

Perhaps, we cannot make (the information) public knowledge. We cannot make it known to the common people, but when customers join the leader and let the leader lead, then one can perform successfully. You can push the envelope without breaking it.

But if you try to do it on your own without experience, just because of ego, or whatever, accidents do

happen. But if you have a leader who shows a track record, like mine in the military—which is not important for anybody because it is out of the rim (of context)—but at least in the diving I did in the Red Sea and all kinds of diving I have done all around the world since the mid-70's from the North Pole all the way to Antarctica, and with all the big animals including the Anaconda, the polar bear, the Blue whale, and the Humboldt Squid, I feel and I know by the fact that while leading people on Big Animals expeditions over the last 20 years, we have not had one accident—either diving or animal, or animal interference—that I could also lead people to swim

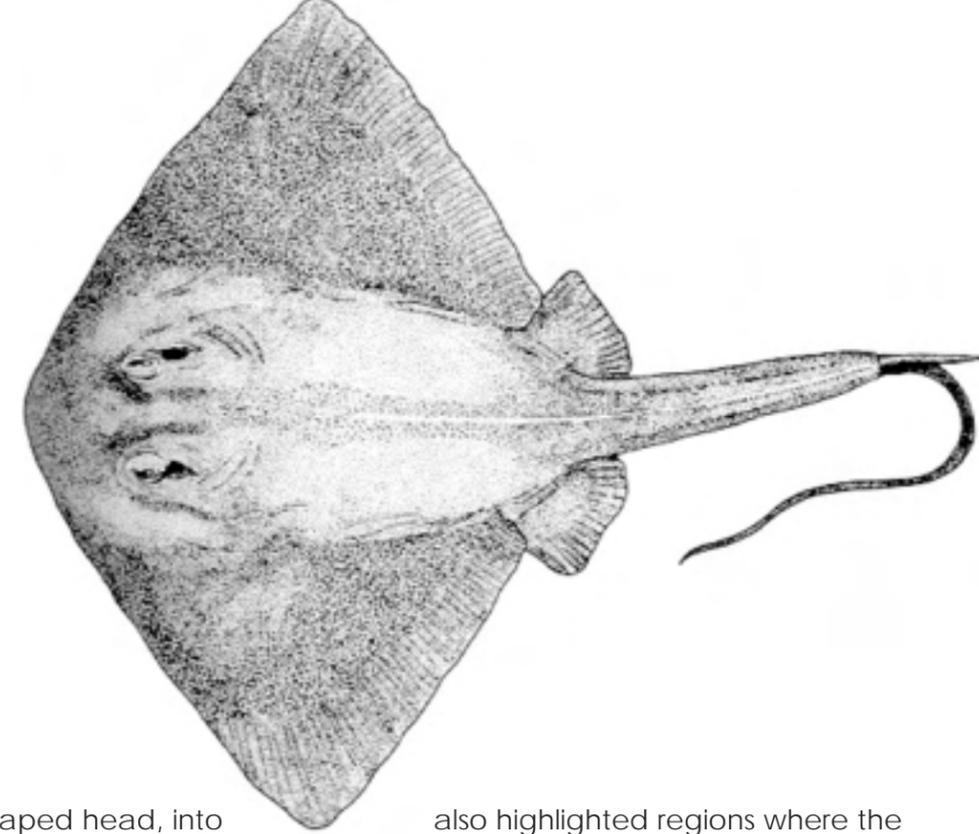


Edited by Peter Symes

World's largest stingray

One of the rarest giants of the ocean has been caught on film for the first time. The elusive smalleye stingray with can attain a width of more than 2 meters and is the largest of all 70 species of stingray, has only ever been seen alive off the coast of Tofo in southeastern Mozambique, since it was first discovered in 1908.

An underwater camera crew filming for the BBC recorded a rare video of the smalleye. **Watch the video on BBC**



Hammerheads have 360° vision

Debate over why hammerheads are shaped as they are goes back centuries. New research suggests that the wing-like heads with their widely spaced eyes give the sharks excellent binocular vision. The wide set eyes even allow some shark species to see through 360 degrees of vision.



WOLFGANG LEANDER

Prowling hammerhead. Eye tests on species caught off the coasts of Florida and Hawaii show that the wider the head, the better the shark's binocular vision, and hence, its perception of distance

Researcher Stephen Kajiura, a sensory biologist, suggests that the stereo vision helps the sharks hunt prey like squid that dart around in three dimensions. The wide set eyes also allow the sharks to see through 360 degrees of vision, according to the researchers, who published their findings in *The Journal of Experimental Biology*.

Various lines of thought have suggested that the conspicuous form of the hammerhead aids swimming by producing hydrodynamic lift, improves smell by increasing the distance between nostrils, or produces better vision. Meanwhile, other researchers argued that the placement of the eyes must make it hard for the shark to look forward, and thus would prevent the two fields of vision from overlapping.

Putting it to the test

To test the frontal vision in hammerhead sharks professor Timothy Tricas from the University of Hawaii in Manoa, United States, and Stephen Kajiura, also from Florida Atlantic University, placed a variety of shark species, each with a differ-

ent shaped head, into an aquarium tank. They then placed sensors on the shark's skin to measure its brain activity, specifically testing whether the animal would react to beams of light shone from different locations around the tank.

During the examinations, a low-intensity light was swept horizontally and vertically across the eye of each shark, while electrodes picked up electrical activity from the fishes' retinas.

By doing so, they could measure each shark's field of vision and could confirm that hammerhead sharks can see directly ahead while swimming and can accurately judge distance, particularly to any prey they hunt. What's more, the researchers also demonstrated that the degree of overlap between the two eyes increases with head width.

The researchers then worked out the size of the visual field for each eye in the different shark species. This revealed any blindspots, but

also highlighted regions where the visual fields from each eye overlapped to produce binocular or 3D vision.

The eye tests showed that the bonnethead shark had a modest 13 degree overlap in the visual fields of its eyes, while the winghead had an enormous 48 degree overlap, giving it a much broader field of 3D vision.

Tilted eyes

"I believed hammerheads would not have binocular vision, because their eyes were pointing out on the sides of the head," admits Dr Michelle McComb from Florida Atlantic University in Boca Raton, Florida. "However, it turns out that the positioning of the eyes was really the key."

The eyes of hammerhead sharks are tilted slightly forward, she says, allowing the field of vision of each to significantly overlap. ■



ARKive needs your images

ARKive (www.arkive.org) is calling on all divers and underwater photographers for their help in gathering images of all the world's threatened marine animals and plants.

Images courtesy of Andy Murch

Films and photographs are an emotive, powerful and effective means of building environmental awareness. They bring every species to life and demonstrate quickly and simply what makes them so special. Thinking about the non-divers - would they know what the Indonesian speckled carpet shark looks like, does it really have speckles? Does a spotted hand-fish really have hands? And what on earth is a Banggai cardinalfish or a seadragon?

Many divers, amateur and professional alike, take fabulous photographs of a broad range of threatened species, so this is an opportunity to work with ARKive and help the wide variety of amazing animals and plants that give pleasure to so many divers. Photographs and video give these threatened species a face.

They give people, who won't ever be lucky enough to see them in the wild, the chance to understand their characteristics, their biology and the threats they are currently facing.

Donating images

Threatened marine species make up just ten percent of the current material held in ARKive, reflecting just how hard these films and photographs are to collect, so the divers underwater images are urgently needed to help fill the watery gaps in the rapidly growing library.

TV presenter and passionate diver, Kate Humble, is a keen supporter of ARKive. "I love that first plunge, the first glimpse through the mask of the underwater world," says Humble. "And I know I am privileged to have experienced

ARKive promotes conservation and builds environmental awareness through wildlife photographs, films and sound clips, which are being pledged by many of the world's top photographers and film-makers. The aim is to produce a global, centralized record of all 16,928 species on the IUCN Red List of Threatened Species. This will provide an invaluable conservation tool—a quick, easy and free online source of information for anyone keen to learn more or to help with conservation efforts.



Blue shark



the ocean's depths; many others are not so fortunate. So, I encourage divers to donate their images to give ARKive the best means possible in their quest to raise awareness for the world's underwater creatures." Her celebrity scrapbook on the ARKive website focuses on diving and includes some of the species she has been lucky enough to see whilst underwater for pleasure and work (such as when filming *Springwatch*).

Professional shark photographer and regular ARKive contributor, Andy Murch, says, "Many of my shark images have been used in conservation campaigns to help push through legislation aiming to protect animals at risk. It's hard

Porbeagle shark

to raise support for an animal that has no face in the media and good images can make a huge difference. I feel ARKive is a shining example of what can be done to bring attention to the plight of the world's endangered species. A project of this size is too large for individual photographers to take on, but it is an obvious cause for us to contribute to."

The ARKive team are searching for a huge variety of marine materials and are keen to see the photograph captured from the cage when the diver comes face to jaws with a huge Great White off South Africa or South Australia. They too will be mesmerised by the classic silhouette of swirling hammerheads filmed whilst gazing up into the clear blue waters of the Pacific.

From the mighty pelagics that every diver longs to witness and photograph, right down to the camouflaged and almost impossible to see pygmy seahorses of the Pacific Ocean, ARKive is interested in them all, and the more unusual and obscure the species, the better.

Most wanted

A list of the 'most wanted' images is published on the ARKive website www.arkive.org and to check out if your species appears on the Red List see www.relist.org. Anyone wishing to donate images can email ARKive's media research team at: arkive@wildscreen.org.uk, or upload to www.flickr.com/groups/arkive using the tag 'marine'.

So far, around 38,000 films and images have been given a safe-haven in the ARKive digital vault. More than 3,000 media donors are actively contributing to the project, from major broadcasters, film and photo libraries to conservation organizations and academic institutes, as well as many individual filmmakers and photographers.

All media is donated freely upon the understanding that it will be used as a resource for scientists, conservationists, educators and the general public, and not for commercial purposes. ■



Diving in Oman

Text and photos by Charles Stirling

A Story of Coral Reef Regeneration



Oman



JENNY FOWLER

Red gorgonian soft coral with shoal of blue line snapper; Junn Island beach with dive boat; Green sea turtle, *Chelonia mydas*, Daymaniyat Islands. PREVIOUS PAGE: Desert sand dunes. Wahiba sands dunes, notice little plants do grow here

I went to Oman to look at coral reefs that are regenerating from damage caused by cyclone Gonu in June 2007. Divers are just beginning to learn of the Sultanate of Oman; it's becoming yet another destination to consider. A country with a 1700km coastline extending from the border with the Republic of Yemen in the south to the Strait of Hormuz in the north. Its shores are lapped by three seas—the Arabian Sea, Sea of Oman and the Arabian Gulf—all within latitudes where coral reefs are expected. So what are you going to find if you visit?

Reef building corals normally need fairly specific conditions to survive: temperatures 22°C to 29°C, clear water, hard substrate to attach to, and low nutrient water. Then they need maintenance of the right biological diversity. Oman has four distinct areas that allow reef building. Much of its coastline is sand so does not provide the hard substrate. In the regions which have the hard substrates, it's a country which challenges some of the perceived concepts over the requirements. This, in itself, should make the diving of interest to the scientifically inclined coral biologists, but will be of lesser interest to the ordinary diver who is generally more interested in simply good dives.

In the far north west off the Musandam region in the Strait of Hormuz, most dives seem to be conducted off liveaboard boats, often



out of the United Arab Emirates but also out of Daba. The attraction is the rough mountainous coastline with narrow fjord like bays. This area of Oman is separated from the rest of the country by the UAE, which completely surrounds it—an exclave. I've heard that it's enjoyable as a dive trip with at least reasonable coral and good fish life, but haven't visited.

Hundreds of kilometres down the coast is the Daymaniyat-Muscat region with the Daymaniyat Islands my prime site of interest, and Muscat area a



Red tailed or Pakistani butterflyfish, *Chaetodon collare*; Reef stonefish, *Synanceia verrucosa*; Masked bannerfish, *Heniochus acuminatus*

of the Al Munassir, welcome the diver. This is rated second to the Daymaniyat Islands, and normally it should be possible to combine the two on a single week's trip, which I was unable to do as rather strong winds stopped all diving activity during my allocated time for Muscat.

Moving on down the coast, the diving infrastructure simply hasn't yet been well established, though corals are found in the Jazirat Masirah island and surrounding waters. Much further south, around Salalah and Sadah and the Hallaniyat islands, diving sounds possible, but it's almost virgin territory. Salalah is probably the best bet; an airport has recently been opened, and the diving is reported as very good.

There are wrecks in the area, including the "City of Winchester" the first casualty of WWI, a 19th century one and others.

The cooler water during the monsoons is nutrient rich along with temperatures below coral growth normal limits but almost uniquely in the world here it doesn't kill

the coral. Coral here will gain an algae covering for a few months but survive to continue growing after. The diving operators seem few, maybe one at the Salalah Hilton maybe one at the Al Jabal Hotel.

Diving the Daymaniyats

I went out of the expected diving season, January early February, with the primary objective to see the regeneration in corals which was reported as unusual. Some specific shallower reef areas on some of the islands had been scrubbed virtually clean down to bare rock by backwash from the extremely high surge waves generated by cyclone Gonu. Other areas with extensive table corals had many of them ripped from the substrate, washed into piles or broken up. This was evident on beaches all along the coast with a tideline of newly deposited coral debris, particularly from table but also small brain, pillow and fungi corals.

This is a natural phenomenon that must

OMAN'S MONSOONS

The monsoon system in Oman is a major climatic and oceanic influence with the dry North East monsoon winds prevailing November to April, which then reverses with the South West prevailing April to October. These South West monsoon winds bring cold, nutrient rich, waters up from the depths of the Arabian Sea which reaches more than 4000 metres deep. In the south of Oman, corals have adapted to survive both the cool temperatures and algae growth which results. In waters with adequate nutrients, other organisms generally out-compete corals, which is not always happening here. Further north, from Ras Al Hadd to Muscat and even the Daymaniyat Islands, the seas are shallower and can warm considerably, sometimes above the normal high temperature for coral growth. The cold upwellings here arrive as intermittent cool packets of water being pumped by surface waves. It's thought this occasional cooling helps to keep the good coral growth, as they do bleach but quickly recover. Even in constant temperatures above those that bleach coral in other regions of the world, corals here may not bleach. Water temperatures in the Daymaniyats can change by ten degrees in an hour. ■

TOP: Bluespotted Cornetfish *Fistularia commersonii*

close second. This region is the most popular destination, which effectively splits into the two sub areas.

The Daymaniyats are tiny, isolated islands, about 20 km off the coast from Al Sawadi, an hour's drive north of the capital city of Muscat. This distance limits boats visiting from the far side of Muscat to exceptionally fine days, and most will use Al Sawadi Beach

Resort or the centres near the closer outskirts of Muscat. The islands are a marine reserve, established in 1996, consisting of a nine-island archipelago with many submerged rock pinnacles.

In the Muscat area coral reefs, a couple of small wrecks and the artificial reef created by the deliberate sinking of the 84m-long, 2991-ton landing craft, wreck



COUNTERCLOCKWISE FROM LEFT: Damaged table coral, *Acropora valenciennesii*, with upward growing regeneration; New growth *Acropora* table coral polyps; Upturned table coral with regenerating branches

TABLE CORAL

This table coral looks like it is *Acropora clathrata* as the branches coalesce to form solid plates. In this species, which is a common one in Oman, branchlets seldom turn upward so giving the flat table appearance. The closely related species *Acropora valenciennesii* is frequently confused with *A. clathrata*, but its branches do not fuse being more loosely branched while it will have branches which do turn upward. I'm not a coral taxonomist; these identifications show some of the difficulties with describing behavioural differences particularly when circumstances are unusual. This observed regeneration response is dramatic, and the sheer quantity makes it noteworthy regardless of species. It's a natural response to an environmental change, which will keep the reef alive and doing well. Coral is reported to cover 70+ percent of available surface, and the reefs are expanding on the Daymaniyat Islands. ■

cut both by a plankton bloom and stirred sediment. Visually one could see 8 to 12 m at many of the sites, which was reduced from the expected, but photographically the plankton had matured to sizes large enough it might almost be identified in some photographs so ends up in most images. This said, the diving was still very enjoyable.

I managed diving with Roger & Emma Halliday's Al Sawadi Beach Resort dive centre five days out of a possible six, one lost to the wind, but had planned another

five days diving out of Muscat which were blown out. The Daymaniyat Islands have some shallow bays, but most of the diving was on variously contoured walls often progressing along near the bottom regions at 16 to 20 metre depths. Some of these were billed as drift dives possibly having strong currents, but our drift dives ended up at about half a knot or under so just enough to behave fish like with head toward the current and gentle finning to hold position or slightly less finning to slowly drift to see the landscape unfold.



have been happening in this region for thousands of years when the occasional strong cyclone hits every 30 to 60 years. It's one aspect of beach and land development.

Underwater it was exciting to see how quickly recovery had started. I wasn't doing sampling or measurements, just acting as an inquisitive diver, but the scrubbed rock looked to be gaining a covering of coralline algae, bryozoans and small soft and hard corals.

The surprises came with the table coral, upturned and maybe in a pile, sending new branches up from what had been the undersides. In Hawaii some damaged table corals have

experimentally been turned right side up by divers and cemented back to the substrate either with a quick setting cement-adhesive mix or cement. This seems to work but is a skilled, expensive, labour intensive task okay for a few specimens, but not with the quantities here.

General Diving

Not as surprising was that most reef areas dived appeared to have seen little damage. The wave energy is near the surface and quickly dissipates with depth, also leeward sites are protected. Being out of the best diving season sea conditions were sometimes a bit rough reaching the islands and the visibility was





Oman



Crown of thorns Starfish, *Acanthaster planci*, preying on hard coral but not destroying all the reefs

Often the proposed dives would start with dropping off the boat over a coral garden, finning a short distance to catch the current and drift to another coral garden to surface. The diving is easy, each site, each island has differences, but sometimes subtle.

The islands offer reef diving somewhat similar to the Red Sea to which it inevitably gets compared. One of the big differences is the lack of crowds. I was out of season, so comparisons are misleading, but on some days my guide/buddy and I were the only two divers in the whole nine-island archipelago, while in peak season I was told there might be a few other dive boats scattered among the islands. It's not crowded!

The coral species diversity isn't as

great as the Red Sea with about 120 now known, and new ones still being discovered, but you would need to be a coral taxonomist to tell the difference, as all the various types are present. Other invertebrates and fish are both diverse and abundant; lobster, various crabs, urchins, starfish, cuttlefish, turtles, cornetfish, a number of species of eel, trevally, grouper, turkeyfish, stonefish, angelfish, butterflyfish, anemonefish, parrotfish, shoals of snapper, wrasse and more are all here.

Our boat sometimes took snorkelers out with us, either dropping them at a sandy beach on Junn Island where we would all meet for the midday offgassing and packed lunch, or at the destination point of the planned dive. They seemed to enjoy the days.

Again, this was January, The Sultanate of Oman's shores attract great numbers of sea turtles to nest all year round, but particularly a little latter in the year.

The critically endangered Hawksbills turtles (*Eretmochelys imbricata*), in local Arabic called 'Al Sherfaf', nests particularly on the Daymaniyat Islands, which are consequently closed to boat landing in the months of May-October on conservation grounds. Out of these closed months, exploring the islands' deserted beaches is possible. A traditional dhow was being added to the Al Sawadi stable to make snorkeling more enjoyable and overnight dive trips possible, as it can be used as a floating base for activities when the beaches are closed. The larger dive boat, *Noora*, was away for a refit, and

Prickly alcyonarian soft coral, *Dendroepthya* sp. TOP: Cuttlefish





GREEN TURTLE NESTING SITES

The mainland shores all along Oman offer nesting sites for four species of sea turtles and feeding grounds offshore for visiting Leatherback turtles. For loggerhead turtles these are the world's most important nesting sites particularly around Masirah Island where 30,000 come ashore. The Olive Ridley also nest around Masirah Island. The major nesting area for the Green turtles is about 400 km south-east of Muscat along the Ras al Hadd peninsula, not far from the dhow-building port of Sur where they nest year round. Green turtles nest in numbers that exceed any other single location in the Indian Ocean. ■

CLOCKWISE FROM LEFT:
Green sea turtle, *Chelonia mydas*;
Bedu tribesman exercising racing
camels; Green desert plants in wadi
east of Ras al Hadd



the new planned catamaran for diving was at the design stage, so trips were on the smaller *Thimsa* or the soon to be decommissioned *Shadiya* dive boats.

Diving, I encountered a number of Green turtles while the snorkellers had a Hawsbill turtle investigate them on Junn West, which I missed as I took my time drifting in that direction along the wall and didn't make the distance in my 70-minute dive, too much else to see.

Topside Attractions

A diving trip isn't all diving even if you want it to be. My trip was partly organised by Muscat Dive and

Adventure Centre. We had planned on my also diving out of Muscat for a second week for some wreck dives, but winds prevented this. The air was filled with fine sand, the evening temperatures were cool, the seas rough. Normally, these winds only last for one to a few days, but not for my visit—they lasted for two weeks using up my stay completely. It's these cooler temperatures that make this winter weather high season for land activities. Summers reach 45°C to 50°C inland. Instead, I was able to explore more of the impressive mountains, wadis and desert sands along with Muscat itself.

Culture

Oman's religion, its culture, its personality strikes almost as soon as leaving a resort, some before that, as incredibly warm and friendly. Walking on the street people make eye contact, smile, say hello—yes, in English, though Arabic is the main local language. A handshake, with a light grip, a firm one is seen as aggressive, is often extended and a conversation started. That conversation not trying to sell the tourist trinket of your desires but simple friendly banter.

Oman is not an Anti-Western country; though conservative Islamic, it's tolerant of others and has much



captions this page

enjoyed historic ties to Britain. Its civil law is modelled on a mix of Islamic and Western practice, Shari' ah (Islamic) law is used within the family so applies to marriage and inheritance but doesn't seem to dominate outside the family.

Yes, changes are happening here, but it is still conservative even in cities, and more so in smaller villages. To be comfortable away from the dive boat, dress conservatively, i.e. covered up. Normally, I would be in shorts in warm climates. Here, that would, in all likelihood, bring stares if not comments. It's long trousers time.

For woman, loose fitting, non-revealing dress is the order of the day. Long trousers are ideal, or skirts and dresses with a hem below the knee, and a loose fitting sleeved top. A headscarf could be handy at times. Bikinis are okay around the hotel pool, beach or dive boat, but

not in the hotel, certainly not elsewhere.

Most Muslim women still wear the abaya, a full-length black covering. Almost all Omani man wear the dishdasha (ankle length shirt) but not non-Omani, emigrant worker men.

The country doesn't have classes per se, but does have family, monetary and tribal hierarchies. If you know the system, the dishdasha and the men's hat tells a lot about social connections. Both men and women cover the head. Inside the home women can have significant authority. Outside, it is the male, and elder males are dominant. I noticed outside, even young boys have authority over much older girls and may try over adult women.

Women in Oman do have equal legal rights, many work in city offices or with livestock and agriculture in rural communities. In higher education,

there are now more women than men, and women are finding a place in government. But culture dictates the need for women to be back in the family home during the evening with one consequence being they don't take jobs distant to the family. Marriages are normally arranged, preferably to cousins, with consequences that can be seen in villages, and families tend to be large also limiting women's role.

The Omanis number about two million, with an additional half million or so immigrant workers mostly from India or Pakistan in a country about the size of Great Britain, or the state of Utah in the USA. Much of Oman's present wealth is coming from oil but with significant additions from fishing, and agriculture, livestock particularly. The current sultan, His Majesty Sultan Qaboos bin Said, has recognised oil revenue will not



Omanis in traditional dishdasha dress leaving Ar Rustaq fort after prayers
TOP LEFT: Blue hazy mountains above wadi and town of Birkat Al Mawz





Oman
CLOCKWISE FROM FAR LEFT: Inside Mutrah Al Dhalam Souk Muscat; Clothing shop in souk; Dried fish stall in Seeb souk; Main prayer room Sultan Qaboos Grand Mosque in Muscat; Fisherman with the days catch of a reef fish

a meal for two at under US\$6 to \$10, sometimes down to \$2. In the hotels it could be \$20 to \$60 for an evening meal. I wish British fast food was as good, but the choices are a little limited. Try the local shuwa in a restaurant, meat slow cooked in an underground clay oven, and in the cafes the Indian



tourism as a new potential income stream. Tourism has been limited by the lack of hotel beds and transport infrastructure. The transport side is being addressed with the road building and new airports, the hotel beds with new, mainly high end, resorts. Traditionally not many Omanis have travelled, even within their own country, so middle ranking hotels are very limited.

Night Out

Going out at night isn't likely to be for a beer. Alcoholic drinks can be found in western oriented hotels and I gather in a few clubs and restaurants in Muscat. The fresh fruit juices make up for this, absolutely excellent, or it is tea, soft drinks or maybe coffee. Getting out of the hotel/

resort complex and mixing with the local population is highly recommended, you will experience more of the real country and eating out will save money compared to hotel fare. It also spreads any spending money to the local economy. What will be noticed is that it is an almost exclusively a male environment, females will be noticed by their absence. Female tourists, well covered, won't have problems. It's local women who will only be seen in limited situations and then chaperoned.

Eating

Most of the time my partner, Jenny, and I went to small local cafes. They are plentiful, almost always the food was good to very good and generally inexpensive (or even cheap). We often had



go on forever, and he is endeavouring to educate and modernise the country along with looking at



Oman

opportunities.

With our enforced extra non-diving days more mountain, desert and Muscat exploring was possible.

The mountains and countryside around Nizwa are easily reached from Muscat with a days drive including scenic stops, giving good areas to explore and walk. A 4X4 would get you deeper into some of the impressive narrow mountain valleys but some can be seen from saloon car accessible roads. From Nizwa we headed across vast flat expanses of wadis and desert, on good uncrowded paved roads, to the Wahiba sands to be collected by Reinhold Thaumuller of Desert Discovery in a 4X4 for a night out in the desert. More dune bashing of an even more impressive nature than Al Abyad, a campfire and star filled sky with a cold beer made



paratta wrapped around chicken, and I'll reiterate, try the fresh fruit drinks. We both particularly liked the freshly prepared mango, cost, under \$1, and the mango milk shakes with excellent ice cream. Restaurants do exist serving international foods, mainly in Muscat and hotels but were beyond our finances. The Omani's main meal is midday at least in theory, but the men out on their own in evenings seemed to have reasonable appetites. We joked that maybe the woman's authority at home forced them out to eat in evenings as streets were full till 22:00 to 23:00 (10 to 11 pm) hours without much else to do but eat and play cards.

Exploring the Countryside

Oman is primarily an arid country with a coastal plain backed by mountains and desert interior. Exploring might break into two or three distinct categories: Evenings out, will mainly be to eat, then day and longer trips. Day trips might be most easily done with a tour. We had one organised by Muscat Dive and Adventure taking a 4X4 up into wadi Al Abyad, not

far from Al Sawadi, first seeing the local small village at the foot of the mountain wadi, then off road up into the valley with its always flowing spring. Continuing from this rugged mountain area to desert sand dunes and the classic dune bashing illustrating that a 4X4 can go places, do things not expected of a vehicle. Dune bashing makes a roller coaster seem rather tame.

Multi-day trips you really will want to rent a car. Oman now has a few thousand kilometres of new world class roads. In the early 1970's they had about 10 km. The paved roads can get you to all the towns, most villages and some areas of mountain or desert but off-road or gravel track is necessary for some more interesting desert and mountain exploring. Due to the wadis and mountains long circuitous routes can be necessary. We hired a small sedan car at a third the cost of a 4X4, but it did have its limits. If you are going to drive, hire it at the airport on arrival for the full stay, a long taxi trip costs a day's hire charge, and driving opens up a lot more



Dune bashing, Wahiba sands. TOP LEFT: Wadi Al Abyad with 4X4 car and spring water. TOP RIGHT: Sand dunes and notice the vegetation



Oman

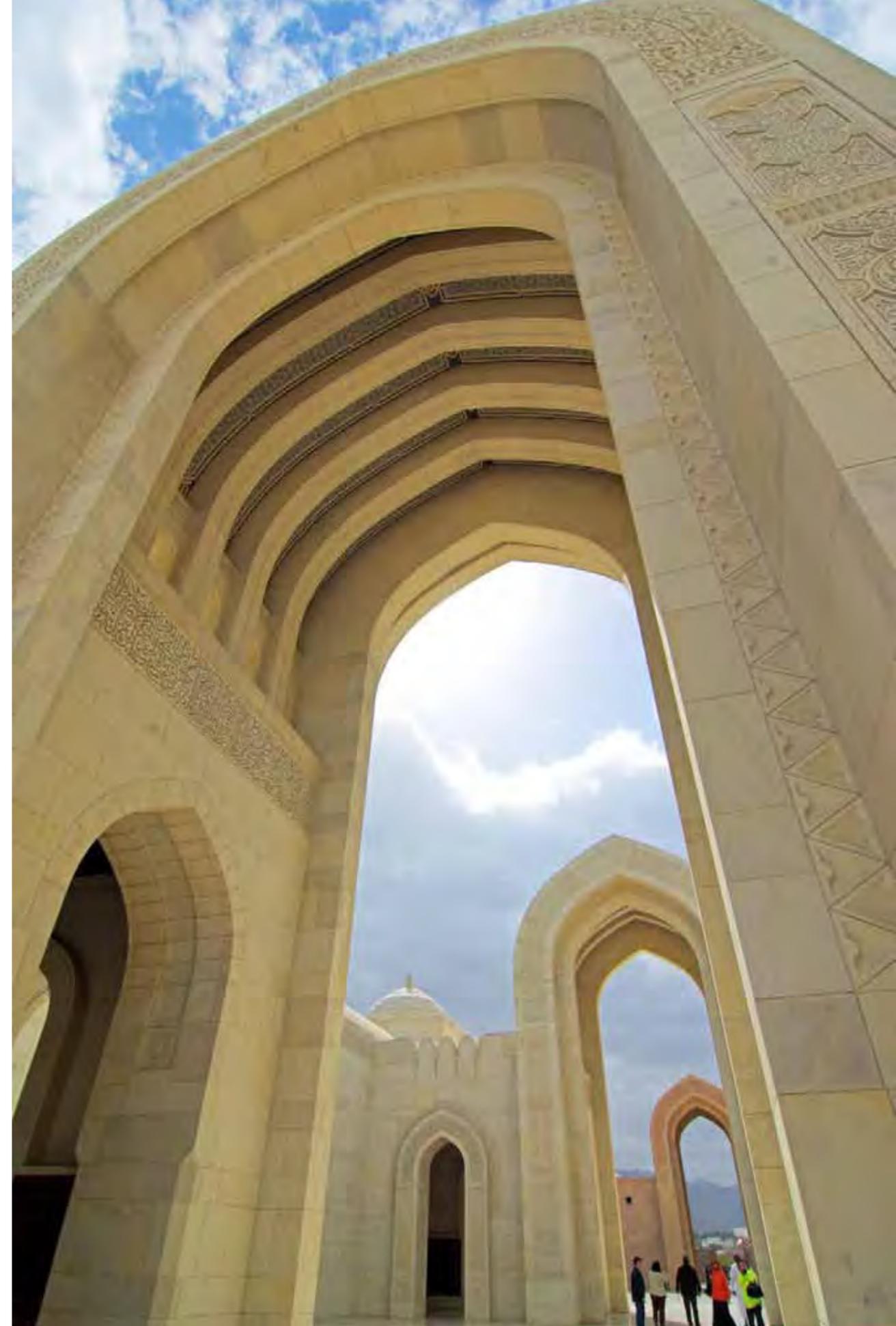
for a pleasant hospitable evening. The countryside is spectacular and worth visiting, but maybe you would want to limit this in summer when even the locals consider it too hot.

Muscat

Muscat, the capital, is a long city stretching something over 70km driving distance along the narrow coastal plain backed and constrained by rugged mountains. The place for larger traditional Arabic market places, the Souqs, modern shopping malls, museums and government departments. All over Oman, in every village even out in isolated desert outposts are mosques but here is the new and superlative Sultan Qaboos Grand Mosque which is impressive in size, architecture and sheer grandeur. The Mutrah souq is the classic one to visit with its gold, food, clothing, souvenirs, and more, arranged in a labyrinth of narrow passageways (we couldn't find our way out it was so large and complex), but it did seem very slightly touristy. The smaller but still large souq near the waterfront of Seeb, on the outskirts of Muscat, almost seemed more interesting with no concession to visiting tourists. Museums eluded us. We tried to find the Natural History Museum, but maps are a bit limited in detail and we drove for ages near but never finding it. Asking locals drew a blank, none knew of it, as so often is the case when the subject is natural history or science.

Environmental Policy

Oman is aware of, and trying to do a lot to conserve both natural habitats and its archaeological history. With the important turtle populations, regulations on disturbing nesting beaches are in place and it's illegal to catch them. They do accept visitors want to see



THIS PAGE: Views of Sultan Qaboos Grand Mosque in Muscat



LEFT TO RIGHT: Sultan Qaboos Grand Mosque in Muscat; Pile of damaged table coral with regenerating branches; Clark's or Yellowtail clownfish, *Amphiprion clarkii*, in anemone—yes, they are even here; Vase Coral, *Turbinaria mesenterina*, Daymaniyat Islands

turtles struggling onto beaches, hatchlings leaving nests for the sea. This is often in more isolated areas without tourist accommodation so regulations are also in place trying to control tourist infrastructure development. Theoretically they are doing more for the turtle conservation than other countries, but in practice sometimes the enforcement evidently falls a little short, particularly since cyclone Gonu when so many resources have been involved in reconstruction.

The longer term worry for the marine environment, I think, stems back to the comments on culture, the large family sizes, combined with fishing seen as an economic area to expand. We see how the corals can recover from natural disasters, ones which have been recurring since the reef started. If the conditions are right coral reefs are stable biological communities as can be seen by thousands of years of growth, wrong for them and something else will replace

them. To produce more of the "right" conditions Bluezone Watersports has teamed with the British School Muscat to produce an artificial reef structure using clay pots just out of Muscat with the side benefit of introducing young students to marine biology and conservation. Oman is interested in conserving its natural environment but like everywhere else conservation and economics co-mingle to an ever changing end.

In the past the local fisherman had their small, slow, boats which probably limited catches. To help the 4,000 plus fisherman economically they have had grants to upgrade outboard motors, new larger boats are being built. Its illegal to catch turtles, but many are accidentally killed by nets or fishing line. The same

protection for turtles doesn't apply to sharks which are caught for local markets nor to reef fish needed to keep reefs in balance. The fish catch is on the increase both for local consumption and export. At the moment the marine environment seems reasonably healthy and stable but the debate on limiting fishing doesn't seem to be happening. Will stability be compromised?

Inland, it was great fun to do the dune bashing, to do the little bit of off road exploring. But, sand dunes and deserts often have very fragile ecosystems. We were visiting in the winter, the dunes and the desert had green shoots aplenty but driving over this, though fun, is unregulated and vehicle tracks are rather frequent. Yes, the dunes move, cover

tracks quickly with the freshly blown sand but the scarce plant life does get damaged, the same with wider desert ecosystems. At least some consideration of this ecosystem needs to come into local thinking.

Oman offers some good diving and its a spectacular, safe and very friendly country. Tourism here is seen as a long term economically good thing being aimed particularly at the discerning, more independent, visitor not the mass market. The diving could suit any level of experience, the country nearly anyone. Let's hope the economic needs for its growth doesn't outstrip concerns for the environment so both locals and future tourists can enjoy it. ■

fact file



Oman



SOURCE: CIA.GOV WORLD FACTBOOK AND CHARLES STIRLING

History Indian Ocean trade has long sustained the inhabitants of the area of Oman. In the late 18th century, the first in a series of friendship treaties with Britain was signed by a newly established sultanate in Muscat. Over time, Oman's dependence on British political and military advisors increased over time, however, it was never a British colony. Qaboos bin Said al-Said succeeded in overthrowing the restrictive rule of his father in 1970; Since then, he has ruled as sultan. The sultan put into place an extensive modernization program, which has opened the country to the outside world while maintaining its historical close ties with the UK. Oman practices a moderate, independent foreign policy, which has sought to preserve good relations with all the countries of the Middle East. Government: monarchy. Legal system: based on English common law and Islamic law with ultimate appeal to the monarch. Capital: Muscat

Geography Oman is located in the Middle East, between Yemen and UAE and borders the Arabian Sea, Gulf of Oman, and Persian Gulf. Coastline: 2,092 km. Terrain: central desert plain with rugged mountains in the north and south. Lowest point: Arabian Sea 0m. Highest point: Jabal Shams 2,980m. Note: Oman holds a strategic location on Musandam Peninsula next to the Strait of Hormuz, an important transit point for the world's crude oil trade.

Climate The best time of the year to visit Oman is between October and April for land activities when temperatures

are warm in the day, cool in evenings. For diving September to December and March to May. Oman is mostly dry desert, being hot and humid along the coast; hot and dry in the interior; with strong southwest summer monsoons from (May to September in the far south. Natural hazards: periodic droughts and summer winds, which frequently raise large sandstorms and dust storms in the interior.

Economy As a nation, Oman is a middle-income economy heavily dependent on diminishing oil reserves. However, it has sustained high oil prices in recent years, which have helped build Oman's budget, foreign reserves, and trade surpluses. In anticipation of its oil resources running out, Oman has initiated a development plan focusing on diversification, industrialization, and privatization. An objective of the plan is the reduction of the oil sector's contribution to GDP to 9% by 2020. These projects may be thwarted, however, by lack of natural gas to power them. Private foreign investors, are being sought, especially those in the industry,

information technology, tourism, and higher education. Gas resources, metal manufacturing, petrochemicals, and international transshipment ports are the focus of industrial development.

Environment Oman is experiencing rising soil salinity and beach pollution from oil spills. It also has limited natural fresh water resources. The nation is party to the following agreements: Biodiversity, Climate Change, Climate Change-Kyoto Protocol, Desertification, Hazardous Wastes, Law of the Sea, Marine Dumping, Ozone Layer Protection, Ship Pollution, Whaling

Population 3,418,085 includes 577,293 non-nationals (July 2009 est.) Ethnic groups: Arab, Baluchi, South Asian

RIGHT: Location of Oman on global map
BELOW: Map of Oman



(Indian, Pakistani, Sri Lankan, Bangladeshi), African. Religions: Ibadhi Muslim 75%, other ethnic groups (including Sunni Muslim, Shia Muslim, and Hindu) 25%. Internet users: 465,000 (2008)

Language Arabic (official), English, Baluchi, Urdu, Indian dialects

Travel Details

We took the new direct Oman Air flight from London Gatwick to Muscat. Other flights often go through Dubai or the many other hubs then on to Muscat. Oman Air: Omanair.aero

Visas Single entry short visits, pay 6 OMR or equivalent on arrival at airport. Caution, some tour operators and visa touts at the airport may try and help while charging double or more.

Health No jabs required. Very safe country. Recompression chamber is available at:

Currency Oman Rial, OMR (£1 = 0.74OMR). Better exchange rates at Muscat airport or at one of the few currency converters—banks not as good, shops and hotels, poor. Exchange on the credit card was okay, but sometimes had problems using it. In smaller towns, credit cards may not be accepted.

Time Zone GMT +4

Hotels Not large numbers to choose from, when diving we stayed at: Al Nahda Resort Alnahdaresort.com About a 20-minute drive to dive centre, but near town of Barka, which could be reached by hotel taxi.

Al Sawadi Beach Resort Alsawadibeach.com Has the dive centre, but is a little isolated with only a very small local village, but right on the beach.

In Nizwa for visiting mountains: Falaj Daris Falajdarishotel.com Very pleasant small hotel on the outskirts of Nizwa with rooms set round two courtyards each with a swimming pool. Easy drive into town with its fort and souk to visit.

In Wahiba sands for desert: Desert Discovery Desert-discovery.com Desert camp with thatched rooms, can only reach by 4X4. They also have a hotel in Al Qabil which can be reached by salon car and acts as collection point for the camp.

In Muscat: Muscat Diving & Adventure Centre Holiday-in-oman.com Omandiving.com They have hotel/hostel properties used by participants on their various adventure activities. Proved incredibly helpful to organise our activities.

For smaller hotels, see, *Oman: The Bradt Travel Guide*.

Opening times Thursday afternoon and Friday are traditional weekend closing days, but this is slowly changing to Friday and Saturday. Nearly everything will be closed between 1:00 - 4:00pm. Banks are open from 8:00am to noon. Shops and businesses are open from 8:00am - 1:00pm, 4:00 - 7:00pm or later.

Oman Government Tourist Office www.omantourism.gov.om ■



Beating Jetlag

takes the average person about a week to adjust to the new time zone after a transatlantic flight.

The traditional model stated that the clock and the brain communicated to the rest of the brain via the number of electrical impulses that the brain cells were producing. These impulses would travel around the brain, tell-

As dive travelers, we occasionally find ourselves traversing many zones in our pursuit of the next great underwater adventure often feeling completely out of sorts on arrival thanks to jetlag. What can the latest research tell us about this annoying condition?

Our daily sleep cycles, behaviour and metabolism are regulated by a powerful master clock, which resides in an area of the brain known as the suprachiasmatic nucleus. This "circadian" clock is regulated by some special brain cells, which in turn, are highly sensitive to daylight. Because the body's biological clock can only shift a small amount each day, it

ing it what time of day it was. These cells had been thought to be inactive during the day, but the recent research by a University of Manchester team has found the opposite to be true.

The brain seem to keeps the body clock on track by firing more cells during daylight and very few during the night. It is hoped that these new findings will

lead to new approaches of being able to tune our body clocks. This new understanding may also pave the way to combating sleep disorders triggered by body clock malfunctions and help develop drugs to counteract things like jetlag.

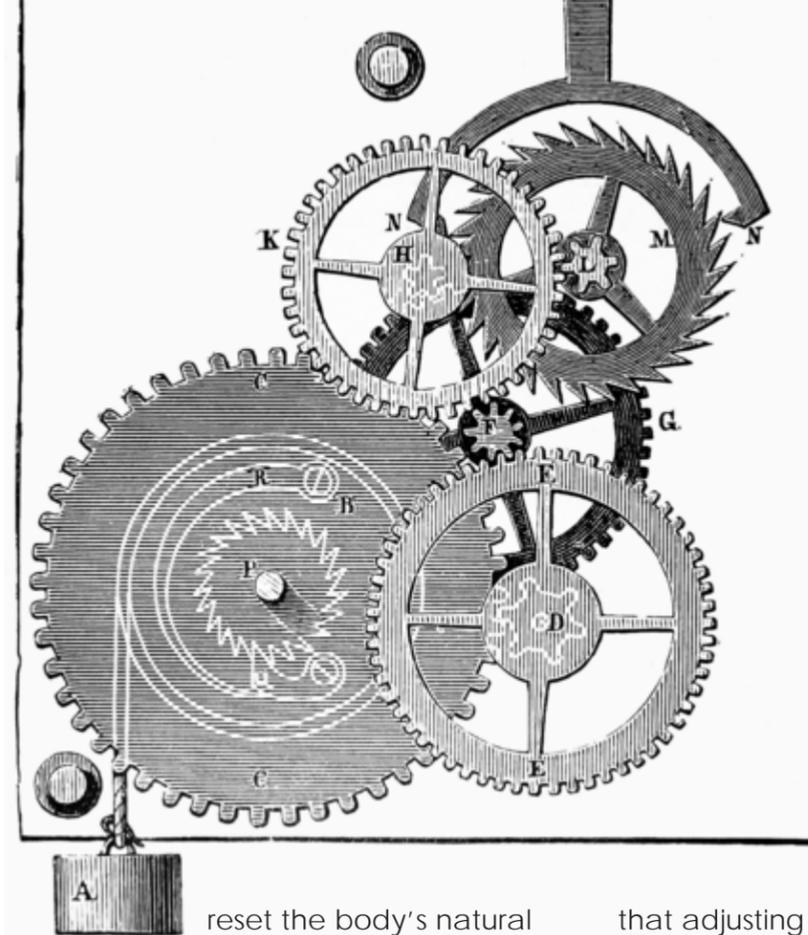
"What we've found is in fact that there are at least two types of cells in this part of the brain." Professor Hugh Piggins, an expert in neuroscience at the university told the BBC World Service's Health Check pro-

gramme.

One such new cure for jet lag could be on the market in the matter of few few years after clinical trials show a pill can

Jet lag may last many days, and recovery rates of one day per eastward time zone or one day per 1.5 westward time zones are mentioned as fair guidelines

There is much debate about whether it is better to fly eastward or westward. It may be largely a matter of personal preference, but there is some evidence that flying westwards causes less jet lag than flying eastwards.



reset the body's natural sleep rhythms.

In trials, published in the esteemed medical journal, *The Lancet*, a drug called Tasimelteon helped troubled sleepers nod off quicker and stay asleep for longer, by shifting the natural ebb and flow of the body's sleep hormone melatonin, which peaks at night.

Experts said the drug would also be a welcome alternative to addictive sedatives.

Natural melatonin is a popular treatment for patients with body clock-related sleep disorders. Various melatonin products are often sold over the counter as non-prescription drugs and researchers warn the potency, purity and safety of melatonin pills is largely unregulated. Also it is inconclusive whether they work in shift-workers and people with jet lag.

The new drugs, which work through the same neuro-receptors and pathways as melatonin, are said to improve daytime performance and alertness without any carryover sedative effect.

Adjust your meal times

Meanwhile, another study suggests

Showers

During extended stop-overs on a long haul flight, showers are sometimes available. A shower not only freshens you up but gets the muscles and circulation going again and makes you feel much better for the rest of the flight. Trans-Pacific pilots have told us taking a shower in Hawaii helps them recover more quickly from the general effects of jet lag after the flight

that adjusting meal times may also help travellers recover from jet lag.

Harvard University researchers believe the brain has a second clock that keeps track of meal-times, rather than daytime. To understand the relationship between the two clocks, the Harvard team studied mice, which were missing a key clock gene. By observing the behaviour of the mice closely, the researchers discovered that when food is scarce, the feeding clock would override the circadian master clock, keeping animals awake until they had the opportunity to eat.

Thus, shift workers and travellers may be able to use the feeding clock to adapt to changes in time zones and keep tiredness at bay by not eating, they suggested in the journal *Science*.

"A period of fasting with no food at all for about 16 hours is enough to engage this new clock," explained lead researcher Clifford Saper. "So, in this case, simply avoiding any food on the plane, and then eating as soon as you land, should help you to adjust and avoid some of the uncomfortable feelings of jet lag. It's never going to make the symptoms disappear entirely, but it could certainly make them a lot more manageable." ■