

Edited by  
Peter & Gunild Symes



FILEPHOTO: MARK WEBSTER

## Tagged basking shark swam 6000 miles—across the Atlantic and back

Where do Britain's basking sharks go in the winter? Canada it seems. For the first time, satellites have tracked tagged sharks travelling for thousands of miles from waters southwest of the Isle of Man to New Foundland.

Until now little was known about endangered basking sharks (*Cetorhinus maximus*) when they moved outside British waters. Then two sharks got tagged off the Isle of Man and were tracked by satellite for 100 days. One shark got no farther than the west coast of Scotland; the other stayed near Cornwall for a short time, then went across the Atlantic, travelling 9,589 km to the waters off the Newfoundland shelf. On her journey across the ocean, she reached a maximum depth of 1,264 metres. This is the first conclusive evidence for basking sharks' use of the deep mid-ocean, a

record dive depth for tagged sharks, and perhaps more importantly the first evidence that the species migrates across oceans or between hemispheres.

Research scientists are not sure why the 26ft-long female made the incredible trip, speculating she could have been looking for a mate, for a better food supply, or returning 'home' after a summer in British waters. Another option is that she was on a previously undiscovered migration route, prompting debate among some experts that basking sharks in Britain, North America, southern Africa and as far afield as New Zealand could be part of one big family.

Little is known about this gentle giant, whose humble diet consists of the microscopic organism plankton, and until now, it was thought in Europe to migrate north in the

*Basking sharks in Britain, North America, southern Africa and as far afield as New Zealand could be part of one big family.*

spring to England and up to Scotland, before returning south in the autumn.

Where exactly south they moved was until now a mystery. Dr Mauvis Gore, a marine biologist with the Save Our Seas Foundation, who has been studying these animals for

the past five years has shed new light on their movement patterns. With her discovery comes the realisation that, since this endangered species is not protected outside Europe, it might be more vulnerable than previously thought.

"These results give the first link between the European and American basking shark populations, and what was once thought to be two discrete populations is very likely to be effectively a single one unit." Dr Gore told the Times. ■

SOURCES: SAVE OUR SEAS FOUNDATION, THE GUARDIAN UK, THE TIMES

### AWI post lists over U.S. restaurants selling shark fin soup

The Animal Welfare Institute is leading a nationwide effort to contact restaurants in the US that currently serve the highly controversial shark fin soup, asking that they consider the precarious status of many of the targeted species and stop selling the dish immediately. ■

### Weddings boost consumption of shark fin in Singapore

Shark's fin consumption more than doubled in Singapore last year from 2006, with demand driven by an economic boom and an increase in wedding celebrations, AFP reports. Singapore consumed more than 470 tonnes in 2007, up from 182 tonnes the previous year and reversing a four-year decline, the Straits Times reported. ■

### Warnings sought for shark fin dishes

Taiwanese legislators urged the Department of Health (DOH) to require that restaurants serving dishes with shark fins provide warnings cautioning pregnant women not to eat the prized ingredient, which can contain dangerous levels of mercury. ■

## Sharks are now 'functionally extinct' in the Mediterranean

Researchers going through two centuries worth of data have documented that shark numbers have declined by as much as 99 percent in the last two hundred years. The scientists who conducted the study said that many of the 47 species of sharks that live in the Mediterranean have not been seen for decades.

To be "functionally extinct" means that there are so few individuals left that the species have ceased

to play a significant role in the ecosystem.

"The loss of sharks in the Atlantic has resulted in unpredictable changes to the ecosystem. Given the decline in the Mediterranean, there is cause to be seriously concerned about the effect that this could have," said Francesco Ferretti, the head of the research team who published their findings in the journal Conservation Biology. They added that other predators, such as whales, turtles

and large fish such as tuna, "had declined similarly" and that the entire ecosystem of the Mediterranean was at risk. Sharks help control the populations of various fish and keep the food chain balanced.

*Many of the 47 species of sharks that live in the Mediterranean have not been seen for decades.*

The team looked at the populations of hammerheads, blue sharks, thresher sharks and mackerel shark. "Many historical records show the Mediterranean had an abundance of large sharks, which were considered a pest by fishermen," it says in the report. "Hammerhead sharks declined the fastest. In the early 1900s, catches and sightings were regular, although not common. After 1963, no hammerheads were caught or seen in coastal

areas. After 1995, we found no more records," it added.

The authors concluded that sharks have been either legally or illegally fished to extinction, as fishermen sought to get rid of them. Sharks are particularly vulnerable to fishing because they breed rarely and take a long time to grow to maturity. ■



## Mexico to tag sharks following a string of deadly attacks

Researchers are trying to understand why sharks near the southwestern resort of Ixtapa-Zihuatanejo killed two surfers and maimed another in the first fatal shark attacks along Mexico's Pacific coast in 30 years.

Biologists in Mexico plan to tag hundreds of sharks off the Pacific Coast and ask fisherman to look out for them and report back on their movements. A smaller group of sharks will be tagged with electronic devices that would transmit data on their behavior and locations to biologists via radio frequencies.

"We need to get to the 'why' these animals are coming so close to Guerrero's shores, which is so unusual," Guerrero state Environment Secretary Sabas Arturo de la Rosa told Reuters.

### Could La Nina Be to Blame?

Shark experts believe unusually cool sea-surface temperatures could be partly responsible for the attacks, but they also note that a dearth of data about sharks in the region makes it difficult to reach conclusions.

According to George Burgess, director of the Florida Program for Shark Research, La Nina usually results in cooler than normal waters in the Pacific, and may have moved the boundary between cold and warm water closer to the shore, taking fish and their shark predators along with it.

"One of the factors we're investigating is if there are special oceanographic conditions that might have contributed to the attacks," Burgess told Reuters. ■

# Opposition to shark fishing in the Great Barrier Reef grows

Shark Savers has launched a petition to harness growing international opposition against new proposals of the Queensland, Australia government to license shark fishing in the Great Barrier Reef World Heritage Area.

Shark Savers goal is to draw international attention to the proposal, spurning a public outcry and motivating other government agencies within Australia to get involved. "Australia stands to lose its precious shark population, jeopardize its lucrative tourism industry and forever tarnish its reputation as an environmental leader," said Julie Andersen, director of Shark Savers. "We cannot afford to lose one of the world's most treasured ecosystems and one of the key species that keeps it healthy."



Shark Savers has launched a petition to harness growing international opposition against new proposals of the Queensland, Australia government to license shark fishing in the Great Barrier Reef World Heritage Area.

An historical first, the Queensland, Australia government is creating a dedicated shark fishery. The measures would establish formal shark fishing in critically vital and currently protected shark habitats including the Great Barrier Reef. Additionally, the proposal offers no firm catch limit to the number of sharks that can be fished.

Shark Savers, an organization dedicated to the grassroots conservation of sharks, is calling for international pressure to immediately stop these measures. The organization notes that shark populations around the world are plummeting due to relentless over fishing for sharks, primarily to satisfy demand for shark fin soup in



Asia. Shark Savers believes a moratorium should be established on shark fishing, rather than create new fishing rights in delicate marine protected areas such as the Great Barrier Reef.

"The Great Barrier Reef should be a refuge for sharks. Developing countries such as Ecuador and Costa Rica have declared all sharks to be off-limits to fishing in their marine protected areas, Galapagos and Cocos. Certainly Australia can, as well," said Michael Skoletsky, director of Shark Savers. "The shark fishermen are getting new protections—but it's the sharks that need protection the most."

"Research has repeatedly shown that sharks play an especially vital role for ocean ecosystems. When sharks are eliminated or decimated, severe problems are created down the food chain," said Ellen Pikitch, Executive Director of the Pew Institute for Ocean Science. "As a consequence of losing sharks, other species might be eliminated that are either important foods for humans or upon which the health of the reefs themselves is dependent."

Shark Savers ([www.sharksavers.org](http://www.sharksavers.org)) is a non-profit membership organization dedicated to saving the sharks through building awareness, education, and grassroots action. Shark Savers enables people to learn, take action, share information, and find each other around the mission of saving sharks.

CONTACT:  
Michael Skoletsky  
[michael.skoletsky@sharksavers.org](mailto:michael.skoletsky@sharksavers.org)

## Dive into X-RAY MAG's Library of Issues!

Download past issues FREE



[www.xray-mag.com](http://www.xray-mag.com)

# Brazil's Ilha Grande

*Laid back & lazy*

There are a few places on this planet where things seem to fall into place without any hesitation. Ilha Grande, Brazil, is one of these places. Even on busy weekends, there is a no-stress atmosphere. On the beach, in the garden hammock, or at 20 metres depth—it's all laid back and lazy.

A couple of editions back, our magazine adopted the sub-heading "International lifestyle magazine for divers". Well, spending some days on Ilha Grande definitely felt more like a lifestyle than work. All things connected—the lush green forrests, tiny quiet villages on the water's edge, deserted beaches, wooden schooners anchored in the bays, and the attractions of the deep azur ocean. Arriving on the island—after you have just transferred from either busy Rio de Janeiro or São Paulo—is like stepping onto another planet as soon as you step off the boat.

## No diving

Diving is important. Otherwise, I would have written this story for a food magazine. When I am on a dive trip, I want to dive! But this time, it was different.

As usual, I headed for the dive centers shortly after checking in at the hotel, in order to set up things. The conversation I had with a guy from one of the dive centers was short. It went like this: "No diving today because the visibility is too bad."

"OK, what do you mean by bad?"

"10-12 metres! Better wait for another day!"

I know quite a few people who would love to dive with 10-12 meters of visibility—anyday, any where! This time, I didn't really get upset for a cancelled dive trip. I just went back to our hotel, surprising my wife with my sudden return.

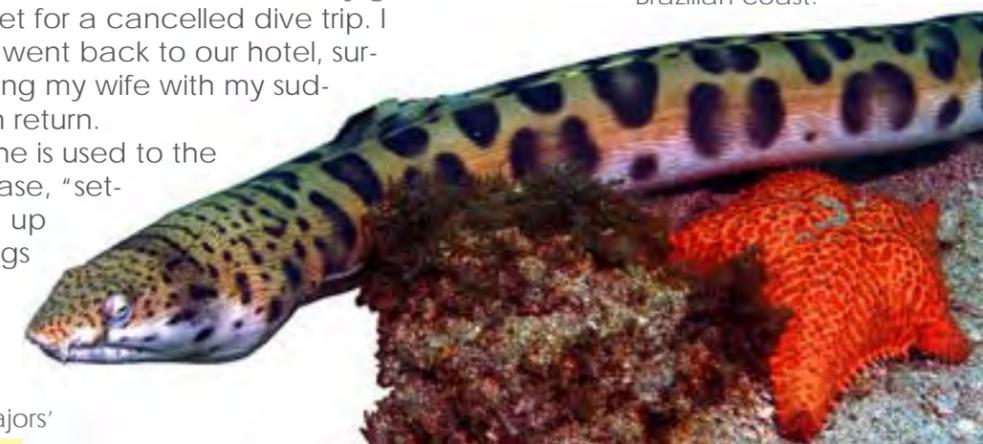
She is used to the phrase, "setting up things for

diving", meaning hours of yadda yadda, and wasn't expecting me so soon. So, we picked up our beach stuff, my camera and found a lonely part of a nearby beach and enjoyed a heavenly afternoon of tranquility.

## Beach combing

The next day, we stopped by the dive center, but the owner had left for business on the main land. This meant we could spend a whole day exploring the island. You basically have two choices: either going by foot on some of the dirt trails that criss-cross the rugged island, or taking a much more relaxed tour on a so-called schooner.

You often encounter the dark spotted snake eel along the Brazilian coast.



A piece of fruit in the water quickly attracts both Dog's Tooth Snapper and Sergeant Majors'

Text by Arnold Weisz  
Topside photos by Arnold Weisz  
Underwater photos by Alcides Falanghe



We chose the latter option. These locally made wooden motor yachts, whose riggings are fake, are pleasant ways of visiting other villages and beaches.

There is a wide choice of trips. They all basically stop at a few different beaches and serve warm

The underwater scenery around Ilha Grande is fantastic with its variety. Boulders, canyons, walls and swim through are perfect for both divers and the marine life.

food and drinks on board. Most of them make a snorkeling and bathing stop as well. Sailing around the island gives you some spectacular views of it and the mainland.

## Finally diving

After a couple of days beach combing, it was good to be back in the rumble and bumble on board a dive boat. With a mixed crowd of Scandinavians, Germans and Brits, we steamed out of the Bay of Abrão, heading for the

windward side of the island.

Open to the ocean, this area offers the best diving, although there are many dive sites in the strait between the island and the main land as well. Having some newbies on board we opted for quieter water in a bay. Anchoring up in a secluded bay at little São Jorge Island, we found some nice spots for diving.

The coast of Rio de Janeiro isn't tropical, so don't expect vast colourful coral reefs. That being said,

the marine life is abundant. At any dive site around Ilha Grande, there are some hefty rock formations. The rocks and crevices are hide-outs for a multitude of marine life. There are many swim throughs, but stay away from the black sea urchins, which can give you a few hours of pain.

Even though the dark grottos are attractive, don't forget the blue water or the sandy bottom. There are plenty of sea turtles around, and small groups of batfishes travel by. The wet desert isn't really as deserted as one would think. Bottom dwellers use the sand to hide and wait for a suitable prey to swim by.

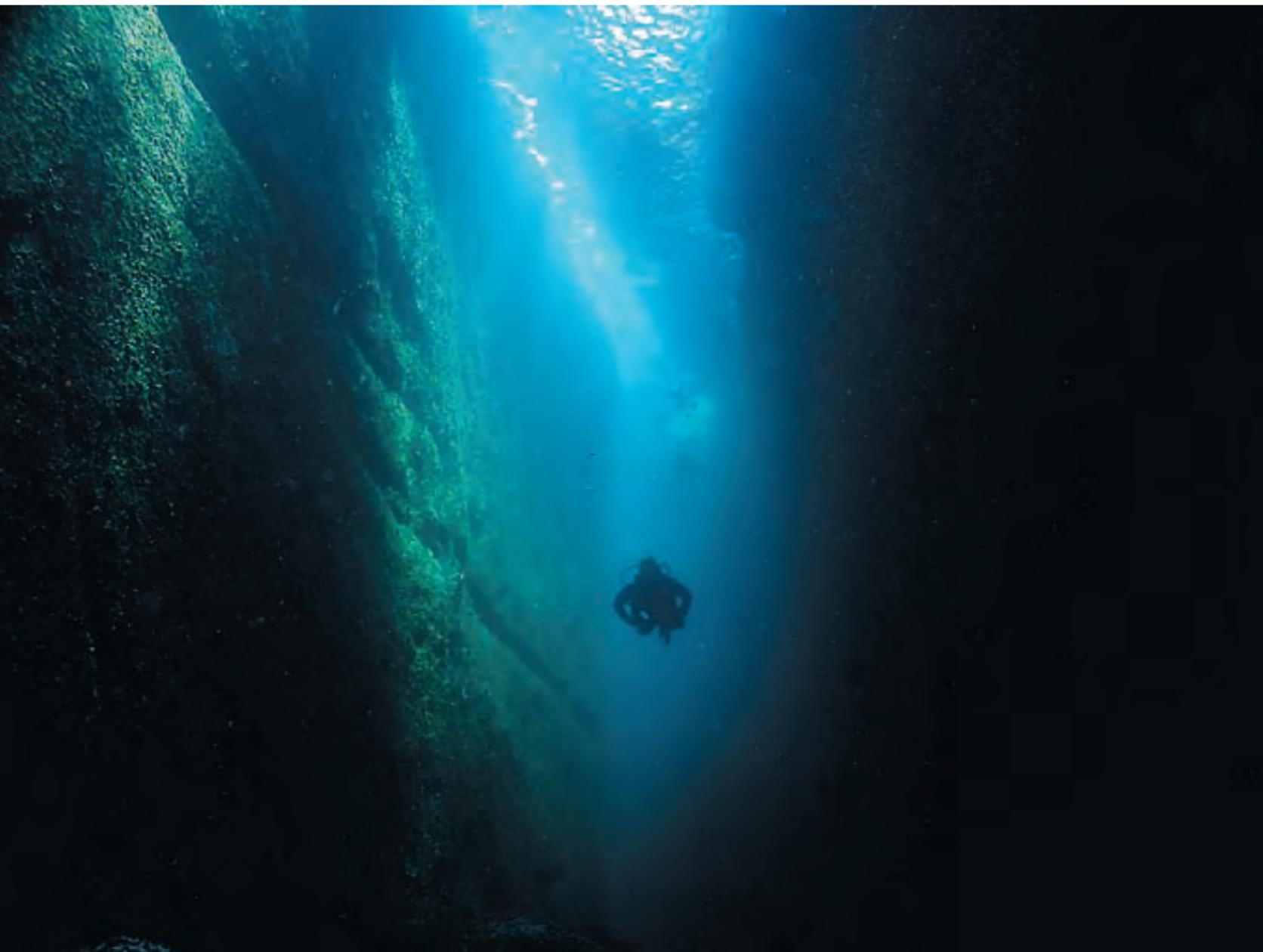
As an ocean current passes the island, the water is nutrient rich. The outer rocks are often covered with corals. What sometimes lacks in visibility, is well made up for by the divers marine life.

For those interested in wrecks, yes there are some good wreck dives to be made here as well, but we have to get back to you on this, for the next feature.

## Nature

You can certainly find more beautiful beaches somewhere else on the planet, and you can find more picturesque villages on other islands. But these 193 km<sup>2</sup> of paradise-on-earth aren't weeks away on a sailboat, or hours in a plane away from civilization. It's just a mere two hours south of Rio de Janeiro, or seven hours on the road from São Paulo. Whatever you do on this island, it's very much connected to nature.

## Ilha Grande



Ocean currents makes the waters around Ilha Grande much clearer than for example than other islands a long this coast, like Ilhabela, further south

## Ilha Grande



Most of the dive sites offer a diversity that satisfy everyone, from the UW-macro photographer to sea turtle lovers

Even rowdy Scandinavians seem to notch down their cheerfulness after a few beers in one of the many bars and eateries here. Then you will hear the sound of the nature. Like birds and crickets. Accompanied by waves washing up onto the beach and the wind sweeping through the vegetation... and sometimes, even a sigh of happiness can be heard.

### Car free

We opted to stay in the main village on the island of Abraõ. Here, you will find most of the tourist infrastructure, shops and accomodations. It is still a very low key setting. For those who want even more tranquility, there are a few other options around the island with lone resorts, or tiny villages with a pousada or two.

One of the most enjoyable things on Ilha Grande was the lack of cars. The only things that ran on petrol on land here were the mayor's car and a couple of dirt bikes used by the local police. Even the local police car was an electric golf car. Just be aware of bikers and dogs, which are plentyful here.

Ocean, beach, diving and food!  
What more you you need?

### Diving Services

The diving services on this trip were provided by Elite Dive Center in Vila Abrão, Ilha Grande. They run a 40-foot custom built dive boat, driven by a 2x300 hp Mercedes Benz.

There is a small cabin and a toilet available. Maximum capacity is 16 divers, but the owner Daniel Gouvêa says that they seldom go out with more than 12 divers. He speaks fluently English. So does his father who functions as a dive guide on board.

The boat usually departs around 9:00 am and comes back around 4:00 pm. All divers get a lunch package and water or softdrinks between the dives. Rental equipment and Nitrox are available.

For more information, please visit:  
[www.elitedivecenter.com.br](http://www.elitedivecenter.com.br) ■

dive in.  
explore.  
discover.



[underwater.com.au](http://underwater.com.au) is a place where you can share your stories and photos with other divers, win great prizes and get discounts with hundreds of dive operators in Australia, Oceania and Asia Pacific.

[www.underwater.com.au](http://www.underwater.com.au)

How many razorfish can you spot?

Is it mimicry, mimesis or camouflage?

# Find Wally

Text: Peter Symes  
Photo: Michael Arvedlund

**Mimicry** is one of several anti-predatory devices found in nature. Specifically it is a situation in which one species called the mimic resembles in colour, form, and/or behaviour another species called the model. In so doing, the *mimic* acquires some survival advantage such as pro-

tection from predation. Usually mimicry refers to the similarities between animal species whereas **camouflage** usually refers to an animal species resembling an inanimate object. The lack of a

Shrimpfish, also called razorfish, are five small species of tropical marine fish in the subfamily Centriscinae of the family Centriscidae. They are found in the Indian and Pacific Oceans. Shrimpfish are nearly transparent and flattened from side to side with long snouts and a sharp-edged belly. A thin, dark stripe runs along its body. It is from this and their shrimp-like appearance that their name is derived. They swim in a synchronized manner with their heads pointing downwards but swim horizontally when they are hunting

true distinction between the two phenomena can be seen in animals that resemble twigs, bark, leaves or flowers, in that they are often classified as camouflaged (a plant constitutes its "surroundings"), but are sometimes classified as mimics (a plant is also an organism)

In between camouflage and mimicry is **mimesis**, in which the mimicking organism takes on the properties of a specific object or organism, but one to which the *dupe* is indifferent. (The *dupe* is the 'observing' organism ie the predator from which the mimics are trying to hide.)

Though mimicry is most obvious to humans in visual mimics, others senses such as olfaction (smell) or hearing may be involved, and more than one type of signal may be employed. Mimicry may involve morphology, behavior, and other properties. In any case, the signal always functions to deceive the receiver by preventing it from correctly identifying the mimic.

**Batesian mimicry** refers to two or more species that are similar in appearance, but only one

of which is armed with spines, stingers, or toxic chemistry, while its apparent double lacks these traits. The second species has no defense other than resembling the unpalatable species and is afforded protection from certain predators by its resemblance to the unpalatable species, which the predator associates with a certain appearance and a bad experience.

**Muellerian mimicry** refers to two unpalatable species that are mimics of each other with conspicuous warning coloration (also known as *aposematic coloration*). Thus all mimics share the benefits of the coloration since the predator will recognize the coloration of an unpalatable group after a few bad experiences.

These fish swim horizontally when they are hunting. At other times they can be seen swimming vertically with their heads down, although they are also capable of swimming with their heads up. ■



pearls of the  
mediterranean



*From high speed to slow down*

RUTGER GEERLING

# Kas, Turkey

Text by Harald Apelt  
Photos by Harald Apelt  
and Rutger Geerling

Upon leaving the modern Antalya airport in Turkey, my Turkish adventure began immediately. I was awaited by a taxi driver—let's call him Mehmet—who was hired for my transfer from the big metropolis of Antalya to my final destination, Kas. I met this guy, Mehmet, who bravely held the sign board for identification into the air, "Mr. Apelt for Kas Diving", and our welcome was spartan and friendly. But there was one problem: Mehmet didn't speak a word of English, or any other language, but Turkish. This is why I didn't get his name. So, I call him "Mehmet", a very respectable Turkish name.

During the 210-kilometer taxi transfer from the airport to Kas, there was no conversation with Mehmet—not a word—but I learned a lot about life here on the goose chase through Antalya's metropolis of around 700,000 inhabitants.

What traffic! I've been a pretty keen driver for more than 30 years, and I am used to driving in big cities such as Barcelona, Milano, London and Paris, but the traffic in Turkey is something different. Mehmet just about flew me through the city. Only if absolutely necessary, did he drive less than 100km per hour, and red traffic lights seemed to be only a recommendation—a useless illumination for him.

To cut a long story short, the transfer was an adrenalin rush into a new and interesting and different world that exists so close to Europe. McDonalds, shopping malls, big city architecture are nearly the same here as in any other European city. On the other hand, the culture and atmosphere here makes the place seem so far away from European



RUTGER GEERLING



RUTGER GEERLING



RUTGER GEERLING

Spectacular caverns, interesting wrecks and colourful marine life can be discovered on the diving trips with the comfortable diving ship *Abyss* (above right whilst leaving Kas harbour)

RUTGER GEERLING

# pearls of the mediterranean

Kas



ALL PHOTOS THIS PAGE BY RUTGER GEERLING

Colourful night life in the small alleys of Kas: Modern lifestyle in shops and restaurants right next to the mosque

life. To be honest, the mixture of East and West in Turkey is like an amazing spice on a good meal.

Outside Antalya, we drove endless kilometers along the coastal line. My nerves calmed down. The road slid along the hills of the Taurus Mountains. Little villages and picturesque port towns bordered vast forests. The fantastic view over the Lycia coast, the smooth light of the nearby sunset and the amazing colours of the sea, which I would soon be exploring, inspired a wonderful holiday feeling.

It was shortly after sunset when Mehmet suddenly left the road and drove onto a small path into the forest. "What's going on now?" I wondered and started getting a bit irritated when we suddenly stopped in front of a small restaurant.

Bringing three fingers into his mouth, Mehmet made me understand that this would be our dinner pause.

We entered the restaurant where

Mehmet was well known. We were welcomed and served at once, and I ate one of the best trout dinners I have ever had in my life, plus an amazing fresh salad and a Turkish "meze" antipasti plate. The compulsory deep black Turkish coffee completed the perfect transfer break.

Astonishingly, for this opulent meal, I paid an amount that one would pay, in Germany, for a little more than a few French fries and a beer.

We finally reached Kas close to midnight, and the beauty of this small historic port town was already blanketed by the night.

## The resort

The next day, bright sunshine awoke me with deep blue skies and temperatures of more than 25°C, which is not high for Turkey, but hot for this time of

which is the year. Hamburg was a little bit warmer than 4°C when I left in the beginning of March. The climate in south of Turkey was pleasant compared to the rainy and cold season some 2500 kilometres north.

is the hotels and only a few steps away from the sea. I was welcomed by Arzu Övünc. She had such a nice German Berlin accent, that I immediately felt at home. She is Turkish but has lived in Germany for many years, has perfect in English as well and knows all about everything. She manages Kas Diving, the client relations, bookings and accommodations, and she is

It is like early summertime in central Europe, and that's why Turkey is a very popular travel destination in the early part of the season during March and April.

I stepped into Kas Diving,



# pearls of the mediterranean



Kas



a very professional guide for guests who wish to discover the endless historical and tourist highlights on the Lycia coastline, and she is, of course, a keen diver, too. Sometimes she is bothered a little by her position and not having enough time to accompany Levent, the owner of Kas Diving, and his two instructors, Murat and Jeff, on their daily trips along the Kas coastline.

After one week of diving, I understood Arzu's feelings, because my prejudices against eastern Mediterranean diving were blown away. There are about 30 dive spots that are used for diving here. All the trips start from the little harbour of Kas. Kas Diving has an own space at harbour with an exclusive place for the dive boat. Right next to the pier, there is a compressor station, which Levent installed.

Clients of Kas Diving enjoy the

comfortable way of diving. Nobody has to take care of equipment. That job is done by the crew during your entire stay on board the dive boat. Nobody has to carry tanks or weight belts—everything is perfectly organised by Levent and his crew.

## Kas diving

So again, the question is, "What makes a 'pearl', a 'pearl', as we define it"? Well, Kas is a good example of how a holiday destination can be perfect in so many different ways.

It was not much more than 30 years ago, that Kas could only be reached by a narrow, impassable goat path. That's why nowadays Kas is far from the disastrous tourist development of many other Mediterranean destinations. There are no hotel bunkers, no classical signs of mass tourism to be found



No mass tourism will be found here: The picturesque harbour of Kas (left). Divers having lunch on the *Abyss* while anchored in a small bay outside Kas (above)

ALL PHOTOS THIS PAGE BY RUTGER GEERLING

# pearls of the mediterranean



here. And Kas is still an attractive port town with many historic buildings and traces of more than 20 centuries all around. This nice little port town has exciting aspects as well, which each tourist might hardly be looking for such as small, narrow alleys with a lot of little shops, bars and restaurants, a port region where fishing boats land their fresh catch and palm garden cafés where one can drink a refreshing tea (or even a more refreshing Efes-Pilsen) and watch the life around the central port square with its impressive monument showing Kemal Atatür—the beloved and adored founder of the Turkish nation. Guests will meet some of the 8000 inhabitants of Kas who are absolutely relaxed, attentive and have such an amazing kindness that questions about the speed of life in modern civi-

lization crawl into one's head without fail.

Being relaxed seems to be one of the most positive characteristics the owner of a diving center could have. And Levent has it. Although he grew up in a busy atmosphere in southwest Germany, he celebrates his days in an absolutely unusual manner in diving business. Maybe it is the mixture of German correctness and reliability and the easy going relaxed Turkish way that makes the special atmosphere in diving with Kas Diving.

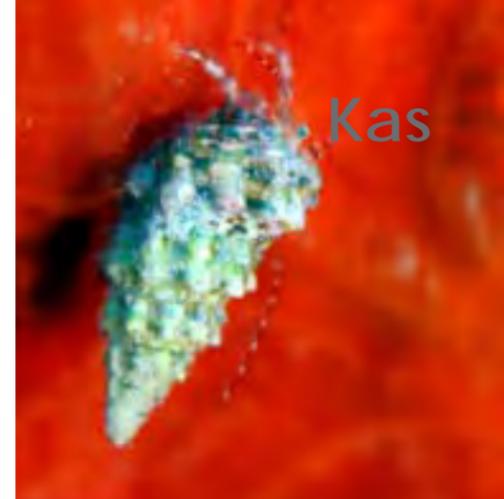
As everyone knows, dive boats can be a story in themselves. I cannot remember many boats that have been so well organised, offered so much space, were so clean and showed so many nice details of perfect planning and good craftsmanship like the *Abyss!* A visit to the boat's restrooms, for instance,

Diving at its best: Highlights are the wrecks outside Kas, the historical sites with amphora's, and the rare meetings with Hawksbill sea turtles

Kas



# pearls of the mediterranean



Kas

Historical artefacts are protected by law: Just look, don't touch! Octopus, nudibranch, hermit crab and scorpion fish can be found easily

will surprise anyone with their inspiring, artful flagging work.

The Kas flagship dive boat, *Abyss*, is 19 meters long and six meters wide. The second ship, *Barakuda*, is 16 by 5 meters. The daily dive trips are made with the *Abyss*, which can transport up to 35 equipped divers. During the main season, Kas Diving offers two excursions per day and day trips, with two dives and a common meal at lunch time, three or four times per week.

Compared to other Mediterranean regions, diving at Kas has perfect visibility. The water is mostly crystal clear and bearable in temperature. In March, the water is already 17°C, which quick-



ly rises up to 24°C in June, and in August and September reaches a peak of 29°C.

by Kas Diving, and there are two you should absolutely see at "Olu Burun", which means "holy nose" and describes the small peninsula west of Kas. Here you can dive the replica of a historic shipwreck, which was discovered by some fishermen in the early '80s.

The original wreck was 15 metres long and transported amphoras and bronze. It was in a good state and declared to be older than 3300 years. It was discovered in a depth of 60 meters. It took ten years and more than 22,000 dives to register all the ship's details, section by section, and recover the numerous artifacts. The ship found its final home in the Museum of Bodrum.

## Diving

There are about 30 dive spots used

In 2007, the local underwater archaeology club decided to build and countersink a replica of this famous wreck at Olu Burun and reconstruct the recovered amphora field with replicas for divers to enjoy.

Within two months, the replica wreck was built and plunged to a depth that was good for sport diving activities. Later, heavy storms moved the wreck from 15 meters down to 30 meters. Now, it is tied with a sturdy rope to a rock, and the rope leads divers down from the coastline from six meters direct-



ALL PHOTOS THIS PAGE BY RUTGER GEERLING

# pearls of the mediterranean



Kas



Common life at Kas: The Turkish people are very friendly and hospitable to foreigners. The pide baker made a perfect 'Lahmacun' and 'Pide'.

ly down to the wreck and the amphora field.

The second spot you should dive is the wreck of the Greek freight ship, *Dimitrij*. It sank in the early '60s carrying cotton. It was hardly damaged by numerous heavy winterstorms.

The dive of the wreck starts unexpectacularly at six meters and leads one over a flat region where divers come up against the first metal leftovers of the *Dimitrij*. But suddenly, it gets more exciting because a deep canyon at 25 to 40 meter appears next to the hull of the *Dimitrij*.

And finally, when you get back to the dive boat, the relaxing atmosphere topside goes on as usual. The



team gives you a hand wherever you need it. There is no hurry and a good pot of tea is ready for you after the good dive you had.

## Topside excursions

If the historic "Olu Burun" wreck has inspired you to see more historic places and explore the beautiful landscape around Kas, you should tour the region by car. There is a nice day trip recommended by Arzu, which will show visitors a lot of what makes the Kas region a real pearl of the Mediterranean.

About 40 kilometers west of Kas, one should see the ruins of Patara, the birth place of the god, Apollo. During the reign of the Roman Empire, Patara was the capital of Lycia. Many ruins of this important city can be seen here. The amphitheatre is especially worth a visit. (See more

information at: [www.allaboutturkey.com/patara.htm](http://www.allaboutturkey.com/patara.htm)

Only a few minutes away towards the seaside, travelers will reach the Patara beach. It is one of the most famous and longest beaches of Turkey. It's more than 18 kilometers long and is still the home of one of the last Mediterranean populations of hawksbill turtles, which come here to lay their eggs.

Leaving the seaside heading north on the road to Fethiye, one will reach Xanthos. It was



The Kas team: Captain Sadik, Arzu Övünc, Jeff Dobson, Murat Ayildiz and owner Levent Aydogmus

ALL PHOTOS THIS PAGE BY RUTGER GEERLING

# pearls of the mediterranean



Kas



What you should see when visiting Kas: The market place at Kas, the quiet atmosphere at the harbour, the canyon of Saklikent, the historical ruins at Patara and Xanthos, and the nice hilly alleys at Kas

only to be smashed again. Grave sites, sarcophagus, monuments, ruins of ancient palaces and the former amphitheatre are witnesses to the long history of this place.

Leaving the main road northeast into the hills, you'll reach the canyon of Saklikent. The river Akdagi makes its way through this canyon, which is 18 kilometers long. From the visitors point, you can explore 16 grottos and the deep canyon that is bordered on both sides by the 600-meter high Akdag Mountains.

And if you want another great day trip, just visit Greece. Not much more than two kilometers outside Kas is the most eastern Greek island of Kastelorizo, which is called "Meis" in Greek. It's a small island, which occasionally has flights to its small regional airport. But the picturesque little port town of Kastelorizo is absolutely beautiful and worth visiting.

It's just a 20-minute ferry ride from Kas, but it's not like crossing the river Thames. Although it's only a day trip of a few hours, you will need an official visa for your re-entry into EC from Turkish Kas. The visa must be applied for at least one day before the trip. This can be taken care of by Arzu from Kas Diving.

The whole immigration system is performed very seriously and even customs control looks like it would appear if you were visiting the Soviet Union in former years. Having an his-

toric enemy, Greece, right in front of the Turkish door seems to make everybody a little bit nervous. That's why it is not surprising, that the Turkish Navy has a station in the harbor of Kas. That of course, has been matched by the presence of a Greek frigate in the port of Kastelorizo.

As you can see, there are quite a lot of exciting activities to be done during a holiday in Kas besides diving. And the very last adventure of the holiday was—yep, that's right—the taxi transfer back to Antalya airport. Another driver,



another car and a new fastest lap of 2:40 hours.

When I got to the airplane, I was vividly day dreaming of my own car and being my own driver in my own slow-paced city. But overall, the journey to Turkey was a really great adventure, and the mad taxi rides were just minor irritations to endure on the trip. ■



the capital of ancient Lycia, and the first federal republic in the world. During its long history and many occupations, Xanthos experienced several wars and catastrophes. Wars destroyed and burnt down the city, which ten was reconstructed and grew up to a metropolis again

# fact file



## Turkey



SOURCE: HARALD APELT, CIA WORLD FACT BOOK AND SCUBA-DOC.COM

**History** Under the authoritarian leadership of national hero Mustafa Kemal, "Father of the Turks", modern Turkey was founded in 1923 from the surviving Anatolian vestiges of the defeated Ottoman Empire. Under Kemal's rule, the country adopted wide-ranging political, social, and legal reforms. An experiment with multi-party politics followed a period of one-party rule. In 1950, the Democratic Party won a victory and a peaceful transfer of power. Political parties in Turkey have multiplied since then, but periods of instability and occasional military coups in 1960, 1971 and

1980, have fractured democracy in the country. After each coup, power was eventually returned to civilians. The military assisted in a coup which ousted the then Islamic-oriented government in 1997. In 1974, Turkey's military intervened on Cyprus to prevent the takeover of the island by Greece. Turkey acts as the patron state to the island which is now dubbed the Turkish Republic of Northern Cyprus, recognized only by Turkey. In 1984, a separatist insurgency began by the Kurdistan Workers' Party (PKK) known today as the People's Congress of Kurdistan or Kongra-Gel (KKG). The conflict has taken all the Turkish military's attention and led to the deaths of more than 30,000 people. In 1999, the group's leader was captured which led to the retreat of the insurgents to northern Iraq. The year 2004 saw an end to the KKG's ceasefire and an increase in attacks attributed to the KKG. In 1945, Turkey joined the UN and became a member of NATO in 1952. Turkey became an associate member of the European Community in 1964. Within the last ten years, the country has undertaken several reforms to strength-



tion and strong economic gains from 2002-07, high external debt and current account deficit still thwarts the economy.

In 2006, oil began to flow through the Baku-Tblisi-Ceyhan pipeline, leading to 1 million barrels per day from the Caspian entering the market.

### Decompression chambers

Dept of Underwater and Hyperbaric Medicine, Istanbul Medical Faculty, Istanbul University, 34390 Çapa, Istanbul. Tel. +90 1 212 531 3544

Dept of Underwater and Hyperbaric Medicine, GMMA Haydarpasa Teaching Hospital, Uskudar 81010 Kadimathköy, Istanbul Tel.: +90 216 345 02 95

GATA Haydarpasa Military Hospital, 81327 Kadikoy, Istanbul Tel.: +90 216 3462453

### Websites

Turkey Tourism [www.turkeytourism.com](http://www.turkeytourism.com)  
Ankara University Medical Faculty Underwater Research and Diving Club, Ankara. English webpage: [www.geocities.com/Colosseum/Loge/5795/englishversion.html](http://www.geocities.com/Colosseum/Loge/5795/englishversion.html) ■

en its economy and democracy in order to qualify to begin accession membership talks with the European Union. Government: republican parliamentary democracy. Capital: Ankara

**Geography** Turkey is located in Southeastern Europe and Southwestern Asia (the Turkish region west of the Bosphorus is geographically part of Europe). The country borders the Black Sea between Bulgaria and Georgia. It borders the Aegean Sea and the Mediterranean Sea between Greece and Syria. Coastline: 7,200 km. Terrain: high central plateau in Anatolia; several mountain ranges and narrow coastal plain. Lowest point: Mediterranean Sea 0 m. Highest point: Mount Ararat 5,166 m. Natural hazards: in northern Turkey along an arc extending from the Sea of Marmara to Lake Van, there are severe earthquakes. Note: Turkey holds a strategic location controlling the Turkish Straits (Bosphorus, Sea of Marmara, Dardanelles) which links the Black and Aegean Seas. The legen-

dary landing place of Noah's ark, Mount Ararat, is located in the far eastern region of the country.

**Climate** temperate with hot, dry summers and mild, wet winters; harsher climate is found in the interior

**Environment issues** The dumping of chemicals and detergents has led to water pollution. Urban areas experience air pollution. Deforestation and oil spills from increasing Bosphorus ship traffic challenge the country. Turkey is party to agreements: Air Pollution, Antarctic Treaty, Biodiversity, Climate Change, Desertification, Endangered Species, Hazardous Wastes, Ozone Layer Protection, Ship Pollution, Wetlands. Turkey has signed, but not ratified Environmental Modification.

**Population** 71,892,807 (July 2008 est.) Ethnic groups: Turkish 80%, Kurdish 20% (estimated). Religions: Muslim 99.8% (mostly Sunni), other religions 0.2% (mostly Christians and Jews). Internet users:

12.284 million (2006)

**Language** Turkish (official), Kurdish, Dimli (or Zaza), Azeri, Kabardian. There is also a large Gagauz population in the European part of Turkey.

**Economy** Modern industry and commerce coincides with a traditional agriculture sector that provides more than 35 percent of employment. Strong and rapidly growing private sector, is tempered by the state still playing a large role in basic industry, banking, transport, and communication. Textile and clothing production accounts for 33 percent of industrial employment and faces stiff competition in international markets. Automotive and electronics industries are rising. Real GNP growth has exceeded 6 percent in recent years, undermined by sharp declines in output in 1994, 1999, and 2001. Implementation of economic reforms has turned the economy around leading to a peak GDP growth rate of 9 percent in 2004. Despite falling infla-



HARALD APELT



Dr. Kevin U. Chan

# Asthma *Understanding*

Asthma is a respiratory condition that affects 3-8% of the general population, thus also divers or would-be divers. It is defined as an increased responsiveness to the lower airways to multiple stimuli. This increased responsiveness may be episodic and during such asthma attacks the bronchi and bronchioles will become inflamed and constrict and lined with mucus. This airway narrowing causes symptoms such as wheezing, shortness of breath, chest tightness, and coughing. The effects may range from mild without limitations of the patients' activity to severe and life threatening. At times this obstruction may persist for days or weeks and it is called status asthmaticus.

Text by  
Dr Kevin U. Chan

## Two types

There are two types of asthma: *Extrinsic* asthma and *intrinsic* asthma. Extrinsic asthma is when the asthmatic attack is triggered by an external cause. This form of asthma occurs in individuals who are termed as *atopic*. They also have associated eczema and hay fever. Intrinsic asthma is when no precipitating agents can be identified to bring on the attack. This form of asthma often occurs in middle age and patients may have negative allergic histories but develop bronchospasm after a respiratory tract infection. However, at times, there may be a history of childhood asthma in these individuals.

## Attacks

Asthma may be triggered by a whole range of different factors. An

asthma attack is based on non-specific hyperirritability of the Tracheobronchial tree but the mechanisms are not entirely clear. It has been postulated that the initiating stimuli activates a variety of chemicals that takes effect on the airway smooth muscle and blood vessel (capillary) permeability resulting in an intense local reaction. This may then be followed by a delayed (chronic) reaction. This latter response results in recruitment of more "inflammatory cells" to the site of injury. These then liberate a variety of chemicals compounds at the injured site which then result in more damage to the tissues.

All of which produce a wide spread effect within the tracheobronchial tree resulting in *bronchoconstriction* - constriction of the airways.

This bronchoconstriction results in the patient's entire pulmonary function being compromised. Such that the rate of forced exhalation being lesser than the predicted level. Furthermore there will be an increased air trapped within the lung and this further compromises lung function. Besides, in asthmatics there may be other associated changes like heart (right

ventricular hypertrophy) and lung (pulmonary hypertension) problems

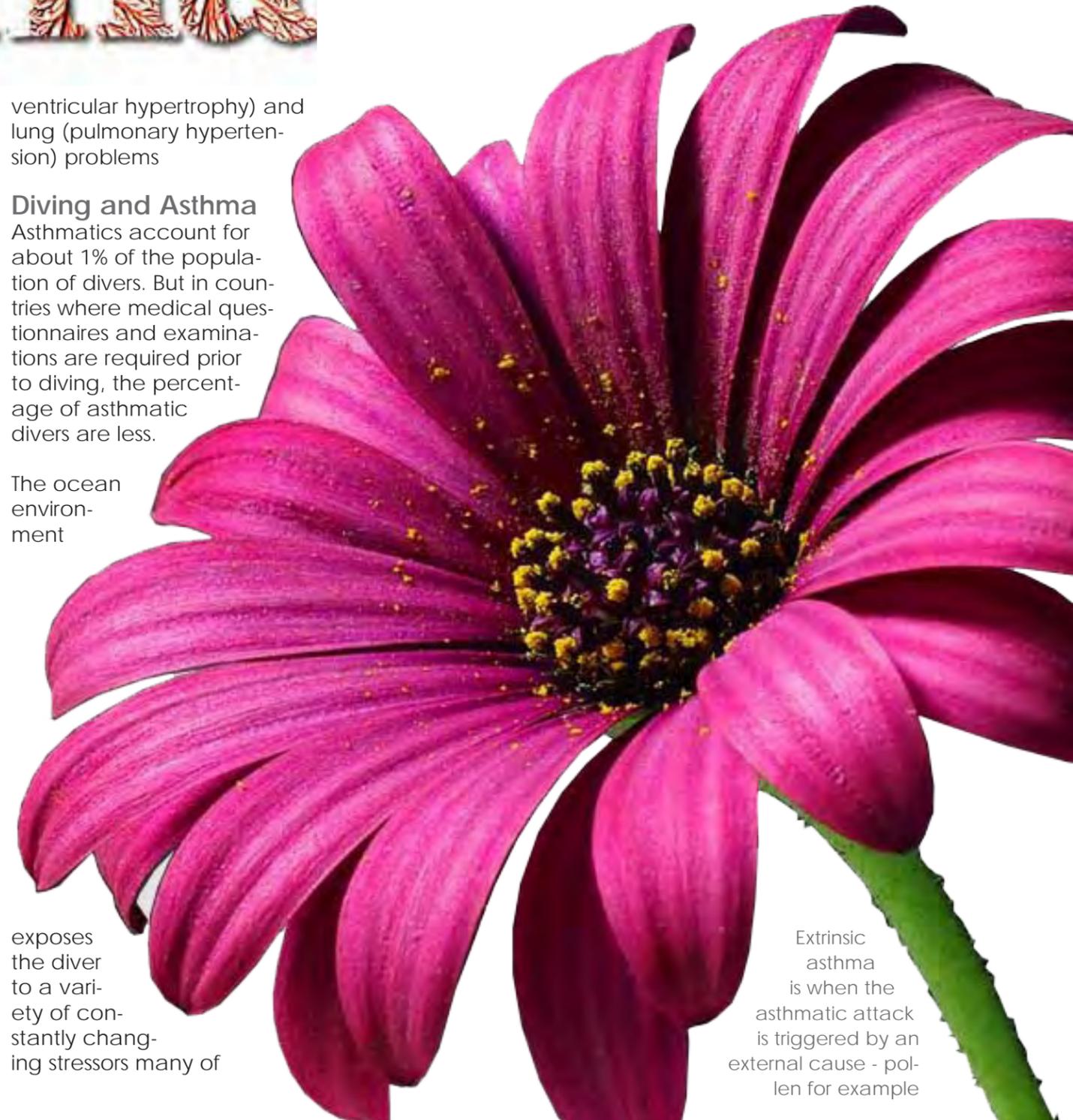
## Diving and Asthma

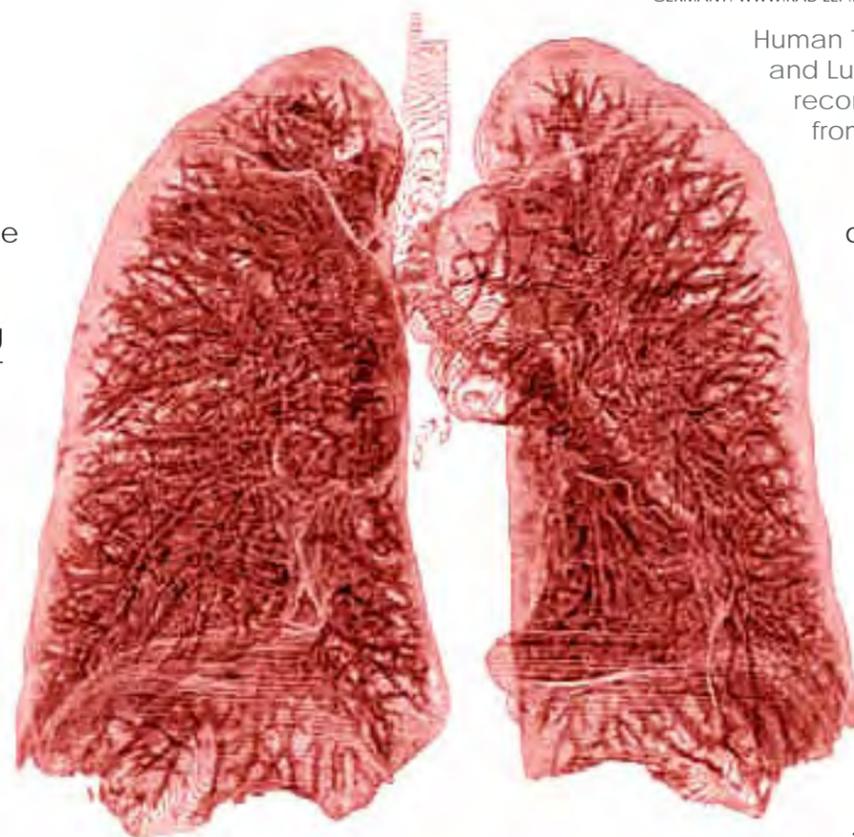
Asthmatics account for about 1% of the population of divers. But in countries where medical questionnaires and examinations are required prior to diving, the percentage of asthmatic divers are less.

The ocean environment

exposes the diver to a variety of constantly changing stressors many of

Extrinsic asthma is when the asthmatic attack is triggered by an external cause - pollen for example





Human Thorax  
and Lung, 3D  
reconstruction  
from CT-scans

### Possible causes

1. Allergens
2. Pharmacological stimuli
3. Environment (eg: cold, salty water ) and air pollution
4. Occupational factors ( e.g.: vapours, smoke)
5. Infections
6. Exercise
7. Emotional stress

which may trigger asthma. The resulting bronchoconstriction and increase in airway resistance heightens the risk diving related disorders - in particular pulmonary barotraumas such as embolism. Also as asthmatics breathe with higher than average lung volumes (due to some degree of gas trapping), there is a theoretical increased risk of lung expansion injury during ascent. Most asthmatics are also under treatment with medication like bronchodilators. This provides relief to some but not effect the entire airway. Hence, they may enable the asthmatic diver to descend easily but are less effective towards the end of the dive and also when a rapid emergency ascend may be required. More importantly, bronchodilator medication has a potential of causing an arrhythmic effect on the heart and is a potentially hazardous medication in the undersea environment.

As diving takes place in a dynamic environment with changing weather, tides, currents etc all divers will inevitably encounter situations requiring strenuous exercise at some point. Should an asthmatic attack be precipitated at such a time it would be detrimental. Consequently it will be ill advised for those with exercise induced

asthma to enroll in or proceed with their diving course. Besides, in some asthmatics, seawater itself may also provoke an asthmatic attack. Thus the procedure of doing a

hypertonic saline challenge test on asthmatics is able to within reasonable doubt rule out this aspect of asthma provocation.

### Trigger factors in diving:

1. Exertion – ie from swimming against current, equipment drag or being overweight
2. Breathing cold and dry hyperbaric air, which increases dehydration of the airways
3. Hypertonic Saline. Inhalation of sea-spray or water (bubbling or leaking regulator)
4. Breathing resistance (increased gas density , regulator problems, and low air supply
5. Hyper ventilation and hypercapnia

### Can I dive or not?

A number of factors have to be weighed and that can only be done in consultancy with a doctor. While asthmatics with normal airway function have similar risk as non asthmatics, in general asthmatics do have a higher susceptibility to pulmonary barotrauma. A study done on

diving deaths showed that asthmatics accounted for 9% of diving deaths while asthma being a contributory factor to the death was seen in 8% of the deaths. Most of the deaths were in practically physically fit young men

### Risk points:

1. Risk of air trapping predisposing to pulmonary barotrauma
2. Risk of an acute bronchospasm whilst diving and predisposing to pulmonary barotrauma and subsequent drowning.
3. Risk of acute bronchospasm whilst diving and reducing exercise tolerance while on the surface and underwater.
4. Risk of Decompression Illness in a diver who has recently taken a bronchodilator drug.

### Can it be managed?

Asthma is managed through drugs and an asthma management plan. There are 2 types of medication in the treatment of asthma - relievers and preventers. As their name implies, relievers are used to treat the acute attack – so as to relax the smooth muscles. Some relievers also reduce the swelling and the mucous production. Preventers on the other hand help to prevent symptoms from arising thus stifling the degree of the allergic response to the precipitating agent.

Testing the severity of asthma and the likeliness of attacks includes a number of physical tests to see how the lungs react to a number of stressors. First of all the patient is put on an exercise bike for 5 mins at a load that corresponds to swimming 1 knots. The lung functions are measured before and after. It is also tested how the lungs reacts to inhaling saline and methacholine sprays. ■



**AirAsia.com**  
Asia Biggest Low Fare Airline

Sipadan  
Pulau Weh

Asia's top diving destinations!

- Bali
- Phuket
- Kota Kinabalu
- Terengganu & Kota Bahru (Pulau Redang & Pulau Perhentian)
- Tawau (Sipadan)
- Banda Aceh (Pulau Weh)

Fly from Kuala Lumpur to the above destinations

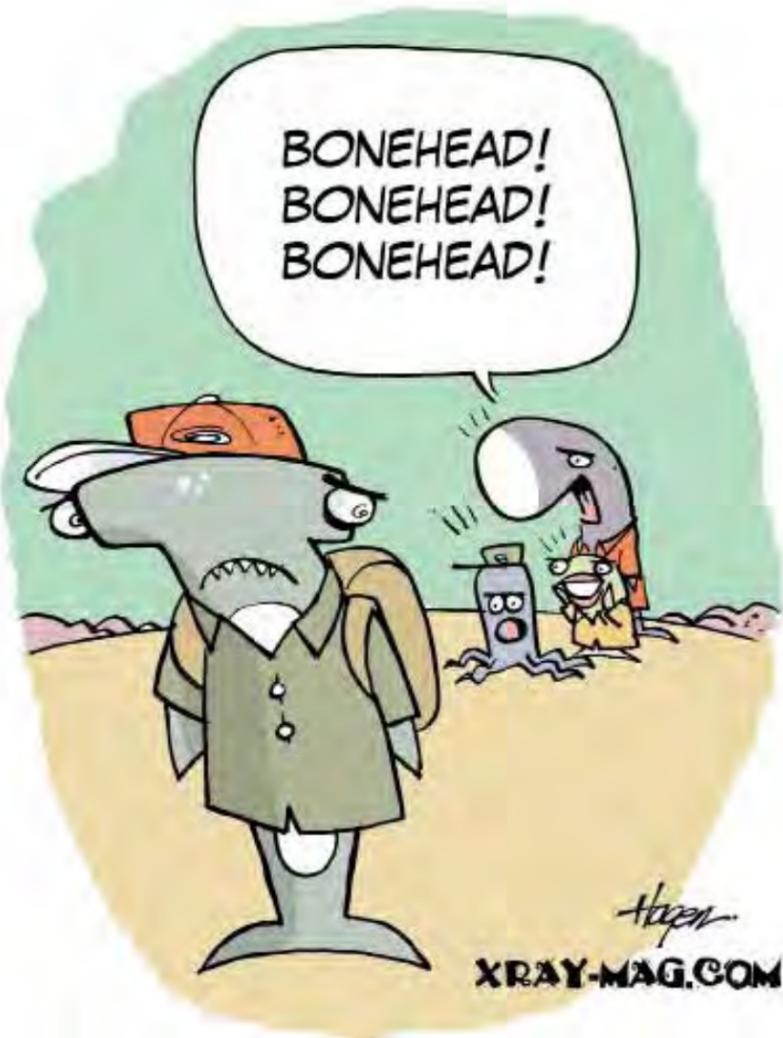
from EURO /one way **2**

Travel Period : Now till 11 January 2009

Terms and conditions apply.

# He's at it again!

**NEW!**



LATER ON IN LIFE, THERAPY WOULD REVEAL THE REASON FOR EARL'S VIOLENT MOOD SWINGS.



## Ralph Hagen Dive Cartoons

Get your new Bonehead cartoons at The X-RAY MAG Store where a percent of all sales goes to ocean conservation. Available on cool t-shirts, apparel, prints, greeting cards, calendars, teddy bears and more! Up to 35% off orders of 15 or more of one item.

[www.cafepress.com/xraymag](http://www.cafepress.com/xraymag)

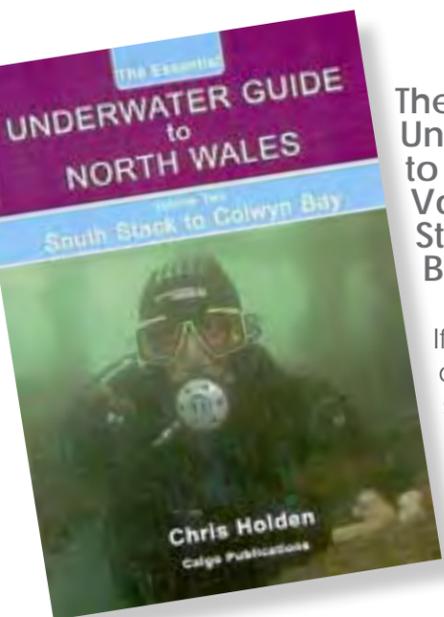




## Books Film DVDs CDs

Edited by  
Catherine GS Lim

**POINT & CLICK  
ON BOLD LINKS**

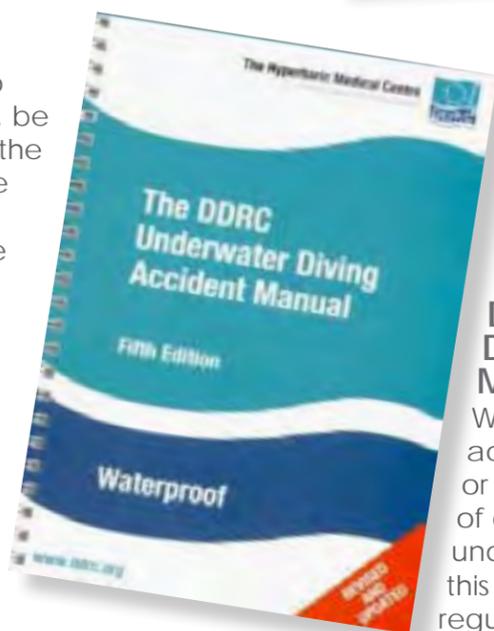


### The Essential Underwater Guide to North Wales Volume 2: South Stack to Colwyn Bay

If you're planning to dive in North Wales, be sure to get hold of the second book in the series The Essential Underwater Guide to North Wales. If you've read the first book, which

covered the area from Barmouth to South Stack, you'd probably want to add to your knowledge with information about the areas from South Stack to Colwyn Bay. This information can be found in the second book, which continues to be jam-packed with the local knowledge you can't do without, from information about the marine life, wrecks, reefs, caves and rocks to statistical and geographical data about tides, legislations, GSP positions, cartographic locations and even Ordnance Survey references. In addition, it gives you the inside scoop on where to launch your boat, the possible dangers, air stations and of course the dive shops and services in the area. Every chapter focuses on a few specific locations.

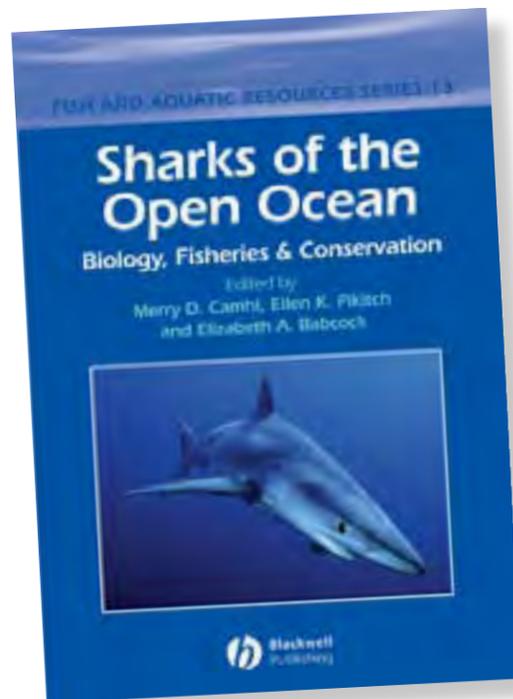
Published by Calgo Publications  
Written by Chris Holden  
Underwater photos by Paul Kay  
ISBN: 9780954506612, softback



### DDRC Underwater Diving Accident Manual

Whether you have just acquired your C-Card, or you have decades of diving experience under your weight belt, this guide should be a regular companion on your dive trips. Accidents, injuries and medical emergencies do occur when one dives, unfortunately, and it's the wiser diver who knows what to do when they happen. This book even has a worksheet at the back to aid medical technicians and doctors who are unfamiliar with dive medicine. This fifth edition has been fully revised and updated, and is sturdy enough (it's waterproof!) to stash together with your dive gear.

54 pages, softback



### Sharks of the Open Ocean

The world's sharks continue to be under serious threat, and this new book documents just how serious the population status of open-ocean sharks has become. Featuring the findings of more than 70 shark scientists and experts, it presents a comprehensive review of the biology, threats and management outlook of these 11 open-ocean sharks and one stingray. It shows how these sharks end up to be the predominant species caught by commercial fishing methods; how, being caught in international waters, there are no limits to their slaughter.

The book also discusses various conservation methods that have been adopted by experts, thus paving the way for others seeking effective management of these magnificent creatures.

Edited by Ellen K. Pikitch and Elizabeth A. Babcock, with lead editor Merry D. Camhi  
Published by Blackwell Publishing

### Reef Restoration Concepts and Guidelines: Making Sensible Management Choices in the Face of Uncertainty

This book is about new guidelines in reef restoration. An introduction to reefs starts off the book, and is followed by the various methods of restoration, including physical, biological and transplantation. The costs of reef restoration are also examined. In the later part of the book, five case studies involving restoration and transplantation are presented in detail, together with a description of the lessons gained from them. As an introduction, this book is comprehensive enough for coastal managers, technical advisors and those involved in reef restoration efforts; yet it is written simply, without too much technical terms, so that anyone with an interest in the topic would be happy to indulge his or her curiosity.

A soft copy of the book is available at <http://www.gefc-oral.org/>. Written by Alasdair Edwards and Edgardo Gomez  
Published by Coral Reef Targeted Research & Capacity Building for Management Program  
ISBN: 978-1-921317-00-2



### Saving Luna

Should wild animals be encouraged to live among and interact solely with humans? Whatever your opinion is on this issue, we suggest that you temporarily cast them aside while watching this document-

ary. This film tells the story of Luna, a young killer whale who tried desperately (and succeeded in most cases) to befriend the residents of Nootka Sound (on the west coast of Vancouver Island), when he was separated from his pod in 2001.

Beneath this tale of inter-species interaction were people in the different camps, each hoping to get their way with the animal. The indigenous people of the Mowachaht/Muchalaht First Nation regarded Luna as a sacred animal and the representation of a deceased chief. The naturalists wanted Luna to be returned to his pod, though efforts to locate them were unsuccessful. Those charmed with his playful antics wanted him to stay on, while others threatened to harm him. And then there were those who wanted to put him in an aquarium.

And all Luna wanted was a pod to call his own, no matter that its members happened to live on land.

For filmmakers Michael Parfit and Suzanne Chisholm, what began as a routine assignment to cover the capture of the young orca in 2004 turned into a quest to document his story. The couple felt their journalistic objectivity melt and ended up producing Saving Luna, a documentary with stunning underwater photography that has been named the Best Picture at several film festivals around the world.

115 Minutes  
Directed by Suzanne Chisholm and Michael Parfit  
Written by Michael Parfit  
Produced by Mountainside Films in association with CBC Newsworld