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Honduras
Roatan's Dolphins

Himalaya
The Highest Dive

The Philippines
El Dorado

Norway
Orca Safari

Coral Reef
Diving Etiquette

DEMA Report
Antibes Winners

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A feather star hosts a family of clingfishes.
Nonoy Tan, Philipines

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PHOTO BY NONOY TAN. Lion fish, Philippines.

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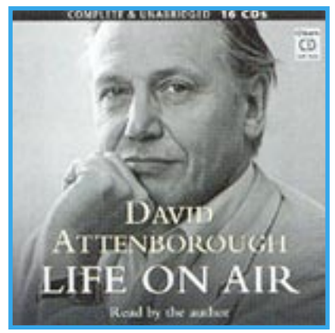
Sir David... Thanks!

by Peter Symes

Recently, I tuned in to a late evening show of the always excellent Parkinson on the BBC. This elegant talkshow host always manages in his interviews to raise the talk well over and above the trivial, and he does so with the ease and quiet naturalness of a true maestro. It is always relevant, and always enjoyable.

On the evening in question Sir David Attenborough was in the chair opposite him, as his third guest, I no longer remember who the other two were, for it was David Attenborough who stole the show and left the greatest impression.



Among other things the occasion was the 50 year anniversary of David Attenborough's production of Zoo Quest in 1954. For fifty years - half of a century! - he has captivated and enthralled viewers as he has puffed his way up high mountain sides, crawled around on smoking volcanoes and dived down to the oceans' depths in order to be able to point out yet another fascinating creature and initiate us into another of nature's ingenious and strange wonders.

He is now 76, but looks like only fifty, or perhaps a little more, and still has a seven-year-old's insatiable curiosity, energy and inquisitivness. "Pension?" For once, Parkinson's question dumbfounds David Attenborough for a moment or two before he regains his usual energetic self. He had much too much to do, and he loved what he did. I don't doubt it. He is gripped by his fascination and it fills him with life and energy.

In that way I find that I can learn much from David Attenborough. Not just of nature, about which he is so good at communicating, but also about how he does what he is so good at, and stands for. For he is also a fine role-model for how we can both understand and experience

PHOTO: NONOY TAN. Territorial combat between two wrasses. Philippines.

editorial

nature on a deeper plane and enjoy its beauty. He is also an example of how we can involve it and let it play a much larger role in our lives, without it necessarily meaning that we must turn our backs on our lives in a modern society. Which, incidentally, would be a totally unrealistic and thereby unusable real politic if this world is to be saved for future generations.

And before we go further in that direction, it is also obvious that his experiences and insight are so invigorating – so perhaps there's also something to be learned here too. Drop the cigarettes and live longer! On with the diving equipment, live even longer and enjoy yourself in the process.

OK! It's not all fun.

But as David Attenborough so rightly pointed out when the interview turned to all the current threats to nature, from global warming, El Nino and George Bush, all the information and attention does have some use. He stated, among other things, that the threatened mountain gorillas had received so much attention from the 1970´s and onwards that they had in fact increased in numbers but that their habitat was still decreasing. Our attention does, therefore, make a difference wherever we choose to focus it.

Our abilities to experience and observe, to understand and communicate, therefore play a decisive role for us, both as individuals and as a species. That's all very well, but let us now come down to earth and give these ideas a concrete content. It means, for example, that it is important that we travel for the sake of the experiences, and that it is very important that we understand what it is that we are experiencing and seeing on our travels. (And please, for the sake of the enjoyment and relaxation, try to do both – not to enjoy it would be a horrible mistake). It also means that it is important to take a stand as to how we travel and why we do it. For example, can the fact that we choose to travel to observe manta rays help to protect them? Not only here and now, because their worth in tourist valuta just happens to be more than a thousand times the value of their worth as meat, but also in the long run. Because when relations to these natural resources change, human systems are forced to change too. And that will be the best guarantee for the survival of these species in the long run.

That means, that we must choose the right form for ecotourism, that which is not just an attached smart marketing label for ordinary commercial profit. Not only because we will thereby become engaged witnesses and therefore be guarantors for the continued existence of these species, but because we will also come to value them - not just in the usual emotional meaning of the word – but also in a literal macro-economic way. For nature, that cheap lady, suddenly becomes worth a lot of hard cash, and the ubiquitous economic marketing forces will change to her advantage, so that the coral reefs will be preserved instead of being cleared to give place to yet another shopping mall with a seaview.

But it requires that we feel that it is something to do with us, that we have a point of view, and that we air it. And a good place to start the whole long but luckily enjoyable educational journey is in the world's biggest classroom – the Oceans. Do like Sir David. Go out into the world with an open mind and with open eyes. That is your best hope. It is our best hope.

See you out there.

UnderwaterTimes.com™
the daily journal of life in and around water

DMEX
DIVE MIDDLE EAST EXHIBITION

DMEX 2005 Exhibition aims to be the largest trade, commercial and dive enthusiast event in the world. It will offer the most comprehensive international marketplace for the diving industry, giving companies the opportunity to showcase and demonstrate products and services to businesses and individuals interested in all diving products, services and holidays. DMEX will promote all aspects of diving in the region and present Dubai as a hub for the industry, a platform where business gets done.

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H.H. SHEIKH MAKTOUM BIN
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DIVE MIDDLE EAST EXHIBITION
(DMEX) 2005

TUESDAY 10TH – WEDNESDAY 11TH MAY, 2005
AT THE MADINAT CONVENTION CENTRE,
DUBAI, UNITED ARAB EMIRATES

Open to qualified industry professionals and dive enthusiasts, DMEX 2005 is an event produced by the Emirates Diving Association (EDA), and managed on its behalf by NettResults Integrated Marketing.

Why Dubai?

When it comes to a hub for diving, Dubai offers the perfect environment. As a central hub for commerce in the region, reaching over 2 billion people, and a few hours from legendary dive sites such as the Red Sea, The Maldives and The Seychelles, it is possible that DMEX is closer than any other industry event to eight out of the top ten dive sites around the world. Dubai's history started with pearl divers and today offers some of the best tourist locations resorts, many of which offer diving packages. Recent world-class off-shore development projects such as Palm Island, The World and Hydropolis (the underwater hotel) have raised environmental issues to the front. Synonymous with the oil and gas industry and thus commercial divers - Dubai is simply the diving hub.

Getting to and staying in Dubai

Dubai's award winning carrier Emirates Airlines has direct flights from America, Europe, Africa and Asia. No where is easier to get to. Once you are in Dubai there are some of the world's leading hotels to choose from. DMEX is making this easier still by offering an accommodation office to offer the best rates at a variety of hotels that are either walking distance to DMEX 2005 or will offer dedicated transport for you free of charge.

Madinat Convention Centre opened in late 2004 and is one of the most versatile locations in Dubai with state of the art facilities. This is no sterile exhibition hall, but a stunning village of conference facilities, hotels, a souk, countless food and beverage outlets - all connected by Arabic waterways. What could be more ideal for a diving exhibition?

Madinat Convention Centre
Dubai, United Arab Emirates
+971 4 366 8888

www.dmex2005.com

Close encounters of the dolphin kind

Roatan's Dolphins

Text and photos: Bill Becher

I slap my hands on the water and two bottlenose dolphins swim toward me, propelled by a few flicks of their tails. The 400-pound creatures push hard on my feet with their noses and skim me across the surface of the warm Caribbean lagoon.

My two-dolphin-power E-ticket ride is at Anthony's Key Resort on the island of Roatan off the coast of Honduras.

This tropical playground, well known to scuba divers, is also home to the Roatan Institute of Marine Science. Here you can touch, swim, snorkel and scuba dive with dolphins and even be a "dolphin trainer for a day."

A dolphin trainer's day starts with preparing food. You help sort the restaurant-grade frozen fish, picking out damaged fish that might harbor bacteria.

Snorkelers get a close-up encounter with a dolphin at Anthony's Key Resort.

Roatan's Dolphins

Trainers carry small coolers of fish marked with each dolphin's name out to the large pens in the lagoon rimmed with wooden catwalks. It's a pretty setting with no concrete in sight. We sit on a floating platform and get acquainted with the dolphins.

Biologist Teri Bolton and her husband run the dolphin program. She invites us to pet a dolphin --- they like strokes. Their skin is smooth and tight, like an inflated inner tube.

Dolphins aren't fish, they are air-breathing sea mammals. They are also curious, playful and intelligent. If humans lived in the ocean dolphins would be our golden retrievers, except smarter --- you wouldn't find a dolphin drinking out of a toilet.

Some dolphin trainers take their work very seriously.

Finding your inner dolphin

After watching the trainers interact with the dolphins and learning about their habits and likes and dislikes

LEFT & RIGHT BOTTOM: Swimmers get a close-up encounter with a dolphin at Anthony's Key Resort.

Roatan's Dolphins

Dolphin trainer for a day commands a dolphin to jump by raising her right arm.

Dolphin trainer for a day gets a kiss from a dolphin.

you head back to the fish house to prepare another meal. Then it's time to learn the hand signals trainers use to communicate with the dolphins.

We sit with feet dangling in the water. Two male dolphins swim up --- Esteban and Paya. They're out of their pens in the open ocean. They seem to enjoy what they do. If they didn't they could just keep swimming to Jamaica.

Did you know that dolphins are so intelligent that within only a few weeks of captivity, they can train Americans to stand at the very edge of the pool and throw them fish? -- Unknown

The dolphins pop their heads out of the water. Bolton tells us to raise one arm quickly. The dolphins swim away and then leap into the air repeatedly until you lower your arm. Then they come back for a fishy reward that they swallow whole.

Hold your hand in the water and the dolphin places his nose on it. Tap on his side with your other hand and the dolphin takes off in a circular speed run. Lift both hands and push and the dolphin tail-walks. Wag your fingers and the dolphin talks in clicks. Rotate the fingers and they pirouette in the water. By this time I confuse the signals and Paya spins when he's supposed to talk. I spin my fingers.

"No, the dolphin's training you," says Bolton, laughing. Apparently one of the qualities a trainer needs is to be smarter than the dolphin. Enthusiasm and curiosity helps too.

"Anyone can walk out there with a bucket," says Bolton. "But the interesting part is wanting to see what tickles that animal and forming a relationship."

After the hand-signal session we don wet suits and masks and get in the water. The dolphins swim out, we grab their dorsal fins, and they tow us back to the dock. Then it's time for the dolphin-powered body

Scuba divers get a close-up encounter with a free-swimming dolphin at Anthony's Key Resort.

Roatan's Dolphins

surfing grand finale.

If training a dolphin isn't enough you can also scuba dive with them.

Kneeling on the sandy bottom the dolphins materialize, swooping around the divers then scratching their backs on a sponge. A dolphin swims by, streaming bubbles from his blowhole. Then they do a series of jumps, seen from underwater it's like a mirror image of the above water show.

Anthony's Key

For scuba divers at Anthony's Key there are also reef dives, wall dives, wreck dives, shark dives, night dives and beach dives. Visibility is good, averaging from 50 to 100 feet in 80-degree (F) water. Most dives are a short boat ride away, and nitrox 32 is available for nitrox certified divers.

Anthony's Key is a PADI Gold Palm 5-Star Instructor Development Center and is ranked as one of the top dive resorts in the world. The ten-dive boats are all modern 42 and 48-foot craft.

There is an on-site recompression chamber and staff physician, photo shop, dive equipment rentals, and a PADI continuing educational program that offers resort courses.

If three daily dives and two-a-week night dives aren't enough and your residual nitrogen allows, there is extensive shore diving available.

Two wrecks invite exploration: the El Aquila, a 230-foot double-deck cargo vessel sunk in 1997. This intermediate to advanced dive is a two-minute boat ride from the resort. The "El Aquila"

Roatan's Dophins

or "The Eagle" ran cargo between Puerto Cortes, Honduras and San Andres Island. This freighter originally sank 8 years ago around the Utila Keys, Bay Islands, Honduras. It was recently salvaged and brought to Roatan by Anthony's Key Resort. The ship is intact and is resting perfectly upright on a sandy bottom in approximately 100' of water.

The Odyssey is a 300-foot multi-level ship sunk in 2002. Dive depths are from 40 to 120 feet on the north coast of Roatan, a 12-minute boat ride away.

For divers and non-divers there is snorkeling, kayaking, jungle canopy tours, horseback riding, and my favorite, swinging in a hammock in the gentle ocean breeze and listening to the sound of the surf pounding on the reef.

Picture Perfect

The setting here could have been designed by a post-card photographer. The majority of rooms are on the beach at Anthony's Key, a 30-second boat ride away. The Key is also the site of the Monday night crab races, limbo contest and beach barbeque.

Most of the resort is built out of wood, giving it a simple, rustic feel. The dining room and bar are located up a flight of wooden steps like a giant tree house in the jungle overlooking the lagoon.

Brent Howell from Seattle has been coming here for 15 years and is conflicted. "I'd like to tell people about Roatan and I'm afraid to tell people about it. It's a secret I don't want to share."

Bill Becher can be reached at billbecher@yahoo.com.

> *It is of interest to note that while some dolphins are reported to have learned English - up to fifty words used in correct context - no human being has been reported to have learned dolphinese.*
>
> *-- Carl Sagan*

IF YOU GO

Several US carriers and Sol Air offer flights to Roatan via Miami or Houston.

Anthony's Key Resort offers dive and non-dive packages including seven nights accommodations, three meals a day, air tanks, weight belts and weights, three single tank boat dives per day and two single tank night boat dives starting at $599. Scuba instruction and certification is available, as is try scuba resort course. Dolphin trainer for a day costs $160 for guests.

For more information about Anthony's Key, go to **www.anthonyskey.com** or call (800) 227-3483. ■

Scuba divers get a close-up encounter with a free-swimming dolphin at Anthony's Key Resort.

Beautiful sunsets at Anthony's Key, a scuba dive and adventure travel resort on Roatan Island in Honduras.

fact file

Honduras

Map of Honduras

History: Honduras became independent of Spain's vast empire in 1821. A freely elected civilian government came to power in 1982, after 25 years of military rule. However, Honduras became a haven for anti-Sandinista contras fighting the Marxist Nicaraguan Government and an ally to Salvadoran Government forces fighting against leftist guerrillas during the 1980s. In 1998, the country was devastated by Hurricane Mitch, which killed 5,600 people and caused $2 billion in damage.

Government:
democratic constitutional republic
Capital: Tegucigalpa
Currency: lempira (HNL) Exchange rates: lempiras per US dollar - 17.3453
Languages:
Spanish, Amerindian dialects
Climate: subtropical in lowlands, temperate in mountains

Geography: Central America, bordering the Caribbean Sea, between Guatemala and Nicaragua and bordering the Gulf of Fonseca (North Pacific Ocean), between El Salvador and Nicaragua; Terrain: mountains in the interior, narrow coastal plains, has a short Pacific coast but a long Caribbean shoreline, including the uninhabited eastern Mosquito Coast, Elevation extremes: lowest point: Caribbean Sea 0 m; highest point: Cerro Las Minas 2,870 m; Coastline: 820 km, Natural hazards: frequent but mild earthquakes; hurricanes and floods along the Caribbean coast; Agriculture: bananas, coffee, citrus; beef; timber; shrimp; Industries: sugar, coffee, textiles, clothing, wood products

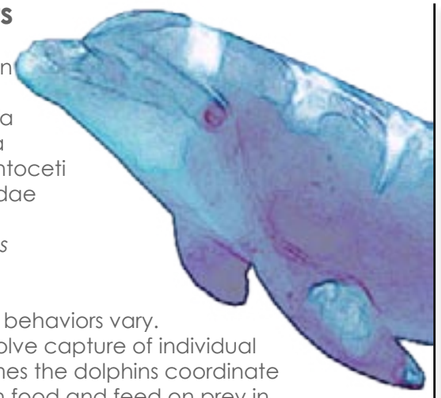
Environment issues: urban spawl; deforestation from logging and clearing; land degradation, soil erosion, farming of marginal lands; mining activities cause heavy metal polluting of fresh water sources.

Population: 6,823,568
High mortality due to AIDS cause lower life expectancy, higher infant mortality, higher death rates, lower population and growth rates; Below poverty line: 53%; Ethnic groups: Mestizo 90%, Amerindian 7%, Black 2%, White 1%; Religions: Roman Catholic 97%, Protestant minority

Medical/Deco chambers:
Cornerstone Decompression Chambers and Clinic at Anthony's Key Resort in Sandy Bay tel. 455 1049 / 445 1003. Fantasy Island at French Key. Woods Medical Center 24 hour service Tel. (504) 445-1080.

Dive Travel:
Anthony's Key Resort
www.anthonyskey.com
Bahia Tours
Email: akr@anthonyskey.com
800-227-3483 or 954-929-0090

Dolphin Facts



Bottlenose Dolphin

CLASS: Mammalia
ORDER: Cetacea
SUBORDER: Odontoceti
FAMILY: Delphinidae
GENUS: Tursiops
SPECIES: *truncatus*

FEEDING
Dolphins' feeding behaviors vary. They primarily involve capture of individual prey, but sometimes the dolphins coordinate together to catch food and feed on prey in association with human fishing as well as chasing fish onto mudbanks. Dolphins eat several pounds of fishes, squid and crustaceans per day.

MATING & BREEDING
Calving takes place year-round. Nursing continues until calves reach 12-18 months. The calves stay with their mothers for 3-6 years to learn how to catch prey and other tasks important to dolphin survival and society. Male dolphins reach maturity at 10 years old and female dolphins reach maturity between 5 and 10 years of age. Gestation for dolphins one year.

Did you know that:

There is a dark side to dolphins? They can become aggressive, sometimes brutal. Dominant members in a pod of dolphins are know to push around weaker dolphins.

A dolphin can see as well underwater as above it thanks to a very sensitive retina that gathers light very efficiently.

In relation to the size of the body, the dolphin's brain is larger than the brains of great apes and chimpanzees.

In a single day, an adult dolphin can consume as much as 30 pounds of fish or more.

Even though the dolphin has 100 teeth in its mouth, the dolphin swallows fish whole. Dolphins use their teeth to catch and grasp their prey.

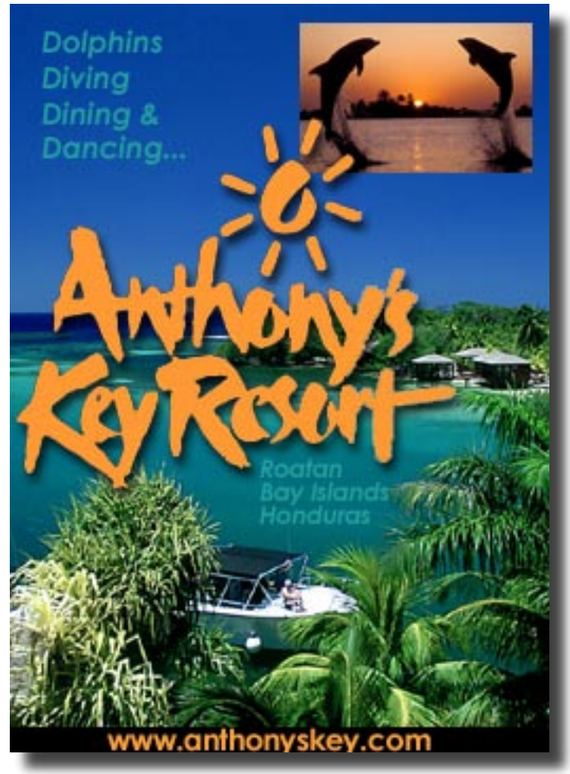
Dolphins can jump out of the water as high as 20 feet.

The killer whale is the largest member of the dolphin family. It can grow up to 30 feet long.

Like human skin, a dolphin's skin is very delicate and can be easily injured by rough surfaces.

The boto is the largest of the freshwater dolphins. It lives in the Amazon and can grow up to 10 feet long.

SOURCE: www.acsonline.org; www.animalplanet.com



Himalayan Heaven

Diving high altitude lakes of Nepal

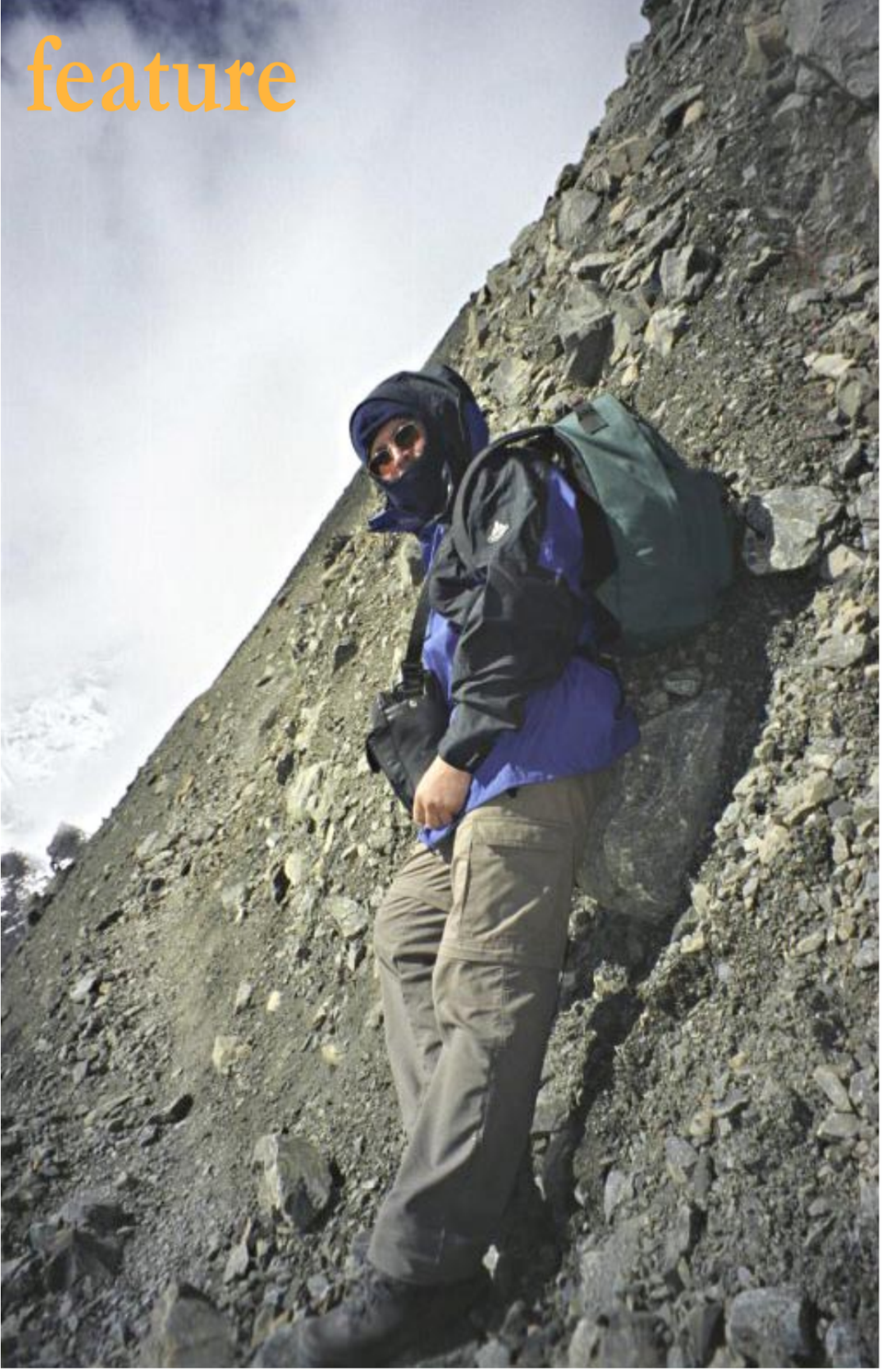
text by Andrey Bizyukin
photos by Miriam ?

No One Else Will Ever Dive Higher or Report on this Unknown Expedition.

Underwater Himalayas – these words, while absurd at first glance, began to make sense in 1999 when Andrei Andryushin (NAUI dive instructor) together with his friend and adventure companion, Denis Bakin, have been traveling in the area of Anapurna, one of Nepal's eight-thousand-meter mountain peaks. At one of the passes, a sherpa guide told Andrei that not far from their route lay Tilicho, the the highest mountain lake in the world.

That's one small step for man, one giant leap for mankind.
-- Neil Armstrong

Tents are dwarfed by the Himalayan mountain peaks surrounding Tilicho, the highest mountain lake in the worldl.



Andrei Andryushin takes a break on the trail up the mountain side.

Steep mountain passes make the trek up to Lake Tilicho difficult and trecherous.

Different sources positioned the lake at an altitude varying from 4,960 to 5,200m above sea level and described its size as 4 by 1.5 km across. Asking the locals and guides about the lake as well as subsequent internet search confirmed that no person had ever dared to dive in the lake.

The Big Idea

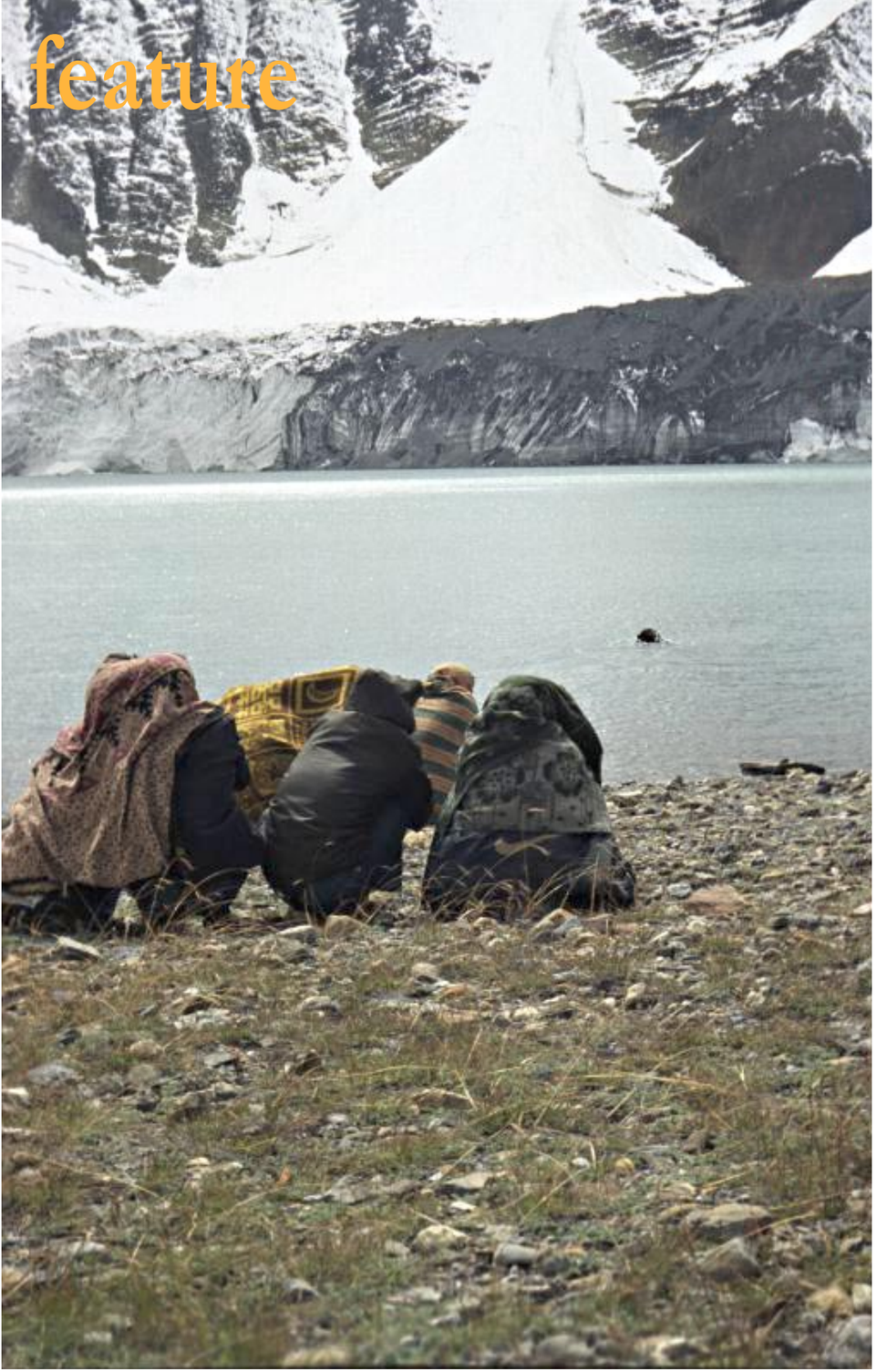
As it usually is with decisive people, the path from an idea to its practical realization was not long. Upon his return to Moscow, Andrei met with Vadim Belenikin, president of Sprout Dive Club, and made a presentation of his idea – to set an unbeatable world record by making a dive in the highest mountain lake in the world. Vadim strongly supported the idea.

Soon the following group of enthusiasts started working on the project: Andrei Andryushin, Denis Bakin, Vadim Belenikin, Maxim Gresko, Pavel Ruslanov, Guennadi Slobodanyuk, Dmitri Friedman and Svetlana Chistyakova.

To everyone's disappointment, the representative office of the *Guinness Book of Records* turned down the request to register the record since their representative could not participate in the expedition personally. But neither this nor the lack of sponsors and high cost of the expedition could stop the enthusiasts in their determination to set a new world diving record.

In pursuit of their dream, the adventurers decided to finance the expedition with their own personal funds. All logistics issues were handed over to the Himalayan Club, whose president, Sergei Vertelov, decided to join the expedition personally.

A breathtaking view of the Himalayan mountans from the trail.



Members of the team huddle together on the shore as a diver submerges.

Himalaya

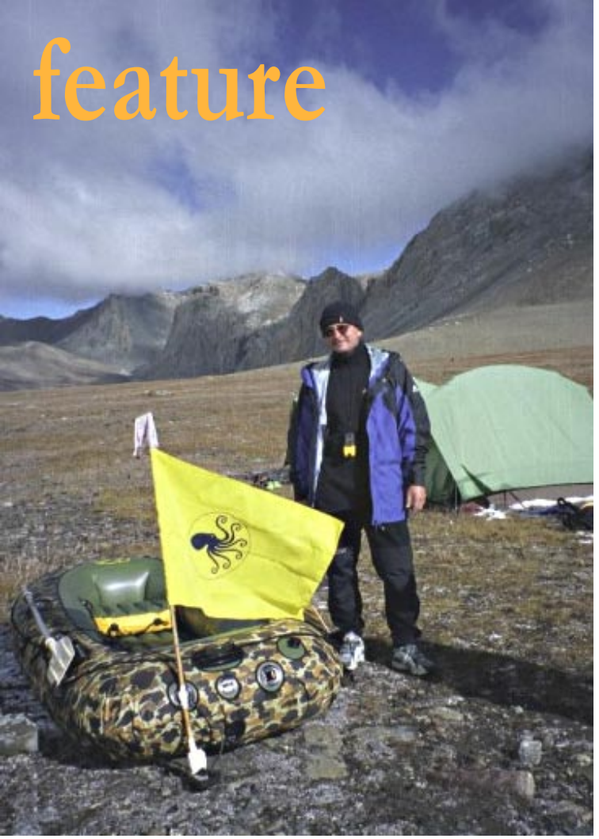
View from inside a tent overlooking the sparkling surface of Lake Tilicho.

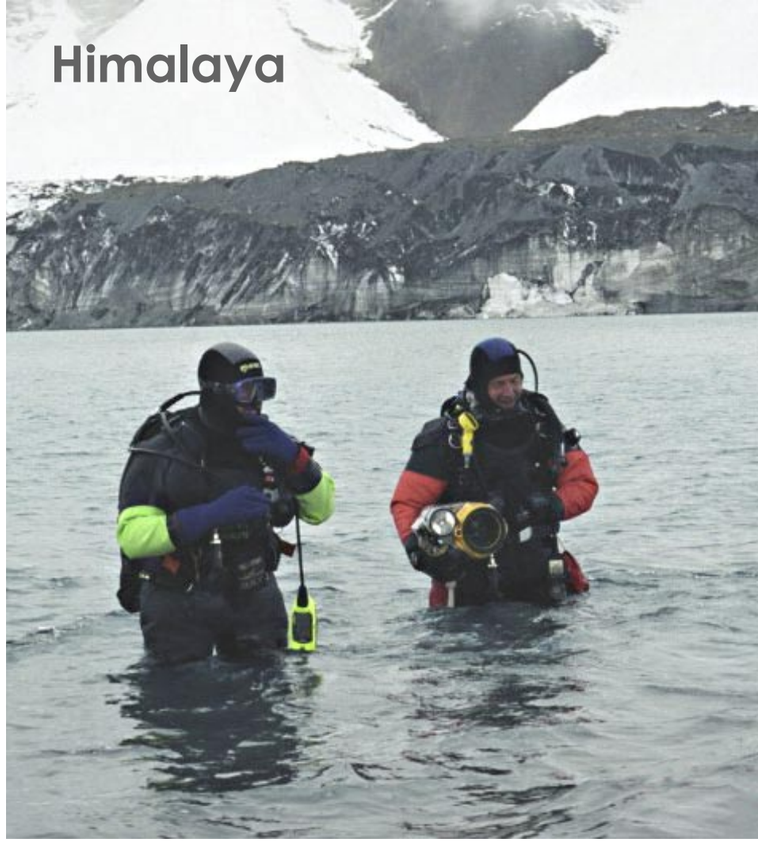
Challenges

The task to bring over half a ton of equipment, including a compressor, and a group of divers to a remote region of Nepal located at the same altitude of that of the peak of Elbrus, looked complicated by any standard. Another problem was the absence of proven tables that would allow divers to calculate maximum duration and depth of a dive at such an altitude.

On top of that, urgent evacuation in case of trouble was impossible, and the group could not get information on the availability of a single pressure chamber in Nepal. It's a well-known rule that air travel should be avoided for some period after diving. But the atmospheric pressure at the altitude of the lake of Tilicho is 0.5 bar, which is much less than in a cabin of any commercial airplane. After some approximate calculations, it was decided that the dive depth should be limited to 25m with a maximum exposure of one minute.

Then, there was the flight to Katmandu, a transfer to a run-down local carrier, a flight to Manang — a village claiming to have the highest dirt airstrip in the world (3550m above the sea level), a two-day stopover for acclimatization, a check dive in a local lake and getting a blessing from a local lama, followed by an exhausting two-day climb to Tilicho.





Himalaya

Andrei and the team members prepare for the record setting dive and help each other suit up. High atltudes make any task much harder to accomplish.

Tilicho

On September 23th, 2000, the expedition reached the lake. Tilicho astounded everyone with its pristine beauty. The lake was absolute cyan in color. On the lake surface, huge pieces of ice were floating, sparkling in the cold rays of the sun. Later, it became clear that the ice was brought to the lake by avalanches, which rushed several times a day down the glacier covering the western slope of the mountain.

The camp was set up on the shore opposite to the glacier. At the water's edge, our GPS (global positioning system) was showing an altitude of 5,000m. Due to insufficient acclimatization period, most of the group members were suffering from different symptoms of altitude sickness (headache, nausea, etc). It was then decided to follow the initial plan and begin diving the next day.

Sunny weather that everybody enjoyed during the day was replaced by snow, strong winds and temperatures at minus 10°C during the night.

In the morning, with the help of an inflatable boat and an echo sounder, the first depth measurements were taken. The measurements showed that a narrow shallow band by the water's edge near the camp sloped abruptly into a sharp rocky incline that was much deeper than what the echo sounder could measure (max. 75m). In addition, strange formations resembling seaweeds were found at the depth of 50m.

Divers use echo sound equipment to measure the depths of the lake.

Himalaya

Remote and pristine, Lake Tilicho is the highest mountain lake in the world.

Preparations

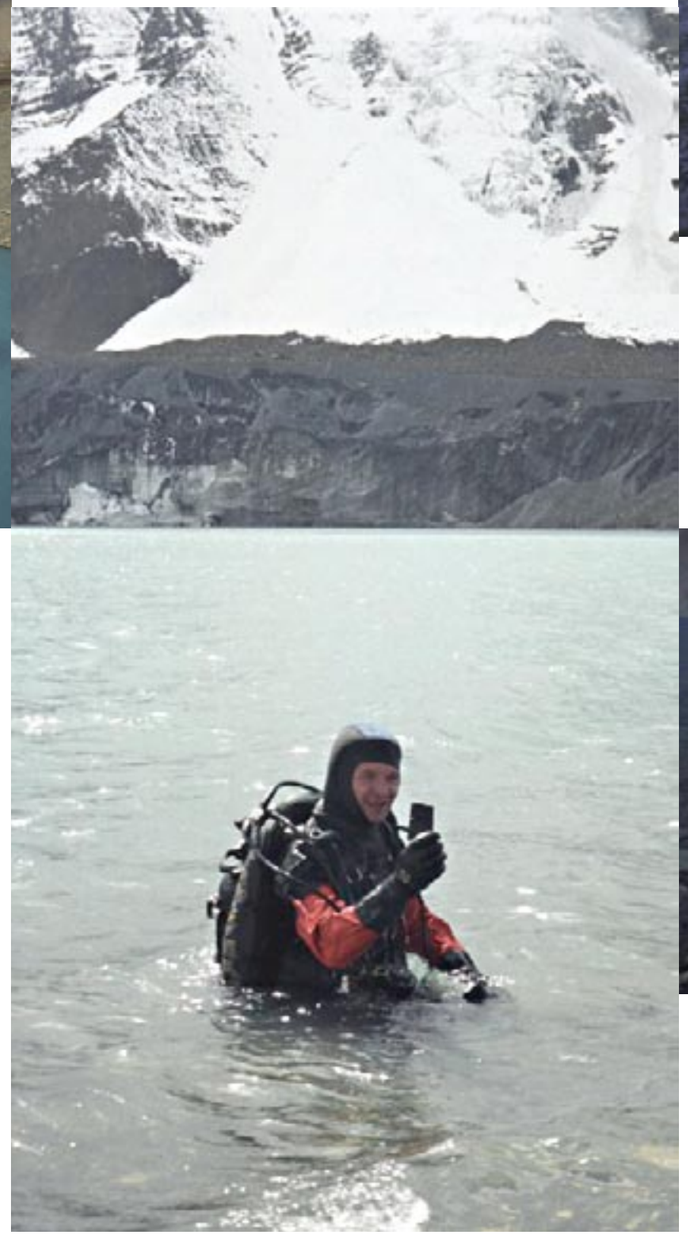
With a lot of effort, a Colty Sub compressor managed to fill the air tanks up to 100 bars. But the weather started getting bad again, so the first dive was made from the shore near the camp. This dive, even though a shallow one at 10m, plus exposure to extreme temperatures during the following night, exhausted the team. The night was very cold and gusts of wind and snow tore out two tents.

On the morning of September 25th, Andrei was still willing to accomplish the goals of the initial plan. Together with Denis Bakin, Maxim Gresko and the sherpas loaded with diving equipment, he went over to the northern shore of the lake where the profile of the slope and shoreline would allow them to make the record dive.

Any movement at such altitude can make a person short of breath. It causes suffocation and requires time to regain normal breathing.

Two kilometers north of the camp, they chose a place with convenient access to the water. Friends helped Andrei to put on his gear, and then he went underwater. "I was moving down along a rocky slope. It was quite dark under the water. Visibility was no more that 1m. The water temperature at the surface was 6°C. My wrist computer switched over to *dive* mode as I reached the depth of 5m. That's when it indicated zero depth," said Andrei.

"I went down to 21m according to computer. The water temperature there was 3°C. The rocky slope kept going down, but I turned around and started going up to the



Strong winds , whipping snow and extreme temperatures make for a very tough night on the shores of Lake Tilicho.

Team members rest on the shore of Lake Tilicho which sits at an altitude of 5000m.

A diver checks his gear in the shore dive.

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Himalaya

surface following the slope profile. It was important to go back to where I started from under the water, because swimming on the surface in full diving gear at the altitude of Elbrus peak requires inhuman effort. My dive lasted for 10 to 15 minutes and brought no surprises. Afterwards, I felt great satisfaction that I reached my goal, and I experienced a rush of energy, probably thanks to breathing oxygen-rich air from the tank. I did not discover any forms of underwater life, but this came neither as a disappointment nor as something unexpected. But the most important thing was what we did accomplish – no one will ever dive higher than we did," said Andrei.

On the same day, the group decided to take the road back. The world record had been set.

Breaking Records

The Russian team set the absolute record in high mountain diving. They are the first to accomplish a dive in the highest lake in the world. Of course, in setting out on this expedition, they staked alot on pure luck. But luck favors only those who dare.

ABOVE: The Russian flag keeps vigil at a campsite dusted with snow in the early morning hours.

PHYSICAL RISKS IN HIGH ALTITUDE DIVING

Training in high altitude diving procedures is essential for safety in diving at altitude.

There are normal physiologic changes that occur in all individuals who adventure to high altitudes:
- Hyperventilation (breathing fast)
- Shortness of breath during exertion
- Increased urination
- Night time changes in breathing pattern
- Awakening frequently at night
- Weird dreams

HOW TO RECOGNIZE ACUTE MOUNTAIN ILLNESS (AMS):
Within the time period of a recent accent to high altitudes above 2500 m (8000 feet), a headache, with one or more of the symptoms listed below qualifies an individual for the diagnosis of AMS:
- Loss of appetite, nausea, or vomiting
- Fatigue or weakness
- Dizziness or light-headedness
- Difficulty sleeping
- Confusion
- Staggering gait

Many people wrongly believe that a headache at altitude is "normal" when it is really a symptom of AMS. One must be willing to admit that one has altitude illness.

According to the High Altitude Medicine Guide by Thomas E. Dietz, MD Emergency & Wilderness Medicine, there are two rules to follow:

GOLDEN RULE #1
It is OK to get altitude illness.
It is not OK to die from it.

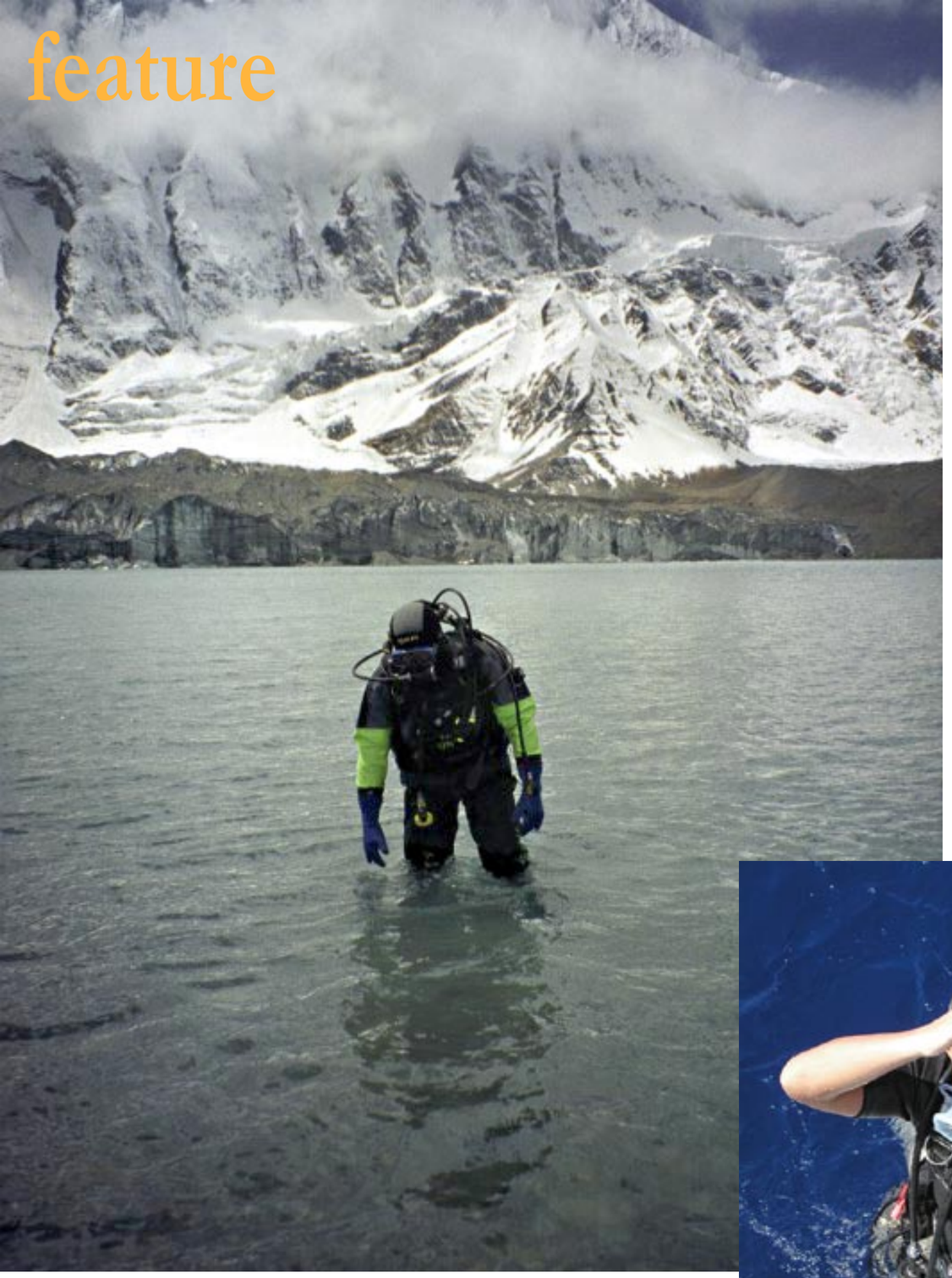
GOLDEN RULE #2
Any illness at altitude is altitude illness until proven otherwise.

SOURCE:
www.high-altitude-medicine.com

As conventional sea level tables and calculators are inadequet for the needs of high altitude diving, special conversion tables are available through NAUI for diving at altitude.

www.naui.org

The magesty of the Himalayas is revealed as clouds lift from the lake.
INSET: Divers make calculations for max depth and prepare for their dive.



Himalaya

Members of the Russian team pose for a documentary shot to mark the record setting occasion.

ABOVE: Andrei emerges from his record setting dive. RIGHT INSET: Author, Andrey Bizukin, salutes the team.

Afterthoughts

I recently asked Andrei, "Would you like to repeat that record dive after all these years?"

He replied, "Now, I think I would, but up there in the Himalayas, it was really tough. I think it's human nature to forget the hardships and remember only the good things such as a good team and the breathtaking beauty of the mountain lake." ■

Andrei Bizyukin, PhD., makes his home in Moscow, Russia, and reports on adventures high and low throughout the world. For more information, visit his website at:

www.homepage.mac.com/moscow

fact file

Nepal

History:
Monarchy in Nepal ended In 1951. A cabinet system of government was formed. Within the framework of a constitutional monarchy a multiparty democracy was established in 1990. In 1996, a Maoist insurgency was launched. It has gained power and threatens to bring down the regime. In 2001, the Crown Prince massacred the king and queen and eight other members of the royal family, then committed suicide. The new king dismissed the prime minister and his cabinet for "incompetence" In October 2002, after the group dissolved the parliament and obstructed the election process. Today, the country is governed by the king and his appointed cabinet. He has negotiated a cease-fire with the Maoist insurgents until elections can be held.

Geography: Southern Asia, between China and India, Terrain: flat river plain (Terai) of the Ganges in south, central hill region, Himalayan mountains in the north, landlocked; strategic region between China and India; has eight of world's 10 highest peaks, including Mount Everest, Elevation extremes: lowest point: Kanchan Kalan 70 m, highest point: Mount Everest 8,850 m, Natural resources: quartz, water, timber, hydropower, scenic beauty, small deposits of lignite, copper, cobalt, iron ore, Agriculture: rice, corn, wheat, sugarcane, root crops; milk, water buffalo meat, Industries: tourism, carpet, textile; small rice, jute, sugar, oilseed mills; cigarette; cement, brick production

Capital: Kathmandu
Currency: Nepalese rupees per US dollar - 72, per Euro - 89
Government: parliamentary democracy and constitutional monarchy

Economy: Nepal is one of the poorest and least developed countries in the world with 42% of its population living below the poverty line. Agriculture: 80%. Security concerns after 11 September 2001 U.S. attack led to a decrease in tourism.

Environmental issues: deforestation; contaminated water; wildlife conservation; vehicular emissions.

Climate: North - cool summers and severe winters, South - subtropical summers and mild winters, Natural hazards: severe thunderstorms, flooding, landslides, drought, and famine due to timing, intensity, and duration of summer monsoons.

Population:
27,070,666, Below poverty line: 42%, Ethnic groups: Brahman, Chetri, Newar, Gurung, Magar, Tamang, Rai, Limbu, Sherpa, Tharu, Religions: only official Hindu state in the world - Hinduism 86.2%, Buddhism 7.8%, Islam 3.8%, other 2.2%

Languages: Nepali, English, 12 other languages, 30 dialects. 45% literacy rate.

Medical
Nepal International Clinic, Travel & Mountain Medicine Centre
GPO BOX 3596,Lal durbar,
Kathmandu,Nepal.
tel. 977-1-4434642, 977-1-4435357.
www.nepalinternationalclinic.com

Himalayan Rescue Association has medical clinics at Pheriche and Manang, Dhobichaur, Lazimpat, P.O. Box No. 4944, Kathmandu, Nepal
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Reef Etiquette: While local dive guides are doing a commendable job guiding new divers, much more can be done to teach divers how to dive coral reefs without damaging them

Help protect the Coral Reefs

Text & photos: Michael Arvedlund
& Tyge Dahl Hermansen

Translation & supplemental
archive photos: Peter Symes

Our coral reefs are now under threat not only from the global warming, pollution and exploitation but also by the conduct of divers in these sensitive areas. The reefs are now calling for our protection both when we dive and as contributors to the ongoing struggle to preserve these unique ecosystems for future generations.

The tropical coral reef is the most complex of the marine ecosystems on this globe. International marine researchers came recently to the conclusion that future medicines against cancer and HIV most likely have to be found among marine creatures such as tropical sponges and corals.

Furthermore, the trocipal coral-reefs act as an important eatery for people in third world countries. Fisheries on coral reefs represent, on a global scale, an industry with a turnover that runs into tens of billions of Euro. The coral reefs are also, to a growing extent, being used as much by popular recreational areas. Finally, the coral reef is a central ecological system being closely integrated with other systems for which reason the destiny of one system has a profound effect on the others.

Nonetheless, the tropical coral reefs are among the most threatened of all the marine ecosystems. We have visited coral reefs in the Northern part of the Red Sea as part of scientific expeditions undertaken since 1993, and in 2002 with the specific purpose of investigating the ecology of fish in the Red Sea. In this capacity, we also had the opportunity to study the environmental impact of these fragile ecosystems in close range.

Geography

The northern part of the Red Sea includes the coastlines of Egypt, Israel and Jordan as well as substantial parts of Saudi-Arabia. Hence, one could designate the Red Sea as the Arabian region of the Indian Ocean, or Indi-Pacific.

Red Sea coral gardens, Egypt. ARCHIVE PHOTO BY PETER SYMES

A meeting with one of the Red Sea's peaceful inhabitants, a sea turtle, *Chelonia midas*. (M. Arvedlund)

Reef Etiquette

The Red Sea has several unique features. For instance, the bay of Aqaba in the northern end is unusually deep, in places up to 2,000m (6561 ft).

Furthermore, the Red Sea is partially isolated from the rest of the Indian Ocean. This results in an unusual set of physical parameters. The salinity is somewhat higher, from 40-43%, as compared to the 35% average in the world's oceans. The significant depths also make for brilliant visibility – 50-plus meters are not unusual.

This is quite a lot in comparison with colder seas where the visibility is often only a few meters – like a glass of mineral water compares to a cup of tea. The great visibility in the Red Sea is also due to the near total absence of rivers flowing into the sea. Therefore, the effects of the usual huge amounts of silt-laden freshwater, a factor which usually results in very poor visibility, is not seen here.

The special physical circumstances in the Red Sea makes some species of coral grow very well, among others the beautiful soft coral of the genera *Dendronephtya* and *Scleronephtya*. Another of the Red Sea's "assets" is the lack of research facilities, surveillance and environmental investigations. It has essentially been left alone.

For those scholars who wish to do research, it is practically a self-serve buffet. Very few biological aspects of the coral reefs in the Red Sea have been scientifically investigated in contrast to coral reefs in other parts of the world.

Tourism

Tropical countries with coastlines with reefs have in the recent years became very popular tourist destinations, and in the case of the Red sea, very popular with sun-starved northern Europeans. Especially in the northern part of the Red Sea where the coastal towns of Hurghada and Sharm el Sheikh are located, there are hundreds of thousands of European and Russian tourists visiting each year. The number of hotels in Sinai along the very fragile coastline have experienced an increase of 1100% within a decade. But how are all the reefs holding up with all the thousands of new swimmers, snorkellers and divers?

Wastewater

And what about all the waste water from the hotels and the new industry that has shot up as a result of all the new visitors? How are the local authorities handling the pollution and the huge increase in the pressure on the reef's vunerable ecosystems?

While the tourist resort of Sharm el Sheikh was nothing much more than a tiny dusty coastal village with a handful of hotels just a decade ago, the situation today is radically different.

The sheer number of new hotels is an awesome sight. More than 15km (10 miles) of coastline is now densely developed. And the construction still goes on. This new situation is well illustrated by the difference in doing a dive trip to the sublime coral reef of Ras Nasrani, about 10kms north of Sharm el Sheikh, in 1993 and one today.

feature Reef Etiquette

Ras Nasranu is still, by many connoisseur divers, classified as one of the best tropical dive spots in the world. In 1993, we had a hard time negotiating the big sand dunes in the desert in order to reach Ras Nasrani. In 2002, we had to pass dozens of hotels before having to fight our way between hundreds of aerobic performing tourists on the beach.

While in 1993, we were able to kit up with the accompaniment of only the wind whistling in the sand, we were this time surrounded by a significant amount of trash on the beach, a stench of sunblock and a lot of noise from technomusic being broadcasted by big loud speakers that were placed directly on the beach

While loud music is probably harmless (*probably*... as it hasn´t been investigated yet) to the coral reef, and mostly damaging to one's ear drums, the untreated wastewater from the many new hotels is lethal to the reef at Ras Nasrani. Even though the reef is still an unusual gem amongst the local reefs, in reality we are talking about a dying patient.

A strong growth of choking algae was seen in many locations in 2002 both at Ras Nasranin and many other local sites. In 1993, we haven´t been able to see any algae growth at all.

This peaceful meeting unfortunately evolved into outright harassment by Scandinaian divers who pulled, tugged and kicked the helpless sea turtle. (M. Arvedlund)

The turtle desperately tries to escape but stumbles right into several sharp corals. The Australian environmental authorities are the only ones, together with the English, American and Israeli, who make detailed statistics on tourists and their influence on the coral reefs. The Australians have noted several deaths among turtles being startled by overly intrusive divers. (M. Arvedlund)

Pollution

Too many tourists are only one of many problems for the region. The development in the northern Red Sea has been more than just hard. Coastal and marine environments in the whole area of the Arabian region, which has coastline tangent to the Red Sea, are facing an increasing pressure from the rapidly growing population. This has had a devastating effect in many places. Oil, domestic and industrial waste water are amongst the main and most disturbing sources of pollution in the Red Sea.

Everywhere, the sea is used as dump. Waste water is being let out into the desert where it slowly seeps down into the porous underground. From there, it finds it way into the Red Sea. This pollution can result in a strong growth of algae as well as an outbreak of the coral-eating starfish, Crown-of-Thorns or *Acanthaster planki.*

The Crown-of-Thorns starfish has been a sig-

celebrate the sea
OceanNEnvironment

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The prestigious Celebrate the Sea Marine Imagery Festival 2005 just got bigger and better – there are competitions for the young and old, amateur and professional photographers. Over US$60,000 in prizes, it is the richest competition of its kind in the Asia Pacific. Underwater filmmakers, photographers, writers and web designers are invited to compete in the focus of the festival – the International Imagery Competition. Competing images can be shot anywhere in the world.

Competition Categories:
A. Documentary COMPETITION
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C. COLOUR AND B&W PHOTOGRAPHS COMPETITION
D. Digital Portfolio
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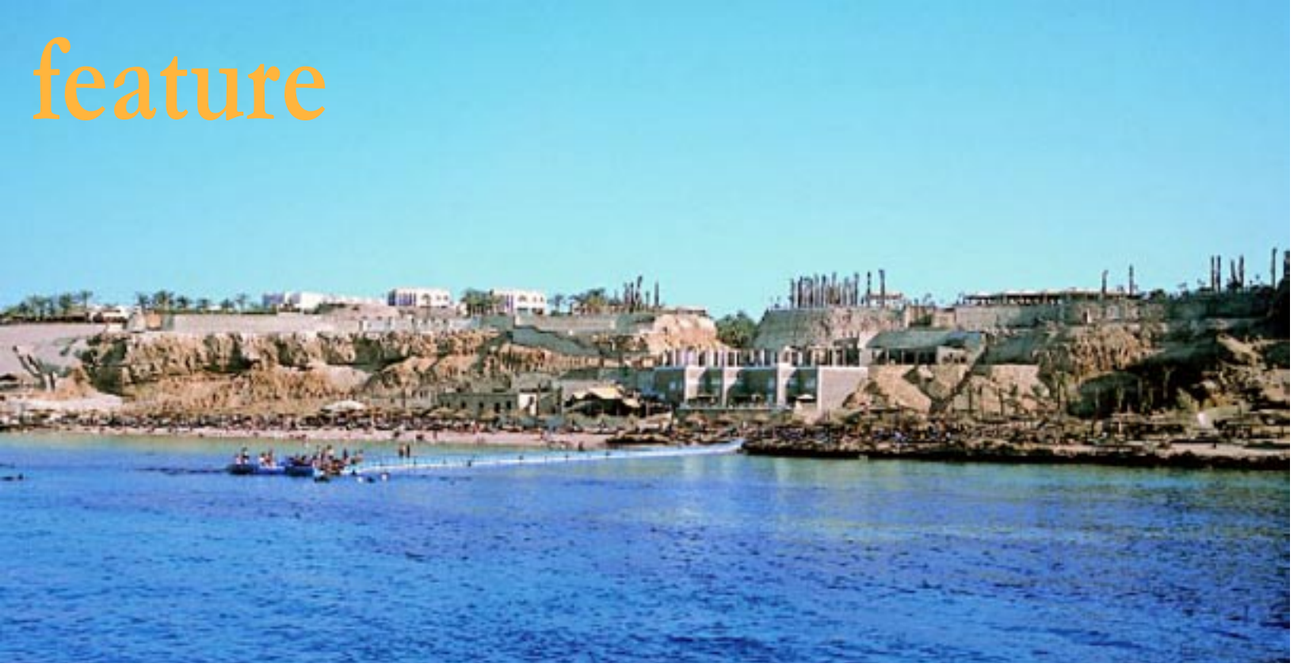
G. Book of the Sea Competition
H. CD-ROM - DVD
I. WEB SITE COMPETITION

Click here to email for entry form



The number of hotels in Sinai, built right down to the vunerable coral reef coast, have in the past decade seen an increase of 1100%. And they are still building! (M. Arvedlund)

nificant problem for several years and bigger outbreaks are expected in the years to come. Collection of data and surveillance of primary sources of pollution only occur sporadically on the starfishes' effect, and in many cases, not at all. How the present explosive development in the Red Sea is going to affect the ecological systems in the future is something we, in reality, know very little about.

Coastal zone management, research into environmental issues and surveillance, as we know it from the industrialised world, has yet quite a long distance to go in Egypt if it is to help the coral reefs.

Environmental protection

A step in the right direction was the founding of a little local environmental center in the year 2000. In time, this center will coordinate coastal zone management, administration, surveillance and research. It will provide expertise on the coral reefs to the northern Red Sea region and its rural areas.

Since the majority of visitors in the northern Red Sea are Europeans, it is us who, as tourists, have played a leading role in the drama unfolding with the coral reefs, a quickly dying patient

The center is located in Sharm El Sheikh, Egypt, and is led by Europeans. It is sponsored by the European Union. It is, however, quite sparsely staffed. There are less than 20 employees to deal with an area the size of France.

In an effort that should be commended, Jameson et. al., recently published the first scientific study of the effects of too much tourist traffic on the coralreefs.

We have, however, been puzzled by certain aspects of the center, which we hope can be explained by intitial growing pains. For example, there was no system of communication with people who see coral reefs everyday and know about their condition, the professional dive guides.

It is mandatory for all dive boats in the Red Sea (as well as many other locations all over the world) to have such dive guides in place when diving on coral reefs. These experienced specialists are, unfortunately, very often completely over looked by various consultants, researchers and authorities.

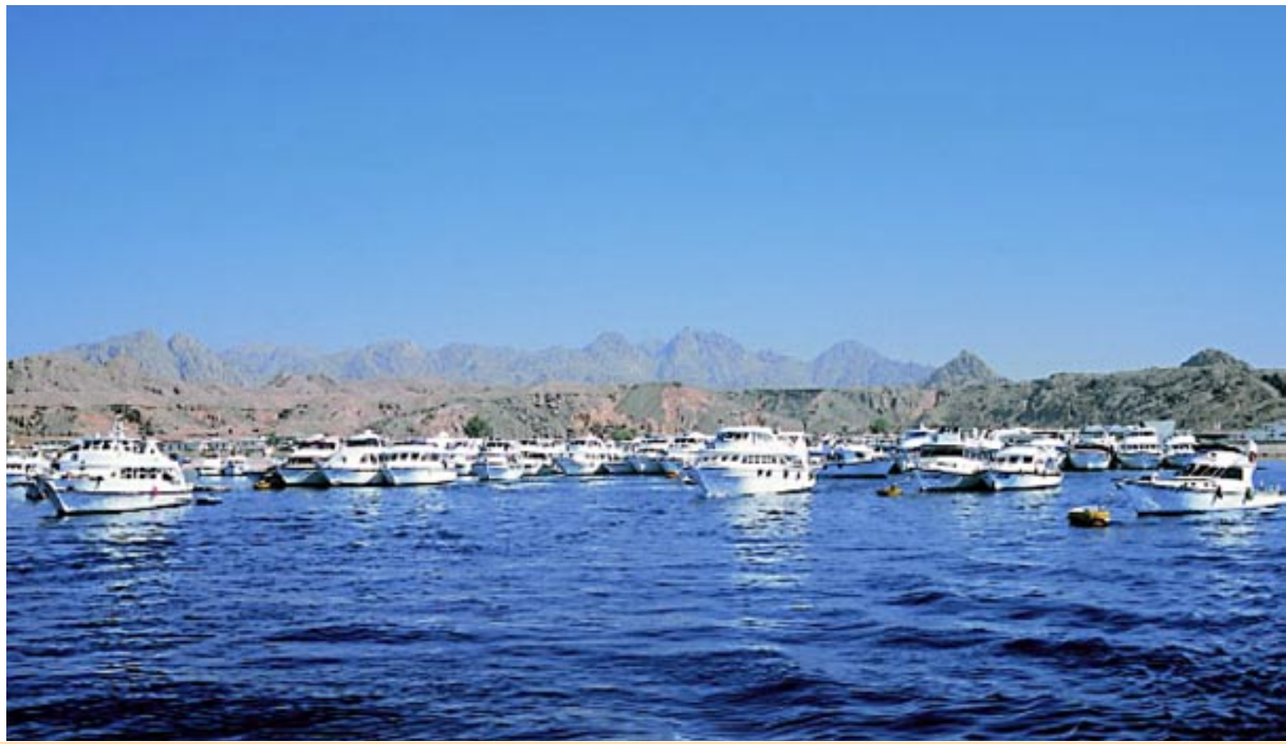
The dive guides in the northern Red Sea are generally very careful in briefing all divers before dives and take great care not break any corals. Those who happen to do so nonetheless, often get subjected to an immediate correction, often under water as the the divecguides often carries bangers, bells or other signalling aparatus.

It is our view that an efficient dive guide can reduce the rate of reef destruction by managing divers, thereby significantly reducing the risk to coral reef ecosystems. It should be noted, however, that we have only dived with English and Japanese dive guides from local dive centers in Sharm El Sheikh.

Our fellow Scandinavian divers

Even the Scandinavian tourists can´t always claim that their conscience is clean. It saddened us in 2002 to witness the behaviour of our countrymen, when they pushed, pulled and yanked around and even kicked one of the big protected turtles that one occasionally encounters in the northern Red Sea. This happened during an interval where the dive guide unfortunately was busy dealing with another student diver else where.

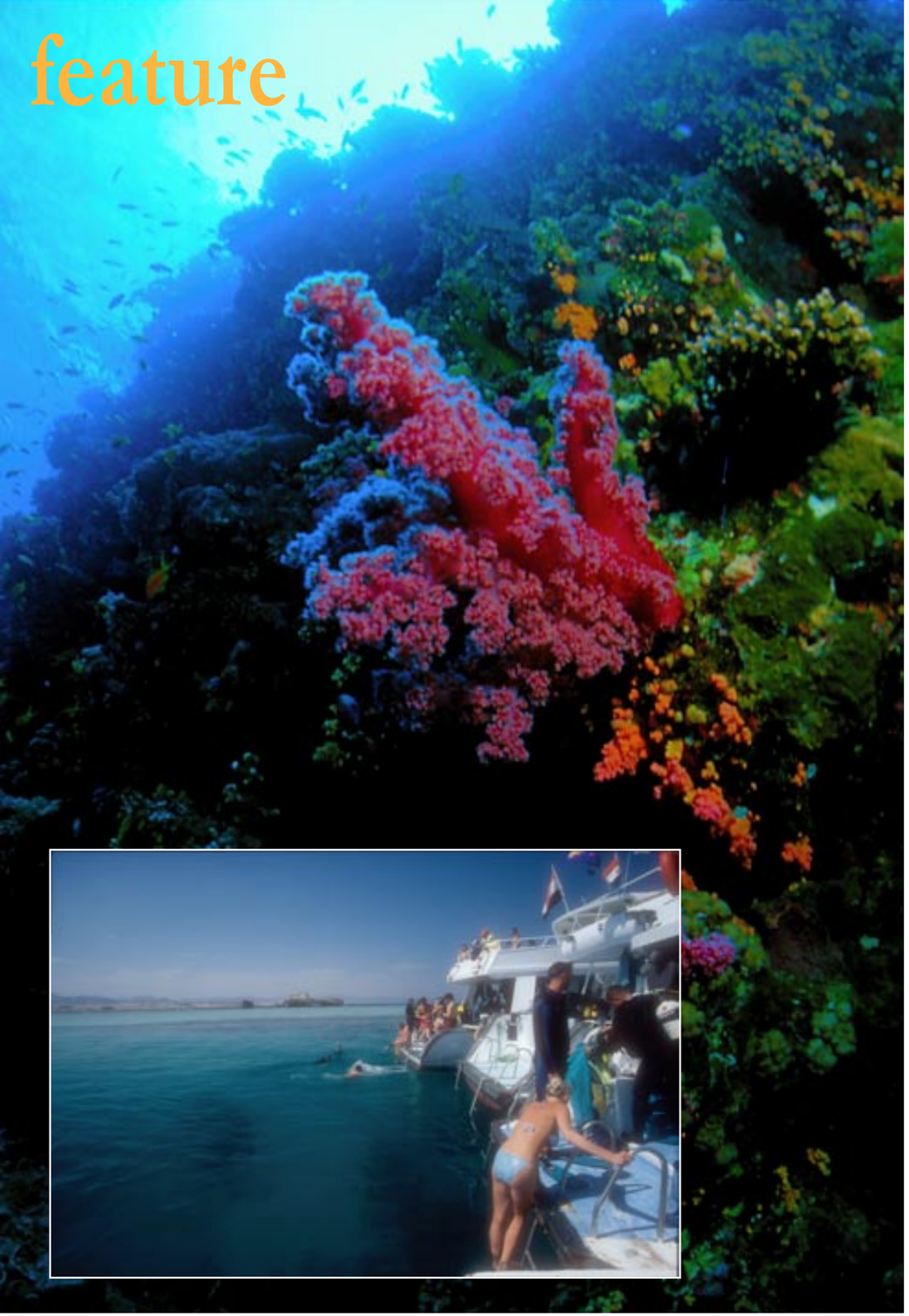
The Australien investigations into the environment have been conducting research into tourisms impact on the coral reefs over many



While, in1993, there were less than 10 permanently stationed dive boats in Sharm El Sheikh harbor, the number today is more than 60. There is not, to our knowledge, a plan of investigation into the effects this may have on the local coral reefs (M. Arvedlund)

Reef Etiquette

In the northern part of the Red Sea, things are not being cleaned up – not even when there is money to be made on scrap iron. Consequently, the Lullia wreck has been allowed to lie as an ugly landmark for many years. It is lying directly on top of the unique Gordon Reef, right in the middle af the Strait if Tiran, about 90 minutes north of Sharm el Sheikh.



The reefs are, in many areas, still in good condition, like the Strait of Tiran (above) despite being very popular with both swimmers, snorkellers and divers. This is true, to a large extent, due to the competent dive guides.

Overview over the northern Red Sea.
(Source: Ras Mohammed Conservation Centre)

years. They were one of the first to be able to demonstrate that sea turtles may indeed kill themselves if they are being harassed by divers.

Turtles are prone to panic. Hence, they may wound themselves mortally when they get confused and scared and flee among the sharp corals. (fig. 8)

All physical contact with marine life on the reefs is banned in Australia today. Unfortunately, these "turtle hunts" and wrecked corals are just the tip of the iceberg.

While Scandinavian divers are quick to point out to others what high levels of safety and good skills they have acquired from being trained in that part of the world (the Scandinavian training organizations do deserve praise for this), there is an equal and shocking lack of education and awareness about responsible diving on coral reefs. (fig 9)

And this continuing despite the fact that thousands of Scandinavians venture each year to tropical destinations. The overwhelming majority of divers trained in Scandinavia will – sooner or later – come to dive on tropical reefs. Many will dive only in these warmer regions regardless of what the Scandinavian training agencies falsely assume – that their students will dive only in Nordic waters.

Diving on tropical reefs is not part of the curriculum, a grave error in judgement on the part of educators. A significant number of corals and marine animals could be spared just by appending to the curriculum at least a theoretical insight into how one should behave while diving on a tropical reef.

But when will agencies change their courses? How many corals and marine creatures must be hunted to death before it happens?

The Future

Globally, there does not exist a responsible and sustainable utilization of resources in costal zones and coral reefs with the rare exception of certain American, Australian and Israeli centers.

Coral reefs are primarily found

Reef Etiquette

Among the many visitors on the reefs – divers, snorkellers and swimmers – there is a worrying lack of even basic knowledge about coral reef ecology. Repeatedly, one can observe ignorant tourists wading across the shallow water reef table, breaking off fragments of coral without any one stopping them. Out on the reef walls, reefs receive fin kicks against the fragile corals – in this case, at Ras Mohammed reserve. (M. Arvedlund)

The only ones really protecting the coral reefs in the northern Red Sea are the enthusiastic dive guides. All dive boats are required to have at least one of these local experts on board to make briefings prior to the dives, to guide toursist divers on local dives and to prevent them from breaking off corals or otherwise damaging the reefs. (M. Arvedlund)

in the poorest part of the world where "sustainable costal zone management" is nothing but a long bunch of words in a fine person's dictionary.

Paradoxically, it is these very same countries that are the most dependent on tourism and fishery as a source of income. Egypt, for example, doesn´t have any significant sources of income other than tourism, and unlike a number of other Arab countries, it doesn´t have any oil.

It would, therefore, be disasterous for these countries if these reefs were destructed. And it looks like more than 30% of coral reefs will disappear within a few years due to the lack of counselling, surveillance and research as well as the aggressive growth in population, overfishing, destructive fishery practises and various wars.

The probelm can only be alleviated if these areas get prioritized by the world in a completely different manner than they are today. Among other things, the EU should commence supporting conservation efforts both financially and in terms of expert knowledge on a far bigger scale than is done today. One small environmental center with 20 employees for the entire northern Red Sea region does not suffice.

This region is in desperate need for a larger more comprehensive environmental center with at least 500 employees. It should be a dedicated coastal police with jurisdiction to crack down on crimes against the environment. It should have access to considerable economic funding for restoration of damaged reefs and countering pollution. Large scale research into the influence of tourist divers upon the Red Sea's environment and animals should be a matter of course.

The need for economic and scientific help is very acute. The economic boon that the northern Red Sea region and the tourist sector in many European countries are enjoying right now can very likely dry up in just a few decades due to the total absence of protection schemes and funding to protect the environment.

Since the majority of visitors in the northern Red Sea are Europeans, it is us who as tourists have played a leading role in the drama unfolding with the coral reefs, a quickly dying patient. With the rate of present development in the region, only the bleached skeletons of the corals will be left to view along the coast of Sinai. ■

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World Record in Free Diving
Carlos Coste

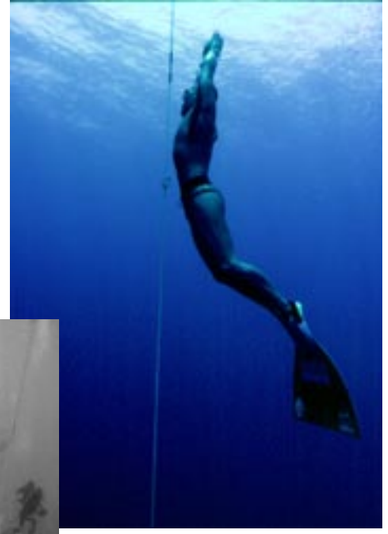
New Variable Ballast World

On October 27, 2004, a new variable ballast world record was set by Carlos Coste in Puerta La Cruz, Venezuela. At 11:25 am, Coste descended to 135 meters by sled and returned on his own effort in 4:36 minutes. At the surface, the dive was clean, and within 20 seconds of surfacing, Coste gave the OK signal.

Video documentation on the sled, bottom plate and surface recorded a successful dive. Coste took a doping test at 2:10 pm.

Attending judges indicated that they will be recommending the attempt for final ratification.

See **www.carloscoste.com**



Patrick Musimu

Heading for 200m

Next summer, there will be an attempt at reaching 200m. On July 8th, Patrick Musimu will try to shatter the standing world record in the most prestigeous discipline in freediving, No Limits.

Patrick Musimu is under training. The current record of 170m is held by the French national Loic Leferme. Like his famous contemporary and former world record holder, Tanya Streeter, Musimu came to freediving relatively late.

Born in Kinshasha, Zaire, in 1970 he didn´t start freediving before 1999 when he was 28. As a licensed physiotherapist and physical trainer, kickboxer, Taekwondo and scuba instructor, he has an obvious interest in both the physical and mental limits of human performance and endurance, and early on, he caught an interest for what the greatest freedivers could achieve.

See **www.patrickmusimu.com**

Loic Leferme

171m attained

On a single breath of air, French freediver Loic Leferme achieved a new world freediving record with a 171m dive. The dive, which took place on Saturday 30 October at Villefranche-sur-mer, Cote d'Azur, France, was ratified by officials from AIDA.

Two weeks of preparation led up to the new world record. Leferme and his team practised a succession of deep breath hold dives to check that all safety procedures were in place and all the equipment was working.

Leferme took just 2 minutes to descend to depth on a sled. He then cracked open a cylinder that filled a balloon with air to take him back to the surface. The entire dive took 3 minutes and 40 seconds.

A safety vest, which could be inflated at depth in the event of the sled or balloon failing, was worn by Leferme on the dive. Officials from AIDA, the governing body for freediving, observed throughout the dive as a team of dedicated support divers assisted with the record.

See **www.loic-leferme.com**

Giant manta ray. Photo by Robert Ashton

text by Robert Ashton
& Linda Bryer

Save the Mantas

Mission: The principal objective of The Manta Network and its Manta Sightings Program is to protect the ecological wealth of the planet by advancing our knowledge of Manta birostris.

The principal objectives of The Manta Network fall into four areas: population studies, environmental education, environmental assessment studies and public awareness initiatives. The initial efforts have focused on population studies and environmental education employing the Internet.

The four objectives are:
- Population Studies to further our knowledge of habitats and migration patterns
- Environmental Education to develop a comprehensive online reference and conduct educational seminars
- Environmental Assessment Studies to conduct field research in strategically important areas
- Public Awareness Initiatives to prototype action plans and assist local awareness programs

As these programs progress, it is the goal to use the gained understanding to identify strategically important areas. These areas could then be routinely monitored to provide the most valuable information to access population health. Local action programs can then be fashioned to increase awareness and provide alternatives to overfishing.

Research projects

Since 1996, The Manta Network has been publishing information on the Internet about manta rays and has developed the Worldwide Manta Sightings Program and database. Funding in now being sought to formalize and expand these efforts into four major areas (see sidebar next page):

MantaCam

Sheraton Keauhou Bay Resort & Spa has collaborated with local manta ray expert, James L. Wing and The Manta Network to create an unique program. This team aims to re-create an environment attractive to the world-famous Keauhou Manta Rays and welcome them back to a familiar feeding ground.

Keauhou Bay has long been one of the preferred feeding areas for these mysterious and amazingly beautiful creatures. Guests will be able to observe the mantas nightly from the lanai (balcony) of their rooms or from special viewing areas within the resort's grounds. Each night at sunset, Mr. Wing and his interns will conduct a complimentary half-hour lesson about current manta studies on behavior and habitat.

For those who want an "up close and personal" encounter with these enchanting creatures, the Manta Experience takes guests into the water for a nighttime snorkel or scuba dive excursion to the site. While allowing above and below visual sightings of manta rays, any touching of these magnificent creatures is not allowed. All underwater experiences will be under the supervision of Mr. Wing or one of his trained staff.

The Manta Network's UWIP MantaCam™, a special high-definition underwater camera, is being installed. Guests will be able to observe mantas and the underwater Manta Experience at any time day or night on a dedicated in-room channel or via the hotel's website.

The Sheraton offers many exciting and fascinating activities. These include watching manta rays perform their rhythmic ballet near the surface of the ocean. This display is often recounted as the highlight of many vacations.

The manta ray has even become the inspiration for the resort's new logo. A poolside restaurant within the resort has been aptly named "Manta Ray Bar & Grill," further identifying the location as favorite yerritory for the fascinating rays.

Sheraton Keauhou Bay Resort & Spa values and respects our ocean environment. A portion of the proceeds from each experience is being donated to manta ray research.

The lectures, underwater MantaCam and in-water experiences will help to educate guests on the need for conservation. These offerings to a wide-ranging audience will increase awareness of the challenges faced worldwide by manta rays and other rare ocean inhabitants. Our ultimate goal is to be exemplary stewards of the manta ray and their ocean environment.

Indo-Pacific Study

The Indo-Pacific Manta Migration Study Program is designed to provide new population data to further our knowledge of habitats and migration patterns. Planning has already begun to study manta populations and migratory behavior.

The Manta Network intends to organize and lead expeditions ultimately to all the ten target research areas. Photo identification, satellite tagging, and DNA tissue sampling will yield the answers to many of the migration questions.

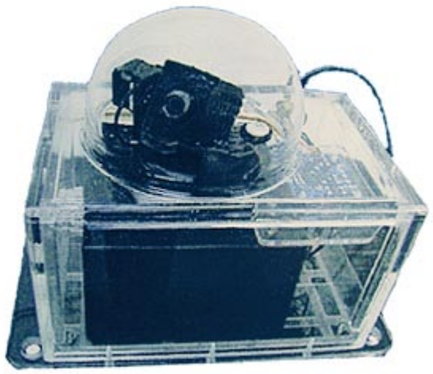
Before protection and conservation programs can be created, several critical questions must be answered including understanding habitat preferences,

Save the Mantas

Photos of MantaCam courtesy of The Manta Network

extent of home range, migratory rates and routes, and seasonal changes in abundance and distribution. Although we have some knowledge about movements of a few local manta populations (Kona, Yap and Archipelago de Revillagigedo), we know nothing about long distance migratory behavior.

This three-year study will sponsor and coordinate four teams of scientists. It will employ local dive operators in ten locations in the Pacific and Indian Oceans. A combination of short-term and long-term studies will be initiated. Baseline information will be assembled at each sampling site including visual surveys, photo identification, fisheries surveys, and an examination of local environmental parameters.



Monitoring

The Continuous Manta Monitoring Project is designed to collect video information on the residency patterns of local manta populations in specified geographic areas. The deployment of high-quality video cameras, capable of being remotely controlled over the Internet, will make possible for the first time ever, the continuous monitoring of areas frequented by manta rays. The ultra-low-light sensitivity of the cameras will make possible both day and night behavior observations.

Manta Sightings Program and database. Funding in now being sought to formalize and expand these efforts into four major areas:

The Continuous Manta Monitoring Project seeks to develop, install, and collect live video of manta rays from five locations across the Pacific and Indian Oceans. The live and recorded video will be analyzed by marine scientists, and can then be shared with educational organizations such as aquariums and exploratoriums worldwide.

Continuous monitoring creates new opportunities to conduct behavior, identification, and migration studies on local manta populations. Data can be transmitted directly to the scientist for analysis. This video content will be the first of its kind, offering exciting and informative, never-before-seen footage, which can then be licensed for display at public aquariums and other educational facilities anywhere in the world. High-definition video of manta rays could be presented to audiences in real-time.

Global database

As part of the Worldwide Manta Sightings Program, a centralized global database has been

POPULATION STUDIES

Worldwide population studies have not been conducted. Proposed programs that assist the manta rays' present and future status include:

- Intentions are to expand the methods used to collect sighting information.
- Identify strategically important areas and manta populations where routine monitoring would provide valuable information worldwide.
- Develop programs for the collection of manta sightings from divers and photographers encounters.
- Develop a routine field collection program with the assistance of the dive operators and resort operators around the world.
- Assist researchers in the development of worldwide tracking systems.

ENVIRONMENTAL EDUCATION

The Manta Network is a major source for on-line environmental education. This includes providing a content-rich library of information about mantas, research programs to further the knowledge of these magnificent creatures, student intern activities and environmental action programs. These include:

- The Manta Network serves as an online clearinghouse for information about manta rays worldwide useful to scientists, concerned individuals, conservation groups and legislators, thus it serves as an important resource for environmental education efforts.
- Develop and conduct educational seminars at industry trade shows and other important events.
- Develop a network of Eco-tours focused on the diving with, research and protection of manta rays.

ENVIRONMENTAL ASSESSMENTS

Although some manta research is being conducted is a few locations, the research efforts are very spoty. Few formal and well-funded research programs exist. Most efforts are done by local groups usually associated with dive operators. Although this is a good start, better funded and scientifically-staffed programs are badly needed to address global populations. In association with its Manta Research Affiliates, we intend to study Manta birostris and related mobula rays through the following:

- Conduct and support marine research into the behavior, migration, conservation and protection of manta ray populations worldwide.
- Perform field research including personally interviewing local fishermen, dive operators and local conservation groups.
- Develop a funding program to permit teams of researchers to conduct specific field research on select manta populations.
- Continuous monitoring stations can provide invaluable information about the residency of local manta populations. Seek research grants to fund the installation, monitoring and maintenance of wireless underwater video monitoring stations being developed by FutureTel Corporation.
- Develop a Student Scholarship Program in support of research and environmental education initiatives.

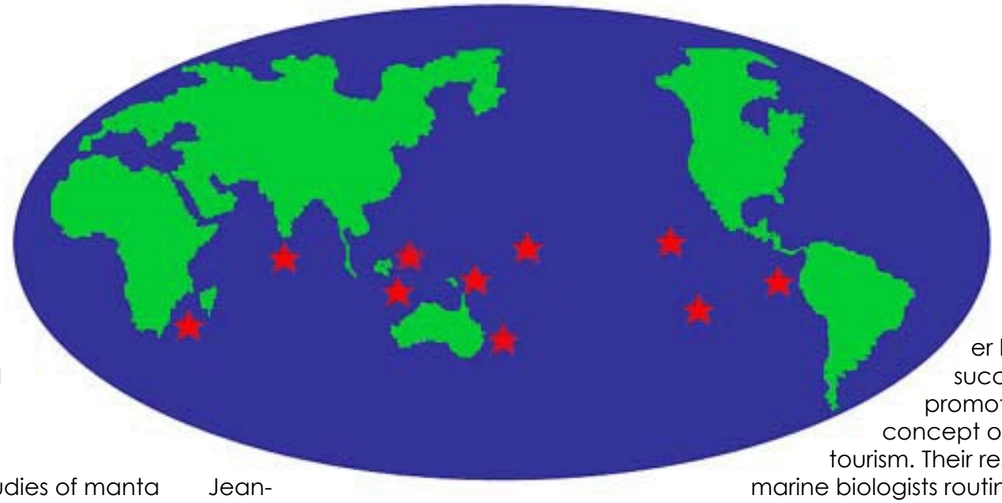
PUBLIC AWARENESS INITATIVES

The Manta Network organization believes that for their long-term protection, conservation programs must involve local groups, taking into consideration their economic needs.

- Develop public awareness initiatives including environmental assessment, monitoring projects and volunteer-supported community activism.
- Provide information and eco-alerts about the conservation and protection of Manta birostris. Activities will identify and track all manta ray conservation and protection issues worldwide.
- "Manta Alerts," will be issued as situations demand.
- Serve as an source of authoritative information for the media and government conservation programs.
- Research public awareness initiative programs that can be applied to the development of conservation measures for manta rays.

conservation

Save the Mantas



created to help scientists learn more about manta populations, animal behavior, habitat preferences, residency patterns and their long-range migration behavior. The data and images collected are available for scientific investigation by participating scientists via a secured Internet connection.

The Manta Global Database provides a resource for scientific investigations and an informational source for public awareness activities. Data collected is also used to identify individual mantas that may migrate long distances and periods of time.

The Global Database is accessible using specially designed interactive real-time software on the Internet. Routine field observations and images of mantas from our Research Affiliates, photographers and sport divers can be frequently entered. The global database identifies individual mantas, repeated sightings, group sightings and contains an extensive image collection. This provides scientists with globally cross-referenced information that is easily accessiable over the Internet.

The Manta Research Affiliates Program consists of participating scientists, dive operators, photographers and conservation groups around the world. These individuals and groups contribute routinely to the Manta Global Database. Mantas from more than 125 locations around the world have been sighted.

Although we have some knowledge about movements of a few local manta populations (Kona, Yap and Archipelago de Revillagigedo), we know nothing about long distance migratory behavior.

Expeditions

Definitive migration studies of manta rays have yet to be conducted. Initial results from both The Manta Network's population studies and interviews with dive operators from around the world, indicate that there are several important areas where to study manta rays. These areas are shown in the interactive map below.

Some of these areas have been initially surveyed. Areas such as Hawaii (Kona), Micronesia (Yap) and the Eastern South Pacific (Archipelago de Revillagigedo) have had more routine investigations. Even with all this work, the manta's migration patterns and range remain unknown. Over the next 3-4 years, The Manta Network intends to organize and lead expeditions to all these ten target research areas. Photo identification, tagging, and DNA tissue sampling may yield the answers to many of the migration questions.

Mozambique Large numbers of manta rays have been seen here. Jean-Pierre Botha of Marine Dynamics will be hosting a group of biologists in March 2003 and again in March 2004.

Maldives This is a popular tourist destination with a large resident manta population. Situated in the upper Indian Ocean, this sample site will be important in determining the manta's range.

Indonesia A number of factors makes this area important including recent increases in manta harvesting and the identification of major migration channels. Both Antony Rhodes of the Karau Cruises and Matthew Hedrick of Dive Asia Pacific, Ltd. have expressed interest in participating in the manta tagging program.

Phillipines This area has recently experienced increases in manta harvesting. We have not yet identified local area participants.

Micronesia Large numbers of manta rays have been seen in Yap and Palau. Manta cleaning stations in Yap are considered major tourist attractions. The Ocean Hunter Palau is interested in providing assistance in the sampling program.

Australia Over the last 4-5 years, John Rumney of the Undersea Explorer have successfully promoted the concept of eco-tourism. Their resident marine biologists routinely conduct tagging programs with marine life. With the assistance of The Manta Network, Mr. Rumney is now planning to include manta rays in their eco-tourism program.

Hawaii The Pacific Manta Foundation is now conducting detailed research in conjunction with Dr. Tim Clark, University of Hawaii. This site is important in that it will provide more in-depth analysis of resident verses migratory manta behavior.

Eastern South Pacific From the Sea of Cortez south past the Archipelago de Revillagigedo and Cocos Island, down to the Galapagos, this area of the Eastern Pacific is known for large numbers of mantas. Although in-depth identification have been conducted in the sea of Cortez and Archipelago de Revillagigedo, migratory patterns have not been established. The Cortez Club in Baja and Nemo Galapagos have expressed interest in participating.

Join the Expedition -- You can accompany manta researchers on tagging and other projects. Space will be made available to dive with the researchers on various Pacific and Indian Ocean expeditions. Donation: $1,000.00 plus the cost of the travel and diving. For more information, see: **www.manta.org** ■

HOW YOU CAN HELP

The Manta Network appreciates every effort to further our knowledge of mantas and aid in their conservation and protection. There are several ways individuals and organizations can assist, including:

JOIN The Manta Network -- First of all, your interest and support is invaluable in our work to expand the general knowledge about manta rays, their conservation and protection.

Tell a friend -- as our funding is very limited, passing the word personally and via email will help us build support. Help locate friends that may have photographs and/or video who are willing to donate them to our effort. Help identify sources of funding from individuals or organizations.

Become a Sponsor -- donate to research efforts and assist in the development of The Manta Network and to support research agendas.

Adopt-a-Manta -- the adoption program is intended to fund manta tagging efforts in the Pacific and Indian Oceans.

Participate in Manta Expeditions --- opportunities exists to assist research efforts directly on one of the several research expeditions planned for the manta tagging program.

Report Sighting -- If you or anyone you know have seen a manta in the last ten years, report the sighting. Your sightings will be posted on the Internet and passed along to field researchers for study.

Become a Research Affiliate -- If you are involved in any form of manta work, joining the Research Affiliates Program will allow other members to follow your work.

Become a Print Magazine Affiliate -- We are seeking the support of magazines by publishing press releases and stories about The Manta Network's effort to protect manta rays.

Send pictures -- We are interested in photos and videos of manta rays, no matter how old, faint, or incomplete. This will assist our photo-identification programs around the world.

Digital cameras needed -- To expand the network of manta observers, we are accepting the donation or loan of digital underwater cameras.

Continuous monitoring stations -- The Manta Network is seeking research grants to fund the installation, monitoring and maintenance of wireless underwater video monitoring stations.

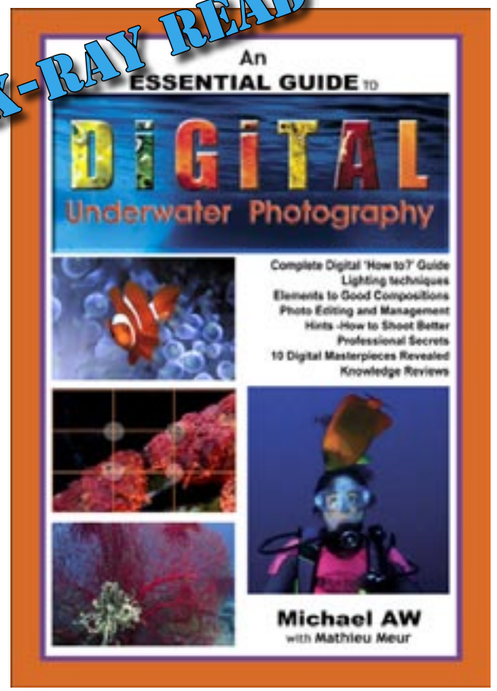
Computer facilities -- Dr. Rubin's team is in need of newer and more powerful computers to expand the manta database and is interested in the donation of new or used equipment.

www.manta.org

books

Immerse yourself in a good book...

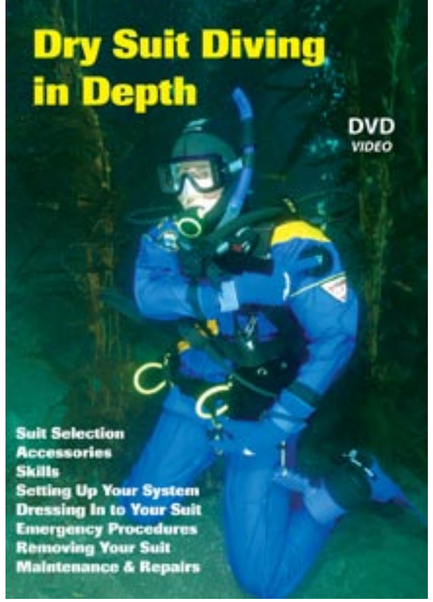
X-RAY READ



An essential guide to Digital Underwater Photography

By Michael Awe
With Mathieu Meur

What I like about this book is that it is compact, hands-on and straight to point. I have a couple of other great books on underwater photography that have taught me a trick or two but the problem with these while that they were nice with lots of room to all the fancy photographs, they weren´t quite working tools you could bring out into the field without damaging them.



Michael Awe´s "An Essential Guide to Digital Underwater Photography is exactly that, and what is pleasant, it is also exactly what its title says it is. Its compact format, solid binding and resistant cover and with a content that gives straight answers and bullet-pointed recipes to tackle most of obvious challenges makes it a very handy field manual and learning tool, and one which you can bring on a dive boat and other places where you actually need it most, without being too bothered about ruining it. The overall look and feel of this book can be coined in one word, and that is: "practical".

The book is subdivided into four main modules. The first one is about the "digital essentials" which deals with all the basics, from getting an underwater camera, what all this digital stuff is really all about with an introduction to all the most important measures and issues. Next module deals with shooting digital underwater and is pretty much centred on understanding and using light – again garnished with a lot of practical tips.

"The art of underwater photography" is the title for the third module, and is about composition, something which some folks have a natural gift for, while others have not. In any case this chapter offers another good set of advice where there is something to get for everyone. To order, visit:
www.oceanearthpictures.oneocean.com

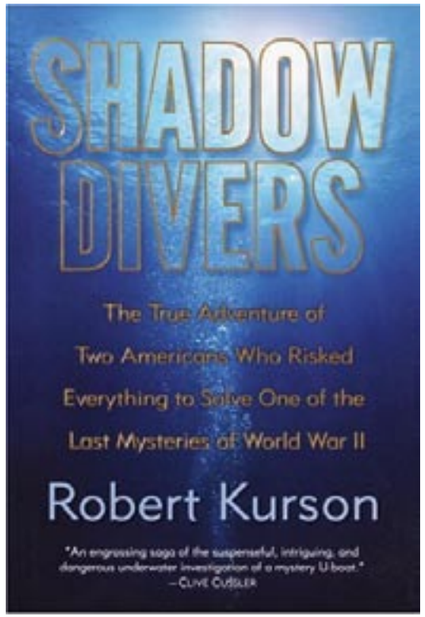
DVD: Drysuit Diving in Depth

46 minutes NTSC format (USA)
Directed by Steven Barsky
Produced by Kristine Barsky

Hammerhead Video Production writes on "Dry Suit Diving in Depth" that it is as if one has one's own personal instructor to explain all the points of finesse in diving with a drysuit. The film is shot in the clear cold waters of California's Channel Islands. This DVD covers:

- How to choose your drysuit
- Accessories
- Preparation
- Donning the drysuit
- Diving skills
- Emergency procedure
- Maintenance and repairs

Priced at $17.95 at Force Fin.
Ordering info at www.forcefin.com



SHADOW DIVERS

The true adventure of two Americans who risked everything to solve one of the last mysteries of World War II, by Robert Kurson
Illustrated, 375 pages
Published by Random House
£13.25 at Amazon.com in England

"Shadow Divers" got a lot of well-deserved attention when it was published. Not only is it based on real events, but it is well-written. It is a captivating mystery and drama under the sea involving battles and fights of life and death, true friendships and the uncovering of historical facts.

As a New York Times critic wrote, the author could not have been handed a better plot. But when the author is also gifted, the book's got to be a sure thing. The story will soon be dramatized in a documentary film.

In the story, three friends and business partners become bitten by the wreck-hunting bug. Once they stumble across an old torpedo that puts them on the track of a German U-boat from the second world war, they are completely hooked. The drama heats up when the U-boat is not found where it was supposed to be.

Even though none of the main characters were detectives or historians, they quickly realize that the official records were not trustworthy and that something was mysteriously amiss.

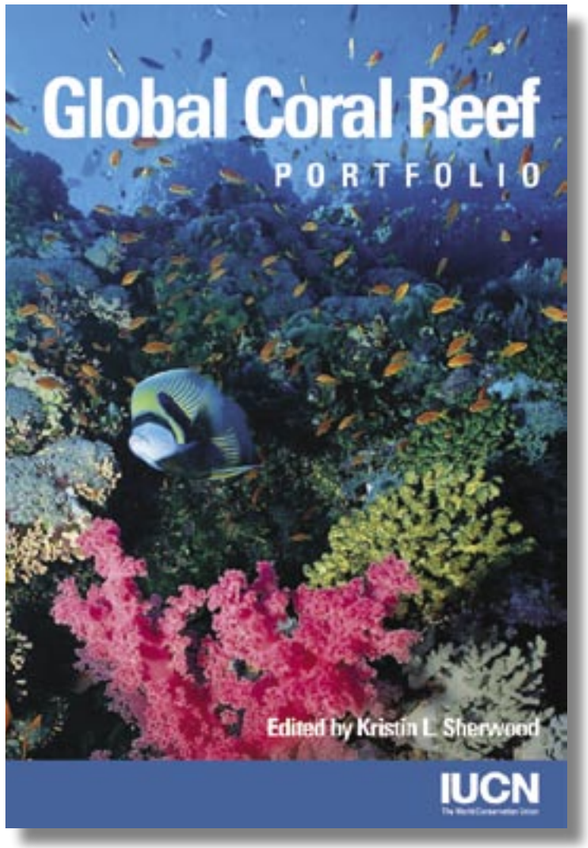
With nearly no money, they dive into their investigation and find intrigue in the archives – almost a story in itself. Most of the detective work, however, takes place underwater.

The description of the paranoid sensation the divers experienced as the they penetrated the dark interior of the wreck, unable to see anything because of heavy sediment and twisted metal, was an eerie reminder of the risks and claustrophobia divers have to endure while investigating a wreck.

The theme music from "Das Boot"runs in one's head while reading how the divers find out that not all the white objects in the wreck were porcelain dishes marked with Swastikas.

books

Immerse yourself in a good book...



IUCN: Global Coral Reef Portfolio

This little book is an outstanding overview and insight into the different coral reef initiatives that take place over the whole globe in order to preserve and protect the diversity of our marine ecosystems, especially the coral reefs which are among the most diverse. This pdf is not just free, but at 24 pages, it is also a managable and handy reference.

Download (pdf): **Global Coral Reef**

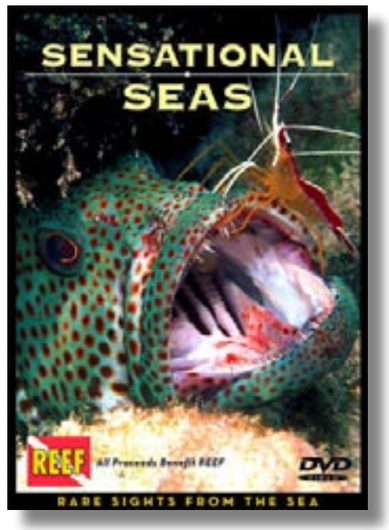
Adventures With Sharks

Through a fascinating photographic odyssey, the underwater photographer, Jonathan Bird, shares his advertures and discoveries among the world's sharks. From the nosey gray reef sharks to the shy basking sharks in the Bay of Fundy of Novia Scotia. The book stands out from all the others who battle for attention by going very close to the daily work and dangers of working with sharks. The book, which is full of hundreds of color photos and is a pleasant combination of science, adventure and stunning photographs.
144 pages, hard cover
Published by Best Publishing

Link: Adventures With Sharks

Sensational Seas

Gates is a manufacturer of underwater housings for video and photographic cameras. With over 35 years of experiece, they are celebrating by published a set of DVDs with underwater recordings by 20 of the world's best videographers. *Senstational Seas* is narrated by the celebrated Stan Waterman. The DVD is co-produced with the non-profit environmental organization, REEF. **Link: Sensational Seas**



Great Barrier Reef Screensaver

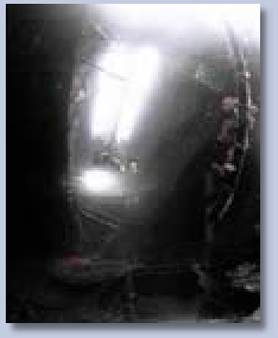
A screensaver is maybe something from the small items department and something not new anymore, but this one is not only quite nice with lots of top notch photos of coral reefs that make you feel good, but it is also official in the sense that it has been issued by the Australien authorities as a reminder to us to protect the reefs and the great biological diversity we find on the planet. The Great Barrier Reef has now been declared a World Heritage site by the United Nations. All the pictures in the screensaver come from the Great Barrier Reef Image Collection, a collection of over 50,000 images of the Great Barrier Reef.

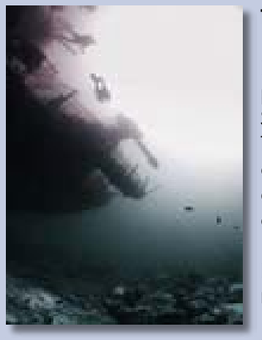
Download at www.gbrmpa.gov.au

Wreck Safari, Egypt

BLUE HORIZONS EXPEDITION & DIVE CLUB

Voila! The idea of this liveaboard trip is first and formost to give time allowance and support for underwater photography, technical diving, rebreather diving, etc. In other words, everything for which normal schedules do not allow. On this trip, we turn the priorities of most dive tours on their head, so divers can enjoy greater freedom and enjoyment in alternative diving activities. Whether you are an underwater photography nut, long lazy drift dive diver, rebreather or technical/Nitrox fanatic, or someone who wants a bit of everything, everyone's welcome. This is what sets the agenda. It's a dedicated liveaboard with a departure from Sharm El Shiekh, the most convenient point of departure. Dive tours are self-determined by the needs of divers and sufficient resources on board.

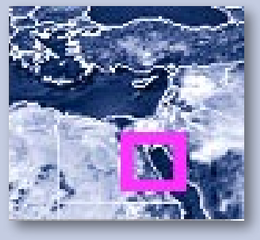




Travel Description

Day 1 - Depart in the morning from Kastrup airport in Copenhagen on a charter to Sharm El Scheikh. Arrival in Sharm El Sheikh in the late afternoon. A guide from Atlantis Travel meet us in the terminal after we have gone through customs, passport control and baggage claim. From the airport, we go by bus to the liveaboard ship where we check in and receive a hot meal.

Day 2 - Check dive, Ras Mohammed, Small Crack, and night dive



Day 3 - Diving at Abu Nahas wrecks Giannis D and Carnetic and crusing with Shaab Ali nearby Thistlegorm. Night dive at Shaab Ali

Day 4 - Diving at Abu Nahas wrecks Giannis D and Carnetic and crusing at Shaab Ali nearby Thistlegorm. Night dive at Shaab Ali.

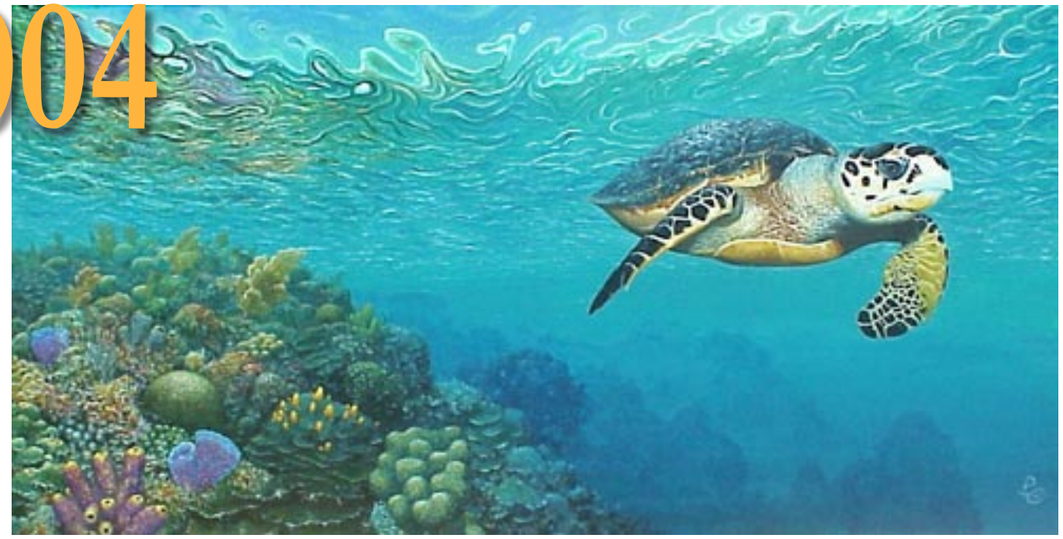
Day 5 - Diving at Thistlegorm, Sarah H, Shag Rock and Ras Mohamed

Day 6 - The wreck Dunraven and reef dive at Mushroom. In the afternoon, cruising nearby Ras Nasrani. Night dive.

Day 7 - Strait of Tiran at the Thomas and Jackson reefs. Before noon, we sail back to Sharm

Day 8 - Return: Fly to Copenahen, Denmark. Extention
1 extra week - various activities
Through our travel agent, Atlantis Travel, travellors can extend the trip before or after the above program with more diving in Sharm El Sheikh, boat tours or sunbathing in Sharm El Sheikh, Nile cruises, stay in Luxor and many other activities. Contact Atlantis for more information:
www.atlantisrejser.dk

DEMA 2004



Painting by Patrick Chevallier. See more at **www.diveart.com**

The DEMA report

DEMA-show has for many years been heralded as the biggest and most important dive show in the world, and rightly so. It still is, and yet, the 2004-issue was in many ways an odd one due to the absence of several of the major equipment manufacturers, and the show was clearly not any more the place where anyone of real or wannabe importance just had to be seen. There was an air of absence over the show, that was clearly felt on the floor among the attendees and exhibitors.

Many were complaining about the lousy attendance, which quite a deal of the exhibitors blamed on the choice of Houston as host city – *"Here is absolutely nothing to do after show hours, its a boring town. Can't wait until the show gets back to Las Vegas next year!"*.

Others, however, were quite pleased because those attendees who did show up were those who came for solid professional reasons, and therefore, there was more room for some 'quality time' with those doing better business.

So what was new this year?

Due to the said absence of many of the major manufacturers it was a relatively scattered and pityfull selection of items, some repeats.

Rebreathing news. Most spectacular was probably the presentation of the new handsets for the Evolution and Inspiration CCR rebreathers. Nc there is only one handset, with an inbuilt dive computer, and a headup display that goes on the mouth piece. Together with a neater packing of the canisterlid, and much fewer cables, the whole outfit came out very sleek and elegant, also on the inside which was much less cluttered.

The new electronics also comes with a sensor that monitors what level the scrubber activity takes place, giving an indication of remaining scrubber life. A very nice piece of kit, indeed, the new Evolution. However with a price tag of a whopping £4,800 it is hardly an impulse buy.

Maxtex introduced the new $MaxO_2$ nitrox analyser from Maxtex, with user replacable batteries and sensors. Maxtex is a specialist in oxygen analysis and delivery systems and also works with Minolta to produce analysers for blood oxygen levels for use in between dives.

More info at:
www.o2sensor.com

Amoxtex, a DEMA-regular, presented their Analox ATA trimix analyser, with a long range of features. Check **www.amoxtec.com**

AquaRock
Speaking of disabled divers, take a look at the video at AquaRock called "Breaking Free" about what diving does for disabled people.
www.aquarock.com

VR2 even comes in pink(!)

Delta P promoted their VR2, the scaled down version of the trailblazing all-purpose and upgradable VR3 computer. New software, version 3.0, for both the VR2 and VR3´s should be ready for download as this goes to print. Further info at **www.vr3.co.uk**

Diver assistance A lightweight diver propulsion system, a slim torpedo-like device that could be mounted on the tank, so the diver did not have to use his/her hands to hold on to it, was presented by Romancho. This new system, PEGASUS Diver Assistance Propulsion, was also much anticipated by some of the disabled divers presebt at the show, as it was both light weight and controlled by a little rod, which could be operated by the chin if necessary.
www.Romacho.com.
Video at **www.romanecho.com**

DEMA

The DEMA Report

The thin trickle of participants at this year's DEMA show were few but serious shoppers.

Let there be light!

Swiss Keldan introduced the Solaris Pro a dive lamp with a "very long" burn time, a color temperature of 5500 Kelvin making it ideal for photography. The lamp is also usable outside the water, and comes with a 110-240V power charger. Seemed liked a well manufactured and light weight lamp. Check out **www. Keldan.ch** for further info.

Tek-tite branded their new new 12-Watt L12 Seeker, "the most powerful LED dive light in the world". The L12 Seeker utilizes three Luxeon III Star LEDs each operating at 4 Watts to produce more than 240 Lumens of blistering white light that is equivalent to a 10-Watt HID / 30-Watt Halogen dive light. The L12 Seeker is powered by an advanced submersible battery system that delivers 4+ hours of burn time. In addition, its LEDs are virtually indestructible and last 50,000 hours, so you'll never have to worry about a bulb breaking or burning out again.

As usual the floor was well covered with exhibitors specialising in smaller items from hose protectors, stickers, t-shirts (and tea; the "diversitea", with their red and white scubaflag colored teapot is actually not new, but still makes me smile) and what not. However I didn't manage to spot the exceptional new item, except for maybe the Seacure custom mouthpiece, which seemed to be a pretty good implementation of the not completely brand new idea of moulding the mouthpiece (of a regulator) to fit the wearer's bite exactly.

SeaCure It works by heating the mouthpiece in warm water which softens it. The the user bites down, and when the mouthpiece cools down, it retains the exact bite pattern of the user making the mouthpiece less tiresome to wear. **www.secure1.com**

MotionEaze. "Never Get Motion Sickness or Morning Sickness Again" MotionEaze is the most effective motion sickness treatment on the market today. MotionEaze contains no drugs, artificial additives, or stimulants of any kind. Only natural oils are used in this product. "Traditional" synthetic remedies are famous for their deleterious side effects, such as dry mouth, drowsiness and vision problems. Unlike these drugs, this product has no known side effects. Whether you want to prevent occasional motion sickness or eliminate the symptoms after the fact, no matter if it's morning sickness, motion sickness, sea, air or car sickness or any activity where motion sickness is an issue, MotionEaze should do the job. It offers a money-back guarantee. **www.motioneaze-florida.com**

Masks Back in the pricier end of the spectrum. Ocean Technology brought their Mantis Full face mask, which can be mounted with a Buddy Phone System, check it out at **www.ocean-technologysystems.com**

New undersuits from BARE are equipped with a strategic backflap

Universal Diver Training UDT is a new training organisation founded in reaction to the perceived slipping educational and safety standards of the big established agencies. At UDT, an individual who cannot master skills will not be issued a full diving certificate but may qualify as a Guide Diver. And as their Mission Statements says "...we will give recognition and support to experienced instructors committed to mentoring new diving leadership. This can only be accomplished by taking lesson-based programs that exceed industry minimal standards." More at **www.udtintl.com**

DEMA

The DEMA Report

It's a wonderful day in the neighborhood at the DEMA show....

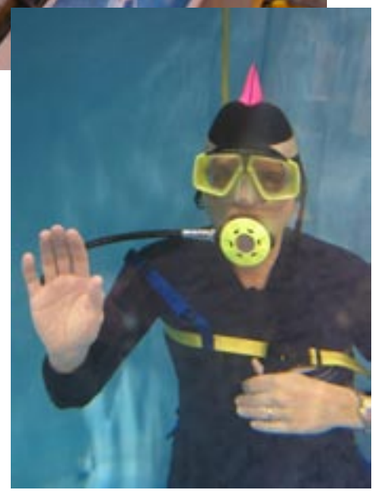
Tourism Authority of Thailand

Tricks are for kids. Patrick Chevallier from St. Vincent had his gallery and ceramic pieces at the show. Taste and likes are always subjective, but I couldn't help fancy some of his ceramic work. He also carried a jigsaw puzzle and some children's memory games with tropical fish motifs, which I just had to get... for the young ones of course! **www.diveart.com**

In a similar department were the FishFlips, practical miniature fish ID-cards that came with a wrist lanyard. You know how these things tend to get in the way or be bulky or awkward to carry. Well not these. See **www.fishflips.com**

The travel department

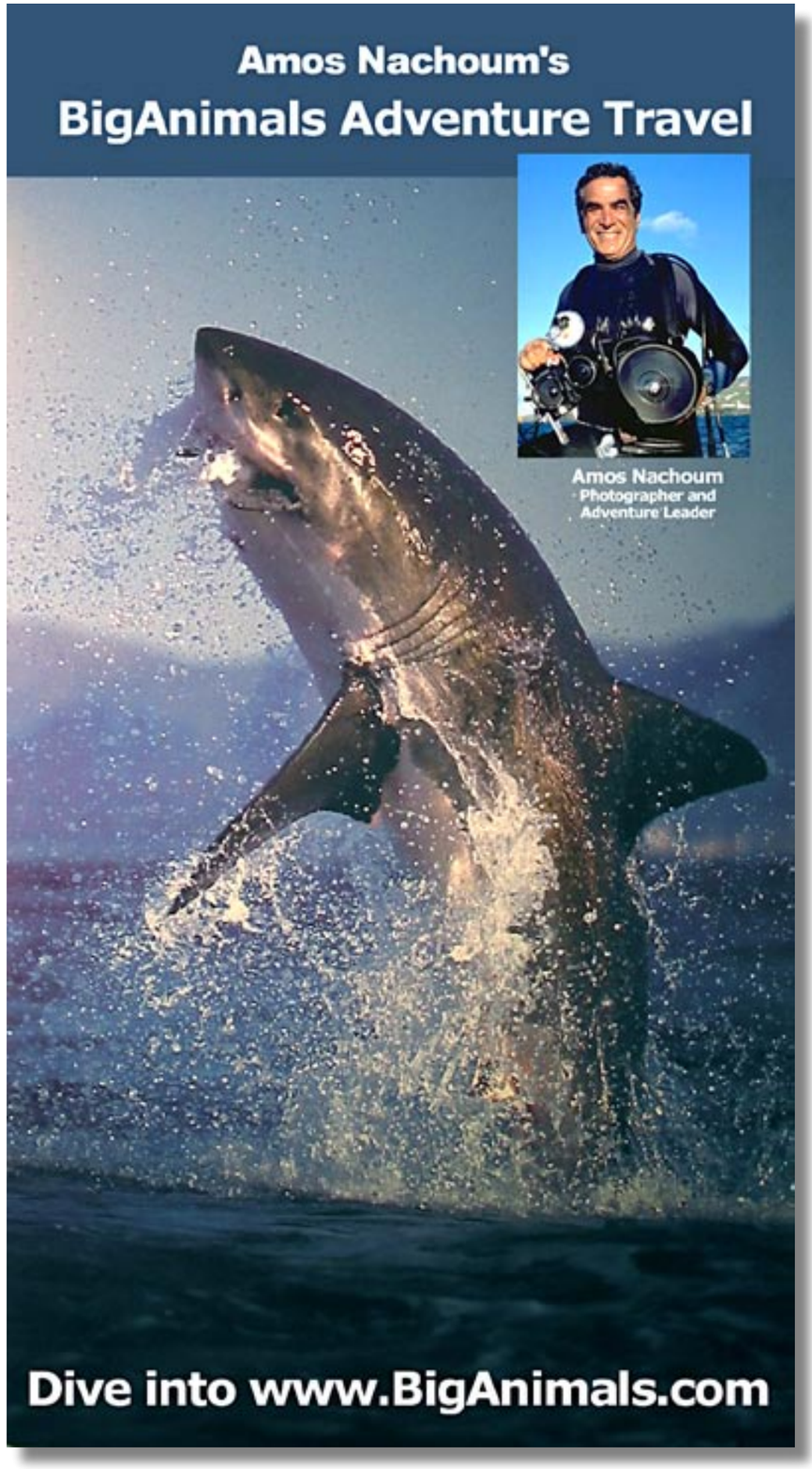
With regard to travels, though, there seems to be a lot of exciting things happening. Among others, we spoke a very long time with a new South African operator SEAL, which we wouldn't have done if they hadn't had the most thoroughly worked out concept that we have seen for many a long year. The whole package was there, from white-shark diving, the Big Six and the Sardine Run. We will be getting back to this later. Otherwise, on the travel front there seems to be a judicious mixture of old operators who have rediscovered previous strengths and the upstarts who have not yet really understood what it is all about – cheap photocopies as travel programs, which are full of spelling errors and hardly very convincing. Asia, the Pacific Ocean and the Caribbean seem to dominate the picture this year, but to find something in the mass of information that is a real eyeopener, one has to dig deep. A couple of interesting packages, prices taken into consideration, are some new offerings to the Yucatan, where one can combine grotto-diving (the cenotes) with reef-diving, plus Brazil as a possible new 'rising star.'
— more info on travel news in issues to come...



There's always one at every show....

Our neighbors next to us, SurfaceDive, gave quite a show with their show-and-tell diver-in-a-water-filled-column-tank. The daily fun of using hand signals and an underwater writing tablet to communicate with the diver behind the glass drew crowds and some interesting body language both inside and outside the tank.

PowerDive's revolutionary battery operated diving system means no need for tanks or refills. Perfect for boat maintenance and emergency air supply. **www.surfacedive.com**



See the underwater world no one has ever photographed!

The first ever dive expedition to the Kermadec Islands. Are you coming?

On March 19, the "Spirit of Enderby" will depart from Auckland heading for the Kermadec Islands which are situated half way between Fiji and New Zealand.

These unique islands are a New Zealand protectorate and a protected nature-reserve to which access is strongly restricted. Aside from the stationed scientists, the only tours to the islands have been bird watching excursions.

The Kermadecs are completely surrounded by a marine reserve that protects the natural habitat, fish and wildlife. The area is the only real sub-tropical ecosystem in New Zealand and is home to a large variety of tropical fish and corals.

So far, 112 species of fish have been identified of which many are endemic such as the Giant Limpet and Spotted Black Groper. The entire marine reserve is considered unique and unparallelled on the globe.

Exclusive offer

Dive where few have had the opportunity to go before!!

Expedition & UWP Tour

The ten day expedition and underwater photography tour is the first ever of its kind going to these unique islands. Total availability is limited to a maximum of 46 international divers and underwater photographers.

What do these islands have to offer?

The unspoiled beauty of this remote and usually inaccessible sub-tropical marine reserve still experiences volcanic activity. Its spectacular, unique marine environment is one of the few remaining pristine dive and underwater photography locations of its kind anywhere on Earth.

Itinerary

Day 1: Departing Auckland
Day 2: Sailing to the islands
Day 3: Sailing to the islands
Day 4: Raoul Island
Day 5: Raoul Island
Day 6: Raoul Island
Day 7: Raoul Island
Day 8: Macaulay Island
Day 9: Sailing to New Zealand
Day 10: Sailing to New Zealand
Day 11: Arrival Auckland

Rates:

Full suite	US$ 4600
Superior cabin	US$ 4350
Cabin with bath	US$ 3850
Cabin without bath	US$ 3400

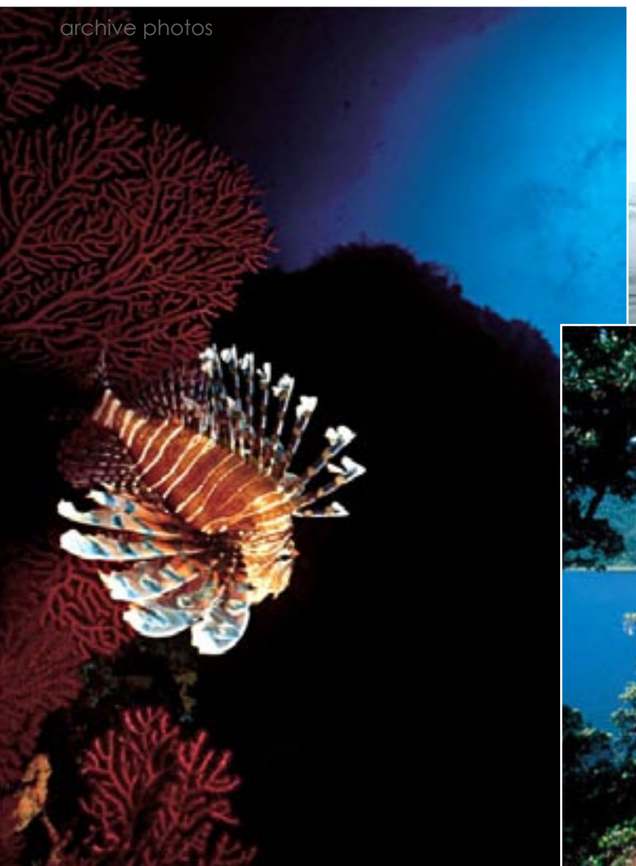
Prices are per person in double cabins. Prices are in US dollars and exclusive of flights to NZ.

Contact:

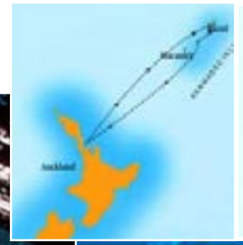
In Europe
www.bluehorizons.dk
Outside Europe
www.nzdivexperiences.com

What do the Kermadec Islands have under the surface? Become one of the first underwater photographers to shoot at this site!

archive photos



"Spirit of Enderby" is equipped to sail tourists til Antartktis



Ship-shape

The expedition vessel is one of the best-run ships of its kind. Ideally suited for cruising the Southern Ocean, the ship has been carefully outfitted with the best of expeditionary equipment, and staffed by extremely knowledgeable people. The ship focuses almost exclusively on the Sub-Antarctic Islands, Ross Sea, New Zealand and Tasmania. It carries a helicopter that will enable us to carry out ice reconnaissance flights and will be available for sightseeing and landing passengers.

The Spirit of Enderby measures 72 metres in length and is fully ice-strengthened. Powered by two, 1,156 horse power, diesel engines. It is capable of speeds of up to 12 knots.

Equipment

Zeagle
If you really have to dig down into your pockets
This practical weight pocket from Zeagle clips directly on the back plate. Loose weights can be stored in this pocket. The big zipper gives easy access even with gloves on and in emergency situations, i.e. you're missing a weight – who hasn't been there and done that? Of course, you can dump the weights by pulling on the red handle.
See **www.zeagle.com**

Scubapro 600/MK25
You can't wear this regulator out and it doesn't cost extra in weight when you travel according to critics. Scubapro has made a development on their renown regulator S600/MK25, so it now has adjustable air flow. Furthermore, it can be used with a full face mask. The MK25 first stage has 5 low pressure ports and 2 high pressure ports. All metal parts are made of titanium, which is more durable and has lower weight. Extra accessories include a bubble disperser, which will sent the bubbles around and behind the diver. Photographers will especially appreciate this feature. The bubble disperser can be used with all new second stages. The regulator comes in an exclusive regulator bag for easy portability on dive trips.
See **www.scubapro.com**

Tired of dry mouth?
According to Apollo's website this little handy unit, which we could call an air moisturizer, is the solution to several problems The aptly named Bio-Filter is easy to install, use and maintain and can come in handy on travels. The filter can be mounted on all major regulator brands and can also be used with Nitrox up to 40%. Among the many advantages of this filter bulletpointed on Apollo's productspecification is mentioned a reduced risk of dekompression sickness, less tiredness after diving, easing equalization of the ears and extend bottom time. *"Really?"* is the word that spontanously springs to mind but other sceptics can read on at the following link for the product on Apollo's **own website.**
Price in Apollo's webshop:
$199

Ears unplugged with earplugs
EarPlanes is a set of supersoft earplugs manufactured in hypoallergenic silicone. The "secret" behind EarPlanes is found inside them. It is a patented pressure-regulated filter made of CeramX, a ceramic material with microscopic pores. This filter equalizes and regulates the pressure between the aircraft cabin and the auditory canal so the pressure equalizes in a gradual manner, and without pain and discomfort. Four pairs at $21.95 at **EarPlanes webshop**

Minisub for about AUS $1,000?
The price tag was probably decisive for placing this little Uboat, which has been named Serafina, on these pages. The approximately 40cm long Uboat, which can dive to depths of no less than 5,000 meters, is expected to be priced around AUS $1,000 and this is within economic reach for most wannabe submarine owners.
The inventor, Dr. Uwe Zimmer explains to the BBC that he mostly had search and rescue operations in mind when he designed the Uboat, but scientists are also expected to profit from this invention, it being so cheap. It has a hull of plastic, few props and rechargable batteries. The small size of the sub also makes it more nimble, approximately 1 m/sec, which is comparable to walking speed. One of the designer's big worries was whether a bigger marine creature would try to eat the sub. For more info, see **syseng.anu.edu.au**

Dry. The hood from Seac-Sub provides both good comfort and thermal protection. The hood is made out of Seac-Subs 6mm Ultraspan neoprene, which has high elasticity. The lining in this hood is Seac-Sub's new Firedry, which makes the hood both comfortable and easy to put on and take off. In the top of the hood there is an offset hole, which enables the air that often accummulates in the top of the hood to escape without any water entering. A 4cm wide smooth-skinned membrane seals the hood against the face
Link to **SeacSub**

Niterider

HID Dual Bean Divelight Niterider has long been the strong player on the market for lights, both in commercial and sports diving. Their new model, HID Dual Beam Divelight, is a twin 10 Watt lamp and has an equivalent output of a conventional 80W lamp with a color temperature of 6000 Kelvin which is close to daylight color. This model has a burning time of nearly two hours which should easily cover most nite dives and then some. There is a switch so you can change between the bulbs. It weighs about 1kg, comes with a wrist mount and neoprene headband as well as a belt clip. Rated to 100m.

www.niteriderdive.com

Q40 LED

These small yellow lamps from Underwater Kinetics have for many years been a regular sight if not in the street than on divers' vests. Now comes the Q40 in an LED version. It's burning time is up to 30 times longer than the average light. It works on just one battery and comes in black, yellow, blue and lime green. Lights for up to 12 hours which suffices for most dives. This little handy light is equipped with circuitry which ensures a constant output as long as the battery isn't dead. More information can be found on **Underwater Kinetics website**

No more peace 'n quiet down there!

An MP3-player for divers

It was bound to happen: the option to spice up your appreciation of Mother Nature by adding Metallica or Wagners operas as a sound track to your reef diving experience. All in stereo of course. This editor, however, failed to fully appreciate the significance of this invention until som tekkie pointed out that entertainment is in high demand on lengthy deco-stops. In this case, it is fortunate that this MP3-player comes with a 200 feet/66m depth rating. Like a camera housing, it comes with latches and o-rings, which need a little bit of tender care and attention. All major functions are accessible from the outside. The player comes with a lanyard and a clip for mask mounting. It plays back MP3 and WMA files and stores up to 512Mb, equivalent to 16 hours of music, but the memory can also store files other than music. It comes with an FM-tuner and dictaphone, and may run for 24 hours on one battery.

Seen on-line at US$349 *here*

So that's how it works!

What's the big deal with all these fishtail look-a-likes and split fins? People laughed when the first models saw th light of day, but that laughter has since been silenced. As prosaically expressed on their web site, Apollo says conventional fins just feel like paddles compared to these babies! With conventional fins, water flows over the side of the fin and energy is lost, but Apollo's split fins increase efficiency in two ways. Firstly, by opening up the fin, the water flow is contained. Secondly, the fin blade bends in an aerofoil-like manner which in a likewise fashion creates lift with less turbulence and drag. Everything is explained in a QuickTime video on the web site **www.apollosportsusa.com**

Suunto D9

Dubbed as "the world's first all-in-one dive instrument" by its maker, the new Suunto D9 integrates a digital compass and wireless tank data reception so divers can spend less time monitoring a multitude of gauges, and more time concentrating on diving. The digital compass shows general direction and exact bearing. The wireless transmitter monitors tank pressure, air consumption, mixed gasses, estimates remaining air time, allows for gas switching. There's a built in log book, graphical dive profile and RGBM model decompression calculations. Memory stores headings, air, temp and pressure data. It has handsome Titanium housing, USB-compatible PC interface, Suunto Dive Manager 2.0 software and is available at the end of 2004. **www.suunto.com**

Any color you like. Now you can order any stock size DUI TLS350, CLX450, FLX50/50 or CF200X drysuit in any color. You also get to choose the boot style and size you want and you get your choice of latex or neoprene seals, too. All of that for half the price of a Special Production upgrade!

DUI´s website

PDA-logbook

TravelTRAK was spotted on Scubapro's home page, which states that the product, among other things, considers situations in which you may have use for an electronic log book to upload dive profiles, but where a PC is impractical (for example, on liveaboards). Enter the PDA and TravelTRAK, which by the way also comes with a version for Windows. TravelTRAK supports Uwatec's Smart Pro and Smart Com computers with which it has infrared communication – no need for cables. The necessary software can be downloaded from Uwatec's web site at **www.uwatec.com**

New AquaLand on the way

Citizens Aqualand series has for many been the only dive watch to wear like Aston Martin is the only car James Bond will drive. The latest addition to the series is AquaLand Nx, which of course can do a lot of other things than time keeping and logging dives. The diving functions include air and nitrox modes, altitude diving, planning, various dive alarms and a long string of other goodies which you can dig into on their downloadable data sheet. **watch.citizen.co.jp**

Intro price in the US is (cough-cough!) $1,600.
(And it doesn't include USB cable, communication station and infared communication.)

Oh Sharks, yes! As any movie-buff will testify, sharks can be dangerous. That is common knowledge, especially after that 70s horror movie we all know starring dumb people and big predators with sharp teeth. Skeptics point out that the risk of being eaten is, if judging by the stats over the last 100 years, quite minimual. So, maybe this "Shark Shield" is more psychological assurance than anything else unless you have a daily need to be in close contact with big sharks. "Shark Shield" can be mounted on a surf board or on a scuba kit, and works by surrounding the diver with an electrical field. The electrical field irritates the receptors under the sharks' noses. "Shark Shield" is produced by the Australien manufacturer **SeaChange Technology**

Expected price:
AUS $600

Practical!?

An "elegant alternative" to the traditional dive knife, writes Scubapro about their "Folding Jack Knife." Yes, sir! Looks handsome enough, but how practical is a diving knife that requires two hands to open it? i.e. in an emergency situation, when you really need it and don't have two hands free.

Ah, well, just a picky detail.

Other details: 9 cm blade of stainless steel with safety guard that protects your fingers upon closing the blade. The blade has both straight and serated edge.

Link to product info at Scubapro (UK)

SeaCure Mouth Piece

No more tired jaws! No more head-aches from gripping your mouth piece during dives. SeaCure has the answer. This easy-to-use remoldable mouth piece was scientifically designed by an orthodontist to use your entire jaw for maximum retention and control of your regulator unit. It can even be remolded when your bite changes due to dental work. SeaCure promises the product to be safe, durable and reliable. Order from the web site: **www.seacure1.com**

Sportcuf

Hold on to your hat and spectacles! Are you also irritated about your dive computer sliding around on your arm when your suit gets loose at depth? Are you afraid of losing it, or maybe your wrist watch? Sportscuf may be the answer. It is a single neoprene arm band with a cut-out hole for the display. You pull the band over your computer or watch. It then sits securely without sliding around and without being too constricting. More info at their online boutique at this link:
Sportcuf

Can be purchased directly through Sportcuf on-line for $19,95 click *here*

Wet & Weird

2004 Underwater Bike Race

On a clear day in July with 40 feet visibiltiy and water temps at a bawlmy 78°F, the 10th annual underwater bicycle race took place on the deck of the U.S.S. Indra shipwreck just 30 minutes offshore at Beaufort, North Carolina in the US.

After a short briefing on the rules of the race (no tagging with flippers, etc.), 28 divers aged 16 to 50 suited up and jumped in after their bicycles, which were tossed overboard port side.

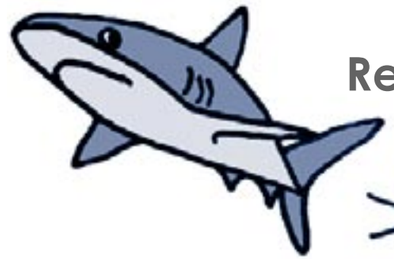
Officiating ump, Debby Boyce, owner of Discovery Diving and organiser of the race said, "I was looking for something interesting for scuba divers to do during the summer where they could dive, socialize, relax and have a good time," says Debby. "It has been a huge success and we look forward to doing it again next year. The bicycles stay at the Indra and are available to all scuba divers during the year."

Russians invent underwater bicycle

The Goluboi Kosmos is a two person pedal-powered contraption called a submergible pedallo and is meant for tourists' use who wish to observe the submarine world according to Informnauka Science News agency. Its inventors say that anyone can operate the device. No training is required. "Design and ergonomics of the apparatus are similar to the interiors of modern small cars," said Informnauka. The tandem submarine was created in St. Petersburg by Russian inventors who say it could be used for marine archeology, technical inspection of submerged constructions and underwater video surveys.

Holographic Lures

Unbelievably realistic holographic images of baitfish can cause a feeding frenzy of bluewater gamefish from billfish, tuna, wahoo to kingfish. Trophy Teasers are a new kind of bate developed by a team of fishermen, an artist and a scientist. They put their heads together to design dredges with baitfish streamers that use the actual shape of fish scales of real fish rather than the square shapes normally seen in holograms. Visit the link: **www.fishingworld.com**



Remote controlled sharks?

A biologist funded by the US Department of Defense is researching ways in which to control sharks through their sense of smell. It is hoped that sharks may help the military survey for dangerous chemicals and other hazards in difficult to reach areas under the sea.

''I want to sit here in my office, call up Charlie Shark out in Hawaii, and say, 'Go follow that wake,'" said Jelle Atema, who is studying the shark's brain at Boston University and the Marine Biological Laboratory in Woods Hole.

Atema said that the shark is ideal for this type of research since it has such a large nose.

''I'm totally in awe," said Atema,'I can't believe how big it is. It's five times bigger than an eel's nose."

According to Atema who has studied how lobsters smell, said that sharks can detect very subtle odors, small fluctuations in water pressure and turbulence as well as weak magnetic fields.

It is not long ago that neuroscientists harnessed the radio control of a rat at the State University of New York Downstate Medical Center in Brooklyn.

The rat research, also funded in part by the US military, found that a "ratbot" could someday be used to smell out explosives and locate victims in collapsed buildings according to John K. Chapin who heads the research team. Tickling the whiskers on each side of its head, the rat was "steered" by scientists who controlled electrodes in the rat's brain.

Remote control of sharks may not be far off. But is it ethical?

''The first thing we did was discuss the ethics of this approach, and we agreed that what we want to do is probably OK," said Atema, who received $600,000 USD for the first year of the four year research from the US Defense Department's Advanced Research Projects Agency, known as DARPA.

''We have used dogs for thousands of years around the world to help us smell, pigeons to carry messages, etc.," he said.

''To me, it's not that different" to direct a shark by remote control. Atema will attempt to control the shark by mimicking electrical signals in the shark's brain that stimulate reaction to smells that attrack the shark.

There's another plus to studying sharks: because the shark swims continuously without rest, the researchers will not have to give it breaks to take naps.

Dating for Divers

All geared up and no where to go? Need a buddy? Wanna date? SingleDivers.com is the answer, the new matchmaking service for people who are single and love to dive and want to dive with other singles. Their goal is to provide a community of people over 18 from around the world who want learn about dive adventures and to book trips together. Visit the link: **www.singledivers.com**

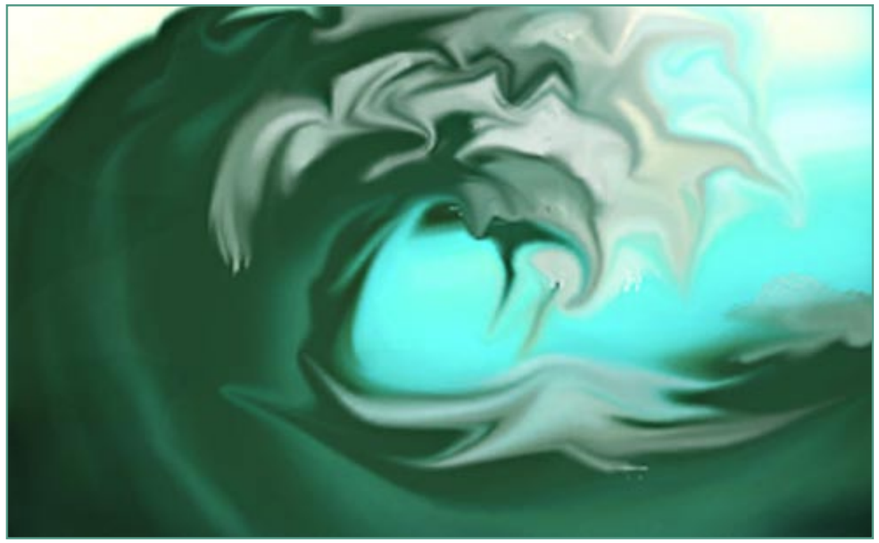
Photo by Peter Symes; Digital illustration by Gunild Pak Symes

Wet & Weird

Photo by Peter Symes; Digital Illustration by Gunild Pak Symes

Now you can rest in peace at the bottom of the sea for eternity

The world's first sea bed cemetery is the brainchild of a US business man who plans to make a killing selling resting places on the ocean floor in the Florida Keys. The lavishly desinged Atlantis memorial reef will be built in 10 meters of water and be able to house burial columns for 21,000 people. Prices range from 1500 USD for a basic paving stone to 3900 UDS for a position at the top of a column made from a mixtureo cremated remains and concrete. A column can hold 16 sets of ashes according to entrepreneur, Gary Levine, 57. Those who want the whole sculpture to themselves will have to fork out a million bucks for a sole place in this underwater fantasy city.



Digital Illustration by Gunild Pak Symes

Satellite images confirm 'monster waves' are not myth, but reality

Freak waves as tall as 30m have been spotted on European satallite imagery.

Rogue waves of montrous proportions have long been believed by sailors to be the culprit in the sinking of large vessels. Now the European Space Agency confirms their existence.

The waves appear "in higher numbers than anyone expected," said Wolfgang Rosenthal, senior scientist with the GKSS Research Centre in Geesthacht, Germany, who studied the data.

The survey project, MaxWave, initiated by ESA to find evidence of rogue waves employed two Earth-scanning satellites to monitor the seas with radar. Pictures of the ocean surface taken over a three week period showed no less than 10 individual giant waves of 25m or more.

Plans to study the phenomenum further are in effect through a project called Wave Atlas, which will compile two years of satellite imaging for analysis.

Scientists want to find out what causes these cataclysmic phenomena and help ship architects and designers of oil rigs build structures in ways that may more effectively deal with the mance. They also want to find out which areas of the globe are more at risk of rogue waves than others.

Australian divers get domestic down under

Some divers take ironing very seriously, especially in Australia where a dive club has claimed a world record in the extreme sport of underwater ironing.

About 43 members of the Melbourne Bay City Scuba Diving Club submerged in 10ft (3m) of water in Port Phillip Bay to do some serious pressing and in doing so, raised £250 for charity.

"We always try to do something to get our members diving after the winter break, but this gained momentum and took off as a chase for a world record," said club spokesman, Alan Igoe after the 25 minute dive.

Using cold non-electric irons, the Aussie divers overhauled a six week old record set by their New Zealand rival ironists.

Extreme ironing underwater was the brainchild of German extreme ironist, Iron Lung, who with iron and board in hand submerged in the Mediterranean Sea off Majorca in 2001 and made quick work of a few white collars.

Extreme ironing founder, Steam, says: "I never realised how competitive the Aussie ironists were - as soon as the Kiwis took the record, they were there."

Photo courtesy of UnderwaterTimes.com

40 ton coral reef heist!

Two trucks hauling 40 tons of stolen coral reef was seized by authorities in southern China's Hainan Island according to a report by state media.

Police stopped the drivers of the trucks who claimed that they were transporting rocks. In fact, they were delivering illegally harvested live coral from the South China Sea.

Demand for coral reef resources as food, decoration of aquariums and ornaments is growing in the region and has encouraged destruction of the reefs as corals are harvested.

Ninety-five percent of Chinas reefs under threat according to experts. Hainan Island and its 300 surrounding islands are popular tourist destinations and hold China's most extensive reef systems including 200 types of coral species. Strict laws to protect the struggling coral reefs are maintained by local authorities.

It was reported that the stolen coral was immediately returned to the South China Sea so that it could survive.

Holiday greeting cards for divers

Christmas is just around the corner. Why not send your dive buddies fun artsy cards of underwater creatures that relay your yuletide message of holiday cheer? Cards (4.5 x 6" / 11 x 15cm) are available with red, white or green envelopes in packages of 25 and shipped directly to your home or business within one week. With large quantities of 500 or more, businesses can get their message and logo placed on the cards. E-cards and postcards are also available. To place your order, contact the fun folks at AquaScope Underwater Photography. Package of 25 cards and envelopes priced at $59 USD / 47 € includes UPS ground shipping. International or second day air shipping additional.

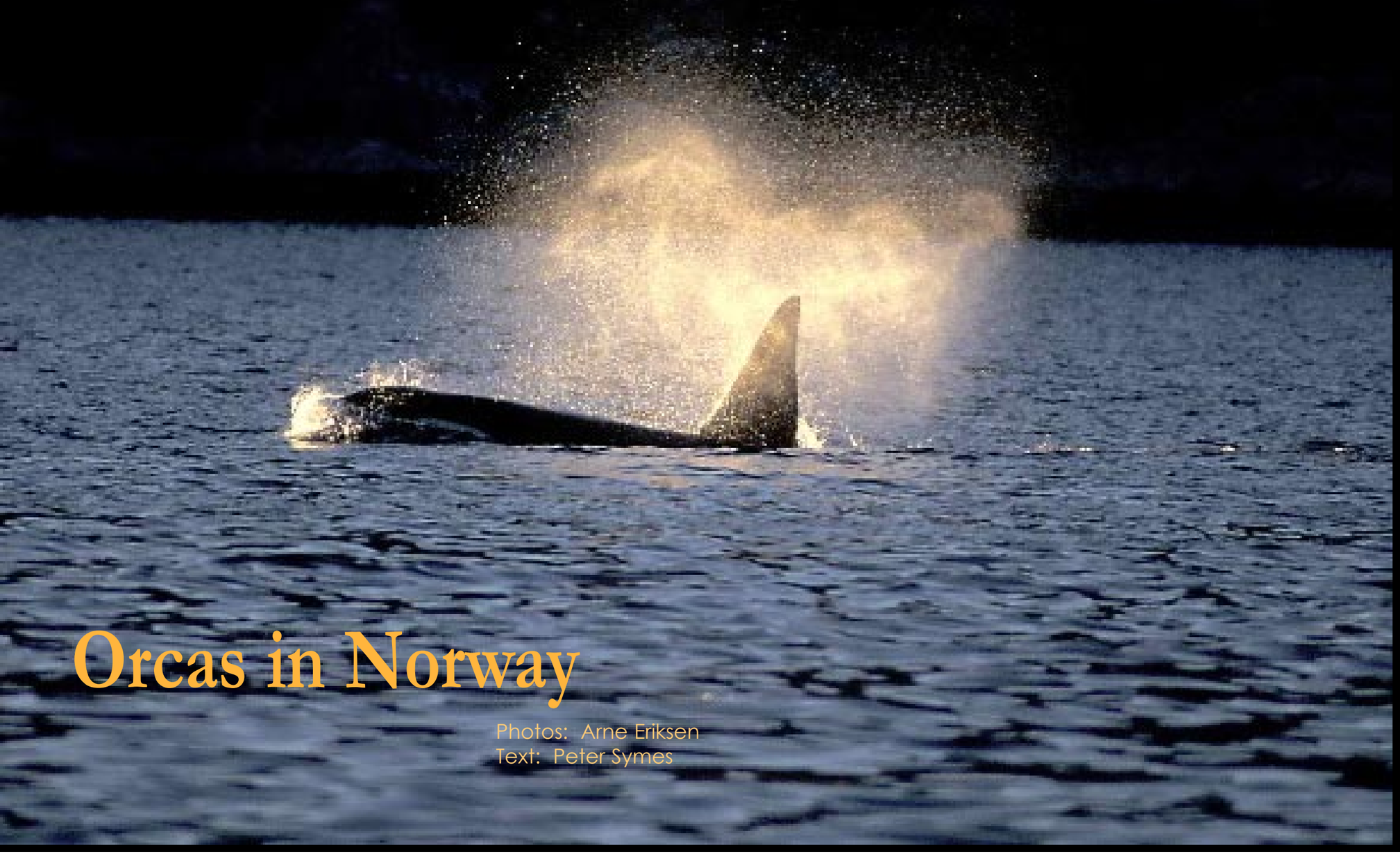
www.aquascope.biz

AQUASCOPE UNDERWATER PHOTOGRAPHY

IN DESCENDING ORDER
FROM TOP LEFT:
Santa Hermit Crab
Fred the Flatfish Elf
Rudolf the Red-Nosed Moray Eel
Christmas Tree Worms
Merry Christmas & Happy Nudibranch

DIVING FESTIVAL 2005
DIVING 2005
The 3rd Moscow International festival of Underwater films
24-27 February
Russia, Moscow
sc Olimpiyskiy

Close Encounters!



Orcas in Norway

Photos: Arne Eriksen
Text: Peter Symes

”They don’t eat people … do they?”

I can still remember the strain of uncertainty in the voice during the conversation. It is now several years ago since we sat together in the compartment of the train on its way north through Northern Sweden’s misty autumnal wilderness.

It was a long trip up to Narvik, so we dosed a bit, talked of this and that, while we both ruminated over our increasing expectations and what we imagined we would find, and how it would be to come mask to snout with one of the oceans largest predators.

An orca whale brakes the surface with a big spray out of its blow hole. You can recognize the males by their tall and vertical dorsal fin. Female dorsal fins are often curved.

Orcas

This behavior is called *Spyhopping*. It is thought that the orcas are looking around.

Out there and in free water the "wolfs of the ocean" were waiting for us, those predators known as killer whales.

Narvik in November

What do these three words mean to me? Mostly, I think, as one of the bigger marketing challenges. The town, which is situated some 400 km north of the arctic circle, and whose only real reason for existence has been as the exporting port for the iron-ore from the mines at Kiruna in northern Sweden, has all the odds against it in competition with Bountyland. If it was not for the killer whales I would never have sat my fins here.

We arrived at 10 o'clock in the evening, and it struck me immediately that it was mild and quite light, and completely different from the deeply frozen polar night of my worst imaginings - it was almost like a danish October day. But that, of course, is the reason why the swedish iron-ore was shipped out from here. The Gulf stream keeps not only Narvik ice-free the whole year but also all northern Norway and the whole coast right round to Murmansk in Russia. It was because of this that the Allies could supply the Russians the whole year via Murmansk during World War II, under terrible conditions and with enormous costs. A great sea battle between the Royal Navy and the German forces took place just after the German invasion of Norway 9, april 1940. This battle for control over this strategically important area and Narvik's harbour has resulted in many exciting war wrecks on the sea bottom around Narvik. But that, as they say, is quite another story. It is worth remembering though, because the wartime wrecks are supposed to be firstclass. We are however here for another purpose. The boat is waiting for us about three-quarters of an hour's drive from downtown Narvik, so we choose the easy way and hail a taxi outside the station and speed out of town in a fourwheel-drive Volvo stationcar.

Arrival

A short while later, on board Strømsholmen's big and inviting live-aboard boat with a cup of hot coffee, we are positioned just out of an idyllic little fishing village at Tys-fjord, which is a small side fjord to the big Ofot-fjord, which reaches from the wide open spaces of the Atlantic and in past Narvik. In here, in this little, easily overseen corner on the map, in the back of the beyond, one of the greatest numbers of killer whales known, collect at up to 250 at a time in a small area. But what is so special about this small spot? Beautiful, it must be said, but above the surface there is nothing to differentiate it from any other of the probably thousands of fjords and inlets along the Norwegian coast. The explanation is to be found under the water. Tys-fjord is both deep, cold and stagnant. Therefore large shoals of fat Atlantic herrings come here every Autumn to overwinter. Killer whales and humans have many things in common.

Tysfjord is a small and confined fjord. It is very easy to spot some of the 250 or so orcas of all sizes that come here.

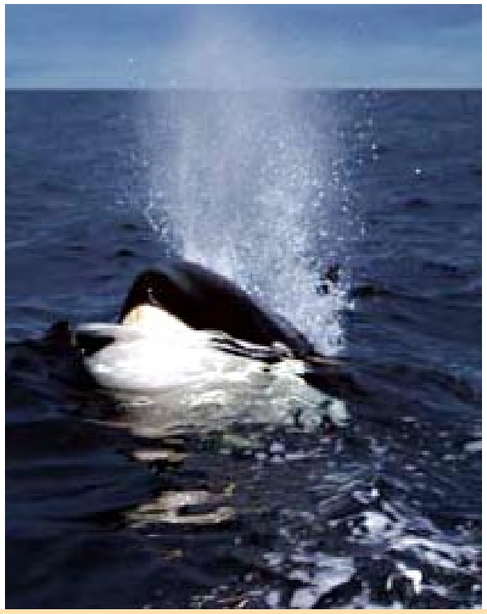
Orcas

The instant the orca manages to both inhale and exhale before it quickly dives down again

Not only do we humans take a deep breath and come up again for air with a big gasp, have navels and nipples, a family life and intelligence, but we also like a good lunch with herring. Each year on precisely the same day, it is said, large herds of killer whales follow after the herrings into Tys-fjord, where they line up for the big feast.

Families

Killer whales form families with strong bonds and hunt in groups. The next morning, after having eaten a long and lazy breakfast, before the sun's first rose-red rays hit the surface of the water - the sun rises late - we can see out over Tys-fjord where the many killer whales are not spread out over the whole area but are moving to and fro in groups. The time has come, the game can begin.



The game begins

Our skipper manoeuvres the boat out to the middle of the fjord while we look in all directions in order to see everything right from the beginning. It is time however, to get changed into our warm drysuits. It should perhaps be added here that one doesn't dive with killer whales but snorkels. There are several good reasons for this. First and foremost because you can't follow the killer whales down to the depths - which you couldn't do anyway because they are much too fast. Also one remains mostly at the surface, as it is here that things mostly happen. Finally, there is the "weighty" reason in that it is not at all amusing to drag a scuba apparatus one doesn't really need out of the water many times during a day on the water.

RIB-express

The safari works in this fashion. One boards a fast RIB, where it is now essential to be able to spot the direction in which the killer whales are heading, race ahead of them, glide quietly into the water and then let the killer whales come to you. There shouldn't be too much shouting and splashing as the killer whales are working for their food and they won't accept too much noise. Then you just have to lie and wait and stare in the right direction for suddenly to see the whole herd racing towards you through the water. It is a sight not soon forgotten. It is obvious that the killer whales here are wild and that it is their natural behaviour that you are seeing. They seem to be completely absorbed and focused on their business. For better or for worse they do not appear to be influenced by the presence of humans in their element. The best is that you get a true insight into their behaviour and hunting patterns from a very close distance. The worse, if you can say that, is that the killer whales don't make circus acts and that sort of thing; they are busy and don't have time for messing about. And yet the young ones can be real jokers and full of daring tricks. There's one of them that makes the most playful and amusing spiral dance in the water deep beneath me, and which seems to be quite unconcerned

Orcas are essentially busy doing their own things, but sometimes curiousity gets the better of them. *"Huh... a human?"*

regarding the accurately choreographed and precise hunting patterns which the herds otherwise are carrying out. Naughty children are obviously not just a human phenomenon. And neither are over-protective parents. We spoke on the train coming up about the possibility of them attacking humans (they don't, there is not one registered occurence of it happening) but that fear evaporates the moment one comes down into the water with them. It is like seeing sharks for the first time, one feels much more fascinated than threatened. Most animals that you meet have a behaviour that can be read, if you are not too empty headed and of the type who insists on patting a growling dog showing its bared teeth.

An Idiot

And that is true for killer whales too. Of course one can never know what is really going on in the head of an animal, or that of one's neighbour for that matter, but the behaviour of killer whales seemed accepting and never threatening. Most of all one feels just a little bit ignored. We were told that there is just one no-no, and that is: don't get between a young orca and its mother. That is easily understood. Although, apparently not so for an idiotic big city Swede, we were told. Perhaps it is just one of those wandering anecdotes, told to illustrate a point, but it is not the poorer for that.

The story tells of a killer whale mother that gave an idiot a broken arm and a concussion because he

Orcas

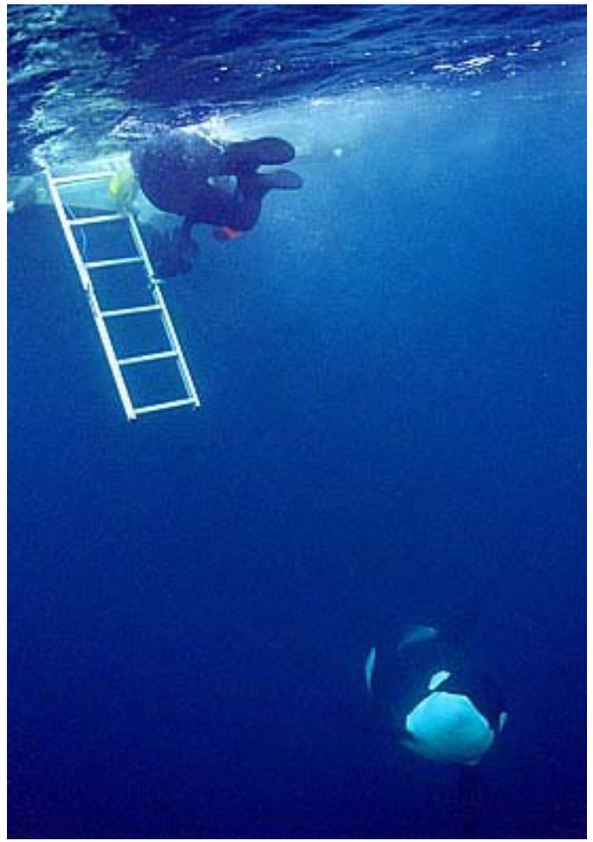


PHOTO BY AMOS NACHOUM

Curious creatures. The thing about killer whales that makes the biggest impression on me, is not their size and elegance but their "mammalness" and near relationship to us. First and foremost, it is their heavy, deep breathing, from which one can almost feel their body-heat, and which reminds one so much of the sounds we ourselves make in the swimming pool. These animals clearly have fins, but they are so obviously not fish.

They have complex behaviour, their playfulness and dolphin-like cavorting, and their "spy-hopping", where they pop their heads out of the water in order to see what jumped down between her and her young in order to have some fun with the little one. Not surprisingly, he was given such a blow with her tailfin, which he certainly won't forget in a hurry, that it ripped half of his equipment off of him. But it was his own fault, the idiot.

is going on. They are clearly curious when they have first satisfied their hunger, and often lie and splash on the surface.

There are many impressions to reflect on when one is back on board and sitting around the dinner table. We are on the water for quite a long stretch, although the sun is only up between 10 o'clock in the morning and 3 o'clock in the afternoon. But that is quite enough, because afterwards one is really tired and satiated by the events and experiences of the day.

Den store delfin tager en i nærmere øjesyn

So it is nice to have some long pleasant evenings in which to talk, to drink a whiskey, or read a thriller. Or, that eternal ritual between divers from around the world, the exchanging of diver gossip and discussion about destinations and equipment.

To say that the days up here resemble each other should not be thought of in a negative way. On the contrary, the regularity and simple way in which one dives, eats, sleeps, eats, dives, in a repeated cycle, is both quietly relaxing and uncomplicated in a peaceful way. All the worries of the world are so very far away and life so wonderfully simple.

And the days are not all so uniform. Every day we try something new and different apart from the near contact with the killer whales. Actually, it is rather nice to be able to stretch one's legs on land by taking a hike into the untouched nature. Just around the corner we find rocks with some very old carvings, perhaps from the Stone Age, where a big whale can be seen carved into the hard granit.

But we also take a couple of really good night dives in the clear water of the lagoon when darkness has set a stop to the killer whales' show of the day, for here it can be done before dinner as the sun goes down so early at this time of the year.

There are, in fact, excellent ordinary diving possibilities here, even though the killer whales do tend to grab all the attention, so one shouldn't cheat oneself out of putting on a couple of bottles and jumping down and studying the sea bottom.

Carousel

Ah! There's nothing like a solid breakfast to start the day. And to be well rested after a good night's sleep is almost guaranteed up here in the long nights.

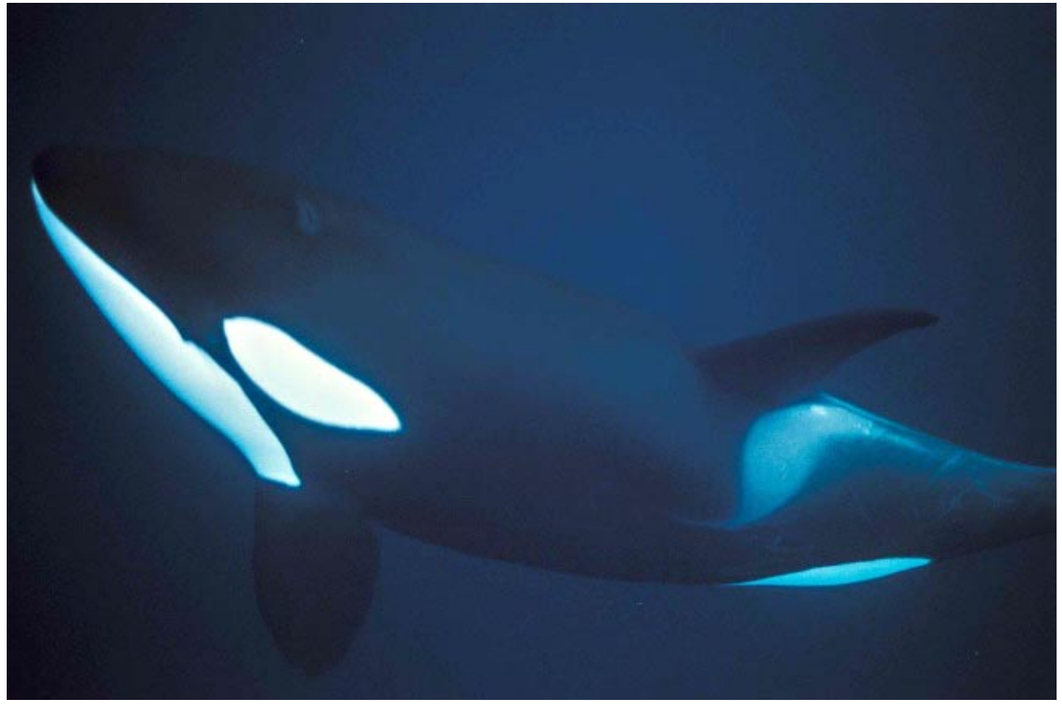
The sun creeps up over the mountains in the East to clothe the whole landscape in a delicate rose color while we set out for the middle of the fjord, holding a good cup of steaming coffee. The killer whales seem to be quiet, perhaps they are also B-people, but soon things begin to happen fast.

We are now in our suits, and over to the right we observe a large flock of screaming gulls over a small area of the sea. It is there, that something is happening. It is there we must go... as fast as possible.

It is a so-called herring carousel, a compact sphere of confused herrings that the killer whales have driven together, in order to strike into the massed food.

It is a fascinating event to observe, that is, if one is fast enough. The killer whales hunt in packs, where, like sheep dogs, they drive the herring shoals together into small concentrated spheres. They physically chase them, cutting-off their escape routes, and thereafter, they do something very fascinating. They make a fence of air-bubbles.

For some reason or other the herrings will not swim through this cloud of bubbles, perhaps it frightens them.



The final result of this precisely determined group behaviour is that the killer whales manage to force the herrings together into a compact swirling sphere about 5-10 m in diameter – and keep them there. Thereafter, something else quite as fascinating occurs. The killer whales take turns at swimming rapidly at the spere and at the last moment turning their tails to give the herring-sphere a really hard swipe with the large fin.

The pressure wave knocks out a

Orcas

Why orca whales roll and goof around is not known for certain. It is thought that it might be some kind of communication. Others think that is a way to get rid of parasites. Is it a part of the hunt or is it just play?

Orcas can grow up to 10m and weigh up to 10 tons, although the North Atlantic orcas are not as big as their South American cousins

large number of the herrings. Now, the buffet is open. One can only guess at how the killer whales have discovered this technique, but one must certainly take off one's drysuit hat in respect for their intelligence.

And afterwards one can thank them for food, since after such a herring-sphere massacre, there are many herrings remaining on the surface which can just be gathered up. Some of them are totally crushed with eyes popping out of their sockets. What a force there must be in that swipe with the tailfin! And beneath us, the ocean gleams with thousands of small pinpricks of light. It is all the fish-scales that have been struck off the herrings, and which now fall slowly like fairy-like, sparklin all the way down into the depths.

Recommendation

I could carry on telling small anecdotes about my adventures in Tys-fjord. But everything has an end, not only our trip but also this report. Like any restaurant critic, I must also make a summary of my impressions – what was good, what was not, and what types of people are suitable for such a trip... from tekkies to children?

To start with the latter, such a trip requires no other technical abilities than the ability to climb in and out of the boat. Thereafter, one is better off if one has a drysuit. However, the essential thing is to have a genuine interest in the natural phenomena to be seen.
I would therefore leave at least the babies at home, because it would be very difficult to entertain them so many days on the boat.

The good: experiences that remain with you for life. The bad: a stiff price for the whole project when one includes the cost of getting there. But that's northern Norway for you. It is far from here and even further from any food producing regions. So, up here vegetables are so expensive that they must nearly be imported in armoured cars with armed escorts, and probably sold in thin slices weighed on letter-scales before being devoutly passed over the counter with tweezers and white gloves. But that shouldn't hold one back from making the necessary investment in an experience of a lifetime. ■

Orcas are intelligent hunters. They swim, for example, on their sides to hide their characteristic tall dorsal fin, so that they can sneek up on their prey unseen

ORCA FACTS

SCIENTIFIC NAME: *Orcinus orca*. The orca is the largest of the dolphin family. It is a member of the toothed whale suborder. It is much smaller than the sperm whale, which is the largest toothed whale. It is commonly called the killer whale, a name which came from early observations of orcas attacking seals and seabirds. In many aboriginal legends, the orca is described as a sea monster. Other names include "blackfish" and "sea wolf."

DISTRIBUTION: Killer whales are one of the most widely distributed mammals, second only to humans. Orcas are most common in the waters off the Pacific Coast of North America, Antarctica, northern Japan, Iceland and Norway, but can also be found in all the world's oceans.

DIVERSITY: Orcas have three distinct lifestyles: residents, transients and offshores. Resident whale pods are made up of mother whales and their children and feed on fish. In summer, they regularly inhabit two areas off Vancouver Island. Different resident clans have often been seen travel together. Transient orca pods are smaller and opportunistic in their feeding habits. They eat marine mammals and seabirds. It is thought that transients leave their mother's group while still young and roam larger sections of the coast from Alaska to California. Less is known about offshore killer whales. It is thought that they travel in large groups of 30 to 60 individuals and seek out schools of fish to eat.

POPULATION: No accurate world population is known for orcas. Some scientists guess there might be hundreds of thousands around the globe. It is estimated that there are 300 residents and 200 transients off the coast of British Columbia.

SIZE: Males grow up to 9.8 metres and a whopping 9,000 to 10,000 kilograms. Females grow up to 8.5 metres in length and weigh 6,500 to 7,000 kilograms. Calves measure 2.3 metres in length at birth and weigh between 130 and 180 kilograms.

REPRODUCTION: Most females give birth for the first time at 14-15 years of age. They have a calve on average once every three years. Orca mothers usually stop giving birth by the time they reach 40 years of age. Captive orcas have a gestation period of about17 months and normally give birth to single offspring.

LONGEVITY: About 50 years for females and 29 years for males on average. Female orcas tend to live longer than males, with an estimated 70 to 80 year maximum age. Males live up to 50 years.

SOURCE:.www.canadiangeographic.ca

fact file

Orca Safari

The orca safari takes divers to northern Norway

Orca Safari

The migration of the orcas to Norway is a unique natural phenomenom that is highly seasonal. Thus, you can only experience the orcas as described in the article in October and November. The reason for this is that the orcas are following the schools of Atlantic herring seeking shelter in Tysfjord for the winter.

How to get there:

Tysfjord is located not far from the northern Norwegian town of Narvik and you can get there in one of three ways: air, train or car. Flying is the fastest way to get there, but not the cheapest. The train is an interesting alternative because you can relax and watch the landscape as the train travels up the length of Sweden. It takes one and a half days. If you drive, you have to prepare yourself for a very long drive. The route through Sweden is more direct because the landscape is flatter and easier to navigate than the route through Norway, which is very moutainous.

Price:

The orca safari is not for the smallest piggy banks. Everything depends on overnight accomodation and a boat, so a liveaboard is usually required. On top of that, you will have living expenses, which in the northern part of Norway is everything but cheap. Let's face it. You should count on spending about $2000 plus by the time you get home.

Travel Description - 2005 tour

BLUE HORIZONS EXPEDITION & DIVE CLUB

Day 1 - Departure

Depart in the morning from Kastrup airport in Copenhagen, Denmark, and fly to Oslo in Norway. From the airport in Svolvaer, it is only a five minute drive to the harbor where our liveaboard is docked.

Day 2

We sail around watching orcas in the fjords around Tysfjord.

Day 3 - 6

Orcas, snorkling and diving.

Day 7

Return flight to Kastrup airport, Copenhagen.

See details at www.bluehorizons.dk

festivals

31st World Festival of Underwater Pictures

THIS PAGE: All photography by gold medal winner, Laurent Ballesta of France.

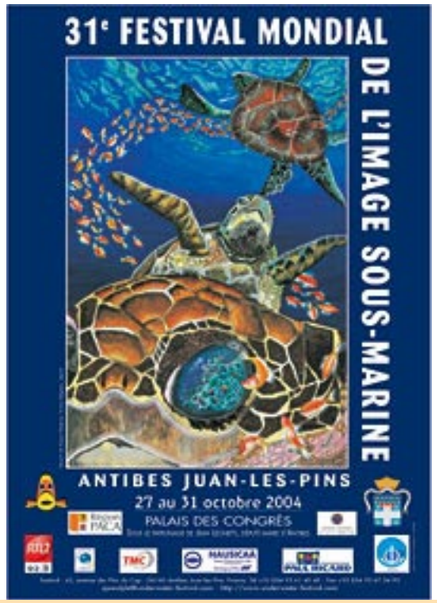
text by Gunild Pak Symes
photography by Gunild & Peter Symes

31 October 2004, Antibes – The 31st World Festival of Underwater Pictures in Antibes, France, concluded on Halloween day this year. Although most of the festival was drenched in rain outside, festival-goers were not spooked.

Winners and their stunning images shined inside during screenings and on gallery walls as a local and international crowd of photographers, divers, underwater nature lovers, families and children braved the rain and attended the festival in large numbers each day.

Guests visited booths of various underwater dive businesses, media, resorts and equipment manufacturers as they browzed through underwater images entered by contestents from all over the world. They were entertained by jazz bands and Polynesian dancers while served wine or capacinno from the bar.

After window shopping at booths, watching demonstrations of painters and artists at work and chatting with colleagues and friends, participants entered the comfort of the cinema where the festival films could be viewed in a continuous screening to a commonly packed audience.



One of the priceless aspects of the festival is the participation of children in the show. The illustration on this year's festival poster was created by 14 year old, Asuna Okajima from Nagoya, Japan,

And the award goes to...

In the film category, the winner of the gold medal of the President of the Republic Prize was taken by Thomas Behrend and Blue Planet Film of Germany for "Hunters at the cape of storms" which also won the prize for best musical adaptation in a film; the silver went to Rémy Tezier and Tec Tec Production of France for "Juan de Nova, l'ile de Corail"; and the bronze went to Osvaldo Ballabio and BF Production of Italy for "The Seasons of the Sharks" which also won the Planete Thalassa Prize. A special jury prize went to Jérôme and Thalassa-France of France for "Hold-up Pacifique."

The Palme D'Or Prize in film went to Danny Van Belle of Belgium for "Le mond des gastéropodes" which also won the Brigitte Cruickshank Prize; the silver went to Daniele Iop and Massimo Boyer of Italy for "Symbiosis, living together"; and the bronze went to Leonardo Sergiani of Italy for "Ancienne ville sous l'eau" which also won the Young Jury Prize. A special jury prize went to Enzo Cicognani and Franco Zedda of Italy for "L'invisible popolo del fongo."

The UNESCO Intergovernmental Oceanographic Commission Prize went to Philippe Lallet and Thalassa-France 3, Lobster Films of France for "Requin

baleine à Taiwan." The Albert 1st Monaco Oceanographic Foundation award went to Rachel Campergue of French Polynesia for "Les requins de Rangiroa, de la légende à la réalité."

The Public Prize went to Eugeny Tomashov and Anastasia Budykho of Russia for "Shadows." The award for best animal documentary went to Allain Bougrain-Dubourg and Nature Productions-Océanopolis of France for "Microcéan." The award for best historical documentary went to Yves, Bourgeois, Marc Eisenchteter, René Heuzey, Guy Nevers and Atom of France for "Portés disparus."

The award for best fiction film went to Steve Lichtag and Comfact of the Czech Republic for "Dance of the Blue Angels."The award for information news went to Ruben Casas Oche and Fondacion Grafica of Spain for "Fried Sea Cucumbers." The award for humor went to Halûk Cecan of Turkey for "Fuite Vers L'Espace." The prize for the unusual was not awarded this year.

The Paul Ricard Oceanographic Institute Prize went to Jorge Candan Illan of Spain for "Mar de Estielas." The Fédération Française of Cinéma and Vidéo Prize went to John boyle and Fionn Crow Howieson of Great Britain for "Colors of Papua New Guinea." The Dimitri Rebikoff Prize went to Norbert WU and Thirteen/WNET New York of the United States for "Under Antarctic Ice."

The Adobe Prize for special effects went to Fanny Meeschaert of France for " Ô." The Golden Knight Prize of the order of Knights of Malta went to Rafa Gonzalez and Mayte Sanchez of Spain for "La mer est à tous." The Rostagne College Prize went to Jean-Louis Lemercier and Les patrons plongeurs of France for "Les Jardins d'Alex."

Transparencies

Awards for best slide images were given to Laurent Ballesta of France who received the gold medal, Tobias Bernhard of Germany who won the silver and Alessandro Dodi of Italy who won the bronze.

Prints

Winners in color print photography were Jeff Yonover of the United States who took first prize, Oleg Vorotnikoff of Russia who received second prize, and Alessandro Dodi of Italy who won third prize. Winners for black and white photography were Vadim Zverev of Russia who took first prize, Denis Palbiani of Italy who won second prize, and Jean-Philippe Trenque of France who received third prize.

Books

The international prize for underwater image books went to *Oceani Segreti*, by Andrea and Antonella Ferrari of Italy, published by Mondadori Electa. The best underwater guide prize went to *Nager avec les habitants des océans,* by Alexis rosenfeld, Isabelle Croiseau and Pacal Kobeh of France, published by Editrions Glenat.

THIS PAGE: All photographs by silver medal winner, Tobias Bernhard of Germany

LEFT & BELOW: Both photographs by bronze medal winner, Alessandro Dodi of Italy.

Reporting

First place for the APNEA prize for underwater reporting went to Marc Douchet and Hervé Chauvez of France for "Plongée a l'ancienne;" second place went to Philippe Joachim and Alain Ponchon of France for "Peaux de baouc and dures a cuirs;" and third place went to Mikael Parpet of France for "Les Dernieres Sirenes."

Web sites

First prize in the underwater web site category went to Mauro Romano of Italy for www.mondomarino.net; second prize went to Marc Bolard of French Polynesia for www.polynesia-diving.com; and third prize went to Alessandro Dodi of Italy for www.dodiphotosub.com.

Prizes were awarded in various other catagories including archipelaego or architecture for the sea, audio-visual, music and underwater advertising. In addition, Illaria Montalti of Italy became the new Miss France Plongee.

Jury

Judges for the film categories included Sandra Bessudo, Bruno Boituriez, Guido Picchetti, Lucien Laubier, Manuel Cira, Philippe Sevestre and Olja Iva. The panel of judges for the slide and slide show catagories were Frédérico Di Meglio, Albero Muro Pelliconi, Claude Beauverger, Marc Streitz and Thomas Averland. Judges for color and black and white photographic prints were Patrice Lardeau, Danielle Alary, Jean-George Harmelin, Richard Wacongne and Yvette Tavernier. ■

For more information on the festival events, winners and next year's registration, please visit the website: ***www.underwater-festival.com***

Antarctica

FALKLAND ISLANDS
Dec 27, 2004 to Jan 9,2005

Reef Rainforest

LIVEABOARD • DIVING
UW PHOTOGRAPHY
HUMPBACK WHALES
PENGUINS & SEALS
DRAKE PASSAGE

© photos by Franco Banfi

The Falkland/Antarctic trip is a thirteen night adventure offered at a specially discounted price of US$3500 per person from Ushuaia aboard the new Antarctic exploration vessel EXPLORER.

Antarctica is the fifth largest continent and the world's deep-freeze, with 95% of the world's ice, and the coldest ever recorded temperature on earth (-128.6º F). With only an average of two to five inches of precipitation a year it is also one of the earth's great deserts. Scant evaporation, low humidity, and poor airflow from warmer regions helps shape its chill and lets snowfall pack in annual layers. Ice sheets piled to a thickness of up to 14,000 feet create a crushing weight that now warps and depresses the land beneath.

Antarctica lays nearly center on the earth's southern rotational pole. Practically all of the continent, save small parts of the Antarctic Peninsula and East Antarctica are within the Antarctic Circle at 66º 33, South Latitude.

The Antarctic Peninsula will be our destination. In the Austral summer, from mid-December to mid-March, temperatures along this coast may venture above freezing and we will enjoy sunlight twenty-four hours a day. The "Banana Belt", as inhabitants of colder inland stations call it, is home to an abundance of sea birds and sea mammals that come ashore to breed, and a variety of underwater wildlife.

When diving conditions are right (Antarctica is surrounded by the stormy Southern Ocean) the adventuresome diver is likely to interact with seals, a variety of penguins, and large and beautiful sea anemones and starfish.

Topside adventurers will have the opportunity to scout for Blue, Southern Right, Humpback and Fin whales and the impressive Wandering Albatross (with a wing-span of up to 3.5 meters).

This is a trip for the hearty adventurer. The trip to Antarctica through the Drake Passage is an adventure in and of itself! The vast beauty of Antarctica will fill your mind for a lifetime, with dreams of returning to its wild beauty.

Dominick Macan
Reef & Rainforest France
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Tel: (33) 492 94 02 99

www.Reefrainforest.com

news brief

Juvenile delinquent orca Luna still on the loose!

The lost young orca, Luna, likes to hug and rub boats for fun and affection.

Luna, a troublesome four-year-old killer whale, has been in the Nootka Sound and Gold River area of British Columbia in Canada since becoming separated from his pod a few years ago. He has become a major attraction for tourists and a big headache for boaters.

According to the Canadian Department of Fisheries and Oceans (DFO), the orca has a pattern of zeroing in on particular boats in the gillnet fleet and causing damage by rubbing against the vessels. Luna is responsible for numerous encounters with boats recently where his rubbing on rudders, tillers and electronic equipment has chalked up damage in the thousands of dollars.

Hundreds of tourists flocked to the docks at Gold River to get a glimpse of Luna. There were reports of people petting him, brushing his teeth and pouring beer down his blow hole. Luna, seeking socialization learned to disable boats and spent part of his time rubbing against them.

In October 2003, an attempt by the Fisheries Department to move the whale by truck to the south Island was disrupted in the spring by the Mowachaht-Muchalaht First Nations, a Native American tribe who believe Luna is the reincarnation of one of their dead chiefs. The Mowachaht-Muchalaht led the orca away from DFO ships attempting to capture the mammal.

Scientists were sent packing their bags to leave without the whale. Their plan was spoiled by the dramatic intervention from the tribal paddlers who shadowed Luna for eight days with their canoes, singing songs and nudging the orca away from the scientists sent by DFO.

Although the purpose of the paddlers' efforts was to prevent Luna's capture, it was apparent that far more was at stake for the Mowachaht-Muchalaht tribal people than just the future of one juvenile whale. In spoling Luna's capture, the indigenous people not only put a wrench in the reunification plan, but they won the right to sit at the same table in talks with DFO officials to work out a new plan for the young orca.

The tribe hopes DFO officials learned that they cannot meddle in waters that have been home to native peoples for thousands of years.

Luna's story

A popular theory as to why Luna swam to Nootka Sound is that he was swimming accompanied by his Uncle Orcan (L39), when his uncle died. Luna got lost. The young orca then followed food sources and remained in the area. A second theory is that Luna could not keep up with his pod. He eventually lost contact with them and swam away, ending up at the food source.

In May of 2003, DFO met with a scientific panel comprised of 17 orca experts. At the time, Luna seemed healthy and DFO decided to wait and see what happened to Luna, with the hope that he would eventually leave Nootka Sound on his own.

In August and September of 2003, the public started to hear more about Luna and they demanded that DFO do something. A petition, with over 5,000 signatures was submitted to

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Luna

DFO. About 12,000 letters were mailed or emailed to DFO. NGOs and the scientific voiced their opinions to DFO. All had a similar message: that it is time to attempt to reunite Luna with his pod.

In early October, DFO announced that they would attempt to move Luna closer to his pod. The US government, thanks to Senator Maria Cantwell, contributed $135,000 cdn to help move Luna. A few days later, the Canadian government, lead by DFO Minister Robert Thibault, announced that they would match the funding.

"I recognize the tremendous Canadian and international interest in the well-being of this animal," said Minister Thibault. "My preference is to give Luna the opportunity to reunite with his pod. It will be a complex process, and leaving the whale in Nootka Sound over the winter gives us time to work with other interested partners to come up with the right solution with the best chance of success."

"Luna wiggles his nose and we get a million calls. He still is a risk to public safety and can still be a risk to himself and that's why we're making this move."

-Lara Sloan, DFO, October 28, 2003

Whale-size conflict

However, DFO, without consulting the scientific panel, announced a delay in moving Luna until the spring. Around this time, the Mowachaht / Muchalaht First Nations expressed their concerns about moving Tsuux-iit. The Mowachaht-Muchalaht band were on the water trying to keep Luna away from boats.

DFO and the Mowachaht-Muchalaht recently signed a stewardship deal to warn boaters away from the whale. But there's little Luna's guardians can do to prevent him from harassing boats that take part in fishery openings there.

DFO will collaborate with the National Marine Fisheries Service in the United States and other partners to explore ways to successfully reunite L98 with his pod. All planning efforts will be undertaken in consultation with independent scientific advice and will take into account the well-being of the animal, the likelihood of a successful relocation and the safety of the public. A plan to monitor and protect the whale and the public during the winter months will also be implemented.

Prodigal Orca

Soon after L98 was born, he was named during a contest held by a Seattle Newspaper. A resident of Bellingham won the contest and chose the name Luna (Latin for moon), saying: "the Orca Whale explores the ocean, like the moon explores the earth".

Luna was also given a traditional native name by the Maquinna family in August 2001. The family wished that the Kakaawin (killer whale) that had recently been spotted swimming in their traditional territories be named after their late father and former Chief, Ambrose Macquinna.

Before his death, Chief Maquinna had told his close kin that he would return as a "killer whale", so Luna was immediately recognised as the embodiment of the departed Chief. This belief persists today, and largely explains the attitude of Nootka Sound First Nations towards Luna. "From now on it's name will be Tsuux-iit," said Chief Mike Macquinna.

Free Luna

In July of 2004, DFO and First Nations continue to meet and discuss Luna's future. Scientists still believe that Luna would be better of with his pod, but there is a growing number of people who wish to respect First Nations culture too.

In the meantime, Luna has spent most of his time away from Gold River, which is a good sign, as there will not be as many people or boats around him as there was in summer of 2003 (if he stays where he is). There is currently no monitoring going on, but there are a few proposals on the table. Luna has survived for over three years on his own, which is remarkable considering his young age. For more information about Luna and how to help, please visit the following sources. ■

www.reuniteluna.org
www.eurocbc.org
www.orcalab.org

dive bites

Do fish get the bends?

Sport fishing has never been a pleasant experience for fish, but now it is thought that they actually get what divers call the bends. A recent study by Canadian researchers at Queen's Univeristy found that fish may experience decompression sickness after being caught and released.

Blood samples from bass that were caught in water as shallow as 5m had gas bubles and tissue damage. However, it is not clear if the bends affect fish survival.

Efforts to find ways to help fish recover from the bends upon release is underway through research funded by the Natural sciences engineering research council. Returning fish to depth quickly is thought ot be the answer.

Aside from humans and fish, whales and dolphins have also displayed signs of the bends if they are driven to surface to quickly as was observed by researchers who saw this behavior in marine mammals scared by military sonar. Unfortunately, in these cases, the bends proved to be fatal.

Man lives for five days underwater, suffers from a bad case of "prune fingers." -- Yahoo News

World record: 129 hours underwater

An American, Jerry Hall, has broken the world record of lounging around under water by sitting at the bottom of Lake Watauga, Tennessee. Money Hall raised with this event went to the Ronald McDonald House for sick children. Time underwater was spent in a Lazyboy recliner, listening to music and playing checkers with family and friends. He swears this was the last time. He beat his previous record of 71 hours set in 2002. After more than 120 hours underwater, Hall emerged from Watauga Lake and signed a contract (given to his wife as a birthday present) promising his days of setting Guinness world records were over. "The things a man will do to get away from his wife," she said.

Red Sea's deepest dive

South African, Nuno Gomes, 52, set the world record of deepest dive in the Red Sea at 271m. The civil engineer from Johannesburg was assisted by a team of seven, but could not beat the overall world record of 301m set by British national, John Bennett in 2001. However, Gomes dived 286m deep in caves near Kuruman in the Northern Cape of South Africa to break the world record for deepest dive above sea level in 1996.

Heliox helps asthma

Looks like mixed gasses aren't just for divers anymore. Two studies presented at the European Respiratory Society meeting showed that the mixture of helium and oxygen was therapeutic for patients with asthma.

Because heliox is four times less dense than regular air, it is easier to inhale. Treated patients were able to breath more easily and do more exercise. Because of this beneficial property of the mixed gas, it may be useful in the treatment of lung diseases according to researchers in France and the UK.

Professor Andrew Peacock of the British Thoracic Society said, "This study shows that Heliox can not only help deep sea divers to breathe but also help matics undergoing a severe attack. This is good s for lung disease patients and the NHS. Wider use eliox could cut the duration and severity of asthattacks."

Underwater Wedding in Shark Aquarium

Great White Shark happy camper in Cape Cod lagoon

A great white shark camped out in a shallow Cape Cod lagoon for nearly two weeks before it finally left for open waters.

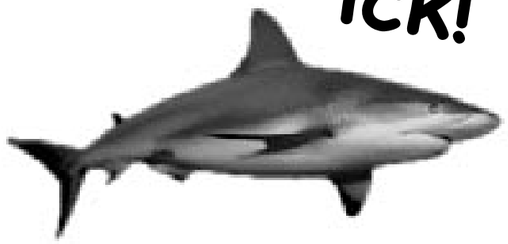
The 1700 pound female shark entered an inlet between Naushon and Monohansett islands and made for the sea much to the relief of officials from the Division of Marine Fisheries who had been trying for days to nudge the stubborn shark out of the lagoon.

Wildlife officials and fishermen teamed up to try to get the shark to leave the shallow waters by using large fishing nets and underwater impulse devices to coax the shark out of the area.

The shark was first spotted near Naushon Island off the southwestern coast of Cape Cod, Massachusettes, in the U.S. on September 21st.

An archival satellite tag was attached to the shark's dorsal fin by scientists. It marked the first tagging of a great white with such a device.

Officials had their hands full with the challenge of getting the shark out of the lagoon while scores of interested members of the public gathered in boats around the lagoon to have a look. They had to cordon off the area in order to keep both on-lookers and the shark safe. Environmental police and the Coast Guard maintained a 1,000-yard security zone around the operation.



ick!

Spray-away sharks?

That's the idea being studied by researchers at the University of Miami in Florida, US, and Bimini Biological Station in the Bahamas. A group of marine biologists and chemical engineers, Eric Stroud and Mark Herman of New Jersey, have developed an effective concoction of extracts from dead sharks that works like a charm.

But how? According to Samuel Gruber, a shark expert who is conducting tests of the shark spray, said that the repellent seems to carry a chemical messenger that triggers a flight reaction in the sharks. A similar response has been observed in other species including perch, sculpin and minnows. Experts say more studies need to be done to pinpoint the active molecule responsible for the sharks flight response as well as tests on largers species of shark. Test have proven the spray to be effective on blacknose, lemon and Caribbean reef sharks.

If proven to be effective, the spray may protect divers, snorklers, swimmers and surfers from attacks. It could also protect sharks from being killed in commercial fishing nets. However, skeptics say that it is not a practical solution since most people in the water will not be prepared to spray an oncoming shark.

For the most part, shark attacks are very rare according to the International Shark Attack File at the Florida Museum of Natural History, which recorded only 55 unprovoked shark attacks with four deaths last year worldwide. ■

Wow! No more backscatter!

Two Israeli researchers have developed a new algorithm that radically improves image quality of underwater photography.

"This is a brand new solution to solving the problem of underwater image degradation," said head researcher Professor Yoav Schechner at the department of Electrical Engineering at Haifa's Technion. He and graduate student Nir Karpel combined their algorithm with a polarizing filter to compensate for backscatter that can ruin the best of images in the clearest of water. Ambient light that tends to degrade images underwater is illiminated through the use of this combination method. Amateur and professional underwater photographers can now enjoy great results beyond the macro realm. The new technology may benefit scientific research as well prove useful in commercial applications.

Facing extinction?

Experts are adding more sharks and rays to the World conservation Unions list of endangered species. Almost 200 species of sharks and rays in North and Central American waters were evaluated by the Shark specialist group according to criteria set by IUCN in Switzerland. Some of the ten new species to be added to the list of endangered marine animals include two species of hammerhead sharks, the oceanic whitetip sharks in the Gulf of Mexico and the thorny skates of New England. The later two were both listed as 'Critically Endangered.'

One of the main culprits in the plight of the sharks and rays is over-fishing especially in Asia where shark fin soup is considered a delicacy. In 1999, the fins of 28 million sharks were imported to Hong Kong alone. More and more countries are outlawing this brutal practice which leaves the sharks maimed in the water after fin removal.

White tipped reef shark. PHOTO: KIM HERMANSEN

Super smart octopus, short lived

Contrary to its name, the Octopus vulgaris won't offend you. It may, in fact, charm you. Like most of its octopus relatives, it is harmless and very intelligent. It has excellent coordination and vision and can distinguish shapes and colors as well as navigate mazes and even unscrew jar lids to get the food inside. Despite its well developed central nervous system, the octopus has a very short life span of 12 to 18 months according to experts at the aquariums administered by the North Carolina Department of Environment and Natural Resources in the US. the Octopus vulgaris is found around the globe in semi tropical and tropical waters at the shore or up to 600 feet deep. It is shy animal and likes to hide in the reef and rocky bottoms for protection. The octopus eats mainly crab, crustaceans, shrimp and lobsters. ■

Coral gardens around the world could soon benefit from the stimulating impact of electrical therapy

Electricity speeds growth

Low-voltage electricity applied to damaged coral reefs off Bali has been shown to stimulate growth and reinforce existing coral.

Coral expert, Tom Goreau, of the United States and architect/professor Wolf Hilbertz of Germany conceived the system of electrifying corals to stimulate growth four years ago. Their results are remarkable as growth up to 1cm in less than a month have been recorded.

The Karang Lestari Project as it is called covers a total length of 300m in Indonesia. It is the world's largest coral nursery ever built using this system. Other locations applying the system include Mauritius in the Indian Ocean.

It is hoped that the stimulation of coral reefs will preserve an already popular tourist destination for thousands of scuba divers. As tourism is a major source of income for the area, efforts to conserve and rejuvinate coral reefs takes a priority for local hotels, shops and dive centers.

Locals can follow the reef's renewal process through color photographs exhibited at Taman Sari Bali Cottages, a business that donated $15,000 USD to the project in 2000.

The jolts of electricity promote a white limestone film to grow on a grid of welded construction bars 3-7m below the surface of the sea. This is the base substrate for reef growth. Corals have been transplanted directly onto the bards.

Various marine life has been attracted by the regenerated reef as well as schools of fish including juvenile populations.

In the 1990s, El Nino weather bleached much of the areas coral reefs, killing much of the coral in shallow waters. In addition, the Asian economic crisis forced fishermen to use aggressive fishing methods such as bombing for fish that caused severe damage to the reefs. Then, there came the arrival of 70,000 hungry crown of thorns starfish which had to be hand removed by divers before they destroyed too much of the reef.

It is hoped that more countries who cannot afford more expensive coral reef replenishment programs will invest in the electrical stimulation method used by the Karang Lestari Project. ■

Rebuilding coral reefs

Lately, the coral reefs in Malaysia have been the focus of media attention due to the increasing strain on reef health from tourist traffic, divers, El Nino and pollution caused by accidents involving local industries.

Like many countries who rely on ecotourism as a major source of income, Malaysia has had to figure out how to rebuild the damaged reefs. To solve this problem, they have come up with artificial replenishment methods. Using a system of concrete "reef balls" placed in strategic areas. the activity has won increasing public support due to its low cost and sound theory. But the method is not the answer to a comprehensive reef management problem.

Transplanting existing corals to new sites and stimulating them with electric volts is another more expensive method. The Aquascope Project, directed by celebrated underwater photographer, Daniel D'Orville, 42, uses this method. The project involves research, deployment and monitoring.

An expensive project to run, corporate sponsorship was necessary to attain. After eight years, D'Orville managed to attract DHL Asia Pacific who was interested in marine conservation as part of its corporate social responsibility program.

Unfortunately, no other multinations company has shown interest or commitment to the project. D'Orville said,"Conservation efforts in our reefs are an expensive affair. This is simply because conservation projects need continuity to produce results."

The first test site for Aquascope was Pulau Tioman of Pahang where the transplanting of corals took place on World Environment Day, June 5.

For more information on coral reef conservation and volunteer programes, contact Daniel D'Orville at Call Strategic Creative, (+03) 7726 9649, **info@callstrategic.com**

Ground breaking coral preservation legislation

Deep sea corals aging over thousands of years old may receive long awaited protection from clear-cutting by commercial fishing methods that are destructive. U.S. Representatives, Jim Greenwood and Frank Pallone, introduced a bill called the Deep Sea Coral Protection Act to Congress. It was co-sponsored by 20 other representatives."As an avid diver, I have explored the majesty and witnessed the plight of coral reefs firsthand," said Greenwood. If the bill passes, the ocean's biodiversity, health and fish populations will benefit from new protection.

Asian Sea Gypsies have sharp vision underwater

The Moken people live, work and raise their families in their wooden fishing boats.

All photos by Peter Symes

The Moken children have developed vision that is twice as sharp underwater than European children

The Moken people of Burma and Thailand have lived as semi-nomadic hunter-gatherers for centuries in the boat dwellings they call home.

They live off the bounty of the sea using traditional methods of fishing and gathering shellfish from the ocean floor without the use of diving masks or scuba gear. Diving often to depths of 23 meters on a single breath, the Moken have adapted to a difficult way of survival.

Studies of the Moken children reveal that their eyes have adapted to see twice as clearly underwater than their western counterparts. Moken children collect small brown clams and sea cucumbers from the sea floor at depths of 3 to 4 meters.

Anna Gislén, of Sweden's Lund University, conducted research to examine the talents of the Moken children. She found that they were able to muscularly change the shape of their eye lenses. This accommodative response increases light refraction she said.

The Moken children are able to muscularly change the shape of their eye lenses.

"Their constricting pupils improve vision further," Gislén said. "It's the same process that improves focal depth if using a camera with a smaller aperture."

At depths of 3 to 4m, the Moken children use their adaptations to find small clams and sea cucumbers. A certain survival skill, but is it learned or is it genetic?

"I think that in general this is very hard to know," Gislén said. "Genes and environment are so intertwined it's hard to separate them. What I do know is that we have [more recently] trained European children to become as good at underwater tasks as the Moken children. So training seems to do the trick."

"The diving response is another good example of adaptation," she said. "Some tribes of sea nomads in the Philippines can dive down 200 to 230 feet (60 to 70 meters), pick some pearls and then go up again, holding their breath for about six to seven minutes., Gislén said, "Europeans told to do the same thing would just shake their heads and say it was impossible. But clearly it's not."

She added, "I think that the human body is extremely flexible, much more than we may be aware." ■

divebites

Brazilian authorities burn seven rare torpedo rays

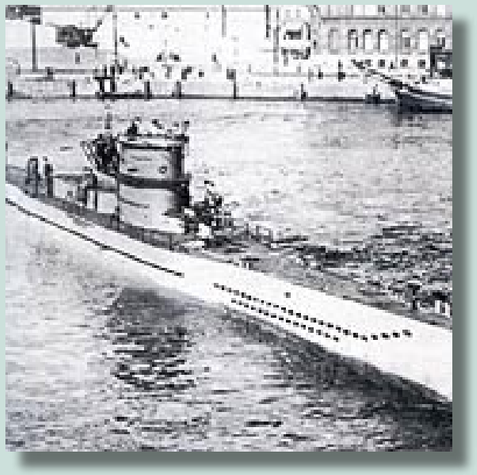
Brazil's Ministry of Agriculture seized twelve specimens of marine rays including seven rare torpedo rays that were borrowed from an institute in Spain. Inspectors destroyed the rays after alleging that they lacked the proper paperwork to be brought into Brazil. They also refused to postpone their actions to allow for the preparation of such paperwork.

Unfortunately, this event is not uncommon in Brazil where leading researchers are concerned that it will become more and more difficult to borrow biological samples from other countries due to the actions of the Brazilien authorities.

The torpedo rays were rare African specimens from the Spanish Institute of Oceanography that were loaned to Marcelo Carvalho, an evolutionary biologist from the São Paulo University (USP), for the purpose of gathering data for the publication of a guide to marine fauna of the African west coast. Three of the rays were uncataloged species.

After the specimens were seized by authorities upon Carvalho's re-entry into Brazil, Carvalho and colleagues from the State University of Rio de Janeiro attempted to gather the proper documents for the required paperwork and an agreement with the Ministry of Agriculture to postpone the destruction of the fish. However, they were unable to deliver the paperwork before Brazil's Sanitary Department authorities destroyed the animals.

"Those specimens were very unique and rare," said Carvalho. "Of the ten specimens, at least three were completely unknown by science and now will remain so. It's distressing not only for Brazil, but for the whole science community." ■



WWII German submarine Type VIID built in Kiel, Germany

Found: German U-Boat

In Canadian territory just 150 miles off the coast of New England and south of Nova Scotia, a German U-boat has been resting for 62 years 270 feet below the waters of the Atlantic ocean.

A team of Canadian deep sea divers from the TV series, *The Sea Hunters*, found the shipwreck. It was covered with sea life and still held the remains of 49 German sailers who perished with the boat in 1942.

U-215 was on its way to bomb Boston Harbor when it met the U.S. Liberty ship which it promptly attacked and sank. However, the British warship HMS Le tiger was there as part of an allied convoy and counterattacked with several depth charges.

It was not known with certainty if U-215 was actually sunk, since during World War II, U-boats sometimes "faked" their destruction by shooting out debris to float to the surface.

However, that mystery was laid to rest as Mike Fletcher, who led the dive team, and the other crewmembers found the sub after referring to archives and local fishermen who often had nets snagged in the area where the wreck lay.

The German sub will be left in peace at its resting place as a grave site to honor the dead. According to military policy, it is still the property of Germany. Coordinates of the boats location will only be revealed to officials and families of the sailors.

U-215 remains a grim reminder of the terror and suffering that occured during the great war.

New degree in scuba diving offered at U.S. universities

Offered as a minor degree in university departments of exercise and sports technology, scuba diving is now recognized as a subject for professional university education at schools in Texas, California and Florida.

Texas Wesleyan University in Fort Worth has offered scuba diving studies as a minor in their recreational dive management program since 2003 and is the first university in Texas to do so (Fort Worth Star-Telegram, May 18, 2004). Students can be certified as a dive master, which means they get extensive training in all phases of diving, including diver physiology, underwater navigation, deep water and night diving, decompression, and search and rescue.

Diving instructors at the school recommend the minor as a good occupation to fall back on because the skills acquired are very marketable.

SHIPWRECK

The 144 year old wreck of the German-made three-masted freighter, Kad'yak, was found this year at the bottom of Monk's Lagoon on Spruce Island in Alaska. The 132-foot Russian American Company ship met its demise upon hitting a rock on its way to San Francisco in 1860 where it was to deliver 350 tons of ice to gold miners so that they could enjoy cold beverages.

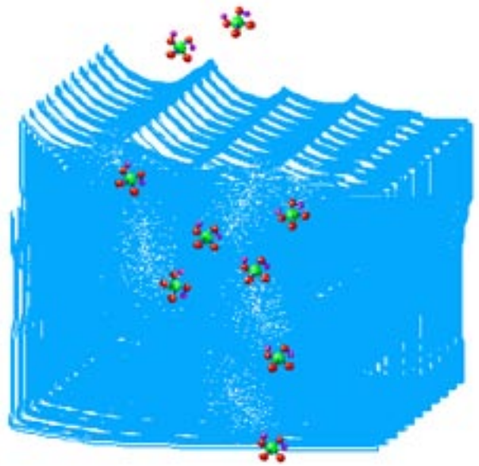
References to the shipwreck in archives was discovered by Mike Yarborough, an archaeological consultant in Anchorage who partnered with Bradley Stevens, an Alaska-based marine biologist for the National Oceanic and Atmospheric Administration, to gather a team of divers to explore the wreck.

In 2003, marine archeologists identified the wreck by dating a brass object, which was inscribed with the ship's name in Cyrillic. At 80 feet depth, the wooden ship was in a surprisingly good state of preservation due to cold water and anaerobic conditions that helped to keep the ship from deteriorating.

Archaeologists identified three anchors, a ballast pile, deck braces, two cannons, and copper sheathing that once covered the ship's wood.

CO_2 emissions absorbed by oceans may harm marine life

The CO_2 emissions of our industrialized world is finding its way into our oceans and may be harming marine life scientists say. The sea has absorbed almost 50% of all the carbon dioxide that humans have pumped into the atmosphere. That's 118 billion metric tonnes of carbon between 1800 and 1994 mostly from burning fossil fuels and cement manufacturing according to experts at the National Oceanic and Atmospheric Administration who conducted the 10-year survey.



Lucky for us humans, the ocean is there to curb greenhouse gases. But what is the environmental price? Researchers have found evidence that the rising level of CO_2 in the ocean is making life hard for sea creatures. Among other things, the rising levels of CO_2 in the oceans is causing difficulties for shell fish to form shells. In areas where the CO_2 is more concentrated, amounts of carbonate ion — the building material for shell fish — decreases. Organisms such as corals, pteropod molluscs and some forms of single celled plankton use carbonate ions from seawater to produce their shells.

Although the ocean has absorbed only a third of its capacity to hold CO_2, 90% of all the anthropogenic carbon dioxide emissions will end up in our oceans in the next several thousands year. It is not clear yet, how this will affect the planet's climate and what it will mean for marine ecosystems.■

Undiscovered reefs object of new Australien expedition

Researchers of the Geoscience Australia organization have fund evidence that there may be undiscovered reefs in the Gulf of Carpentaria. Last year, three submerged living coral reefs covering 80 square kilometers were discoverd in the Gulf. Dr. Peter Harris, a marine geologist, said that a second expedition to the area in February 2005 may provide more information on other reefs. The scientists will take more detailed samples in order to verify whether or not the area is a coral reef. They will also date the samples to see when the coral reefs were alive.

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seaCURE CUSTOM MOUTHPIECE

El Dorado

Diving the Philippines
A superb house reef with its own mermaid

Text and photos: Nonoy Tan

"El Dorado" reminds me of the mythical land of gold and riches that is dreamt of by treasure seekers. As I aimed my camera in search of the exotic marine wildlife of the "El Dorado" house reef, I felt like a treasure hunter from the fable.

The El Dorado dive resort is 20 minutes from Dumaguete City, Negros Island of the Philippines. Situated along the beach, it is a staging point to the popular Apo Island and other appealing locations.

One of the most enthralling dive spots is the house reef in front of the resort. This muck site contains a zoo of the strangest critters. Here I experience regular encounters with the ornate ghostpipefish, frogfish, cuttlefish, dragonet, spearer mantis shrimp, leaf fish, an array of nudibranchs, and a mermaid. That's right! A mermaid!

The leaf fish mimics a leaf as it sways with the water current.

A decorator crab poses for a portrait.

Before leading the first dive, Rico (my guide at El Dorado) asked me what it was I intended to find during the dive. Nothing was impossible, he said. I jokingly challenged him to lead me to a mermaid. Without hesitation, he agreed. During the dive, I heard Rico making grunt noises intended to catch my attention. Then, from the pocket of his BC, he pulled out a Barbie doll with long blue hair as if saying that my wish had been granted. I immediately took a picture of this rare find. Consequently, I soon used up all my remaining air as I laughed during the rest of the dive!

After a few hours of rest, it was time to do the second dive. This time, Rico hinted that we might find an albino great hammerhead shark. That was impossible, I thought. No way could there be a great hammerhead shark in the shallow waters of the house reef, much less an albino! Well, I was mistaken. During our second dive, a toy hammerhead shark materialized out of Rico's BC pocket. I wondered what else Rico had in his BC. He is a genie of sorts.

The best was yet to come. It was getting dark and that meant it was time to do another shore entry. The reef was teeming with nocturnal creatures – decorator crab, squid, Spanish dancer, crocodile snake eel, pebble crab, sea snake, robust ghost-pipefish, and others I could not identify. There were so many interesting subjects that I immediately ran out of film.

INSET: One of El Dorado's underwater surprises is this mermaid.
RIGHT: The El Dorado house reef is also host to sea horses like this one.

El Dorado

And it was only my first day! True to its name, the El Dorado dive resort is treasure-filled. ■

Resort & Travel Information

El Dorado dive resort in Dumaguete city is located southeast of the Negros island, central Philippines.
www.eldoradobeachresort.com

From the capital city of Manila, one-hour flights (approximately 250 kilometers) are provided by Philippine Airlines. El Dorado resort can provide land transfers from and to the Dumaguete city airport.
www.philippineairlines.com

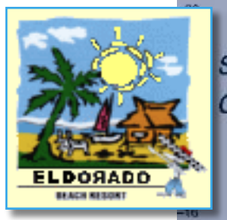
Facilities include air-conditioned rooms, swimming pool, open-air theatre, souvenir shop, bars, restaurants and excellent food.

Diving in the house reef and other fabulous sites is best experienced with guides like Rico of Sea Explorers, who operates a PADI Gold Palm IDC center and dive facility at El Dorado and other locations in central Philippines.
www.sea-explorers.com

The magnificently colored dragonet is one of the house-reef's popular inhabitants.

fact file

Philippines



Map of the Philippines

History: The Philippine Islands became a Spanish colony during the 16th century; they were ceded to the US in 1898 following the Spanish-American War. The islands attained their independence in 1946 after Japanese occupation in World War II. The 21-year rule of Ferdinand MARCOS ended in 1986, when a widespread popular rebellion forced him into exile. In 1992, the US closed its last military bases on the islands. The Philippines has had a series of electoral presidential transitions since the removal of MARCOS. The government continues to struggle with armed Muslim insurgencies in the south.

Government: Republic **Capital:** Manila **Currency:** Philippine peso (PHP) per US dollar - 56; per Euro - 70.

Geography: Southeastern Asia, archipelago between the Philippine Sea and the South China Sea, east of Vietnam, mostly mountains with narrow to extensive coastal lowlands; **Coastline:** 36,289 km; **Elevation:** lowest point: Philippine Sea 0 m; highest point: Mount Apo 2,954 m **Agriculture**: rice, coconuts, corn, sugarcane, bananas, pineapples, mangoes, pork, eggs, beef, fish **Natural resources:** timber, petroleum, nickel, cobalt, silver, gold, salt, copper.

Climate: Tropical marine; northeast monsoon (November to April); southwest monsoon (May to October).

Environmental issues: Uncontrolled deforestation especially in watershed areas; soil erosion; air and water pollution in major urban centers; coral reef degradation; increasing pollution of coastal mangrove swamps that are important fish breeding grounds.

Population: 86,241,697. Percent of population below poverty line: 40%, Ethnic groups: Christian Malay 91.5%, Muslim Malay 4%, Chinese 1.5%, other 3%. Religions: Roman Catholic 83%, Protestant 9%, Muslim 5%, Buddhist and other 3%; **Language:** Filipino & English

Medical/Decompression chambers: Cebu City Recompression Chamber Camp Lapu-Lapu Lahug / Doctor Memerto Ortega. (032) 310-709 or (032) 312-325 / (032) 746-652 loc. 2625

Dive Travel: The best time to visit the Philippines is during the period from November to June. Precipitaion is lowest during April and May. Temperatures are cooler during December to February (26- 27°) and warmer between March and May (29°).

Web sites:
Sea Explorers Dive Center
www.sea-explorers.com
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profile

Philippino Underwater Photographer Nonoy Tan talks macro

interview by Gunild Pak Symes
photos by Nonoy Tan

Nonoy Tan was born in Manila, Philippines. His photographs of marine life behavior and underwater critters have been published in various print and web magazines circulated worldwide. By profession, Tan is a development worker, who spends most of his time, when he is not underwater, in the poor, rural communities of Asia and Africa.

One of your photographs won international recognition by the online underwater photography competition at Underwaterphotography.com. How did you get that award winning shot? (Fighting Wrasses, see page 3) Tell us the story.

Fortunately, I was at the exact place and time when the two wrasses initiated the combat. With jaws locked to each other, the competitors were engaged in a fierce tug-of-war. Eventually, one of them gave up the fight. The struggle did not last for more than a minute, but I was able to take a few shots. In order to increase my chances of getting rare images like that, I spend a lot of time underwater.

Your images show an intense observation of marine life and environment. What drives you to capture images underwater?

Getting good images involves a lot of time, hard work and patience. But it's all worth it, especially when I get the results I want. The compulsion to continually improve on past performance is addictive.

What achievement are you most proud of accomplishing?

Last year (2003), I decided to join competitions. The first competition positioned me against Gutsy Tuason, an award-winning underwater photographer who has been counseling me since 2001. I consider him as my teacher. As expected, he won overwhelmingly, but I nonetheless succeeded in bagging a minor trophy. I was proud not just for myself, but also for both of us. Also in the same year, I received a gold medal award in an international competition. Luckily for me, Gutsy did not join that one!

When, how and why did you start taking underwater photographs?

My interest in taking underwater photographs began during

A male ribbon eel

profiler

Nonoy Tan

A spotted porcelain crab on a sea anemone

Nonoy Tan

my open-water course in 1997. At that time, I was merely interested in showing the photographs to friends. Soon, the interest developed into artistic pursuit. Consequently, I had become very conscious of image composition, lighting, sharpness and artistic impact.

What special training or education in underwater photography or related fields have you received and why?

I knew nothing about photography before 1997. However, I gradually acquired knowledge through research, practice, and trial-and-error. I made a lot of mistakes that has provided me unforgettable lessons (e.g. flooded camera). In 2001, I met Gutsy Tuason. Since then, he has been providing me invaluable photographic tips and equipment advice during our occasional beer-drinking sessions. I continue to undertake self-study and have a lot to learn still.

ABOVE: Hypselodoris bullocki nudibranch

RIGHT: Risbecia tryoni nudibranch

What are your favorite subjects, techniques, film, equipment, locations?

I like taking shots of critters – nudibranchs, cephalopods, and crustaceans. There are a lot of these in the reefs of the Philippines, my home country. I especially enjoy capturing animal behavior on film.

When I started diving in 1997, I was using a disposable camera in a waterproof casing. To save on cost, I learned to disassemble the camera and reload film into it. It was not easy getting satisfactory images with this equipment, but it was all that I could financially afford. As my pocket allowed, I gradually acquired better equipment and started using an amateur SLR in a plastic housing. It was still not the best camera set-

The Spanish Dancer is home to a tiny shrimp

profiler

Nonoy Tan

An oversized snapping shrimp resting on a crinoid

Close-up of a pipefish

up, but I learned a lot from using it.
At present, I use a housed Nikon F100, lenses 16mm, 20mm, 60mm and 105mm, Ikelite substrobes 200, Ultralight Arms, and RVP135 film.

What do you look for in a shot?

Sharpness of the image is a must. When taking a shot, I watch for this sharpness through the viewfinder before pressing the button. In nudibranchs, for example, the rhinopores should be perfectly sharp. I also seek images that "capture the moment" for example, wrasses in combat.

What are the tricks you rely on most?

In a technical sense, I don't have any photographic trick. The photographs that I produce exactly mirror the subject when the image was captured on film. I don't push or pull film nor undertake any type of digital manipulation. Some say that I am a purist and silly. I tend to agree on the latter description. I am sometimes able to "trick" an elusive photo subject by anticipating its behavior. I avoid direct eye contact because that can frighten the fish. Instead, I pretend to look somewhere else while I approach with stealth. Some individual fish are intelligent enough to read my body and eye language, so I have to be conscious about this. Again, I could just be acting silly.

Who are your greatest influences?

I regularly look through coffee table books created by master photographers like Constantinos Petrinos, Tony Wu, Jurgen Freund, Michael Aw and Gutsy Tuason. Their photographs are very inspiring.

What are your immediate plans, future goals, projects, dreams?

While I will maintain to use film, I foresee the eventuality of using digital cameras for specific purposes and situations. As a goal for the future, I would like to take underwater images of humpback whales.

Please add anything else you would like to share that is unique about you, your work or your experience.

By profession, I am a development worker. I have spent most of the last ten years in poor communities of Asia and Africa. I do a lot of traveling and get exposed to many different cultures, languages and locations. Like underwater photography, working with indigenous peoples is my other passion. ■

To order images by Nonoy Tan, please contact the photographer directly by emailing him at:

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portfolio

Anglo-African Adventures

photography by
Edwin Marcow

A great white shark grabs more than it can manage

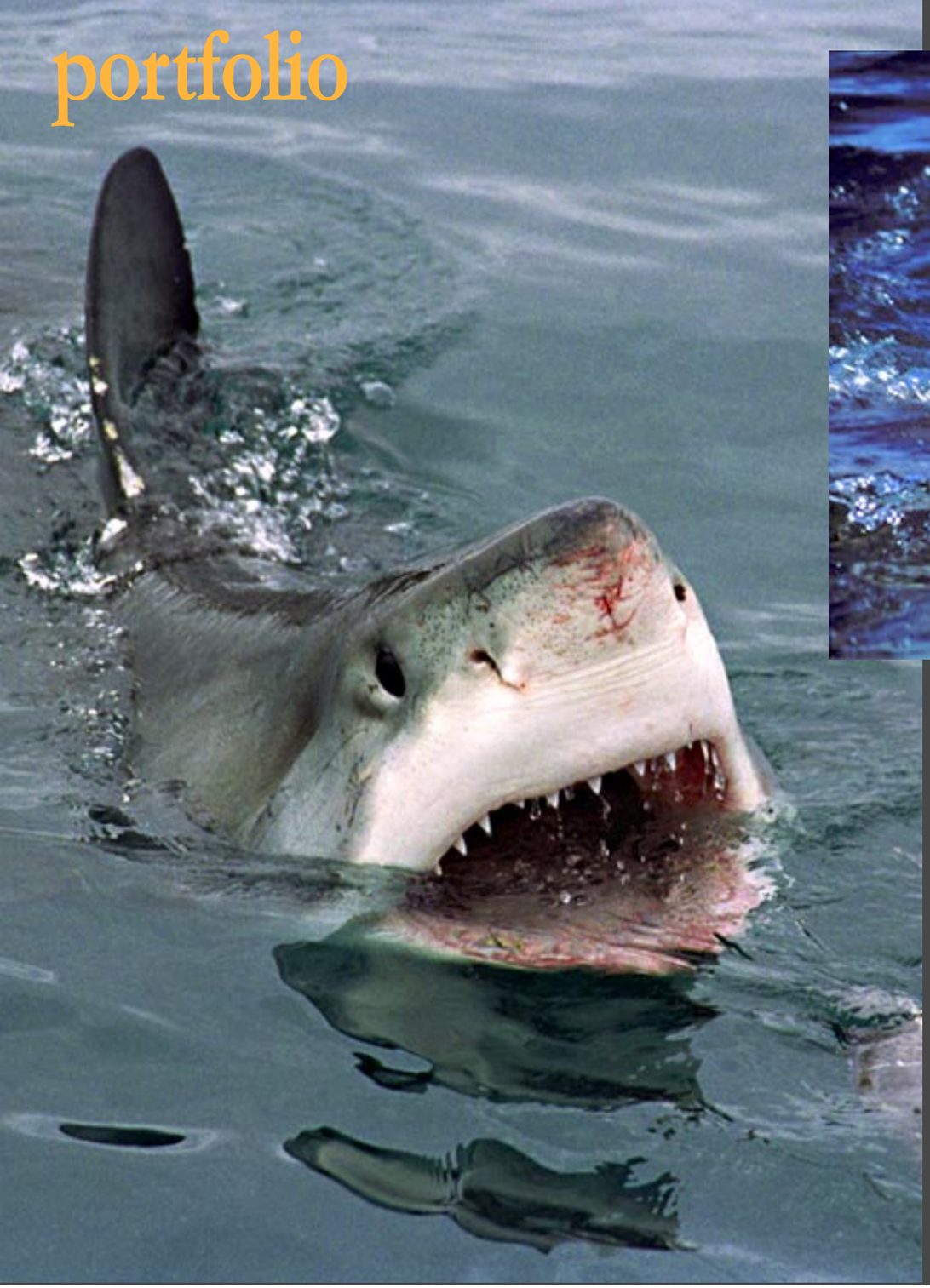
A sunlit background reveals the sleek silhouette of the prehistoric form that gives power and grace to the shark in the water

From the big to the small... A clown fish aggressively guards his anemone

Close encounters of a bit too close kind

portfolio

Edwin Marcow



A large white shark reveals his blade-sharp white teeth

The signature white shark fin is a symbol of terror and fear for many

A dramatic moment is captured with a jumping white shark catching some air time while grabbing a seal by its teeth

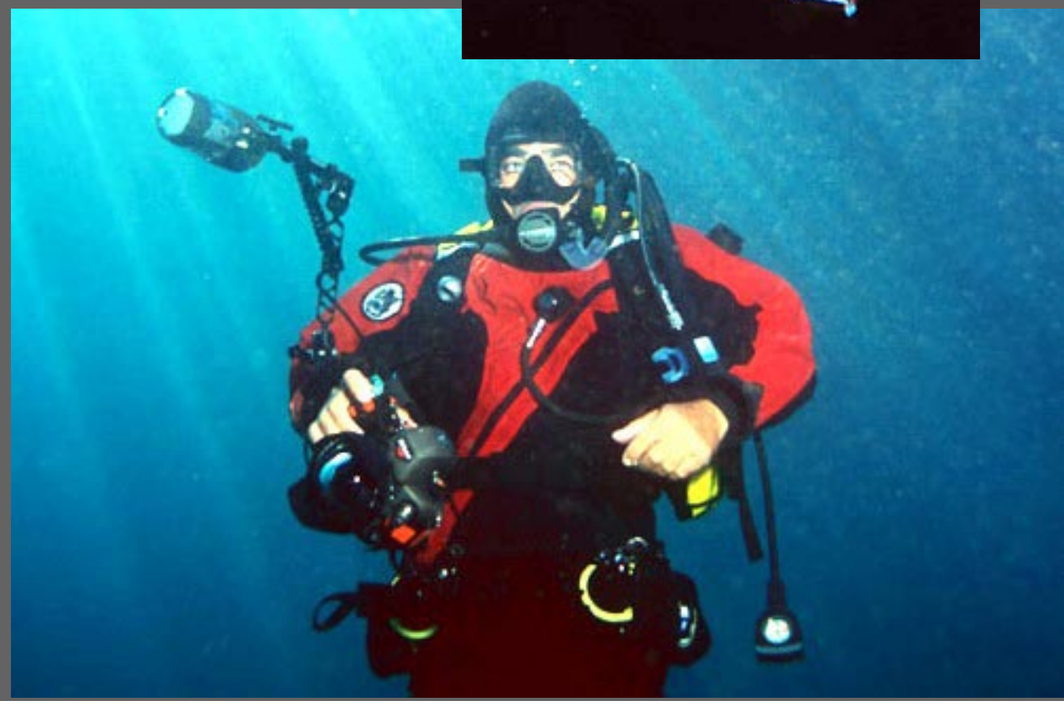
portfolio

Edwin Marcow

INSET: Two Butterfly fish fignt to defend their territories

RIGHT: A brightly colored spanish dancer displays its graceful movements

BELOW: Edwin in full gear



Born in Cape Town, South Africa, Edwin Marcow's passion for the ocean and wildlife began early in life. After emigrating to the U.K. at age nine, Marcow learned to dive in these colder waters at 16.

Marcow completed formal photographic studies and eventually gained the opportunity to work with Greenpeace and Partridge Films where he pursued diving and wildlife photography.

He travelled the Americas and Austrailia where he met shark expert Ron Taylor. Marcow experienced his first shark encounter in Australia when he assisted a White Tipe Reef Shark that had been accidentally speared.

In 1999, Marcow became PADI Divemaster and completed a program in shark behavior in South Africa. Here, he dived free with Hammerhead and Zambezi sharks.

He worked for Andre Hartman of Marine Dynamics on a documentary for National Geographic where he operated the Seal Cam.

During this experience, Marcow swam free with a Great White Shark. His signature shots of the Great white were recognized by the Tenth International Festival of Underwater Photography and Film.

Marcow was also awarded the gold and silver in the classic 13th Hasselblad Austrian super circuit.

On an assignment in Gansbaai in 2002, Marcow worked with Hartman and acclaimed wildlife photographer, Amos Nachoum, who was the model for a product shoot.

Marcow photographed Amos and Great White sharks in the open ocean and from the sea floor (with no cage) for an advertising campaign for AP Valves, with both diver and shark "posing" together.

Marcow is one of the first in the world to photograph White Sharks from the sea floor in South African waters. An image from this production placed second in the PADI/Sport Diver photographic competition.

Marcow is a member and supporter of the Shark Trust, Project Aware, WWF. The Anglian Wolf Society, Wild-Aid and Cheetah Outreach.

He recently donated the use of his images of Great White Sharks for an article highlighting the plight of sharks and the decline of their numbers to support the conservation trust Bite-Back. To order his images, visit: **www.edwinmarcow.com**

Ad featuring Edwin's shark image

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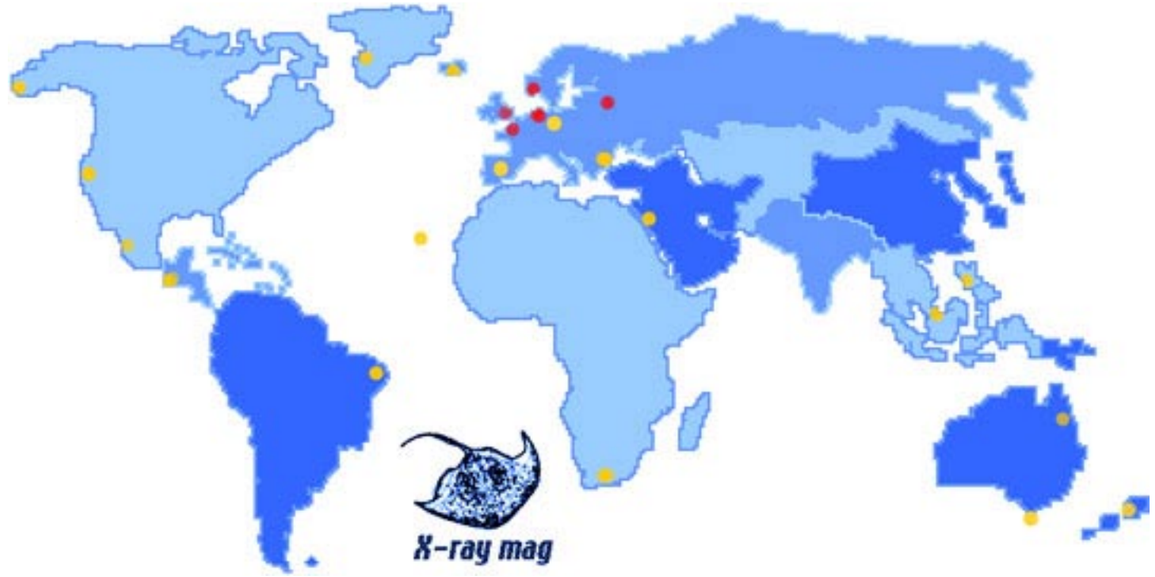

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