

Dive Fashion Extravaganza!



GLOBAL EDITION
April :: May
2006
Number 10

Nordic Diving
Norway

NORDKAPP TRONDHEIM WRECKS
LOFOTEN KRISTIANSAND

American Escape
Hawaii
MAUI LANAI MOLOKAI

Papua New Guinea
New Britain

Russia's Longest
**Ordinskaya
Cave**

Profile

Dive Systems

Portfolio

Ukraine Delta Children's Club

COVER PHOTO BY STEIN JOHNSEN

DIRECTORY

X-RAY MAG is published by AquaScope Underwater Photography
Copenhagen, Denmark - www.aquascope.biz
www.xray-mag.com

**PUBLISHER
& EDITOR-IN-CHIEF**
Peter Symes
psymes@xray-mag.com

**MANAGING EDITOR
& CREATIVE DIRECTOR**
Gunild Pak Symes
gsymes@xray-mag.com

**ADVERTISING
Americas & United Kingdom:**
Kevin Brennan
sales-uk@xray-mag.com

Europe & Africa:
Harvey Page,
sales-europe@xray-mag.com

International sales manager:
Arnold Weisz
arnold@xray-mag.com

South East Asia Rep:
Catherine GS Lim, Singapore
cat@xray-mag.com

Internet Advertising:
Deb Fugitt, USA
DebF@xray-mag.com

SENIOR EDITOR
Michael Symes
science@xray-mag.com

TECHNICAL MANAGER
Søren Reinke
sreinke@xray-mag.com

CORRESPONDENTS
Enrico Cappeletti - Italy
Jordi Chias - Spain
John Collins - Ireland
Jeff Dudas - CA, USA
Tomas Knutsson - Iceland
Marcelo Mammana - Argentina
Yonatan Nir - Israel
Svetlana Murashkina - Russia
Gary Myers - Tasmania
Barb Roy - WA, USA
Yann Saint-Yves - France

CO- EDITORS
Andrey Bizyukin
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Michel Tagliati - *Videography, Rebreathers, Medicine*
Leigh Cunningham
- *Technical Diving*
Edwin Marcow
- *Sharks, Adventures*
Michael Portelly
Catherine GS Lim

REGULAR WRITERS
Robert Aston - CA, USA
Bill Becher - CA, USA
John Collins - Ireland
Amos Nachoum - CA, USA
Nonoy Tan - The Philippines

CONTRIBUTORS THIS ISSUE
Nils Aukan
Dan Beecham
Andrey Bizyukin, PhD
Leigh Cunningham
Enrico Capeletti
Jason Heller
Stein Johnsen
Catherine GS Lim
Michael Aw
Rosemary 'Roz' Lunn
Edwin Marcow
Barb Roy
Donald Silcox
Gunild Pak Symes
Michael Symes
Peter Symes
Arnold Weisz
Yann Saint-Yves

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COVER PHOTO

Wall of Sea Anemone, Lofoten, Norway by Stein Johnsen



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Anglerfish, Lofoten, Norway. Photo by Stein Johnsen



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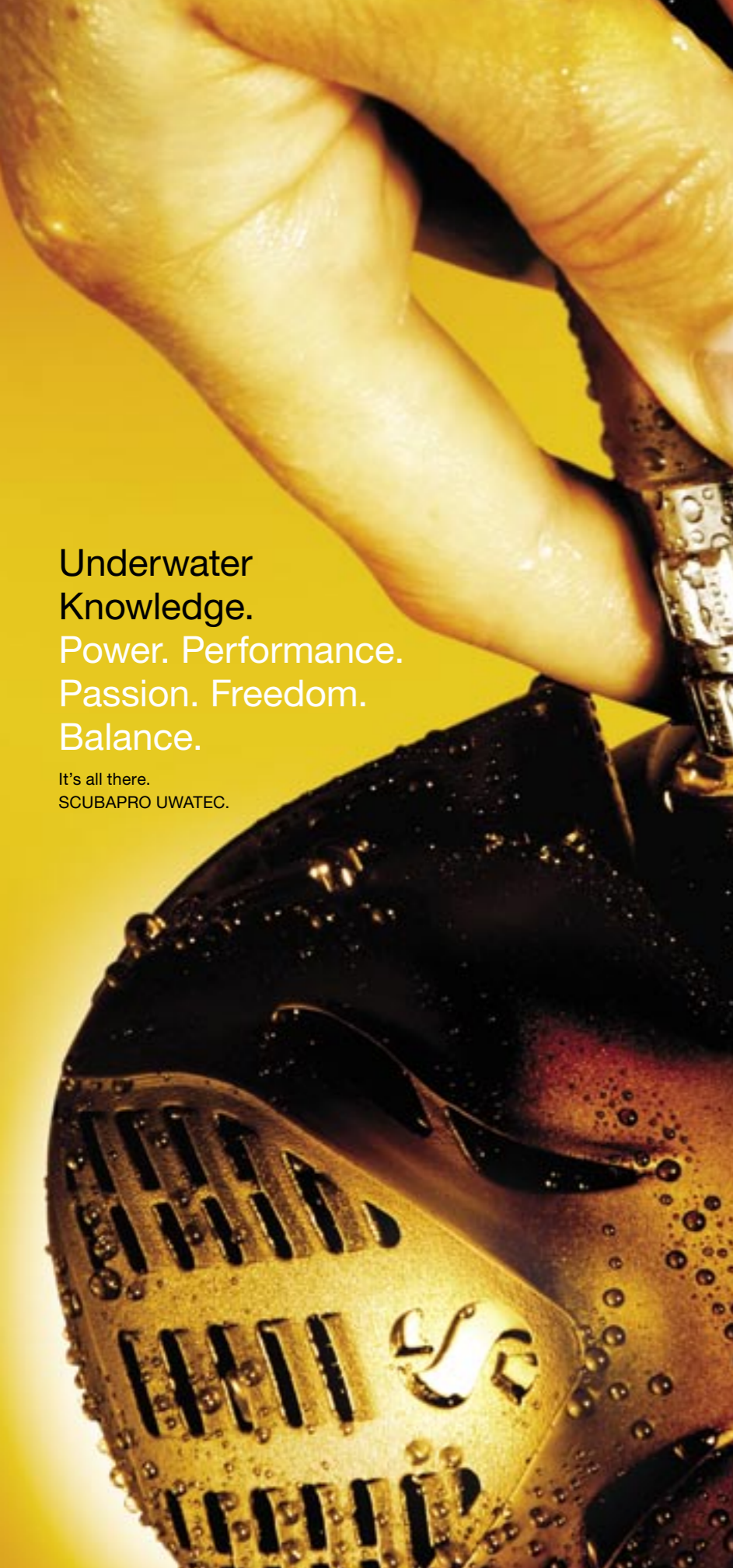
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Time Magazine's cover, published the same week as we publish X RAY MAG issue #10. **Be very worried** about global warming, it says. Click on the magazine cover to link to that issue of Time Magazine

editorial

Therapy!

Finally—global warming and collapsing ecosystems have started to make big headlines in mainstream media. Just look at this week's edition of *Time Magazine* for example.

Well, I am glad. Hopefully, the message will now, finally, sink in around the world. And hopefully, that means I can soon change my agenda and go back to writing about issues related more specifically to diving and the wonders of Mother Nature. A while ago, I referred to what Paul Watson of Sea Shepherd said about being an environmentalist in our times—it involved what he called the 'Cassandra Principle'—you tend to end up being the constant dooms day preacher if you're an environmentalist nowadays.

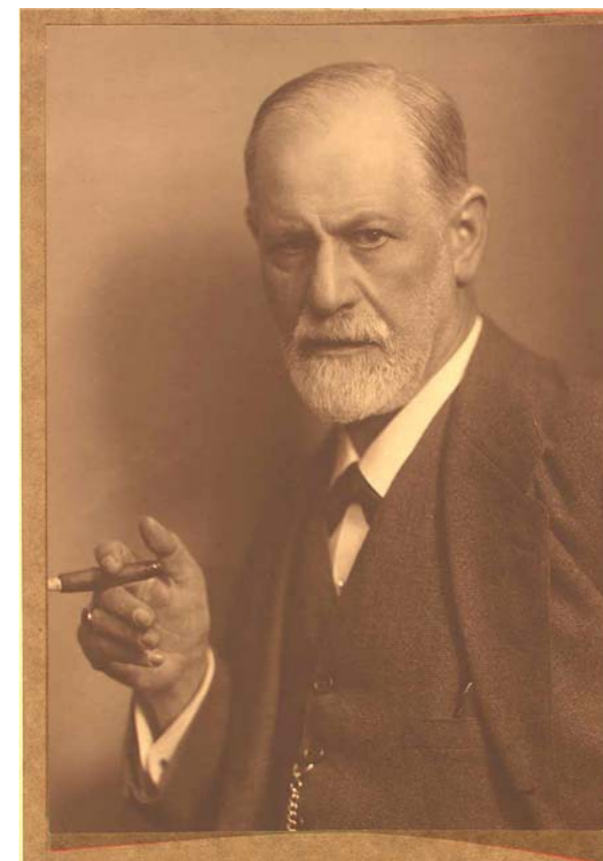
Enough. Let us focus once more upon all the wonders of the blue realm and the magnificent experiences diving can give us. Diving is so much better for you than golf, racing bikes or collecting stamps. Why? Because what other activity can, in one package, provide you with awesome adventures, give you astonishing encounters with alien creatures, challenge you

both physically and mentally, allow you to be an explorer of your own, have you fully imbedded in another realm without mind-altering drugs and come face to face with history through archeological remains. Diving has it all, and most of us can get involved in it at some level.

I don't know about you, but diving also helps me preserve my sanity and frame of reference in the otherwise up-tight and stressful reality of the modern corporate world in which I find myself residing. I can be as tense as a drumskin before a dive, but during the dive, I always let go. At some point, I have this big 'sigh' where I let go of all my stresses, and I come out of the water with a goofy grin, much more relaxed and altered with a different perspective on all of life's burdens. It is pure therapy. Never fails—not even the time when I had a major equipment failure.

And it doesn't really matter whether it is a challenging dive with twin tanks, or the trusty ol' rebreather, or a deep wreck dive, or I'm just crawling about in the shallow water looking at what's hiding in the sea-grass.

In fact, I highly recommend the latter. When I did some scuba instruction a while back, I used to take my students into the shallows and just sit them there for a while and have them watch the life come out of hiding. Invariably, I would get this initial look of bewilderment



Founder of psychotherapy, Sigmund Freud
Photo by Max Halberstadt, ca. 1921
U.S. Library of Congress

from the students—like, what am I up to, and can we please get on with the show? But it lasts only for a short while, once I start pointing out all the small critters that would otherwise go unnoticed if the students just finned by like it was their commute to work—which, it is not. Why is it that most divers think that all the exiting stuff is around the next corner, and that we better get over there quickly—the sooner, the better?

Most fascinating stuff in nature, and particularly, in the ocean, is rather small. So, get down on your belly, relax and start using your eyes. Watch and you will start noticing a set of eyes over there, and that leaf to your left is not a really a leaf, but a well camouflaged critter of some

sort. Surprise! Lie still and you will observe the animals breathe, feed, mate and hunt. And perhaps then, you will start understanding what it is all about.

Diving is what can teach us all the value of protecting what is out there—how the ocean is the basis of our existence—and why what gives us pleasure and enrichment in the process is worthwhile taking care of. Dive travel and wildlife encounters are big business, but who says that you have to break the piggy bank to go overseas on some exotic trip? Unless you are living in the middle of a desert, there are usually local options for getting your head wet.

If only more of the world's leaders would go diving. I can't help

but notice that every time some president goes scuba diving, the protection of the marine environment in that country tends to get significantly better—including enforcement by armed forces—as we have seen in Mexico, for example.

There is still a long way to go, but getting more people to dive will inevitably help create the necessary basis of awareness and understanding that might ultimately save our planet for future generations.

Go out and get wet—and get your buddies to dive as well.

But before you go, please sign the petition below to save the sea turtles on Bali as this month's good deed. Thanks. ■



KURT AMSLER / SOS SEATURTLES

Please support SOS-SeaTurtles

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Link to SOS Sea Turtle's main webpage ☀

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News from NAUI in X-RAY MAG:

This issue of X-RAY MAG includes news and press releases from NAUI in sections designated by the NAUI logo. While the page design is done by X-RAY MAG as an integrated part of the magazine, these news stories are brought to you by NAUI at NAUI's discretion.



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X-ray mag

A midwater octopus (probably *Japetella* sp.)



Bubblegum coral (*Paragorgia arborea*)



from the blue NEWS

News edited by Catherine GS Lim and Peter Symes

Images courtesy of NOAA/MBARI 2006

It was a trip that was two years in the making. But the wait was worth it, with the rewards being new discoveries in ancient coral gardens and marine life at the Davidson Seamount, as well as exciting material for an upcoming BBC series.

sponge gardens," said Allen Andrews, a radiochemist from the Moss Landing Marine Laboratories.

At all times, a film crew from the BBC was on hand to chronicle the high points of the expedition and footage of the Davidson Seamount, to use in an upcoming series Planet Earth that will be broadcast later this year.

"There was far more growth and coral than we could have imagined. It looks like a tropical coral reef down there in places."

The expedition was a follow-up to a 2002 trip to the same location where scientists "were blown away by the size, age and diversity of the deepwater corals we saw," according to Andrew DeVogelaere,

Sanctuary Research Coordinator and Chief Scientist for the 2006 expedition. "We wanted to go back to learn why so many extraordinary corals thrive there and to determine their age and growth patterns."

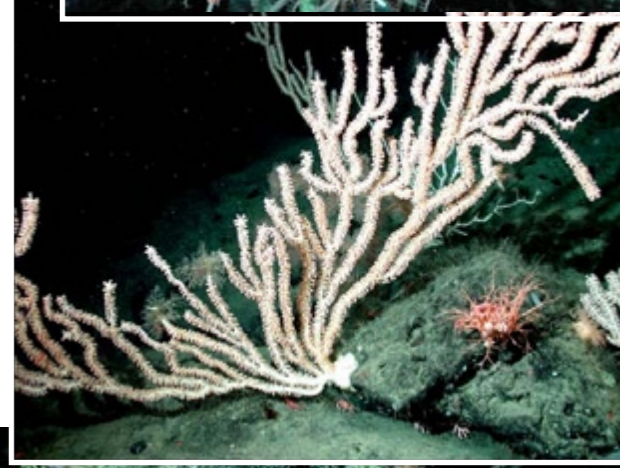
The 2006 expedition was a success, and now it is up to the scientists to analyse the 102 deep sea animal and rock specimens that were collected during the expedition.

The Davidson Seamount is one of the world's largest seamounts. In fact, in the western Pacific Ocean, it is the largest, serving as home to fragile ancient cold water coral gardens. Some of the species found there are a few centuries old and over 2.5 metres tall. ■

Mushroom soft coral (*Anthomastus* sp.)



Bamboo coral like this can live to be more than 200 years old



An unidentified cnidarian that resembles a Venus fly trap from the family *Hormathiidae*. Found at 1874 meters depth

This curious octopus (*Benthooctopus* sp.) was found at 2422 meters depth next to an orange stalked crinoid



Davidson Seamount Expedition yields exciting bounty

Edited by Peter Symes

RECREATED FROM: JUAN CARLOS PEREZ JIMENEZ, ET AL. COPEIA, 2005(4), PP. 834-845

Mexican biologist discovers new shark species

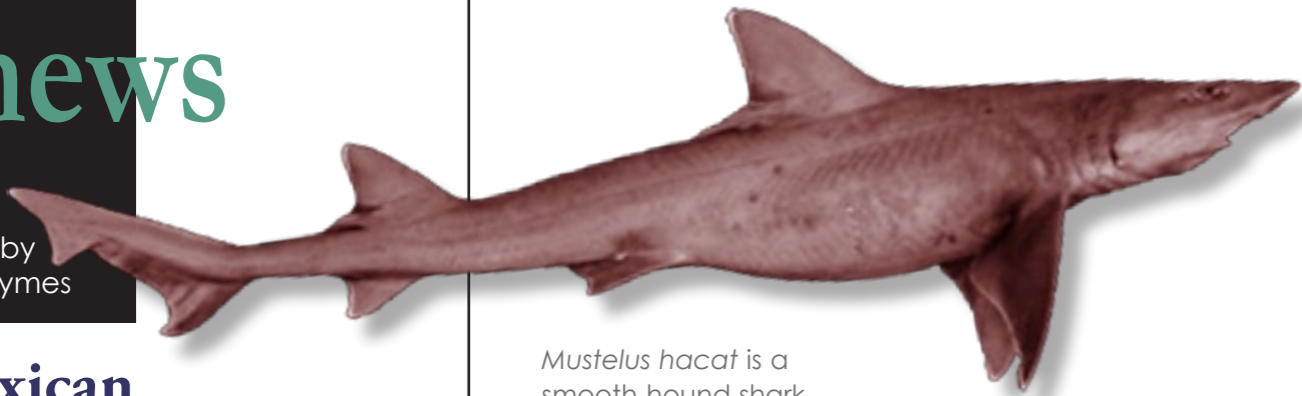
Mexican marine biologist, Juan Carlos Pérez Jiménez has discovered a new species of smooth-hound shark in the murky depths of Mexico's Sea of Cortez. The shark, which brings to five the types of *Mustelus* shark found in the eastern North Pacific, is the first shark discovery in the Sea of Cortez since the tiny Mexican Horn Shark was identified in 1972.

There are some 50 to 60 species of shark in the Sea of Cortez, a narrow body of water also known as the Gulf of California that separates Mexico's Baja California peninsula from the mainland and is famous for its rich and unique ecosystem.

The new species is slender, dark gray-brown and around 1.5 meters long and is named *Mustelus hacat* after the word for shark in a local Indian dialect. It lives in the ocean's depths feeding on shellfish and shrimp, and with their very small teeth they are really not aggressive or dangerous.

"There must be more undiscovered species there, but access is difficult. If we hadn't been on those boats, I'd never have seen them because that's the only place they are caught. And it's not a region that attracts scuba diving," said Perez. ■

SOURCES: JUAN CARLOS PEREZ JIMENEZ, ET AL. COPEIA, 2005(4), PP. 834-845 AND REUTERS



Mustelus hacat is a smooth-hound shark species first discovered by ichthyologist Juan Carlos Pérez Jiménez in the Gulf of California

The discovery of the Furry Yeti Crab

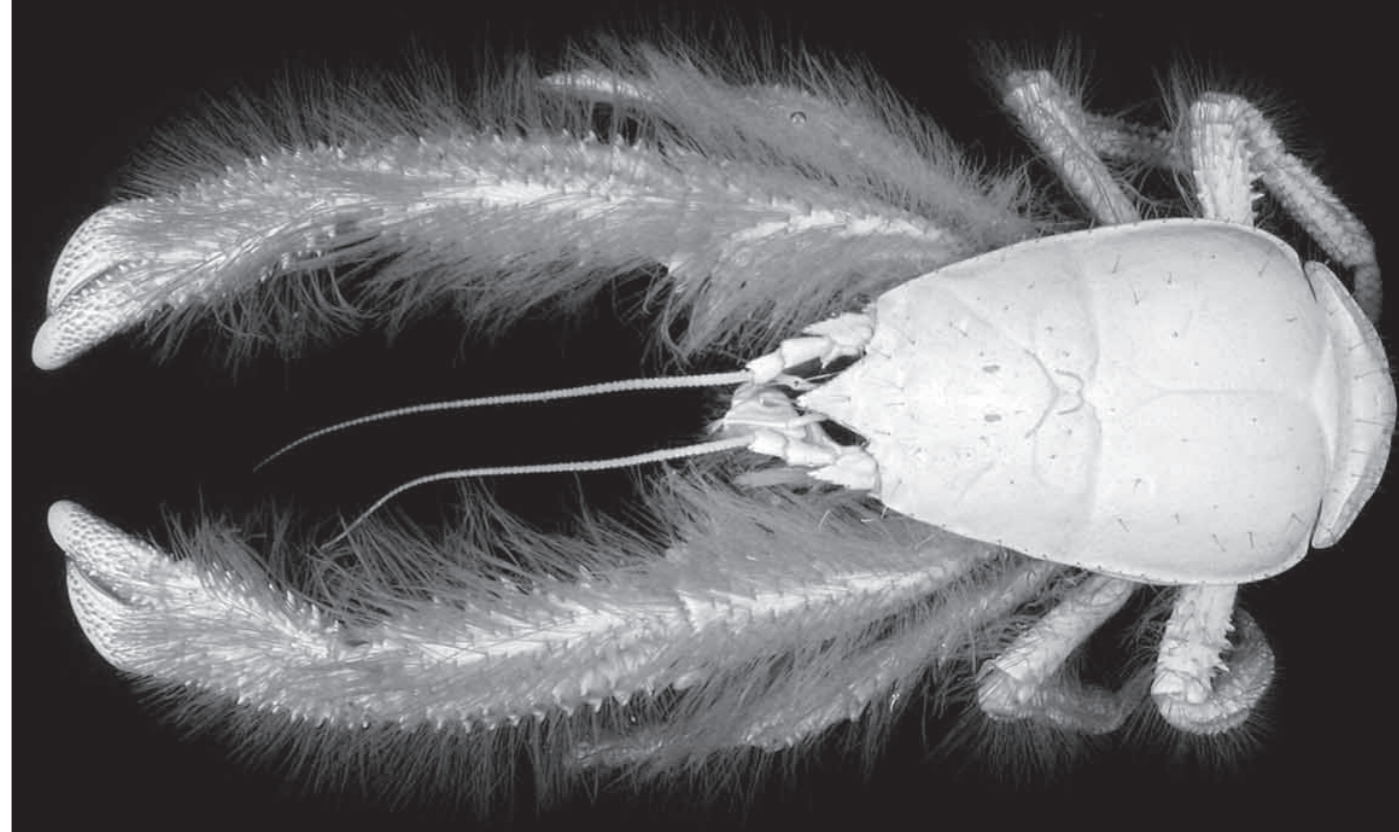
French and American marine biologists have discovered a crustacean in the South Pacific that resembles a lobster or crab covered in what looks like silky fur.

The "Yeti Crab", as it has been dubbed, is white and 15cm (5.9in) long, according to co-discoverer Michel Segonzac of the French Research Institute for Exploitation of the Sea

(Ifremer). The animal was collected at 2300m depth around a deep sea vent called Annie's Anthill 1,500km south of Easter Island. The crustacean has surprising characteristics, most notably are the presence of a dense seta covering the legs.

Observed under an electron microscope, it is revealed that these seta harbour huge amounts of filamentous bac-

The 'hairs' on the yeti crab contains huge amounts of bacteria



teria. The role of these seta and these bacteria is presently unknown. Some scientists speculate the bacteria detoxify poisonous minerals from the water, allowing the animal to survive around the vents. Alternatively, the animal may actually feed on the bacteria that live in the

hair-like strands. In addition, the animal is blind, and where the eyes should be, one observes only one vestige of membrane. It belongs to a new family, *Kiwaidae* (from *Kiwa*, the goddess of shellfish in the Easter Island Polynesian mythology), and has been given the latin

name *Kiwa hirsuta*.

The new creature resembles freshwater "squat lobsters" found in South America. But genetic analysis shows it is closer to marine members of this group. ■

Article in *Zoosystema* 2005, 27 (4)

Deep-sea expeditions find an 'Oasis in the Desert'

If you think that the deep sea realm is a barren wasteland covered with the occasional flatfish, beady-eyed anglerfish and scattered sea grasses, think again. Going by recent discoveries, perhaps it's time to start thinking lush corals, anglerfish weighing in at 35 pounds, at least six new species of marine life and a frenzy of mating activity.

In short, the sea floor—at least at the Mid-Atlantic Ridge—is one 'happening' playground.

Yes, for some species, it's a hotbed for spawning activities. At least, that's what scientists

now suspect. Normally solitary and scattered, large numbers of them (deep sea fishes, not scientists) were congregating there. And with the presence of pregnant females, the likelihood of spawning activity is a distinct possibility—something that surprised Tracy Sutton, a fish expert at the Harbor Branch Oceanographic Institution in Florida, USA.

"This is the first time anyone has suggested that deep sea pelagics form groups to spawn and then disperse again, which would require some homing ability or knowledge, but I can't

even speculate yet on what the trigger would be."

Not since the Challenger Expedition of the 1870s has there been a study of deep water pelagics on such a massive scale. These discoveries were made in the course of the Mid-Atlantic Ridge.

Ecosystems program, which is part of the Census of Marine Life, is an initiative started in 2000 to assess the diversity and distribution of marine life.

In addition, the discoveries uncover the need to monitor deep sea trawling activity and its impact on the marine

environment. Although such activities are rare in the Mid-Atlantic Ridge, it is only a matter of time before human activity finds its way there, as deep sea fishes in other areas become fished out.

So says Sutton, "It's important that we explore and map out these hotspots before fishing stretches into these areas, so that we can determine what the real damage is going to be and what needs to be protected." ■



Edited by Peter Symes

Mediterranean deep sea coral reefs gain protection

Three ecologically important deep sea areas have been protected off the waters of Italy, Cyprus and Egypt, following a recent decision by the General Fisheries Commission for the Mediterranean (GFCM).

The three designated protected areas include: the deep water coral reef off Capo Santa Maria di Leuca, Italy, in the Ionian Sea, which is home to the rare white coral, *Lophelia*; a chemosynthesis-based ecosystem (an ecosystem that does not depend on the sun as a source of energy) offshore from the Nile Delta; and the spectacular Eratosthenes seamount, south of Cyprus, which hosts rare coral species. ■ Source: WWF



Marine Life Treasure Trove Found

A coral-crowned underwater mountain with some of the richest diversity of marine life in the Caribbean has been found in the Saba Bank Atoll, 250km southeast of Puerto Rico

During a two-week dive, researchers counted a total of 200 species of fish, over 150 more than previously known in the region, and vast and luxurious seaweed beds with at least 12 new species of algae discovered.

Among their finds were two new species of fish, both gobies, which have the distinctive feature of fused pelvic fins on the underside of their body which forms a sucker.

"Many gobies live in the



JEFFREY T. WILLIAMS / SMITHSONIAN

canals inside sponges, so we take samples out of sponges, and open the canals up to search for the small fish that can be in there," explained Dr Smith, a scientist on the expedition from Conservation International.

But the fragile ecosystem is endangered by supertankers. A petroleum trans-shipment depot on the nearby island of St Eustatius causes a significant amount of marine traffic. The big tankers, in order to avoid mooring fees at St Eustatius, are said to

This new species of goby fish, less than a cm long, was discovered in the Saba Bank Atoll in the Netherlands Antilles.

anchor on the bank, causing significant damage to the reef.

The researchers are hoping to get the area protected by the International Maritime Organization (IMO). Saba Bank Atoll is ranked as the third largest atoll in the world and has an enormous active reef. ■

Source: BBC

Most Flower Garden Banks coral reefs recovering from bleaching event, NOAA survey shows

"It is the cumulative impact of a number of seemingly small injuries that appear to be causing the overall degradation of many coral reefs. Think of it as being 'pecked to death by ducks' "

GEORGE SCHMAHL, MANAGER OF THE NOAA FLOWER GARDEN BANKS NATIONAL MARINE SANCTUARY

The coral reefs of NOAA's Flower Garden Banks National Marine Sanctuary, located off the Texas-Louisiana coast, have begun to recover from what some observers feared would be a deadly coral bleaching event this past fall.

Last fall, surveys showed an average between 42 and 46 percent of all coral were showing signs of bleaching. In a follow-up survey in January the numbers were 4 to 10 percent.

"History has shown the Flower Garden Banks to contain resilient coral reefs," said George Schmahl, manager of the sanctuary. "Further research is needed to determine what allows this location to be so resilient. This may help us understand why reefs in other places are not doing as well and how we can help them." ■



NAUI products and services highlighted at ADEX Show—latest products, updates and NAUI information featured

TAMPA, FL.— NAUI, the world's second largest diver certifying agency, will again exhibit at this year's ADEX (Asia Dive Expo) Show, to be held 21-23 April in Suntec International Convention & Exhibition Centre, Singapore. The latest training and educational products and business services will be featured at booth #224. Representatives will also present a NAUI Member Update on Saturday, 22 April, from 3:00 to 5:00 PM in room MR 301.

Because of the tremendous success of NAUI Dive Centers in the region, a large number of divers and industry professionals are expected to visit the booth. Visitors will have the opportunity to inquire about the availability of insurance, order products or renew their memberships and schedule crossovers for their dive businesses and professional affiliations.

For more information about NAUI activities at the ADEX 2006, please contact Jack Cheong, Vice President, NAUI Services Pacific Rim, at jack@naui.com, or visit NAUI booth #224 at the show. Visit www.asiadiveexpo.com for more information about Asia Dive Expo.

NAUI Worldwide is the oldest and most respected diver certifying organization in the world, whose members offer a full range of training programs from Skin Diver through Instructor Course Director, with dozens of specialty courses including Nitrox and Technical diving. Tens of thousands of NAUI member instructors, dive businesses, resorts, and service centers are located in countries throughout the world. For further information on NAUI affiliated stores, resorts and certified diving instruction, contact NAUI at (001) 813-628-6284 or www.naui.org ■

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The next North Sea coral reef?
The now decommissioned BP
North West Hutton platform

Corals fond of North Sea oil rigs

Coral larvae need a hard surface where they can settle, creating a strong attachment point for a new colony. Most of the North Sea bed is unsuitable for reefs as the bottom is muddy and has few rocky areas.

Enter the oil and gas platforms which have turned out to be ideal platforms for corals. In turn, the reefs provide critical habitats for a multitude of other aquatic animals.

As BP's vast North West Hutton platform, which started to produce oil and gas more than two decades ago, has now reached the end of its life, it may now become the first artificial reef of its kind in the North Sea. A convention states that oil rigs must be completely removed, but as this particular platform is so huge—standing 240 metres tall in 140 metres of water—an exception here can be applied. ■



Groundwater key nutrient source for coral reefs

Coffee drinkers may be unknowingly sharing their double lattes with coral reefs, according to Stanford University researchers who have studied the effect of groundwater discharge on coastal oceans.

Their study, published in the January 2006 issue of *Limnology and Oceanography*, establishes groundwater as an important source of nutrients to coral reefs around the world.

Groundwater, the scientists caution, also may increasingly contribute to reef pollution as growing coastal populations introduce foreign chemicals into the

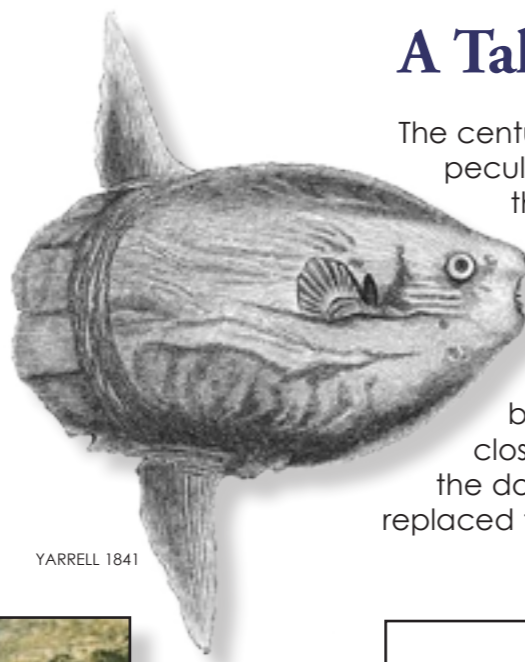


Does it
end up in
the corals?

marine environment.

"We've seen estrogen, caffeine and fertilizer—all sorts of things you don't naturally find in the ocean," said Adina Paytan, an assistant professor in Stanford's Department of Geological and Environmental Sciences and lead author of the study. "The same is true of ibuprofen, pharmaceuticals and bacteria that has to do with human, bird or dog feces." ■

Source: *Stanford News Service*



YARRELL 1841

A Tall Tail Tale?

The century-old mystery of what comprises the peculiar tail of one of the largest of all bony fishes, the ocean sunfish (*Mola mola*), has been resolved, according to researchers from London's Natural History Museum and the Smithsonian in Washington.

The sunfish's unusual tail evolved, not from an adaptation of the tail or caudal fin, but when the dorsal and anal fins merged, closing the gap inwards. In evolutionary terms the dorsal and anal fins have now completely replaced the tail fin. ■



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PETER SYMES

File photo

Most reefs damaged by 2004 tsunami can recover in 10 years

Most coral reefs escaped "serious damage" from the 2004 tsunami and should recover in less than 10 years according to a report released by Global Coral Reef Monitoring Network.

Reefs in Indonesia, Sri Lanka, India and Thailand were hardest hit, with damage reaching up to 30 percent in some places. But much like earlier studies, it was found that human activities like illegal fishing and climate change pose the greatest risk to the future of these reefs. Ongoing human stresses pose a far greater threat to the survival of Indian Ocean coral reefs and mangrove forests, the report found.

Consequently, the successful recovery of the damaged reefs will, to a large extent, also depend on local gov-

ernment's efforts in protecting their marine ecosystems. Stronger conservation and protection of coral reefs and other coastal resources is needed to enhance their resistance to future disasters.

"The hardest hit animals were turtles, which lost nesting sites in Thailand and India's Andaman and Nicobar islands," said Clive Wilkinson, the report's lead author. "There were at least two key nesting sites lost in the Andaman's, but now we're seeing these turtles just go to other beaches and find new nesting sites," he said.

The report called on tsunami-devastated nations to proclaim exclusion zones to protect people from future tsunamis and storm surges, and to adopt government policies that better protect the reefs. It also called for the development of alternative livelihoods for coastal villagers, so they put less stress on the marine ecosystems. ■

"Most coral reefs will recover from these stresses in five to 10 years, provided that there are no other major stresses"

The value of Reefs

Future of oceans, coasts and small island states focus for UN conference

Close to a third of corals have gone, with 60 percent expected to be lost by 2030. More than a third of all mangroves have disappeared, with the rate of loss greater than that of tropical rainforests, according to a UN report released by the Third Global Conference on Oceans, Coasts, and Islands held at UNESCO headquarters in Paris.

The figures are mind-boggling: the value of healthy coral reefs anywhere in the world is

estimated at between US\$100,000 to 600,000 per km² per year; the costs of conserving these same reefs in a marine protected area would be just US\$775 per km² per year, the UN Environment Programme (UNEP) report estimates.

"I hope the financial facts contained in this study will radically change the attitude and behavior of governments, industry, local authorities and individuals, so that they better prize and conserve

these natural assets," said UNEP's Executive Director Klaus Toepfer, "so that they think twice about the pollution, climate change, insensitive development and other damaging practices that are rapidly undermining the economic basis for so many coastal communities worldwide."

In Indonesia, where tourism is the main industry, reefs are estimated to be worth US\$1 million per km², based on the cost of maintaining sandy beaches. ■

AND THE SECOND

MOM

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Edited by
Peter Symes

Dive Medicine & Health



Scapa Flow recompression chamber also under threat

A cost-cutting exercise in Orkney's National Health Service addressing a £300,000 deficit has fuelled fears that Scapa Flow's recompression service in Stromness is facing closure.

Scapa Flow is visited by more 4,000 divers who come to dive on the famous WWI battleships. The Orkney NHS Board has, however, withdrawn the funding for decompression services, which was considered inappropriate and not a core health service provision. It decided that it would no longer pay for treatment costs of anyone other than Orkney residents.

To DIVE magazine website, Dr John Ross, consultant for NHS Grampian and a senior lecturer in hyperbaric medicine at The University of Aberdeen, stated, "If local medical support is withdrawn, I'm concerned that if divers are faced with a flight to the chamber in Aberdeen, they may not come forward for immediate assessment, and those who actually have decompression sickness may miss out on the important early treatment." ■

Minutes: Meeting in Orkney HNS, Jan 2006



German battleship *Markgraf* was scuttled in Scapa Flow on June 21, 1919, and now rests at 45m

NZ: Scuba divers facing tighter health checks

In New Zealand, scuba divers will soon be asked to provide information about their health to prevent more deaths under water.

In response to coroner recommendations after several diving deaths involving pre-existing medical conditions, the New Zealand Underwater Association has begun circulating a medical questionnaire as part of best practice guidelines. It is hoped that the questionnaire will help stop regulation being imposed on the industry.

The head of New Zealand Underwater Association dive safety, Lynn Taylor, says the questionnaire will also bring overseas divers, who are not required to have a medical check before gaining a certificate, to their attention. ■



LBNI IMAGE LIBRARY

File photo. Donner chamber studies, 1962

Saudi recompression chamber closed

The only publicly accessible recompression chamber in western Saudi Arabia has been permanently shut. The chamber has been out of commission for six months and beyond reasonable repair.

"The lack of a public recompression chamber will prove a major obstacle to divers choosing the Kingdom's superb marine environment to dive in," said David Kirk, diver and manager at Al-Nakheel Beach north of Jeddah, to Arab News website, "This is further compounded by the fact that there is no single emergency telephone number to alert all the necessary emergency services to an incident."

"If it were not for the excellent military facilities in Jeddah," said Eric Mason, manager at Al-Ahlam Marina and responsible for large numbers of foreign divers' safety each year, "the lack of a publicly accessible recompression chamber would make me much more cautious about inviting divers to the Kingdom." The military chamber, however, is not generally open to the public. ■

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It's Showtime!



John Chatterton and Richie Kohler from the History Channel's Deep Sea Detectives and authors of the popular "Shadow Divers" and cameraman Evan Kovacs shared a moment at the X-Ray Mag / DivePhotoGuide.com booth to blow off some steam



Our World Underwater - Chicago

February 24-26

Reporting by Jason Heller

It was a balmy 29 degrees F in Chicago, undoubtedly a shock to the system of many a dive operator who hailed from paradise. The Stephens Convention Center in Chicago hosted nearly 17,000 divers and soon-to-be divers attending one of the larger dive shows in the U.S. The show floor was abuzz with divers eager to plan their next dive trip, or buy that new piece of gear.

Our World Underwater is a very well organized show. The film festival was exceptional and very well attended. Phil Nyuten, Stan Waterman and Al Hornsby were among the esteemed presenters.

Larry and Denise Tackett, Cathy Church, John Chatterton and Richie Kohler were among a small handful of pro photographers and authors signing books and presenting work-

shops. There were also plenty of workshops and exhibitors focusing on local wreck diving in the Great Lakes, a popular past time of local divers. The Chicago dive community is alive and well!

We want to welcome all the new X-Ray Mag subscribers in Chicago! ■

Carl Vincente from Ocean Concepts in Hawaii and Greg from Scuba Radio



The Two Dive Shows in Moscow

February 17-19



Golden Dolphin Show was held near the Red Square

The Dive Expo in the Olympiskie venue during build-up

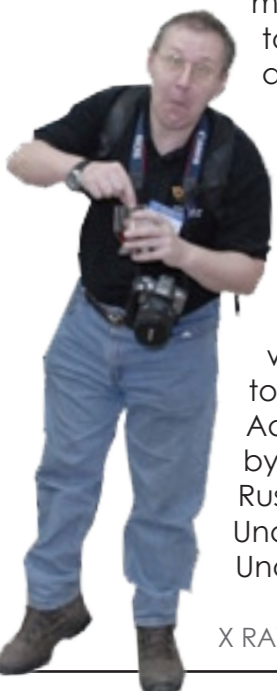


Two overlapping and competing dive shows in the same city. That's the dive scene in the Russian capital Moscow mid-February. Sounds confusing? Well, to many, it was—with exhibitors, both international and domestic, either shifting venue in the last minute, exhibiting both places or shuffling back and forth.

The Diving 2006 expo in Olympisky included a special children's playground where little future divers were entertained by animators. The exhibition included Aquaforum 2006 organized by its official partners, the Russian Confederation of Underwater Activities and the Underwater Sports League.

This 4th International Exposition 'DIVING 2006' proved to be the most successful so far by attracting 18,000 visitors and leading equipment manufacturers, overseas resorts as well as tourism organisations from Portugal, Malta, South Africa, Thailand, Madagascar and Vietnam. www.diving-expo.ru

Meanwhile, the concurrent and somewhat bigger Golden Dolphin show, while also promoting diving in general, set itself apart by having a much higher profile when it came to the international photography and video competition that saw lots of the top names entering. Check the results here: www.mosfest.ru ■



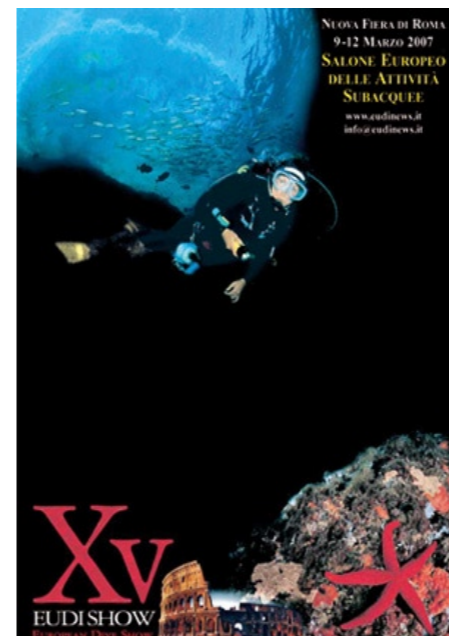
X RAY MAG's Russian colleague and editor, Andrey Bizyukin, covered both shows



EUDI Show - Genoa

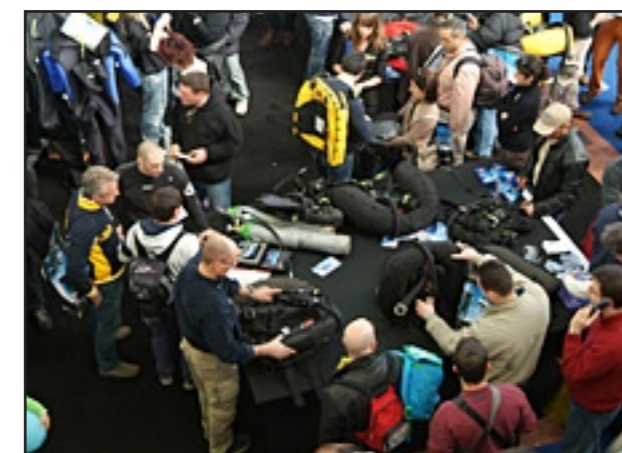
March 9-12

Reporting by Enrico Capelletti



281 exhibitors from 20 different countries were present at the 2006 edition of the EUDI Show held in the usual venue alongside the Mediterranean in downtown Genoa. It is still one of the most significant consumer dive shows, but it was almost tangible how the overall downward trend, which the dive industry is suffering of late, is having an affect here too. For a repeat show visitor, it was obvious how diving businesses have reduced their presences.

Many of the classical manufacturers are restructuring as production in the Far East is cheaper, while the local dive operators are



facing a challenge of their own competing with the very cheap holidays to the Red Sea. ■

Training

Edited by
Peter Symes

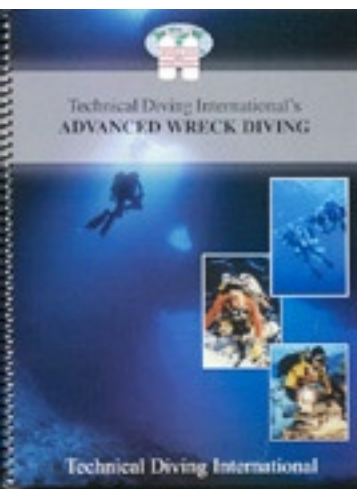


TDI Scubility

Scubility is a program designed to teach SDI instructors how to work with disabled people who wish to become scuba divers. The Scubility program has been structured to be used in conjunction with our existing SDI open water text. This means

that an SDI instructor interested in working with challenged divers can upgrade as a Scubility instructor very simply by learning specifically how to best meet the particular needs of this new group of potential divers. The basics of diving and the student materials are exactly the same as they have been teaching their whole SDI careers. A Scubility instructor guide has been written to help the instructor match the course to the divers' abilities

Materials in the Scubility program address disabilities such as; amputations, asthma, cerebral palsy, hearing disorders, muscular dystrophy, sight impairment and many more. To learn how to become a Scubility Instructor or to learn more about Scubility contact SDI World Headquarters 207-729-4201 or worldhq@tdisdi.com ■



File Photo: TDI Advanced Wreck Diving Manual from 2004

TDI Updates Advanced Wreck Diving Training

Recently, TDI announced that it has updated its Advanced Wreck Student Manual and support materials. The update includes a newly-designed, "lavishly-illustrated" 112-page student manual and knowledge review and a new instructor guide and PowerPoint presentation. TDI claims the update conforms to the agency's new training materials' guidelines and presents the most up-to-date information available to technical divers. If you're interested in getting your TDI certification for Advanced Wreck Diving, the course introduces participants to the proper penetration skills, techniques, equipment requirements and hazards of conducting complex wreck dives. ■

2006 Mencap Dive Challenge

The Mencap Dive Challenge is a sponsored scuba diving event taking place as part of Mencap's Learning Disability Week and sixtieth year celebrations on the weekend of 24-25 June 2006. Mencap, which is supported by PADI, is putting out a request for scuba divers to get together, find an underwater space and get themselves sponsored to do fun and exciting things, all in aid of people with learning disabilities.

Building on the success of last year's Dive:24, which was also supported by PADI, the UK's leading learning disability charity has created the Mencap Dive Challenge. This year scuba divers are being

asked to raise a minimum of £50 per team by doing unusual things under water—such as playing chess, having a disco or holding a teddy bears picnic. Teams can be any size, and the activity can last any length of time. All Mencap asks for is enthusiasm, a love of scuba diving and to bring together friends who will sponsor just about anything!

So go on—become an underwater supporter and visit www.mencap.org.uk/dive or call 0845 977 7779 ■



PADI Celebrates 40th Anniversary

Founded in 1966 by Ralph Erickson and John Cronin, PADI has come a long way as an organization since its humble beginnings in Cronin's garage, which constituted its first headquarters.

Today, it is the biggest diver education, certification and membership organization operating in 180 countries and territories.

To celebrate this milestone, PADI offices are now offering a series of commemorative 40th anniversary replacement certification cards. Included in this series of four limited edition cards are two inspiring images captured by renowned photographer Donald Tipton. All cards in the series are available via www.padi.com. Look for this banner throughout 2006.

PADI would like to share the celebration of their 40th anniversary and would, therefore, like to hear from dive centre owners, if they have been in the industry for 40 years and are now current PADI IRRA members. Owners should email: marketing@padi.co.uk ■



Silent Diving Systems emerges with a new line up after the tragic loss of co-founder

Silent Diving Systems, distributors of the market leading Inspiration and Evolution rebreathers recently announced the appointment of its new president, Mike Fowler, and additions to its product offerings from its new base of operations.

Mike, who founded the company with the late Cliff Simoneau is joined by several new members of the team at the company's new headquarters in New Hampshire: Peter Den Haan, the SDS West Coast Representative, will be taking on additional responsibilities as National Sales Manager and Bo Harper will take on the responsibility of Mid-West Representative. Warren Miller has been appointed as the Accounting and Operations Manager.

Silent Diving Systems has also secured the North America distributorship for Fourth Element, UK based specialist in thermal protection and manufacturer of the Xerothrm base layer and the Xerothrm Arctic undersuit.

More details about the Inspiration and Evolution rebreathers and Fourth Element products can be found at www.silentdiving.com ■

Alma Art
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Award winning Fiber Artist, Alma de la Melena Cox, creates "Telamadera Fusion," by bringing fabric and wood together in a dynamic and unique mixed-media expression. Her fine artwork can be found in galleries in California and Oregon and by contacting the artist directly. Please visit her website at:

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Bohol governor to bolster dive safety

A near-fatal incident almost cost three German dive tourists on a diving expedition to Virgen Anda their lives this past November after they barely survived drifting for more than 24 hours in open seas.

After finally being picked from the sea near Limasawa Island off Southern Leyte, they alleged that the dive boat that was supposed to be trailing their bubbles after they dipped in the water, was not where it was supposed to be when they resurfaced.

Responding to Philippine Coast Guard investigations, which revealed that the dive operations here are not clarified and that the dive boats are not well equipped. Bohols Governor Erico Aumentado is also set to sign an executive order ordering dive operators to equip their operations with the necessary equipment for their dive businesses and dive boat operators to provide life jackets, radios, fog lights and warning devices for emergency use during dives.

The move was seen as a proactive move while assuring tourists of their safety while diving in Bohol. ■

The value of healthy coral reefs anywhere in the world is estimated at between US\$100,000 to US\$600,000 per square kilometer per year *The costs of conserving these same reefs in a marine protected area, would be just US\$775 per square kilometer per year*

United Nations Environment report

Dive Into Earth Day 2006

Make a difference for 2006 as thousands of water enthusiasts take to the water for Dive Into Earth Day, which takes place the week of April 22nd. All around the globe, dive operators, divers, snorkelers and water enthusiasts of all ages will unite in a week of aquatic related environmental events to help remind the public that our precious resources need protecting.

So, why not join in and be part of the action? You can join one of the many events already taking place or organise your own. Dive Into Earth Day engages dive volunteers in hands-on aquatic conservation activities such as:

- Shoreline and underwater cleanups
- Fish ID, reef or sea turtle surveys
- Mooring buoy maintenance and installation projects
- AWARE Kids events
- Project AWARE Specialty courses
- Whale Shark Project photo excursions
- Ecology dives
- Environmental seminars, fairs or fundraising events ■

Project Aware Foundation (Int'l) Official Partners

Project AWARE has created the Go ECO campaign to educate tourists about how they can travel responsibly and inspire tour operators to implement best business practices in their local area. By making informed choices, you can support operators committed to environmentally responsible business practices. And, by following a few basic guidelines, you can minimise your effect on the ecosystems while contributing to environmental, economic and cultural conservation.

The Official Partner programme helps recognise dive centres/resorts that provide their customers with dive experiences that enhance visitor awareness, appreciation and understanding of the local aquatic environment as well as show a commitment to its conservation. ■

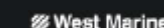


It's called
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After more than thirty years, we thought it was time that the other 72% of the planet got some attention. Which is why we're asking people to Dive In To Earth Day the week of April 18 to 24. So grab some friends and install a mooring, do a reef survey, or organize an underwater cleanup. Everybody into the water. For more information, visit www.coral.org or call (415) 834-0900.



File photo: Boat at Malapascua



Indonesia allocates fund for resettlement on empty islands

Several years ago, Indonesia lost Sipadan and Ligitan islands to Malaysia following a ruling by the international court at The Hague. What role if any, this incidence, which must have been painful, had to

play in the Indonesian government's new policy to populate empty and remote island remains to be established.

President Soesilo Bambang Yudhoyono said that the government has allocated a special fund amounting to Rp900 billion (~ US\$98 mil.) to develop border areas, among other things by conducting a resettlement program on a number of empty islands.

"It is the interest of the Government to

properly manage border areas throughout Indonesia soon. One of the urgent things is to resettle Indonesian people to several empty islands." The president, has especially asked governors in border areas to do their utmost for the security of the country's territories.

Said Riau Island Province's Governor Ismeth Abdullah said: "We try to resettle people having Indonesian identity cards on several empty islets. The reset-

tlement program will be supported with adequate infrastructures and facilities such as public sea transportation and farming areas. There will be no excuse for a foreign country to claim our island by accusing us of neglecting the empty islands, as what had happened with Sipadan and Ligitan islands. There would be no compromise for anyone who tries to claim even one inch of our land. This is our commitment." ■

Edited by
Gunild Symes

Deep sea microphones record large whales in unexpected places

Like human beings from different countries around the world speak different languages, so do whales from different oceans around the world sing different songs according to researchers recording whale sounds with undersea microphones attached to the sea floor. Indeed, the style of the song is used to identify specific whales, their migratory patterns and origin.

Scientists from NOAA's Alaska Fisheries Center in Seattle, Scripps Institution of Oceanography and Oregon State University say that this technique has recently revealed that critically endangered North Pacific right whales are back in the Gulf of Alaska, where they have not been seen in decades. Not only is it a surprise that they are in the Gulf, say scientists, but they were also heard in deep water. Most right whale sightings have been near the shore according to experts.

Not only is it a surprise that they are in the Gulf, say scientists, but they were also heard in deep water. Most right whale sightings have been near the shore according to experts.

Tracking with hydrophones

Researchers are studying whale sounds in the northeast Pacific Ocean and in the Gulf of Alaska, the Bering and Beaufort seas. They are using autonomous data-recording devices equipped with hydrophones, underwater microphones, that are used to track many different kinds of whales species such

as blue, fin, humpback, North Pacific right, sperm and bowhead whales as reported by oceanographer Dr Sue Moore to BioScience Journal. Moore, the director of NOAA's Alaska Fisheries Center in Seattle and member of the Scientific Committee of the International Whaling Commission is currently working with ocean acoustics scientists at the University of Washington's Applied Physics Lab in hopes

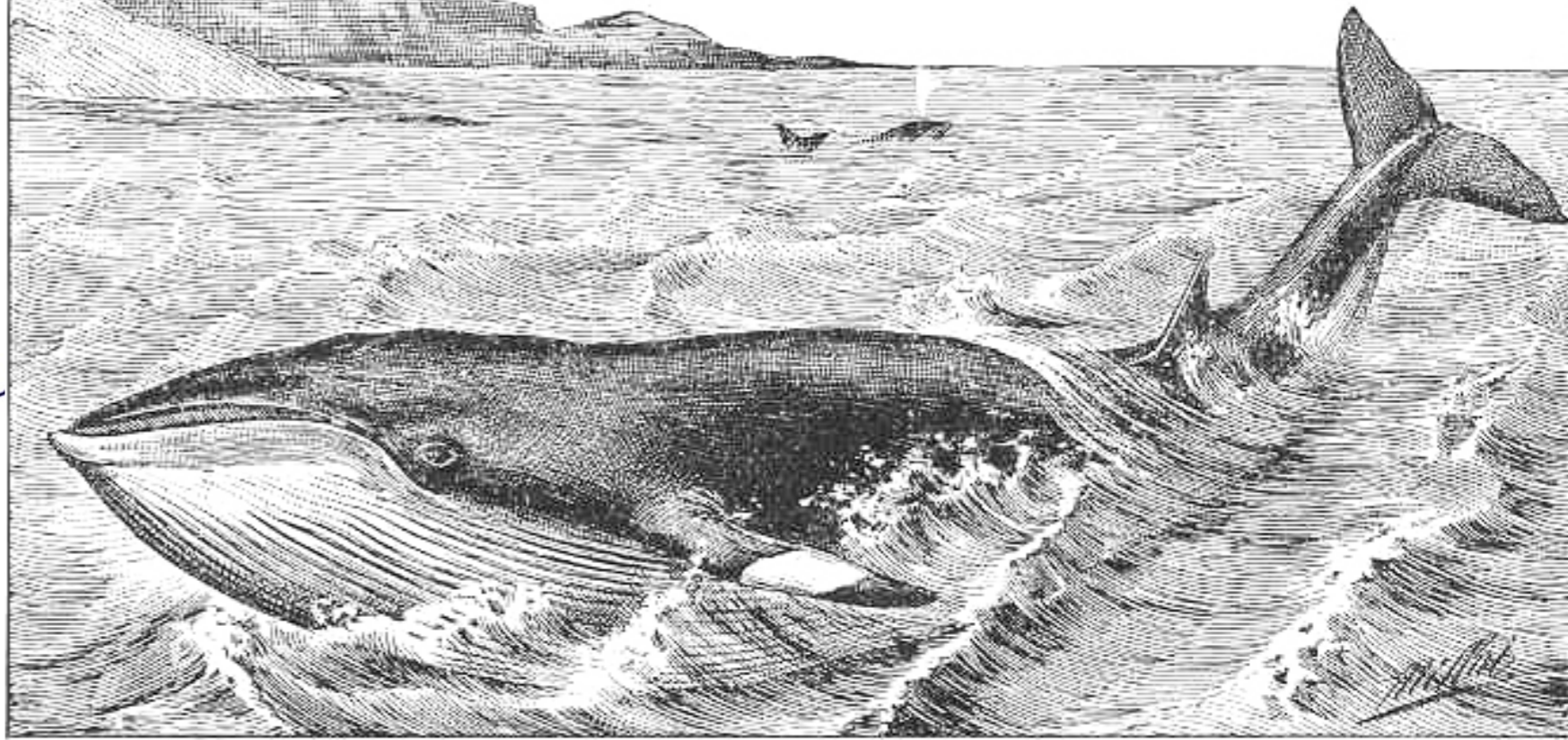
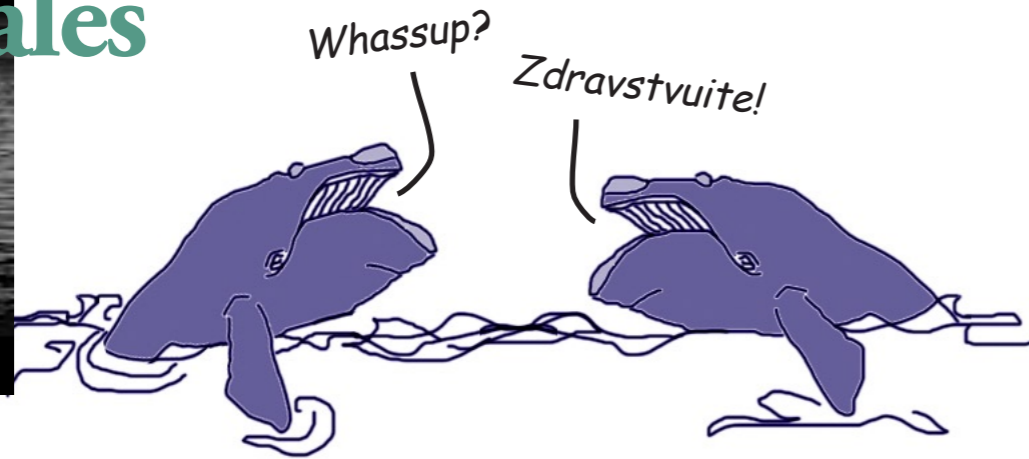
to further understanding of acoustic effects and climate change on marine mammals. At this point in time, scientists are not sure whether the differences in songs by various whale species is due to genetics or some other factor.

The recorders, which were developed from earlier models used during the Cold War by the military in surveillance operations, are equipped with disk drives that enable them to store tens of gigabytes of data as they capture sound recordings while deployed at different distances from the ocean floor according to Moore in her report. The devices provide invaluable information on whales' long distance migratory patterns, dialects and behaviour with little human effort and no disturbance to the animals. Up to 20 devices have been deployed in the North Pacific and can be used in any ocean around the world for similar research according to authorities. ■

"There has been only one confirmed sighting of a right whale in the Gulf of Alaska since 1980, so discovering them [there] is not only surprising, it is fairly significant."

—David Mellinger, Oregon State University's Hatfield Marine Science Center in Newport

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FRESHWATER AND MARINE IMAGE BANK

Whales wooing whales sing serenades

New Australian research indicates that whales attract mates by serenading them. University of Queensland scientists say they think the male's songs make up part of an elaborate courtship ritual between humpback whales since it appears that more songs and lengthier ones are directed toward females than possible male threats. Singing is less used for repelling rivals than previously thought. Indeed,

when male whales attracted by the singing show up, the singing will usually stop followed by competitive behaviour between the males. While it is not certain if the females are indeed attracted by the songs, it is apparent the serenade facilitates sex in the mating interaction according to experts. However, whale relationships seem to be brief and short-lived according to

members of the team that spent three years studying the whales during their annual migration past Peregian Beach on the Sunshine Coast.

Another theory regarding whale serenades leans towards the notion that the songs are used by the females to size up a potential mate. It is thought that perhaps the structure and tonal range of a song will reflect the fitness or age of a male. Scientists say whale singing can last for three hours average and up to 23 hours continually and can be heard as far as 20km (12 miles) away. Now, who wouldn't be impressed by that? ■

"...the interactions and associations are fairly quick, so it's not like they're singing these songs for a particular female for a life-long partnership - it's more of a one-night stand sort of thing." —Joshua Smith, University of Queensland



The daily journal of life in and around water
UnderwaterTimes.com



whales

Edited by
Gunild Symes

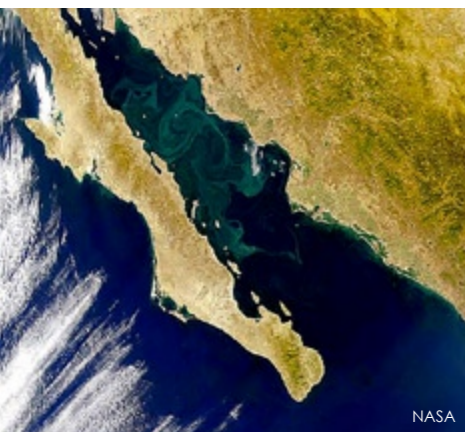
Mexican whale murder mystery

Eight whales were found washed ashore along the Sea of Cortez in January sparking off a frantic who-done-it investigation of whale-sized proportions. Authorities have already ruled out long-line fishing nets as the cause of death and there are no signs of toxic spill or disease outbreak that could account for the deaths of several plankton-eating species including humpback, minke, fin and a baby gray whale that apparently died at sea sometime in November and December.

The first signs of something wrong appeared on the shores of Sinoloa and occurred just as 2,000 gray whales began arriving in the Sea

of Cortez, one of the world's richest and most diverse marine ecosystems, which is poorly policed according to environmentalists who fear over fishing practices are employed by an increasing number of fishing trawlers.

While the deaths prove a mystery to investigators, experts say there are usually about ten dead whales found per year, but nine in the space of two weeks have set up red flags. In addition to the whales, two dolphins and an olive ridley sea turtle have also washed up dead. Environmentalists are scrambling to find answers before the situation worsens according to local reports. ■



NASA

Sea of Cortez, Mexico

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Scientists say that it is very possible that sperm whales are flocking to the sound of boat engines in the hope of catching an easy meal of sablefish. The engines serve as a sort of dinner bell for the whales to find boats winching up hundreds of bottom-dwelling fish on longlines in the Gulf of Alaska. Researchers used recordings to gauge how deep the whales were diving and how close they were to the boats. They found that the whales used the sounds of the engines to cue them for feeding and that they didn't have to dive so deep to find a meal.

Now scientists are helping local fishing boats to figure out ways to dupe the clever cetaceans by employing decoy noises with engines to draw

the whales to a different area when lines are being hauled on a boat with a silenced engine. But fishermen say that while they will try these tactics, these large-brained whales might just be too smart to out-whit.

It is widely known that whales have been cherry-picking small amount of fish off 1-3 mile longlines for at least two decades and nobody knows how much fish they have plundered from fishing lines over the years. Authorities from the US State Department of Fish and Game fear that the problem could get worse as the endangered marine mammals increase in population and teach their young how to snatch fish from longlines. Killer whales in the Bering Sea have also been known to plunder sablefish off fishing lines. ■



wreck rap



Canada restricts diving to the Edmund Fitzgerald



The *Edmund Fitzgerald* foundered in a violent storm in 1975 with the loss of 29 lives

The 29 sailors who went down with the *Edmund Fitzgerald* in 1975, can now rest in peace. A Canadian law just passed making it illegal to explore the *Fitz* and two 1812 warships without an archeological license.

Anyone wishing to dive to one of these sites, or operate research equipment near them, will now require a site-specific license issued by Ontario Ministry of Culture under a newly approved regulation.

"The sites we have chosen for special protection are unique," Canadian Culture Minister Madeleine Meilleur said in a news release. "We want to ensure that these fragile

underwater sites—all of which contain human remains—are treated with care and respect," adding that it was "disturbing" for the families to know that the exposed resting place of their deceased relatives was vulnerable to underwater photography and damage from human intervention.

The 222-metre *Edmund Fitzgerald* sank in a violent storm in 1975, under circumstances that have never been clarified, and she now lies 500 feet below the surface of Lake Superior in Canadian waters northwest of Whitefish Point, Michigan.

The *Hamilton* and *Scourge* were merchant schooners pressed into naval service during the War of 1812. They sank in Lake Ontario, north of Port Dalhousie, in August 1813. Of the 72 crew aboard both ships, 53 perished—the single greatest loss of life on the Great Lakes during the war. The *Hamilton* and *Scourge* rest under 300 feet of water, and have been remarkably well-preserved by their cold and dark surroundings. Discovered in 1975 and explored in separate expeditions by Jacques Cousteau and the National Geographic Society, the wrecks offer a unique insight into 19th century military

and social life.

The three wrecks require special protection, not only because they are grave sites, but also because they are well-known and very fragile, said Michael Johnson, the manager of the heritage operations unit at the Ministry of Culture.

In 1997, the US state of Michigan passed a law that made it illegal to photograph human remains found on the bottom of the Great Lakes without explicit consent of the deceased's relatives. That followed a private dive to the *Fitzgerald*, which photographed human remains at the wreck. Angered relatives called it a disgrace, prompting renewed calls for better protection.

Ontario has no plans to implement a matching law, since violators of the new regulation can be fined up to \$1 million. The Ontario regulation is believed to be the first of its kind in Canada. It does not cover the 500 other shipwrecks in the Great Lakes as well as thousands of others.

"Sport diving is important to tourism in Ontario," Johnson said. But he added the government has the option of adding other shipwrecks to the regulation on a case-by-case basis. ■



Edmund Fitzgerald Wreck, View No. 1, by J. Clary
Acrylic, 24 x 20in. Print edition, size: Litho, 1000 SN, 19 x 23in.
Regular \$125. Remarqued \$625. www.jclary.com

"The sites we have chosen for special protection are unique," Canadian Culture Minister Madeleine Meilleur said in a news release. "We want to ensure that these fragile

RMS Titanic enters partnership to recover historic vessel RMS Carpathia

RMS Titanic, Inc. has announced the formation of a joint venture agreement with Legal Access Technologies, Inc. to engage in research, planning and recovery operations for historic shipwrecks, one of which will be the RMS

Carpatia, the actual rescue ship from the sinking of the *RMS Titanic*. "The *RMS Carpathia* was sunk by a German u-boat in 1918." Mr. Herbert Leeming, the President of Legal stated, "The *RMS Carpathia* is an important piece of the United Kingdom's

history, and to be able to provide a glimpse into the heroic adventures of this ship through this salvage and exhibition development project, will provide a great educational opportunity for people, as well as some well deserved recognition, regarding the historical importance of the ship and crew that saved over seven hundred survivors, when the *RMS Titanic* tragically sank." ■



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wreck rap



The ancient Egyptians were sailors too

The remains of a ship used by ancient Egyptians for commercial trips to the fabled land of Punt have been discovered in five caves engraved in a port on the Red Sea. The find, near the Red Sea resort of Safaga, dates back to the Middle Kingdom. The discovery included a huge amount of ropes and masts that were used at different stages of ship building in addition to ship wooden parts and thick cedar logs.



Higher Antiquities Council Secretary-general Zahi Hawwas called the find one of the most important marine excavations that confirms that Punt lay to the south of Egypt and not in Sinai as previously believed. For the ancient

Rope dated back to the reign of Mentuhotep III

Egyptians, Punt was a source of prized goods such as incense, ivory, ebony, gum and the hides of giraffes and panthers that were worn by temple priests. But the precise location of Punt remains a mystery. Historians have variously placed it in Sudan, Eritrea or Somalia.

Hawwas said the remains showed the ancient Egyptians were "excellent ship builders" and that they had a fleet capable of sailing to remote lands. ■



Photomosaic strip across the Classical shipwreck at Chios. Composed of 17 individual digital photographs. Source: WHOI

A Merchant Ship from 400 BC

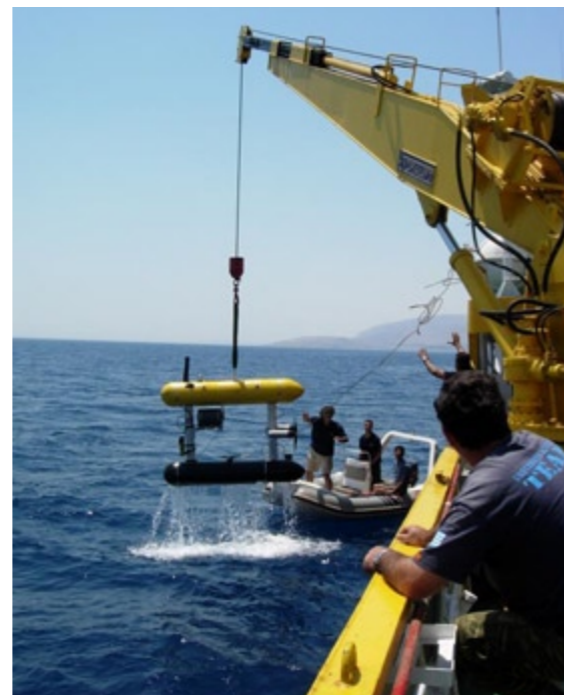
A 4th century B.C. Greek merchant ship that sank in about 200 feet of water off the coast of the Greek island of Chios and the Oinoussai islands in the eastern Aegean Sea has been surveyed by an international team using an autonomous robotic underwater vehicle (AUV).

Greek scientists and archaeologists discovered the ancient shipwreck in 2004 during a sonar survey, and last July an AUV, named *SeaBed*, was deployed make a high-precision photometric survey of the site, completing in two days what would have taken SCUBA divers using conventional methods years to accomplish. The AUV took 7,000 images, which will be combined into one entire mosaic of the wreck site.

The project was the first in a new collaboration between U.S. researchers from Woods Hole Oceanographic Institution, Massachusetts Institute of Technology, and Greek researchers from the Greek Ministry of Culture and the Hellenic Center for Marine Research. Scientists say the accomplishment demonstrates how advanced technology and imaging capabilities can dramatically advance the field of underwater archeology.

Robotic technology has proven to be the only way to reach deep shipwrecks

like Chios', but the system can also be applied to sites in shallower waters. "By using this technology, diving archaeologists will be freed from mundane measuring and sketching tasks, and instead can concentrate on the things people do better than robots: excavation and data interpretation," said WHOI scientist Hanumant Singh. www.who.edu ■



Recovery of the SeaBED AUV during the Chios 2005 Classical shipwreck survey.

Saving a Pirate's Ship

Archaeologists are struggling to find a method to preserve what is believed to be the Queen Anne's Revenge—the sunken flagship of the pirate Blackbeard. The wreck sits about 8 meters underwater off the North Carolina coast. It has now been proposed to rebury the

wreck in sand from a nearby dredging. Archaeologists have been retrieving artifacts from the wreck for years and haven't stopped diving on the site. But exposure of cannons, anchors, and other artifacts is now at a critical point and organic material like wood is especially at risk of rapid deterioration without a preserving cover of sand. ■

Indonesian Navy seizes ships containing looted artifacts

The Indonesian Navy has seized a ship loaded with pottery artifacts in waters near the Thousand Islands. Thousands of pieces of pottery, glassware and other artifacts, most pieces dated back to 16th and 17th centuries, were recovered from the ship, which was about to leave Indonesian waters.

General Jurianto said the Navy had also detained four ships and arrested 26 people for illegally salvaging ancient artifacts from a shipwreck off the coast of West Kalimantan. In the operation, he said the Navy had confiscated over 260 pieces of pottery and glassware taken from a sunken Chinese ship in the South China Sea off Pontianak.

The pottery had been examined by archeologists, who dated most of the pieces back to China's Song dynasty (960-1297). They were lying at depths of up to 30 meters and were recovered by traditional divers.

A German citizen and a French national were arrested by National Police, charged as suspects and detained by the police. Each face a maximum punishment of 10 years in prison if found guilty of violating the National Resources Conservation Law. Both the French and German embassies maintain that their nationals had the necessary permits from the relevant ministries. Source: *The Jakarta Post* ■

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wreck rap



Sinking the *Oriskany* Third time lucky?

So far, little seems to have gone to plan, when it comes to turning the former aircraft carrier *Oriskany* into what will become the world's largest artificial reef of its kind. It has now been two years since the US Navy announced Pensacola's selection

for a pilot program to reef old warships. Hurricanes, and in particular EPA permitting problems have all contributed to repeated delays in the ship's sinking.

The vessel saw service on both the Korea and Vietnam wars and more than 2,500 *Oriskany* veterans made plans to come to Pensacola for the first scheduled sinking in the summer of 2004. *Oriskany* was first towed to Pensacola in December 2004, only to be towed back to Texas in June to ride out the 2005 hurricane season.

Sinking the *Oriskany* before the start of the 2006 hurricane

season once more hinges on the EPA issuing a permit this month declaring the Navy has met the agency's criteria for removing contaminants known as PCBs or polychlorinated biphenyls. If the permit comes through, the Navy will tow the *Oriskany* from Beaumont, Texas, back to Pensacola and the three-month process of preparing the ship for sinking can begin.

If all goes according to plan, explosives will be placed throughout the hull of the *USS Oriskany* and send her to her final resting place at the bottom of the Gulf of Mexico. ■

USS Oriskany in its heyday
Source: U.S. Naval Historical Center



Newly scuttled *HMAS Wellington* breaks

The wreck of the recently scuttled frigate *Wellington* has broken in half off Island Bay in Wellington and has been declared off limits to divers until further notice.

The ship was sunk as an artificial reef and dive zone only last November and has since been dived on by scores of divers. A month after the sinking, the

trust, which sank the ship, said it was showing no signs of movement. However, a storm, which swept Wellington's south coast last week, snapped the ship in half behind its twin gun turret. The bow section fell onto its starboard side and was held in place by the eight-tonne anchor, which was attached to the bow when it was sunk. ■



HMNZS *Canterbury* next artificial reef?

The NZ government is seeking proposals for disposal of the decommissioned frigate *HMNZS Canterbury*. Defence Minister Phil Goff said the Royal New Zealand Navy will be

evaluating the proposals, which he expects to range from cutting the ship up for scrap metal to sinking it as a dive wreck. "It is anticipated that most responses will come from New Zealand, although some interest from overseas is also likely," Mr Goff said.

According to Radio NZ, four North Island areas have already begun campaigns to win the rights to sink the ship as a dive wreck. ■

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Controversy over *HMS Repulse* filming

A TV production company's decision to film inside the wreck of *HMS Repulse* has angered the survivors. *HMS Repulse* was sunk in 1941 by Japanese bombers off Malaysia with the loss of 762 sailors' lives.

The *Repulse* survivors' association accuses Canada-based Eco-Nova Productions, who were shooting an episode for the *Sea Hunters* series, of "pushing the boundaries of taste and respect" by entering the war grave and violating a previous agreement to abide by the guidelines in the UK wreck protection legislation.

Designated as a Protected Place



HMS Repulse prewar. Source: U.S. Naval Historical Center

under the Protection of Military Remains Act 1986, it is, under British law, illegal to 'enter any hatch or other opening'. However, as Eco-Nova Productions nor the employed film crew are British, and the *HMS Repulse* lies in international waters, this legislation is unenforceable.

Meanwhile, Eco-Nova Productions denies the charges as both "despicable and untrue", stating to UK's dive magazines that, "Our team did enter just inside the outer skin of the vessel to get shots of the admiral's cabin, which was thought to be the quarters that were prepared for the King and Queen's trip to Canada, and where the torpedo hit. The team did not venture any further than the areas that were filmed and described. We never saw nor looked for human remains. We shot footage that helped tell the story." They added: "In all our actions at the wreck sites of *HMS Repulse* and *HMS Prince of Wales* and with the survivors, our actions were open and respectful. That reality will be reflected in the coming documentary." ■



HMAS *Brisbane* draws divers in record numbers

Dive operators along Australia's Sunshine coast have reported significant boosts to their businesses since former *HMAS Brisbane* was scuttled last July. The prolific growth of the artificial reef around the wreck has taken everyone by surprise, attracting about 800 dives a month. The wreck had been sunk in an ideal position that protected it from severe currents and tides, making it the ideal dive destination for experienced divers and those just starting out. ■

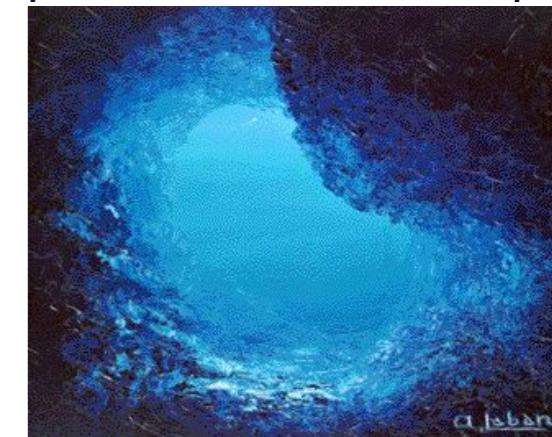
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André LABAN
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Gorbachev proposes *K-19* sub crew for Nobel Peace Prize

Former Soviet President Mikhail Gorbachev has proposed nominating the crew of the Soviet nuclear submarine *K-19* for a Nobel Peace Prize. The sailors contained a nuclear accident aboard the vessel on 4 July 1961. As a result of a leakage of coolant from the primary contour of submarine's reactor, uncontrolled

overheating of its active zone began. The disaster occurred in the Norwegian Sea.

Gorbachev writes that standard measures to normalize the situation did not help. Upon consulting the mechanics and other specialists, submarine commander Nikolay Zateyev gave his subordinates an immediate task "to assemble a pipeline, which was not envisaged by the submarine project, to feed drinking water from a reservoir for the cooling of the reactor".

"After two hours of work stretching human ability to the limit, as recorded in the ship log, the temperature in

the reactor fell to the level that could be measured by the control equipment," Gorbachev wrote.

As the level of radiation in the reactor compartment was extremely high, eight members of the crew died of radiation sickness in the following days and weeks. "Through the courage of the heroic sailors, a reactor explosion and a consequent environmental catastrophe in the ocean were averted. The nuclear contamination resulting from a blast aboard the *K-19* would have exceeded that caused by the Chernobyl disaster many times over," Gorbachev wrote to the Nobel Committee. ■

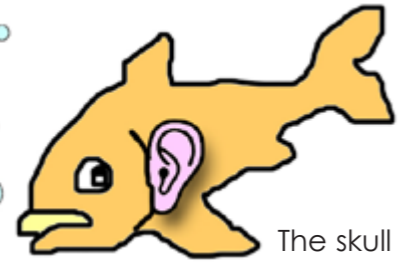


The drama was later turned into a Hollywood production

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Edited by Peter Symes



Our ears evolved in fish

The skull bones of an ancient fish have revealed the early stages of how our ears evolved.

The skull of a fossilised Panderichthys, an extinct metre-long fish that existed in the Devonian period 370 million years ago has features in common with the early tetrapods—a group of ancient four-legged vertebrates that were the primitive ancestors of amphibians, reptiles, birds and mammals. The findings support the idea that Panderichthys is an evolutionary link between fish and the early tetrapods.

Breathing holes

Paired spaces, linking the back of the mouth to the outside of the animal,

have been found to be far larger than expected for a normal fish. The team say that these spaces would have been filled with a spiracle—a special opening and pathway that was used to draw water over the gills like breathing holes in modern-day sharks and rays. Over time, this spiracular space was used to create the middle ear we see in some early tetrapods. One bone next to the spiracle evolved to have a totally different function, as a bone that transmitted sound. ■

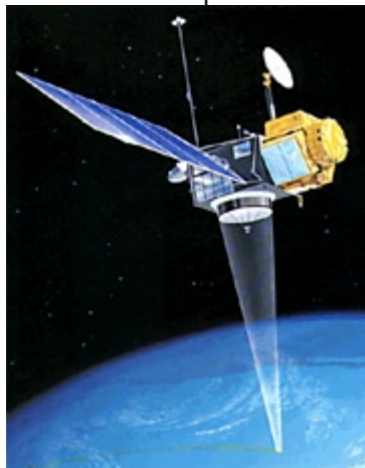


PETER SYMES

The spiracle is a vestigial first gill slit. It appears as an opening behind the eye. In the rays, the spiracle is developed and used to actively pump water over the gills to allow the ray to breathe while buried in the sand

“El Niño” oceanography satellite finally gave up after 13 years

Topex-Poseidon, the durable U.S.-French spacecraft that made El Niño a household term as it revolutionized understanding of the role of ocean temperature on climate, has been decommissioned after circling the globe 62,000 times. Launched in 1992, the spacecraft was only expected to last three to five years.



NASA

Topex data converted to colorful graphics made the public see the oceans as splotches of temperature-indicating green, blue, purple, orange and white that sometimes signified the onset of the climate-altering Pacific warming phenomenon called El Niño or its opposite, the cool, dry La Niña.

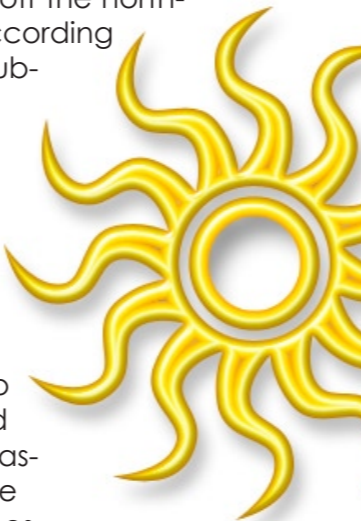
www.jpl.nasa.gov ■

The Sun & the Sardines

Solar activity governs abundance of Atlantic sardine

Annual sardine landings from 1906 to 2002 off the northwest coast of the Iberian Peninsula vary according to solar activity, according to a recently published article in Marine Ecology Progress.

Guisande et al. report that when the solar cycle is short, there is a trend towards increasing water transport onshore, which favors larval retention in areas close to the coast and, hence, sardine catches increase. While the solar cycle is longer, the trend is toward increasing water transport offshore, carrying eggs and larvae into areas where there is not enough food to survive and, therefore, decreasing sardine catches. ■



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Edited by Peter Symes

Chinese brush painting of crabs by Jung Park, TheJungPark.com



Ocean bacteria have compasses

A MIT graduate student has discovered a bacterium that contains chains of magnetic iron minerals that allow it to orient to the Earth's magnetic field, like a living compass needle. These bacteria have long been observed to respond to high oxygen levels in the lab by swimming toward geomagnetic north in the Northern Hemisphere and geomagnetic south in the Southern Hemisphere. But now researchers from MIT have found a bacterium that does just the opposite: a Northern Hemisphere creature that swims south. ■

Zebra mussel invades UK

The Zebra mussel, an exotic underwater pest which can have a major impact on the local wildlife, has now been discovered in the waters off Cardiff Bay in Wales. The mussel, which is native to the Caspian and Black Sea basins, is thought to have been introduced by a visiting boat. Each mussel can filter between one and two litres of water a day taking away algae and other organisms, which birds and fish thrive on. As well as causing ecological harm, the mussel, which reproduces rapidly, can damage the engines of boats. ■



Chinese crabs invade UK

The Mitten crab, which is an exotic Chinese species that preys on British native species, is taking over the UK's waterways. They survive in both sea and fresh water, prey on protected native species, such as white-clawed crayfish and salmon eggs and can destabilise river banks by burrowing into them. The crabs are already present in some waterways, including the Thames and Humber and have spread as far north as the River Tyne as well as parts of the North Sea and Channel coasts. ■

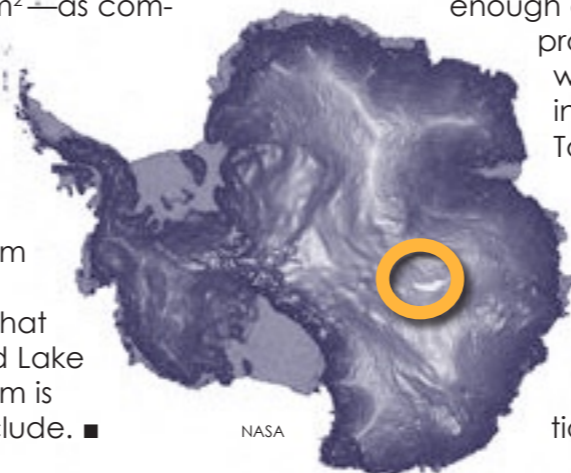
Unique ecosystems hide in ice-buried Antarctic lakes

Lake Vostok, lying beneath more than two miles of Antarctic ice, is perhaps the best-known and largest subglacial lake in the world. Scientists have, in fact, identified more than 145 other lakes trapped under the ice. Until now, however, none have approached Vostok's size or depth.

In the February 2006 issue of *Geophysical Research Letters*, scientists describe for the first time the size, depth and origin of Vostok's two largest neighbours. Geophysicists Robin Bell and Michael Studinger report that the two ice-bound lakes, which are referred to as 90°E and Sovetskaya, have a surface area of 2,000km² and 1,600 km²—as compared to Lake Vostok's 14,000km².

Both are sealed beneath more than two miles of ice, and the scientists' findings also indicate that an exotic ecosystem may still be thriving in the icy waters 35 million years after being sealed off from the surface.

Their depth, along with the fact that they are parallel to each other and Lake Vostok, indicate that the lake system is tectonic in origin, the authors conclude. ■



NASA

Remains found of scuba diver lost in 1981

The case of a Rochester man who disappeared more than 25 years ago appears to be solved. Brett Schirmer, 21, disappeared near the Thousand Islands Bridge in August 1981.

He was diving with John Mott, also of Rochester, in a search for a ship that was sunk by pirates during the War of 1812 in about 125 feet of water when Schirmer signaled that he wanted to surface.

During the ascent, Schirmer appeared to go limp and Mott had to let go of him when he tried to inflate an emergency vest. He said Schirmer was carried away by a strong current.

State police say the remains of Brett Schirmer were discovered in the St. Lawrence River by scuba divers who found the body about 140 feet below the surface near the Thousand Island Bridge. ■

Guilty: Husband murdered wife by shutting off her air

USA— A jury hearing a civil case found that a Jamestown PADI 5-Star IDC Ocean State Scuba owner David Swain murdered his wife during a 1999 diving trip to the British Virgin Islands, and it awarded her parents more than \$3.5 million in damages.

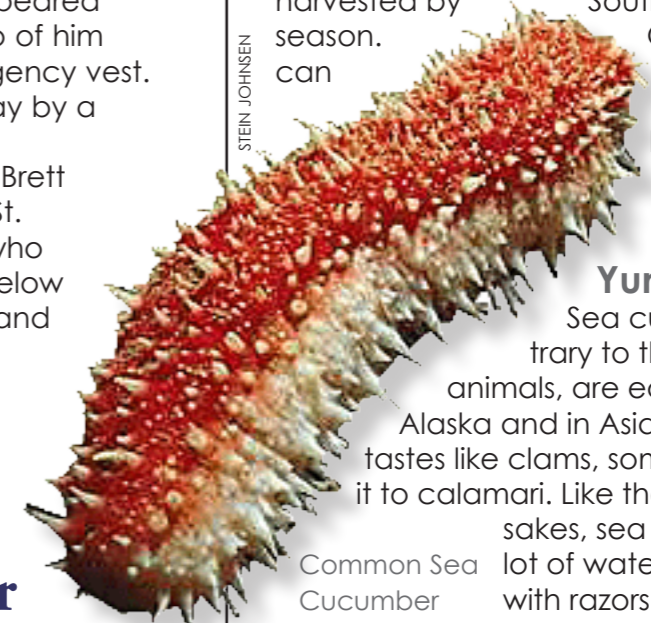
The Superior Court jury found that enough evidence was presented to prove that David Swain, 50, acted with "malice aforethought" in killing Shelley Tyre, 46, off the island of Tortola.

Tortola authorities had initially ruled her death accidental, but Tyre's parents brought the wrongful-death suit against Swain, alleging that Swain killed their daughter for money at a time when he was pursuing a relationship with another woman. ■

The Big Busine\$\$ of Sea Cucumbers

For the uninitiated, the slimy, pudgy sea cucumber may not seem like an appetizing form of seafood, but sea cucumbers are valued for taste and profit, not their looks. By comparison, the sea cucumber fishery is producing more profit than Southeast Alaska's famous king crab fishery, and it is coming in at an otherwise slow time of year.

Alaska Glacier Seafoods, the only sea cucumber processor north of Sitka, will likely process about 150,000-plus pounds of raw sea cucumbers harvested by Southeast Alaska divers this season. On a good day, a diver can collect about US\$3,000 worth of sea cucumbers from the ocean floor, picking them up by hand.



STEIN JOHNSEN

YumYum

Sea cucumbers, which contrary to their name are actually animals, are eaten for subsistence in Alaska and in Asia as a prized delicacy. It tastes like clams, some say. Others compare it to calamari. Like their vegetable namesakes, sea cucumbers retain a lot of water. Divers "poke" them with razors in order to drain them. Live specimens can easily contain over two liters of water.

In the Seychelles

Meanwhile, in the Seychelles, fishermen and fisheries officials met recently to discuss rules governing sea cucumber fishing, in a bid to avert the need for a third closure of the valuable fisheries resource and to tackle the problem of illegal sea cucumber fishing and fishing licence abuses.

The committee are hoping to reinforce measures protecting the fishery. The right to fish for sea cucumbers, found in shallow coastal waters, has twice been suspended and exports banned. The government could do the same again.

In addition to problems with local license holders, it has become apparent that illegal fishing of sea cucumbers is on the increase. There are also problems of unlicensed vessels straying into Seychelles Exclusive Economic Zone (EEZ) and poaching sea cucumbers around the outer islands, which are difficult to protect without patrols. ■

Edited by
Gunild Symes



Sea Turtle by Alma de la Melena Cox, 24 x 24 inches.
Mixed media in burned wood, layered dyes, pastels, acrylic paint,
fabric flow, polyurethane glaze. www.almaart.com

Your help is needed to urge the Pacific Fisheries Council NOT to strip protections for sea turtles

Speak out at: www.seaturtles.org

Turtles saved on Bali

Tourists on the Indonesian Island of Bali have helped release 100 endangered green turtles confiscated by police from a fishing boat bound for the island.

The turtles released at Kuta Beach were captured in the waters off South Sulawesi and were destined for the cooking pots of Bali where turtle meat is widely consumed and used in local Hindu religious rites, or to be smuggled to other countries. Their shells are also often crafted into souvenirs for tourists. Police said two of the turtles would be kept as evidence against the master and his crew who would be charged with violating nature conservation laws.

The release invited a big attraction for foreign tourists in Kuta who enthusiastically helped unloading the turtles from the vehicle and released them. ■

Viet Nam steps up sea turtle protection

A system to monitor sea turtles and fishing boats operating off the northern province of Quang Ninh and the southern central province of Binh Thuan is now being installed. The move aims to survey the netting of sea turtles by fishing boats in order to work out solutions to protect sea turtles from accidentally drifting into fishing nets.

A large population of five species of sea turtles are found along Vietnamese coastal areas, include green turtles and hawksbill turtles, which are listed for national protection in the CITES Convention.

Viet Nam approved a memorandum on the conservation and protection of sea turtles in Southeast Asian waters in 1997, ratified another on the animal's habitat in southeast Indian Ocean in 2001 and made public its 2010 plan of action on protection of sea turtles in 2004. Thanks to the establishment of five preservation stations in Con Dao island last year, 80 percent of 43,000 protected sea turtle eggs were hatched. ■

Experts meet to protect sea turtles

International experts on the sea turtle have met on the West African archipelago of São Tome for a conference on saving the creatures from extinction.

The sea turtles are threatened with disappearance throughout the world. But in this poor African country, where all five species present in the Atlantic are found, almost nothing is done to protect them. Here they are threatened by the trade in their meat, eggs and objects made from their shells. Among other threats are crabs and dogs raid-

ing the turtles' egg nests.

A European Union conservation programme, entitled Kudu, is under way to protect sea turtles in the Gulf of Guinea. It involves tagging turtles and compiling a database on them as well as training local guards and organising patrols in the areas where they lay their eggs. Eggs laid under the sand by turtles are put in secure incubators to hatch. They are then released into the ocean from where they migrate to Brazil to grow up before returning about three decades later. ■

Maldives ban catching turtles and taking eggs for another 10 years

Marine Research Center's Executive Director Dr. Mohamed Shiham Adam said that even when catching turtles was banned in 1995 (with an adoption of a 10-year moratorium then), turtle eggs were continuously taken.

"Surveys did not show any increase in the number [of turtles] during the period when the moratorium was in place. So, to make the population of turtles grow, we have now banned the taking of turtle eggs as well," he said.

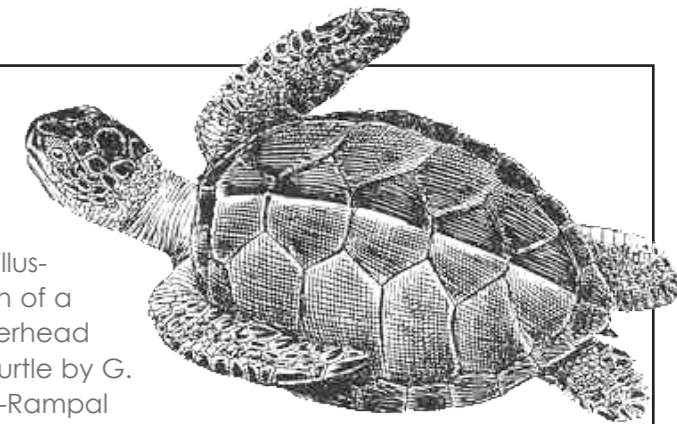
The Fisheries Ministry says that the new 10-year moratorium was adopted because it takes a long time for turtles to grow and because the actions taken before to protect sea turtles did not show satisfying results. ■

NOAA



Recycle your plastic bags before they kill a sea turtle

SEA turtles are being choked to death swallowing plastic bags washed out to sea. The plastic resembles jellyfish, which turtles feed on. The mistaken identity is proving fatal since the turtles swallow the bags and choke. ■



1913 illustration of a Loggerhead Sea Turtle by G. Clerc-Rampal

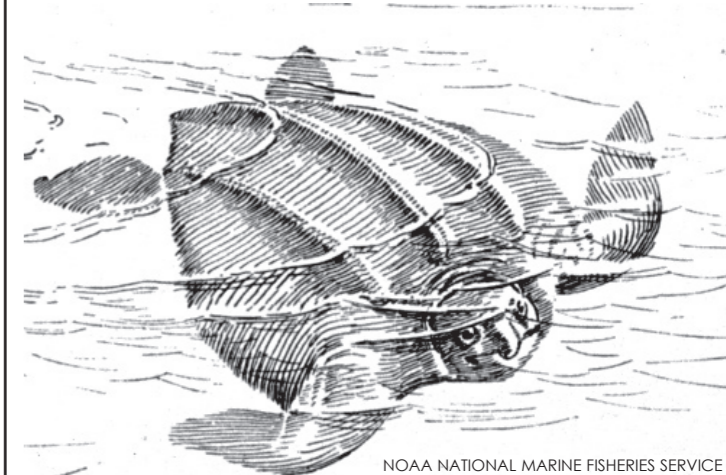
FRESHWATER AND MARINE IMAGE BANK

Construction to begin on Georgia sea turtle rehab center

Georgia is the only southeastern state on the US East Coast without a special rehab clinic for sea turtles, though about 1,000 loggerhead sea turtles nest each year along the state's 100-mile coast. Each year about 200 of these turtles, which are classified as threatened under the Endangered Species Act, wash ashore in Georgia, most of them dead.

However, a rising number are found alive, but sick with disease or seriously wounded by shark bites and fish hooks or from eating plastic bags. Saving them required a trip to Florida or South Carolina where the closest rehabilitation clinics were at least 150 miles away. Often they do not have room to take in turtles from Georgia and two injured turtles in the past three years have died while being transported to other states.

Scheduled to open in 2007 on Jekyll Island, the upcoming Georgia Sea Turtle Center will have up to 6,000 square feet of space devoted to turtle rehabilitation, research and education. ■



NOAA NATIONAL MARINE FISHERIES SERVICE

1883 Illustration of a Leatherback Sea Turtle by H. W. Elliott

Edited by
Gunild Symes

NEPA takes hard line on protection of marine turtles

The National Environmental and Planning Agency (NEPA) is urging the public to stop hunting and eating marine turtles. Apparently, turtle soup is becoming a regular item on some restaurants' menus according to the organization. Highly endangered species of sea turtles, such as the Green, Hawksbill, Leatherback, Loggerhead, Kemps Ridley and Olive Ridley turtles, are protected under international law and the Wild Life Protection Act.

Under the laws, persons who hunt or trade marine turtles or products from sea turtles such as its meat, shell and eggs, are subject to prosecution resulting in fines up to US\$100,000, imprisonment up to a year or both. ■

Trawlers kill Olive Ridelys in India

At least 50 dead and wounded sea turtles were found washed ashore on the eastern coast of India between Besant Nagar to Kanathur. Wildlife authorities said that casualties went up this year due to an increase in the number of trawlers fishing shallow waters in the area.

However, trawlers did stay away from the sea after last year's tsunami until the egg-laying season ended in March. Poachin has also decreased according to officials, who attribute the decrease to the posting of turtle guards on the coast. ■

SOS Sea Turtles campaign targets Bali

Led by underwater journalists and photographers, the SOS Sea Turtles campaign has set up an online petition, which will be sent to the Governor of Bali and other officials in hopes of stopping the estimated illegal killing of 3,000 turtles each year as the turtle trade increases in this part of the world according to campaigners. Supporters of the move include Pro-Fauna, an Indonesian conservation group. To sign the petition, see: www.sos-seaturtles.ch ■



Kissing Sea Turtles. Photo by Ursula Keuper-Bennett/Peter Bennett, NOAA



Greenpeace deploys buoys, launches vessel for turtle protection

Off the Bay of Bengal, India, Greenpeace deployed buoys to assist fishermen in identifying prohibited zones and launched the Sugayatri vessel to patrol the seas for turtle protection. The move was undertaken in collaboration with the Orissa Traditional Fish Workers' Union and the Orissa Marine Resources Conservation Consortium according to Greenpeace officials. Government authorities welcomed the measure which they said helps both fishermen and endangered turtles such as the Olive Ridley which lay their eggs on the Gahimatha beach each year. ■

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NORDKAPP LOFOTEN TRONDHEIM WRECKS KRISTIANSAND



Nordkapp *Wild diving at Europe's top*

Text by Arnold Weisz
Translated by Peter Symes
Top side photos by Arnold Weisz and Stein Johnsen
Underwater photos by Stein Johnsen

With little regard to the abundance of awesome dive sites around the island of Magerøya, it's the diving in Nordkapp, the Northern Cape, that everybody asks for, not just for the sake of having *been there-done that* at

Diving at 71°10'21"N

The expectations were sky high when we first rolled off the Zodiac and plunged into the big blue under the towering 307m high Nordkapp plateau. The owner of Nordkapp Dykkersenter

(dive center) Hugo Salamonsen is a native from Finnmark, the northernmost region in Norway, and as is typical here, he wasn't unduly burdened by modesty. He was going to show us some *real* diving, dammit—and disappoint us, he did not.

Below the almost vertical cliffs, we descended into an indescribable wild and beautiful natural underwater world. One gully followed after another in a very varied terrain. At a depth of 17-18 meters, we couldn't feel the ocean swell

anymore, and swimming along the wall, we come across big hollows encircled by kelp forest.

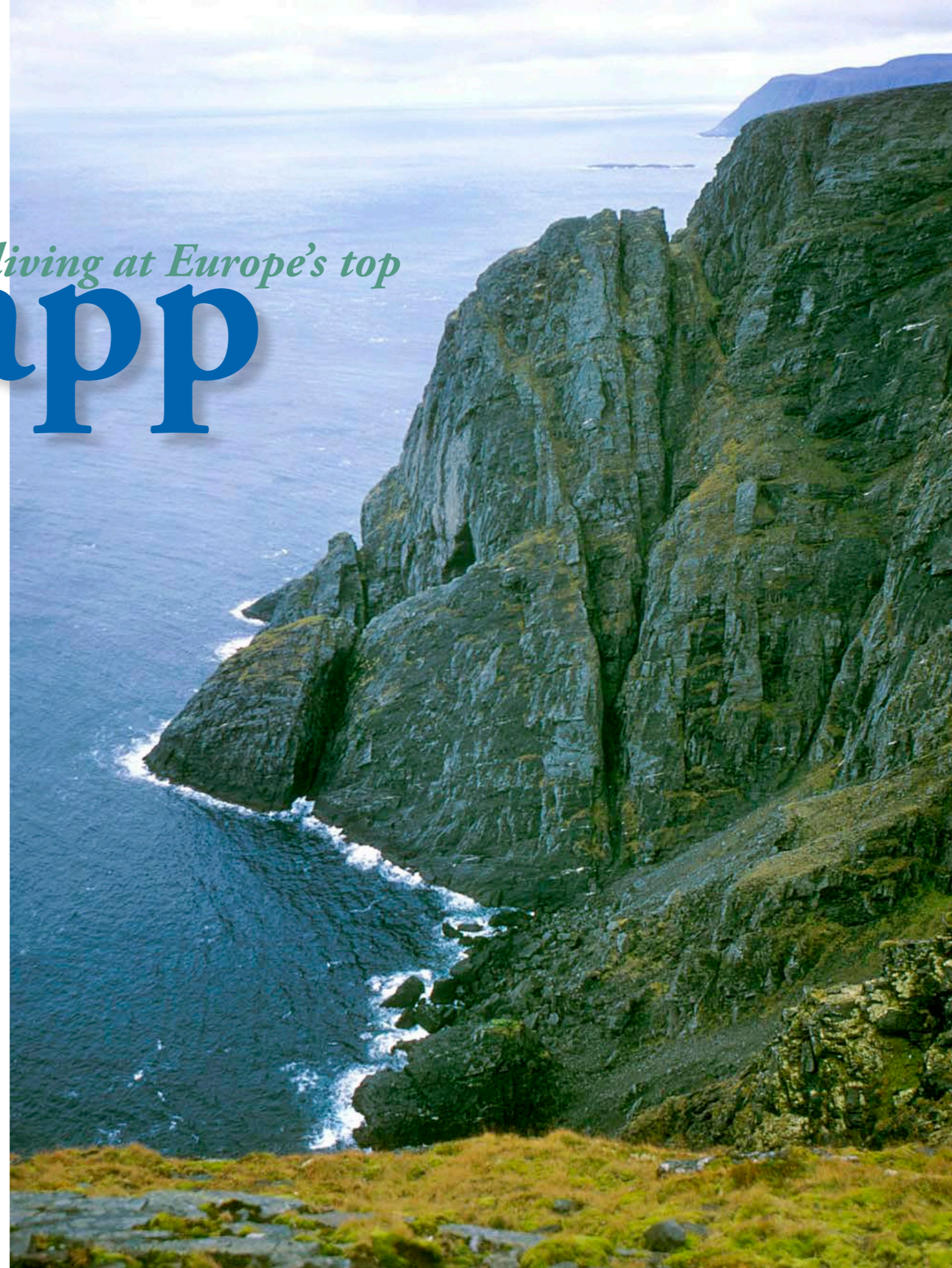


Europe's most northern point, but also because of the fantastic terrain below the vertical cliffs.

Vertical cliffs of Nordkapp, top of Europe
INSET: A hermit crab sports the latest fashion in sea anemone decor

Are you a connoisseur of nature diving and open oceans? Nordkapp is the place for you. From the town of Honningsvåg you have access to the magnificent gullies off Nordkapp, drift dives in the Magerøy Sound and cave diving in the Tufjord just to name a few.

A King crab has taken refuge under an sea anemone clinging to the steep rocky underwater cliffs of Nordkapp





Nordkapp



Our senses are constantly being bombarded here. The visibility is excellent, and above us, we see how the surf is breaking and slamming into foam as it hits the rocks. We enter a gully, where a squadron of coalfish swiftly sweep across the kelp, flying low in formation. We enter another gully moving forward in a jerky fashion as the swell above makes the water pulsate down here. Some times it is necessary to grab hold of a kelp stalk, to stay put when the current recedes outwards.

In the narrow gullies, we encounter dense beds of sea anemones. The



go out the way we entered and conclude this dive by doing a little round in the kelp forest. From a depth of only a few meters, we make our final ascent while looking up at the steep cliff, which is the very fringe of continental Norway.



colourful tentacles sway with the current. Here and there, a curious squat lobster pokes its head out to see who is coming to visit.

The path starts to get quite narrow, so we turn around and



The King crab rules below the waves around Nordkapp INSET: Spines of a nudibranch

Spooky night diving

We were also able to make a couple of great night dives on this trip – which is not really possible during the high season when the midnight sun provides 24-hour daylight. Great night dives can be done only a few minutes drive from Honningsvåg, and it is absolutely worthwhile spending some hours down there one evening rather than hanging out in the pub.

Swimming around in the shallow kelp forest in the soothing darkness of the inner fjord is a unique experience. You are never quite sure what you are going to encounter next. You sweep the surroundings with the beam of your torch, and suddenly something blinks back. An enormous cod comes closer to investigate matters and see who or what is intruding in on his peaceful evening.

On the light sandy bottom, a plaice

is trying to hide but is given away by its rolling eyes scanning my every movement. I suddenly get goosebumps as a dark shadow in front of me moves. The beam of my torch cuts through the water like a sword and strikes a wolf fish right in the forehead. It just lies there munching on sea snails with its impressive dentures. "Bon appetite," we can't help murmuring to ourselves before we press on with our dive.

Cave diving

In Tufjorden, on the island of Magerøya's west side, we find a cave. At a depth of 4-5 meters, there is an opening taking one about 80 meters into the mountain. A good deal of this passage is rather narrow, so diving here should be reserved for high tide and calm seas. Otherwise, the swell would probably send you tumbling around out of control like clothes in a dryer.

CLOCKWISE FROM TOP RIGHT: Reindeer graze on the plains; A snail carries its home with it on one large foot pad; Brilliant sea anemone sways in the current



The innermost parts of this cave opens up into a spacious cavern with 5-6 meters up to the ceiling and a big space of air.

This dive is not for the claustrophobic. After a while in the dark, you start wondering whether there might be a dragon lurking in the shadows while you frantically fin your way back to daylight.

The cave itself is not all that spectacular,



LEFT: Giant Sunstar graces the rocky reef under Nordkapp; INSET: Crimson tentacles of a sea anemone

Nordkapp



but the entrance and exit makes for quite an exciting and special underwater swim for those who have a propensity for this kind of adrenaline rush.

The less experienced can still get their kicks by restricting themselves to the first 10-15 meters of the entrance where there is still daylight and direct access to the open sea. In the opening to the cave, it is still possible to marvel at the polished rockface and the play of light on its surface without having to venture into the realm of absolute darkness.

And the diving outside the cave is not bad either. Lots of kelp and a very varied topography that descends into the depths as you travel into the fjord. Below the southern cliffs, the sea bed is strewn with boulders covered with dense beds of sea anemone.

Four seasons

There is no point in denying that the



weather has a great deal to say when it comes to diving around Magerøya. But it is always possible to find dive sites that are sheltered so you can dive any time

of year. Perhaps, you will have to endure a bumpy ride to the site or lashing rain or wind. According to Hugo you don't get far in these parts if you are not prepared to be flexible around your comfort requirements. It is not a place for whiners.

On the other hand, the Arctic Ocean might, all of a sudden, show off and present its most pleasant side when the sea is dead-calm, like a blue rug, while the sun shines from a deep blue sky. But be advised: bring with you clothing for all types of weather and seasons. If you are properly dressed, you will always be able to enjoy the magnificent sceneries up here—regardless of what the weather throws at you. This is Northern Norway at it's best and worst.

CLOCKEWSIE FROM TOP LEFT INSET: Red striped shrimp on kelp; Entering the cave at Tufjorden; fish heads hang on lines for the birds to feed; INSET: Striated red scallop



Nordkapp



Nordkapp is located at the top of Europe



On top of Europe

Nordkapp rises 307 meters out of the Arctic Ocean and 200,000 tourists find their way here in order to claim that they have made it to the top of Europe. They want to experience the midnight sun from the most northern point in Europe. Well, that is what they think.

The most northern point is, in fact, Knivskjellodden, a little further to the west. However, Nordkapp is far more impressive than the little lame and boring tongue of land to the northwest.

The cliffs at Nordkapp is impressive and a must-see even though it costs a whopping NOK 185,- (about USD 30). It is still worthwhile. Aside from the astonishing view itself, there is a museum, restaurant, chapel and Omnimax movie theatre.

The 17-minute long movie is made by Ivo Caprino and gives a fantastic presentation of what Nordkapp and northern Norway have to offer above and below the surface and from the air. In addition, the film gives the viewer the unique experience of what diving off the coast of Nordkapp is like and another dimension of its natural beauty.

Nordkapp Dykkersenter

The dive center has two 24-foot Zodiac RIBs with glass fiber hulls. Both vessels are equipped

with 250 HP outboards. Even in a bigger swell, these boats have no problem travelling at speeds up to 30 knots with a group of divers on board.

Each boat takes up to 10 persons, and most trips are day trips where provisions and air are brought along for a full day's outing with 2-3 dives each. The dive center has at least 10 complete sets of rental equipment, drysuits and lamps for hire. Airfills are offered to both 200 and 300 bar. If you are missing a piece of equipment, you can probably find what you need in the well-stocked dive shop.

Are you bringing non-divers along, or do you simply want to enjoy the nature top side? Nordkapp Dykkersenter/North Cape Adventures also offers a wide variety of other activities such as deep sea rafting, ocean fishing trips, cayack tours, water-sports, bike rides, trekking, skiing and all sorts of guided trips. The center is open year round with flexible opening hours.

Getting there

The town of Honningsvåg is the biggest urban area in Nordkapp Kommune (municipality) with



Honningsvåg isn't just picturesque, it is also a working fishing port

approximately 3.500 inhabitants. The location has its own airfield and is served by the domestic airline, Widerøe. It is also connected by the famous ferry link, the *Hurtigrutan*, and a road link to the continent, which connects through a tunnel to the mainland. A multitude of accommodation is available, ranging from the spartan to the luxurious. For a town of Honningsvåg's size, there is a good deal of restaurants and night life. It is also possible to experience the cultural life and people of the coast. A little north of Honningsvåg, we find Skarsvåg—the northernmost-located fishing village in the world. For more information: www.nordkappoplevelser.no ■



CLOCKWISE FROM BOTTOM LEFT: Cod; Mussels on kelp; King crab duke it out on the sea bed; Bottom-dwelling Plaice are masters of camouflage

Lofoten Islands



Text by Arnold Weisz
Translated by Peter Symes
Photos by Stein Johnsen

ABOVE: Norway is the land of the midnight sun
RIGHT: Anglerfish with its huge gape

The Lofoten archipelago in Northern Norway is made up of majestic mountains and peaks, beaches and in particular a deep blue sea stretching as far as the eye can see. Beneath the surface we encounter a magnificent terrain with kelp forests and colourful walls covered with sea anemones. Schools of coalfish is passing overhead. On the bottom, we find anglerfish, wolf-fish, Northern Stone crabs and nudibranchs just to name a few. And we shouldn't forget the abundance of exciting shipwrecks. This is Lofoten in a nutshell.

A diver examines a stunning wall of brilliant sea anemones



Lofoten is the home of quaint unassuming little Norwegian villages





CLOCKWISE FROM LEFT:
Wolf fish bares sharp teeth
King crab displays powerful claws
A Brittle star stands out brilliantly
against the black sea bottom
Diver explores Lofaten reef



Midnight sun
Lofoten presented itself in the best possible manner when we did our crossing from Vestfjorden north of the city of Bodø to Lofoten. The sun was shining from a clear sky,

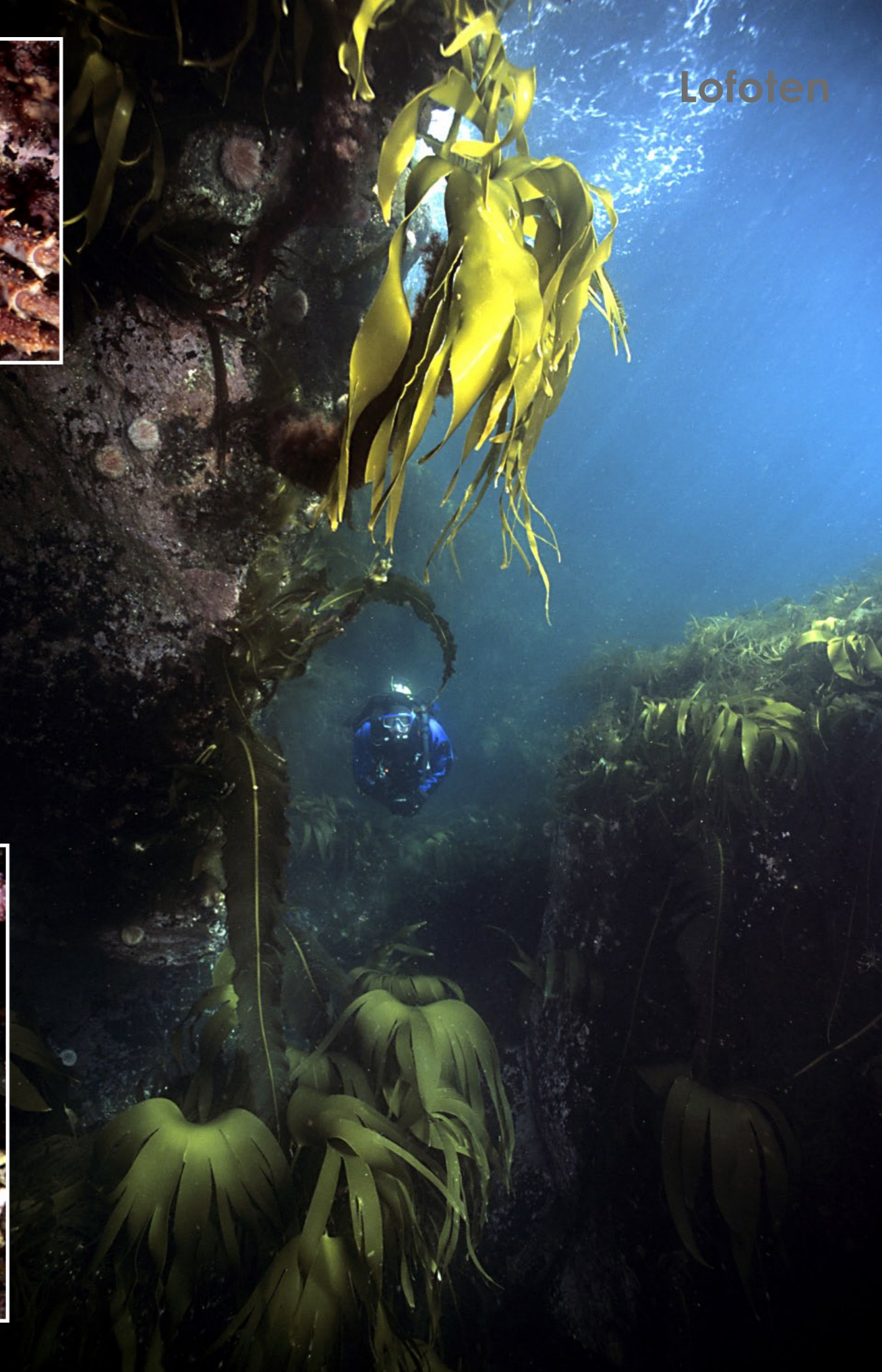


Divers prepara to dive in one of the rich islets of the Lofonet archipelago

Lofoten is a collection of approximately 200 islands that stretches out into the Atlantic from Northern Norway north of the polar circle. This location makes the area unique. The coastal currents are constantly pumping fresh Atlantic water past Lofoten on their way north-bound. This current, which originates in the Baltic, makes for a diverse marine life in the area. Lofoten, beneath the surface, offers steep drop-offs with walls covered with brightly coloured sea anemonea and lush forests of kelp swaying gently in the current. On the sandy white bottom, we find wolfish, cod and coalfish and the occasional anglerfish with its huge gape. We find both intense drift dives and placid lagoons, tiny nudibranchs and big seals and a huge variety of wrecks—a good deal of which resulted from the second world war—as well as steamers and freighters, fishing vessels and what not, not to mention, a passenger liner from the famous Hurtigrute —“The fast route”—the shipping service that sails up and down the length of the Norwegian coast, connecting the coastal cities from Bergen to Kirkenes near the Russian border.



A shy Squat lobster crawls over reef corals
Diver enjoys a passage through kelp fronds





Ogling eyes of an anglerfish may be watching you from under the kelp

kind of diving would you like?" Being a seasoned dive traveller, I have long since learned that the best answer to this question is "your favourite places". And, as the sea was dead calm, there were no issues in reaching any dive spot we would like. First dive was made only 10-15 minutes from Ballstad. Islets and shoals

usually makes up for a varied terrain with many hideouts for fish and other sea life. When you hover around the underwater gulleys, in the kelp forest and along the white sandy bottom, fantastic scenery and fish life surrounds you all the way throughout the dive.

From mid June to mid July there is midnight sun on Lofoten making night diving something of a misnomer. The good thing is that diving is possible 'round the clock, and it is an extraordinary experience to poke your head out of the water and up into the beautiful sunlight at 1am.

Drift dives

Lofoten can offer drift dives that can stand up to what Saltstraumen (the tidal current famous for its very fierce velocity) at Bodø has to offer. Whether you dive in the narrow sound Raftsundet or in open water at Moskstraumen, it is possibly to gain quite some speed during your dives.

Moskstraumen is known as the strongest tidal current in open water. It runs between the island of Moskeneøya in the North to the

Lofoten

uninhabited mountainous island Mosken in the south. The current is 4-5 kilometers wide and 40-60 meters deep and the area is considerably shallower than the open sea just outside. The tide fills up the Vestfjord twice a day and the difference in sea level may be as much as four meters. Right in between ebb and flow the current changes direction, and it is during these

reversals that vortices are created with a speed of up to six knots. It might sound perilous to dive in these conditions, but with a little experience and the right planning, the dives can be fantastic.

Each buddy pair is equipped with a big red surface marker bouy attached to a 30m line. This way the boat captain can always easily track each buddy pair. That being said, all there is to do is to make a back roll, descend into the big blue and enjoy the "train ride", and it does indeed feel like a train ride as you are being swept along by the current passing of underwater scapes, shoals for other underwater creatures.

Explosion

No, not the terrorist

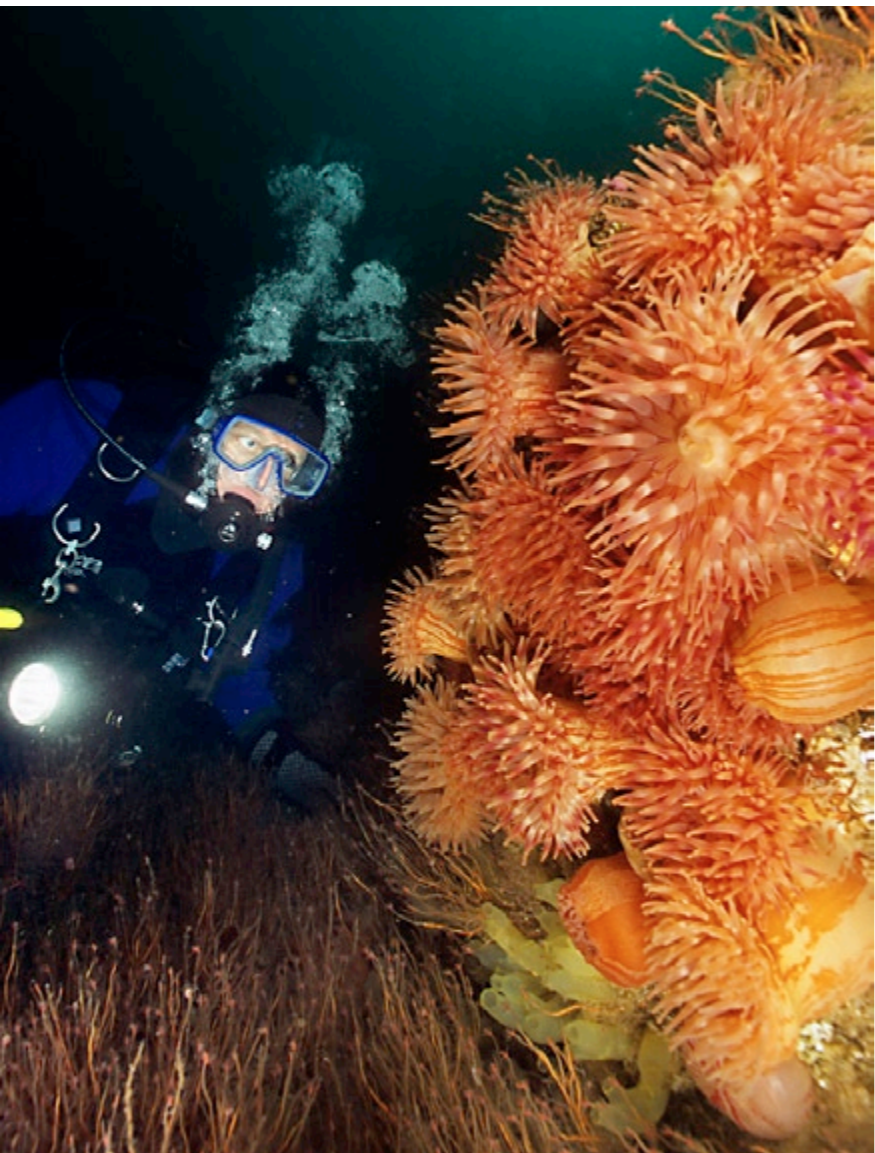


Divers suited up ready themselves for a Lofeton dive

attack kind of explosion. What we are referring to is a virtual explosion of brilliant colour that we experience on our dive.

It was such a delight flying by a wall along some islets in the Moskstraumen. Thousands of sea anemoneae covered the wall like a carpet of yellow, orange, red, pink and violet. There were so many tentacles swaying in the gentle current that we almost became afraid of getting lost between them. Between these lush fields of sea anemones there were healthy colonies of hydroids. The area also seem to be much favoured by nudibranchs who seemed more numerous that the inhabitants of Mexico City.

This dive was an good example of what the difference



Explosions of color erupt from giant colonies of sea anemone



Bright yellow markings on this nudibranch warns predators that it is poisonous

Sarawak - Malaysian Borneo

Atago Maru Wreck
Tukau Oil Rigs
Tukau Drop Off
Santak Point
Robert's Reef
Seafan Garden
Batu Belais
Siwa Oil Rigs
VHK Reef
Anemone Garden
Azam's Place
Eve's Garden
Sunday Reef
Siwa Reef
Grouper Patch
Tusan Reef
Sri Gadong Reef

Miri Reef Map

Dive Site
Oil Rigs

Sarawak's ecological heritage is among the most distinctive in the world. Being part of the Indo-Australian Archipelago, the epicentre of marine biodiversity, the region comprises nearly 1000,000 square kilometer of coral reefs or 34 percent of the world's total, housing 600-800 reef-building coral species in the world. It is home to more than 3,000 species of fishes and the richest concentration of inveterate species.

Underwater Jungle
www.sarawaktourism.com

SARAWAK TOURISM BOARD
Level 6 & 7, Bangunan Yayasan Sarawak
93400 Kuching, Sarawak Malaysia
Tel: +60 82 423600 Fax: +60 82 416700



THIS PAGE: Scenes from the wreck dive of the *Guðrun Gísladóttir*, which lies 37m below the surface

between a good dive and a great dive can be with a good dive lamp. Light equals colours. And it is not only along those impressive walls we find voluptuous vivid colours, but also in the kelp forest or along the boulders on the bottom, we find this seductive play of colours.

On the broad kelp leaves, the colourful nudibranchs have taken up residence. In the narrow crevices, small red fish keep a watchful eye on every movement in open water. These fish are not timid and can easily be approached by divers and will even follow a diver around when they feel like it. The squat lobster, in its bright red shell, comes across as both being shy and inquisitive at the same time.

Twilight

The terrain beneath the surface in Lofoten seems to be just as dramatic as the landscape above. Gullies, grottos and a dense kelp forest. Those who don't mind shadowy nooks and crannies and have no issues with claustrophobia will feel right at home here even with the

midnight sun shining bright above the surface. The kelp forest is a favoured refuge for a lot of fish and animal species. It is not easy to hunt prey that can hide in a dense forest.

In other places, the big boulders create exciting spaces in which to swim around. At a first glance, they appear devoid of life and somewhat sinister. But then you switch on your lamp and get your suspicions confirmed that you are indeed not alone. Not everyone needs to hide in the dark, some rely on their camouflage. With a little patience, you will soon locate angelfish, which seem to be one with the underlying rock upon which they are resting—giving away their presence only by their curious swivelling eyes protruding out from the sand. Tiny gobies also take advantage of the terrain.

Swim slowly and open your eyes. You will find yourself embedded in an underwater world teeming with life.

Wreck diving

The Icelandic trawler *Guðrun Gísladóttir*

shipwrecked in the Nappstraumen June 18, 2002. After several unsuccessful attempts to salvage her, it was decided to leave the trawler where she had come to rest.

The sea was still dead calm when we arrived, and the sun warmed us from a cloudless sky as we rolled into the water to dive the wreck. We descend along the downline to arrive at the mast of *Guðrun Gísladóttir* at 16 meters. The downline was fixed to the upper part of the bridge, so we sink slowly down along the mast.

The wreck is already covered in life, but has yet to acquire the mystique that surrounds older and more rusty wrecks. Nonetheless, this sunken trawler is still a wonderful wreck dive.

We touched bottom at 40 meters, and peered at the top of the wreck, the mast, at 16m. The wreck rests at an angle of 45 degrees to starboard on a sea floor of white sand or silt.

Another good wreck dive we enjoyed was that of the *D/S Hadsel*. This is the wreck of a local freight and passenger



COUNTER-CLOCKWISE FROM TOP LEFT: View of the RIB from below; Racks of drying fish; Morning on the Norwegian seas; Norwegians enjoy their beer and toast a good day of diving

vessel that ran aground upon a shoal in 1958 just north of Reine. *D/S Hadsel* leans over 50 degrees to port. It also rests on a white seabed. The depth here is 44m, but most of the wreck, including the bridge, can be found at about 37m. The aft mast reaches up to 27m. This wreck has been somewhat destroyed, but still feels like diving a whole ship. Although the deck is somewhat potholed, there are still parts of the planks left. The visibility was rather good, and we could see almost the entire wreck as we hovered past the mast where we had attached our lines. This was indeed a wonderful wreck dive, like a scene out of a Hollywood movie.

Other recommended wrecks in the area include *D/S Nordstjerna*, *D/S Mira*, *M/S Sanct Amandus*, *M/S Fram*, *M/S Hamburg*, *D/S Ramø*, *M/S Rio*, *MRS 25*, *M/S Atlas* and *M/S Stella Orion*.

Divecenters in Lofoten include Lofotdykk, which can be found in an old sea house built in 1890 in the middle of Kabelvåg. The house has five rooms with a total of twenty beds. There is a communal daily room, showers and toilets and a fully equipped kitchen in which guests can prepare their own meals. A full range of rental equipment is offered and airfills up to 300bar. This is also the departure point for Lofotdykk's 28-foot RIB with access to a multitude of dive sites 5 to 60 minutes away. www.lofotdykk.no

Aqua Lofoten Dive Center is located in Ballstad. It offers a full range of rental equipment and fills air up to 300bar. There is also a little dive store and accommodation for up to eight guests in a cabin with kitchen. One can also find accommodation at the nearby Kræmmervik Rorbuer. www.aqualofoten.com. See: www.lofoten-tourist.no ■



Lofoten Islands of Norway



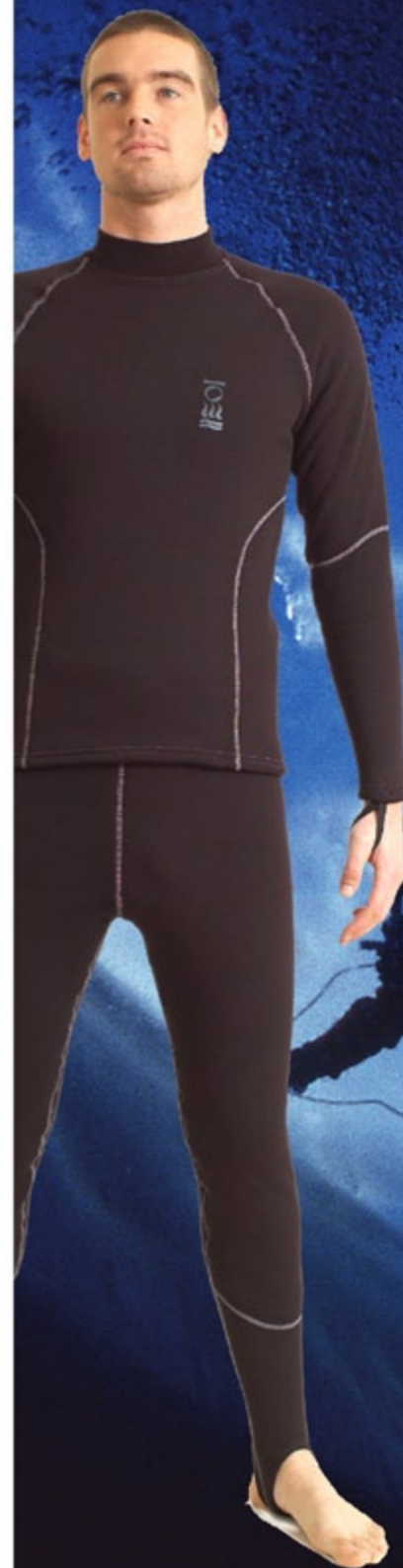
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Phill Short, pioneering cave diver after a 14 day exploration of a cave system in Siberia.



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Trondheim is located on the central western coast of Norway

Wreck safari and adventure along the Trøndelag coast on the Moby Duck

The Norwegian coastline is long and the shipping lanes winding and challenging to navigate. Here, the misfortunes of ships have become the fortunes of discerning wreck divers. Finding these wrecks is not without challenges, however, as you need precise direction and accurate positions. Be off by a few meters and you may end up swimming in the wrong direction and never see the wreck. The difference between success and failure can be a very fine line. Enter Roy Welle, a very experienced diver who knows Trøndelag county's water like the back of his hand. He is the skipper of the local dive vessel, *Moby Duck*. It was early May when we came along for a five-day wreck safari on the liveaboard.

Trondheim *Wreck Safari*

Text and photos by Nils Aukan

A diver examines the huge propeller on the M486 wreck





Trondheim



LEFT TO RIGHT: The *Moby Dick* readies for a wreck safari on the Trøndelag coast; Swedes bring aboard double twin sets; Guide Didrik Tårnesvik with Skipper Roy Well in cab



INSET ABOVE: King crab feasting upon a sea urchin

RIGHT: Chimera, or Ratfish, are ancient fish of a different age. They came into being long before sharks and other early fish and have not changed much over the millenia. Shown here, *Chimaera monstrosa*



As I embarked the *Moby Dick* in its home port of Trondheim, I was joined by six experienced technical divers from Sweden, who had been on tours with this vessel before. All the Swedish comrades came with 2x12-liter double tanks and a 7-liter oxygen sling tank for decompression. They came across very safety conscientious and were obviously quite experienced wreck divers who favoured bringing ample supplies of breathing gasses on their backs and harnesses.

The Swedes were also equipped with massive battery packs at the end of an umbilical attached to hand-mounted lamp heads. I would say that their equipment weighed in at around 60 kg's each to be added to their own weight. Negotiating a dive ladder with all this stuff calls for a fair deal of physical strength and being in good condition. As far as I was concerned, I was happy with my single 15-litre tank and air fill.

Skipper Roy Well

was joined by Didrik Tårnesvik as guide and divemaster. Didrik used to manage the renowned dive center at Hitra and had a background as a professional scallop diver. Another professional scallop diver with experience in Nitrox diving, Robert Skaanes, came along as deckhand. Didrik was photographing with a Nikon Coolpix 990 in a Ikelite-housing, so I was pleased to have a fellow photographer with whom to buddy up.

Before we could have a go at the wreck buffet, we headed for a first dive right across the fjord, at Hidrem. At this location, there is a population of the special gorgonians or sea fans, *Paramuricea placomus*, in shallow water, which in this case, means 25-30m.

If you are lucky, it is also possible to see the ancient Chimera here, or Ratfish, *Chimarea monstrosa*. Didrik and I weren't, however, so fortunate. We were swept off by an ingoing current once we passed 25m, and we found it impossible to swim back against this current.

As we tumbled around we scared the living daylights out of a poor wolf fish, who took off like a tempest when we showed up. We ascended a few meters more to find ourselves grabbed by another current which took us back to our starting point—sweet!

Meanwhile, we had managed to get a glimpse of an amazing abundance of sea life with lots of squat lobsters, hermit crabs and lots of brown sea cucumbers *Cucumaria frondosa*, as well as another species that goes under the local name of "scaly sea sausage" *Psolus squamatus*, which had white and rose tentacles sticking out of the sandy bottom.

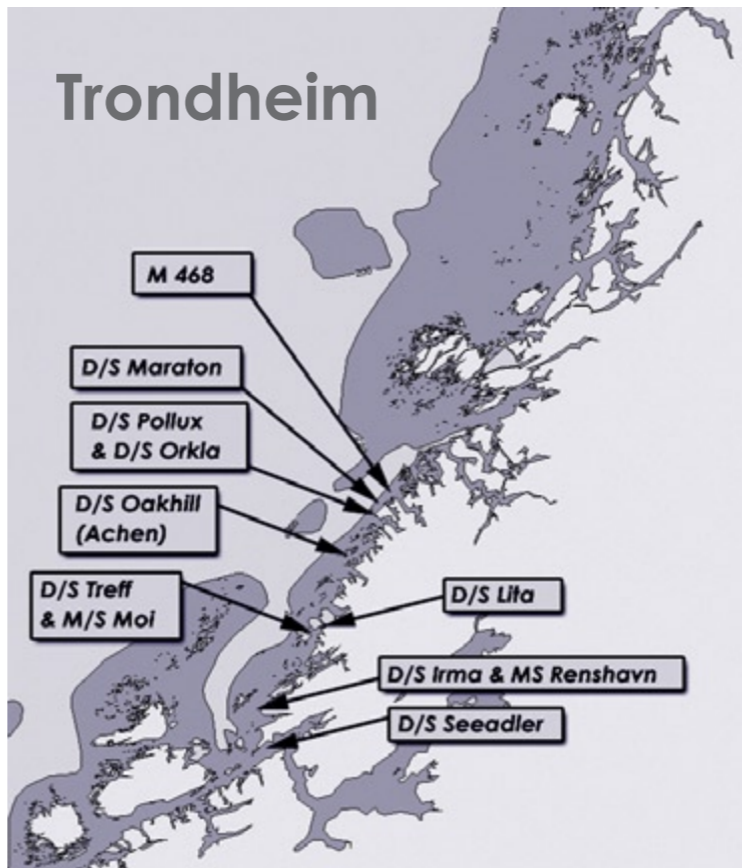
In the shallows, there were also dense colonies of the omnipresent Dead Man's Hand coral, *Alcyonium digitatum*.

As we were here during the algae bloom, the visibility was down to a moderate, though still decent, 8-10m below 20 meters, though it was only a couple of meters in the shallows.

Our Swedish friends had encountered the same currents as we did,



A Squat lobster oggles the camera with brilliant blue lined orb eyes and a bright red exoskeleton



Map of Wreck Sites on the Trøndelag Coast



but none of them saw the gorgonians on this dive.

The trip then took us further out of the Trondheim fjord, past Agdenes and into Uthaug on Ørlandet where we stopped for the night. We were then served a splendid dinner—the first of many excellent meals to follow on this trip.

The Irma wreck

Our first wreck was *Irma*, 3743 brt and located off Ørlandet. She was built in Sunderland, England, in 1906, and was a big vessel of no less than 350 feet. Heading south during the war fully loaded with 6400 tons of iron ore, she struck a rock just outside Djupfest-Bjugn and sank on March 14, 1944, with no loss of life. The vessel had originally come from Latvia, but was seized by the Germans during the occupation in 1940.

What remains of the wreck is found from 10 to 46m depth, but down to a depth of 25m, the wreck clearly shows signs of having the cargo of ore and metals salvaged after the war. There is not much left of the bow. The algae bloom was, unfortu-

nately, at its peak when we visited *Irma* but the wreck was clearly marked with a buoy.

As Didrik led the way, the towering side of the ship just materialised out of the plankton soup. We descended along the sloping wreck to our maximum depth of 30m where we took a series of pictures.

The wreck was totally clad in a carpet of big squirts, *Ciona intestinalis*, sporadically dotted by Deadman's Hands, which added some colour. Fish darted in and out of the holes in the wreck's steel plates. We could have gone even deeper where the wreck seemed to be more intact, but we had decided on this maximum depth.

On this big wreck, it is possible to take many different routes. The superstructure is massive, which calls for exploration and lighter penetration. On the seafloor, there were still heaps of iron ore. I lifted a few lumps, and they were clearly much heavi-

er than the average stone.

The Swedes had concluded their diving day by collecting a good bag full of scallops, which made for an exquisite scallop soup the following day.

Lita wreck

On we went to Stokksund and the wreck *Lita*, which lies at a depth of 32-39m in a sheltered area nearby an anchorage inside Stokken. The 318 brt big steamer *Lita* was built in Danzig, Germany, and she, too, perished in the second world war after hitting a nearby shoal. She sank with no cargo aboard on January 30, 1944.

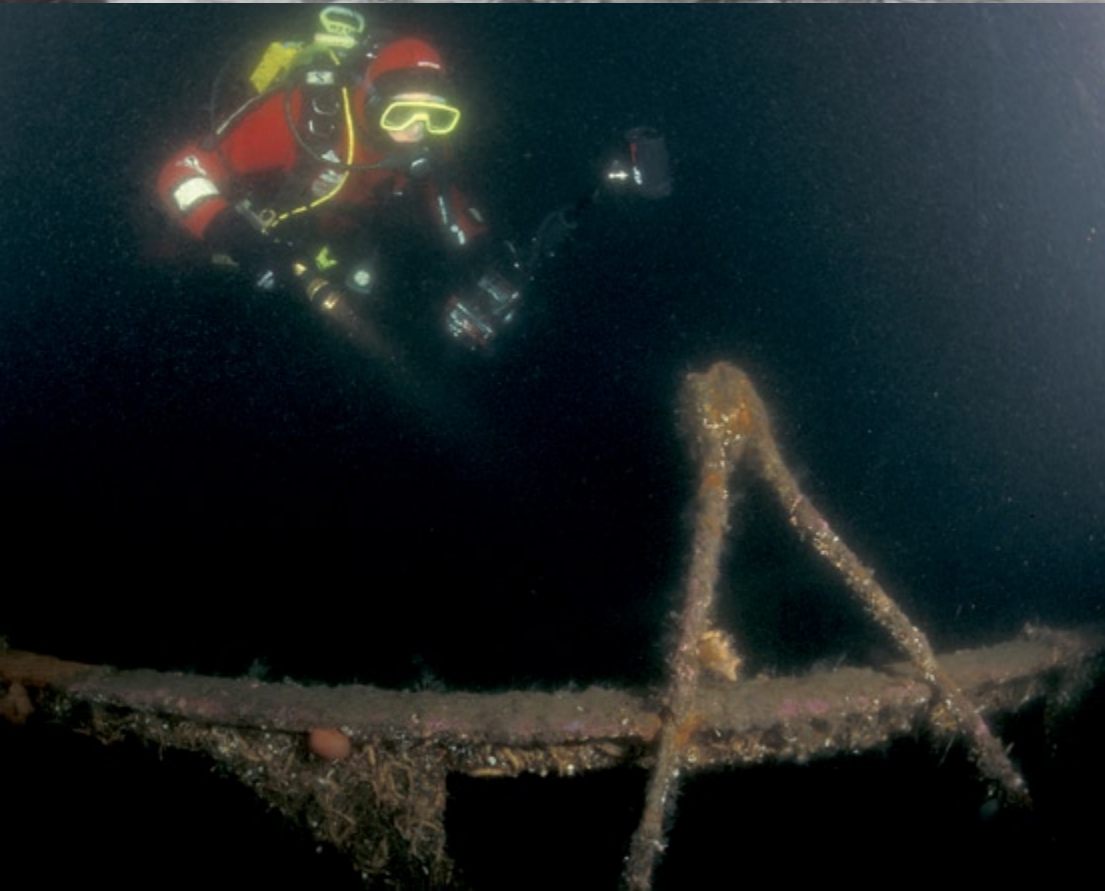
In this case, the buoy and downline was attached to the port side of the wreck. The visibility was unfortunately also rather bad all the way down to this wreck, so I

A large Gargonian fan coral greets the divers with brilliant colour

ABOVE: The Irma as she once was
INSET: Dive guide Didrik photographs the carpet of big squirts on the *Irma* wreck



The Minesweeper M-468 was sunk by a drifting German horn mine in 1944



Diver inspects the forward gear of the *Lita* wreck

descended with utmost caution through the algae-laden water column. I attempted to use my 16mm superwide angle and keep my strobes close, but the lack of visibility restricted the outcome of my photographic efforts. After a short swim to the midship and

back to the stern, Didrik and I decided to call it quits, whereas our Swedish friends seemed content to carry on. The spring bloom of planktonic algae, in which we were so unfortunate to arrive, was so intense in places that oxygen bubbles from their photosynthesis

made their way to the surface.

We then sailed on to Bessaker where we had a fabulous nature dive along a cliff wall. There were lots of squat lobsters, butterflyfish and yarrel's blennies. The colourful squat lobster, *Galthea strigosa*, definitely got the film rolling. With my 105mm macro, I got really close to the little bugger.

Minesweeper M-468

We reached the northernmost point of our journey at Langrøskjær lighthouse. Here lies the wreck of the German minesweeper, M-468. This M-class minesweeper had a displacement of 775 tons, a length of 62.5 meters and was built in 1942. It was escorting a German convoy from Trondheim to Bodø when it ran into a drifting German horn mine on August 12, 1944 and sank around 4:30am during an unsuccessful attempt to tow it ashore before it went down. The mine was spotted before impact, but despite a valiant effort and frantic maneuvering, it struck and exploded. The vessel capsized to the port and came to rest on the sandy bottom around 25-30m. The crew was rescued with no loss of human life.

The visibility was the best we have seen all trip, round 8-10m though the plankton near the surface cut out a great deal of the light from above.

Didrik has been here before and was once more my guide. We came down to the bottom close to the bow, which was fitted with a strange arrangement of tubes, the acoustic mine-sweeping apparatus. The bow section was resting almost upside down with the starboard stabilizing keel being on top.

We slid along the hull on our

Trondheim

way towards the stern where we came across our Swedish friends on their way back. At the boiler room the bottom plates at the starboard side was gone, and the whole ship had twisted itself in such a way that the remainder of the ship was lying on its starboard side at a 90° angle. Some of the hull plating in the bottom had been twisted outwards in the explosion. The ribs stood out like a ribcage with a wavy curvature. Obviously, the vessel has been weakened by the explosion and lost structural strength midships after which the ship collapsed and twisted itself in the 60 years that have since passed.

From the midship, the mast lies stretched out across the sandy bottom. Didrik and I took some shots here before we moved on towards the stern, where an external propeller axel, propeller and rudder came into sight. The vessel had two rudders and twin propellers. We shot our last frames and returned to the downline before our bottom time ran out.

This wreck was very exciting and, indeed, an extraordinary one. Maximum depth on this dive was 34m. The bottom time was 21 minutes.

Wrecks paraded

The same afternoon, we headed back towards Buholmråsa, and here the wrecks just line up virtually in rows. We dived the wreck *D/S Pollux*, which rests just off the lighthouse at a depth of 34m. This vessel was built in 1883 in Germany and owned by the Bergenske Dampskibsselskab (shipping company) when it was lost on November 22, 1900. The 1112



The tugboat found its resting place on its port side at 25-30 meters

brt vessel was 67m long. En route from Blyth on England to Tromsø in northern Norway with a cargo of coal, it ran aground and sank 180m southeast of Saxa without any loss of life. The salvage vessel *Sterkodder* almost succeeded in salvaging the ship a week later, but the mooring lines broke, and the pumping hoses were severed, causing the ship to sink once more. Later, the propeller was salvaged.

Skipper Roy set the

downline right on the wreck after locating it with the echo sounder. This wreck sits right on its keel and was, as such, easy to find with the echosounder once one knew where to look.

Once more, we were greeted by the algae soup in the surface, but the visibility improved as we descended. The light conditions were appalling, though, and it felt like night diving once we reached the sandy bottom

at 33m. Here, we came across a stripe of coal



The *Maraton* in all her glory

Trondheim

LEFT TO RIGHT: Girders of the *Pollux* wreck; Divers inspect the *Treff*; Doors open to the *Treff*



from the cargo, which we followed. The side of the wreck stood straight up like a dark wall nearby, and we got to the wreck at the midship level.

We followed its starboard side and went around the stern. Rudder and propeller were gone—only the axle remained. The wreck was nicely covered by Deadman's Hand corals with a sea lily taking centre stage. We took a couple of shots before moving on.

Around the boiler the deck was gone, and on top of the engine,

I saw several good subjects. Two of the masts remained erect and stood up 4-5m above the remainder of the wreck.

Once more, it was time to return to the surface, and I made my way back to yet another downline around midship. After the ritual three-minute safety stop, I was soon back on *Moby Duck*.

The *Pollux* wreck sits very nicely on the bottom, and had we had better visibility. It was obvious that we could have taken many fabulous pictures here. The wreck is now protected by the Historic

Remains Act, so it is not permitted to bring up any artefacts.

Close by, the shattered wreck of *D/S Orkla* rests at 6-20m. A green buoy was attached to the wreck when we arrived. This vessel had a tonnage of 4230 brt and was 380 feet long. It was owned by a shipping company from Kristiansund and was transporting iron ore when it foundered in 1957. The distance between *Orkla* and *Pollux* is less than 200 meters. And less than half a mile further out lies the wreck of *M/S Maraton*.

V-5706 Ostmark

Following a good nights sleep in Stokksund our next dive was on the wreck of a German sentry ship, the V-5706 or *Ostmark* on the

Nessaskjæret (Nessa Shoal) about 15 minutes from Stokksund. This 204 brt vessel was originally built as a whaler and launched under the name *Treff* in 1925. She was 110ft long and was used by the Norwegian Navy as a sentry ship until the Germans seized her in 1940. They mounted an big 76mm canon on the fore deck and equipped it with sinking mines.

Local belief has it that the Germans were drunk when they ran the ship aground on May 15, 1941, after which she slid off the shoal and sank to the bottom where she now rests at a depth of 36-46m. In 1995, Navy divers removed sinking mines and 76mm muntions from the wreck.

The algae soup somewhat turned the descent to the wreck into a night dive. Halfway down,

there was no more daylight, so I switched on the pilot lights on both strobes.

We came down on an empty lifeboat-davit, and the visibility was just a paltry couple of meters. It was not easy to orient oneself, so we went along the starboard side towards the bow quite cautiously. I took some pictures of the bridge with our Swedish friends

Moi at Maltsekken

After a splendid lunch at Stokksund, we went on the wreck *Moi* at Maltsekken, only about 100m from where *Treff* went down.

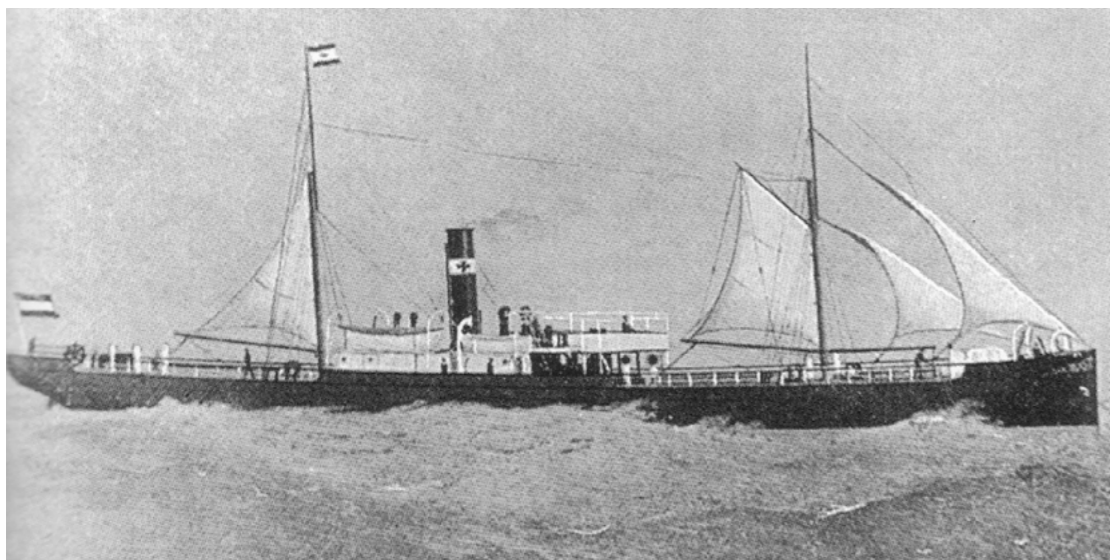
Moi was a 201ft long, 490 brt, steel-hulled vessel built in 1952 in the Netherlands. She was under way to Knarvik with a cargo of dolomite from Hammerfall, when

posing. It was my intention to continue to the bow to take some photos there, but at 40m, the bottom time runs out very fast. I managed to squeeze off one shot of the skylight as I passed it on my way back to the downline.

Maximum depth for this dive was 40.8m, and total time, including safety stop, was 19 minutes. I had 100 bars left in my 15-liter tank.

she ran aground on January 3, 1975, and went under. As the expression goes, she sank like a stone. The shoal ends in a steep drop-off, which the ship soon slid down to come to rest at 25-35m. She is now marked with a buoy.

The Swedes did their thing and went for the wreck as usual, while I opted for photographing the marine life on the slope as the visibility still left a lot to be desired.



The *Pollux*



Prehistoric face of the Rattfish

Trondheim

ing two different camera systems, one with a 16mm wide-angle lens and two 200-watt strobes, and another Nikon F-90x mounted with a 105mm macro lens and two 50-watt Ikelite strobes.

And what a dive we had! The visibility had improved dramatically, and some very special fish appeared out of the dark: Rattfish. Not just one, but several. They circled around me as my strobes fired non-stop.

The rattfish, or chimera, is a special deep water fish related to the sharks with its mouth placed on the underside making it resemble a rodent. The Rattfish lives off what it can find in the soft bottom—fish and crustaceans. In front of the dorsal fin, it has a poisonous spike, of which you need to be wary. Its eyes are big and reflective—obviously equipped with some sort of light amplification mechanism—and they are well adapted to seeing in the darkness that reigns

in deeper water.

The fish were not afraid of us and came quite close, enabling me to get a great portrait of one of them. I also managed to get two of them in the same



The Chimera or Rattfish is found in deep water

picture. How cool is that? This dive was great fun.

Just below a rockface at 25-30m, the current suddenly picked up again. Here, we found a population of the magnificent orange sea fans, *Paramuricea placomus*, and they were really impressive. These corals are unique for this location, in the Trondheim fjord, where they grow at shallower depths than seen elsewhere. Once more I started consuming film, but I struggled staying still in the current, and I soon ran out of time. I ascended into shallower waters where I saw more rattfish and many species of sea cucumbers—the common sea Cucumber, *Stichopus tremulus*, the Orange-footed Cucumber, *Cucumaria frondosa*, and the "scaly sea sausage", *Psolus squamatus*—as well as big northern stone crabs, *Lithodes maja*, cod and haddock.

I could even shoot my last frames during my safety stop where I was accompanied by lots of hermit crabs performing their mating rituals. The marine life on this location was just amazing.

Once back on the surface, we found daybreak underway and went back across the fjord to Trondheim.

In conclusion

The six Swedish divers and I enjoyed a spectacular adventure in the Norwegian undersea world. I have almost 38 years of diving experience and have seen a lot, but I have to say that especially our last dive was so different from anything else I have seen before in shipping lanes and open ocean. This was fjord diving at its

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king crabs in Jardfjord
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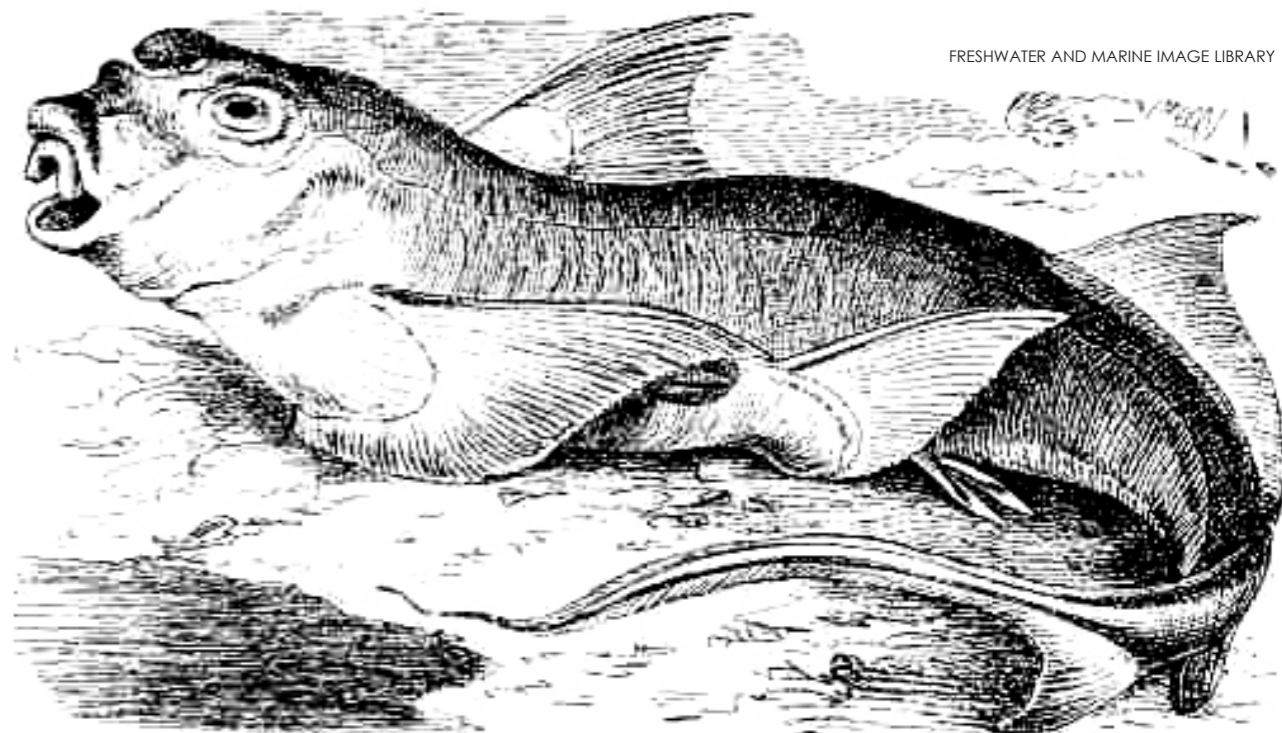
best—exhibiting an astonishing biodiversity and some of the best diving I have experienced in Norway.

The various wreck dives were also great. In particular, I fancied the dive on *M-468*. It had the drama and aura of war history. I was able to overview the ship, which was of a manageable size. All sections of the vessel were clearly recognizable, not just a chaotic pile of iron junk, which some of the shallower wrecks turn into soon enough.

However, the visibility left a lot to be desired, but that was due to the season. It is rarely good to go at the time we

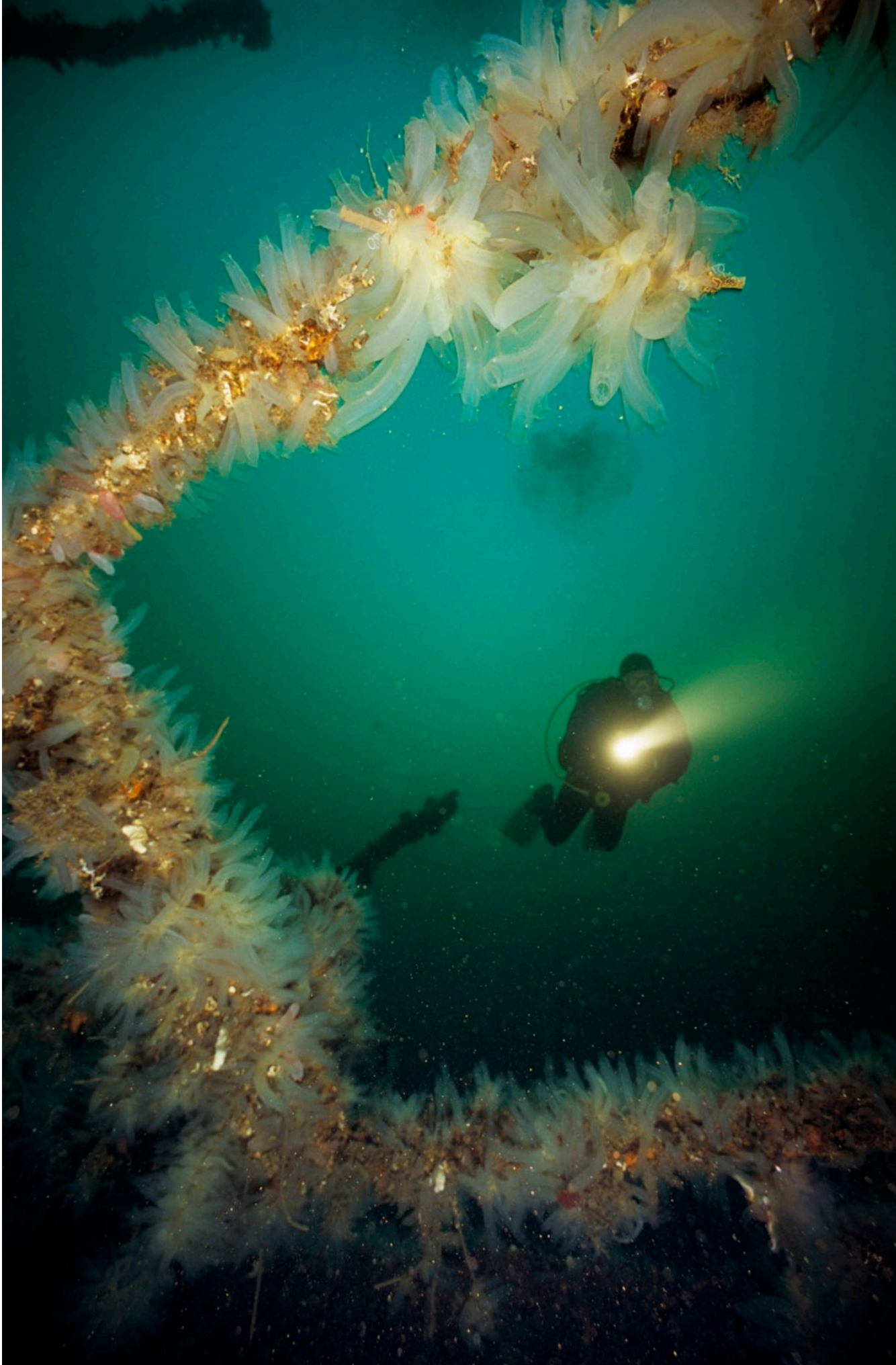
went, in May, when the plankton bloom usually lasts for 2-3 weeks. Unfortunately, it cannot be predicted accurately. This year, it started early due an increase in the amount of sun. Usually, the visibility is decent below the algae, and once you go down to 10, 15 or perhaps even 25m, it clears up.

Diving 2-3 times a day can be quite taxing, but when you are accommodated so well aboard such a nice boat, which takes you effortlessly from site to site while you are being fed excellent meals, how can it be anything but good? ■



Chimaera monstrosa

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Kristiansand

Text by Arnold Weisz
Translated by Peter Symes
Photos by Stein Johnsen

Southern idyl with an Italian twist

Facing the busy shipping lanes of Skagerrak and being a communications link to the continent, Kristiansand, with its rugged coastline, is a ship graveyard peppered with exciting dive sites all of which can be reached in less than 20 minutes by boat.

Nothing beats local knowlegde. So, what options did we have other than to contact the Italian, Carlo Golfetto, who runs the dive operation, One Ocean, in Korsvik Marina a little outside the town of Kristiansand. The dive center is perfectly located for diving the region's most famous wreck the giant *MV Seattle*, which rests on a slope only 400m from the dive center. Other great wrecks are located very close by as well, within 10 minutes boat ride,

at decent depths between 15 to 30m. And the Italian presence here, however unlikely, just ads to the equation. Carlos' hearty laughter and his good command of English, with the unmistakable Italian accent, guarantees a couple of very entertaining days. The spirits aboard his dive boats were always high, and that is the way a dive vacation should be.

Advanced diving

We began with the biggest wreck and deepest dive—one of the best wreck dives I ever had in Norway. *MV Seattle* is not only in relative good shape, but it is also huge—a whopping 140m. The only downside is that a big part of it lies quite deep.

We did one dive on the shallowest part starting at the stern, from 23m on downwards. This was already very cool, but the remainder of the wreck beckoned me to venture further down along the sloping deck and quite

significant depths. There were two bouys on the wreck. One is tied to the stern.

From a depth of about 15m, it was possible to get a decent overview of this impressive wreck even before we could grab onto the rail. Reaching a maximum depth of 33m, we had ourselves a decent tour of the rear area of this massive wreck.

Even though the steel plates have buckled where the ship broke its back settling on the seabed in 1945, it is still in a fairly good condition. Big openings make it possible to penetrate parts of the wreck without having to embark on advanced penetration projects.

Even divers who don't call themselves die-hard wreck divers, yours truly included, think this dive is magical. The sheer size surely plays its part. Since the wreck sits straight up, it is not an issue navigating this one and find one's way back to the downline.

THIS PAGE: Divers explore the eerie architecture of the giant wreck, *MV Seattle*





Kristiansand



You like'a da pásta, eh?

As we break the dead calm surface and poke our faces back up into the sunshine, we are greeted by a wonderful smell of food. Straight back to the dive boat it is, and getting out of the dive equipment can't happen soon enough as Carlos has one of his lovely pasta dishes ready and waiting— steamy hot and yummy. A 40-minute dive laden with excitement and experiences surely works up a solid appetite, and followed by Carlos' pasta with tomato sauce and parmesan, diving and dining make for a highly recommended and memorable combination. I can think of worse ways of passing time while getting rid of some nitrogen.

The boat is already slowly heading for the next dive site. Hot coffee and tea is also served while we get under way and our tanks exchanged for full ones. The next dive site will be another wreck, the *Tom B*.

Since the sea is dead calm and this wreck lies in a exposed location by the open sea, it is a window of opportunity not to be missed.

Two out of three parts of the wreck are almost flat but the visibility is really good, and there is plenty of marine life in and around the wreck. Different species of the colourful wrasses dart in and out. On the white sandy bottom, several flatfish try out their camouflage and cover themselves with sand when we shine our torches at them.

In a shadowy cranny on the wreck a lumpsucker is guarding his nest of eggs. He doesn't fancy disturbances, but his curiosity seems to get the better of him, and he ventures out to eyeball these bubbling intruders. He ends up posing willingly for the photographers.

A little school of pollacks sails by but take off quickly once they establish that we are not all that exciting after all. Our computers now urge us to move towards shallower water, so we venture up into the kelp belt.

Here and there we see nudibranchs and crabs but, quite disappointingly, not a single lobster regardless of the fact that the terrain offers lots of suitable crevices and hideouts.

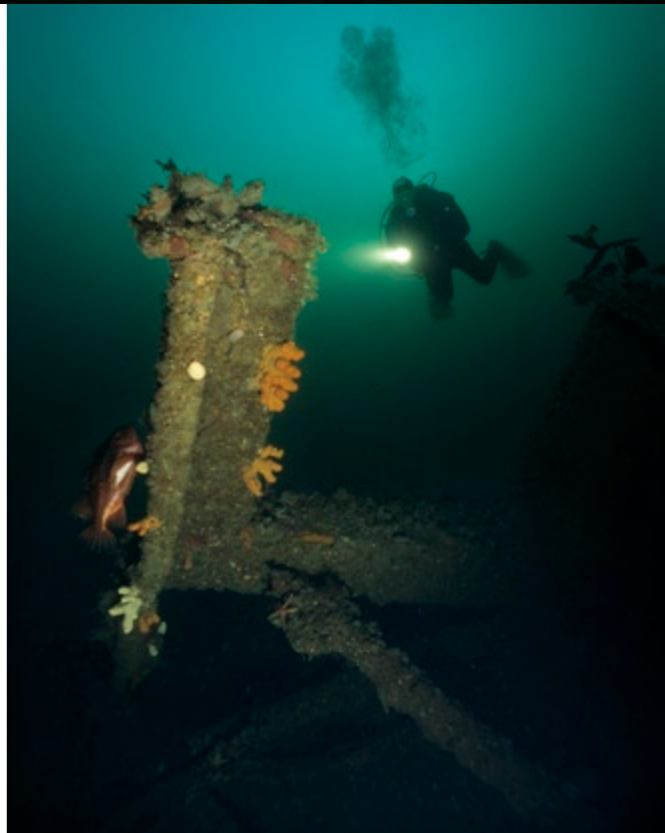
Ooops... now the the computer has

begun beeping. Even with a maximum depth at this site of not more than 23m, we have now become saturated with nitrogen and are obliged to end our dive despite having both appetite and air for more.

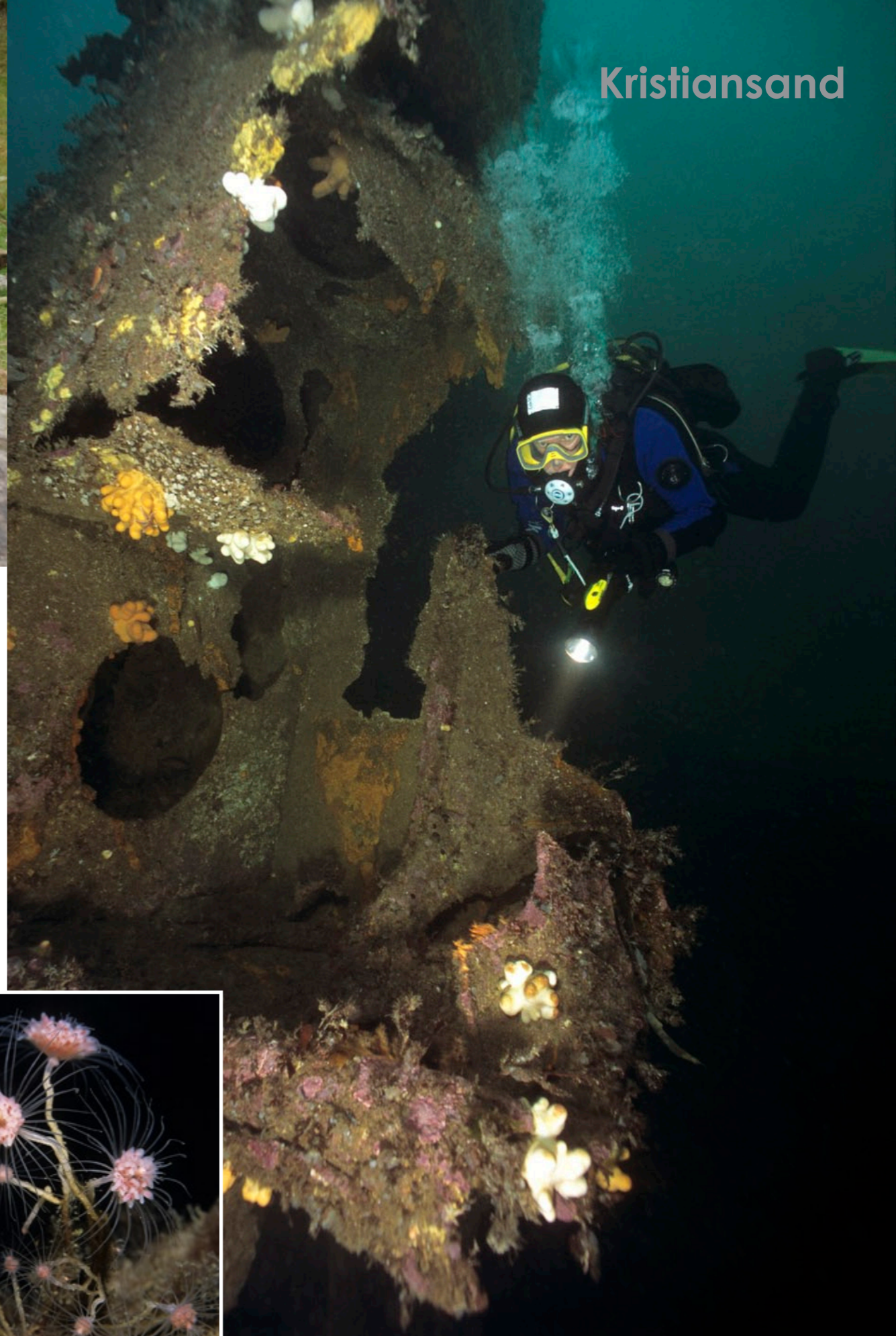
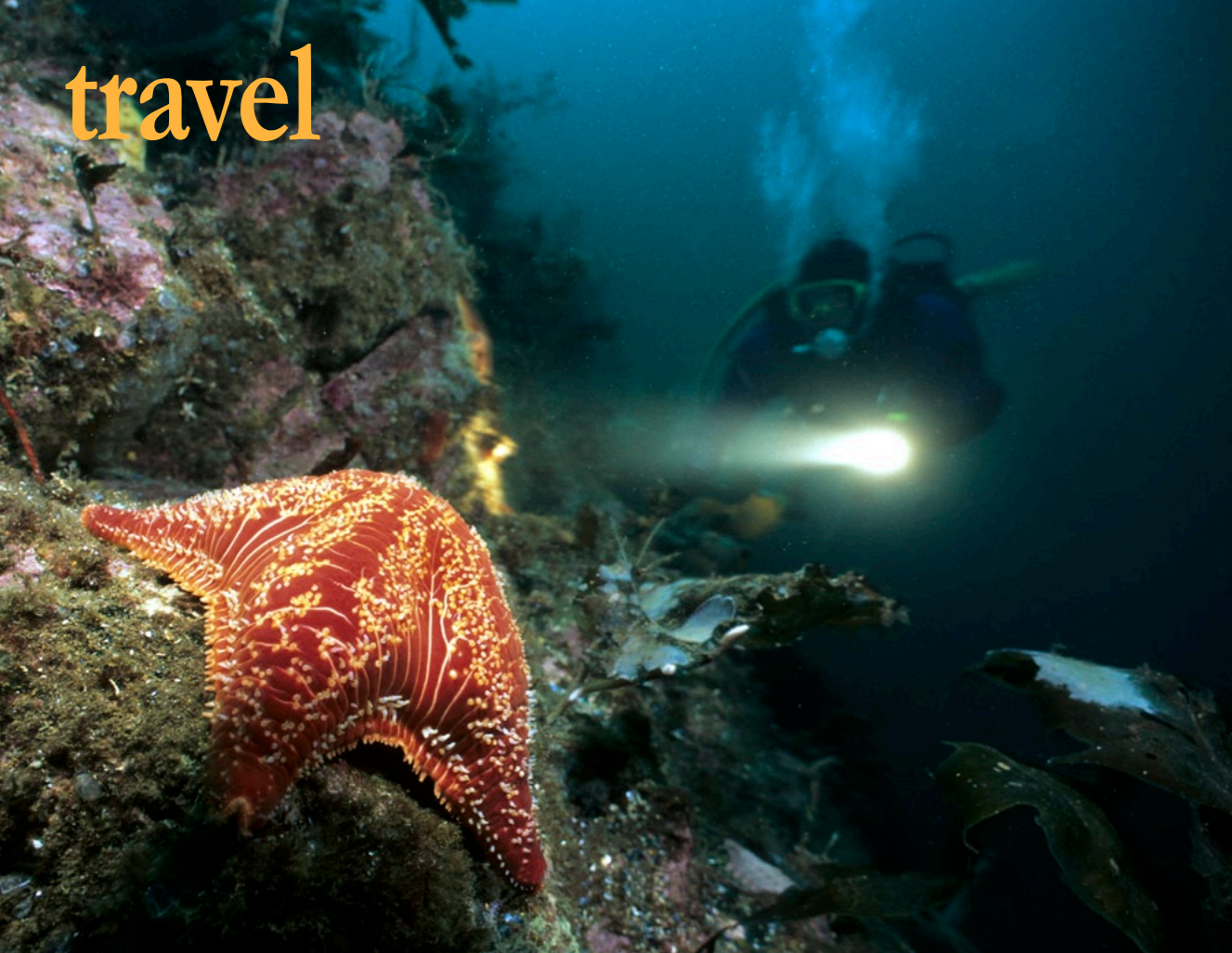
More rusty steel

Some of the best dive sites in the region are found just outside Kristiansand and on the outside of Topdalsfjorden. We did an impressive nature dive on the southeastern side of Grønningen Lighthouse. This dive site wasn't exactly pristine nature. We knew from the onset that we would see a lot of wreck diving on a trip to Kristiansand, but the fact that we couldn't escape finding some rusty steel on all of our dives is not exaggerated. On the other hand, the prolific fish life seemed to treasure all the remains of the shipwrecks that lie strewn over vast areas on this region.

We call this site a nature dive now, because the remaining debris cannot be called shipwrecks anymore and are in the process of becoming integrated into the natural habitat. The varied topo-



CLICKWISE FROM BOTTOM LEFT: Italian as he is, Captain Carlos prepares a delicious pasta dinner for the divers which is ready for them when the emerge from the wreck; Delicate soft coral blooms on a branch of sea grass like a flower; Divers explore the wreck of the *MV Seattle*



ABOVE: A cozy fire with a hot meal and hot coffee is just the thing between dives
LEFT: Large red starfish can be found on the rocky landscape under Kristiansand

graphy in combination with all the hide-outs created by the rusted twisted metal acts like a magnet for the local wildlife. They might be of the free swimming sort, or crawl along the bottom.

The bottom is quite varied and a lot of the cliff walls carry unmistakable marks from the ice age. The glacier ice scoured out fine arching furrows in the bedrock. It almost looks like it has been done by machinery.

The city wrecks

Surprisingly, one of the most positive wreck dive experiences we did was close to town. Initially, a quick glance at the map had done little to convince us that it would be a good wreck dive. We envisioned bad visibility and plains of bare mud, but Carlos insisted.

"The city wrecks" as he called them, are actually a splendid place for beginners' wreck dive training and penetration techniques. A maximum depth of 17m in combination with small and sizeable wrecks, four to be exact, makes for

a splendid training ground and a good site for a dive outing.

The wrecks, which have not been identified, lie in the harbour at Lund in Kristiansand. And if you haven't got enough of wrecks just yet, it is possible to continue diving on several more just by swimming off the jetty outside the dive center.

Just jump in and swim across the little sound. This can even be done under water since the depth is not more than 8-10m. Here, you will find the wreck of an old fishing boat at a depth of about 10m. But there are so many others. You can also find the remains of a German war plane, a Dornier, and the minesweeper M-426.

In between the dives, Carlos has several good sites where divers can go ashore and relax between dives. During summer time, it is tempting to just have a siesta and tan in this archipelagian idyl. In the cooler months, a campfire and hot drinks is another way to have a cozy break.

The king's city

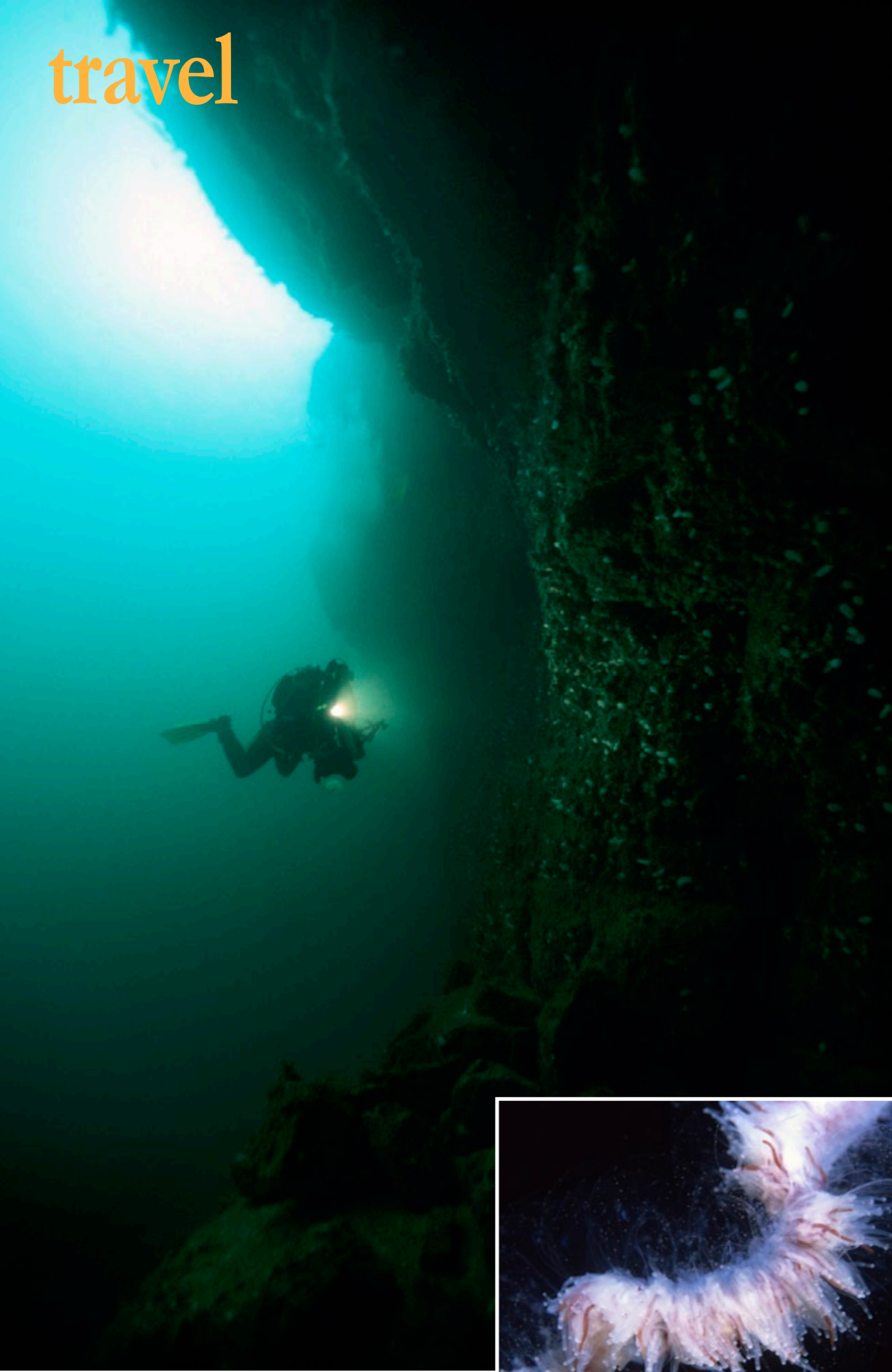
Kristiansand is Norway's fifth largest city with around 75,000 inhabitants. The city was founded in 1641 by the Danish-Norwegian king Christian IV. During the summer, the city clearly comes to life. "Sun, summer and sørlandet" (which means 'Sun, summer and the county') is a popular figure of speech around these parts, and for many Norwegians, Kristiansand is the town for summer. Kristiansand can get about 2000 hours of sunshine a year.

The boating season is another popular aspect of living here that most of the Kristiansanders look forward to during cold and murky winters. The city can boast about having the largest marina in the country. Close by, one can also find the new fish-



Delicate polyps spread out their arms to collect nutrients suspended in the current

ABOVE: Great wrecks can be found right in the city of Kristiansand



Kristiansand

The One Ocean dive boat, ProDykk, loaded with eager divers heads to a local dive site. INSET RIGHT: Captain Carlos does air fills overnight so your tanks are ready the next day



ing pier which is really worth a visit. If you want to combine a family vacation with diving, this is a very good place to go. The animal and amusement park is the town's number one tourist magnet. Everyone knows "Kardemmeby" (Cinnamon town), right? Not to mention, the city also offers a wide range of cultural activities including many museums.

The dive center
One Ocean is located in Korsvik Marina, 8km east of Kristiansand. The dive center has a modern 35-foot dive boat moored only 20m from the dive center. One Ocean is open year round and offers boat trips seven days a week. In the summer there is up to three daily sorties and dependent on the arrangement and destination you can have one or two dives a trip. The boat has been purpose built for diving in 1998 and is equipped with a 215 hp diesel. On the stern a big diving platform is mounted with

a ladder. On the dive deck there are showers with hot and cold water so the diving equipment can also be rinsed after diving. With a top speed of 23 knots most dive sites in the archipelago is reached in less than 30 minutes. Tanks can be refilled from a station 24 hours a day. You pay with tokens bought in the dive shop during opening hours. Courses offered is PADI Open Water and upwards in the PADI hierarchy. One Ocean has two types of accommodation on offer: Two condominiums view seaview located directly above the dive shop. These apartments come with all modern amenities, for up to eight divers in each. The other option is the nearby Dvergnestangen Camping, only 500m from the dive center, which also offer condos and, obviously, camping. For more information, contact One Ocean located at Strandåsen 22, 4638 Kristiansand, Norway. E-MAIL: oneocean@oneocean.no, website: www.oneocean.no. Tourist information for Kristiansand can be obtained from www.sorlandet.com. ■



Close-up of a colony of polyps growing in a formation

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Kristiansand is located on the south coast of Norway

ABOVE: Dramatic view of a city wreck

Invasion of the Crabs

King crabs invade Norwegian waters

Text by Arnold Weisz
Photos by Stein Johnsen

The Cold War has been over for more than two decades, but a relentless red army of monster crabs are still pouring over the border of Russia into Norway. The crabs are feared by environmentalists, but not by scuba divers.

First introduced to the Barents Sea off northern Russia in the 1960s, Red King crabs (*Paralithodes camtschaticus*) are now spilling down western Norway by the millions. The first crab was spotted in Varangerfjorden in 1976. Since then, the crab has headed steadily west bound and is now found in large numbers west of the North Cape. The King crab roaming the sea floor of the Barents Sea is one of five species in the same family.

Three are native to Arctic waters, and two have their home waters along the California coast. The crab was taken from the Kamtsjatka Peninsula, on Russia's Pacific coast and introduced to the Barents Sea by Soviet scientists to get a better supply of seafood for the people in this part of the former Soviet Union.

Alien creature

As an introduced species, the crab is by many rated as an environmental hazard. Even though there has been research done on the crab for three decades, neither Russian or Norwegian scientists can agree on the future impact of the crab invasion on the local marine life. WWF Norway and other environmental groups have long raised their voices in concern for the impact on the

local marine life, as well as fish stocks and bottom dwelling animals. These groups accuse the Norwegian government of ignoring the possible consequences for the marine environment.

Estimates say that the total number of crabs is around 15 million in the Barents Sea. As these millions were



derived from only a few thousand at the beginning, the species have proven to be tough, prolific and enduring. In the mid 90s there was a scientific catch of the crabs, but only in small numbers. Commercial crabbing was first started by both the Norwegian's and the Russian's in 2003. The crab is regarded as a delicacy and can fetch up to USD 65 per kilo at fish markets in Oslo. It will be very difficult to stop this "red army" from marching on to battle fields further away just by fishing them, so it seems that we have to find other ways of controlling the population. For now, they have given the local fisheries another source of income, which by many is welcomed, as many coastal fish stocks are heavily depleted.

Docile monsters

Diving with this monster crab is not nearly as frightening as it seems. Although they can grow up to 180cm

(6ft) between the tips of their legs and weigh up to 9-10 kilos (20-22lbs), the crab is a rather docile creature. The first time I saw them under water was in the Jarfjord, just a few kilometres from the Norwegian-Russian border. We were told by the local divers that you can handle the crabs, but we were still a bit anxious when we encountered them for the first time.

They are bottom feeders, so you will most likely observe them sifting through the sea bed searching for everything from worms and molluscs to sea urchins and sea stars. The King crab is also known to add some vegetation to its diet and grazes on kelp and seaweed.

Or you can see them stride along the sea bed, either single or in large numbers. I must admit that the first time I saw a pile of 40-50 of these

beasts, I wasn't too eager to get too close. After having caught my first crab with my neoprene protected hands, much of the monster stories lost their sting. They are indeed beautiful crustaceans and will not run if you decide to have a closer look at them.

You don't have to venture very deep to see the crabs. They have been found as deep as several hundred meters, but are very frequently found in shallow coastal waters. You will find the King crab year around, but in the spring (March-May) they usually can be found in large quantities at depths easily dived by most, from 30 meters and up. We also caught a few crabs to cook, because they really are delicious. The taste and texture ranging somewhere between lobster and shrimp. While frowned upon by many, for Norwegian divers, this alien monster of the deep is a delicacy and an exciting newcomer to their underwater back yard. ■



fact file



Norway



History After two centuries of Viking raids into the European continent, Christianity was adopted by King Olav Tryggvason in the year 994. Over the next several decades, conversion of the Norwegian kingdom took place until Norway was absorbed into a union with Denmark in 1397 that lasted for more than four centuries. Sweden tried to cede Norway in 1814, but Norwegians resisted and adopted a new constitution. Sweden then invaded Norway, but finally agreed to let Norway keep its own constitution in exchange for accepting a union under a Swedish king. But rising nationalism during the 19th century led to a 1905 referendum, which won independence for Norway. World War I saw heavy losses for Norway in shipping, even though it remained neutral. At the outset of World War II, Norway proclaimed its neutrality again, but was nonetheless occupied for five years by Nazi Germany (1940-1945). In 1949, neutrality was finally abandoned when Norway joined NATO. IN the 1960s, oil and gas were discovered in adjacent waters, which boosted Norway's economic fortunes. The country's current focus remains on containing spending on the extensive welfare system. Norway continues to plan for the moment when petroleum reserves become depleted. However,

Norway rejected joining the EU through a referendum held in 1972 and 1994; Government: constitutional monarchy

Geography Norway is located in northern Europe and is bordered by Finland 727 km, Sweden 1,619 km and Russia 196 km. Two-thirds of the country are covered by mountains; Norway has one of most rugged and longest coastlines in world with some 50,000 islands off its fjord indented shoreline; It holds a strategic location adjacent to sea lanes and air routes in North Atlantic; Terrain: Norway was shaped by glaciers which carved out fertile valleys and fjords from high plateaus and rugged mountains; Norway also has small, scattered plains and arctic tundra in the north; Lowest point: Norwegian Sea 0 m; Highest point: Galdhopiggen 2,469 m; Coastline: 25,148 km (includes mainland 2,650 km, as well as long fjords, numerous small islands, and minor indentations 22,498 km; length of island coastlines 58,133 km); Natural resources: petroleum, natural gas, iron ore, copper, lead, zinc, titanium, pyrites, nickel, fish, timber, hydropower; Natural hazards: rockslides, avalanches; Environmental issues: water pollution; acid rain damaging forests and lakes and threatening fish stocks; air pollution from vehicle emissions; Capital: Oslo

Climate is temperate along the coast, influenced by the North Atlantic Current; Norway has a colder interior with more precipitation and colder summers; the west coast is rainy year-round

Population 4,593,041 (July 2005 est.); Ethnic groups: Norwegian, Sami 20,000

Economy A capitalist welfare state, Norway has an economy that combines free



market activity and government intervention. Key areas such as the vital petroleum sector are controlled by the government through large-scale state enterprises. The country is richly endowed with natural resources such as petroleum, hydropower, fish, forests and minerals. With one-third of its exports being oil and gas, Norway is highly dependent on its oil production and international oil prices. Only Saudi Arabia and Russia export more oil than Norway. While Norway opted to stay out of the EU in 1994, it still contributes a substantial amount to the EU budget. Privatization has been encouraged by the government and Norwegians worry about the day, which will come in the next two decades, when the oil and gas will start to run out; So, the country has been saving its oil-boosted budget surpluses in a Government Petroleum Fund, which is invested abroad and now has now reached a valued of more than US\$150 billion. The early part of the new millenium saw lackluster growth of the country's GDP, but growth picked up by 2005. Industries: petroleum and gas, food processing, shipbuilding, pulp and paper products, metals, chemicals, timber, mining, textiles, fishing; Agriculture: barley, wheat, potatoes; pork, beef, veal, milk; fish

Currency Norwegian Krone (NOK); Exchange rate: NOK per US dollar = 6.62; NOK per Euro = 7.97

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Web sites

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www.oneocean.no
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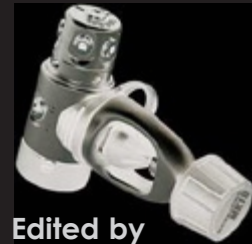
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POINT & CLICK
ON BOLD LINKS



Edited by
Andrey Bizuykin
& Peter Symes

amped & awesome Equipment



Hot Water Bottle

Great for fish lovers and kids who love fish. Transparent blue hot water bottle sports an aquarium design with assorted plastic fish floating inside. Made from practically indestructible thermoplastic material with 3-year warranty. Will never get that old hot water bottle smell. Oversized plastic fish stay inside so kids can't get them out. This warm and comfy plaything is safe for toddlers. 12 1/2" x 7 1/2" Price: US\$22.95 www.fashionhot.com



New Air2

In 1979, Scubapro created the concept of integrating a second stage regulator and a balanced inflator in the same compact housing. 2006 sees the advent of the fourth generation of the Air2, which is ergonomic and overall lighter than previous generations. It can be assembled on any BC and eliminates the need for another alternate air source—it works like a classic downstream second stage. It is convenient and easy to use thanks to its single hose configuration, fixed VIVA flow vane and one-hand operation. www.Scubapro-Uwatec.com



Sherwood Solaris ♀

A buoyancy compensator designed by women for women, the new Solaris BC is designed to meet the needs of the woman diver. The solaris uses the back-mounted flotation cell design, and the cut of the solaris has been carefully tailored to fit the contours of a woman's body. Finishing details such as the plush interior with a comfort neckline and a simplified harness system with front closure with depth-compensating feature for a secure closure allows you to get into the gear with minimum adjustments. www.sherwood-scuba.com



Aquatec

Mini LED Light Stick will replace the standard chemical light stick that is, unbelievably, still in use today. The LED Light Stick uses a high intensity LED along with a patented light diffusing acrylic material to give you an incredible glow that is very visible. These light sticks are not only good to use on your person during a night dive, you can also use them to mark the anchor, entry points, etc. Price: US\$19.95 www.oceanbrite.com

Pulsar from MB

It even looks German. Sleek, solid and oozing high tech vibes, this lamp has been designed to meet the highest expectations. The specs boast a massive output combined with almost eternal burn time. Colour temperature is maintained constant within tight limits by intelligent programming making it perfect for video and undersea photography. Pulsar is equipped with a Xenon bulb, flood alarm and is rated to 200m. www.mb-sub.com



Remove Before Dive

Ever forgotten to put the dust cap back onto your first stage, flooding it in the rinse tank before you knew anything of it? Not any more with this little bright thingy. It even comes with a spare o-ring inside. www.divedelight.de





Gilan 24W

The press release from Dutch Gilan was commendably short:

- 24W HID (as 100w Halogene)
- 1:45 hours burn time
- NiMH Sanyo battery pack
- Trickle charger
- Euro 549,- (introductory price)
- The dimmer will be released soon after the introduction and sold as an option only. There you go. www.gilan.nl



Calypso O₂

The Calypso O₂ regulator has all the same benefits of the popular Calypso regulator with the added bonus of being built for use with breathing gasses containing up to 100% oxygen. The Calypso O₂ is an excellent choice for technical divers in need of a shallow-water regulator capable of operating with a high O₂ percentage. Assembled in a dedicated clean room to ensure suitability for higher oxygen percentage applications. www.aqualung.com



Aladin One

Easy access to information is the key feature of the new Aladin ONE. Designed with new divers in mind, the Aladin ONE large round display shows all fundamental information at once for the ease and peace of mind of less skilled divers. The maximum depth and the temperature alternate every 4 seconds, while current depth, dive time, non-stop or alternatively deco stop information is always displayed. For maximum convenience, the 3 minute timer activates automatically upon reaching 5 meters.

www.Scubapro-Uwatec.com



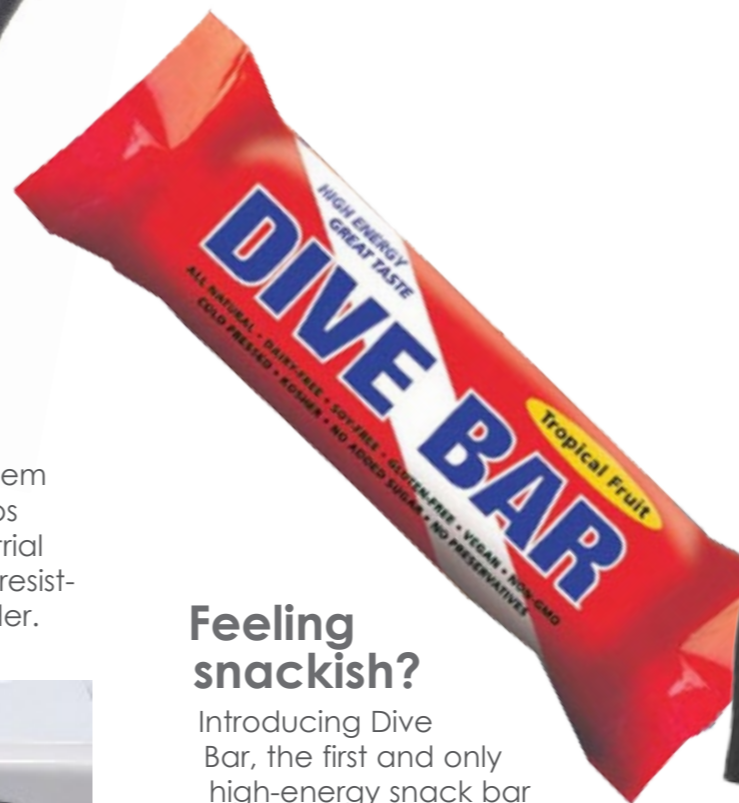
Lifetime Warranty

The Atomic Sub-Frame mask is so durable that the company is announcing a lifetime warranty against frame breakage. The strength is due to the super strong engineering grade thermoplastic frame molded beneath the mask skirt surface. The two-window design also allows changing lenses for vision-correction needs with the mask's interchangeable lens option. The ULTRACLEAR is a new and exciting optical quality glass with exceptional clarity and high light transmission, with no color distortion.

www.atomicaquatics.com

Max Holding Systems

Convenient and sturdy Tank Rack System holds 2-4 air tanks, 1-2 spearguns, loops for torches or masks. Made with industrial suction mounts, holds up to 350 lbs of resistance per track, speargun fits into holder. www.scubastorage.com



Feeling snackish?

Introducing Dive Bar, the first and only high-energy snack bar specially formulated for underwater enthusiasts. Delicious as it is nutritious, Dive Bar contains a healthy dose of Papaya and Pineapple enzymes to aid in digestion and enough Ginger to help settle the stomach and ward off seasickness—all of which makes Dive Bar the perfect pre-, post- or inbetween dive snack. www.divebar.com



Streeetchy

The Elastiprene 7 wetsuit is the warmest 7mm high-stretch in the world, and the first to combine the benefits of an incredibly elastic rubber material with the rugged features that are found on other Pinnacle cold water suits. The proprietary Pinnacle Elastiprene rubber allows the suit to fit an incredibly wide range of body shapes and sizes and also slide on and off like your favorite pair of old blue jeans. The Elastiprene 7 also features superior features that ensure years of comfort, warmth and dependable service.

www.pinnacleaquatics.com





Scubapro combo

MK17AF / S55 – A system combining the toughest balanced diaphragm first stage paired with an all-round balanced second stage. MK17 was launched onto the market in the summer of 2005. The MK17 balanced diaphragm first stage regulator is

engineered for usage in harsh, cold or polluted environments. The balanced diaphragm technology provides consistent performance at all tank pressures, at any depth and optimizes the second stage performance. S555 features the patented VIVA (Venturi Initiated Vacuum Assist), also known as dive/pre-dive control switch. VIVA uses the power of a vacuum assist to reduce the work of breathing and increase breathing comfort. www.Scubapro-Uwatec.com



Sharky

This dive backpack with a bite has two main compartments and additional pockets in the "gills" for smaller items like sunglasses. Made in doublestitched Denier 600 nylon. The zipper is corrosion-resistant made in "Delrin" material. Seen at €49.00 www.xtremefish.com



Air Dry P/V

This snorkel, which embodies the renowned Technisub quality, comes with a dual purge valve ensuring quick and easy clearing, and a large volume reservoir keeps residual water out of the breathing path. Rotating mouth piece adjusts to the most comfortable position, and the splash guard's position can be adjusted. Comfort Bite mouth piece is replaceable. www.aqualung.com



Merino wool

Pinnacle Aquatics is pleased to announce the release of the world's first drysuit undergarment to incorporate the patented Merino™ lining system, which not only allows the diver to be comfortable in 10 degrees or more colder water, but it also is superior at wicking away perspiration and reducing odors within the suit. Additionally, in the event of a suit leak, the Merino™ layer retains all of its insulating properties when wet. This makes this suit unique from any other undergarment manufactured for the market today. Machine washable. www.pinnacleaquatics.com

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- Backlit display
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Demon

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- Softeners for optimum comfort
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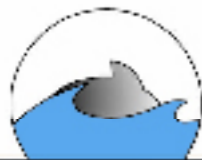
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Staff Instructor
OWD Instructor
Nitrox 36% Instructor
Assistant Instructor
Divemaster
Dive Leader

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WWW.THYGEDIVE.DK



Apex XTX200

The 2006 XTX200 model is the flag ship of the Apeks fleet of fine regulators. It uses the proven "FSR" type first stage as found on the ATX200. This XTX200 first stage features a new bright chrome finish. The second stage, although shipped in a standard right-hand configuration, can be reversed to a left-hand configuration by your authorized technician. Available in either DIN or Yoke configurations and compatible to EAN 40 right out of the box.

www.aqualung.com
www.apeks.co.uk

Hot out of Scubapro's oven

Ten minutes past deadline, news arrived about the Kinetix fin and Panthers drysuit. Kinetic is a lightweight travel fin, uniquely moulded in three sections of different stiffness.

Panther N1's 5mm high-quality pre-compressed neoprene insulates with little or no extra undergarments necessary, whilst ensuring buoyancy stability at depth. Panther C1 allows you to wear as many undergarment layers as necessary to stay warm and dry, so it is perfect for extremely cold waters; on the other hand, it can be worn with virtually nothing underneath for diving in warm water.

Know what you are breathing

Buddy Calibration Gas Kit from Analox Sensor Technology comprising of
- 1 of 20l 3% CO₂ in N₂
- 1 of 20l 100% N₂
- 1 Fine Control Valve

£151.58 - incl. tax, excl. shipping. NOTE: This product cannot be sold or shipped to customers outside the UK
www.analox.net



www.Scubapro-Uwatec.com



Pirate's Cove Dive Resort & Spas

Rebreather Week

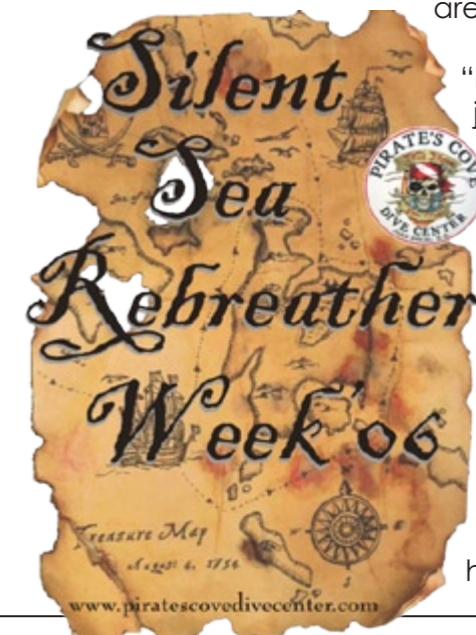
25 April - 2 May 2006,
Dominican Republic

Pirate's Cove Dive Centre—Dominican Republic's new state-of-the-art technical diving centre—is delighted to announce their first 'Rebreather Week' this April. With speakers lined up from the Who's Who of rebreather diving, and many like-minded divers attending, this program promises to be quite a special event held in extraordinary surroundings.

Rebreather Week 06 is for divers of any level and experience (including interested open circuit divers), allowing everyone to share the best of all worlds. Beautiful reefs, spectacular walls and wrecks and the most extensive freshwater cave system in the whole of the Caribbean.

"Open any diving magazine these days and rebreathers are everywhere, proving they are steadily becoming more mainstream, with 'Yellow Turtles' being regularly spotted from Florida to France," stated John Mattera, CEO of Pirate's Cove Dive Centre. "So, we're quite excited about 'Rebreather Week' and are rather hoping to make this an annual event. There are several activities planned, including a Rebreather Clinic, which allows divers to try out different units. I am delighted to say that we've got some quite special speakers coming to this inaugural week.

"During the evening, rebreather experts such as Jeff Bozanic (Cave researcher, rebreather expert and author), Jill Heinerth (Cave explorer, Film Producer and Technical Instructor), Mike Fowler (President of Silent Diving Systems, Inspiration & Evolution Rebreathers) and John Chatterton and Richie Kohler (Deep Sea Detectives), will be talking. So, we've found that spaces are filling up fast.



"If you would like to join us for 'Rebreather Week 06', please go to www.piratescovedivecenter.com for registration details and additional information. Alternatively, drop us an email or give us a call at (917) 566 9762. We'd be happy to answer any questions you may have," said Mattera.

shark tales



Sharks missing in deep ocean

Ocean depths beyond 2000 metres are almost devoid of sharks. These findings, just published in the journal *Proceedings of the Royal Society B*, are grim news.

No reserves

This means that there are no reserves of sharks living in the abysses, and that sharks species may be more vulnerable to over-exploitation than previously thought. Scientists have long hoped they would find previously

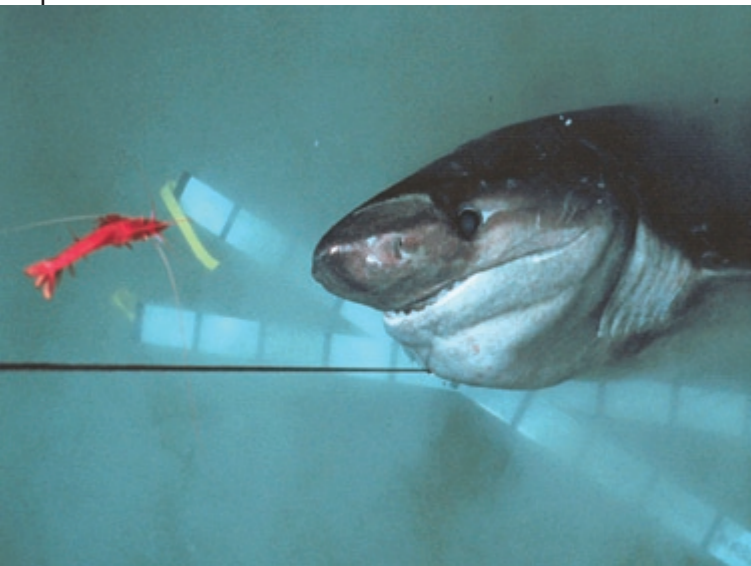
unknown populations of them and perhaps even new species in the deepest parts of the oceans.

The researchers used deep-sea trawls, baited hooks and baited cameras to see where sharks live, testing depths in the Atlantic, Pacific and Indian oceans and Mediterranean Sea from 471 to 5900 metres. They generally saw or caught sharks at up to 2000 metres, but there were few sharks beyond this depth.

As a result, almost all sharks are within reach of modern deep-sea trawlers, which can net fish to a depth of up to 2300 metres. "Sharks are already threatened

worldwide by the intensity of fishing activity, A study in 2004 concluded that some shark species have declined 80 percent or more, due largely to fishing.

Of the 490 species of shark, 25 are already endangered or facing extinction and this number is set to grow, as many shark species are very slow-growing, which means that a sudden drop in numbers can threaten their survival. ■



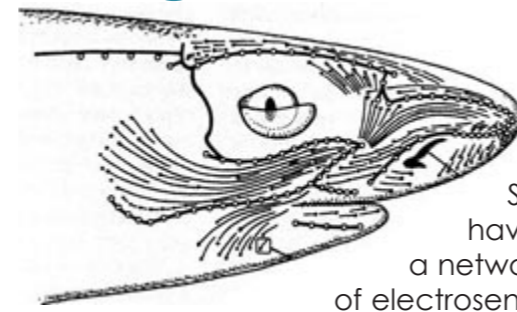
Baited hooks and cameras were used to investigate where sharks live. Here a blunt-nosed six-gilled shark closes in to investigate. Credit: NOAA

Nicaragua bans freshwater shark fishing

Nicaragua banned freshwater fishing of bull sharks and sawfish because of alarming population declines, and said it wants neighboring Costa Rica to impose a similar prohibition. "Costa Rican fishermen have nets and a series of traps that impede the traditional migration towards lake Cocibolca and we have

taken up this migration problem of both of these species with our colleagues in Costa Rica," said Miguel Marenco, head of Nicaragua's agriculture department. Overfishing in the San Juan River that forms much of the border with Costa Rica has reduced the number of both marine animals to dangerously low levels. ■

Origin of shark's electric sense



Sharks have a network of electroreceptive cells—the Ampullae of Lorenzini—that allows them to hunt by detecting electrical signals generated by prey and use the Earth's magnetic field for navigation.

Now, researchers from the University of Florida have traced the origin of those electroreceptive powers to the same type of embryonic cells that gives rise to many head and facial features in humans.

It's the so-called neural crest cells, which are common in vertebrate development, which have now been identified as the source of sharks' electrical

sense.

The finding also strengthens the theory that before our early ancestors emerged from the sea, they too had the ability to detect electric fields.

"Our fishy ancestors had the anatomy for it," said James Albert, a former UF biologist who is now at the University of Louisiana. "You can imagine how valuable this system would be if you were aquatic, because water is so conductive."

But it doesn't work on land as air isn't a good conductor of electricity. And when lightning occurs, you don't need special receptors to sense it."

All primitive animals with backbones could sense electricity, according to Michael Coates, an associate professor at the University of Chicago. Mammals, reptiles and birds lost the sense over time, as did most fish alive today. ■

Seychelles bans shark finning

The Seychelles has banned the cutting off of sharks' fins by foreign fishermen to curb a flourishing global trade that is threatening the survival of the sea predator and marine ecosystems. The ban does not include domestic vessels, which the government says are few and controlled, or shark fishing where the

whole shark is caught.

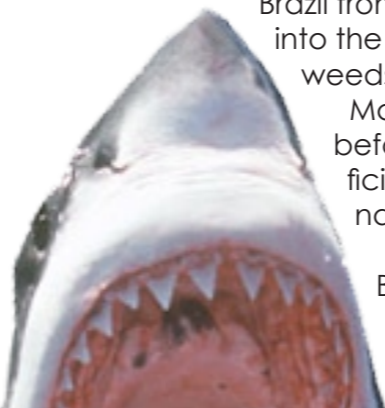
"Shark finning is the wasteful and cruel practice of slicing off the highly valuable fins, often from living sharks, and dumping the rest of the creature back into the sea to face a slow and certain death," Seychelles Fishing Authority said in a statement. ■

Shark Preservation Marine Parks?

A United Nations meeting of the Convention on Biological Diversity in Brazil from March 20-31 will review calls to extend protected areas into the high seas to help safeguard marine life ranging from seaweeds to sharks and from starfish to corals.

Many experts say implementation of existing laws, drafted before the deep-sea marine finds of recent decades, is insufficient to protect the high seas—the area beyond the 200 nautical mile territorial waters.

Yet, many countries fear restrictions, and experts say the Brazil talks are unlikely to resolve the tangle—many nations say the U.N. Law of the Sea is the proper forum while the Convention on Biological Diversity should just advise. ■



Sharks' ancestors didn't quite have the bite



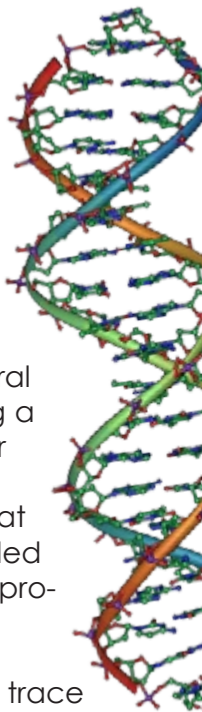
Despite the fearsome image of modern "Jaws", her ancestral relatives couldn't quite match the predatory skills of her contemporary mammal and reptile competitors, a new analysis of fossil teeth reveals. The shapes of teeth from various marine predators over the past 100 million years show that while ancient marine reptiles possessed the thick pointy conical teeth, which are now the hallmark of the big sharks, this characteristic wasn't developed in sharks until long after the marine reptiles became extinct, and after marine mammals developed similar conical teeth. ■

DNA test help track poached sharks

Genetic testing is now aiding US federal law enforcement agents identify fins of imperiled shark species seized from traffickers.

In 2003, National Oceanic and Atmospheric Administration agents confiscated about a tonne of shark fins under way to Asia. Scientists working with federal agents took the fin samples using a technique involving both nuclear and mitochondrial DNA markers. The test was run after noticing that sacks of the seized fins was labelled with the names of several highly protected species including White Sharks.

"By applying DNA techniques to trace the species and origin of fins in the market, we can give 'teeth' to fishing regulations," said Mahmood S. Shivji, director of the Guy Harvey Research Institute. ■



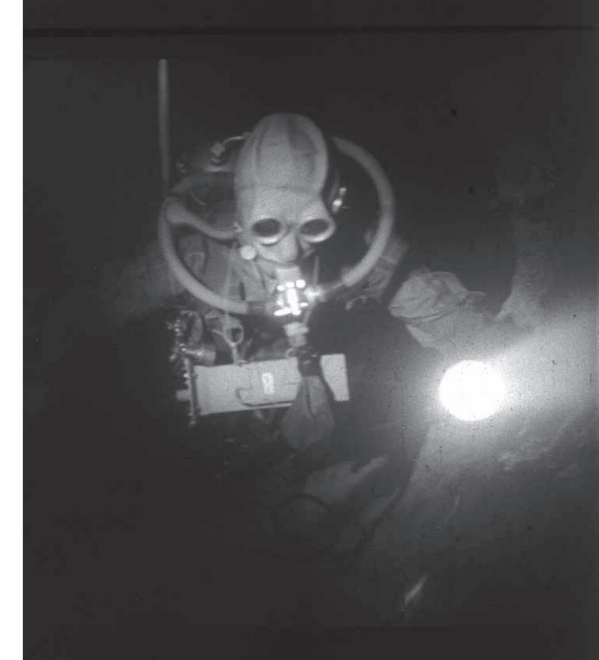


The longest underwater cave in Russia

Ordinskaya Cave

Text and photos
by Andrey Bizyukin, PhD

The first cave diving exploration in the USSR took place in May 1964 (image taken from an old film movie). The date marks the official birthday of Soviet cave diving science



Cave diving is very fascinating, but it is also a most dangerous passion to have. The advances in underwater cave exploration have always been determined by the state of the available equipment. In Russia, the first underwater cave exploration took place in 1964 when a group of enthusiasts managed to get past the first sump (a section of completely flooded cave passage) in the cave system of Ayan on the Crimean Peninsula. Without fins, they passed the sump by walking on the bottom. The length was seventy meters, and the maximal depth was five meters. Not much by today's standards it seems, but this achievement is now considered the birth of underwater speleology in the former USSR.

Decades have now passed since this pioneering event. Inventors of diving equipment have steadily created more perfect and trouble-free underwater devices, but cave diving in Russia is still an activity for a devoted few.

Today, in Russia there is an estimated fifty thousand certified SCUBA divers, among which no more than 50 (only 0.1 percent of the population of divers) venture into cave diving. These people use special equipment for diving, and they are easily recognised. They always use at least two regulators, carry dual cylinders (either a twin set on the back or a side mount configuration where two or more tanks are carried on each side), a minimum three torches, a helmet, a reel with a strong thin rope (the guide line) and their particular swimming style, *frog kicking*, which prevents whirling mud or silk to kick up from the bottom. They reel out a guide line to mark their route during the dive. Wreck divers use very similar techniques for wreck penetration.

To perfect cave diving technique and skills, it is necessary to undergo a long training program and to be passionate about diving

in underwater caves. Insufficiently trained divers can perish in caves only too easily. Therefore, few people venture there.

In this little community, most divers know each other well. Members of this little select group are at the same time heroes and outcasts of the diving community. Their passion for underwater speleology is "vicious", but the performers are also seen as idols and brave individuals such as Sheck Exley and Jocben Hasenmayer.

Underwater cave explorations and the achievements of Soviet and Russian cave divers were so insignificant on a global scale that very few people in general knew about the existence of underwater caves in our country. Russian caves, with their difficult entrances, vertical pits, narrow passages and cold muddy water, are strikingly different from those in the warm-water recreational destinations such as those in Florida or Mexico where it seems that only the laziest divers don't pursue diving in the underwater caves found there. Recreational cave divers in these spots can set up a dive rigging directly out of their car trunks.

The hitherto previously unknown underwater world of Russia, Ordinskaya Cave—huge underground cavities filled with crystal clear cold water. This is exciting darkness that beckons





Ordinskaya

◀ This is a nook in the endless underwater cave system. Many narrow and wide passages divide into different directions, so cave explorers have to search for the right way out. Big heavy stones that have fallen from the ceiling to the floor of the cave remind one about the dangers

Igor Lavrov, the well-known scientist and researcher of the Ural caves, visited the cave for the first time in 1993, where he made topographical maps of the dry part of the cave. He also invited Victor Komarov, a cave diver from Ryazan City, to do the first reconnaissance dive in one of the cave's underground lakes in April 1994.

Much to their surprise, they found that the cave lakes were covered with a 20cm-thick layer of ice. Not letting this stand in their way, Lavrov and Komarov asked local fishermen if they could borrow some of their special devices for ice drilling. With these tools, they made a small hole in the lake ice that was big enough to squeeze a diver

underwater tunnel. Subways with snow white walls spread out in different directions, leading the cave diver further and further into this underground realm.

Komarov had already let out 70 meters of the guide line when it became stuck in the narrow entrance crack underwater. He couldn't go any further and had to turn back. Komarov gathered up the rope by rolling it around his elbow and managed to untangle it and

through.

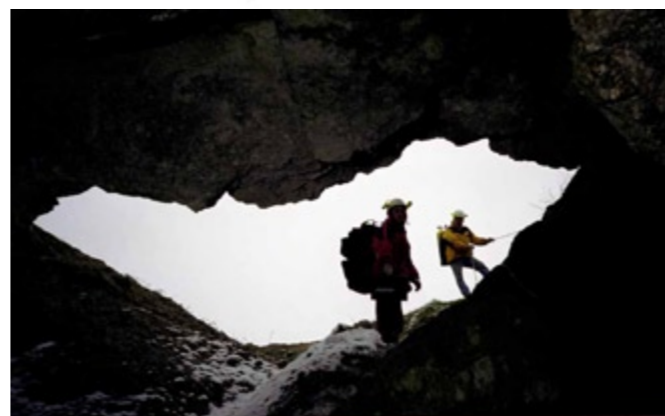
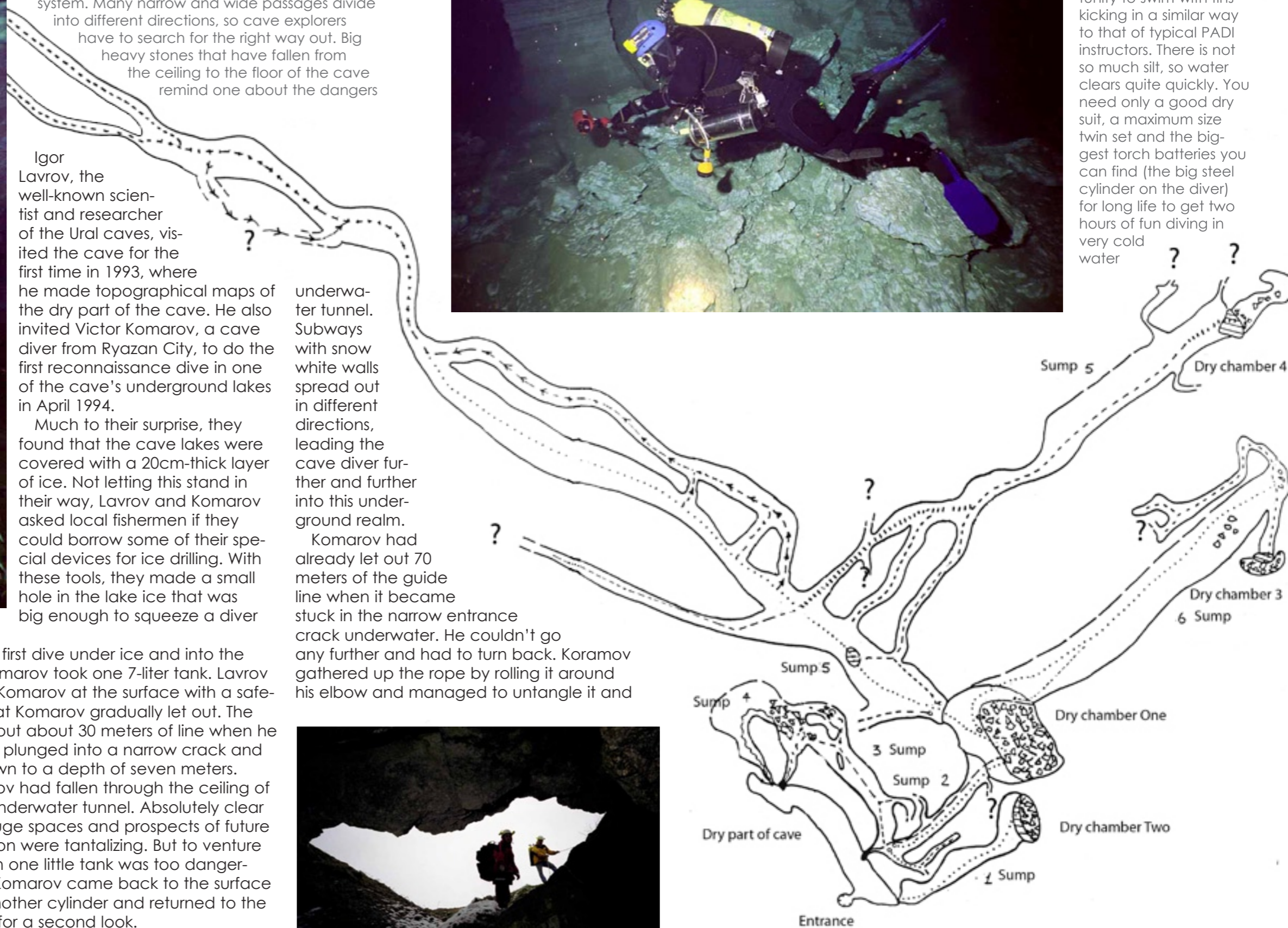
For this first dive under ice and into the cave, Komarov took one 7-liter tank. Lavrov secured Komarov at the surface with a safety line that Komarov gradually let out. The diver let out about 30 meters of line when he suddenly plunged into a narrow crack and went down to a depth of seven meters.

Komarov had fallen through the ceiling of a wide underwater tunnel. Absolutely clear water, huge spaces and prospects of future exploration were tantalizing. But to venture further on one little tank was too dangerous. So, Komarov came back to the surface to get another cylinder and returned to the location for a second look.

This time, Komarov went much further into



A lot of underwater space and clear water gives inexperienced beginners the opportunity to swim with fins kicking in a similar way to that of typical PADI instructors. There is not so much silt, so water clears quite quickly. You need only a good dry suit, a maximum size twin set and the biggest torch batteries you can find (the big steel cylinder on the diver) for long life to get two hours of fun diving in very cold water



Cave divers descend into the entrance of Ordinskaya Cave

captions

The beginning of modern cave diving in Russia

The picture in Russia was about to change when a landslide on the banks of Kungur River, which is about 80 kilometers from Kungur City in the Ural Mountains of the Perm's region, exposed an entrance to a hitherto unknown cave.

The first visitors to the cave were local people who had gone down the slope of clay in search of a cow which had fallen down into the cave. When they got down there, the rescuers caught a glimpse of the big cave halls, chambers and three underground lakes with crystal-clear water. The cave was named Ordinskaya in honor of the nearby Orda village.

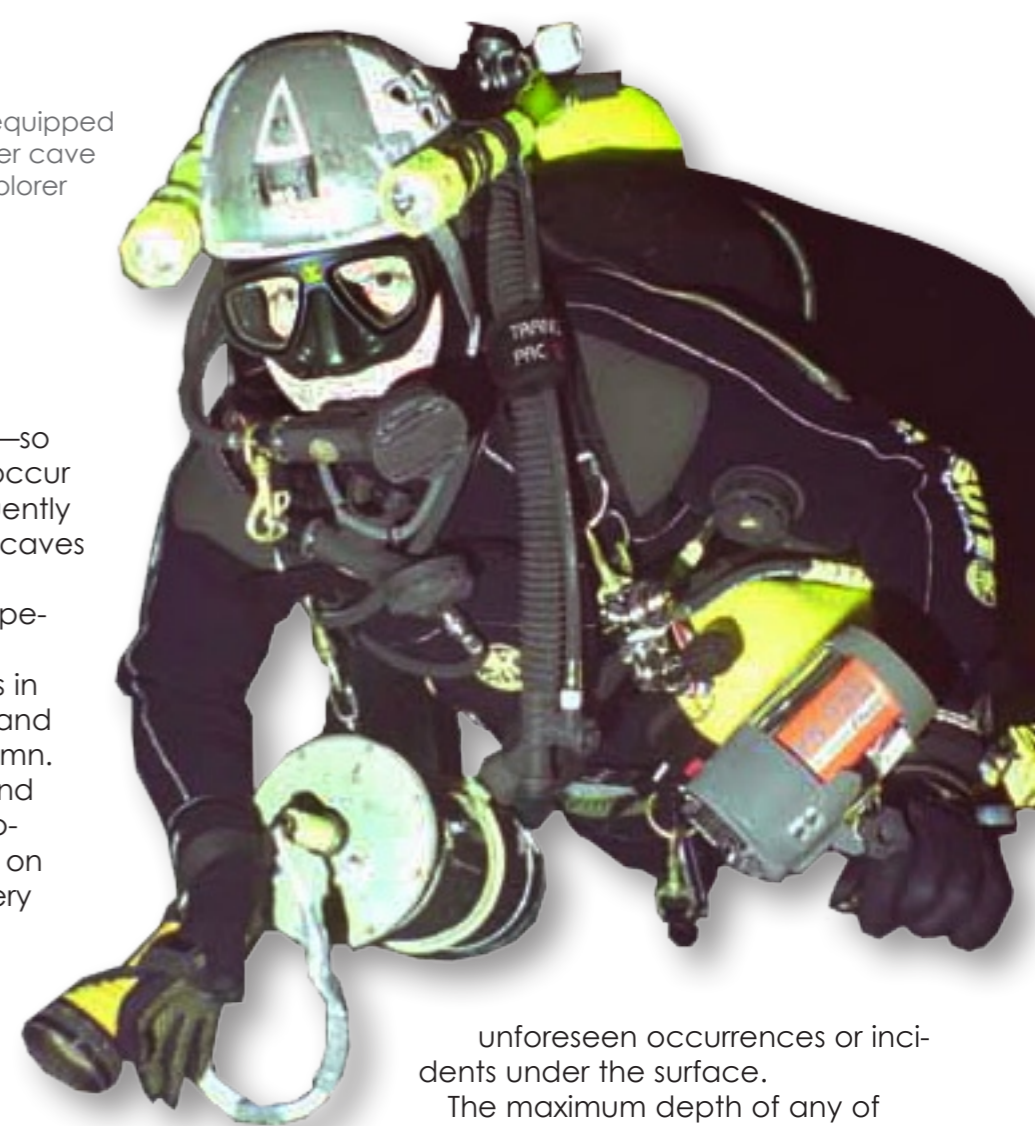


Ordinskaya

The first Russian cave divers used old military stuff or homemade equipment and unduplicated breathing devices. It was a time when divers thought that it was very unprofessional to use fins for swimming, and they got past sumps by walking on the bottom

in the body of the mountain named after Kazakova. The greatest part of the cave labyrinth is filled with very strong mineralized water, so after each dive, all dive gear is covered by a thick coating of gypsum salts. Gypsum is not very solid—a frag-

Modern equipped underwater cave explorer



ile mineral—so collapses occur quite frequently in gypsum caves above the surface, especially after strong rains in the spring and in the autumn. Underground halls of gypsum caves on dry land very seldom exceed 20-30 meters in size. But in the underwater gypsum caves, water helps to support the caves against the tug of gravity, which is why the underwater tunnels and halls of underwater gypsum caves are bigger than their above water counterparts.

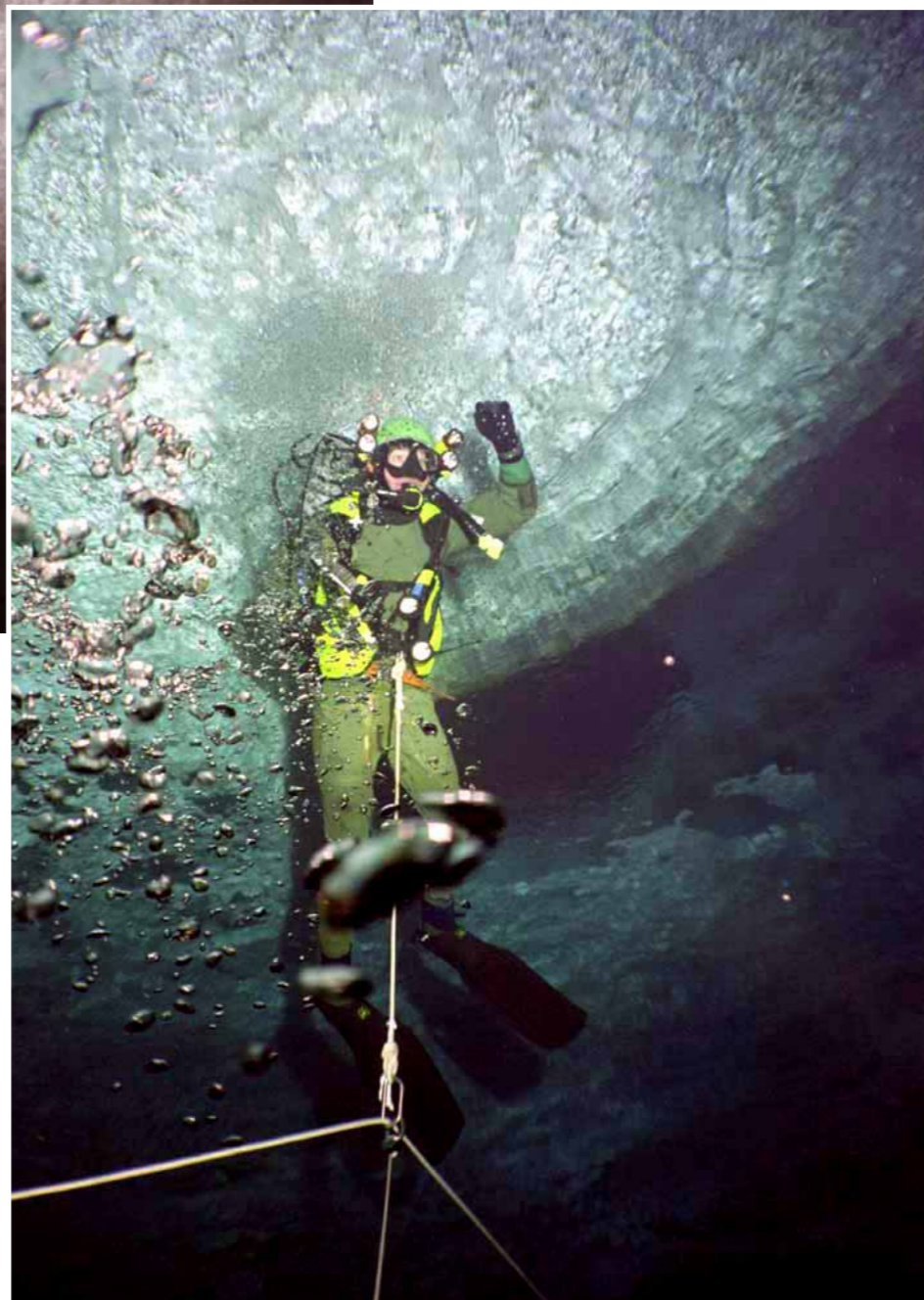
However, vaults in Ordinskaya Cave have collapsed every year. Huge gypsum boulders break loose from the ceiling and fall to the bottom stirring up a lot of silt. On one occasion, a five-ton plate collapsed from the ceiling and fell onto several meters of the main guide line of a group of divers. It forced the cave divers to do a lengthy search for a new way out to exit the cave. Despite the seeming simplicity and ease of navigating these caves, one should always remain alert, cautious and prepared to handle any

unforeseen occurrences or incidents under the surface.

The maximum depth of any of the known underwater passages in Ordinskaya Cave does not exceed 20 meters. Therefore, even the longest dives during the exploration of the cave did not require decompression.

Cave divers from Krasnoyarsk, Chelyabinsk, Novokuznetsk, Ekaterinburg, Perm, Arkhangelsk, Chernomorsk, Alapaevsk and Moscow have found underwater passages connecting all the lakes of the cave and have navigated through all the widest underground tunnels, which have many smaller branches and air chambers under arched ceilings. They have laid out several kilometers of guide lines from thin cords the size of cheap packing string up to thick mountaineering ropes marking each new passage. Now, it all looks like a horrible mess—a confused cobweb put up by some new species, the “cave spider-monster”.

If you swim up from permanent guide lines in some places in the cave, you can find air bells on the ceiling. But please don't try to breath there without a regulator



pull out the guide line from the crack. He eventually made it out of the sump.

Intent on having this cave for themselves and not having other cave divers running around in it, Lavrov and Komarov decided not to speak to anybody about the cave for the time being.

Only three years later, in the snowy winter of 1997, 20 cave divers from different Russian cities arrived in Orda village at the invitation of Lavrov. The joint team of underwater cave explorers organized dives right

away into all the underground lakes of the cave.

They dived in buddy teams a couple of times a day, and there were enough first explorations in this huge system to go around for everybody. New underground labyrinths crossed huge halls, underwater passages and canyons disappeared in different directions and seemed endless.

Current views

Today, it is known that the Ordinskaya Cave system is a horizontal gypsum labyrinth with-



Dry chambers past the sumps were explored. Topographical measurements, description and a map of the cave were made.

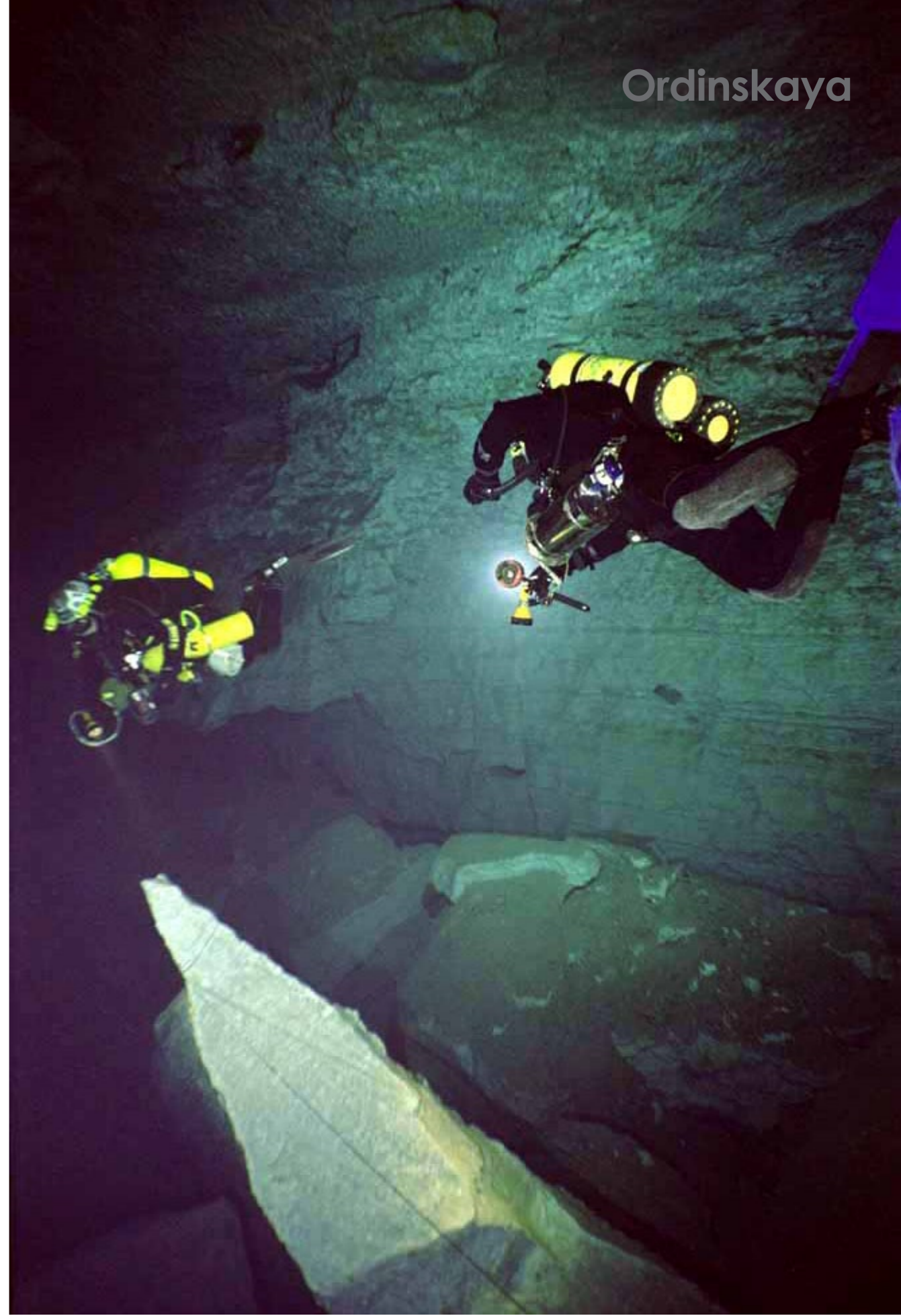
The total length of all known underwater cave passages exceeds 3.5 kilometers. The distance between the entrance lake and the furthest known underwater point in the cave equals one kilometer and 50 meters. The biggest underwater chamber has a diameter of about 60 meters. The water is so clear in this chamber that two divers swimming at the opposite ends of the chamber can still see one another.

The ongoing speleological exploration of Ordinskaya Cave has made it the most famous underwater Russian cave in a span of less than two years.

Repeat customers

Underwater explorations in Ordinskaya Cave are so amazing and interesting that many divers, having dived there once, tend to come back again and again. The beauty of the cave has such a strong attraction that one simply does not want to get out of the water despite its numbing temperature of only 5° C. Some of the dives in Ordinskaya Cave have exceeded two hours.

Successful explorations of the



New snow falls out on the cave diver's camp close with Ordinskaya Cave. Peering down from the camp, you can see the Kungur River and Orda village on the opposite shore

CLOCKWISE FROM TOP LEFT: Many more people come to dive Ordinskaya Cave every year—an experience that makes them forget all about the Red Sea and the Maldives

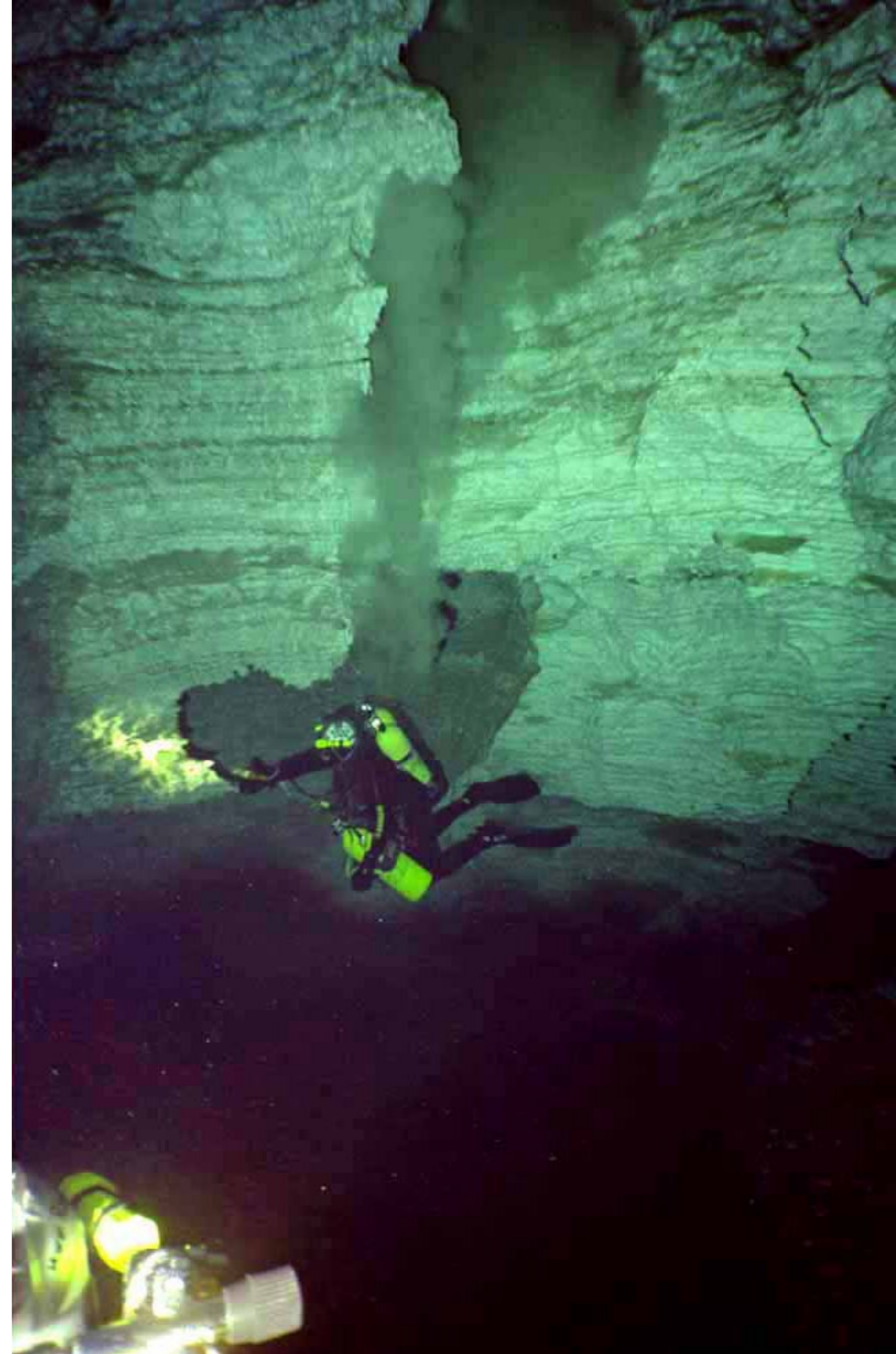
Ordinskaya

longest underwater cave in Russia have had a huge influence on the development and popularity of cave diving in our country. Enthusiastic accounts about diving this cave, about the accessibility of its entrance, the (relative) uncomplicated access to a very aesthetically and pleasant dive in clear water, huge underground spaces and the possibility of making new explorations keep enticing the curious and adventure-minded divers to this astonishing place. Even open water divers say that they experience something miraculous in Ordinskaya Cave that make them forget all about the Red Sea and the Maldives.

Local entrepreneurs have started to equip the cave for touring and to take money from visitors, so the outlook for the future of Ordinskaya Cave is somewhat dubious.

Ecological problems have already started to be an issue and a serious threat to the cave and its beauty. For many years the big limestone sinkhole, located above one of the cave chambers, was used as a huge rubbish pit—a big garbage bin. Now, the sinkhole, undermined from below by cave water, has started to collapse or cave in, so that now, all the decaying matter and sewage have started to percolate through the area and threaten to poison the once perfectly pure water in the cave. ■

For millions of years, layer upon layer, the cave accumulated gypsum sediment. Then water penetrated through the cracks into the deep parts of the Earth dissolving the gypsum over tens of thousand of years building the magnificent underground cave labyrinths we see today. Now cave explorers and enthusiasts study its underground phenomena and draw maps of this unique underwater cave system





technical matters

Leigh Cunningham

Are you really up to the job with an Advanced Open Water course?

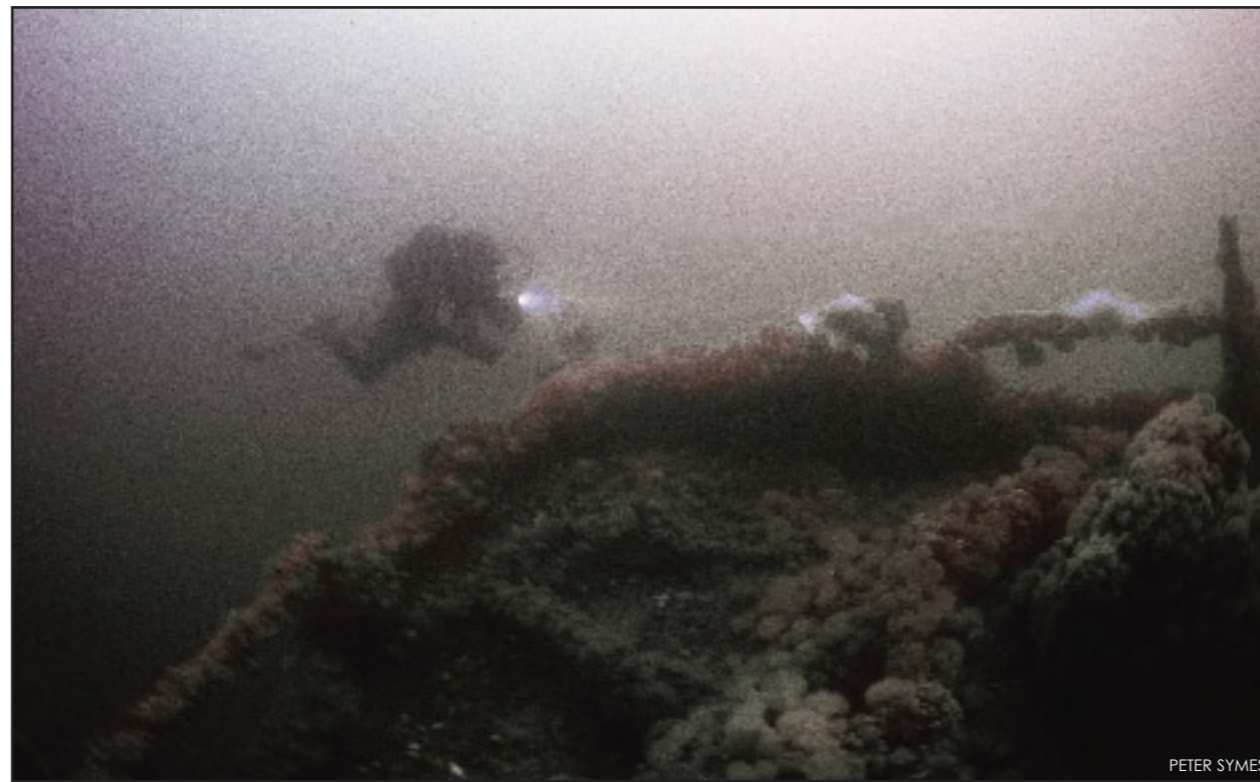
Double standards

Leigh Cunningham is the technical manager and TDI Instructor Trainer for Ocean College, Sharm El Sheikh. Probably best known for his records - Leigh once held the record for the deepest dive in the Red Sea, and is the current holder of the record for deepest wreck dive - and attempts of reaching extreme depths, he also has a wide range of teaching credentials to his curriculum: TDI instructor trainer, DSAT Tech Trimix instructor, PADI MSDT IANTD Technical diver instructor CMAS 3 star instructor

For the last 30 years or so, dive training agencies have been certifying recreational divers as competent to plan and carry out non-decompression and no-stop dives to a max depth of 40msw. This naturally leads to a perceived level of ability, the "advanced scuba diver". But how "advanced" are they really?

The difference between the perceived level of ability and the true level of ability, directly after training is quite often too big. Divers may thus find themselves planning and attempting dives well beyond their capabilities, even when they are diving within the formal depth and time limits for their certification.

Around 70% of certified



PETER SYMES

In over their heads? Wreck diving in the Baltic, even to just 25 meters, can be very challenging

divers worldwide have been certified by the single largest training agency. A high percentage of these 70% go from being non divers to become "advanced scuba divers" in less than a week, and with under 10 open water dives under

their belt. According to the standards set forth by the largest training agencies, it's actually possible to achieve advanced diver certification from non-diver status in as little as four days.

Possibly, in this case, the terminology "advanced

diver" should be reviewed, and the number of required days, or dives, adjusted before divers can gain "advanced diver" certification. That being said, the majority of dive operators and diving instructors would not consider running open

water students through to advanced diver in four days only. Even so the system is still open to abuse, and in some cases it is.

In the modern day of diver training, fast track training draws in the package tourist who wants to complete diver training, going from non-diver through to advanced diver, within the duration of a short holiday. "Resort courses" are becoming more and more popular as time goes by.

Looking at some of the biggest diving resorts today, ten years ago they consisted of just a few makeshift bamboo huts on the beach, which are now replaced with 5-star hotels, a golf course or two and several hundred dive boats. In the 21st century, this machine needs to be fed! I hope the need to continually

review, improve and update diving courses at all levels, has not been lost in the haze of impressive marketing campaigns.

There needs to be a healthy balance. As diving professionals, it is our duty to promote the best method of training—he scales appear to be off balance.

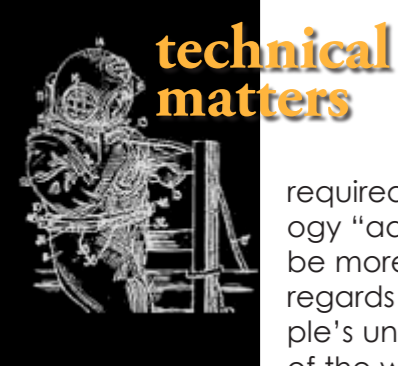
Room for improvement

The fact of the matter is that diver training today could be better if there was a little more emphasis on diver training at all levels and a little less emphasis on developing the shortest possible course and selling it to everyone including the dog.

If more dives and a generally longer more comprehensive advanced course was



Double Standards



technical matters

required, the terminology "advanced" would be more accurate as regards to most people's understanding of the word. Some less popular training agencies require more dives and training in order to gain advanced diver certification. The end result in this case is a better trained diver, "more advanced".

My advice would be to consider all your options before opting for the shortest most popular course.

"Technical recreational training"—decompression/extended range/mixed gas diver training—has increased dramatically in the last five years. Due to the nature of this type of diving, the required training is more intense, more equipment is needed and advanced dive planning (deco software packages) is carried out delving deeper

into the effects of O₂, N₂ and He on the body and mind under pressure.

Due to higher a demand for diver level courses, the market for technical instructors and instructor trainers has increased. Observing the change in technical diver training in the last 10 years, I would say technical training agencies are doing a very good job bring technical training into the 21st century.

Instructors have been dragged off the soap box, and the black board has been replaced by the laptop! Outdated skills, which have no value in the specific type of technical course—i.e. skills relating to cave diving have no place or value in an open water course, have been replaced with skills that have clear values and objectives.

All good stuff

What concerns me is the introduction of the technical instructor and instructor trainer

who have not yet earned their wings as a technical diver. When I say "earned their wings", I am not suggesting technical instructors should be breaking depth records or pushing the envelope in general. But they should be throwing the twin set and stages on from time to time and making the odd deco dive or two. More and more often in recent years, I'm meeting highly qualified recreational instructors and course directors who have technical teaching status and instructor trainer ratings. Amongst their impressive array of cards (enough to wall-paper a small house) we find the technical instructor or instructor trainer card.

I'm then disappointed to discover that the instructor or instructor trainer has none of his own tech kit or equipment. Instead, he uses club equipment, owned by the dive

ADAM BUTLER



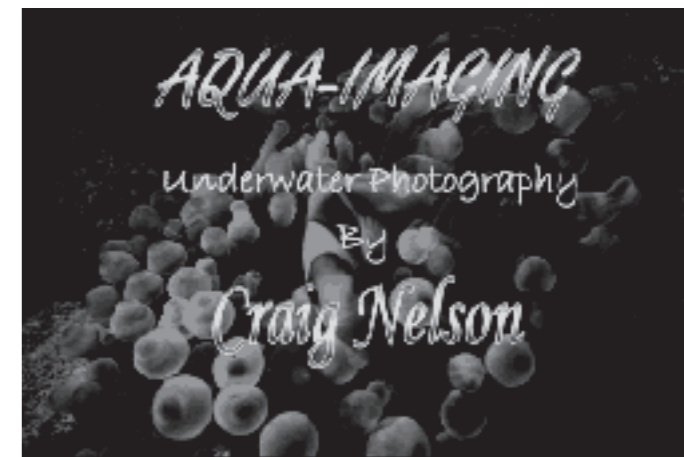
center when running courses! No need to own your own kit if you don't "dive the dive"!!

"Get out there"

My advice to technical instructors and instructor trainers who have little technical diving experience is: "Get out there." You cannot conduct technical diving courses without the teaching license, but unfortunately, you may conduct technical diving courses with very little technical diving experience.

Do the right thing, dive more! ■

Have the dive training agencies of today sold out and lost sight of safety and common sense in the relentless pursuit of another dollar?



Want to win one of these? Read our next issue!

Leigh Cunningham would certainly agree that one of the Golden Rules of technical diving has got to be: *Always analyze and label your gas.* If you're wanting a simple solution for Nitrox analysis, take a look at the compact GA-O2 Check Oxygen Analyzer from Technical Diving Limited www.techdivinglimited.com Since it's launch, the GA-O2Check Oxygen Analyzer has taken the U.S. diving world by storm. Probably because this durable splash proof analyzer is easy to use, runs on user replaceable AAA batteries and is quick responding. So, if you fancy getting your sticky paws on one, just jump onto www.techdivinglimited.com —they ship worldwide—or read the next issue of X RAY MAG in which we will have a competition you can enter to win one of these cool puppies. Safe diving!



Tech Diving Limited



Fundição de Oeiras, 6 a 9 de Abril
Oeiras - Lisboa

ExpoSub Portugal 2006

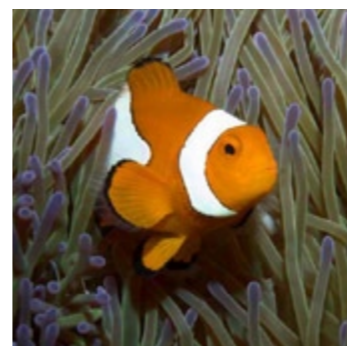
1º Salão Internacional de Actividades Subaquáticas

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Oeiras
Marca o ritmo

New Britain Papua New Guinea



Text and photos by Don Silcock

LEFT TO RIGHT: Clownfish in sea anemone; Portrait of a local villager; Mandarin fish; Local villagers in canoes navigate the Isis River

The island of New Guinea, the second largest in the world, is located just south of the equator and to the northeast of the continent of Australia. It is a remote and mysterious place, believed to have been populated for 45,000 years by the Papuan Melanesian people, roughly the same time as the Aboriginal people have lived in Australia.

In 1848 the island was divided up between Germany, Holland and Britain despite the fact that none of these countries had actually established a presence on the island at the time. The eastern part of the island was subsequently colonized by Germany in the north and Britain in the south, whilst the western half was

taken by Holland in 1898 as an expansion of their presence in the Dutch East Indies, now Indonesia.

The Dutch reluctantly agreed to Indonesian independence in 1949 but remained in control of West Papua until 1962 when it was ceded to the United Nations and ultimately to Indonesia in 1969 in what can probably only be described as "an act of Cold War sacrifice".

The eastern half of the island, British New Guinea in the south and German New Guinea in the north, became the Territory of Papua and New Guinea after WWI when it was taken over and administered by Australia. In September 1975, it became the independent country of Papua New Guinea.

The People

The Papuan Melanesian people are an intriguing and diverse ethnic group and comprise of nearly a thousand

distinct tribal cultures and languages.

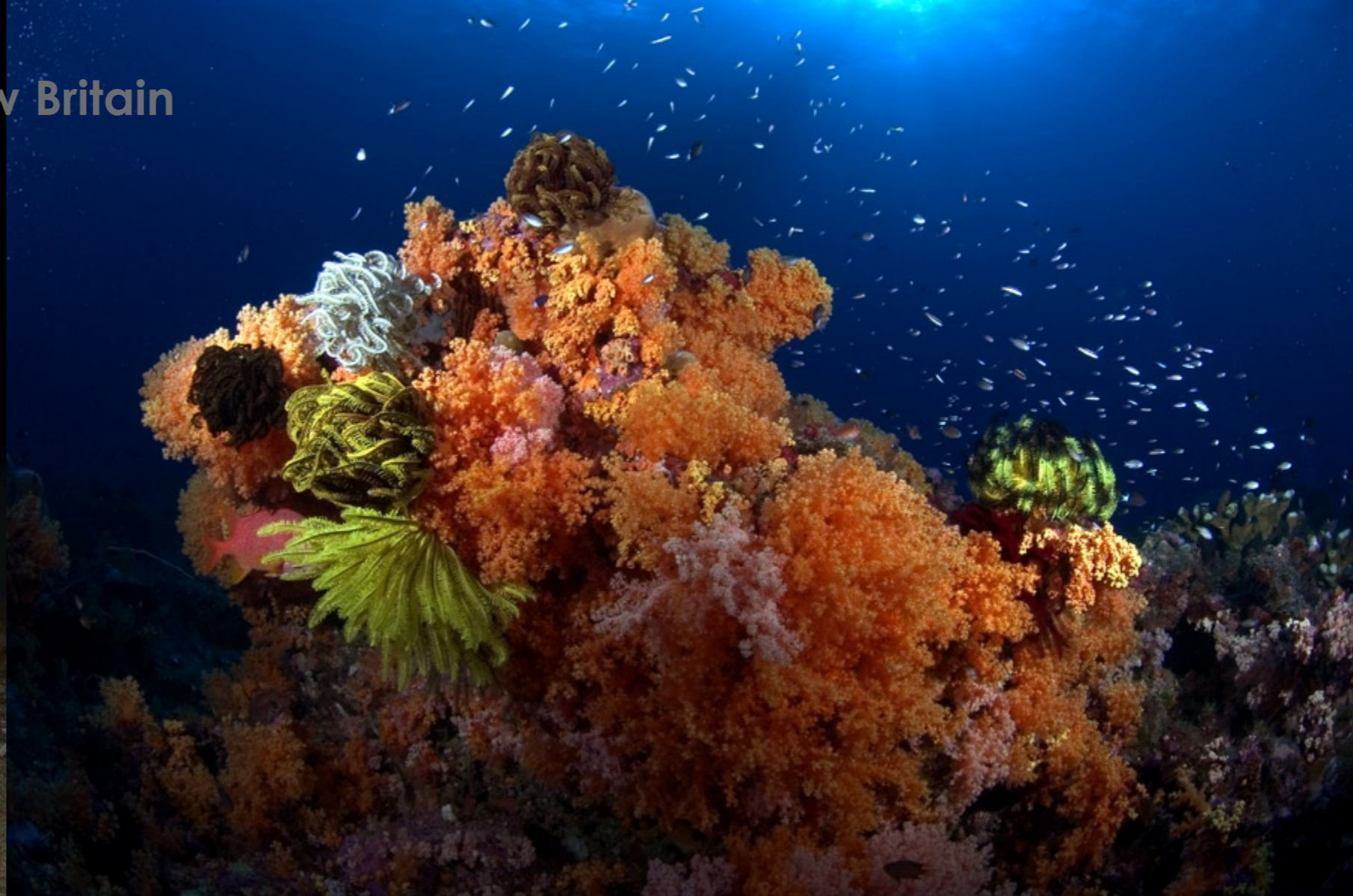
One of these tribes, the Dani was only discovered less than 50 years ago in 1938 when the US explorer Richard Archibold flew over the remote Baliem Valley in West Papua and saw their compounds and sweet potato fields. The Dani had lived in complete isolation from all outsiders for over 10,000 years. Today, they are West Papua's most famous ethnic group. Their numbers have grown to around 70,000 and Wamenda, the main town in the Baliem Valley, receives several hundred visitors a month who come to see these unique people.

The Diving

Scuba diving is very well established in many locations in Papua New Guinea (PNG) and becoming so in the Raja Ampat area of West Papua. The Milne Bay areas at the southeastern tip of the main island and Kimbe Bay in the centre of the island of New Britain

Red coral and sponges on reef at Kimbe Bay





Alan Raabe

LEFT TO RIGHT: Alan Raabe's pontoon boat transports divers up the Isis River; Sunset over Papua New Guinea; Fire Dancer; Coral reef at the west entrance of Lindenhaven

are probably the two most popular locations in PNG. Milne Bay is

best dived from a liveaboard and offers a tremendous variety of diving from the weird and wonderful critters found muck diving at Dinah's Beach to the superb corals at Deacon's Reef and Manta's at the cleaning station just off the beach at Gonu Gonu Bara Bara Island. The area is served by three liveaboards all of whom have a great, and thoroughly deserved reputation: Chertan (www.chertan.com), Golden Dawn (www.mvgoldendawn.com),

com) and Telita (www.telitacruises.com) In Kimbe Bay, it is possible to do both resort based diving from Walindi Plantation (www.walindi.com) and liveaboard diving with either *Febrina* (www.febrina.com) or *StarDancer* (www.peter-hughes.com) both of which operate in conjunction with Walindi Plantation.

I have done four trips to Milne Bay in recent years and thoroughly enjoyed the diving there, but in April 2004 I decided to see what Kimbe Bay had to offer and spent several days diving from Walindi Plantation on the local sites in the bay and then seven days aboard *StarDancer* diving the dive sites out of the outer bay and Witu Islands. The diving was excellent and whetted my appetite for further adventure in this part of the world.

New Britain

New Britain is the largest of the islands of PNG and covers an area of 35,500 square kilometers—roughly half the size of Tasmania. Whilst diving on the north coast of the island has been well established for many years, the south coast of the island has remained basically unexplored.

Alan Raabe the owner and skipper of *Febrina*, and now co-owner of *StarDancer*, has periodically explored the south coast during the 20 years he has lived and worked in PNG. During my trip on *StarDancer*, I learned about the south coast and decided to come back to New Britain the following January to join one of the first commercial trips there.

The Journey

Our trip commenced in Rabaul, the capital of East New Britain, and reached on a two-hour flight from the PNG capital Port Moresby. One of the great things about diving PNG from Australia is that it is possible to leave Sydney in the morning, arrive in Port Moresby in mid afternoon, transfer onto your domestic flight and be on the liveaboard that night. Although I have to say, the transfer in Moresby is never without it's worries.

From Rabaul, it is an overnight journey to the south via the St Georges Channel that separates the islands of New Britain and New Ireland. The currents in this area are very strong and treacherous, but Alan Raabe is an experienced skipper, and we slept peacefully in our bunks

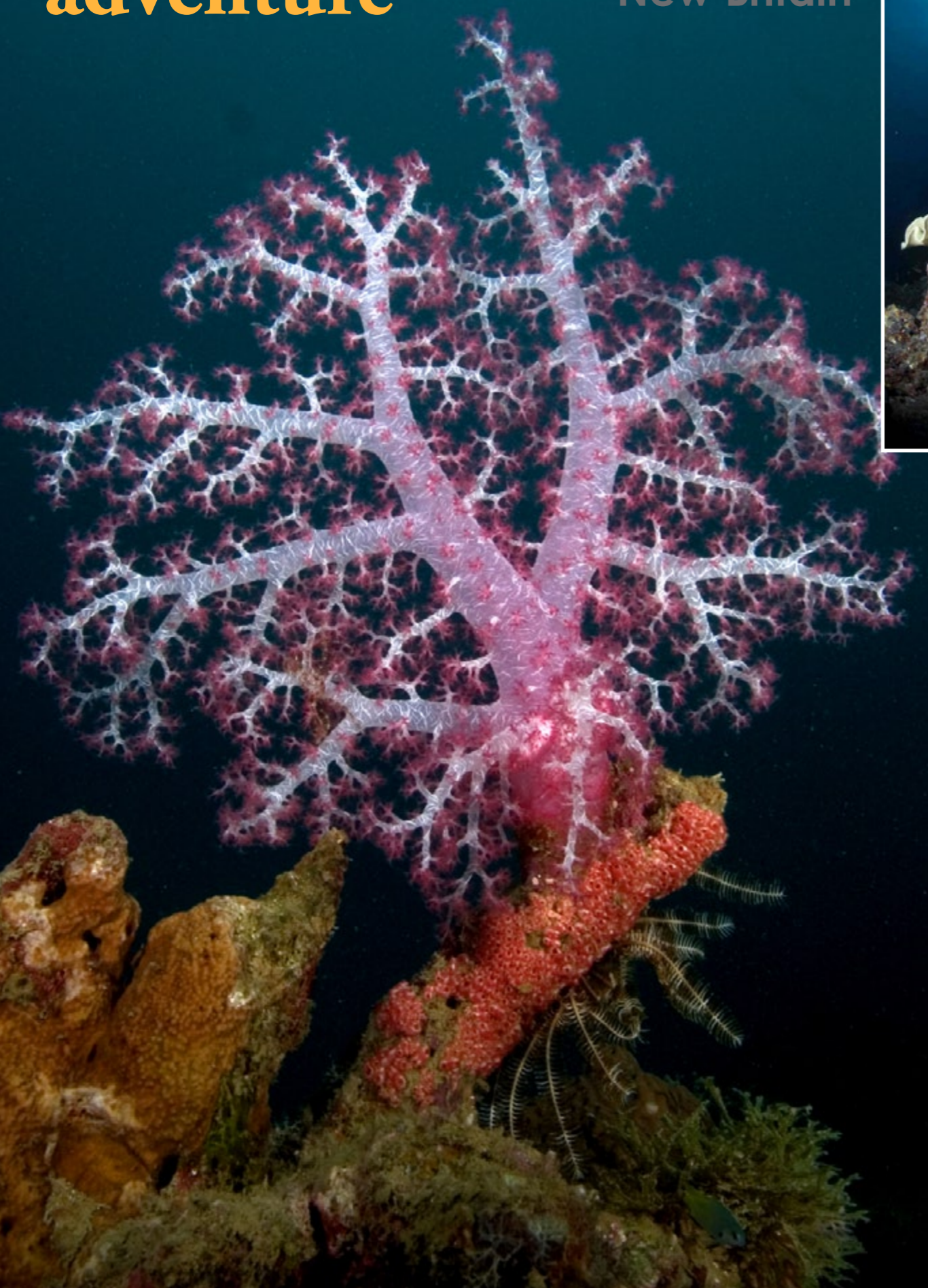
whilst he piloted the boat to our destination for the first day's diving.

Over the next 10 days, we dived a variety of locations in the Lindenhaven and Waterfall Bay areas. I saw WWII wrecks, reefs in pristine condition and a great variety of critters and pelagic fish.

The South Coast

What makes the south coast special is a fairly unique combination of circumstances.

Firstly, the very deep waters of the Solomon's Trench lie close to the coastline and the strong coastal currents mix with the up-swells of cool water from the Trench to produce an optimum blending mechanism that helps feed the ecosystem and nourish the reefs.



LEFT TO RIGHT: Soft coral; The hull of a wreck silhouettes large sponges and sea lily; Lacy Scorpion fish, *Rhinopias*; Octopus

Secondly, the south coast of New Britain is the second wettest place on earth, which means that in the rainy season the numerous rivers provide another rich source of nutrients.

Thirdly, the south coast is a very remote and sparsely populated location and there is only one unpaved logging road that penetrates the dense mountainous rain forest that separates the north coast from the south. Basically, the only access to the area is by sea, which means that the reefs are virtually untouched and in some areas can only be described as pristine.

Another interesting facet of the south coast is that its wet and dry seasons are the reverse of the north coast—when it's raining on the north, it's dry on the south and visa versa! The reason for this is that the northwest trade winds, which bring in the low pressure troughs and resultant heavy rain on the north coast, do not make it over the mountainous spine of the island. Similarly, the southeast trade winds that bring heavy rain to the south coast are isolated from the north coast by the mountains.

The result of all this is some incredible diving that combines most of the weird and wonderful critters normally only

found in Milne Bay with superb reefs and pelagic action usually associated with the Witu Islands.

Dive site development

The south coast really is virgin territory and dive sites are still being identified, which can lead to some disappointing exploratory dives. But once a good site has been located, regular access needs to be secured. This means nego-

tiating with the head of the local village, known locally as the "big fella", to dive in his territory. I was impressed by Alan Raabe's approach to this, as it was clear that he has a genuine interest in improving the lot of the village. A lesser person would take the easy route, so common in PNG, and grease the palm of the big fella to secure diving access, but Alan appears determined to avoid this.



Villagers along the Isis River help to clear thick reeds blocking the way to the Blue Hole



LEFT TO RIGHT: Coral gardens of the South Coast; Stonefish under camouflage; Bough of a sunken wreck; Grey Reef shark patrols its territory. INSET: Children wear masquerade masks given to them by the kind wife of one of the divers

His view is that, if properly managed, there should be three beneficial effects of opening up diving on the south coast.

Firstly, there is the direct payment, proportional to the number of divers who use the site, made to a community account opened up in the village's name—not the big fella's. Secondly, the villages have an opportunity to trade both with the boat for fresh vegetables and with the diving tourists for locally produced artifacts and carvings. Finally, there is the net positive effect of introducing a new dynamic of tourism, albeit on a small scale initially, to an area that has previously been largely closed to foreigners.

Once regular access is secured, a permanent mooring buoy is installed to minimize future environmental impact of boats diving

the sites.

When I look back at the trip there were several high points that stand out:

West Entrance at Lindenhaven

Lindenhaven is a small village in the Gasmata area and as its name suggests the dive site is on the west entrance to the village. The corals and fish life were both prolific and pristine and are fed by the very strong currents that course through the entrance.

This was probably one of the best reef dives I have ever done, and I can still remember the burst of adrenalin as we descended on the reef from the dive tender. There was a time when most reefs would have been as rich as this, and I felt truly privileged to be there.

The strength of the currents mean that it can only really be dived around slack water, but it was the site I enjoyed most of all the ones we did in the 10 days on the south coast.

What made the site completely memorable was the end of the dive when we surfaced and found ourselves surrounded by about 20 local kids, some as young as 5 or 6, in their canoes. They were all highly excited by what we were doing and it was very clear they had never seen anything like it before.



New Britain



CLOCKWISE FROM LEFT: Divers armed with cameras explore Blue Hole; The Isis River cuts deep into the rain-forest; Curious villagers appear on the river banks to watch the divers' activities

INSET: Children from a nearby village help clear a path for the dive boat by using machetes

block the cooling water inlets to our boat's out-board engines. The only way through is with the help of the local villagers who literally have to dive down and cut a

path through with their machetes. It's quite a site to see young village boys as young as 10 or 12 swimming against the fast running river with a huge machete held between their teeth and then diving down to cut the reeds.

It is not possible to motor all the way to the Blue Hole, the closest you can get is about 250m to it, and then it is time to carry your dive gear and cameras through the jungle and wade through the river. Suddenly, the source of the Isis River appears around the corner. This part of the journey was made much easier by the appearance from

nowhere of a large number of village children with huge smiles who were very eager to assist us.

The dive itself is rather surreal—imagine quite cool blue water in a deep pool that seems to go down forever and where the main features are large tree trunks that have fallen in over the years. In fact, the bottom is at 48m, and what you get for going there is a look at a small fissure with fresh water gushing out like a fire hose. A truly adventurous day!

Grey Reef Sharks

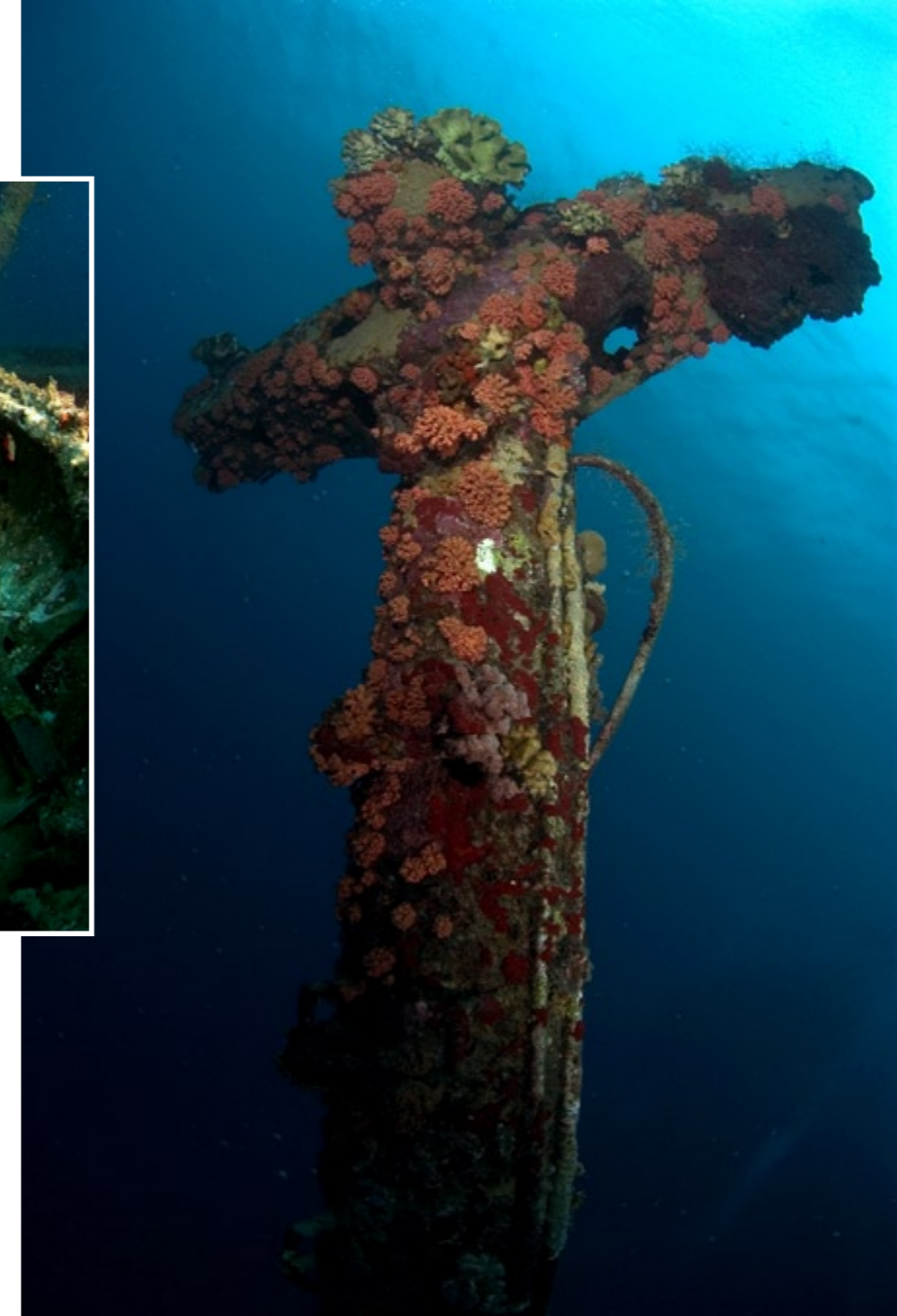
On several dives we saw numerous grey reef sharks coming up from the deep in response to our special shark



The Blue Hole

The Blue Hole is the source of the Isis River in Waterfall Bay, and to dive it means a two-hour trip up the river taking everything you need with you. The trip is spectacular because you go deep into the rain forest that covers New Britain and pass through small villages perched on the riverbanks. The locals appeared fascinated by our presence and gathered to watch us pass through on our way upstream.

The further you go up the Isis River the harder it is to reach its source because the river becomes choked with thick reeds that



CLOCKWISE FROM LOWER LEFT
Propeller of wrecked WW2 Japanese sea plane; Submerged tank; Bombs lie exposed in the sea plane's open cargo hold; Iconic forms of a sunken wreck



attracting device—a half full water bottle rubbed vigorously between two hands—and aggressively buzzing us.

They are significant creatures. Although always wary, they seemed in complete control and appeared to try and tempt us to go deeper as we strived for that perfect photograph. There was never a point where our excitement turned to fear. But then again, there was no food in the water that would have encouraged the sharks to overcome their natural caution.

I always reassure myself that we must look pretty intimidating to these medium sized sharks as we are about the same size, or bigger, than they are and make a lot of noise. We also don't emit the kind of signals that attract them unless we use tricks like the water bottle, so why would they come close?

Mitsubishi Sea Plane

Lying on its back in 15m of water, with one pontoon sticking up into the water and the other broken in the silt, its bomb doors open to expose the two live bombs still in their mountings. This WW2 Japanese sea plane is a great

dive.

It is located in a river close to one of the villages and some fairly intense negotiations were required on the day we visited because it appeared the “big fella” of the village was determined to extract additional payments from us. The situation was eventually resolved by Alan Raabe and his crew, and we were allowed to explore the wreck.

Visibility is not that great due to all the sediment on the wreck, but on the day we dived it, we could see the full extent of the wreck and the bombs were like magnets that drew us closer. ■

For more information or to order images directly from Don Silcock, please visit: www.indopacificimages.com

fact file



New Britain, Papua New Guinea



WWW.CIA.GOV

History Papua New Guinea is a developing country in the Southwest Pacific. The eastern half of the island is the second largest in the world. In 1885, it was divided between the UK (south) and Germany (north). In 1902, UK transferred its half to Australia, which occupied the northern portion during World War I and continued to administer the combined areas until independence in 1975. After claiming some 20,000 lives, a nine-year secessionist revolt on the island of Bougainville ended in 1997. Today, PNG relies on the assistance of Australia to keep out illegal cross-border activities from Indonesia primarily, including illegal narcotics trafficking, goods smuggling, squatters and secessionists; Government: constitutional monarchy with parliamentary democracy

Geography Oceania, PNG is a group of islands east of Indonesia including the eastern half of the island of New Guinea between the Coral Sea and the South Pacific Ocean; Along its southwestern coasts, it has one of the world's largest swamps; Coastline: 5,152 km; Terrain: mostly mountainous with rolling foothills and coastal lowlands; Lowest point: Pacific Ocean 0m; Highest point: Mount Wilhelm 4,509m; Natural resources: gold, copper, silver, natural gas, timber, oil, fisheries; Natural hazards: active volcanism situated along the Pacific "Ring of Fire". The country is subject to frequent and sometimes severe earthquakes, mud slides and tsunamis; Environmental issues: Growing commercial demand for tropical timber is causing deforestation of the PNG rain forest. It also suffers pollution from mining projects and severe drought; Agriculture: coffee, cocoa, coconuts, palm kernels, tea, rubber, sweet potatoes, fruit, vegetables, poultry, pork; Industries: copra crushing, palm oil processing, plywood production, wood chip production; mining of gold, silver, and copper; crude oil production; construction, tourism

Capital Port Moresby

Climate Tropical climate with slight seasonal temperature variation; northwest monsoon (December to March); southeast monsoon (May to October)

Population 5,545,268 (July 2005 est.); 37% below poverty line (2002 est.); Ethnic groups: Melanesian, Papuan, Negrito, Micronesian, Polynesian; Religions: Roman Catholic 22%, Lutheran 16%, Presbyterian/Methodist/London Missionary Society 8%, Anglican 5%, Evangelical Alliance 4%, Seventh-Day Adventist 1%, other Protestant 10%, indigenous beliefs 34%

Currency Kina (PGK); Exchange rates: 1 USD = 3.11 PGK; 1 Euro = 3.75 PGK

Language Melanesian Pidgin serves as the lingua franca, English is spoken by 1%-2%, Motu is spoken in the Papua region; there are 715 indigenous languages—many unrelated

Health & Safety Papua New Guinea has a high crime rate. Please check state advisory consular information before travelling to PNG. The degree of risk is very high for major infectious diseases; food or waterborne diseases include bacterial and protozoal diarrhea, hepatitis A and typhoid fever; vectorborne diseases including dengue fever and malaria are high risks in some locations (2004)

Source: www.cia.gov

Decompression Chamber

Melanesian Hyperbaric Services
Jacksons Airport, Port Moresby, Papua New Guinea
Tel: +675 693 0305 or +675 693 1202

Port Moresby Medical Service
Tel: +675 325 6633 or +675 693 4444

EVACUATION INSURANCE is compulsory for some PNG dive operators, liveaboards and resorts. See DAN for information and travellers insurance:
Divers Alert Network
www.diversalertnetwork.org

Dive Resources

Papua New Guinea Divers Association
Code of Ethics www.pngbd.com
Tel. +675 320 0211

The Dive Centre - Port Moresby
Sales, Service, Rentals, Air and Nitrox
Tel: +675 320 1200
divecentre@datec.com.pg



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PNG DIVE DIRECTORY

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www.ambunilodge-sepiktour.com.pg
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www.mikeball.com
MV Barbarian II
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MV Telita
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Niugini Diving
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www.scubakavieng.com
Tawali Resort
www.tawali.com
Tufi Resort
www.tufidive.com
Walindi Plantation
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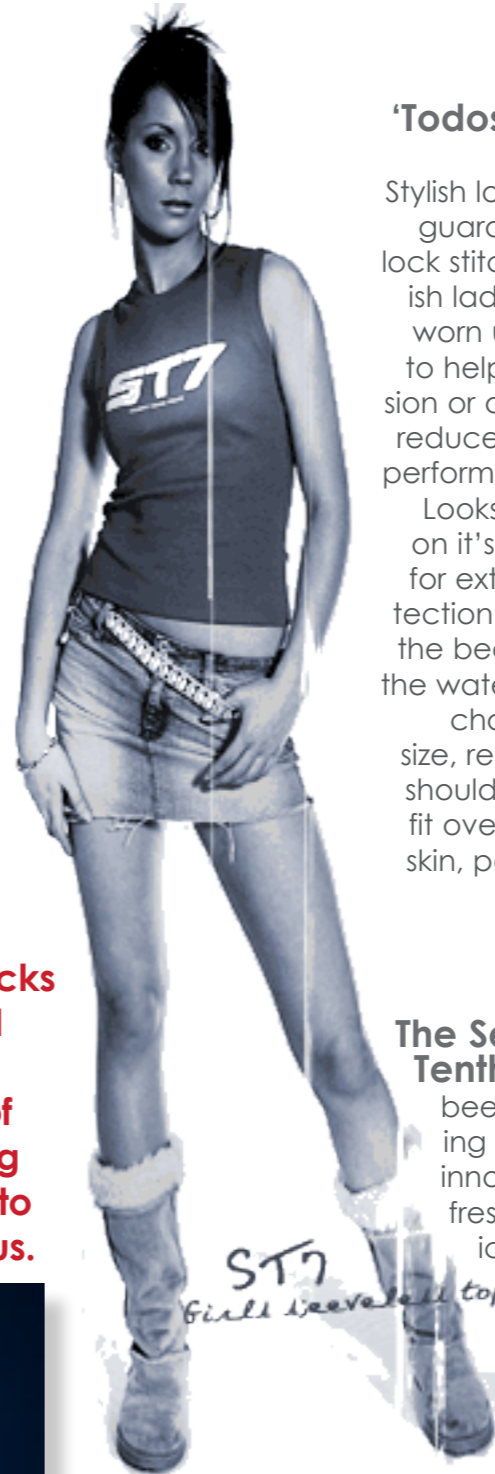
Edited by
Gunild Symes

This Year's Hottest Dive Fashion

All photos are courtesy of the manufacturers



In honor of fashion week events all over the world this time of year, we are devoting this section of the issue to Dive Fashion. In the interest of finding the top fashions for scuba divers, we searched the cyberracks of designers in several countries around the world for a selection of unique and best selling items that will appeal to the sea lover in all of us.



ST7
Girls Reveal top

GUL 'Fresh' and 'Todos' Long Sleeve Rash Guards

Stylish long sleeved rash guard from GUL. Flat-lock stitched and a stylish ladies cut. Can be worn under a wetsuit to help reduce abrasion or over your kit to reduce windage for performance sailing.

Looks great worn on it's own, ideal for extra UV protection either on the beach or in the water. When choosing your size, remember, rash guards should form a smooth, snug fit over the body, a second skin, particularly when worn

under a wetsuit, they are very stretchy. Price: GB£19.95 www.reefwear.co.uk



DNA Divewear's striking *Blue Wave* tee (left) integrates an intricate wave and zen circle with vibrant blue colours on a long sleeved baseball shirt. Light blue/navy or grey/navy for GB£25, or female fitted tee white or sporty grey, GB£19.50. *Scuba Trooper* (center) in Denim Blue or Black for GB£22, or *Underwater Daughters* (right) detailed 60s style character design with more than a nod to a diving Barbarella comes in Aubergine or Navy blue 100% cotton fitted tee. S,M,L GB£19.50. www.dna-store.com

Breeze Trousers

Made from Henri Lloyd's durable TP1 fabric, these trousers are the ideal lightweight, water-proof yet comfortable garment. 100% taped seams, zip fly opening, elasticated waist with adjustable belt and zipped ankle cuffs make them easy to slip over other clothes. Item #51080. Colours: Marine, Red, Black. Sizes: XS-XXL. www.henrilloyd.com



Narked Extreme Sport Clothing

The company believes that our ocean's are precious and should be respected, that we should work and play in the sea with responsibility and care. "Whilst people protect the things they love the most, commercial factors often overwhelm what's right and what's wrong." NARKED takes great pride in the quality of their products with all designs created in-house. All Narked T-shirts are limited to 500 print runs, and therefore, exclusive. www.narked.co.uk



The Seven Tenths Co

has been producing consistently innovative and fresh graphics and a range of apparel renowned for it's quality, durability and design. Established

in London in 1994, Seven Tenths is now headquartered on the North coast of Cornwall and has distributors in 25 countries all over the world. www.seventenths.co.uk

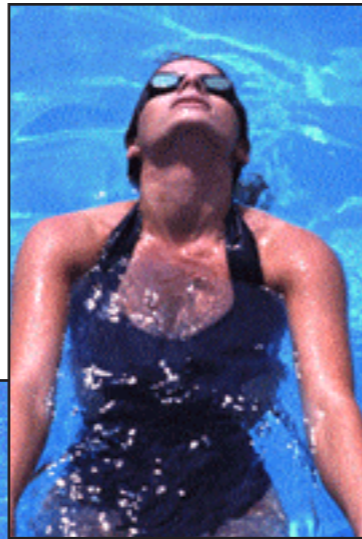
Camaro's 1mm neoprene swimsuit fits like a glove, and looks great with its bold blocks of color and dynamic detailing. Industrial strength aquawear for heavy-duty fun on the water. 98% neoprene, 2% nylon. Machine wash, hang dry. Price: US\$39.95. www.sierratradingpost.com





fashion

Stylin' Dive Threads



Fourth Element Thermoclines

Bringing glamour back to diving is the mission of the designers at Fourth Element who are integrating high tech fabric with high style to produce a line of dive garments, which James Bond himself would be proud to wear. The designers are using a special breathable, lightweight and comfortable fabric for the garments called Thermoclines, which are also fast drying

with the equivalent thermal performance of 2.5mm neoprene. The garments are made using Polartec® Aqua Shell® fabric. They are neutrally buoyant and machine washable, too. Fourth Element's Thermocline system can be used as a lightweight wetsuit or pool training suit. It works as an effective additional thermal layer underneath a wetsuit or semi driesuit.



READY FOR ACTION: The Thermocline range has been tested in some of the most extreme diving conditions in the world. Heat loss from the body can result in poor decisions. It can lead to exhaustion and accelerate the onset of hypothermia. Thermal protection is of paramount importance to all divers whether diving in extreme environments or reef walls in the tropics, caves or wrecks, they require thermal protection to maintaining performance. www.fourthelement.com

Awoon has created a stunning range of neoprene aquawear for women. The suits are designed in 3mm stretch neoprene—perfect for tropical diving destinations. Choose from styles with a sexy front zip feature to halter neck aquasuits with 'smoothskin' black rubber finish. Colors: Red, Blue, Black, Wine, Teal, Pink and Smoothskin. Price:

GB£54. Buy it online with your credit card at: www.divegirl.com



Henri-Lloyd's new Fast-Dri Featherweight

is the lightest Fast-Dri next to skin product in the range, ideal for warm weather and sailing. It is extremely high wicking, spreading perspiration and moisture across the surface area which speeds up the drying process. The highly breathable fabric wicks moisture rapidly away from the body – and has a UPF factor of 30-50+ to protect against sunburn. Colours: Dark Navy, White, Light Grey, Carbon, Pink, Light Blue Sizes: S - XXL. www.henrilloyd.com



DiveGear USA Boat Coat: Fleece lined Coat with hood and fleece lined pockets. Price: US\$150.00. www.divegear.net

Designated Diver Classic denim button-down long-sleeve shirt for men with dive flag embroidery and sleeveless button-down denim shirt with dolphin embroidery for women. Price: US\$36.00 each. www.designateddiver.com



Funkyfins "For the very first time, fins with a wow factor!" Funkyfins has pioneered a totally new patented technique which allows fabulous graphics to be inserted into crystal clear fins. Technical excellence and physical comfort have not been compromised. Good finning action has remained a priority, while the foot pocket has been moulded to ensure optimum comfort. Funkyfins is the first and only range to combine great technical design and fashion. Price: GB£27.95 incl. VAT. Euro 39.00. www.funkyfins.com

fashion

Dive Junkie has great T's for the whole family crazy about diving and marine life. See their new online collection unveiled this April. 100% fully combed cotton, Lycra-ribbed collar, preshrunk with re-inforced seams. Prices: S\$18-24 (11-15 USD). Designs shown clockwise: *Octo T, Manta Movie, Dive Junkie Underwater Recon Team.* www.divejunkie.com.sg



L.L.Bean Wave Gear New close-fitting quick-drying rash guard is made of silky material, which provides sun protection. Nylon/Lycra® elastane fabric feels good against the skin and stretches for freedom of movement. Comes in long sleeve, too. Colors: Seedling (shown here), turquoise, fuchsia berry, dark mariner and steel gray. Price: US\$29.00-34.00.



Deco Mermaid Semi-Sheer



Urchin

Seven Tenths has a dive shirt for you and the kids. Check out the wide selection of designs with attitude including glow-in-the-dark styles. Prices: €14.50-32.95 www.seventenths.co.uk

Trail model **Pale Aloe Jersey** made of 100% CoolMax® polyester feels as soft as cotton. Special channeling fibers wicks away moisture from the skin to the outside of the fabric where it evaporates quickly. Comes in black, blue ridge, desert rose, gray heather, white and lapis blue. Price: US\$29.00. www.llbean.com



Depth Row

CWear slouch hat is the ultimate in protection for divers who value their skin! The wide brim is firm enough to ensure maximum protection for the head and neck, yet soft enough to fold up and pack neatly into a pack. CWear sells UV protection shirts too. Hat price: AUS\$25.00 www.cwear.com



Cool Shades A hot ticket in dive sunglasses comes from Survival Optics. Check out their Cayman and Aruba models. Price: US\$59.99 www.loseyewear.com

Chammyz The ultimate beach, casual and water sport pullovers—so popular, even celebrities are wearing them. It comes complete with full size hood with drawstring, kangaroo pouch and drawstrings at the waist. Chammyz loose fitting pullovers provide instant dryness, warmth and comfort after water sports. They give protection from changing weather conditions and wind-chill. So, what are Chammyz made from? Chammyz are produced from leftovers of the paper-making process (bark, roots, etc.) that would otherwise be discarded as waste. Not only are they fantastic on your body, Chammyz are also making the best possible use of nature's valuable resources. Comes in lots of great colors. Price: US\$62.00. Surf Bomber (on models) US\$72.00 www.chammyz.com



One can never have too many t-shirts...



Innerspace Invaders



Ninja Diver Glow-in-the-Dark

Go Day Mate!





Fourth Element Sweats
Atlantic Zip Navy Sweatshirt for men and Pacific Zip Washed Navy Sweatshirt for women with cool Fourth Element logo are warm enough to cozy up to. GB£42.00-49.95. Find them at www.fourthelement.com



Bon Prix Swimwear
Don't want to look like you just rolled out of the sea bed? Check out these fab ocean togs at not so shocking prices. www.bonprixsecure.com



Needlepoint Fishes Leather Handbag
Fine handmade needlepoint work is hard to come by these days, let alone in fishes! www.marlenecustompillows.com ▼

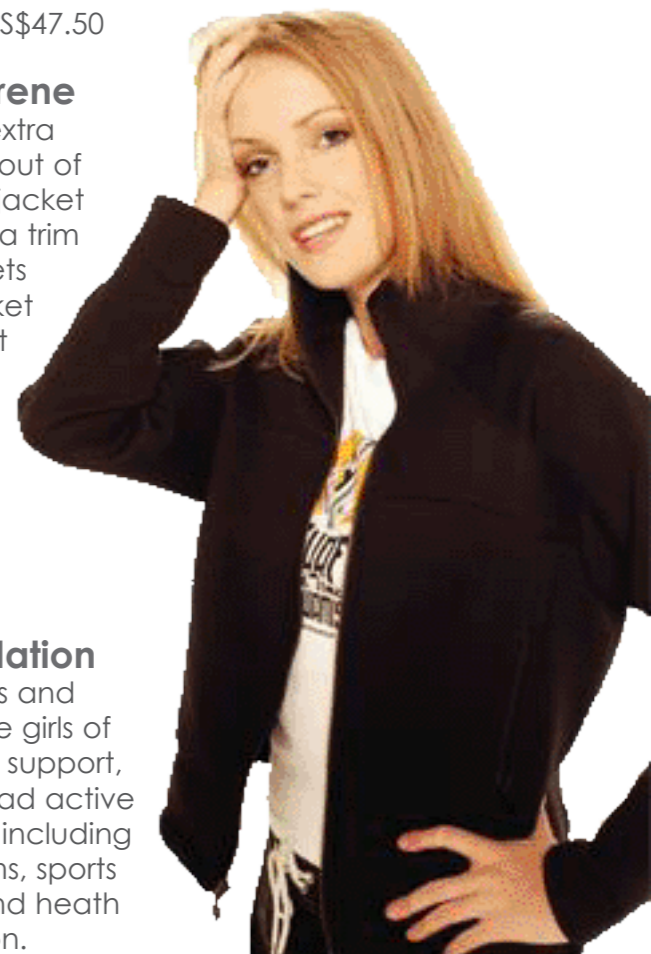


Sea Dreams Full Figured Divas
Sporty elegance designed especially for women in a full length 2.0 mm sleeveless black wetsuit. Coordinating jacket in pink or blue. Lycra trim. High stretch neoprene with smooth skin interior. Flatlock stitching. Jumpsuit Sizes 8-14 US\$122.00. Jacket Sizes 8-14 US\$75.00, Jumpsuit Sizes 16-22 US\$140.00. Jacket Sizes 16-22 US\$90.00. Full length long sleeved wetsuit with collar. Constructed of 1.0 mm quick drying high stretch neoprene. In aqua and black. Silver and black elastic trim around collar, waist and wrists. Smooth skin interior. Flatlock stitching. Sizes 4-14 US\$119.00 Sizes 16-22 US\$139.00. www.seadreamswetsuits.com



Girls4Sport Neoprene
When you want the extra warmth of neoprene out of the water, this sporty jacket is a nice option. With a trim flexible fit, side pockets and zip front, the jacket is made of lightweight yet super warm neoprene. Girls4Sport loves this jacket so much, they just can't say enough about it. Price: US\$125.00 www.girls4sport.com

Girls4Sport Foundation
supports organizations and programs that provide girls of all ages with the skills, support, and opportunity to lead active lives with confidence including school sports programs, sports camps and clinics, and health and lifestyle education.



Cotton Terry Russian Pants
Après-divewear can be comfortable, stylish and sexy too. Laguna Fitness online boutique carries a wide selection of delectable sweet somethings to slip into between dives like these cotton terry Russian pants versatile enough to wear after a dive or for an evening out on the town. Price: US\$69.00 www.lagunafitness.com



Long Sleeve ThermoGuard
by Girls4Sport is super soft with added warmth, made of 7.7 oz. Micro Suede with built-in shelf bra. Flattering body style with the right length in the torso to keep you covered and not ride up as you move. 90% Nylon Microfiber with 10% Spandex/Lycra. Flatloc stitching. Price: US\$53.00. Short Sleeve US\$47.50

Deep Six Divewear
The Australian design team is taking dive fashion in a new direction. It is fast becoming the label to be seen in, with interest from the Asia Pacific region to as far away as the U.K, Romania and the Netherlands. Their latest range is due to launch this April. The *Hammerhead* T shirt (on model) is the flagship design for Deep Six Divewear catching eyes whenever and wherever it is worn. Get yours now from www.deep-sixdivewear.com or www.underwater.com.au



Kelp





fashion

Neoprene
Haute Couture
Then & Now

Louis Vuitton's spring/summer 2003 collection featured a neoprene coat imprinted with flowers. ▶



◀ **Jussara Lee**
The Brazilian-born designer of Korean descent produced this sleek and elegant neoprene jacket and mini skirt for her fall/winter 1998 fashion collection. Visit: jussaralee.com Flagship store: www.caipirinha.com/Fashion/store.htm



Neon Neoprene Jackets
with digitally printed psychedelic silks and velvets by Regazzacci. Sponsored and manufactured by Gul International in 2002. www.regazzacci.com or www.coconut-hut.co.uk

Mission Beach & Santa Monica Handbags
Cute totes from California, USA, made of high-grade neoprene, nylon lining, inside zip pocket, zip-top closure. Lots of colorful patterns. Take a tour of California cities and landscape while shopping—see their online photogallery. Price: US\$25.99 and \$49.99 www.calihandbags.com ▶



Armani 2005 Collection Men's Zip Jacket
Navy neoprene zip-through jacket. Price: US\$295.00. www.giorgioarmani.com

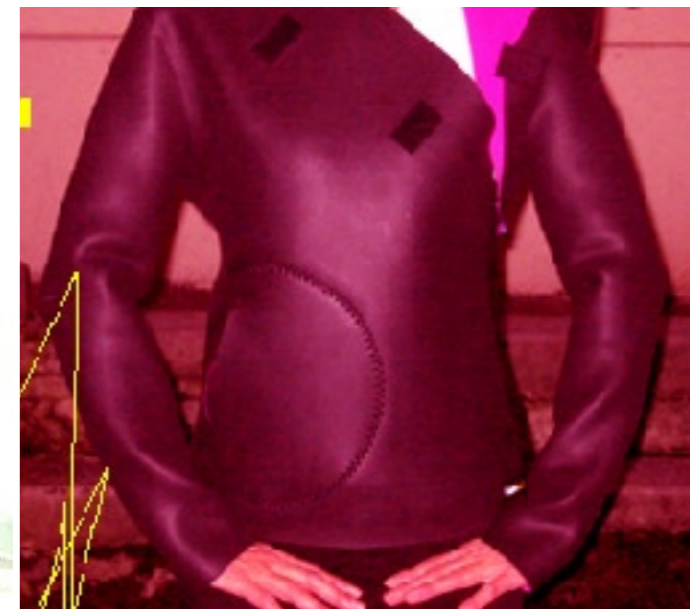
Rei Kawakubo swimsuit
Rei Kawakubo of Comme des Garçons created her first mini swimwear collection with Speedo.

The designer, who gets in the pool almost every day, puts creative design in the water. Priced: GB£50-60. Available spring 2006 from Comme des Garçons stores and selected Speedo suppliers. www.speedo.com



Rei Kawakubo The 'high priestess' of Japanese fashion combined neoprene jackets and skirts with ballet tutus and white raffia hats in her spring 2005 collection. www.style.com

Combhard Neoprene Designs
Thomas Renaud of Biarritz, France, was a surfer who interested himself in the properties of neoprene and began to design some neoprene products for himself and some friends. Soon, the production included womens wear and mens wear as well as handbags. www.combhard.com ▼





fashion

*Wet or Dry
Sun Soaked
Couture*



Solar Tan Thru Trunks

Got to have a sexy seamless tan? Now you can with the body flattering swimwear produced by Solar Tan for men and women which allows the sun to reach those private places. www.solartanthrusuit.com



More Combhard Neoprene Jackets

French surfer, Thomas Renaud of Biarritz, designed these wonderfully inventive mod looks in neoprene for men and women. Check out the cool 3D interactive Flash animations of these handsome jackets. www.combhard.com



Ikanui Aqualeather

makes handbags and wallets from fish leather. "We transform seafood industry waste-streams into global fashions and accessories." aqualeather.co.nz



Tie Tracks

started with a few paw prints on a silk tie and grew to over 60 designs including sea

turtles, nautilus and scallop shells, dolphins, crabs and trout on silk ties, triangular silk shawls, two-sided beaded silk scarves, cotton gauze scarves and aviator silk scarves with fringe. Made in the USA. www.tietracks.com



Kobuck Neoprene Jacket

Features: 3mm premium RadialFlex™ neoprene windproof detachable hood, handwarmer pocket with two drains, webbing belt with quick release, heavy duty YKK zippers. Crafted by American Sportsmen for your comfort against the unforgiving damp and cold of the outdoors. Price: US\$109.99 www.dakotaworldoutdoors.com



Vintage 1940's Modest coverage in stylish fashion reminiscent of the glamorous 40's. Princess seams and bust lining. Stripes and prints too. Design your own swimwear. Price: US\$96.00. www.bondi-bathers.com



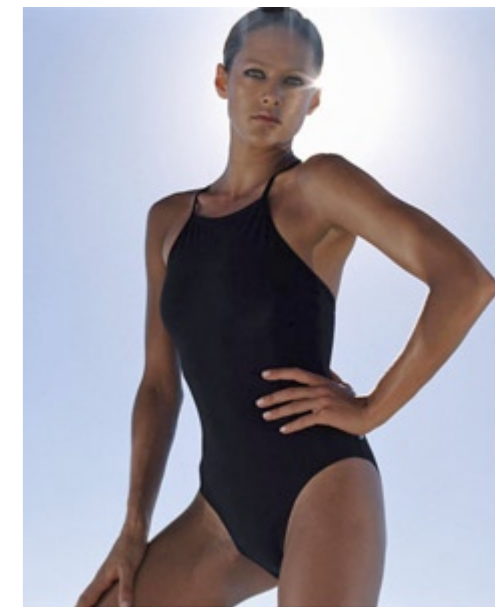
Body Glove Babe

A new crop of smooth and sexy bikinis, hip huggers and shorts for 2006 are available from Body Glove Girl. Check out their new 'smoothies', paparazzi and coral reef prints. www.bodyglovegirl.com



Men's Endurance Trunks & Women's Sculpture Speedo

Inspired by the little black dress, Speedo's elegant little black suit for women is made of soft yet extra strong fabric made exclusively for Speedo. Their Endurance fabric is chlorine and colour resistant for extensive use in the dive pool. www.speedo.com



2006 Designer Collections

feature dynamic designs such as this Sunflair suit made of fabric from Italy. Designs for full figure and mastectomy prosthesis too. www.swimwearboutique.com



manufacturer

Text & photos by
Andrey Bizyukin, PhD
Edited by Peter Symes

DIVE SYSTEM of Italy

Made to Measure

Beautifully located on the coast of the Ligurian Sea, and just opposite Elba Island, we find the Italian port of Follonica, with its busy side streets, many small seafood restaurants and religious processions on holidays. Not much, if anything, gives away that this port town is also the hot spot for technical diving in Italy. Follonica is the home of Dive System, one of the new rising stars in dive manufacturing.

Dive System is owned and managed by founders Paolo Zazzeri and Gioia Ancillotti. Both have been attracted by the sea since childhood, so becoming active divers and instructors as adults was hardly a surprising career move. In fact, Zazzeri, being a regular participant in spear fishing (underwater hunting) competitions, once won third place in the Italian championships.

The pair opened a dive center and dive shop that became well known among the city residents. It was out of the daily work at the dive center that a desire to improve and make dive equipment more comfortable grew, until one day, the

two finally decided to start outright production of their own equipment. The year was 1997, and Dive System, the brand, was named. It has been in manufacture ever since.

All Zazzeri and Ancillotti's dive industry colleagues and close connections, who were also high ranking course directors and such in PADI, TDI, NAUI, SSI, PSI and CEDIP, for the most part unanimously recommended the two to focus on what was then seen as the future of diving or at least a growth sector—technical diving and equipment made specifically for this field.

First production

The manufacture had its humble beginnings in a small workshop where the pair designed, cut, sewed and glued their original designs. They then asked

BCD component



Dive System BCD



their colleagues to be testers and give feedback on the prototypes. Their innovations were well received by the diving community, and business just kept growing. Soon, Zazzeri and Ancillotti were able to hire their first employee.

Strategy: Innovation

Having studied the products and quality of their competition, it was clear to Zazzeri and Ancillotti that in order to take scuba equipment manufacture to the next level, it was necessary to be innovative and come up with original ideas as well as employing the latest technologies in the manufacturing process.

Dive System made contact with the Dupont company and started using Kevlar as one of the strongest materials available

for the outer abrasion layers. Pure Kevlar is a very strong but rigid material that is traditionally used for flak jackets and bulletproof vests. Therefore, the fabrics used in Dive System BCD's and dry suits contains around 25 percent Kevlar fibers to make the fabric soft and pliable enough for these uses while still making the equipment ten times more resistant to abrasion than equipment made with any other material, such as Cordura, Duratex or Supratex.

Drysuits

The top product line of the company is the dry suit line, which Dive System makes for all types of technical diving.

Their drysuits are manufactured to meet and exceed the highest requirements set forth by the skeptical professional diving community. The flagship product of the company's drysuit line is a thin compressed neoprene drysuit with protective Kevlar covering. The



Dive System worker cuts out pattern pieces for the semi-drysuit



Co-founder Gioia Ancillotti at work at Dive System

manufacturer

PHOTO COURTESY OF THE CITY OF FOLLONICA



Aerial view of the city of Follonica



Dive System drysuit

material is unique and made to order exclusively for Dive System.

One of Dive System's renowned drysuit models is the CAVE, made from 3.5 mm compressed neoprene with an especially strong and reliable Kevlar made specifically for cave diving. Jim Bowden, the deepest cave diver in the world, dives in such a suit.

Another model, the SOLO, is made in one and a half millimeter thin compressed neoprene with Kevlar covering and comes with a front zipper for the convenience of those who prefer to be able to zip their suits themselves. Dive System's SOLO is a serious alternative to DUI's suits, pressing their American counterparts on both quality and price.

The EXP dry suit line, which is also made with a Kevlar combination, is a product line created especially for commercial divers and comes with a varied material thickness

of 1.5 and 3.5 mm in various parts of the suit. The company has made no compromises when it comes to quality, and it lends its design ideas to the recommendations made by some of the most authoritative participants of underwater works and experts in long duration and technically complex deep-water dives.

All Dive system suits come with separate boots attached with velcro. The boots have rigid soles and are comfortable when diving with fins or walking across a beach with sharp rocks.

Undergarments

Dive System is also the maker of undergarments, which are both very thick and light at the same time. The undergarments are made out of three layers with Windex on top. The insulation properties of these good-looking garments are the equivalent of 200 Thinsulate, which means they will keep you comfortably warm for hours of diving in water temperatures of only 5 degrees.

Wetsuits

Dive System products are characterized by the use of the latest technology everywhere. Not even in the manufacturing of the low prestige semi-dry suits have Zazzeri and Ancillotti gone the traditional way. They didn't want to be yet another "boring" manufacturer of anonymous

wetsuits.

On the contrary, Zazzeri and Ancillotti were intent on thinking outside the box in this area as well and came up with something novel that would revolutionize the concept of semi-dry suits. Again, they applied a new material—a special soft rubber not unlike neoprene but made for high pressures. At a depth of 90 meters, the material is compressed by only 14 percent.

This material is then covered, not by cheap plush, but by fashionable multi-coloured lycra, which is elastic in all directions. Imagine the classic lycra suit and think of how flexible it is, then add the unique quality seals, some more mobility and comfort and the fact that it is practically incompressible at any depth. Now, you've got a suit that lasts and lasts.

But a good suit is not only about using quality materials; the product's service life is also defined by the glue that keeps the pieces of materials together, and each company has their own closely guarded secret when it comes to glues, explains Zazzeri.

Wing BCDs

One

Dive System BCD



more highlight from Dive System is the wing type BCDs for technical diving. All their BCDs are modular with the option of exchanging wings. The BCD range has been one of the company's biggest commercial successes and have been favoured by beginners, experienced deep divers and cave explorers alike.

The MOD BCD comes with an universal harness, always with stainless steel D-rings, detachable pockets and a steel or titanium back plate with adapter for one cylinder or twin tanks.

The 3K BCD stands out in all its simplicity. It is an European continuation of equipment



Dive System BCD



New lid fixture

manufacturer



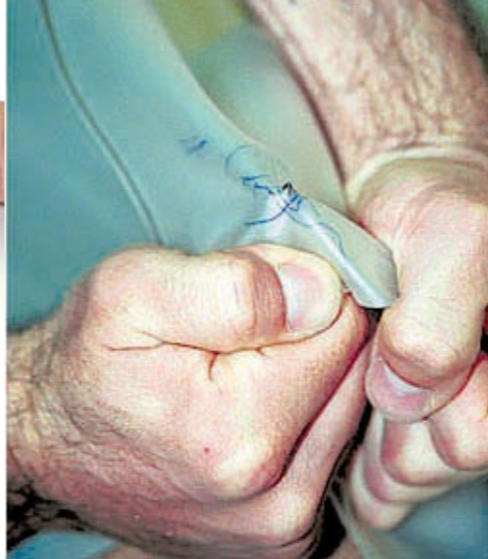
Dive System BCD



Dive System BCD



Dive System regulator



Dive System uses a strong and flexible neoprene-like rubber in their semi-drysuits



Dive System wings

manufactured according to the DIR principle (Doing It Right) favoured by so many cave divers.

Also worth a mention, is the TEKKY and REC.TEK BCD—modular systems with soft harnesses, lots of steel D-rings and the integrated weight pockets. It is possible to use one or two bladder wings made from cordura or kevlar with these BCDs.

All inflators are fitted with a steel cord inside, which considerably increases their durability and reliability. The material, volume and colour of the BCDs can be custom made to order in any combination.

The BCD bladders also deserve special mention. Previously, bladders were welded from Cordura, so they were resistant to abrasion and couldn't be punctured, i.e. by sharp metal objects of a wreck. The problem with Cordura is that it lacks the necessary elasticity for the job and would leave at least a liter of air in a BCD that should be empty. A diver was therefore required to use additional weights to compensate for this extra positive buoyancy.

Consequently, a completely new solution was required and a new material with properties far surpassing the older ones was developed. All BCD bladders from Dive System are now made with this new material. It is a very dense yet soft and elastic thermoplastic, which cannot be pierced by sharp objects.

Slaves to fashion

Today's fashion trends in diving seem to be very much influenced by technical diving. The result is that more and more

sport divers want to have and use equipment like the "technical" or at least something that resembles the equipment used by technical divers.

Thus, a new breed of divers appeared on the scene—"semi technical divers"—the people, which by appearance seem to be technical divers, but really weren't. It became prestigious for the average diver to look like a deep sea explorer. You probably have one or two of your dive buddies who belong to this category.

Especially for these folks, Dive System developed the NET BCD. It is mounted with a new Japanese inflator and comes with most of the external attributes of the technical BCD even though it has really been developed and adapted for normal non-decompression dives.

Testing

Every time Zazzeri and Ancillotti design new equipment, they always send it for testing by various dive-centers. The tests are conducted very rigidly, and it is not necessarily done in a season. After testing, the experimental equipment comes back to the company for service, study and analysis. All the information and experience gathered are then taken into account and incorporated into perfecting the design for next season's testing. Only after thorough testing will any new equipment enter production.

Needless to say, we did not pass up the opportunity to try out Dive System's equipment in open water when we were given the offer. A high powered speedboat whisked us over to the island of Elba and the harbour of Porto Azzurro in

no time.

Excited, we donned completely new suits and went into the water along the rocky shoreline. The dive took us past a vertical slope and we enjoyed the rich fish life that is so characteristic of this part of the Mediterranean.

A school of barracudas swam close to examine us before two small sharks frightened them off and they disappeared into the blue haze. We had a fabulous dive that took us down to more than 40 meters to explore a cave.

Our impressions? First, we felt very comfortable at any depth in our 5mm semi-dry suits and did not feel cold even after an hour and a quarter in water of just 13° C. Secondly, the suits were very close to being neutrally buoyant. Our BCDs allowed us to remain motionless in any pose: on the back, on any one side or even upside down—with absolute ease. We enjoyed both the dive and this new equipment very much. Experience says that the two usually go hand in hand.

Success on the market

Making courageous and innovative decisions has brought the company its well deserved success. Enthusiastic responses to Dive System equipment comes in from everywhere in the world, and their popularity seems to be growing steadily.

We asked Zazzeri to tell us his opinion of



Deep cave diver, Jim Bowden, uses Dive System

what sets his company apart:

"We are leading the Italian market in manufacture of technical BCDs and drysuits from compressed neoprene with Kevlar covering and semi dry suits with



Dive System Lift Bag



Elba Island

ourselves, so the quality of our product relies solely upon us.

"In addition, we have successful designs, patterns and new materials. We are constantly experimenting and researching. We are confident that we produce

good and really safe equipment for any diver. However, trading them should be left only to the experts with an understanding of all the subtleties of diving.

"In these factors, lies our strength and guarantee of success. Technical diving is the trend of the time. It is necessary to understand this and to have a feel for its features and the essential needs of the market," said Zazzeri.

Evolution of technical diving continues. To meet progress in the field, all Dive System employees get to work already around seven o'clock in the morning. It is in this place where the best Italian equipment for technical diving is born. Everyday, Dive System becomes more and more popular among technical divers all over the world. The company has grown so much that the time has come to expand manufacture and build a new factory adapted for the highest level of technological

Co-founder, Paolo Zazzeri



underwater equipment. It will be a new factory of 4500 square meters. It will be the future of technical diving.

For more information, visit: www.divesystem.com ■



DEMA Show 2006 website has now gone LIVE!

Get comprehensive information on DEMA's 2006 show at the click of a mouse. With a bright, new look, the easy-to-navigate website for DEMA Show 2006 has been launched at www.DEMAShow.com

Providing vital information about the upcoming DEMA Show 2006 taking place November 8-11, 2006, in Orlando, Florida, the DEMA Show website is an invaluable resource for all exhibitors and attendees. The site currently features everything from show registration guidelines and a downloadable floor plan to information on sponsorship opportunities, access to the Exhibitor Resource Center and a link to the official website for the Orlando/Orange County Convention & Visitors Bureau to help exhibitors and attendees plan their trip.

Next

In the coming months, hotel information will be posted to the site and show participants will be able to book their rooms online. In addition, information on show features like the DEMA Retailer Resource Center, DEMA Awards Party and Silent Auction, a schedule of DEMA-sponsored and exhibitor-sponsored seminars and dive training and certification organization presentations and events will be added to the site. The site will continue to be updated throughout the year, so check back frequently for updated information.

Media

For the media interested in obtaining information on the show, all press releases written and distributed on the show will be posted and archived in the online press room. Media wishing to attend the show will find a printable Media Registration form as well.

Continuing to be the largest trade

event in the world for companies doing business in the scuba diving, ocean sports and adventure/dive travel industries. More than 600 exhibitors from around the world and thousands of dive and travel industry professionals are expected to gather at this year's show, which will offer the most extensive educational program in the industry.

Trade only

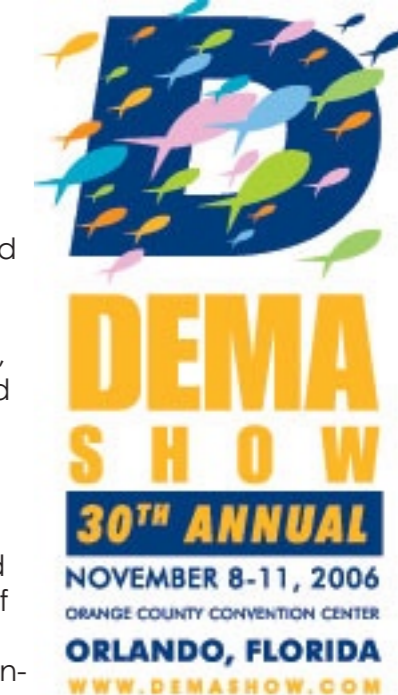
DEMA Show 2006 is a trade event open only to industry professionals and is produced by the Diving Equipment & Marketing Association (DEMA), and managed on its behalf by National Trade Productions, Inc. (NTP). DEMA is an international organization dedicated to the promotion and growth of the recreational scuba diving and snorkeling industry. With more than 1,200 members, this non-profit, global organization promotes scuba diving through many initiatives including consumer awareness programs, media campaigns and sponsorship of the DEMA Show.

More info

For more information on DEMA call 858-616-6408 or visit www.dema.org.

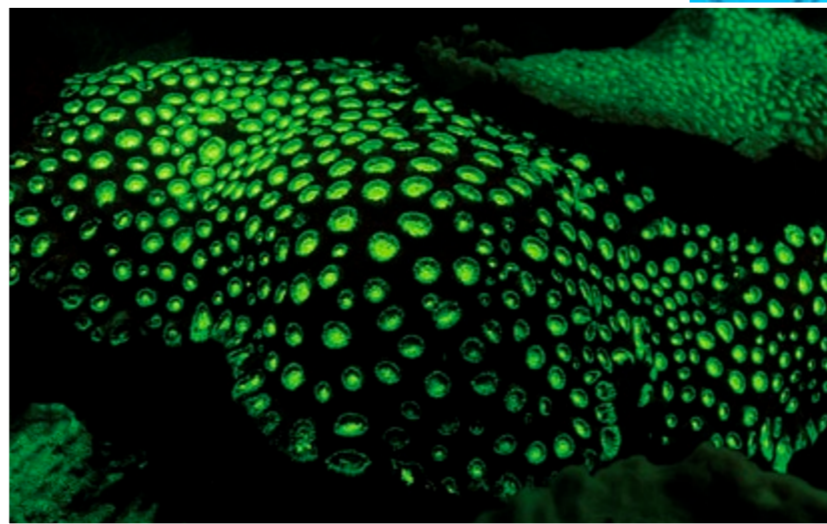
For more information about DEMAShow 2006 visit: www.demashow.com. Companies that would like to exhibit at the Show can contact Christine von Steiger at 1-800-687-7469 x 207 (U.S. only), 703-706-8207 or demasales@ntpshow.com

To find out about sponsorship opportunities, contact Tom Markusson at 1-800-687-7469 x 206 (U.S. only), 703-706-8206 or demasales@ntpshow.com





photography



Underwater Photography with HMI Lights

Text and photos by Michael AW

HMI technology is not new. Evolved in the late 1960s, a lamp developer Osram began producing HMI bulbs for the film industry at the request of German television seeking a less expensive alternative to incandescent lights. Ironically, HMI is now much more expensive than halogen and tungsten.

Though the principle behind the HMI /HID lighting has been known for decades in the movie industry, it was only in 1996 that I first saw them used in underwater photographic application by David Doubilet.

Using two 1200 watts units, he created never seen before pictures of fluorescent corals, mantas feeding at night at Kona and atmospheric imagery of the Chandelier cave in Palau. I was immediately hooked on the idea of using a continuous light source that illuminates at day light temperature – 5600 Kelvin like that of an underwater strobe or electronic flash.

Bright

Watt for watt, Hydragyrum Medium arc - HMI' lights are two to four times brighter than their tungsten equivalents. Their application has revolutionized the motion picture photography in films such as the Abyss, Titanic and IMAX production of Volcanoes of the Deep Sea. Since no filament is used, HMI lights are much more robust and less sensitive to shock and vibration. Generally the unit uses separate electronic ballast to regulate power input and they are the lights of choice for ROV in deep sea documentary productions. Until the last few years, those used in the movie industry were huge units of 600 watts to 2500 watts requiring surface supplied power thus logistics and the cost of rental precluded the use even by profession-



HMI lights offer the underwater photographer another dimension of underwater lighting to explore

TOP INSET:

The greenish glow or fluorescence of these corals is illuminated by torches fitted with HMI lights



HMI lights can illuminate the natural fluorescence of reef corals





photography



HMI Lights



CLOCKWISE FROM LEFT: Backlighting soft corals such as this large sea lilly can create otherworldly effects and capture the ethereal quality and transparency of these wonderful creatures. HMI lighting adds drama and mystery, depth and dimension to underwater shots where human beings and marine life interact. Even the unassuming squid sparkles like a Christmas tree when HMI lighting draws out its natural luminescence

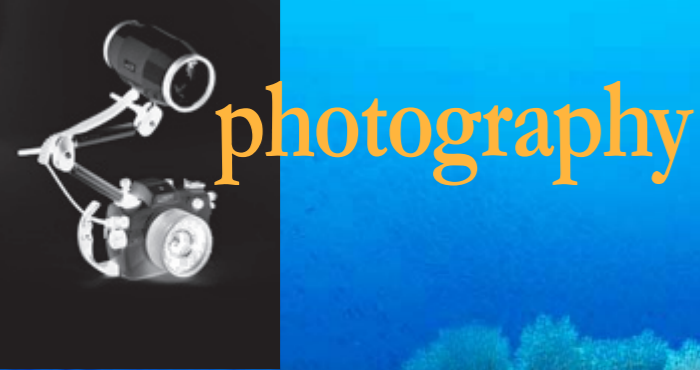
al underwater photographers. However with the demand of underwater video makers, a few innovative German manufacturers have started to produce units in the range of 24w to 100w.

Somewhat costly

Albeit the extraordinary illumination quality, the principal draw back of HMI application is its cost. Whereas a 50w halogen light

costs less than USD300, the 24 watt equivalent HMI costs in excess of USD 1500. So with prices like these, why bother with HMI? During the last few years, I have experimented with the big 'guy's' 1200w rented from PANAVISION for the 24-hour shoot in the Maldives, 50w units by Treble-Light and most recently the 24w Solaris Pro from Keldan. Each of them serves the application, achieving the impressive results.





photography

HMI Lights



HMI captures the iridescence of a delicate squid

Advantages of HMI

The main advantage for digital photography is apparent. With SLR camera capable of firing 6 to 9 frames per second, there are no underwater strobes capable of recycling to keep up with the camera firing speed. Keeping unnecessary light out between the object and the

camera reduces the illumination of undesired back scatter. In this department, a HMI light source is more forgiving than an electronic flash. I also find that light from

HMI's seems to have the ability to "wrap around" the subject, seemingly able to enhance depth and soften shadow. Powerful units like the 1200w to 2400w units provide greater true-color rendition over a wide area, making them an ideal illumination source for filming

wrecks and wide seascapes. These pages show some examples of my work with HMI lights. See also: www.michaelaw.com ■

TOP PHOTO: HMI light seems to wrap around the subject, like this gorgonian, offering another dimension to underwater shapes and forms

Backlighting with HMI lights shows off the eerie transparency of soft corals



HOW TO USE HMI LIGHTS

1. For DSLR start with ISO 400 and for Prosumer camera, set to the highest possible.
2. Use S priority and set speed at 1/90 second or higher
3. If your HMI unit offers power setting, use the lower option.
4. Position HMI light in front of lens pointing downward to subject at 45° angle.
5. Start with shooting macro at distant of 30cm, using f16 aperture – bracket up or down for optimum exposure

* to diffuse hotspot, add a 3mm Perspex to the front of HMI/HID light source

THE SOLARIS PRO HMI (BOX)

Highly recommended and relatively affordable is the Keldan Solaris Pro. Using metal halide high intensity discharge globe, the light produces an excellent light in daylight quality with its color temperature of 5500 Kelvin. The rechargeable battery pack is easily removable for recharging and the five stage level indicator gives accurate information on remaining illumination time.

Burning Time	
LOW/HIGH	80/60 min
Luminous Flux	
LOW/HIGH	800/1100*)
Beam Divergence	10/60**) degree
Correlated	
Color temperature	5200 Kelvin
Electrical Power	18/24 watts
Battery Type	NiMH
Battery Capacity	14.4V/2.7Ah
Charge Time	3hrs from empty
Diameter (head)	6.7cm
Length	19.5cm
Weight (in water)	1.1 (0.5)



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photography news



New SWCY

On June 1, URPRO will introduce the new SWCY optical glass underwater filter. This specialty URPRO filter is designed for color correction in shallow tropical blue green water using natural sunlight only. Based upon patented and proven technologies, the SWCY filter is ideal for ALL still, digital, video and cine imaging systems. (SW = Shallow Water ~ CY = Tropical blue green waters)

ULTRALIGHT CONTROL SYSTEMS



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Under Water Digital Video

UWDV.COM 2.0

Underwater Digital Video (www.uwdv.com) announces the 2006 re-launch of their website. The site is the first dedicated specifically to the mastery of conceptualizing, shooting and editing underwater video. Although the site has been around since April of 2003, they have just given it an overhaul, complete with a community of visitors who share a common passion for producing underwater video.

In conjunction with the resort's 10th anniversary cel-

ebration, Layang-Layang announced the date for its first International Underwater Photography Competition to celebrate the beauty and delicacy of its marine environment. Photographers will compete from July 25 - 31, 2006 in two categories: macro and wide-angle. Renowned photographers, Takasago, Rod Klein, William Tan and Stephen Wong will be judging the competition, and the event is expected to attract participants from 8 different countries. ■



Photo competition winners celebrate at the Moscow International Diving Festival in Russia

Golden Dolphin

Moscow International Diving Festival "Golden Dolphin" photo competition winners were announced during the jam packed dive show (Feb 15th -18th). The show consisted of a film festival, photo competition, and an exposition hall filled with all the new diving goodies, and saw 22,000 attendees pass through its halls over the four days. The film festival was a success, receiving 90 films from 16 countries. The winning still images



were on display for all to see as they walked through the show. A complete listing of the winners is available on the festival website: www.mosfest.ru

8 Gb

Sony debuts 8GB compact vault drive for higher storage capacity—

Adding to its removable hard disk drive line up for the digital photography market, Sony Electronics unveiled the Compact Vault™ 8GB drive. The new drive is compatible with Compact Flash type II slots and provides a significant increase in data storage over the current 5GB version.



An ideal companion to high-end digital cameras, the new drive's 8GB capacity holds up to 2,560 JPEG images (at 3MB each) or 320 minutes of MPEG4 video and has transfer speeds of up to 12MB per second. Price: US\$259 out in June. www.sony.com ■

Antibes festival officially open to digital format

For several years now, the Antibes festival has accepted the digital format in its colour and black and white photography contest. For its 33rd edition, the Antibes festival officially accepts the digital format in its slide contest.

Officially, digital images have been accepted in the slide contest for years. Some competitors

transferred their digital images to slides, whereas others directly presented a CD with digital files.

Of course, the jury had to judge the works on an equal footing and the necessary means were given to enable them to work in the best conditions. According to the jury's deliberations of the last edition, it seemed it was not necessary

to create a sub-category for the slide contest. Now, film and digital format will cohabit together with no difference.

Thus, in the festival, what primes (and is prized) is the vision of the photograph. So, film fans or digital addicted... just take your camera! www.underwater-festival.com

X-Ray Mag's own Yann Saint-Yves at Antibes 2005 is already in full digital outfit



DivePhotoGuide.com

Photoevent Calendar by Jason Heller

Welcome to another great new X RAY MAG feature—our Dive Photo & Video Event Calendar, provided by DivePhotoGuide.com.

April 1
Celebrate The Sea (Singapore)
► www.celebratethesea.com

April 3
Sandisk Red Sea Eilat (Israel)
► www.sandiskredsea.com

April 21
Il Mare Milano (Italy)
► <http://posta.acquariocivico.mi.it>

May 15
International wildlife & environmental film festival -Wildscreen (UK)
► www.wildscreen.org

May 20
Dive-In 2006 Photo Contest (US)
► www.coralreefalliance.org



photography news



PADI International Ltd has teamed-up with Canon UK to provide a valuable instructor training package of the latest Canon Powershot A540 digital camera and WP-DC2 underwater housing, rated to 40m depth



PADI International Ltd and Canon UK link up in training partnership

PADI has developed a new course—the PADI Digital Underwater Photographer Specialty course, which in Europe is to be launched by PADI International Ltd. in partnership with Canon, at the London International Dive Show, April 1-2, 2006.

PADI will not only be targeting divers with the new PADI Digital Underwater Photographer Specialty but

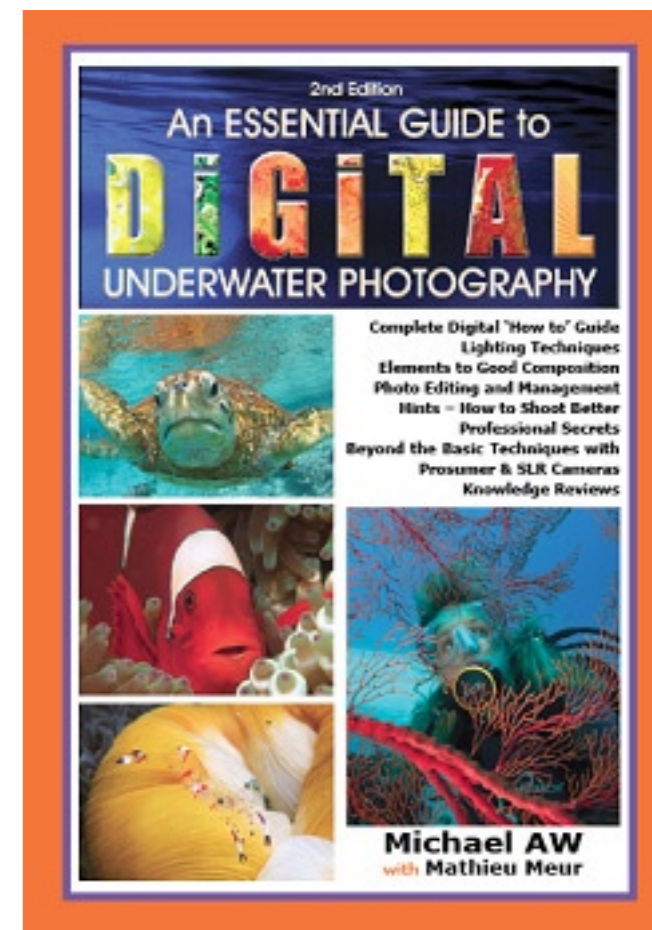
also snorkelers, and above all, non-divers, especially non-diving photo enthusiasts. Douglas Nash, PADI International Ltd commented, "We will succeed in reaching completely new target groups with our PADI Digital Underwater Photographer Specialty. And we are convinced that we will open up new segments."

There are two levels to this new specialty where success-

ful results can be achieved very quickly. Students are provided with an informative manual together with a white balance slate for use in water. Practical work on a camera in the water also guarantees an additional feeling of achievement.

When it comes to the PADI Digital Underwater Photographer Specialty, the PADI Dive Centre/Resort acts

as an all-in-one provider for its customers. This means that participants have access to both the training material and the camera including underwater housing at the dive center/resort where the course is being held. This in turn means that participants can complete the specialty without having to use their own equipment. www.padi.com



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A well-structured, comprehensive work, lavishly supported with explanatory diagrams and magnificent images the, *Essential Guide To Digital Underwater Photography* will undoubtedly prove to be as much an educational tool for novices as it will a reference work for those with greater proficiency in underwater image making.

— "David Strike" Editor NEKTON



Olympus E-330

The release of the Olympus E330 represents a major landmark in the development of digital cameras. The E-330 is the first camera to feature live previews directly on the LCD. This groundbreaking innovation enables framing of shots without the need to look through the viewfinder. To many, this development may sound insignificant, but this new feature will allow the photographer to compose pictures with their cameras at arms length, or allow you to use the camera in situations where it is difficult to frame using the viewfinder. Not being stuck directly behind your camera can change your shooting style dramatically. By holding your camera at arms length, you'll find you can get closer to marine life because your presence and your exhalation bubbles will not be as threatening to timid subjects. www.olympus.com

NEW STUFF



D200 and 5D housings

Nikon's D200, and Canon's 5D are two of the most popular cameras around at the moment, and it seems like new housings are being announced daily! www.nikon.com www.canon.com

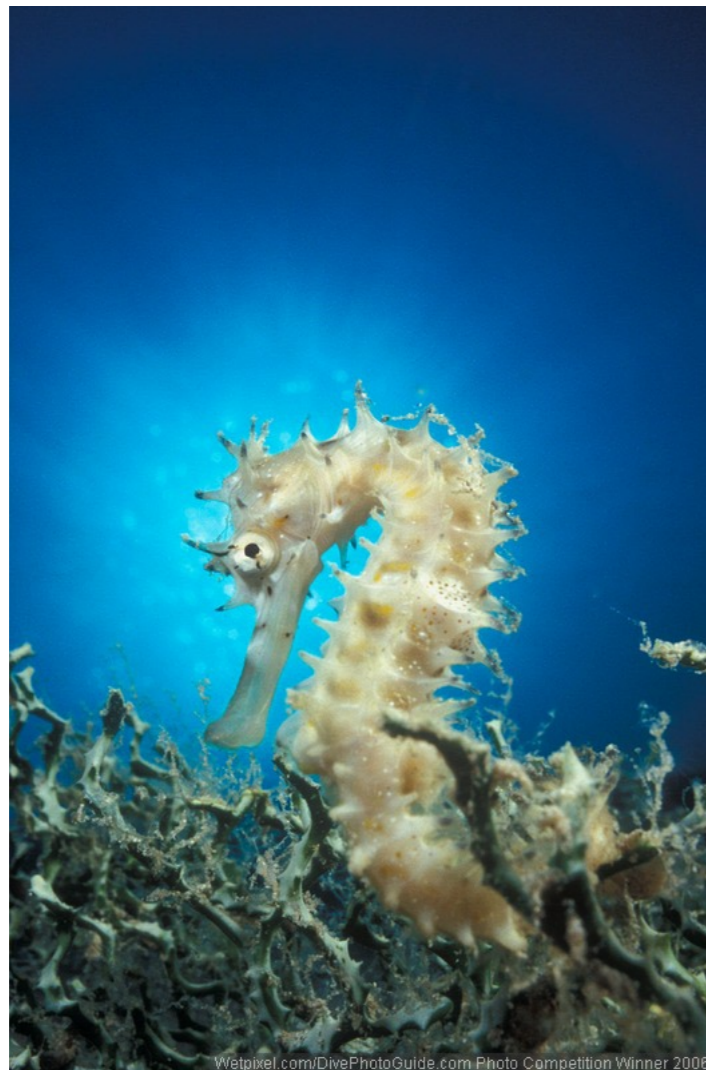
Subal, Aquatica and Ikelite have all recently announced new housings, and there are bound to be more on the way soon. Check out manufacturers websites for more information. www.subal.com www.aquatica.ca www.ikelite.com





Wetpixel.com/DivePhotoGuide.com Photo Competition Winner 2006

Honorable Mention
Wide-Angle Traditional
Barakuda
by Tibor Dombovari
Kimbe Bay
Papua New Guinea



Wetpixel.com/DivePhotoGuide.com Photo Competition Winner 2006

1st Place
Macro Traditional
Seahorse
by Noam Kortler
Eilat, Israel



Wetpixel.com/DivePhotoGuide.com Photo Competition Winner 2006

Best of Show

1st Place
Wide-Angle Traditional
Shark in Motion
by Christopher Guglielmo
West Caicos
Turks & Caicos Islands

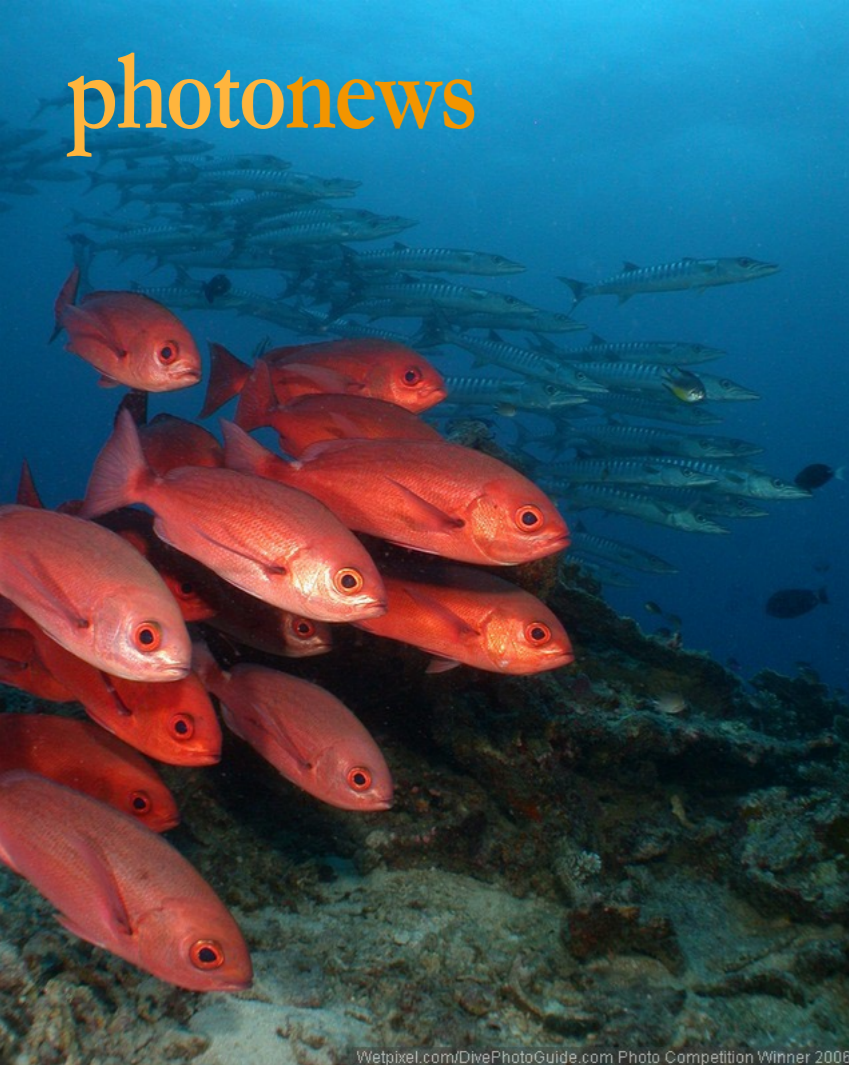
Our World Underwater film festival winners announced in Chicago

February 24-26, 2006—Photographers competed in six categories to win more than \$25,000 in prizes, including premium dive travel, underwater photography equipment, and more.

Judges Eric Cheng, Stephen Frink, Dr. Alexander Mustard and Berkley White selected the winning images from over 1,000 entries

from all over the world.

The winning photographers alone spanned the globe across 14 countries. X RAY MAG's very own Jason Heller from DivePhotoGuide.com announced the winners on stage at the 2006 Our World-Underwater festival in Chicago, Illinois. ■



Wetpixel.com/DivePhotoGuide.com Photo Competition Winner 2006

Honorable Mention
Compact Camera
Pinjalo and Barracuda
by Judy Johnson
Walindi Plantation
Kimbe Bay
Papua New Guinea



Wetpixel.com/DivePhotoGuide.com Photo Competition Winner 2006

Honorable Mention, Wide-Angle Unrestricted
Underwater Forest by Alex Dawson, Sweden



Honorable Mention
Wide-Angle
Unrestricted
Dig In
by Martin Heyn
Utila, Honduras

2nd Place
Wide-Angle
Unrestricted
Mangrove
by Cor Bosman
Solomon Islands





◀ 3rd Place
Wide-Angle Traditional
Reef Patrol at Sunset
by Jose Alejandro Alvarez
Grand Turk
Turks & Caicos Islands

▼ 2nd Place
Wide-Angle Traditional
Island Cruising
by Justin Gilligan
Cocos (Keeling) Islands



◀ 1st Place
Macro Unrestricted
Open Wide
by Cor Bosman
Solomon Islands

1st Place ▶
Wide-Angle
Unrestricted
Bat Fishes
by Tibor Dombovari
Kimbe Bay
Papua New Guinea





Wetpixel.com/DivePhotoGuide.com Photo Competition Winner 2006

CLOCKWISE FROM LEFT:
Honorable Mention
Macro Unrestricted
Juvenile Goby
by Karl Dietz
Turks & Caicos

3rd Place
Macro Traditional
Red Eyed
by Alessio Viora
Lembeh Strait Indonesia

2nd Place
Macro Traditional
True Frogfish
by Ann Worthy
Papua New Guinea

Honorable Mention
Wide-Angle Unrestricted
Tigers & Lemonshark
by Alex Dawson
Tiger Beach, Bahamas

Honorable Mention
Wide-Angle Unrestricted
Octopus
by Andy Lerner
Kona, Hawaii, USA



Wetpixel.com/DivePhotoGuide.com Photo Competition Winner 2006



Wetpixel.com/DivePhotoGuide.com Photo Competition Winner 2006

3rd Place ►
Wide-Angle Unrestricted
Below Him
by Alessio Viora
Papua New Guinea

▼ Honorable Mention
Macro Traditional
Twins
by Matthias Blättler
Lembeh Strait



Honorable Mention ►
Macro Unrestricted
Mr. Mom
by Keri Wilk
St. Vincent



Yam Magazine and www.idive.co.il
announce the second international underwater photography competition.
The competition is open to all photographers, amateurs and
professionals alike, shooting either film or digital images.

\$10,000 - First Prize
for the best 5 images

1,000 bottles of beer
for the best singular entry

\$3000 - First prize
for the best color print

\$3000 - First prize
for the best 5 slides

For more information
www.sandiskredsea.com

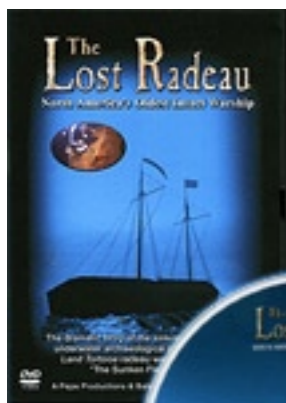




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Edited by Peter Symes
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NEW DVD! The Lost Radeau: North America's Oldest Intact Warship

In Lake George, New York,

a unique French and Indian War (1755-1763) shipwreck was discovered at 107ft (33m) by a group of underwater explorers, the Bateaux Below, using state-of-the-art Klein side scan sonar in 1990. This 57 minute long documentary covers the story of the shipwreck and its discovery. Sunk deliberately in 1758 by British forces to protect from marauding French and Native American allies, the Land Tortoise radeau left behind an intriguing history and various obstacles for the explorers to conquer in her archaeological recovery. The DVD included never before seen underwater footage of the Land Tortoise radeau and special animation by J.R. Whiesel who wrote the documentary with Joseph W. Zarzynski. To order, visit: www.thelostradeau.com ■

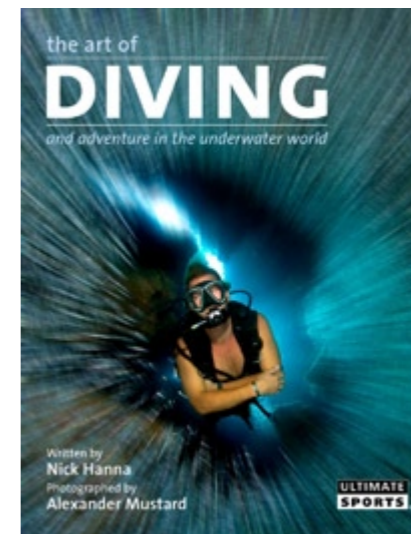


Click to see video clip of trailer ▶

The Art of Diving & Adventure in the Underwater World

Award winning photographer Alexander Mustard joins leading author Nick Hanna to produce this stunning book which embraces the joy of scuba diving and the spiritual dimensions of being underwater and communing with the sea. With over 20 million people qualified to explore the underwater world, Scuba diving is one of the most

popular adventure sports activities on Earth. Physically demanding and spiritually addicting, diving enralls us and has matured over time to become something more meaningful than just a depth defying sport—it is an art form requiring agility and grace: keeping your kit simple, perfecting buoyancy control, the art of fish watching and close encounters with the creatures of the sea. www.theartofdiving.com ■



New Guide by Sport Diver: World's Best Diving & Resorts

The 2006 edition provides a year-round resource for sport divers and professionals seeking new dive adventures. All the hot spots are covered such as Cayman Island, Mexico, Hawaii, Fiji and Curaçao. Divided in to geographic regions, the guide offers up-to-date and useful diving and resort information to help divers make the right choices for their dive travel needs. Available on newsstands and in bookstores. www.sportdiver.com ■



GAME

Finding Nemo, the Game!

Well, they've done it again... Disney's Pixar Animation Studios' smash hit, *Finding Nemo*, now comes in a Nintendo DS touch screen game version in

Escape to Big Blue. The Tank Gang—Nemo, Marlin, Dory and their briny buddies—have had enough of aquarium life and are finally ready to make break for the deep blue sea. Go on an adventure through more than 20 mini-games using the Nintendo DS microphone and wireless capabilities for multiplayer mode. For more information on *Finding Nemo: Escape to Big Blue*, or the rest of THQ's upcoming video game titles, check out their website: www.thq.com ■



"It is not a coffee table book—instead, it is a large format book with a strong theme that explores why we love scuba diving and the diverse adventures we have underwater."

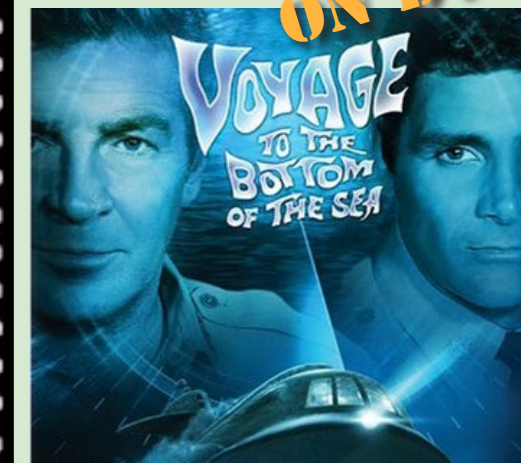
— Dr Alex Mustard

Undersea Belize

There's nothing like local knowledge to get you the scoop on the best diving in an area. This is no less true for Belize Barrier Reef where local underwater diver and underwater photographer, Chris Taylor, makes his living. While many an international film-maker has tackled this treasure chest of underwater wonders, this DVD highlights the

remarkable footage compiled by local boy, Taylor, over six years during which he worked on liveboards on the blue Belizean waters. Sharks, rays, turtles and a plethora of fish are the stars of Taylor's scriptless documentary, which sports an eclectic soundtrack. Although originally made for Taylor's baby sister, the video quickly became popular with many ocean lovers curious about Belizean reefs. A sequel, *Our Backyard*, will be released later this year as well as an educational DVD for local schools. The price for the current DVD is US\$40.00. *Undersea Belize* is available at gift shops in Belize City and San Pedro or you can email Taylor at: belizediver@hotmail.com ■

Movies NOW ON DVD



Voyage to the Bottom of the Sea on DVD

Admiral Harriman Nelson (Richard Basehart) and Capt Lee B. Crane (David Hedison) take us to the depths of the sea in and amazing submarine—the mightiest Cold War weapon the U.S. has. Directed by Jus Addiss, L. Benedek. Black & White, Closed-captioned, Color, Dubbed, Full Screen, Subtitled. 20th Century Fox. Released Feb. 2006. 795 minutes. www.amazon.com ■



An Inconvenient Truth

A timely rallying cry to protect the earth we all share, former U.S. VP, Al Gore, and director Davis Guggenheim tell the tale of the planet's warming and climate change in this compelling film. Gore gives us a glimpse into his lifelong commitment to reversing the effects of global warming. Guggenheim says Gore lays out the facts for us to ponder, while using wit, charm and an engaging style to relay his haunting message. www.amazon.com ■

Hawaii

Escape to Maui, Lanai & Molokai



Text and photos by Barb Roy

Like most divers who live in the northern parts of the world, I enjoy the occasional getaway to warmer climates, especially during November. To satisfy my tropical needs, I selected Maui, Molokai and Lanai of the Hawaiian Island Archipelago for my escape. Within six hours of leaving the Seattle area, Continental Airlines had me on the garden isle of Maui. Not only is Maui Hawaii's second largest island, it is home to Mount Haleakala, the world's largest dormant volcano with an elevation of 10,020 feet (3054m). I could hardly wait to explore the underwater sites and indulge in some topside activities like kayaking, hiking and Luau dining!

Diver explores Cathedral's underwater passes. ABOVE: Maui luau dancers





INSET; Luau dancers entertain guests
LEFT: Lanai diving
RIGHT: View from Maui Hyatt Regency resort

All three islands are part of the Hawaiian Archipelago in the Pacific Ocean, comprised of eight major islands, stretching slightly over 2000 miles (3219km) in length. The group is part of a submerged chain of volcanic mountains located 2,550 miles (4014km) southwest of Los Angeles and 23,900 miles (38,463km) southeast of Tokyo. Hawaii lies 20 degrees above the equator, the same latitude as Mexico City and Calcutta India.

Polynesian settlement of Hawaii occurred over 1000 years ago after crossing 4000 miles (6437km) of open ocean from the South Pacific. Captain Cook arrived in 1778 and was later killed on a return journey. In the 1820's, Hawaii became an important whaling station for European fisherman, followed by a flood of missionaries. After becoming a USA territory in 1900, Hawaii was adopted in as the 50th state in 1959.

Maui Adventure

After securing my rental car, I headed to Lahaina, on the western side of the island, to the comfortable confines of the Hyatt Regency resort. A fragrant breeze with a hint of tropical flowers caressed my face as it swirled in from an open lanai (balcony). Although I scanned the turquoise ocean below for passing whales, it was too early in the season. Within a few weeks though, over 3000 whales will have migrated from the north to spend their winter around Maui.

Cathedral

Early the next morning I walked with my scuba gear along the ocean-side path to meet the crew of Trilogy Excursions for a day of diving around Lanai. After paperwork at their beachside hut, I boarded a huge catamaran, one of seven boats operated by Trilogy, with several other guests. Within minutes we were underway to a popular site called

the "Cathedral". Our group of eight had two divemaster guides; Mike Jones and Shigeki Ichinose, who not only shared their knowledge of marine biology, they enlightened us with local cultural stories as they prepared the gear.

Before long Mike had four of us in the water, leading us down to the Cathedral entrance at 60 feet (18m). The dark abyss from within seemed to beckon further investigation. We slowly entered as a group. Ancient lava flows created these massive cave-like structures centuries ago as several lava tubes entered from different directions. Now, only a hollowed out opening remained with a ceiling riddled with holes.

I paused on the warm sandy floor, now at 80 feet (24m), to take it all in. The area resembled a spacious church with dancing beams of light pouring in from above. My companions were equally in awe as they swam around me, intertwin- ing with multitudes of shimmering fish.

Mike pointed out the lobster and crabs hiding beneath ledges and odd looking sea cucumbers in the sand. Shigeki brought his group in as we departed, following Mike around to the backside of the cave. While pausing to photograph a colorful coral head, everyone disappeared within a small passageway, leading back into the cathedral. But Mike had returned to retrieve me. Once again I entered the vast cavernous space inside the cathedral, before ascending.

Fish Rock

After a tasty BBQ lunch on the boat, we were back in the water at another of Lanai's wild sites called "Fish Rock". At the surface the water churned and swirled, but beneath its turmoil surface life was plentiful. As with the previous dive, visibility was at least 100 feet (30m) with a water temperature of 79 degrees. The terrain was mostly made up of fin- gering lava rock reefs surrounding a pin-

nacle that pierced the surface. Rolling surface waves cascading over a sheer side was awesome to watch from 60 feet (18m) down. During Mike's tour we came across pairs of butterfly fish, colorful sea stars, red pencil urchins and more odd- looking lava structures. Overall, Lanai's underwater sites were very healthy and topside proved to be a great place to spend a day exploring, via a passenger ferry from Maui.

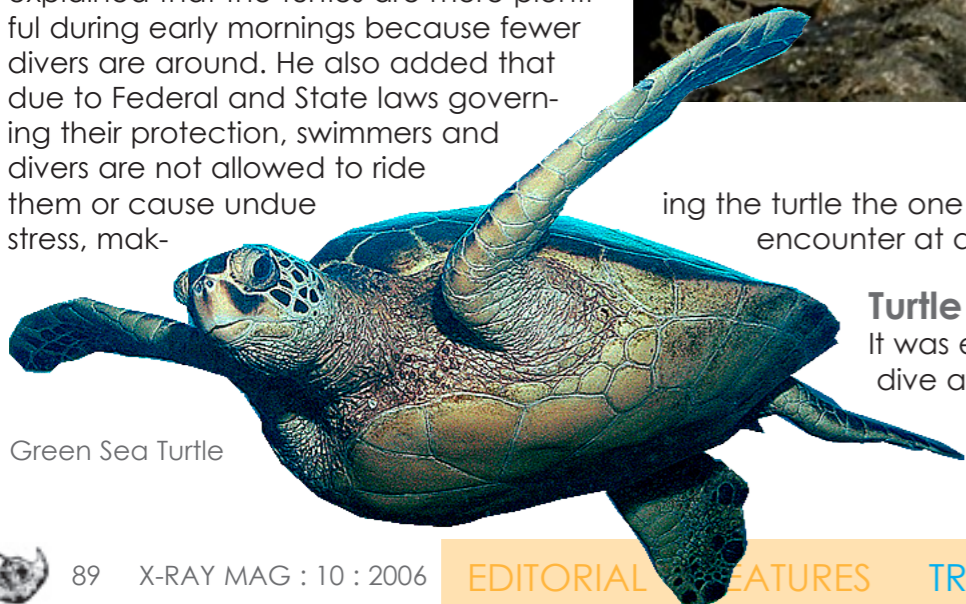
Black Rock

The next day I joined dive instructor Joshua Bischoff from Five Star Scuba for a shore dive at "Black Rock" in front of the Sheraton Maui Hotel and Resort. Visiting divers can explore this site with a buddy (on their own) or hire a guide from Five Star Scuba. Five Star's beachside facility also offers complete scuba and snorkel- ing rental sets.

Josh and I easily entered through the surf (mornings are best) and headed out

underwater around the black cliff and outcropping of boulders. The ocean floor was blanketed in creamy white sand. At 30 feet (9m) there weren't very many reef fish and the coral was sparse. Just as I was wondering if putting a wide angle lens on my camera was a mistake, I turned to find a green sea turtle hovering above me! It was a young female Honu (Hawaiian population), letting my exhalation bubbles roll over her ventral (belly) area. I had read about the populations' fight for survival and their slow come-back over the years, but she looked very healthy. Her body was streamlined and her flippers long and powerful. I could see the green color of her body fat, caused from the algae they eat and that she was not able to retract her head like her terrestrial counterparts. For a while she swam circles around Josh and I until we noticed another green sea turtle sleeping under a ledge. A larger male, maybe 350 pounds (159kg), lay still. These huge reptiles can actually stay submerged for more than two hours at a time. Unfortunately, he seemed to be afflicted with Fibropapilloma, a potentially deadly disease causing the growth of large bulbous tumors, mainly on soft tissues. Although it looked awful, the turtle awakened and headed to the surface for a breath of air, followed by the female. Josh and I kept our distance and returned to the beach.

As we cleaned our gear Josh explained that the turtles are more plentiful during early mornings because fewer divers are around. He also added that due to Federal and State laws governing their protection, swimmers and divers are not allowed to ride them or cause undue stress, mak-



Green Sea Turtle

ing the turtle the one in charge of the encounter at all times.

Turtle Love

It was evident after our dive at Black Rock that the turtles are the highlight of this location

and very curious of underwater visitors. As long as divers and snorkelers keep a respectful distance from the Honu, co-enjoyment of the site is believed possible.

Intrigued with these fascinating critters, I later searched the Internet and found on the 'Turtle Trax' website some information about recent studies where scientists feel the Fibropapilloma, although debili-

tating and a serious concern, will not drive the honu to extinction. I also discovered Hawaii was not the only location dealing with the Fibropapilloma problem: Florida and parts of the Caribbean face similar maladies.

The following day I joined up with a group from Maui Eco-Adventures, for a hike/kayak combo adventure. Their van

picked me up and we headed for the Nakalele coastline, Maui's northernmost point and the youngest lava flow on the western side. After receiving a narrative talk on the areas history and a few local legends, we commenced on a 3-mile hike down an easy path to just above the water and along the coast in a circular direction. The black lava didn't look



Solidified lava flows form a moonscape coastline on Maui



CLOCKWISE FROM LEFT: Fire dancer at luau; Tropical flowers in bloom; Walk on the lava coastline; Kayaking with Maui Eco-Adventures

barren, harsh or desolate, as everyone thought it would. Small patches of green foliage and colorful flowers added a lively touch to the landscape. Our journey ended when we arrived at a cliffs edge where crashing waves caused two different blowholes to erupt with geysers of seawater. After finishing a tasty lunch, we were off to meet up with Mick McAffe and Paul Anka from Kapalua Dive Company for the 'kayak' portion of the tour along the Kapalua coastline.

The kayaks were the sit-on-top style, requiring little to no paddling knowledge. Mick gave a short safety talk then led us down to the beach where we launched the boats. Continuing with his speech, Mick explained that we may encounter turtles or dolphins, but not to touch or

ride them.

The water was calm and the sun still high as we headed down the coast for the next protected cove. Paul explained that the turtle population was slowly making a comeback due to the protection status. With sexual maturity occurring between 10-50 years (averaging around 25 years) they need every bit of help they can get.

A sudden splash between our boats interrupted our conversation followed by the bobbing head of a turtle. Another larger head popped up. I almost jumped in, but noticed the group had already turned into the cove ahead. Paul assured

me we would see more in the cove.

Sure enough, there were several turtles at the surface in the protective cove. Part of the group opted to snorkel in the cove, hoping a honu would come check them out, while others decided to climb a small cliff for some daring dives into the water. Overall the day was enjoyable and gave me a chance to see Maui above the water.

After each day on Maui, I tried to enjoy

a feast of authentic Hawaiian food and dance entertainment. Two of my favorites were the Old Lahaina Luau and the Hyatt's dinner show, Drums of the Pacific. Both were buffet-style meals featuring an assortment of South Pacific cuisine, complimented with traditional hula dance and stories.

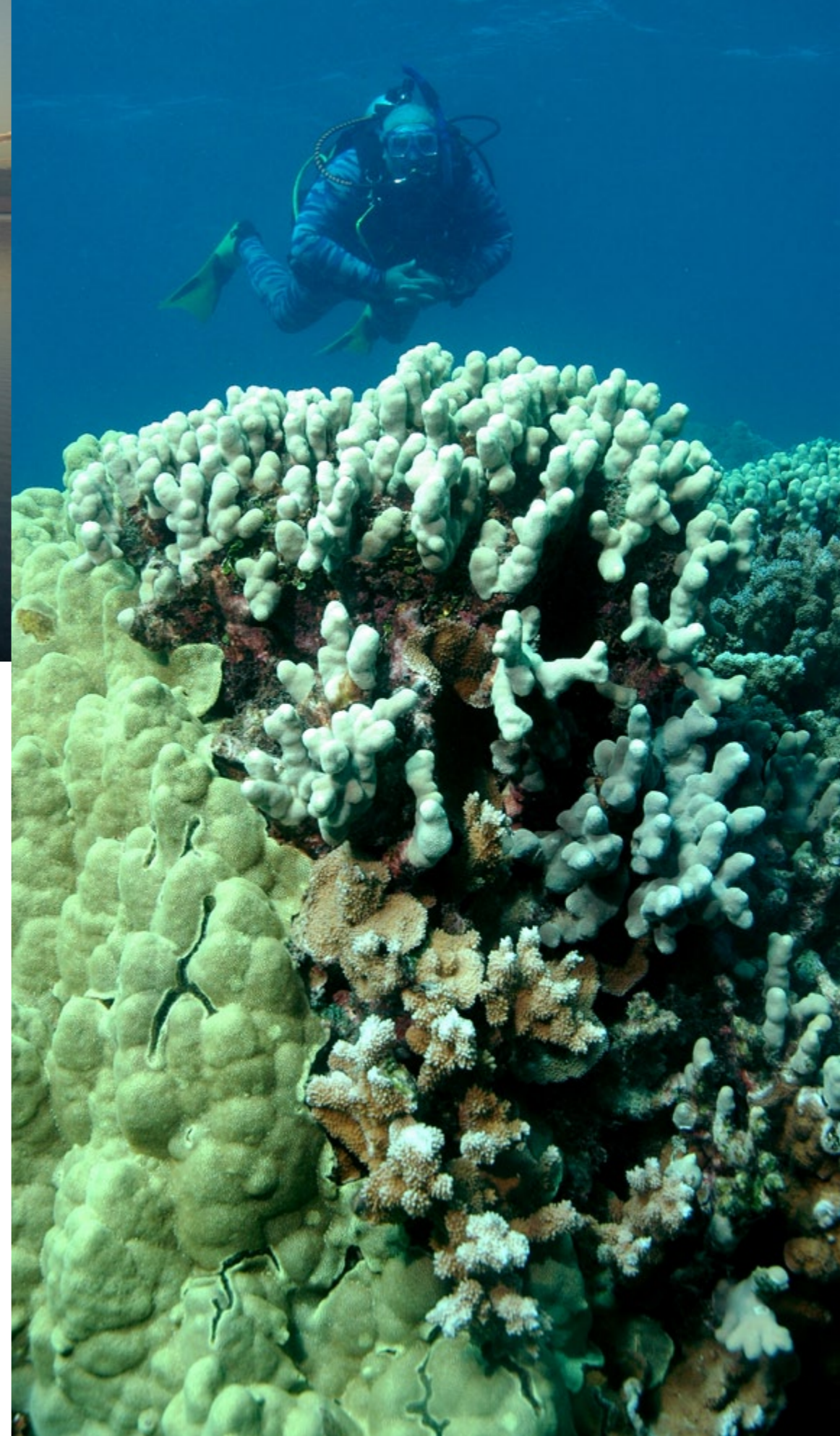
Molokai

Molokai was nothing like I imagined it would be, based on the island's adverse historical past. Instead it was a lush green tropical island rich in pineapple fields. One end of the island was almost barren of trees and the other resembles a rain forest covering a mountainous terrain. Kaunakakai is the main town on the island. After checking into Hotel Molokai, I returned to town and found a deli with espresso and Internet available.

Diving was arranged through Tim Forsberg, owner of Molokai Dive 'N Fish, who set up two boat dives and a kayaking excursion for me. Early the following morning I met up with one of Tim's dive-masters, Mike Kelly and we boarded their 27-foot (8m) boat and headed east on the south side of the island towards the mountainous area. Mike explained that the company supplies all dive gear to visiting divers and is expecting an additional 30-foot (9m) boat to provide visiting divers other locations to choose from.

It was another beautiful day in paradise as we motored by racing dolphins and scenic countryside vistas. In the distance mantas and turtles surfaced for air and play. The first site was Barnacle Bill's, named after a huge resident turtle covered in barnacles.

Visibility was great as Mike and I entered the clear water and followed the textured bottom as it gently rolled deeper beyond 100 feet (30m). We leveled off at 80 feet (24m) and glided with a gentle current over the coral hillside. Multitudes of tiny colorful fish bounced from one coral head to another as if on a mission to inspect every inch of coral for tasty morsels. Pairs of angel and butterfly fish made great close-up subjects



for my camera while a variety of coral formations blended into splendid wide-angle shots. The highlight of the dive was when a huge spotted eagle ray gracefully lifted off a sandy section in the reef and swam between Mike and I. For a slight moment it paused for a look before dashing away.

We went the opposite direction for our second dive and came across a wide sandy gap between thick surrounding coral beds. The depth was much shallower, around 30 feet (9m). Several large turtles bobbed at the surface while others could be seen sleeping under outcropping ledges. As we rested on the sand, a young male turtle came over to check us out. Similar to the encounter at Black Rock, this turtle was intrigued with our bubbles and opted to follow us as we toured the area. On several occasions the turtle swam between Mike and I and often hovered above us, watching me photograph other turtles and fish. Unfortunately the need for air summoned a return to the surface and ended another excellent day of diving.

On the way back to town Mike explained

there were multiple dive sites to choose from around Molokai, but they had five favorites in this area alone. They can currently cater to most groups, but with the arrival of their new 33-foot (10m) boat, they would be able to accommodate another group of ten.

I spent the rest of my visit on Molokai doing some kayaking and hiking before returning to Maui for my departing flight. Tim arranged the kayak tour for the following morning. We launched at sunrise from Kaunakakai Harbor. I was joined by a returning married couple and a guide with two of his fishing friends. We kayaked along the outer perimeter of Molokai's mini barrier reef. Below us in only a few feet of water were an assortment of fish, small skates and crabs. Floating coconuts were everywhere. I grabbed one up and tossed it into my boat, remembering Tom Hanks in *Castaway*. Instead of "Wilson", I dubbed mine "Mr Coconut". Half way to the destined mangrove forest, we paused for a snorkel break.

Our guide informed us that mangrove trees are not common in Hawaii; they were purposely planted to prevent shore ero-

sion, but quickly became overgrown. As we continued on, a massive tangle of trees and roots lay before us with a shallow narrow path just wide enough for our boats. We separated the paddle and used one end only. Mr. Coconut and I brought up the rear. At first the route was easy, but the forest seemed to swallow us up the deeper we went. I found using my hands to pull myself along was easier in the tighter areas. Crackling sounds and odd noises resonated from the thick tangle surrounding us, similar to a rainforest. Rays of light drizzled down like droplets of rain bathing is in a warm humid swathe. After about two miles we exited into a clearing, still within the mangroves. Unfortunately, Mr. Coconut had been snagged by a dangling root, because he was nowhere to be found.

The space opened to a favorite fishing hole for many old local Hawaiians who, according to our guide, have been coming here and to other secret deep water spots for prime fishing.

A mild current assisted our return trip, taking half the time to complete. Mr. Coconut

ABOVE; Sunrise over Maui. INSET LEFT: Kayaking in Molokai. INSET RIGHT: Sea turtles at the surface

Diver hovers over a cluster of hard corals on Molokai reef



Lanai dive site

Molokai Resort Beach

had found his way safely out. After a tasty lunch we headed back to the harbor. I caught a flight back to Maui later that day.

Aquarium

Whenever possible, I try to include a visit to any local aquariums or marine science centers during my excursions. Before flying out, I stopped by the Maui Ocean Center at the Ma'alaea Harbor Village. The aquarium opened in 1998 and offers over 60 interesting exhibits and a Shark Dive in their 750,000 gallon (2839m³) Open Ocean Exhibit. Certified divers 15 and up are allowed to swim with over 20 sharks, stingrays and numerous tropical fish found around Hawaii. There is a charge for the dive and reservations are required to participate.

Although I arrived too late for the dive, a group of divers were having the time of their life as I walked through the exhibits clear tunnel. Needless to say,

when talking to the divers as they exited the tank, they were stoked and couldn't wait to do it again!

The green sea turtle display was my last stop, where I discovered a tank full of young healthy honu. These turtles were part of a hatch-and-release program, to be set free over time to aid in population reestablishment efforts.

After Thoughts

It was not hard to conclude that one week was just not enough time to do everything. Maybe during my next trip I will be able to visit Molokini Crater and other popular dive sites like the Pyramids. A visit to the Haleakala National Park will also be on my agenda, for a drive up to the 1.5 million year old volcano that last erupted in 1790.

As for my in-water attire, a one-piece 5/4/3 mm suit with a thin skull-cap worked best. The water temperature was usually around 78°F (26°C) at depth and 80°F (27°C) near the surface. Topside weather is fairly consistent with summer (May to October) temperatures around 85°F (29°C) and winter (November-April) around 78°F (25°C).

For more information about diving, travel and lodging in Maui, Lanai and Molokai, please see the contact list of links on the next page. A Hui Hou! (Until we meet again) ■



Divers enjoy a dive inside the aquarium at Maui Ocean Center

Diver explores an underwater cave off the coast of Hawaii

fact file

Hawaii, USA



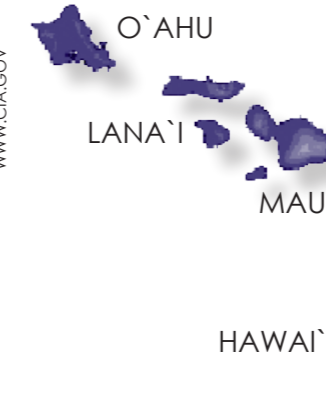
History The American Revolution in 1776 saw the break away of the 13 new world colonies from Great Britain. Following the Treaty of Paris in 1783, the rebel colonies were recognized as the new nation of the United States of America. An era of expansion occurred during the 19th and 20th centuries when 37 new states were added to the country, which grew westward across the North American continent to the Pacific Ocean. A number of overseas possessions were also acquired including the Hawaiian Islands, which achieved statehood in 1959. Two of the most traumatic experiences in U.S. history were the Civil War (1861-65) and the Great Depression of the 1930s. Victories won in World Wars I and II and the end of the Cold War in 1991 gave the US the momentum to become and remain the world's most powerful nation state. The economy is marked by steady growth, inflation and low unemployment. Rapid advances in technology continue to spur the U.S. economy; Government: Constitution-based federal republic with a strong democratic tradition; Dependents: American Samoa, Baker Island, Guam, Howland Island, Jarvis Island, Johnston Atoll, Kingman Reef, Midway Islands, Navassa Island, Northern Mariana Islands, Palmyra Atoll, Puerto Rico, Virgin Islands, Wake Island; Capital: Washington, DC

Geography Located in North America, bordering both the North Atlantic Ocean and the North Pacific Ocean, between Canada and Mexico, the U.S. is the world's third-largest country by size, after Russia and Canada, and by population, after China and India. Mt. McKinley is the highest point in North America, and Death Valley is the

lowest point. Coastline: 19,924 km; Terrain: vast central plain, mountains in the West, hills and low mountains in the East; rugged mountains and broad river valleys in Alaska; rugged, volcanic topography in Hawaii; Natural resources: coal, copper, lead, molybdenum, phosphates, uranium, bauxite, gold, iron, mercury, nickel, potash, silver, tungsten, zinc, petroleum, natural gas, timber; Natural hazards: tsunamis, volcanoes and earthquake activity around the Pacific Basin; hurricanes along the Gulf of Mexico and Atlantic coasts; tornadoes in the southeast and midwest; California mud slides; forest fires in the West; flooding; permafrost in northern Alaska stunts development; Environmental issues: The U.S. is the largest single contributor of carbon dioxide emitted into the atmosphere from the burning of fossil fuels; acid rain in the Northeast has resulted from air pollution; agricultural runoff of pesticides and fertilizers contributes to water pollution; desertification; dry areas in the West with limited natural fresh water resources require careful management

Climate Most of the U.S. is temperate, but there are tropical areas in Hawaii and Florida, arctic regions in Alaska, semi-arid parts in the great plains west of the Mississippi River and arid regions in the Great Basin of the southwest. In the north-west, low winter temperatures are relieved occasionally in January and February by warm chinook winds from the eastern slopes of the Rocky Mountains

BELOW: Map of the United States of America. RIGHT: Hawaiian Islands



Population 295,734,134; Ethnicity: White 81.7%, black 12.9%, Asian 4.2%, Amerindian and Alaska native 1%, native Hawaiian and other Pacific islander 0.2% (2003 est.)

Language English 82.1%, Spanish 10.7%, other Indo-European languages 3.8%, Asian and Pacific island 2.7%, other languages 0.7% (2000 census)

Economy With a per capita GDP of US\$41,800.00, the U.S. economy is the largest and most technologically powerful in the world. In this market-oriented economy, private individuals and business firms make most of the decisions. For the most part, federal and state governments buy needed goods and services in the private marketplace. American business firms have significantly greater flexibility than their Japanese and European counterparts in decisions to expand capital plant, develop new products and lay off surplus workers. But they face higher barriers upon entry into foreign markets than foreign firms face upon entry into U.S. markets. The U.S. is a leader in technological advances, especially in the areas of IT/computers, medical, military and aerospace equipment. A "two-tier labor market" with less technologically skilled workers at the bottom who receive less and less pay raises, health insurance coverage and benefits, has resulted from the technological boom. Since 1975, household gains have gone only to the top 20%. The 2001

shifts in U.S. national resources to the military were instigated with the Iraqi war (March-April 2003) and the subsequent occupation. Long-term issues: insufficient investment in economic infrastructure, huge trade and budget deficits, rapidly rising medical and pension costs of an aging population and stagnation of income of families near the poverty line; Agriculture: wheat, corn, other grains, fruits, vegetables, cotton, beef, pork, poultry, dairy products, forest products, fish. Industry: The U.S. is a highly diversified, technologically advanced leading industrial world power with industrial development in petroleum, steel, motor vehicles, aerospace, telecommunications, chemicals, electronics, food processing, consumer goods, lumber, mining

Currency US Dollar; Exchange rate: 1 USD = .83 EUR, .57 GBP, 1.62 SGD, 1.34 AUD

Deco Chambers in Hawaii
Hyperbaric Decompression Chamber 808-523-9155; Honolulu 808-587-3425; Pearl Harbor 808-422-5955; Maui 808-244-9056
DAN Emergency number 919 684 8111 or 919 684 4DAN (4326) collect consultation
www.diversalertnetwork.org

Web Sites
Hawaii Eco-Tourism
www.hawaiiecotourism.org

SOURCE: www.cia.gov



HAWAII DIVE TRAVEL INFORMATION:

- ACCOMMODATIONS**
- Hyatt Regency Maui (Lahaina) 808-661-1234 www.maui.hyatt.com
 - The Old Wailuku Inn At Ulupono (Wailuku, Maui) 800-305-4899 www.mauinn.com
 - Hotel Molokai (Kamehameha) 808-553-5347 www.hotelmolokai.com
 - Outrigger Royal Kahana Resort 800-688-7444 or 808-669-5911 www.outrigger.com or royal-kahana.com

- DIVE OPERATORS**
- Kapalua Dive Company (Lahaina) 808-385-8065 www.kapaluaadive.com
 - Molokai Fish & Dive (Kaunakakai) 808-553-5926 (also offers scuba diving and cultural hikes) www.molokaifishanddive.com
 - 5 Star Scuba has 6 resort locations on Maui 808-667-5551 www.5starscuba.com
 - Trilogy Excursions 888-225-MAUI www.sailtrilogy.com

- ADVENTURES & ACTIVITIES**
- Maui Eco-Adventures (Lahaina) 877-661-7720 www.ecomaui.com
 - Maui Ocean Center (Wailuku) 808-270-7000 Shark Dive Maui 808-270-7075 www.mauioceancenter.com
 - Drums of the Pacific Luau (Hyatt Resort in Maui) 808-667-4727
 - Old Lahaina Luau 808-667-1998 www.oldlahainaluau.com
 - Molokai Outdoors 877-553-4477 (Kayaking, hiking, biking, cultural tours) www.molokai-outdoors.com

- VISITOR & TOURISM BUREAUS**
- Maui 800-525-6284 www.visitmaui.com
 - Molokai Visitors Association 800-800-6367 www.visitmolokai.com
 - Lanai 808-565-3240 www.visitlanai.net

- BOOKS**
- A Pocket Guide to Hawaii's Underwater Paradise*, by John P. Hoover
 - Lonely Planet's Guide to Hawaii or Maui* www.lonelyplanet.com

- TURTLE CONSERVATION**
- Turtle Trax www.turtles.org
 - Earth Trust www.earthtrust.org

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Text by Gunild Pak Symes
Images by the Delta Club

The Child's Eye

CLOCKWISE FROM LEFT:
Thinker by Dmitriy Gritskiy, 14, using Zenit camera, Flektogon 20 lens and home-made housing; *Portrait* by Mariya Svidlo, 13, won First Prize at the Tahov Festival in 2005. Used Nikon D70 camera with Seacam housing; Delta club members at the 2005 World Festival of Underwater Pictures in Antibes, France

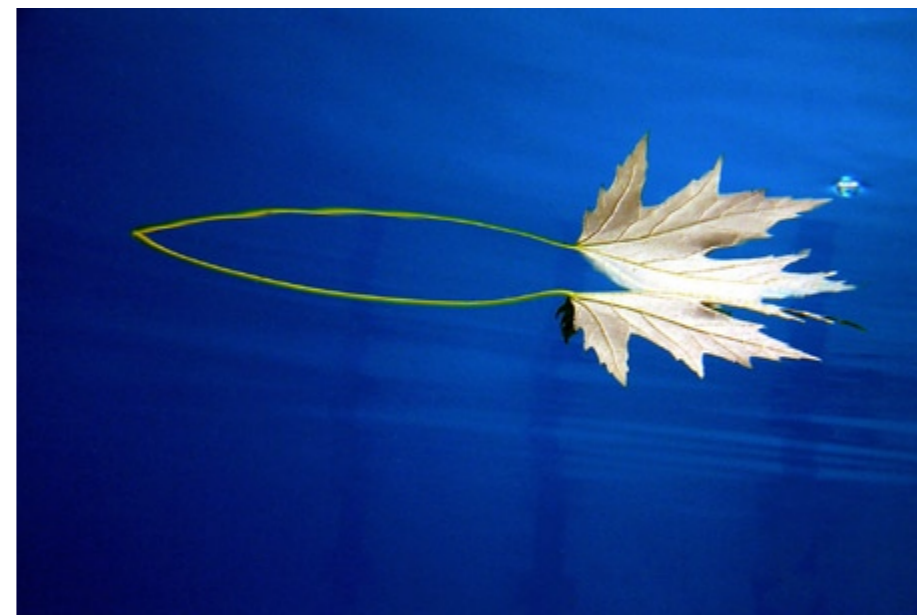


Underwater photography by children of the Ukraine Delta Club

How do you get a bunch of children and teenagers interested in art and science? Put them in a pool with underwater camera equipment and let them go wild! That is exactly what a group of progressive-thinking and innovative dive instructors did in the vibrant and dynamic land of the Ukraine. They formed the Delta Club for children ages 5 and up

for just this purpose. Members were given the use of cameras, lenses, underwater housing and lighting and the freedom to test their imaginations and creative powers. The results you can see here are outstanding works of new and unique underwater images of what can only be fascinations sprouting out of young underwater photographers' minds.





CLOCKWISE FROM LEFT:
Small Diver by Dasha Guseva, 16, won First Prize in the 2004 World Festival of Underwater Pictures category of Young Underwater Photographers. Used a Zenit camera, Flektogon lens and homemade housing;
Portrait by Evgeny Klaptsov, 14, using a Nikon D70 camera and Seacam housing;
Couple by Anton Bezruk, 15, using a Zenit camera, Flektogon 20 lens and homemade housing;
Lonely Wanderer by Nataliya Vasilchenko, 13, using an Olympus camera

Delta Club



The Delta Club logo was designed by renowned dive artist Pascal LeCocq





Delta Club

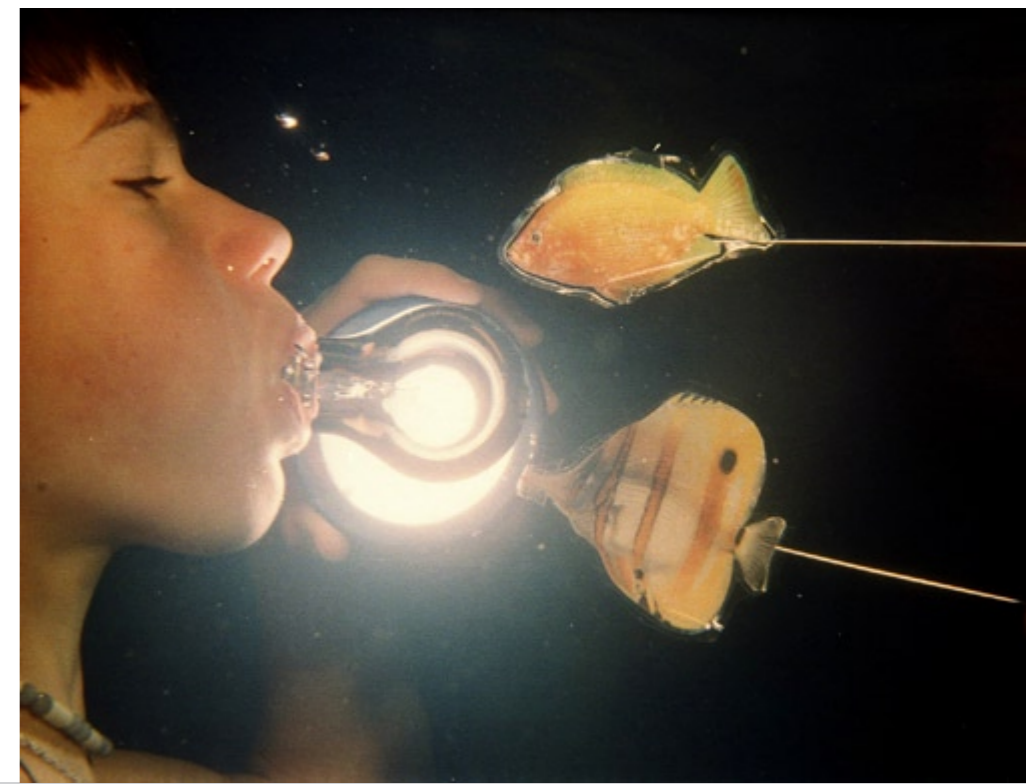
CLOCKWISE FROM LEFT:

Teacher by Nikita Azarenko, 13, using a Zenit camera, Flektogon 20 lens and homemade housing; *Fly* by Nikita Azarenko, 14, using a Zenit camera, Flektogon 20 lens and homemade housing; *Sea Mouse* by Dima Kondrashov, 14, using a Zenit camera, Flektogon lens and homemade housing; *Sea Star* by Viktoriya Chubakha, 12, using a Nikon D70 camera and Seacam housing





CLOCKWISE FROM LEFT: *Moonlit Night* by Olga Grietskaya, 8, using a Zenit camera, Flektogon 20 lens and homemade housing; *Atlantis* by Olga Kharlamova, 15, using a Zenit camera, Flektogon 20 lens and homemade housing; *Spiral* by Vladislav Peredera, 15, using a Zenit camera, Gelios 44 and 18 lenses and homemade housing; Delta Club members at work in the pool; *Untitled* by Olga Kharlamova, 14, using a Zenit camera, Flektogon 35 lens and homemade housing



CLOCKWISE FROM LEFT: *Lemon* and *Guest* by Georgiy Strelkov, 13, using a Zenit camera, Flektogon 35 lens and homemade housing; *Clown* by Mariya Svidlo, 13, using a Nikon D70 camera and Seacam housing; *Untitled* by Pavel Boiko, 15, using a Zenit camera, Flektogon 35 lens and homemade housing; *Turtles* by Nikita Azarenko, 13, using a Zenit camera, Gelios 44 lens and homemade housing

Ivan Muratov, 10, was the winner of the 2005 World Festival of Underwater Pictures First Prize in the category of Young Underwater Photographers for his image (right) entitled, *Small Boat*. He used a Nikon D70 camera and Seacam housing to create the image

And the winner is...



The Delta Children's Club of Underwater Photography and Diving of the Kharkov (Ukraine) regional Palace of Children and Youth Activities was founded more than 25 years ago. The club specializes in sport underwater photography, underwater photo-hunting with a camera, fine art underwater photography and training of underwater swimmers by the CMAS system. The total number of members is more than 80 children ages 5½ to 18 years old. Since 1995, many members of the Delta Club have won various championships in the Ukraine in the category of sporting underwater photography by youths and juniors. The Delta Club members are also participants and winners of the largest international festivals and competitions of underwater images in Tahov, Czech Republic; Antibes, France; Donetsk, Ukraine; and Istanbul, Turkey.

Guidance

Vladimir Kushnir is the director of the Delta Club. He is a winner and gold medalist of many underwater photography competitions, a participant in world championships, a CMAS** instructor, a photo-instructor at the CMAS II level and a CMAS trainer-instructor in children's diving. Kushnir created the training program for young underwater photographers and divers. He is





Members of the Delta Club

Delta Club

"The most exciting part of the process of underwater photography is to obtain the printed result. Ideas come during viewing TV programs, magazines... Sometimes the ideas are even given birth in sleep. With *Small Diver*. I

came to me in the pool. In the autumn, I gathered a lot of maple leaves and wanted to take a picture of an autumn underwater bouquet. One leaf sailed away from the bouquet during the shoot. It was a lonely leaf, but the best one. I decided to take a separately picture of it."

Alena Manets (14) said, "Underwater photography is unusually extraordinary! Not always does one succeed at taking a picture as planned, but there are a lot of ideas. Sometimes amusing stories happen during the photography sessions in the pool. Recently, during a photo shoot of an object, a lot of beads came unstuck from it, and we had to gather them from the bottom of the pool. It was hard work! In my picture, *Still Life*, one can see the top of an amphora. There is a small spiny lobster on the amphora. This idea came to me when I went to a lecture on archaeology. To see the image, one should turn the photo upside-down. We called such images, 'perevertysh'. It was difficult to make the photo, because I tried to hide the pool's bricks using the bubbles of air. I had to adjust the quantity of bubbles. But in the final version of the image, there are no bubbles." This image took part in the 2005 World Festival of Underwater Pictures in Antibes, France. ■

a doctor of science with a PhD in experimental physics.

Nikolay Silkin is an instructor with the Delta Club. He holds a graduate degree in engineering and design. He is also an instructor of underwater sport. He developed the original technique in the area of design of underwater equipment and underwater photographing technique. He also developed the "underwater-technical training" programs for the club.

Tatyana Azarenko is the teacher of the first category of students. She is an instructor of medical physical culture and a sport master. Since 1995, she has been the children's medical aide, instructor of the teaching of swimming for pectoral children in the program, "Float early, then walk", and a CMAS* swimmer. Since 2000, she has been the leader of the club's basic training group. Azarenko developed the training program for young underwater photographers and divers.

What The Children Say...

Darya Guseva (16) who won First Prize in the category Young Photographers at the 31st World Festival of Underwater Pictures in Antibes, France, 2004, said:

really wanted to photograph a cheerful and dynamic picture. I decided that my young cheerful friend, Timka, would be my model. I wanted to create an image where a small child appeared like a frog. It was rather difficult to make a photo, because my model was only two years old, and he was not able to stay too long underwater. The photo shoot was carried out in a pool. At this time, the well-known photographer, Todd Essick, arrived in our country and visited our club. Some photos were made together with him."

Natalia Vasilchenko (13) who made the image entitled, *Lonely wanderer*, said that the image represents a maple-leaf wandering on a blue ocean. "It is quite lonely, but its twin brother is always near him. Its brother is a reflection, which is never separated from the wanderer. This idea

CLOCKWISE: Instructors work with students in the Delta Club; Instructor Nikolay Silkin assists a club member at the pool; Two more members at work; Volodimir Kushnir and Tatyana Azarenko are also courageous and nurturing instructors who head the Delta club with Silkin and bring the young photographers to the World Festival of Underwater Pictures in Antibes, France



IN OUR NEXT ISSUE
 Diving in Patagonia
 The Maldives
 Grenada
 Canary Islands



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