

GirlDiver: Mark V Hard Helmet



GLOBAL EDITION
September 2008
Number 25

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Ecology

Success Stories

SARDIN RUN, DOLPHINS & ORCAS

South Africa

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Sardin Run, South Africa by Ralf Kiefner
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Editorial



Powered by Humans

A while back our good friend, Scott Jones from DiveNewsWire, was soliciting good news: "ENOUGH IS ENOUGH! Are you tired of hearing bad news? Seems like the mainstream media only wants to talk about negative news. It's something new every day—high gas prices, airline flight changes, natural disasters, etc," he wrote in his industry newsletter.

Hear, hear! Let's have a toast for the good things in life, such as diving adventure and the simple pleasures it gives us all. Coming out of the water after a great dive, or getting off my racing bike after a long fast

ride through the landscape, never fails to leave me in a much better mood and better shape than before. Come to think of it—they're also good for the planet, too. Finning and pedalling are carbon neutral ways of transportation, and the appreciation of nature makes us more inclined to protect our fragile Earth.

Let's also celebrate that this is our 25th issue! Like my bike and diving gear,

X-RAG MAG is powered by humans, driven by desire and eco-friendly, too. No trees were harmed in the production of this magazine.

— Peter Symes, Editor-In-Chief



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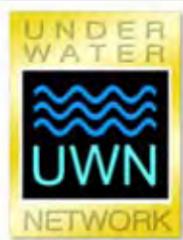
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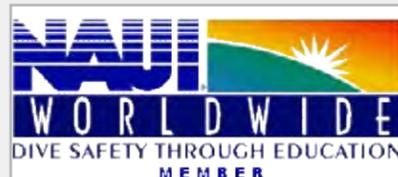
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News edited by Peter Symes & Arnold Weisz

NEWS



Abrinhos National Marine Park

Fishing ban around UK island brings seas back to life

The eastern coast of Lundy is the UK's only "no-take" zone, where fishing is completely prohibited. Five years without fishing around Lundy Island off the coast of Devon have brought a significant revival in sea life, scientists report.

Divers monitoring the sea bed near Lundy have found lobsters seven times more in number, compared to surrounding waters since 2003. Conservation groups say UK seas need more of them, but the government's recent Marine Bill promises much vaguer "marine conservation zones". Natural England is keen on the Marine Bill allowing the control of damaging activities

in areas where they might harm habitats and species. They are particularly eager to see the lessons learned in Lundy applied to a strategic network of Marine Conservation Zones.

The Lundy zone was set up five years ago by Natural England and the Devon Sea Fisheries Committee, which administers fishing along the county's coasts, in partnership with local fishermen.

Lundy Island is located 12 miles off the north coast of Devon in the Bristol Channel. It is England's only Marine Nature Reserve. The No-Take Zone covers 3.3 km² on the east side of the island. It was established in 2003 via a Devon Sea Fisheries Committee bylaw to enhance protection for the island's marine wildlife. ■



New Reef found in Brazil

Researchers from Conservation International (CI), Federal University of Espírito Santo and Federal University of Bahia announced their discovery in a paper presented on July 9, at the International Coral Reef Symposium in Fort Lauderdale. According to the scientist this will double the size of the reef system known as Abrolhos Bank.

Abrolhos bank

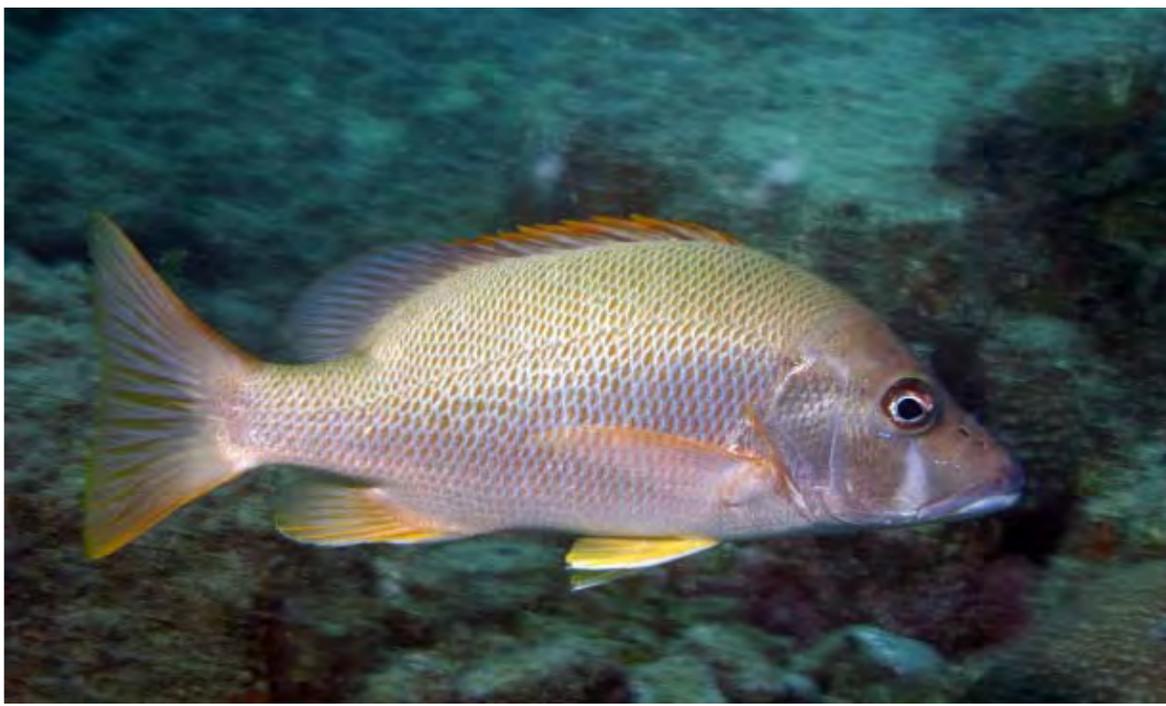
This reef system is found off the southern coast of Brazil's Bahia state, and is the Southern Atlantic Ocean's largest and richest reef system. The importance of the Abrolhos Bank as one of the world's most important reefs rests on the fact that it harbours a high number of marine species found only in Brazil. In addition, some species of soft corals, molluscs and fish are only found on the Abrolhos Bank.

"Due to their relative inaccessibility and depth, the newly discovered reefs are teeming with life, in some places harbouring 30 times the density of marine life than the known, shallower reefs. That's the good news. The bad news is that only a small percentage of marine habitats in the Abrolhos are protected, despite mounting localized and global threats," said Guilherme Dutra, Conservation International's director of marine programs in Brazil.

The reefs are partially protected by the Abrolhos National Marine Park (Parque Nacional Marinho dos Abrolhos - 91300 hectares) established in 1983. The area of the Park comprises the 'Parcel dos Abrolhos' reefs (found in the clearest waters of the region), the five islands of the Abrolhos Archipelago, and the

Timbebas reefs, which are located nearer to the mainland. Researchers mapped the new reef structures in areas ranging from nine to 124 miles (15 to 200 km) off the coast and in depths ranging from 60 to 220 feet (20 to 73 meters) using a side scan sonar, which produces a three-dimensional map of the marine seabed. The reefs discovered were not completely unknown as local fishermen supplied the scientist with some clues where to look. The surprise was more to the extensive range of the reef system and the density of marine life they found. The studies are part of the Marine Management Area Science Program coordinated by Conservation International with the participation of research institutions around the world. ■

Red snapper



A study which was recently published by the University of Rhode Island's Graduate School of Oceanography shows that invertebrates and warm-water species increase, while bottom feeders decrease.

A detailed analysis of data from nearly 50 years of weekly fish-trawl surveys in Narragansett Bay and adjacent Rhode Island Sound on the US Atlantic coast, has revealed a long-term shift in species composition, which scientists attribute primarily to the effects of global warming. According to Jeremy Collie, professor of oceanography at the University of Rhode Island's Graduate School of Oceanography, the community has shifted progressively from vertebrate species (fish) to invertebrates (lobsters, crabs and squid) and from benthic or demersal species—those that feed on the bottom—to pelagic species that feed higher in the water column. In addition, smaller, warm-water species have increased while larger, cool-water species have declined.

Shift

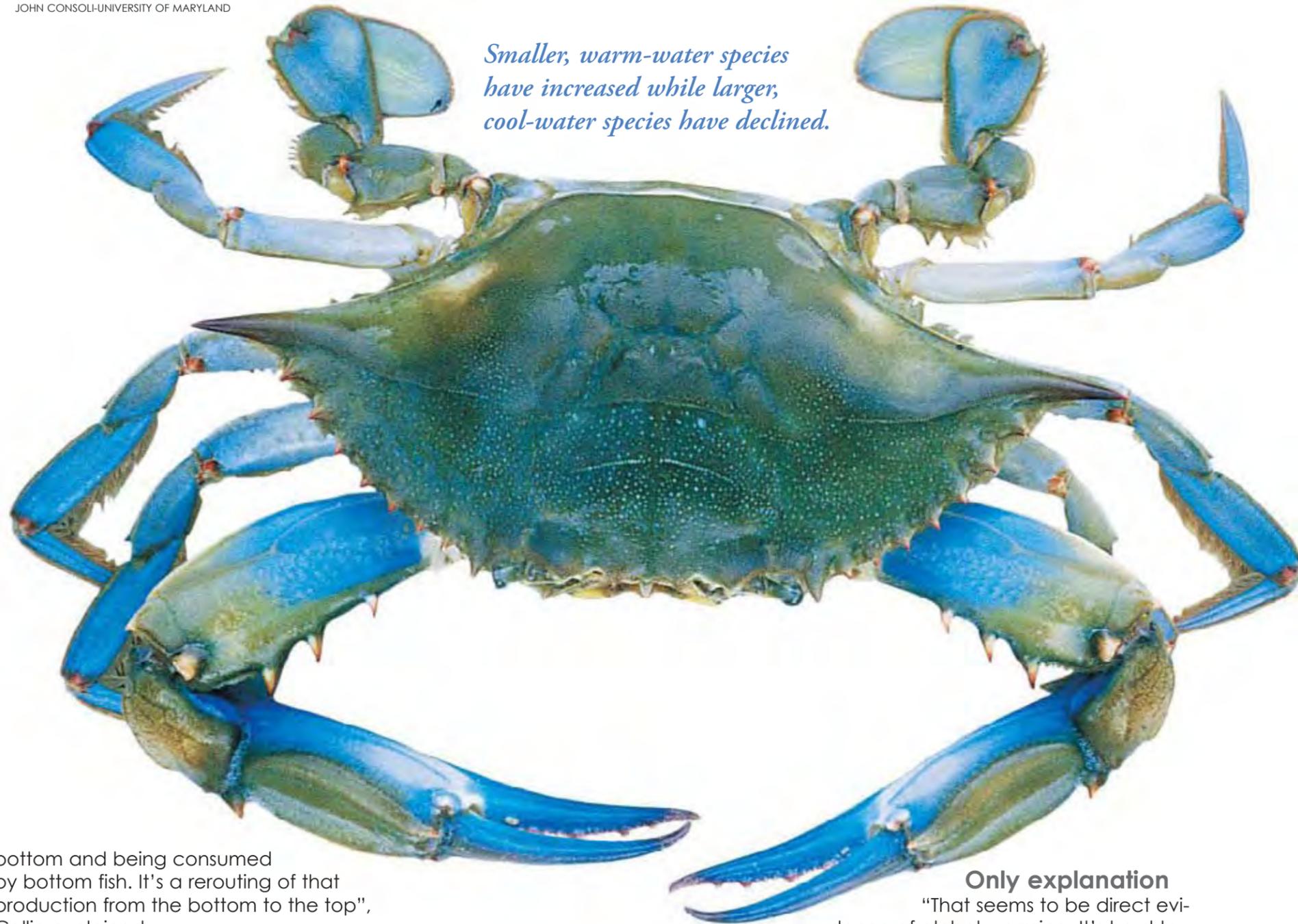
"We think there has been a shift in the food web resulting in more of the productivity being consumed in the water column. Phytoplankton are increasingly being grazed by zooplankton, which are then eaten by planktivorous fish, rather than the phytoplankton sinking to the

bottom and being consumed by bottom fish. It's a rerouting of that production from the bottom to the top", Collie explained.

Collie noted that the increase in the numbers of lobsters and crabs is a result of their taking advantage of the benthic habitat abandoned by the bottom-feeding fish species. Overall, the survey analysis found huge changes in the abundance of some species. Butterfish and bluefish, for instance, have increased in abundance by a factor of about 100 times while cunner has decreased by

almost 1,000 times. There are multiple factors involved in the analysis, but rising sea temperatures seems to be the major contributor. Sea surface temperature in the area of the trawls has increased by 2°C since 1959, and the preferred temperature of the fish caught in the trawls has also increased by 2°C.

Smaller, warm-water species have increased while larger, cool-water species have declined.



Only explanation

"That seems to be direct evidence of global warming. It's hard to explain any other way," Collie said. The weekly trawl survey by URI scientists began in 1959 and continues to the present, making it one of the longest data sets of fish species composition available. The survey has recorded 130 species, though the analysis focused only on the top 25 species, which accounted for 96 percent of the total number of animals collected. ■

Climate change good for lobsters and crabs



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Discovery of sea trout in Seine River in Paris shows success of river clean-up

The French capital's authorities say the Seine is cleaner than it has ever been. For the first time since records began, a healthy-looking sea trout has been observed in the Seine. The Paris authorities, of course, claim that this environmental victory is proof that their bid to clean up the river after years of pollution and neglect is taking effect.

According to the SIAAP, the public body in charge of cleaning up the river, the observation of the migratory fish was "crucial evidence" that water quality has improved greatly over the last few years. This is the first time this species has been identified in the Parisian region," a spokesman for SIAAP said. ■



Marine reserve established in New Zealand

A new marine reserve has been established on Wellington's south coast. The 854 hectare Taputeranga Marine Reserve takes in Owhiro and Island, Princess and Houghton Bays, and extends 2.3km out to sea and 3.3km along Wellington's south coast.

The reserve will be an attraction for divers and snorkellers wanting to view the naturally-restored ecosystems. Last year, more than 551 species—including at least four new ones—were discovered here, and the marine reserve will showcase this unique animal and plantlife. ■

Northern Marianas to gain protection

US President Bush is considering conserving parts of the Northern Mariana islands in the western Pacific, as well as eight islands and coral reef atolls and their surrounding waters in the central Pacific that are part of the Line Islands and American Samoa. Conservation groups have been lobbying the White House to set aside 115,000 square miles of the Northern Mariana islands as a marine monument.

These vast Pacific areas are nearly three times the size of Texas. Countless seabirds, dolphins, fishes, corals and tiny things as yet undiscovered could survive as a result, free of the threats that are eliminating them elsewhere, said Elliott Norse, founder and President of Marine Conservation Biology Institute. ■



Filephoto of Deep Water Corals

Oceana discovers deep-sea white coral in the Gulf of Biscay

The Oceana Ranger research vessel has discovered deep-sea white coral in the Aviles Canyon. The deep-sea coral was identified using an underwater robot, which can work down to 600 meters. The first colonies of white coral appeared at 200 meters depth, covering the walls of the canyon, and being especially numerous on the overhangs. Along with these colonies, the area also harbours gorgonians, black coral, glass sponges and a wide variety of fauna. The Aviles Canyon, located approximately 18 miles off the coast of Asturias on Spain's Atlantic coast, begins at 180 meters depth and drops to almost 2,000 meters.

WWF/Adena proposed that the canyon be considered an area of special interest due to the existence of the giant

squid. The recent discoveries made by Oceana highlights even further the importance of this area and its need for protection.

"One of the most fragile and important ecosystems in Europe is found here, in Asturias. Some coral reefs have already been damaged by fishing gear, but highly valuable colonies still exist. These areas are in need of urgent protection in order to ensure the survival of hundreds of species," declared Ricardo Aguilar, Director of Research for Oceana in Europe.

Recent studies estimate that almost half of the deep-sea coral reefs in Europe have disappeared, particularly due to destructive fishing methods such as bottom trawling. ■

BBC film crews discover many new fish species

Expeditions for two BBC documentaries have uncovered up to 15 new species of fish.

Dives down into the rarely explored 'twilight zone' of the Pacific Ocean uncovered 13 new species during the filming of *Pacific Abyss*. Among the newly discovered species was a highly sought-after damselfish that team-member Dr Richard Pyle first sighted over ten years ago, with various sightings reported since.

However, this was the first time that specimens had been caught—and in honour of the series, Dr Pyle named the fish *Chromis abyssus*. Several more new *Chromis* species have also been described from the expedition, along with at least one new species of basslet (*Plectranthias* sp.), a hawkfish and a butterflyfish.

Another team of researchers and wildlife filmmakers spent six weeks searching the pristine Guyanan rain forest filming part of a BBC documentary called, *The Lost Land of the*

Jaguar. Dr McGavin, a zoologist and one of the four presenters of the documentary, told the BBC News Website: "The expedition captured on film the discovery of the strongest candidates for new species—two fishes." These are a small banded fish (*Hemiodus* sp.) netted near the expedition's base camp, and a parasitic catfish (*Vandellia* sp.) that fell out of the gills of a larger catfish. ■



DR. RICHARD PYLE

Edited by Peter Symes

Loss of mangrove in Mexico threatens fisheries

Both on Mexico's Pacific and Caribbean coasts mangroves are being destroyed by high-end tourism resorts, marinas, and controversial industrial shrimp farms. A study by scientists at Scripps Institution of Oceanography at UC San Diego has measured the financial consequences of mangrove forest destruction.

Mangroves serve as homes to a variety of fish and crab species, and host nursery habitats for commercially valuable fishes such as snappers, snooks and mullets. The trees also protect the coastline from erosion and filter water between the continent and ocean. According to a study done by Mexican researchers, 2.5 acres (1 hectare) of coastal mangrove in the Gulf of California helps produce an average of US\$ 37,500 worth of harvestable fish and crab species annually. They found that 13 fishing regions in the Gulf of California produced

an average of 11,500 tons of mangrove-derived fish and blue crab per year between 2001 and 2005, generating nearly \$19 million for local fishermen.

Tourism causing

The picture is even bleaker on Mexico's Caribbean coastal region, which has the highest mangrove deforestation rate in the country, approximately 12 percent. Mainly due to the construction of tourist resorts and to overall urban growth. The "Mangroves of Mexico" programme carried out by the National Commission for

the Knowledge and Use of Biodiversity (CONABIO) reports that the Yucatan Peninsula in the Caribbean has the greatest total area of mangroves, covering 349,252 hectares. A massive amount of tourist infrastructure is being built south of the resort city of Cancun, running to the southern border of the state of Quintana Roo. Innumerable new massive hotel chains, along with shopping malls, parking lots, and other people attractions are wrecking havoc on the ecosystems. Despite their value, the number of mangrove forests is dwindling at a regional rate of two percent per year in Mexico, as trees are cut to make way for new coastal developments, among other reasons. ■



Mangrove (*Rhizophora sp.*)

MURIEL GOTTRUP



Sea Urchins with Nightly Munchies Get Very Noisy

A new study by researchers from University of Auckland has found out that chewing sounds from ravenous sea urchins becomes a hundred times louder just before dawn and just after dusk. The urchins hide in crevices during the day, out of sight from predators, and emerge to feed at dusk.

The team recorded the sounds made by individual reef animals in the lab, and then compared them with the dominant sound in the natural reef din.

According to the researchers, this regular noise could even help the larvae of fish and crabs find their way to reefs, as previous studies have found that some larvae can orient towards sound. ■

Giant clams 'secure for another generation' after Philippine re-seeding

Re-seeding programs on over 50 reefs are securing the survival of the giant clam for at least another generation, according to WWF-Philippines.

The clams, the world's largest bivalve mollusks, can live for over a century. They have been known to exceed 1.4 meters in length and weigh over 260 kilograms. Once common throughout Philippine reefs, excessive hunting for the food, pet and curio trade all but depleted the wild giant clam population by the mid-1980s, prompting the IUCN to classify them as vulnerable. An attempt to restore natural clam populations is now being spearheaded by Dr Suzanne Mingoa-Licuanan of the University of the Philippines Marine Science Institute in partnership with WWF-Philippines.

"Several species of laboratory-raised giant clams have been re-seeded in over 50 reefs nationwide, significantly bolstering wild stocks and ensuring their survival for at least another generation," said WWF Project Manager Paolo Pagaduan. ■



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Mystery of flatfish eyes unravelled

Some odd-looking fish fossils discovered in the bowels of several European museums may help solve a lingering question about evolutionary theory, and fill in the missing link of evolutionary biology of the flatfishes.



PETER SYMES

The 50-million-year-old fossils, which have been hidden in museums in England, France, Italy, and Austria for over 100 years could help explain how such flatfish as flounder, sole and halibut developed the strange but useful trait of having both eyes on one side. Because these fishes lay on their sides at the ocean bottom, this arrangement enhances their vision with both eyes constantly in play, peering up into the water. The fossils found have one eye near the top of their heads. Until now, this missing piece of information has posed a problem for evolutionary biologists because no one had found any so-called transitional fossils. The fossils show intermediate steps in the evolution of this trait.

Evolution explained

"What we found was an intermediate stage between living flatfishes and the arrangement found in other fishes. These fossil fishes indicate that the evolution of the profound cranial asymmetry of extant flatfishes was gradual in nature. The important point is that many evolutionary biologists also could not imagine how the flatfish body plan could have arisen gradually, via a series of intermediates," said Matt Friedman of The Field Museum in Chicago.

Eye migration

The orbital migration, the movement of one eye from one side of the skull to the other, happens during the youth of every flatfish, where the symmetrical larva undergoes a metamorphosis to produce an asymmetrical juvenile. One eye 'migrates' up and over the top of the head before coming to rest in the adult position on the opposite side of the skull. ■

This close up of the face of a plaice clearly shows the weird arrangement of the eyes. The fish rests on its left side

Pacific shellfish about to invade the Atlantic

As the Arctic Ocean warms this century, shellfish, snails and other animals from the Pacific Ocean will resume an invasion of the northern Atlantic that was interrupted by cooling conditions three million years ago, predicts Geerat Vermeij, professor of geology at the University of California, Davis, and Peter Roopnarine at the California Academy of Sciences.

"Climate models predict a nearly ice-free Arctic Ocean by 2050. That will restore conditions that last existed during the mid-Pliocene era around three to 3.5 million years ago. Several north Pacific species have relatives in the north Atlantic, and the fossil record shows a lot of invasion from the Pacific to the Atlantic at that time," Vermeij said.

When cold conditions returned, the Arctic route was cut off, mostly by a lack of food. As the ice melts, productivity in the Arctic will rise and the northward march of the molluscs will resume where it left off three million years ago. The authors do not think that the invaders will wipe out native species. The fossil record shows that invasions rarely lead to species extinction in

marine environments. Instead, the invasion will add new species and hybrids and increase competition in the North Atlantic.

"The composition and dynamics of North Atlantic communities will change. But whether that will help or harm local fisheries is an open question. Humans may have to adapt as well," Roopnarine said. ■



The Astarte mussel lived only in the Arctic and North Atlantic oceans until prior to the opening of the Bering Strait after which it migrated southward into the Pacific approximately 3.6 million years ago

Pacific oyster settles in Norway

Naturally, only the European oyster, *Ostrea edulis*, is found in Norwegian waters. This shellfish needs warmer water, so there has been limited populations along the south coast. During the '70s and '80s, there were some attempts to farm the pacific oyster *Crassostrea gigas* in Norway to replace some of local oyster populations, which were decimated by a disease starting in the



HUÎTRE DE MARENNES-OLÉRON

'60s. The pacific oyster proved to be very hardy and adaptable and is now spreading through European waters. In Norway, it is now forbidden to farm or release live specimens of this oyster in the sea, but it seems that they have come to stay here as well. Researchers from the Norwegian Institute for Research found a population of more than 500 specimens near the town of Sandefjord on the south coast. This population contained at least four different generations, which suggests that they have been reproducing for a while. Earlier, only single specimens of the pacific oyster had been found in Norwegian waters. It's still uncertain how this colony settled here. The researchers think it can either be wild specimens migrating from the south, or animals coming from a pacific oyster farm in nearby Denmark. The researchers from the Norwegian Institute don't welcome this species, as they pose a threat to the local marine fauna. ■



Seagrass meadows are essential to commercial species such as prawns

Seagrass suffer in warmer waters

Impacts of global change threaten commercially valuable seagrass meadows, according to a report launched by IUCN, the International Union for Conservation of Nature. One hectare of seagrass meadows is worth around €12,000 per year, by providing benefits like food and shelter for highly valued prawn and fish populations.

"Overall, seagrasses are in a vulnerable state," says Mats Björk, one of the authors of the publication. "Seagrass habitats are already declining due to increasing water temperatures, algae growth and light reduction, which are all effects of global change."

Let there be light

Seagrasses need high light intensities to survive. Storms, flooding and coastal erosion create sediment disturbances that smother the seagrass plants. Excessive nutrients (eutrophication) added to coastal waters may lead to algae invasions that also shade the seagrass leaves. Warmer sea water, changes in ocean acidity and higher CO₂ concentrations in

the atmosphere also affect seagrasses, but the exact consequences cannot be foreseen yet. When all these global changes come together, already stressed seagrass systems will be pushed over their limit of existence, resulting in further widespread seagrass losses. "We need to make seagrass more resilient to global change. For example, we know that genetically more diverse populations of seagrasses have a higher chance of success in a changing environment," says Lundin. "Protection of seagrass refugia and connecting them to adjacent habitats such as mangroves or coral reefs will increase their survival chances considerably." ■

Seaweeds suffer from sunburn too

It's not just us humans who react sensitively to an increased dose of ultraviolet radiation. Many plants react, too. Yet, they are dependent on sunlight. With the help of pigments absorbing solar energy and light, plants produce their vitally important building blocks by means of photosynthesis. However, this has its limits: too much sun means an over-abundance of energy and thus the destruction of the sensitive pigments. The results are black spots, pale leaves and rotten parts. Since algae cannot apply sun lotion like we do, they develop their own strategies to protect themselves from the sun.

"A species of red algae, for instance, produces under increased ultraviolet radiation, less red light-harvesting proteins, thus decreasing the absorption of radiation. The typical red color of the algae fades and the plant gets white tips," explains Dr Christian Wiencke, marine biologist at the Alfred Wegener Institute for Polar and Marine Research in the Helmholtz Association. "The algae additionally produce substances which react similarly to melanin in human skins: mycosporin amino acids (MAA)." Melanin absorbs ultraviolet radiation and thus protects the human skin—at the same time, it gives a natural suntan. ■



Healthy red algae (*Devaleraea ramentacea*)

MAX SCHWANITZ, ALFRED WEGENER INSTITUTE



Red algae (*Devaleraea ramentacea*) under increased ultraviolet radiation. They produce less red light-harvesting proteins so the typical red color of the algae fades, and the plant gets white tips

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The guys from DivePhotoGuide.com, Matt Weiss (right) and Jed Bernstein

MIDE 2008

Text and photos by Simon Kong

MIDE 2008 was a blast! Held for the third time at the Putra World Trade Centre, I met so many people, old friends and new ones as well, dive resorts and even a marine life expert. I expected the crowd to be a lot less on Friday, the opening day, compared to the weekend, but the crowd was not disappointing.

Fears of massive traffic jams due to a public demonstration on Sunday

to protest the recent local fuel price hike did not materialize. It also helped that there was a simultaneous kids exhibition one floor below. Many parents brought their kids to visit MIDE right after viewing it. And many exhibitors will attest to the rapidly diminishing sweets meant for their booth visitors disappearing faster than usual due to the sweet-toothed kids!



Simon Kong (center) with the friendly folks from East Marine, Jenny Cheah (left) and Danny Lim (right)

Overall, the expo was well organized and hardly a complaint was heard. But the major dive gear manufacturers, like last year, did not make their presence felt. The majority of the exhibitors were local dive operators and gear retailers with a few watercraft thrown into the mix.

The show was a great place to look for dive bargains and to meet up with old friends. Even a few local celebrities showed up to check out what was on offer. Everybody came away with smiles and some walked away with free gifts through lucky draws such as dive training and even a SeaDoo DPV! See you at the next MIDE! ■



Traditional Malay dance was part of the entertainment

matthegowatte





How many species live in the sea?

List of Known Ocean Species Surpasses 120,000

The new World Register of Marine Species (www.marinespecies.org) contains about 122,500 validated marine species names (experts having recognized and tidied up some 56,400 aliases—32 percent of all names reviewed). It also contains some 5,600 images, hyperlinks to taxonomic literature and other information. Once complete, it will provide the first definitive list of all known species in the world's oceans. The Register is freely acces-

sible online and includes descriptions of the species and photos. It will allow both the public and scientists to identify species they come across and easily recognise entirely new species.

Marking the World Register's official inauguration, some 55 researchers from 17 countries met in Belgium to plan its completion by 2010. Leading World Register experts independently estimate that about 230,000 marine species are known to science. They also believe there are three times as many unknown (unnamed) marine species as known, for a grand total on Earth that could surpass 1 million.

Some species, such as those reclassified in years past based on new information, were shown to have a handful of names or more. In such cases, the oldest name trumps later ones to become the valid name (though all aliases are noted to help researchers interpret centuries of scientific literature).

Popularly called Breadcrumb Sponge, *Halichondria panicea*, is the marine world's reigning champion of Latin aliases with 56 synonyms appearing in taxonomic literature since its first description in 1766. ■

Marbled swimming crab *Liocarcinus marmoreus*, a species of crab found in the northern Atlantic Ocean

Shallow Water Corals Evolved From Deep Sea Ancestors

The second most diverse group of hard corals first evolved in the deep sea, and not in shallow waters.

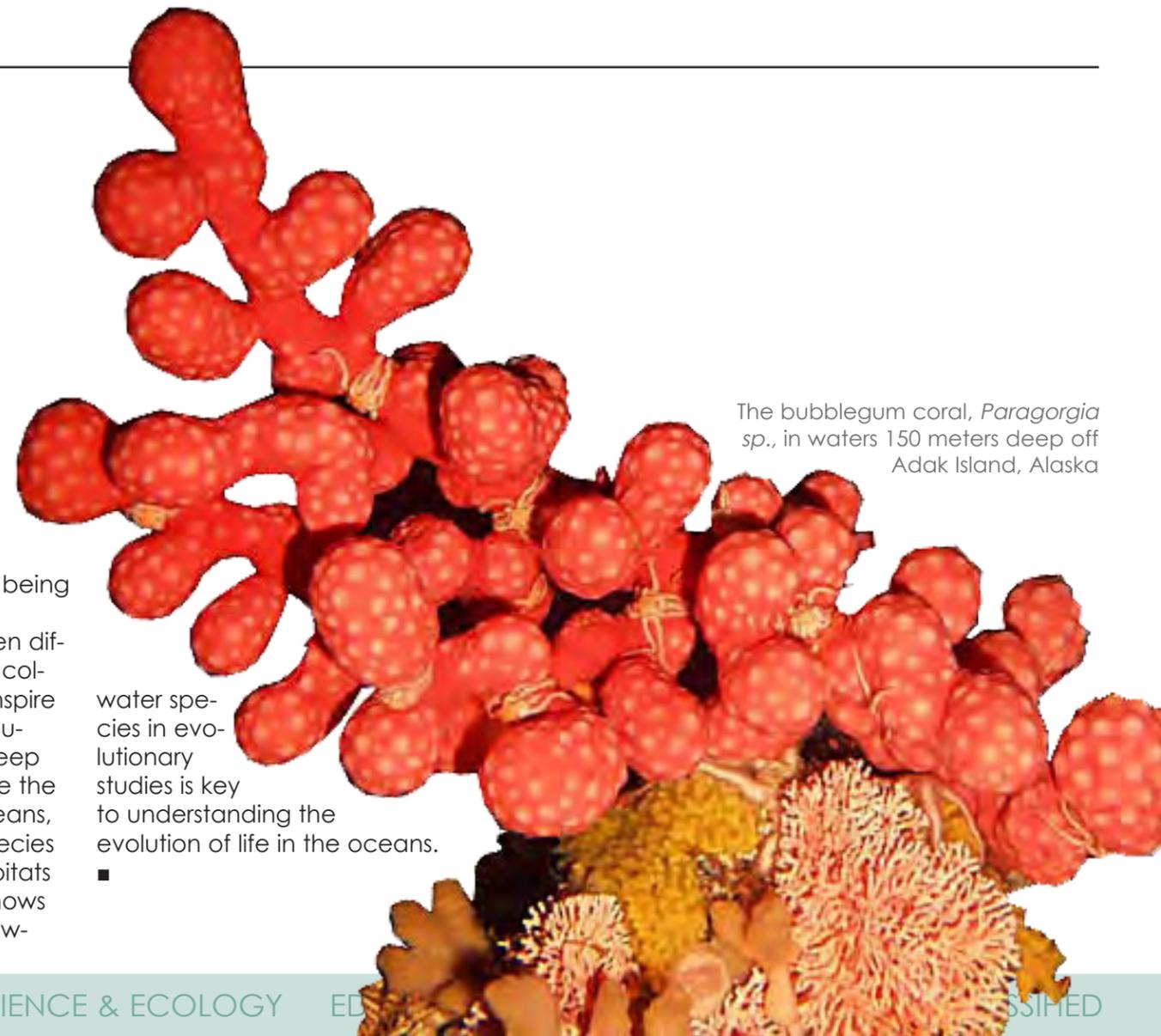
Alberto Lindner, a coral researcher at the University of São Paulo, Brazil, and colleagues have found that Stylasterids, or lace corals, diversified in deep waters before launching at least three successful invasions of shallow water tropical habitats in the past 40 million years.

This finding provides the first strong evidence that a group of deep-sea animals invaded and diversified in shallow waters.

"When we look at the DNA and fossils of these animals, we can trace how these transitions from deep water to shallow habitats have popped up in different parts of the family at different points in time," says Alberto Lindner. "We also see this story unfold in which the corals are building skeletal defenses, possibly in a long-running arms-race with their predators. Together, it shows us how wrong it is

to think of deep-sea ecosystems as being isolated and static."

Although deep-sea research is often difficult and expensive, Lindner and his colleagues hope their work will further inspire scientific exploration and broad evolutionary studies in the oceans. "The deep sea and the shallow-water tropics are the most diverse environments in the oceans, but how deep and shallow-water species have built these different marine habitats is still poorly understood. Our study shows that integrating deep-sea and shallow-



The bubblegum coral, *Paragorgia* sp., in waters 150 meters deep off Adak Island, Alaska

water species in evolutionary studies is key to understanding the evolution of life in the oceans. ■

OWU Scholars Become IAHD Certified

For over 35 years, thanks to generous funding from Rolex, the Our World-Underwater Scholarship Society (OWUSS) has offered a variety of internships and scholarships with the goal of fostering the development of future leaders of the marine environment. OWUSS is a nonprofit, educational organization whose mission is to promote educational activities associated with the underwater world.

Text by Peter Symes

Currently, there are three Rolex Scholarships: North America, Europe, and Australasia. Each Rolex Scholarship provides a hands-on introduction to underwater and other aquatic-related endeavors for a young person considering a career in an underwater-related discipline. One scholar is selected from each of the three regions and each scholar spends approximately one year working side by side with current leaders in underwater fields. Each scholar travels primarily within his or her region, but may have opportunities throughout the underwater world. The range of experiences may include active participation in field studies, underwater research, scientific

Flemming Thyge conducts a pool demonstration. Flemming Thyge is IAHD's Director of Quality Management. Pro Trainer Examiner, and IAHD representative for Scandinavia & Russia. He is also a PADI Course Director and owner of 2DIVE Divecenter in Copenhagen, and sponsor of the event.

expeditions, laboratory assignments, equipment testing and design, photographic instruction, and other specialized assignments.

In August a whole group of the scholars, including two out of the three current scholars convened in Copenhagen to join a course set up by the Danish PADI and IAHD course director, Flemming Thyge, and Dutch colleague Daniel Zuidema from IAHD to qualify them as IAHD instructors or divemasters.

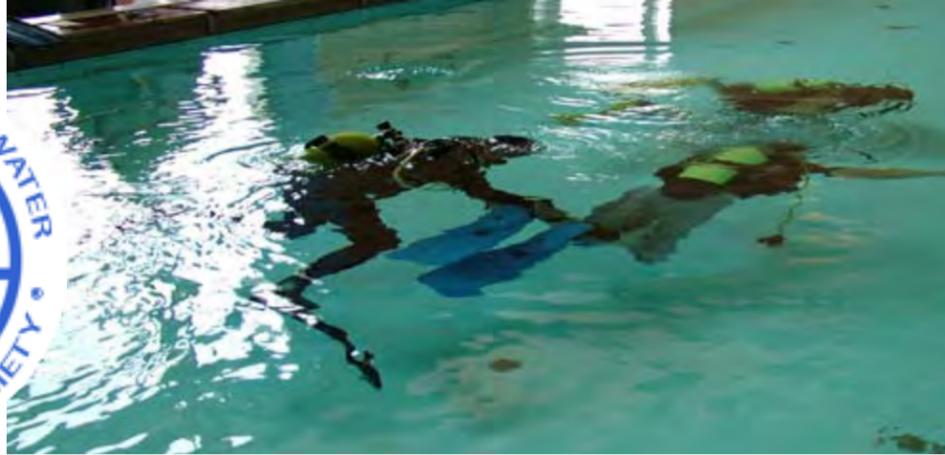
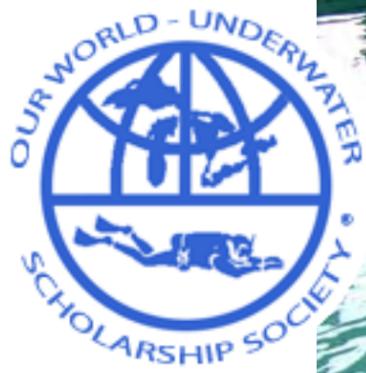
I sat down with scholars Igor Valente, Eline Feenstra and Jamie Brisbin and asked them why.

Igor Valente: I had a talk with Flemming and Daniel and came to realise that this was something very different. Hopefully, it would enable me to help more people. The challenges during this course were fun, and it was very rewarding to figure out how to make disabled enjoy themselves, too.

Eline Feenstra: I also wanted to help other people do something I like and share my experiences with them. It was very rewarding when you see this person smile wide underwater. Before I went into diving, or started studying, I was a home care provider for a disabled person, and that changed my views on these matters.

Not so easy?
Igor Valente is about to find out how a blind diver has to cope with rigging up





Hey, pointing and gesturing doesn't work when you have to 'point out' the features of a dive site to a blind person. Daniel Zuidema from IAHD simulate being the blind in this training exercise with Jaime Brisbin

The interviewed scholars:



Jamie Brisbin, 22, of Setauket, NY, has been selected as Our World-Underwater Scholarship Society's 2008 North American Rolex Scholar. Jamie graduated from the University of Southern California in 2007 with a BS in Biological Sciences.

Jamie Brisbin: I, too, had some experiences with disabled people as I was a volunteer at the Special Olympics. And since scuba diving is a passion of mine, I combined the the two. It is about a combination of helping handicapped people and sharing experiences such as those you get when you dive. The techniques we learned at this course also made us better at dealing with 'normal' people. It makes you generally more perceptive to other people's needs and limitations.



Born and raised below sea level in the Netherlands, Eline Juliette Feenstra (22), has been selected as the European Rolex Scholar for 2008-09. At the moment Eline is majoring in Philosophy at the University of Amsterdam.

X-RAY MAG: What would you say to people who ask you about this course?

Jamie: The more you invest in it, the more rewarding it gets. It is incredible to share these experiences with people who never thought they would be able to do things like this.



Igor Valente, 24, has been chosen as the European Rolex Scholar for 2007-08. A Portuguese citizen born and raised in Mozambique, Igor has witnessed first hand the realities of a developing country. Igor has a degree in Electronic Engineering.

Igor: When you help a person with severe disabilities, with whom it is hard to communicate, it is priceless to see that big grin on their faces when we get them out of the water. The other interesting thing is that water is the big equaliser. On land, there is a big difference when the disabled person is tied to a wheelchair, but below the surface, it is not always easy to tell the able-bodied apart from those with disabilities. Perhaps you can see the disabled person has to use his/her arms, but aside from that, we are far more on equal terms down there.

Jamie: New divers who are not handicapped get that feeling, too. ■



The happy lot on the beach outside Copenhagen after graduation

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PADI reinvents The Wheel

PADI just delivered its next generation of electronic dive planning—the Electronic Recreational Dive Planner, Multilevel version (eRDPM).

Developed by their dive science branch (DSAT), the new product aims at making planning single depth and multilevel dives easier. It is not a dive computer—as the first generation provided the same information as PADI's Recreational Dive Planner (RDP) Table version—the “eRDPM” provides the same information as PADI's multilevel dive planner, “The Wheel®”.

The main features include:

- the ability to plan single depth and multilevel dives
- a flip cover with the General Guidelines displayed inside
- touch interface with large keys and a wide display window

- a compact user manual positioned under the device
- imperial or metric systems

Not to be confused with a dive computer, it can resist a mild rain or sea sprinkle, but it would go bust if you dip it. Its main usage is to plan the dives before you get wet, not after. “From a diving point of view, I love it because it gives you dive table dependability with calculator simplicity. For new divers, and even some experienced ones, mastering dive planning is now quick and easy. For PADI Instructors, this translates into more practical time in the water and less time reviewing tables in the classroom.” said Karl Shreeves, DSAT Technical Development Executive. ■

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Russian mini-sub on Lake Baikal



Lake Baikal is being surveyed by the two famous Russian submersibles, *Mir-1* and *Mir-2*

The project is set to run for two years, during which the scientists will conduct around 160 dives in various areas of the lake. Research will include tectonic information-gathering and a search for archeological artifacts. According to reports given, scientists onboard will take samples

of water and soil from the lake, which is home to more than 1,700 species of plants and animals. They also will plant a small pyramid bearing the Russian flag in the lake bed. Organizers then will compile a list of recommendations at how best to preserve Lake Baikal, a UNESCO World Heritage site.

Artur Chilingarov, leader of the submarine Arctic expedition that reached the North Pole in 2007, explained that the expedition's next

phase is to collect sample from the depths of the lake and establish what the effects produced by climate change are. The campaign will also be used as a means to draw more attention from the Kremlin to the matters of environmental protection. ■

New German oceanography museum opens

The largest oceanographic museum ever built in Europe opened mid July 2008, in the port town of Stralsund, by the Baltic coast. It features the natural treasures of the Baltic and Arctic marine life.

"Ozeaneum" is, at first view, a very large public aquarium in the German city of Stralsund. But it's more than that, it's an architectural feat in itself. Belonging to the Deutsches Meeresmuseum, arguably one of the three largest European institutions of its kind, the

60 million euro project covers a total area of 8,700 square meters. It is an architecturally dramatic extension to the existing Oceanography Museum.

It's main highlight comprises life-size models of the Giants of the Seas. The exhibition, which was organized in conjunction with Greenpeace and its anti-whaling campaign, depicts giant models of whales hanging from 20 meter-high ceilings in rooms filled with whale song. Greenpeace donated 1.45

million euros to the whale exhibition. Unknown fish, coral and other marine life are exhibited in no less than 39 different aquariums at "Ozeaneum", which have a total capacity of six million liters. To ensure it is disease free, it will come from the city water system and have 200 tons of salt added to match the salinity of sea-water.

The museum is supposed to be self-supporting from now on, with at least 550,000 visitors annually needed to cover its running costs. ■



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Are Viruses Controlling Deep Sea Ecology?

Viruses in the deepest ocean environments are unexpectedly strong regulators of the deep sea biosphere, according to a paper just published in *Nature*.

Approximately 65 percent of the Earth is dominated by deep sea, or benthic, ecosystems. By infecting and killing bacteria and other prokaryotes (simple organisms without a cell nucleus) viruses are the main producers of the organic matter that sustains life at 1000 meters deep and below.



Is this the kind of interaction that governs deep sea ecology? Image is an electron micrograph of bacteriophages attached to a bacterial cell. A bacteriophage is any one of a number of viruses that infect bacteria

By generating this biomass, viruses also make major contributions to the carbon cycle and other geochemical processes. "This shows that a very large amount of the carbon that reaches the sea floor is going through pathways that were commonly thought to be relatively minor," said Jed Fuhrman, an ocean biologist at the University of Southern California not involved in the study. "The whole idea that viruses have any significance in marine systems is only 15 to 20 years old." The sea floor is one of the hardest environments for research because of the distances and logistical challenges involved in conducting experiments.

The researchers, led by Roberto Danovaro of the Polytechnic University of Marche, Italy, collected 232 samples of sediment from the deep sea. They found that viruses were surprisingly abundant in their samples, and that they were reproducing locally, rather than migrating down from surface waters. The deeper the water, the more virus-induced death they observed in the bacteria, with viral infection responsible for about 80 percent of bacterial death in the deep sea samples. ■

Marine protection zones are in the wrong places

Conservation zones are in the wrong place to protect vulnerable coral reefs from the effects of global warming, an international team of scientists warn.

Current protection zones or 'No-take areas' were set up to protect fish in the late 1960s and early 1970s before climate change was a major issue. But many of these zones are not in the right place to help prevent the coral reefs from collapsing, a joint team from Newcastle University and the Wildlife Conservation Society has found.

The team carried out the largest study of its kind covering 66 sites across seven countries and spanning over a decade in the Indian Ocean and found out that the small-scale zones were not working to protect coral reefs against the effects of climate change.

Add some more

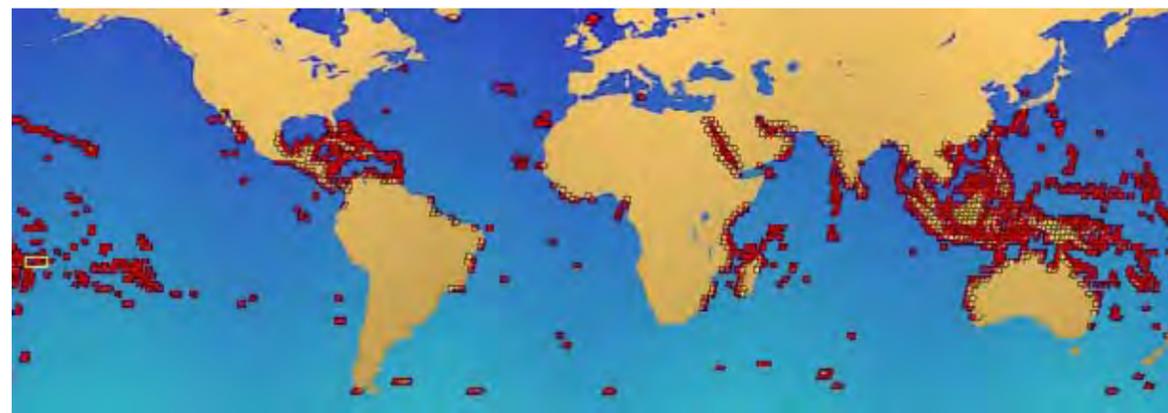
The researchers found that urgent action was needed to prevent the collapse of this important marine ecosystem. They also concluded that while the existing zones should not be removed, new areas are needed in the right places to protect corals against the effects of rising temperatures. Managing the system as a whole is crucial if coral reef communities are to have any hope of surviving the effects of global warming, lead

researcher Nick Graham, of Newcastle University's School of Marine Science and Technology, said.

"New protected zones are needed that focus on areas identified as escaping or recovering well from climate change impacts. But a major focus needs to be shifted towards increasing the resilience of the system as a whole—that means reducing as many other locally derived threats as possible," he added. Although many areas are showing signs of long-term degradation, Mr Graham said it was a positive sign to see that some locations either escaped the impact or have recovered.

Removing stressors

"Coral dies when it is put under stress, so what we need to be doing is reducing the direct human impact—such as over-fishing, pollution and sedimentation—across the whole area. By removing all these other stresses, we are giving the coral the best chance of surviving and recovering from any changes in temperature that may occur as a result of global warming." ■



The position of the world's coral reef

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Peter the Great's Ship Discovered in Baltic Sea

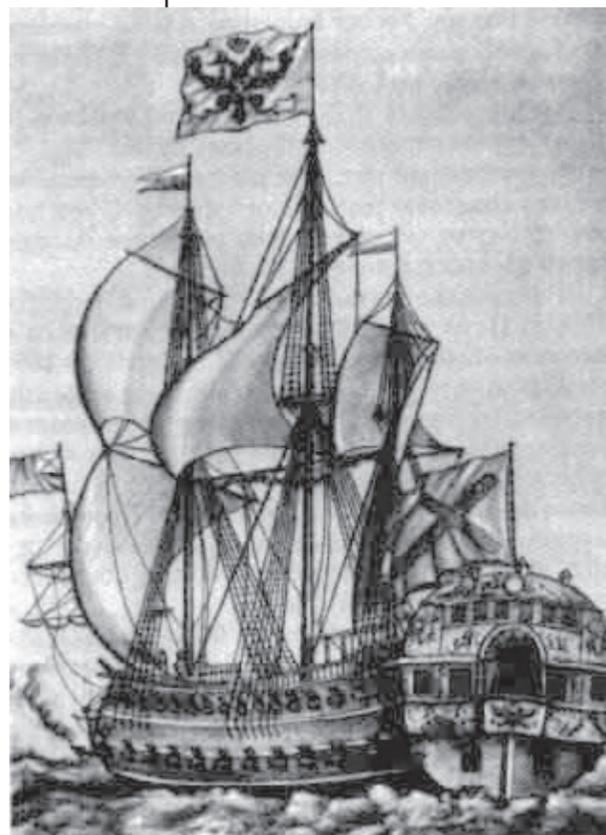
In July 2008, archeologists located the 54-gun *Portsmouth* battleship at a 12-meter depth in the waters off Kotlin Island. Designed by the Tzar, Peter the Great, it sunk on the way back to the port of Kronshtadt, along with another ship, the *London*. The battleship played a key role in the 1719 victory over Sweden, on the Baltic Sea.

The area surveyed contains a total of 11 wrecks, says Andrei Lukoshov, head of the research team. The cruiser *Oleg*, sunk by an English torpedo in 1919, was also found, as well as an aircraft resembling the Li-2 model from the First Long Range Aviation Division Guard, downed in 1944.

The team is part of a project named "Secrets of the Sunken Ships", which has already located 50 wrecks (such as those in the River Volkhov and in Lake Ladoga). Among these wrecks are the German boat, *Frida Horn*, a European mast ship from the second half of the 19th century, as well as the *Hanhoot* (1892), the *Jigit*, and the *Haezdnik* (built in 1856).

The team will also continue the study of a badly damaged 16th century 40-meter long mast-ship belonging to the same class of the famous Swedish battleship, *Vasa*. ■

Drawing of a sister vessel to the Portsmouth



Ancient ship carried expensive Greek red wine

Kyrenia ship is the wreck of a 4th century BC Greek merchant ship restored and now on exhibit in Ancient Shipwreck Museum in Kyrenia Castle, Cyprus

At depth of 45m, some 2.5 km off the coast of Cyprus, an ancient cargo ship, estimated to be 2,350 years old, rests with its cargo of wine still intact. The vessel is a rare example of well-preserved late classical period (mid-4th century B.C.) commercial shipwrecks that sailed the Greek waters.

Marine archaeologists salvaged a few of the more than 500 terracotta amphora used to ferry liquids in ancient times. The recovered artefacts were identified as Chian amphorae, used to store red wine from the Aegean island of Chios. This wine is believed to be the most expensive type of wine in antiquity. Other examples of north Aegean amphorae were also identified. Many more are believed to lie buried in the sand under the hull of the wreck.

The ship might be similar to its more famous counterpart, the 15-meter "Kyrenia ship"—the oldest Greek shipwreck ever excavated—accidentally discovered on the northern coast of Cyprus more than 40 years ago.

The find will help scientists understand more about nautical history, trade and commerce in the Aegean and East Mediterranean area, during the Classical period. This is the first marine archeological research project conducted solely by Cypriot institutions, undertaken by the University of Cyprus' Archaeology Research Unit and funded by the Thetis Foundation. ■



2,500 year-old mariner's talisman discovered in Israel

An ancient white marble discus dating back to the 5th or 4th century B.C., has been found on Palmahim beach where the ancient port Yavne-Yam once stood. The site is currently a protected antiquities site. The 20 centimeter wide disc was discovered by a lifeguard, David Shalom, who was diving off the coast.

Only four similar artifacts have been found. The discs, representing the pupil of an eye, were talismans adorning the bows of ancient cargo or warships in order to ward off evil spirits. The painted eye and the engravings have eroded away after lying two and half millennium on the sea bed.

"It was used as a protective measure against the evil eye and envy, as well as a navigation aid and to act as a pair of eyes, which looked ahead and warned of danger. But we thought the eyes were only on fighting ships, not merchants ships," said Kobi Sharvit, the Director of the Marine Unit of the Israel Antiquities Authority (IAA). "This decoration is also prevalent today on modern boats in Portugal, Malta, Greece and in the Far East," he adds. ■



The disc-shaped talisman depicted on an antique ceramic serving bowl





Filephoto:
Hercules



Hercules C-130 becomes new attraction in Texan scuba park

Retiring from 50 years of service with the US Air Force, a recently auctioned Hercules airplane is the newest diving attraction to local divers in Clute, Texas. The C-130 joins a fighter jet, train caboose, pieces of the Mayan Mindbender from Astroworld, giant sculptures of mammoths, turtles and old parts from NASA—all under the surface of the 55-acre “Mammoth” lake.

“The owners of the lake

acquire a lot of cool stuff for it,” Hydrosports Scuba owner Michelle Cryer said. “As far as we know, this is going to be the only C-130 in the US available for scuba divers, so it’s a big deal.”

At a hundred feet long with a 149-foot wingspan, the plane had to be cut in half in order to be sunk to the bottom of the lake. “We had to cut it up in little

pieces to get it down here,” the president of Vernor

Materials and Equipment, a partner in the venture, said. “Those wings are in four sections, and we had to scab them together, and we had to cut holes to make it safe inside. “Divers helping to position the C-130 shared the boat with a Discovery Channel crew documenting dive sites all over the world. ■

Sinking of the USS Vandenberg put on hold

Plans to sink the *USS Hoyt Vandenberg* off Key West to create an artificial reef and diving destination have stalled. The ship is now docked in Virginia where it will remain at least until hurricane season is over. What happens then is anyone’s guess.

Escalating costs and evaporating finances have halted the Vandenberg project, and it’s now uncertain whether the ship will ever be sunk. According to the most recent estimate, it will cost US\$8.45 million to scuttle the *Vandenberg*. A bank consortium consisting of BB&T, Orion and First State Bank offered an initial combined investment of \$4.6 million

“...sounds like it’s becoming an unreality”

at the project’s outset but scaled that back to \$3.2 million when progress came to a halt. Besides other smaller contributions, a funding gap of \$1.85 million remains to be raised either through private donations or more government earmarks.

District IV Commissioner Barry Gibson said the City Commission is “still interested” but that considering finances, the project “sounds like it’s becoming an unreality.” However, City Commissioner Bill Verge was upbeat. “This investment will make money for 100 years”. He went on to project that free media coverage from the scuttling would be valued at \$40 million, citing media interest such as “Good Morning America,” and “Mythbusters”.

Jackie Harder, President of the Key Largo Chamber of Commerce and champion of the Spiegel Grove scuttling said that the success of the Spiegel Grove project is due in large part to continuing community support. ■



Indian Navy sinks ship to create artificial reef

The decommissioned ship, *Sea-sward Defence Boat T-54*, was sunk off the Karnataka coast in the Arabian Sea. Since it was commissioned in September 1998, it served as a coast guard patrolling the maritime borders for 23 years.

According to an Indian official, the ship’s electrical wiring, communication and weapon systems, as well as most of the machinery were removed. Also, traces of oil were cleaned from the fuel tanks. “All potential contaminants that could adversely affect marine life were removed to make *T-54* as envi-

ronmentally safe as possible.” the official added.

The ship was then towed out, mines were fitted on the vessel and detonated, causing it to sink, bow first. A survey conducted by a diver confirmed the vessel was settled correctly on the seabed. The area has initially been opened to professional divers as the underwater visibility has to improve to about six meters before it is possible to view the

ship from glass-bottomed boats. The ship will also promote scuba diving as a sport. ■



Diving Bermuda’s newest ‘shipwreck’

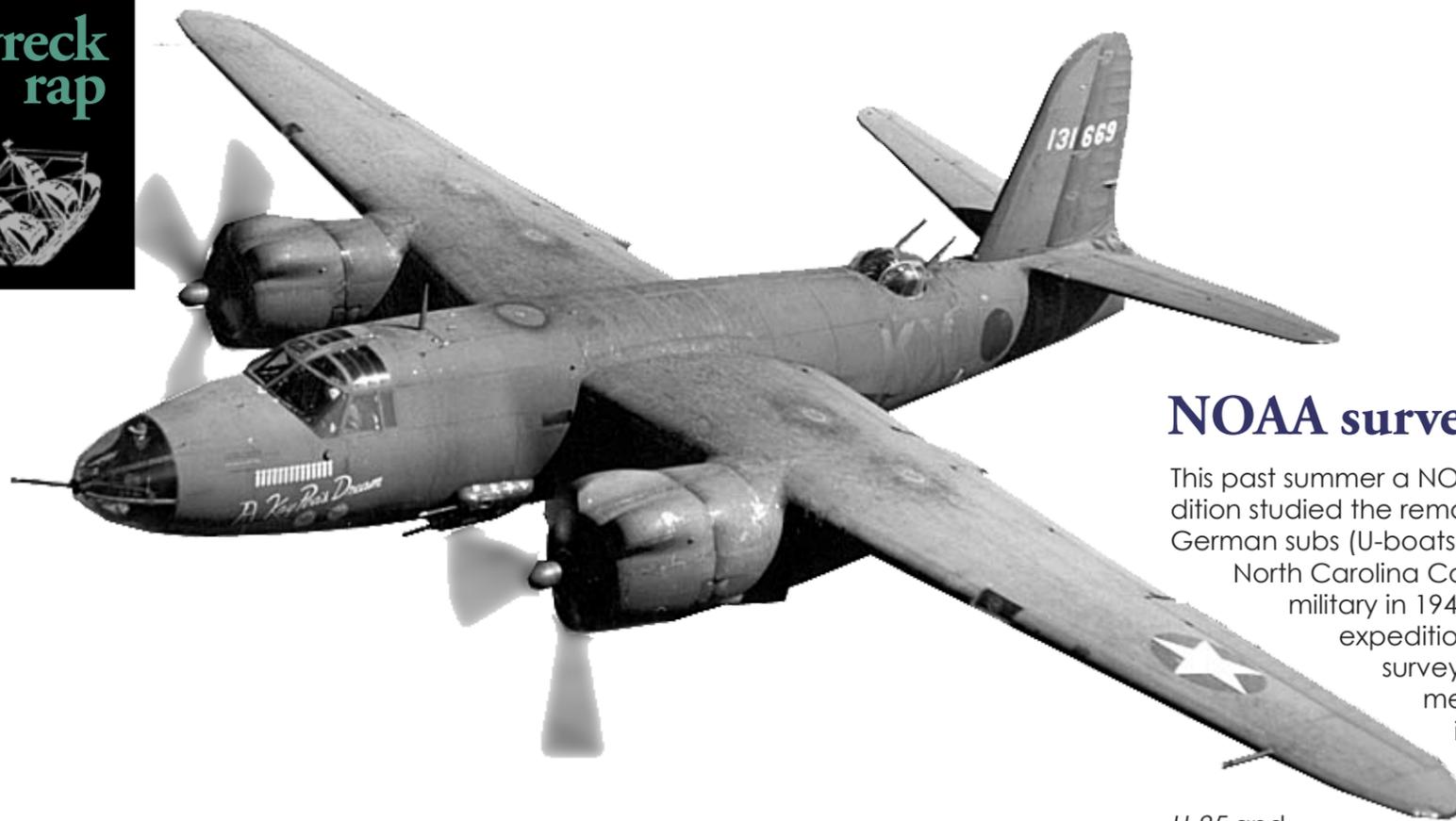
Wreck divers at the Bermuda’s South Shore will find a recently scuttled 75-foot tugboat called *Forceful*, submerged at 60-feet beside a blossoming reef wall, placed near another 55-foot tugboat know as *King*, allowing for a great 50-minute dive on both sites.

The boat’s watermarks and sign are still visible, while its inside has been cleared out. The wreck allows for a full penetration and swim up the metal staircase to the top deck, it is possible to get a view over the entire vessel.

The small pilothouse still has some of its machinery left, such as movable levers, creating a great opportunity for underwater photography. Being still a new wreck and lacking so far any reasonable amount of coral, local fishes are yet to adopt it as their local hangout.

Chris Haile, a local instructor, said that “The boat will eventually become like an artificial reef—it’s just a process of time, so the coral will start to grow on the metal and within the boat. Without a doubt, this new tug will attract divers to come here. The first tug we sank was fun for around 15 minutes,

but with the new larger one here, it makes a perfect 40 to 55-minute dive with the short distance between the two boats,” he added. ■

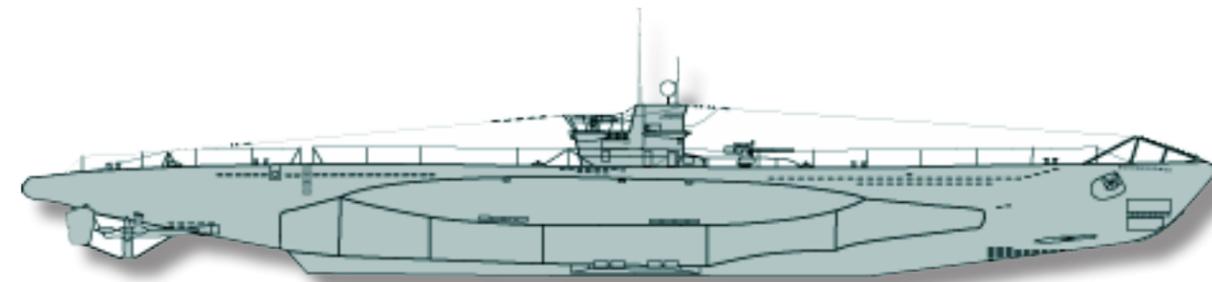


WWII bomber wreck found by treasure hunters

The wreck of a B-26 Marauder WWII bomber, which crashed more than 60 years ago in the Mexico Gulf waters, was accidentally discovered in 1990 by charter boat captain Tim Wicburg, who believed he had found the elusive aircraft containing Fugencio Batista's loot—one of four B-26 the former Cuban dictator used to transport tons of gold raided from the Cuban National Treasury when fleeing from Fidel Castro's revolutionary forces in 1959.

Wicburg first stumbled upon the twin 50-caliber machine guns mounted in the top-turret. The remains, a section of an intact wing and two massive engines with badly bent propellers some 1,350 feet away, were located at a depth of 21m (70 ft). Certain that it was Batista's missing airplane, he convinced his partner Tom O'Brien to join him on a venture to locate the missing gold. Also in the seven-boat fleet crew was Pat Clyne, chief videographer for world-famous treasure hunter Mel Fisher, who recorded the team's efforts for a possible documentary.

They found no gold, and were disappointed when the true identity of the aircraft was established. However, the forensic analysis and documentation of the aircraft's condition shed new light on, and perhaps will suggest new causes for, the accident other than the official "pilot charged with accident" report. The B-26 was also known as the "widow maker" and the "flying prostitute" because of its notorious design flaws and difficulty in maneuvering. ■



NOAA surveys WWII U-boats sunk off the Eastern US seaboard

This past summer a NOAA-led expedition studied the remains of three German subs (U-boats) sunk off the North Carolina Coast by the US military in 1942. During the expedition, researchers surveyed and documented all visible sections of each of the subs (*U-352*, *U-701*) using non-invasive techniques.

The existing marine life found at the

sites will also be studied. "This expedition is the first part of a larger multi-year project," expedition leader David Alberg explained. "The information collected during this expedition will be crucial to efforts to preserve these historic sites."

The sunken vessels are located in the "Graveyard of the Atlantic" area, containing shipwrecks from both sides, some at recreational diving depths (less than 130 feet) and many located in deeper waters, untouched and in relatively good condition.

Since their discovery, over three decades ago two of the U-boats, the *U-352* and *U-85*, have been further damaged by salvagers and souvenir hunters. *U-701* is relatively intact but also shows signs of damage stemming from illegal salvage attempts. The sub was discovered by recreational divers in 1989 before being covered by sand and rediscovered in 2004.

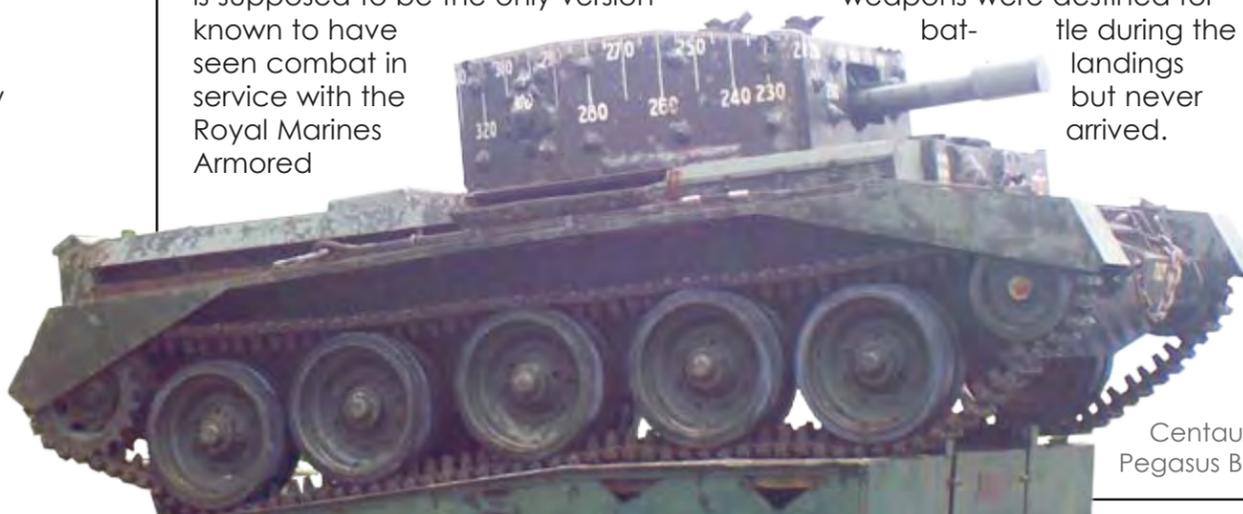
Phase two of the project, scheduled for summer 2009, will primarily investigate Allied wrecks in the area. ■

Divers find rare WWII tanks on the bottom of the English Channel

Resting at the bottom of the English Channel, eight miles off the coast of West Sussex, two armoured WWII vehicles have now been identified as rare British Centaur CS IV tanks, part of a contingent of 80 heading to France for D-Day. The Centaur IV is supposed to be the only version known to have seen combat in service with the Royal Marines Armored

Support Group. BSAC divers, who accidentally stumbled on the wreckage, documented the find and were helped by historians to determine how they got there, as there was no shipwreck nearby. It was subsequently ascertained that the historic weapons were destined for battle during the landings but never arrived.

Apparently, the tanks fell overboard when a landing craft capsized on its way to the Normandy beaches on 6 June 1944. David Fletcher, historian at the Tank Museum, said, "They are very rare—there are only two in France that we know about." The tanks lie close to two bulldozers and a field gun. The bulldozers are believed to be armored Caterpillar bulldozers used by the British Army 79th Armored Division; there are no known surviving bulldozers of this type. ■



Centaur IV (A27L) on display at Pegasus Bridge, Normandy

Edited by
Scott Bennett



Wearing a simple patch may prevent stomach bugs picked up during foreign travel

The bane of all travellers, stomach upsets along with their ensuing symptoms of vomiting, diarrhoea and cramps can often leave people incapacitated or weak for days. Now, relief may have arrived in the form of a patch impregnated by toxins produced by the *E. coli* bacterium. Once worn, the toxins therein help to prime the immune system when confronted with the real thing.

US research published in the *Lancet* medical journal discovered the patch was 75 percent effective against diarrhoea attacks caused by *E. coli* in a study involving 178 people. The participants were given either a placebo 'dummy' patch, or one containing the toxin, then sent off to continue their journey through Mexico or Guatemala. Patch-wearers who did fall ill recovered far more quickly, it added.

The study's authors, who work a biotech company IOMAI in Maryland, estimated that up to 27 million travellers are affected each year. However, as *E. coli* is responsible for only 40 percent of all travellers' diarrhoea, it does not offer complete protection. The usual travel precautions still apply. ■

The fate of *MV Odyssey 1*

After weeks of working with insurance and the salvagers, Odyssey Divers has announced that its liveaboard, the *MV Odyssey 1*, cannot be salvaged and has been declared a total loss. The vessel was severely damaged during a powerful storm on the evening 11 May 2008. As a result, all cruises chartered or booked for the remainder of the year were immediately cancelled. It was hoped repairs on the vessel would be feasible, but sadly, this has not been the case. There are currently

no immediate plans to obtain a new liveaboard. On a much brighter note, the company is now concentrating its resources on developing a new resort and dive operation in an unspoiled corner of southwest Lombok. All the necessary building permits have been obtained, with construction slated to begin in mid September 2008. The opening is planned for late 2009. In the meantime, the company's new Cocotinos resort, overlooking the Bunaken Marine Park in North Sulawesi, is in full operation. ■



Hilton Hurghada Resort and Eurodivers Egypt

Eurodivers Egypt is proud to announce its new dive center in Egypt in an agreement with Hilton Hurghada Resort. Located on the south end of the newly renovated Hurghada hotel promenade, it is a short boat ride for all the top dive sites in the area.

The hotel is also well known within the Hurghada dive community as it is the location of the PADI - IE (Instructor Examination) for PADI Europe in Hurghada for many years. The Hotel was built in 1995 and has a total of 392 rooms split in two areas which were renovated in 2004. The dive center is located right on the beach; it has its own marina, with a handy guest equipment room, which makes the diving departures just a stroll from the room to the boat.

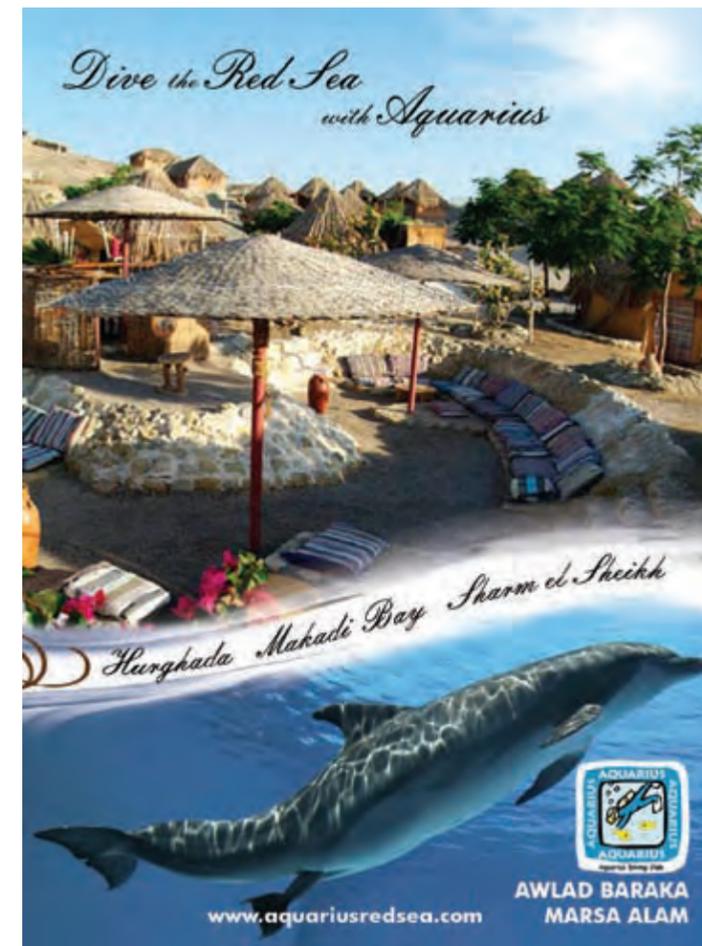
Eurodivers will be offering daily full and half day diving trips, special dive excursions, free "Try dives in the pool", all PADI courses from Bubble Maker to instructor, and of course, Nitrox is for free for all certified Nitrox divers. Hilton Hurghada Resort and Eurodivers Egypt will soon announce their new room and dive packages website deals for the upcoming winter season, so keep an eye on the news section of their website. ■

Scuba Seraya gets online booking

Scuba Seraya Resort's efficient online reservation system with guaranteed instant confirmation makes online bookings a breeze. All that is required is to check the resort's website, where travellers can find a 14-day calendar displaying real-time room availability along with the corresponding rates.

Once the room type and date of stay has been chosen, guests must pay a minimal deposit of 10 percent, which will be deducted from the total room charge, as a reservation guarantee. This assures guests that their room of choice is ready and waiting upon their arrival at Scuba Seraya Resort. Guests will receive an automated e-mail confirming the transaction upon receipt of payment.

Situated on a stretch of prime beachfront property on Bali's north east coast, Scuba Seraya Resort offers exceptional diving and comfortable accommodation in a tranquil setting. A myriad of outstanding dive sites is close at hand including Seraya's very own house reef and the world-famous *Liberty* wreck. For additional information regarding the resort's facilities and location, see www.scubaseraya.com. ■



Delta Airlines to Add Non-Stop Service from New York to Bonaire

Delta Air Lines will launch a weekly non-stop flight from New York to/from Bonaire beginning on 20 December 2008.

"We are delighted that traffic to Bonaire continues to grow, even at a time of international economic challenges," said Burney el Hage, Bonaire's Commissioner of Tourism.

To inaugurate the new service, Delta is offering one-way special fares of US\$239 from New York to Bonaire for travel between 10 January and 4 April 2009. ■



Edited by
Scott Bennett

Underwater Historical Trail Proposed in Saipan

In a move that could help boost local tourism, Saipan officials are considering a plan to establish an underwater historical trail in the lagoon on the island's west coast. A major battleground during the Second World War, the lagoon and its environs is an underwater graveyard for a multitude of relics including tanks, pontoon barges, a Japanese anti-submarine boat, and even an aircraft.

Earlier this year, underwater archaeologists Jason Burns and Michael Krivor catalogued a host of this war era wreckage in a survey utilizing specialized sonar and magnetic detection equipment. A draft report on those findings will arrive at the Commonwealth's Historic Preservation Office in the coming weeks, said director Roy Sablan.

Establishing an underwater trail for divers is "the next move" Sablan said, noting the report will help guide that effort. "It will be a good opportunity for tourists," he said. The trail could serve as a major draw for diving enthusiasts, who would follow local tour operators from wreck to wreck.

However, before the project can commence, additional surveys may be required to find out how many more artifacts there are to discover in Saipan's lagoon, according to preservation office staff archaeologist Ronnie Rogers. "When the west coast of the island was bombed, a lot of equipment got pushed into the lagoon and ended up on the bottom," Rogers said, adding a more thorough survey might occur in the coming months and completion of the trail may take up to a year. Saipan's underwater history "is a resource from which we can all benefit," he added. ■

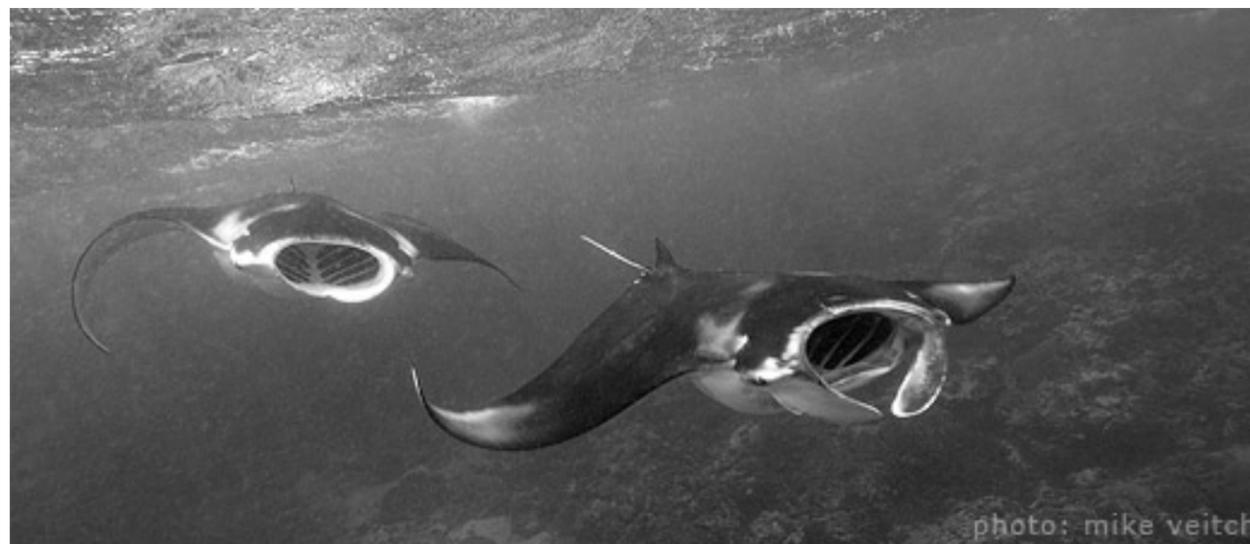


photo: mike veitch

Yap Manta Fest 2008

Manta Ray Bay Hotel and Yap Divers have announced the second edition of their "Manta Fest" photo festival series. From September 3 to October 2, some of the world's top underwater shooters and videographers will be on hand to help guests hone their underwater photographic skills. Two sessions will be held; the first, from September 3-17 will feature Eric Cheng and Mike Veitch. From September 17 to October 2, Eric Hanauer and Marty Snyderman will be featured. Nightly presentations will be held outdoors as well as classroom seminars held in the afternoons. A slide show and video presentation comprising the guests' best efforts will be held on the last day of each session, with awards given to the participants. During the month-long event, guests will get to rub elbows with some of the world's top underwater shooters, experience superlative diving and most of all, have lots of fun. To book, visit the websites of one of the event's three corporate sponsors:

Reef and Rainforest: www.reefrainforest.com
South Pacific Island Travel: www.spislandtravel.com
World of Diving: www.worldofdiving.com ■

Travel Tips - Skytrax

So, you've finally decided to go on that big overseas dive trip. The resort is booked but then comes the big question: which airline? The bewildering variety of choices is enough to overwhelm the most seasoned of travellers. Now, get the facts from fellow travellers with the simple touch of a mouse. With Skytrax, the world's largest selection of airline and airport reviews, access more than 335,000 independent traveller reviews and ratings for more than 600 airports worldwide. Reviews are even available on seating comfort from economy to first class.

Find out what to expect during your next transit stopover with extensive information on amenities such as restaurants, lounges, Internet access, transit hotel rooms, guided city tours or a quiet corner to have a snooze. A news page has all the latest information from new airlines to the latest routes and services. In addition, direct links are provided to websites of airlines worldwide based on regions. Not happy with a flight or airport? Write your own review and let others know of your experience! ■

A Percent for the Ocean

Carlos Hiller is a painter of ocean light and life



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