

Holiday Gifts & Stocking Stuffers for Divers



GLOBAL EDITION
December 2008
Number 27

NORTH COAST
EAST COAST
LIBERTY WRECK

Bali

Indonesia
Mimic Octopus

White Sea
White Whales

Profile
The Taylors

Rebreather Divers'
**Seven
Deadly Sins**

Underwater
Photography
No Flash

Portfolio
Pierre Sentjens

COVER PHOTO BY LAWSON WOODS

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COVER PHOTO: *Liberty Wreck, Bali, Indonesia*, by Lawson Woods

(CONTINUED ON PAGE 4)



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Sign the petition & donate to the cause at: www.sos-seaturtles.ch

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Goby. Photo by Andrea Ferrari



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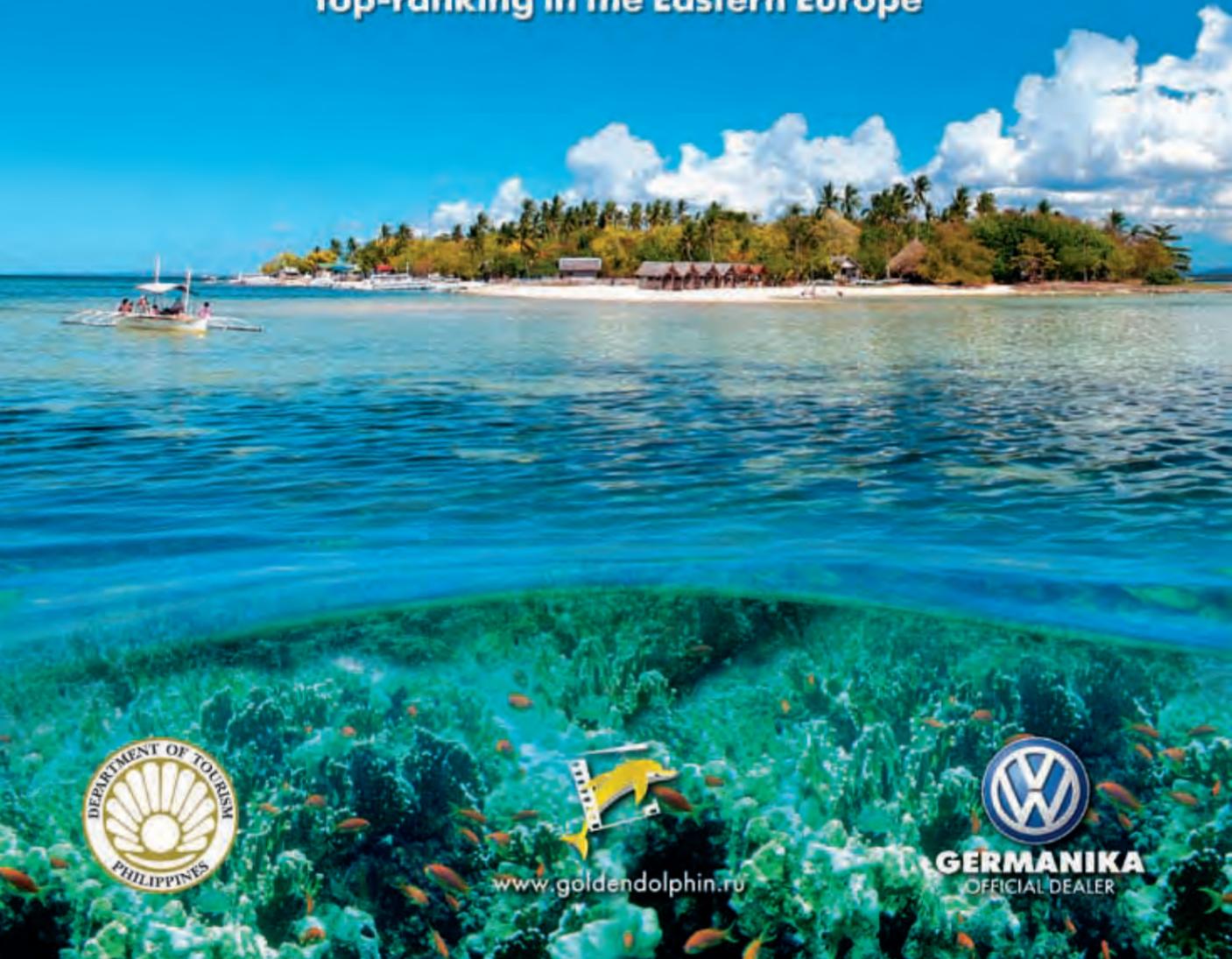
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Be Blessed

What a year it has been. The US elections, a sudden flip-flop in the global economy and a growing sense of urgency that we have to act now, if we are to save the coral reefs, the sharks, tunas and what else.

There can be little doubt that we live in exciting yet challenging times. But it is in such times that we should reflect and count our blessings.

Diving and all the experiences it has given me certainly count as mine. Among the highlights are some incredible close encounters and interactions with wildlife, adventures to some of the most beautiful spots on the planet, archaeological finds and meeting a lot of very interesting people.

It is not about having a lot of money, so we can go jet-setting to another continent. It is about treasuring all those small simple pleasures that playing around with water and in water can give us. I live in a European capital, and while it is a

port and I have not far to the seaside, the local coastline is a far cry from a dive destination full of colourful corals and exotic wildlife. But I can take the metro to the beach, so sometimes we go there in our lunch-break and watch the ships go by and the seagulls fish while contemplating how people in times now forgotten lived on the same spot eking out a livelihood from the ocean. It was not long ago that researcher found the remains of a Stone Age settlement on that same spot. Some 10,000 years ago somebody else had their lunch there, too.

I can also go diving there. It is mostly coarse sand with some patches of kelp and beds of seaweed. It is certainly not a spot that will be featured on National Geographic or BBC Wildlife. Some would call it boring. But I always see something new. And even the

most ordinary dive makes me feel much better than before I went in.

It only takes a short while, once I submerge, before I have left all the worries and everyday stress behind. Then and there I rebuild a connection with nature that is so easily lost when you live in a bustling city. That is where I regain a perspective of what really matters. It is not things, but the living world around us and the people we love.

— Peter Symes
Editor-In-Chief



In the ocean you never know what you will come across. This little fella was discovered by researchers working with the Census of Marine Life. It turns out that many deep-sea octopuses evolved from a common ancestor, whose closest living relative still exists in the Southern Ocean. What do you know?



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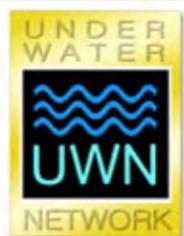
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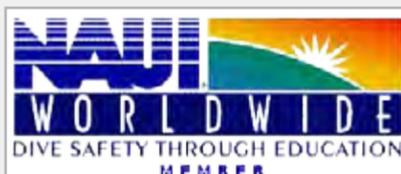
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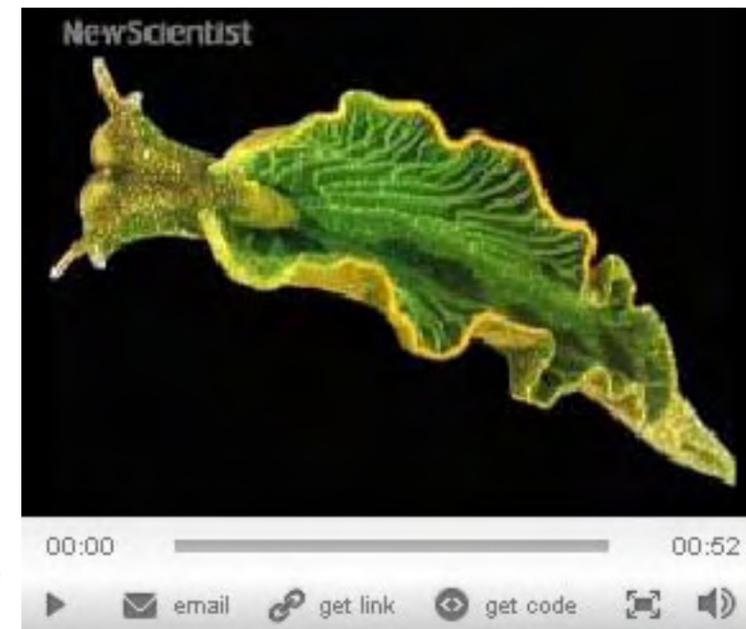


X-ray mag

News edited by Peter Symes & Arnold Weisz

NEWS

Click on image to watch video (requires online connection)



This sea slug is solar powered A hybrid plant-animal?



***Elysia chlorotica* is a green sea slug, with a gelatinous leaf-shaped body, that lives along the Atlantic seaboard of the US. What sets it apart from most other sea slugs is its ability to run on solar power.**

This sea slug resembles a nudibranch, but does not belong to that suborder of gastropods. It is instead a member of the closely-related suborder *sacoglossa*

The slug feeds by sucking the cell contents from the intertidal algae *Vaucheria*. Most of the cell contents are simply digested by the slug. But the slug is also able to keep the chloroplasts—the photosynthesising “factories” from the algae—alive and operating and functioning within its own body by storing them in the cells that line its gut.

But that is not all. Here is the really interesting twist: Young *E. chlorotica*, which were fed with algae for only two weeks, have been shown to survive for the rest of their year-long lives without eating, apparently surviving on the photosynthetic production from the assimilated chloroplasts. But how can that be possible when the isolated chloroplasts only contain enough DNA to encode about ten percent of the proteins needed to keep themselves running? The other necessary genes are found in the algae’s nuclear DNA.

“So, the question has always been, how do they continue to function in an animal cell missing all of these proteins,” says Dr Mary Rumpho of the University of Maine and an expert on *E. chlorotica*. The answer she found is as simple as it is stunning. The sea slug has acquired its photosynthetic capabilities thanks to

genes it has “stolen” from the algae it eats. (SOURCE: PUBMED CENTRAL)

“Stolen” genes

In their latest experiments, Rumpho and colleagues sequenced the chloroplast genes of *Vaucheria litorea*, the algae that the sea slug feed on. They succeeded in demonstrating that if the sea slug used the algal chloroplasts alone, it would not have all the genes needed to photosynthesize.

They then turned their attention to the sea slug’s own DNA and discovered it contained one of the vital algal genes. Its sequence was identical to the algal version, indicating that the slug had probably acquired the gene from its food.

“We do not know how this is possible and can only postulate on it,” says Rumpho, who told New Scientist that the phenomenon of stealing is known as kleptoplasty.

One possibility is that, as the algae are processed in the sea slug’s gut, the gene is taken into its cells along with the chloroplasts. The genes are then incorporated into the sea slug’s own DNA, allowing the animal to produce the necessary proteins for the stolen chloroplasts to continue working.

Another explanation is that a virus

found in the sea slug carries the DNA from the algal cells to the sea slug’s cells. However, Rumpho says her team does not have any evidence for this yet. In another surprising twist with far reaching implications, the researchers also found the algal gene in *E. chlorotica*’s sex cells, meaning the ability to maintain functional chloroplasts could be passed to the next generation. The researchers believe many more photosynthesis genes are acquired by *E. chlorotica* from their food, but still need to understand how the plant genes are activated inside sea slug cells.

Further reading: **Solar-Powered Sea Slugs**

There are two major groups of solar-powered slugs. One group, the sacoglossans, are essentially herbivores who remove intact plastids from the plants and keep them alive and functioning in their own bodies.

The second group are essentially carnivores, or related to carnivores, and they nurture single-celled plants [*zooxanthellae*] in their bodies. In most cases they have ‘stolen’ the zooxanthellae from their original cnidarian hosts, such as sea anemones or soft corals. SOURCE: SEA SLUG FORUM





Dr Furu Mienis with Lophelia colony

Atlantic Deep Water Coral Reefs revealed

Imagine descending in a submarine to the ice-cold, ink-black depths of the ocean, 800 meters under the surface of the Atlantic. Here, the tops of the hills are covered in large coral reefs. Dr Furu Mienis, a researcher with the Netherlands Organisation for Scientific Research, studied the formation of these unknown cold-water relatives of the better-known tropical corals.

Mienis studied the development of carbonate mounds dominated by cold-water corals in the Atlantic Ocean at depths of six hundred to a thousand meters. These reefs can be found along the eastern continental slope from Morocco to Norway, on the Mid-Atlantic Ridge and on the western continental slope along the east coast of Canada and the United States. Mienis studied the area to the west of Ireland along the edges of the Rockall Trough.

In her research, Mienis analysed environmental factors like temperature, current speed and flow direction of seawater, as these determine

the growth of cold-water corals and the carbonate mounds. The measurements were made using bottom landers, observatories placed on the seabed from the NIOZ oceanographic research vessel, *Pelagia*, and brought back to the surface a year later.

Food highways

Cold-water corals are mainly found on the tops of carbonate mounds in areas where the current is high due to strong internal waves. These waves are caused by tidal currents and lead to an increase in local turbulence that results in the seawater being strongly mixed in a vertical direction. The out-

come is the creation of a kind of highway between the nutrient-rich, sunlit zone at the sea surface and the deep, dark strata where the 380-meter high tops of the mounds are found. This allows the cold-water corals to feed on algae and zooplankton that live in the upper layers of the sea. *Lophelia pertusa* and *Madrepora oculata* are the most important coral species found on the European continental slopes.

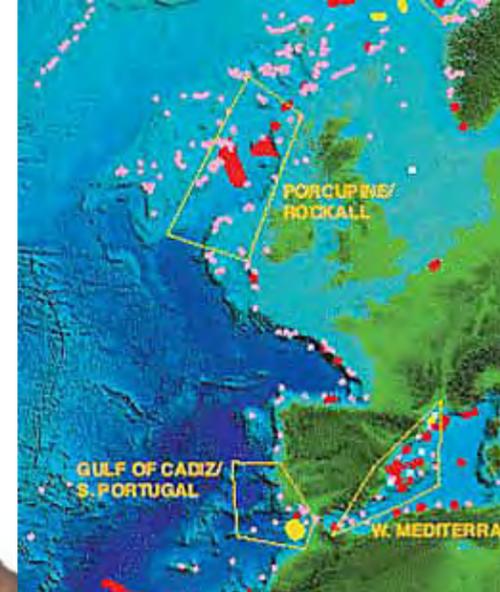
Carbonate mounds

How the carbonate mounds were formed was investigated by using a piston core from the research vessel to



Rose fish are found off the coast at depths of 100 to 1000 metres; juveniles may be found in coastal waters such as fiords. The adults are slow moving, gregarious fish, of some commercial importance

Cold-water corals reefs can be found along the eastern continental slope from Morocco to Norway, on the Mid-Atlantic Ridge and on the western continental slope along the east coast of Canada and the United States



take samples of up to 4.5 meters of sediment. These cores were then cut into thin slices that were analysed separately—the deeper the layer, the older the sediment. The samples studied were aged up to 200,000 years old.

Large hiatuses found in the core were possibly caused by major changes in tidal currents. The groups of carbonate mounds develop in the direction of the strongest current and their tops are of equal height.

The mounds were found to be built up from carbonate debris and sediment particles caught in between coral branches. These cold-water coral reefs have, therefore, not developed as a result of leakage of natural gas from the sea bed.

However, that may well be the case in the Gulf of Mexico. This area is currently being studied from the American research vessel, *Nancy Foster*, by

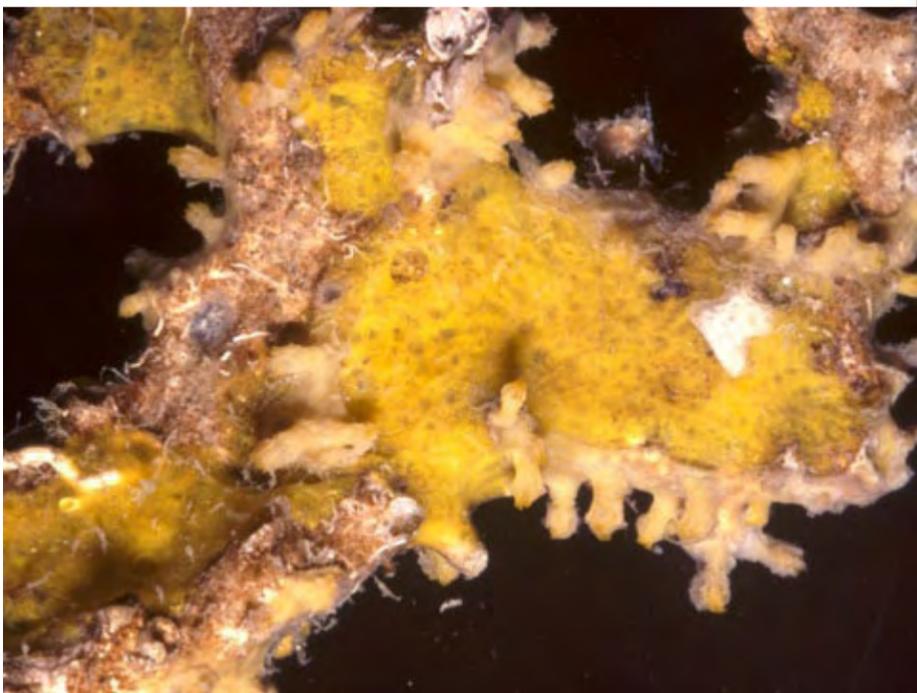
Mienis, her supervisor Tjeerd van Weering and NIOZ associate researcher, Gerard Duineveld.

warming and the resulting acidification of the oceans also pose a threat: organisms are less effective at taking up carbonate from seawater that is too acidic. This is true not only for corals but also for some species of algae that are a source of food for the corals.

Other activities on the seabed that can cause damage to the coral reefs are

offshore industries and bottom trawlers. A number of European areas containing cold-water coral reefs have thankfully already obtained protected status.

This research was funded by the Netherlands Organisation for Scientific Research (NWO) and the European Science Foundation (ESF). ■

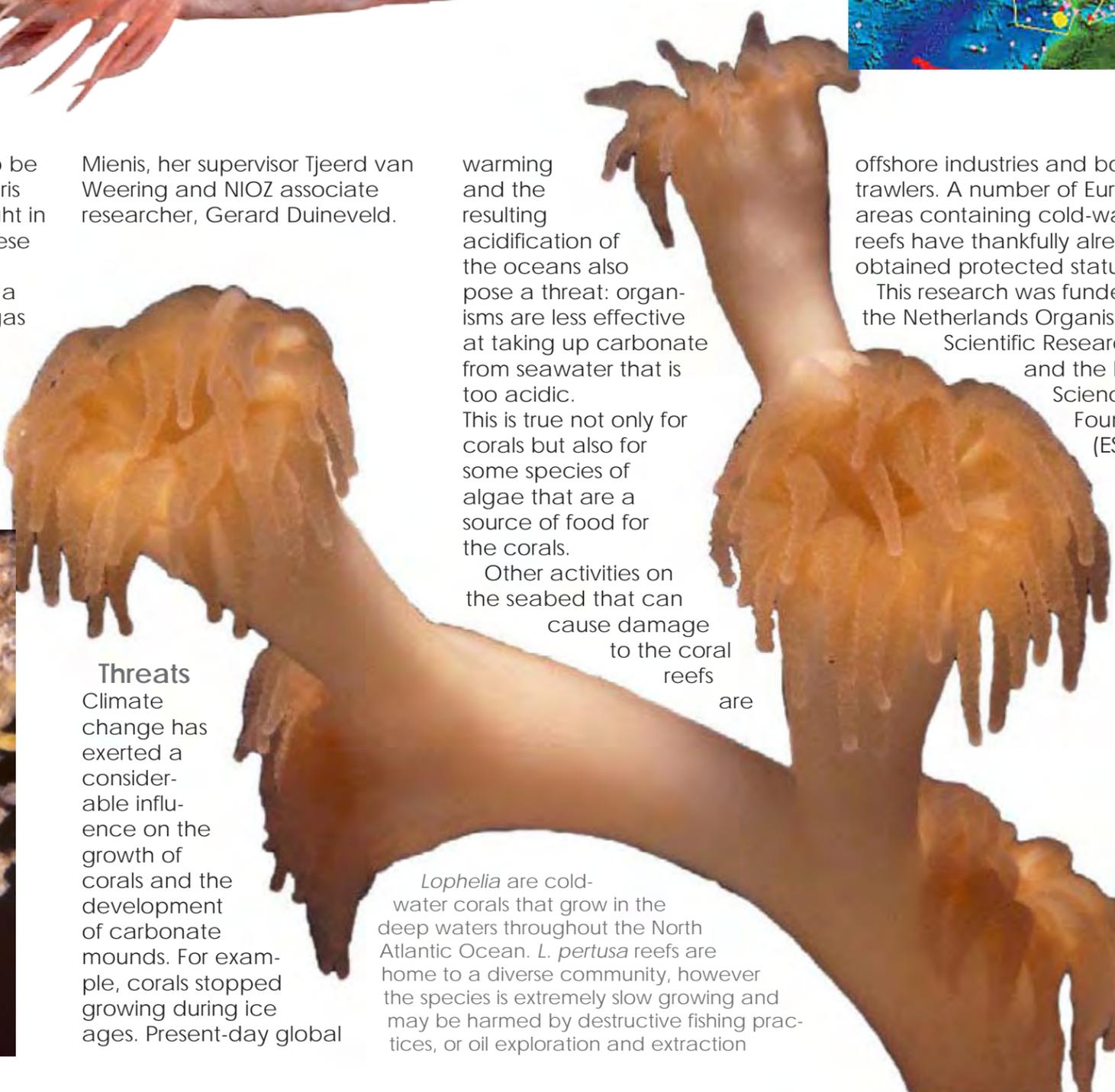


Hexadella is an encrusting sponge

Threats

Climate change has exerted a considerable influence on the growth of corals and the development of carbonate mounds. For example, corals stopped growing during ice ages. Present-day global

Lophelia are cold-water corals that grow in the deep waters throughout the North Atlantic Ocean. *L. pertusa* reefs are home to a diverse community, however the species is extremely slow growing and may be harmed by destructive fishing practices, or oil exploration and extraction



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Tropical fish spotted off Rhode Island

Through weekly studies with a trawl boat, a University of Rhode Island professor has proven an increase in the tropical fish population in the Narragansett Bay, possibly caused by a four-degree increase in water temperature.

Professor Jeremy Collie studies bottom-dwelling fish populations and trawls weekly in and at the mouth of Narragansett Bay to collect data about the local fish. He has recorded more than 130 marine fish and invertebrate species. Among these are 31 tropical fish species, and the number is on the rise. However, he said, "The tropical fish are rare occurrences."

Collie studied the size of fish species compared to water temperature in various years, and found a link between higher water temperature and smaller body size, which could have a negative effect on the fishing industry. The region's native species could be negatively affected by the increase in temperature. A slight change of water temperature may be responsible for the decreasing populations of species such as cod and winter flounder, and increasing sightings of tropical and temperate-water fishes.

Collie believes that current practices in the fishing industry may also be to blame for this unusual ecological distribution of marine organisms. The eggs of these tropical fish are carried up to 2,000 miles north, along the eastern coastline. Tropical storms churn the seas and create warm eddies that carry the eggs away from the Gulf Stream. Occasionally, small warm-pockets of water confuse the navigational systems in marine organisms and result in misguided migrations.

Earlier this year in Jamestown, scientists, divers and fish-lovers gathered from July to September along the rocky coast of Fort Wetherill State Park to view the non-native marine species. Tropical fish such as the snowy grouper, spotfin butterfly, and the red lionfish have been sighted frequently over the last 16 years. ■

Marine invasive species advance 50km per decade

A rapid, climate change-induced northern migration of invasive marine species is one of many research findings presented during the recent First World Conference on Marine Biodiversity held in Spain in November.

During the sessions investigators reported that invasive species of marine macroalgae spread at 50km per decade, a distance far greater than that covered by invasive terrestrial plants. The difference may be due to the rapid dispersion of macroalgae propagules in the ocean.

"The impacts of the pressure of climate change are particularly dramatic, according to results presented at the Conference, in the abrupt deterioration of the Arctic and coral reefs," said chief scientist and co-chair of the Conference Carlos Duarte. "The convergence of pressures on the ocean is leading to a global erosion of marine biodiversity where climate change may deliver the coupe de grace for a catastrophic collapse."

Almost half of the 450 communica-

tions at the Conference, organised by the Spanish Council of Scientific Research (CSIC), addressed the loss of marine biodiversity and its consequences, whereas the rest covered the exploitation of marine living resources, as well as exciting discoveries of novel ecosystems in extreme ecosystems, particularly in the deep sea.

Deep Sea Discoveries

Deep sea research has increased greatly in the last decades thanks to technical developments like submarines, remotely operated vehicles (ROV) and autonomous vehicles (AUV). One of the coordinators of the deep sea program in Spain, CSIC researcher Eva Ramirez, is studying the hydrothermal vents which, discovered in 1977, are one of the

principal discoveries of modern oceanography. These submarine volcanoes sustain high densities of fauna which, with specific adaptations, live independently of solar energy.

"Since their discovery, more than 500 hydrothermal vent-species have been described, most endemic, as well as 200 cold water seep species and 400 morphological species of chemosynthetic ecosystems which form on the carcasses of whales," points out Ramirez.

For instance, on the mud volcanoes in the Cadiz gulf 13 new species of polychaetes (marine worms) are described as well as a new genus, *Bobmarkeya*, which, due to its characteristic appearance, owes its name to Bob Marley. ■

Invasive species of marine macroalgae spread at 50km per decade,

Lionfish have migrated north along the eastern US seaboard



Rare Corals Resort to Hybridisation For Survival

Rare coral species are saving themselves from extinction by hybridising with other coral species, according to research published by Australian scientists. The authors conclude that a number of rare Indo-Pacific *Acropora* species are the products of recent hybridisation events, and highlight the significance of hybridisation in coral diversification. ■

Blue Coral of Okinawa Joins Threatened List

The International Union for the Conservation of Nature (IUCN) has expanded its Red List of Threatened Species to include blue coral, which is found in the waters off Okinawa Prefecture. The IUCN, comprising governments and environmental conservation groups around the world, released the new study at a recent general meeting held in Barcelona.

Last year, a large community of blue coral covering an area of about 1,000 square meters was found in Oura Bay in Nago, Okinawa Prefecture. The coral is about four kilometers from the planned relocation site for the US Marine Corps' Futenma Air Station.

Another community of blue coral exists off the coast of Ishigakijima island. ■

Florida's \$5.5 Billion Reef Economy at Risk From Climate Change

A comprehensive new analysis of business generated by Florida's coral reefs warns that more than 70,000 jobs are at stake

"A business-as-usual approach to climate change could mean a lot less business for Florida," said Jerry Karnas, Florida project director at Environmental Defense Fund, which commissioned the report, *Corals and climate change: Florida's natural treasures at risk*.

Florida boasts the only shallow-water coral reefs in the continental United States—and those reefs are a centerpiece of South Florida's economy. Like coral reefs worldwide, Florida's are under siege from a range of environmental challenges that could lead to huge economic losses in the state.

The groupers, snappers, jacks, angelfish, and spiny lobsters that thrive on coral reefs also make Florida a destination for

millions of fishermen every year. Catches of reef-associated species in South Florida account for US\$158 million in annual sales.

Terry Gibson, the Fishing Editor of Outdoor Life magazine and a co-author of the report with University of Miami Professor Hal Wanless, noted that "from scuba diving in the Keys to charter fishing boats in Miami-Dade to commercial fishing in Martin County, reef-related sales amount to more than \$5.5 billion each year."

EDF's Karnas said quick federal action to limit greenhouse gas emissions can help protect Florida's reefs and the state's economy. "We need Congress to cap global warming pollution. This report shows that doing nothing is the worst option for Florida's economy." ■

Florida Town Will Apply Electric Current to Stimulate Coral Growth

The town of Lauderdale-by-the-Sea in south Florida plans to install a cluster of electrified artificial reefs off the beach and run a low-voltage current through steel frames to stimulate the growth of corals, creating habitat for fish, crabs and other marine creatures. Shaped like airplane hangars, the six undersea structures each would stretch six feet along the ocean floor. Two buoys with solar panels would deliver electricity through insulated cables.

The electric current, too weak to harm swimmers or fish, draws dissolved calcium carbonate and other minerals from seawater, helping corals build their skeletons.

But some scientists aren't sure a jolt of electricity is what South Florida's reefs

need. "There are no peer-reviewed papers that I'm aware of that really document that corals grow faster or better on it," said Richard Dodge, executive director of the National Coral Reef Institute at Nova Southeastern University.

John McManus, director of the National Center for Coral Reef Research at the University of Miami, said there's no doubt steel frames will grow coral, if only because they provide a surface off the murky floor of the ocean. But while a mild electric current stimulates coral growth initially, he said it's unclear whether the benefit continues after the coral has thickened enough to block the current. Most important, he said, there have been no studies comparing electrified steel structures with identical structures without electricity. ■

"There's not much evidence to say it's worth putting the electricity through."

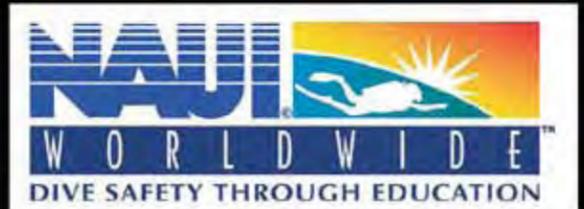
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Zooplankton Eyes May Consist of Only Two Cells



Planktonic mollusc larva. This image by Dr Matthew Hooge, University of Maine took 20th prize in Nikons microscopy image contest in 2007

Larvae of marine invertebrates—worms, sponges, jellyfish—have the simplest eyes that exist. They consist of no more than two cells: a photoreceptor cell and a pigment cell. These minimal eyes, called eyespots, resemble the 'proto-eyes' suggested by Charles Darwin as the first eyes to appear in animal evolution. They cannot form images but allow the animal to sense the direction of light. This ability is crucial for phototaxis—the swimming towards light exhibited by many zooplankton larvae. Myriads of planktonic animals travel guided by light every day. Their movements drive the biggest transport of biomass on earth. ■

It Pays to Protect the Seas



Rudolf de Groot, of Wageningen Univeristy, the Netherlands, has put a price tag on the benefits derived from the protection of coastal ecosystem.

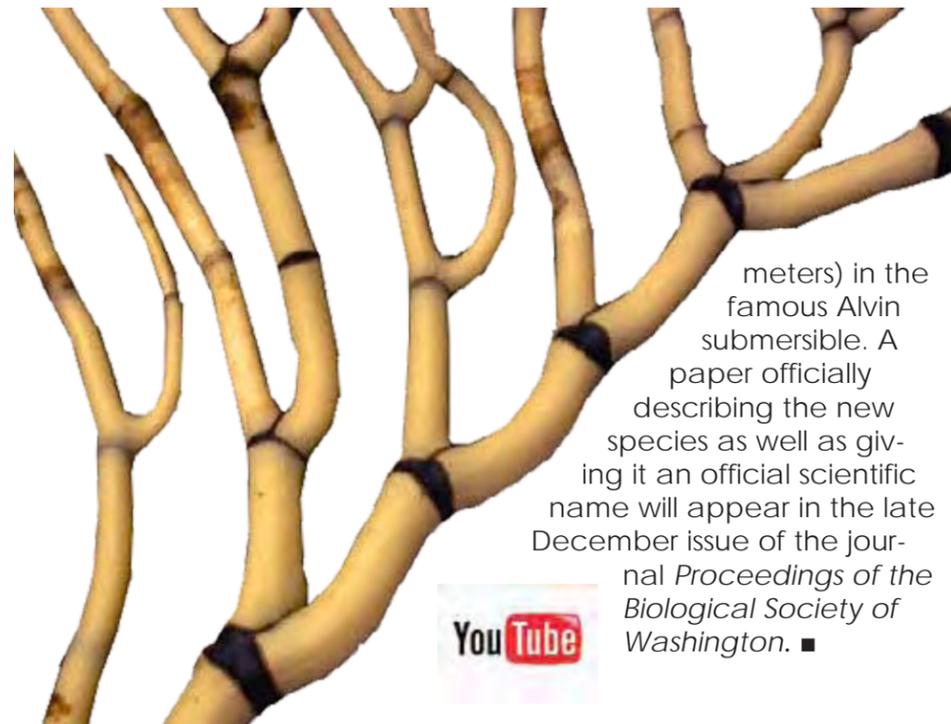
He has calculated that effective protection of 20-30% of coastal ecosystems costs between 5 and 19 billion dollars per year, but can generate benefits in terms of improving the surrounding fish stocks, exceeding the costs. As the actual expenses to maintain the currently unsustainable fishing industry are between 15 and 30 billion dollars per year, the Dutch researcher estimates that creation of the network of Marine Protected Areas would be a more efficient way to boost the fishing industry than the direct financial assistance they now receive. ■

New Species of Isidella Bamboo Coral



A spectacular new species of coral has been discovered thriving in veritable forests on the peaks of undersea mountains off the coast of the Pacific Northwest. The large candelabra or fanlike "bamboo corals" have

been spotted by marine scientists growing to heights in excess of one meter. They are so abundant they create oases for numerous other deep sea creatures. The corals were discovered at depths of 2,300 to 3,300 feet (700 to 1,000



meters) in the famous Alvin submersible. A paper officially describing the new species as well as giving it an official scientific name will appear in the late December issue of the journal *Proceedings of the Biological Society of Washington*. ■



Why Sand is Bad News for Corals

Australian ecologists David Bellwood and Chris Fulton studying rates of herbivory by coral reef fishes on algal turfs. Algal turfs are thick mats of sand and algae that envelope the rocky surfaces where a coral reef would grow, effectively preventing a degraded coral reef from re-establishing itself.

The key to the success of the algae in preventing the re-establishment of coral is the presence of sand, which renders

the algae less appealing to the fishes. The reasons why sand turns off the fishes' appetite are unclear.

According to Dr Bellwood, "...it may be that the sediment acts as an antacid and gives the fish indigestion by preventing their stomach acids digesting their food. Or it may simply be that fish, like people, don't appreciate a mouthful of sand and mud." ■

Elkhorn and Staghorn Corals Gain Protection



Elkhorn and staghorn corals provide the branching framework for reef creatures in search of a safe place to live, eat, and grow. The preservation and recovery of these threatened corals is essential to the conservation of an entire ecosystem. Both elkhorn and staghorn corals were listed as threatened under the Endangered Species Act in May 2006

NOAA's Fisheries Service will increase its protection of threatened elkhorn and staghorn corals in Florida, Puerto Rico, and the US Virgin Islands through a new rule to prohibit activities that result in death or harm to either species. The new regulations take effect on Nov. 21.

"These corals were once the major reef builders in Florida and the Caribbean, but now more than 90 percent of their populations are lost," said Roy Crabtree, NOAA's Fisheries Service's southeast regional administrator.

The rule will prohibit the import, export, take, and all commercial activities involving elkhorn and staghorn corals, including:

- collection or any activities that result in the corals' mortality or injury,
- anchoring, grounding a vessel, or dragging any other gear on the species;
- damaging the species' habitat;
- discharging any pollutant or contaminant that harms the species. ■



Marine algae offer a vast renewable energy source for countries around the world that have a suitable coastline available

PETER SYMES

Seaweed Seen as a Future Green Energy Source

Seaweed farms off Scotland's coast could help the country cut its carbon emissions, produce biofuel and provide valuable habitats for the marine life.

Such farms could produce sustainable biofuel while avoiding the problems of producing it on dry land according to research by the Scottish Association for Marine Science. One of the most serious problems is that growing crops for biofuel takes up agricultural land that could be used for food, driving up food prices. Biofuel crops' heavy use of water is also a concern, and Scotland's cool, wet climate is poorly-suited to growing energy-rich crops. Seaweed could get around these problems.

The idea is that kelp would be harvested and placed in a large digester to be broken down by bacteria to form methane or ethanol. This could then be burned for electricity or heat. Comparatively few residues remain—seaweed contains much smaller quantities of tough lignin and cellulose than land plants—but what is left over at the end can be used as a fertiliser.

Seaweeds are extremely productive plants, with natural stands of brown kelp thought to produce between 16 and 65 kilos of biomass per square metre each year—a great deal compared to land plants like sugar cane, which produces just 8-18 kilos in the same area.

Getting these harvests would probably

involve developing some kind of aquatic version of a combine harvester so that banks of kelp could be cut quickly and without too much human input.

Kelp forests are dense and fast-growing so they should have no problem recovering from periodic harvesting. Norway has similar seaweed stocks to Scotland, and harvests 130,000-180,000 tonnes per year sustainably. Another benefit is that the seaweed farms would provide valuable habitat for marine animals, helping increase biodiversity. ■

“Algae grows 10 times faster than sugar cane — so try to imagine mowing the lawn three times a day and you have your growth rate.”

—Mark Huntley, Royal Dutch Shell

Diving with white whales at the Arctic Circle PADI Dive Center in Russia
www.ice-diving.com

See feature-article on white whales or Belugas elsewhere in this issue

Bioreactors fuelled by algae

Algae is an intriguing biofuel prospect because they are the fastest growing plants on the planet. Other great virtues is that unlike corn-based ethanol, many strains can be grown in salt water on marginal land. Algae only need carbon dioxide, water, and sunlight to make their own food and chemical energy through photosynthesis.

Algae makes oil that can then combust, and it can be used to make lubricants. It only takes a fraction of the space when it is grown in bioreactors, and you don't take something from the food chain.

But scientists caution that while the possibilities are interesting, the unintended consequences of cultivating algae on a large scale must also be considered.

The process of growing algae for fuel production creates a lot of waste and it requires significant energy to maintain the viable mass-culture required for commercial-scale algal operations. There is also the risk of the algae escaping from a commercial farm into the environment,

overwhelming the natural environment and introducing algal toxins. Some algae have a potent neurotoxin that can cause paralytic shellfish poisoning if mussels or the clams that accumulate toxins are consumed.

Researchers at the Center for Biorefining of the University of Minnesota estimate that algae produce 5,000 gallons of oil per acre (56,825 litres per hectare).

By comparison, corn yields 18 gallons, soybeans produce 48 gallons and palm trees yield 635 gallons per acre.

Prof. Charles Trick, University of Western Ontario and a specialist in aquatic sciences and microbial ecology, thinks the focus on algae is déjà vu.

“Much work—good work—was done in the 1970s. Algae, biofuels and power cells were all developed because of the oil embargo. The difference now, he says, is that major oil companies are behind biofuels. And there is a sense of urgency.

“The demand is now driven by India and China,” Trick says. “We have to do things differently.” ■

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The sight of ink squirts make squid swim for their lives

"Ink alarm!"

Octopuses share 'living ancestor'

Many of the world's deep-sea octopuses evolved from a common ancestor, whose closest relative still exists in the Southern Ocean, a study has shown.

Researchers suggest that the creatures evolved after being driven to other ocean basins 30 million years ago by nutrient-rich and salty currents.

Dr Jan Strugnell, a biologist at Queen's University Belfast, used all of that material and data to investigate the deep-sea octopuses.

Strugnell traced the timeline for the distribution of deep-sea octopuses 30 million years back to a common ancestor.

The species could all be traced back to a shallow-water octopus that lived in the Southern Ocean. Today, the creature's closest living relative (Megaleledone setebos) can still be found in the icy waters around Antarctica.

Strugnell's work also enabled her to identify how changes in the region's ocean played a pivotal role in the development of the new species, especially the emergence of a "thermohaline expressway".

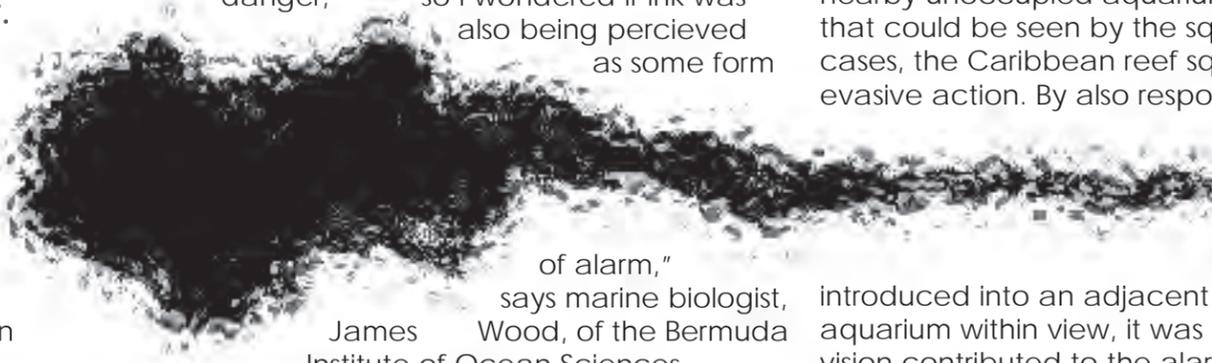
Image and background info courtesy of Dr James Wood, who will assume the position as Director of Education at the Aquarium of the Pacific in Long Beach, California, on 19Jan 2009

When squid see ink squirted by another squid, they interpret it as a signal for danger.

Animals respond to predatory attacks with distinctive behaviours, signals or displays. Cephalopods, with their complex nervous systems, produce many behaviors, one of which is ejecting ink when attacked by predators

It is assumed that the main reason squid squirt ink is to hide and escape from predators, but inking may also serve as an alarm cue for other squid to pick up.

"When fish bleed, the scent of their blood has been proven to alert nearby fish of danger, so I wondered if ink was also being perceived as some form

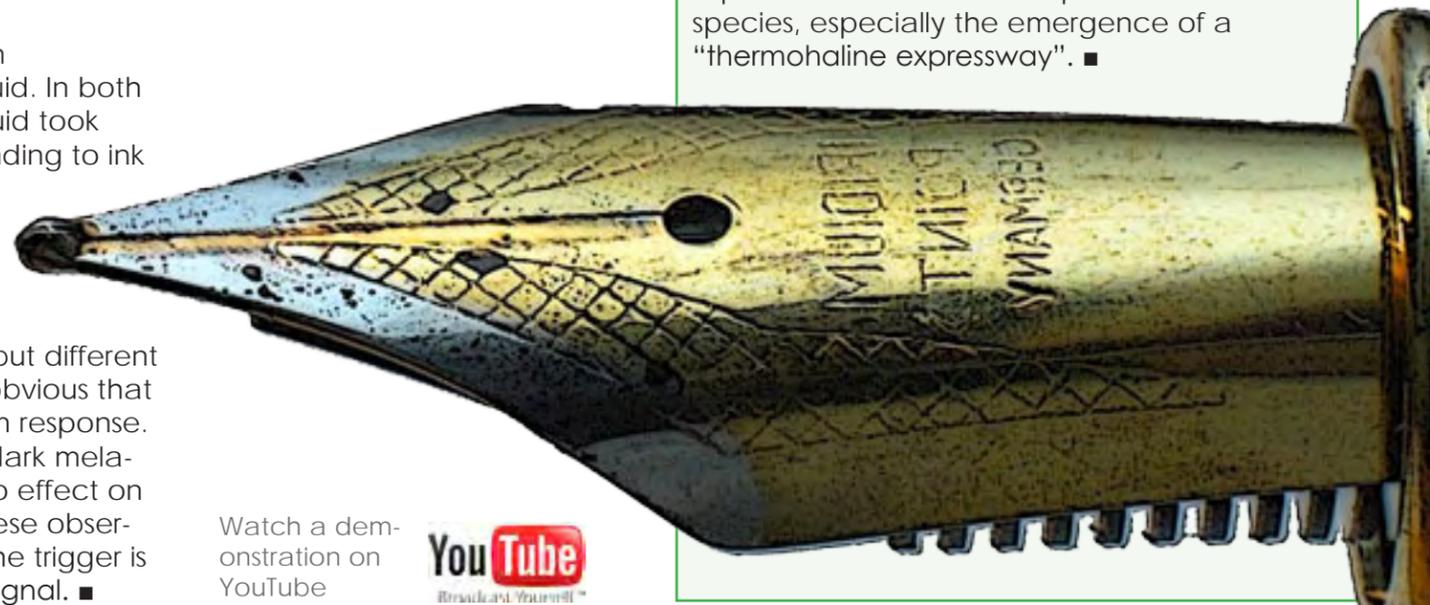


of alarm," says marine biologist, James Wood, of the Bermuda Institute of Ocean Sciences.

Squiddish for yelling "watch out" Wood and colleagues collected ink from individual squid by scaring them with a shake of their aquaria. The team then

either added a dose of ink to a squid's aquarium, to a nearby unoccupied aquarium that could be seen by the squid. In both cases, the Caribbean reef squid took evasive action. By also responding to ink

introduced into an adjacent but different aquarium within view, it was obvious that vision contributed to the alarm response. Meanwhile, ink that had the dark melanin colouring removed had no effect on squid behaviour. Together, these observations clearly indicate that the trigger is a visual and not a chemical signal.



Watch a demonstration on YouTube



“We could not be more pleased with the positive feedback of this year’s show. With the current worldwide economic challenges, a number of DEMA members, retailers and exhibitors were apprehensive at the very beginning of the show. Yet, it became apparent when attendees entered the exhibit hall and disconnected from outside negative influences, they could conduct business in a direct and productive manner.”

—Tom Ingram, Executive Director of DEMA

“Closing at 100 points up”

DEMA 2008



After a while most dive expos tend to look alike. Huge halls with harsh lighting, hard floors and long aisles. The interesting bits are in all the individual booths



Going into the 32nd DEMA, I think many other dive professionals shared my sentiments of trepidation of what effects the financial crisis was going to have on the expo. It was only weeks before the dam burst wide open and sent stock markets worldwide into nose dives and yo-yo bounces. But I was in for a nice surprise.

I have participated in some 15 DEMA expos, but this one stood out as odd one. There weren't very many significant new innovations or developments in terms of products or new destination—the ones we found are described under the usual sections of this magazine—but the atmosphere were very energetic and positive with a lot of trading going on in the booths. Most other people I spoke to also expressed their positive surprise. It was a world apart from the gloomy news on the economy you could watch on TV back at the hotel.

X-RAY MAG's "GirlDiver"
Cindy Ross (of GirlDiver.com)
reporting from the floor



Tom Ingram presents Clement Lee with the 2008 Reaching Out Award

This year's show was bigger by some 50 exhibitors, and according to DEMA's president, Hornsby, there was a higher percentage of buyers on the show floor than nor-

mal, "and that's who we want to reach."

The social highlight of the DEMA Show 2008 was the 20th Annual DEMA Awards Party held on the evening of October 24 at the Riviera Hotel and Casino Ballroom. It proved to be an unforgettable night of music, delectable food, fun and live entertainment with industry peers dressed to impress as the red carpet was rolled out in celebration of both past and present SCUBA diving industry "Legends" who have helped influence and introduce the underwater world through movies, television and film. Legends Zale Parry, Stuart Cove, Chuck Nicklin, Pete Romano, Al Giddings, Gavin McKinney and their families joined Awards Party attendees at the glitz and glamour event decorated in complete Hollywood style! Party attendees were greeted at the Ballroom entrance by two 8-foot Scuba Diver "Oscar" statues and VIP tables were adorned with brilliant "diamonds" etched with respective company logos. It appeared virtually every seat was occupied to honour the recipients of the 20th Annual DEMA Reaching Out Award, Clement Lee and Marty Snyderman. ■

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, DEMA Show 2009, the 33rd Annual DEMA Show, will take place November 4-7, 2009 at the Orange County Convention Center in Orlando, FL. More than 650 exhibitors from around the world and thousands of dive and travel industry professionals are expected to gather at next year's show. ■



US Airmen extend enlistment underwater

ANDERSEN AIR FORCE BASE, Guam - Lt. Col. Anthony Davit, 554th RED HORSE Squadron commander, administers the oath of enlistment to Master Sgt. Chad Craig, 25 feet underwater off Gab Gab beach.

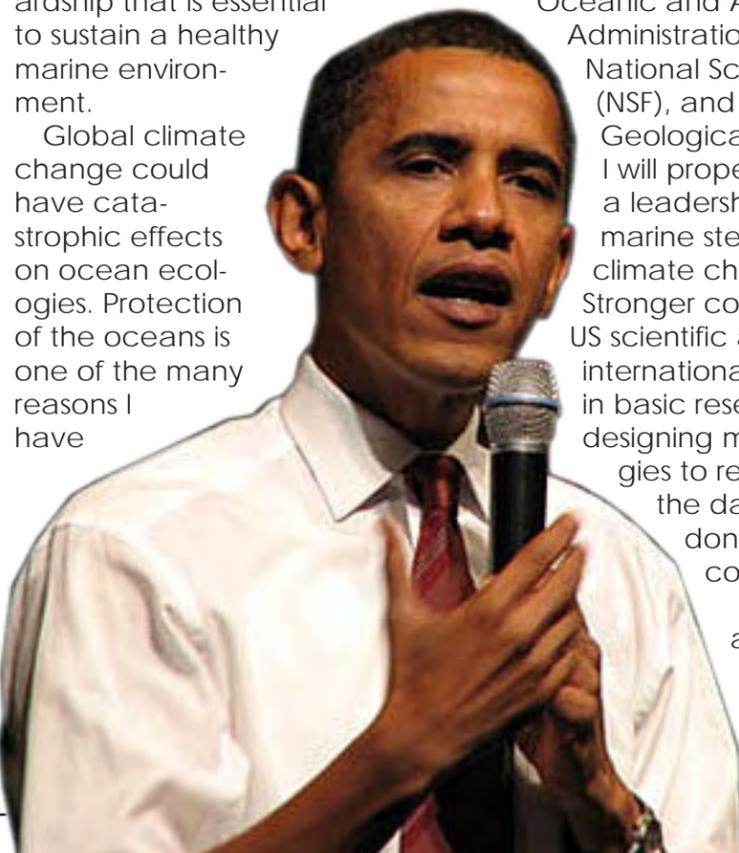


Barack Obama on protecting the Oceans

The US president-elect lays out steps the United States should take to protect ocean health during his presidency

Oceans are crucial to the earth's ecosystem and to all Americans because they drive global weather patterns, feed our people and are a major source of employment for fisheries and recreation. As president, I will commit my administration to develop the kind of strong, integrated, well-managed program of ocean stewardship that is essential to sustain a healthy marine environment.

Global climate change could have catastrophic effects on ocean ecologies. Protection of the oceans is one of the many reasons I have



developed an ambitious plan to reduce U.S. emissions of greenhouse gases 80 percent below 1990 by 2050.

We need to enhance our understanding of the effect of climate change on oceans and the effect of acidification on marine life through expanded research programs at NASA, the National Oceanic and Atmospheric Administration (NOAA), the National Science Foundation (NSF), and the United States Geological Survey (USGS). I will propel the US into a leadership position in marine stewardship and climate change research. Stronger collaboration across US scientific agencies and internationally is needed in basic research and for designing mitigation strategies to reverse or offset the damage being done to oceans and coastal areas.

The oceans are a global resource and a global responsibility for which the US can and

should take a more active role. I will work actively to ensure that the US ratifies the Law of the Sea Convention—an agreement supported by more than 150 countries that will protect our economic and security interests while providing an important international collaboration to protect the oceans and its resources. My administration will also strengthen regional and bilateral research and oceans preservation efforts with other Gulf Coast nations.

Our coastal areas and beaches are American treasures and are among our favorite places to live and visit. I will work to reauthorize the Coastal Zone Management Act in ways that strengthen the collaboration between federal agencies and state and local organizations. The National Marine Sanctuaries and the Oceans and Human Health Acts provide essential protection for ocean resources and support the research needed to implement a comprehensive ocean policy. These programs will be strengthened and reauthorized. ■

—Barack Obama

Dr Sylvia Earle awarded the 2009 TED prize



"We've got to somehow stabilize our connection to nature so that in 50 years from now, 500 years, 5,000 years from now, there will still be a wild system and respect for what it takes to sustain us."

Sylvia Earle, called "Her Deepness" by the New Yorker and the New York Times, "Living Legend" by the Library of Congress, and "Hero for the Planet" by Time, is an oceanographer, explorer, author, and lecturer with a deep commitment to research through personal exploration.

Earle's work has been at the frontier of deep ocean exploration for four decades. Earle has led more than 50 expeditions worldwide involving more than 6,000 hours underwater. She was the captain of the first all-female team to live underwater, and in 1979, Sylvia Earle walked untethered on the sea floor at a lower depth than any other woman before or since.

In the early 1990s, Dr Earle served as Chief Scientist of the National Oceanographic and Atmospheric Administration. At present, she is explorer-in-residence at the National Geographic Society.

Earle remains a dedicated advocate for the world's oceans and the creatures that live in them. Her voice speaks with wonder and amazement at the glory of the oceans and with urgency to awaken the public from its ignorance about the role the oceans plays in all of our lives and the importance of maintaining the health of the seas. ■

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Training bulletin

Edited by
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NAUI's 2009 Just Dive Calendar is now available!

The Just Dive Calendar is back by popular demand! NAUI is happy to introduce the *2009 Just Dive Calendar*—available now for a limited time only! This calendar features impressive images from the second annual "Just Dive" Photo Contest. There will only be one printing of this calendar and it is a limited time offer. Order yours now at www.naui.org ■



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This PADI Specialty Course can only be taken with Waterproof Expeditions in Antarctica, below the Antarctic Convergence or below 60 degrees, or in the Arctic, above the Arctic Circle. The course is designed to be an introduction to polar diving and help the student diver develop the skills, knowledge and techniques necessary for diving in polar environments.

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www.waterproof-expeditions.com



WIKIMEDIA COMMONS

PADI Thresher Shark Specialty

This unique course was written by TSD founder, Andrea Agarwal, with the help of the TSD staff. Between them, they have thousands of dives with thresher sharks on Malapascua Island, Philippines—the only place in the world known for daily sightings of this beautiful shark. The course will teach participants about sharks in general, and focuses on thresher sharks in particular. Students will also learn about the habitat of the thresher sharks in Malapascua and how to dive with them in an appropriate manner. During the course dives, students search for sharks and identify behavioural patterns, markings, and gender. The course emphasises shark conservation issues and discusses the measures taken to conserve the sharks.

www.malapascua-diving.com ■

DAN Dive Medicine for Divers Course

In response to ongoing requests, DAN, in cooperation with its international partners, has developed a new education program called Dive Medicine for Divers. This new modular program includes sections on fitness to dive, safety planning, decompression illness, barotrauma, gas toxicities, equipment-related problems and diving maladies that aren't pressure-related.

The first three modules of this program were released this fall. Now many DAN Instructors can offer these programs. It will include a selection of skills learned with an instructor, instructor-led lectures, video programs and self-study information.

In 2009, DAN will release additional modules for this program.
www.diversalertnetwork.org

The first three modules are:

- **Basic Examinations** — This module teaches how to evaluate a diver's respiratory and cardiac function using a stethoscope.
- **Fitness to Dive** — This module discusses what it means to be physically fit enough to dive and the conditions that can keep divers out of the water.
- **Safety Planning** — This module includes processes and procedures to make your dives safer and also discusses how to deal with the aftermath of a dive accident, including taking care of the diver's equipment for an investigation and taking care of the rescuers afterward. ■

Poseidon Discovery Rebreather becomes an IANTD approved CCR

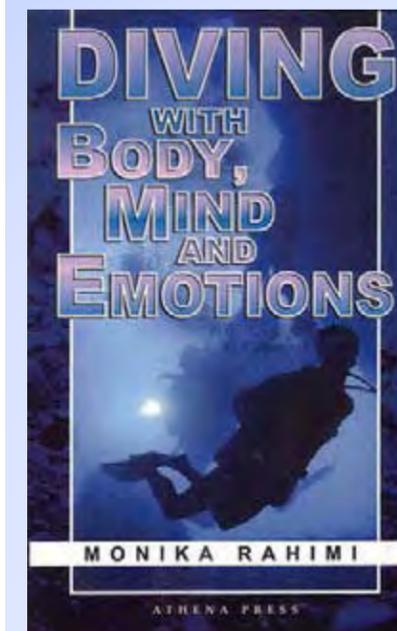
Kurt Sjöblom of Poseidon Diving Systems, and IANTD's Training Director Joe Dituri today announced that IANTD will begin offering training on the new Poseidon Discovery rebreather, effective immediately. The rebreather itself is the latest in the Cis-Lunar range (it's the Cis-Lunar Mk VII) and they are very pleased to be one of the first training agencies to approve the unit and begin offering courses on it.
www.iantd.co.uk ■

SSI introduces online training program

This interactive online training program is consistent with the SSI philosophy of keeping the SSI Dive Center as the recognized hub of the sport diving community. SSI took the time to study online training and tailored it to maximize the benefits for the dive retailer. This online academic program is offered to the consumer and the SSI Dive Center FREE. The program is focused on driving new consumers to SSI Dive Centers where long-term relationships are developed. This type of an approach to online training will allow dive centers to provide customers a whole new element of convenience at no additional cost. SSI Dive Centers are excited about implementing this program and increasing new student acquisition. www.divessi.com ■

Why should you read this book?

Because you are not a fish!



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Edited by
Mathias Carvalho

You may look, but *don't* touch

The *USS Oriskany* is considered the world's largest artificial reef. Once a mighty aircraft carrier, she was sunk 24 miles off the coast of Pensacola, on 17 May 2006. A veteran of two wars, the Mighty O's flight deck lies at 135 feet deep and is considered an exceptional destination for scuba diving and spearfishing.

And therein lies the snag. That depth is already five feet outside the current recreational diving limit, although it is maintained that it can be reached with a moderately safe dive profile.

"People just had to touch it," said Eilene Beard, chairwoman of the Escambia County Marine Advisory Committee. "And we'd say, OK, bounce down there and touch it and get back up here so you don't use all your nitrogen."

Deeper concerns

After Hurricane Gustav went

through the Gulf of Mexico in August 2008, the vessel shifted about ten feet deeper. And without proper equipment and training, that depth can be dangerous to most sport divers.

"That extra ten feet made a huge difference," said Jim Phillips, a local dive shop owner. "What makes the aircraft carrier different than any other ship out there is that flight deck."

After Hurricane Gustav went through the Gulf, the vessel shifted about 10 feet deeper.

Thunderous impact

A May 2007 report by the Haas Center, concluded that the *Oriskany's* impact on the in Escambia and Baldwin counties' local economy created a dive-related expenditures drive, generating an economic impact of US\$3.6 million in local output, 67 additional jobs, and \$1.4 million in local income. But after Gustav, business slowed down, according to Beard.

Keith Wilkins, deputy director of Neighborhood and Community

Service Bureau, commented that the *Oriskany's* depth shift now offers safer conditions, because fewer divers will be tempted to reach the flight deck and will remain at shallower and safer depths.

As the *Oriskany's* highlights are well above the flight deck mark, with the majority of marine life circling through the upper towers of the vessel, divers may still profit from a wonderful experience.

"It might be a little less attractive, a little less of a tease," Wilkins said. "But inadvertently, it's also a lot safer." ■

The Vandenberg soap opera continues

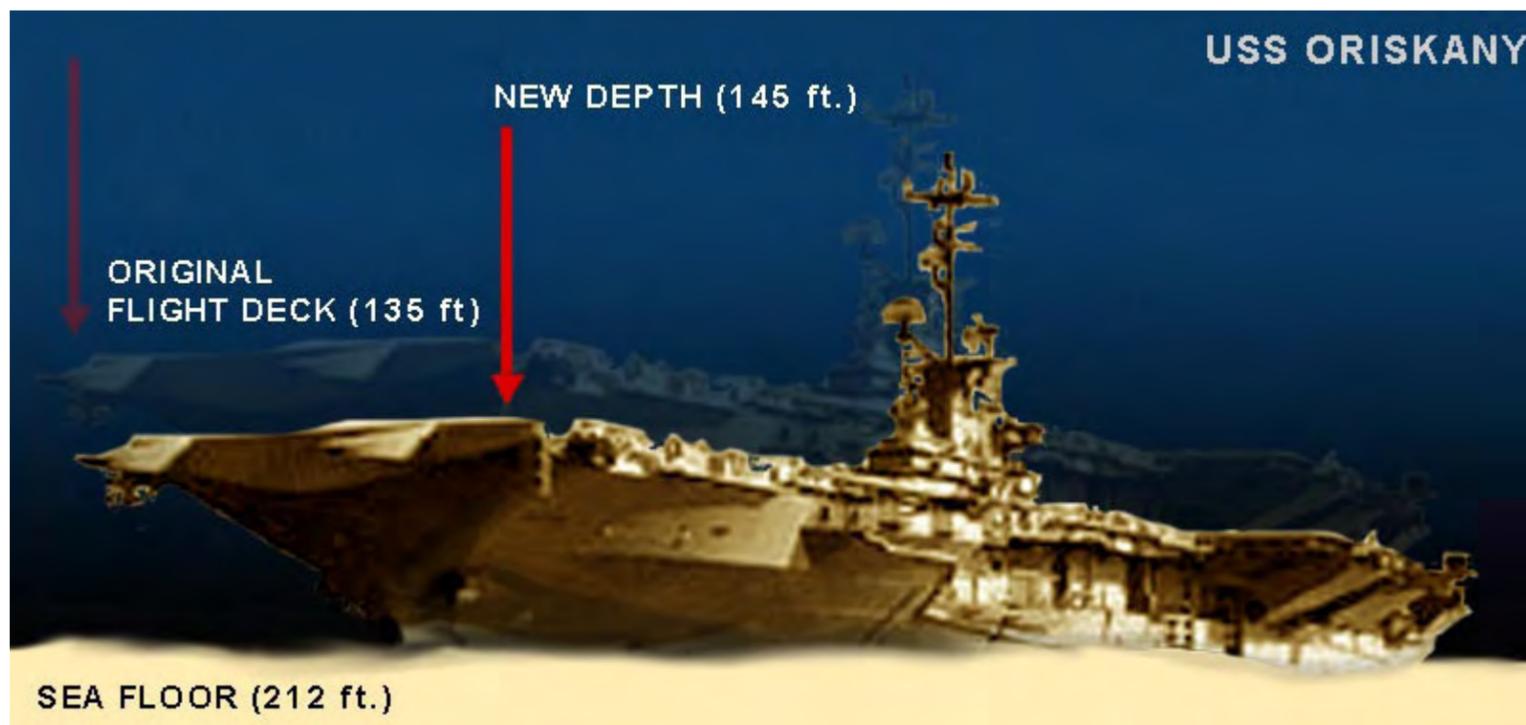


The state of Florida is poised to contribute up to US\$1.6 million to satisfy a shipyard lien so a 524-foot decommissioned Air Force missile tracking vessel can be scuttled as an artificial reef off the Florida Keys, Key West officials said.

The money to complete the *Gen. Hoyt S. Vandenberg* project is to come from an Office of Tourism, Trade and Economic Development grant. But a contract between the state and the

city has to be executed and additional details are pending. A federal judge recently ordered the auction of the ship after a contractor failed to pay Colonna's Shipyard in Norfolk, Virginia, for cleanup of the vessel.

Key West City Commissioner Bill Verge predicted the *Vandenberg* would be towed from Colonna's Shipyard in Norfolk, to Key West in December, with a scuttling to take place in February 2009. ■



Artists impression of *USS Oriskany* resting on the sea bed

MATHIAS CARVALHO



Burning the Midnight Oil

Peter Garrett, former singer of the rock group "Midnight Oil" and current Australian Minister for the Environment, Heritage and the Arts, announced that AU\$440,000 in funding from the Australian Government's Historic Shipwrecks Program will be used to protect the nation's underwater cultural heritage. The announcement was

made during a visit to the Queen Victoria

Museum in Launceston, Tasmania, where three of the 29 funded projects will be carried out.

"Shipwrecks are virtual underwater libraries of information from our past, and the secrets and insights our shipwrecks hold tell a story about our nation, revealing information about the people that traveled to our shores and the times in which they lived. With a vast maritime heritage, it is vital that we act to preserve Australia's historic shipwrecks and their artifacts for future generations", he declared. Garrett added that each wreck is a precious record of Australia's past, a marker of some of the most significant events of their history. ■

► Famous Australian shipwrecks



Iron Knight
(1943)



Divers reach SS Portland

The *SS Portland* wreck, New England's worst maritime disaster, received its first visitors after going down 110 years ago just north of Cape Cod. A team of five recreational scuba divers from Massachusetts has become the first to directly explore the wreck. Lying at 460 feet—twice the famous *Andrea Doria* shipwreck's, this extreme depth has prevented any human visitation—until now.



The ship was never seen again. Pieces of the upper decks, along with 38 bodies, subsequently washed up along the Cape Cod shore, but the location of the shipwreck itself remained a mystery for nearly 100 years.

The *Portland* is the most important of the New England historical shipwrecks, according to Stellwagen Bank National Marine Sanctuary's officials, who also confirmed that the divers' photographs match previous video footage obtained by remote-controlled cameras, mounted on a remotely operated vehicle (ROV) used to positively identify the wreck in 2002, during a government sponsored survey.

Protected grave site

Divers on the wreck are not allowed to remove or disturb any artifacts, given its historical value, as well as its status as a grave site.

Dives are limited to 10-15 minutes of bottom time, followed by up to four hours of decompression. "It's a lot of effort for a little time to explore the wreck," adds Foster, "but even a short visit to the Portland is absolutely worth it."

A veteran of numerous New England wrecks, Foster announced the dives in October and posted photos of the wreck site at www.bostondeepwrecks.com. ■

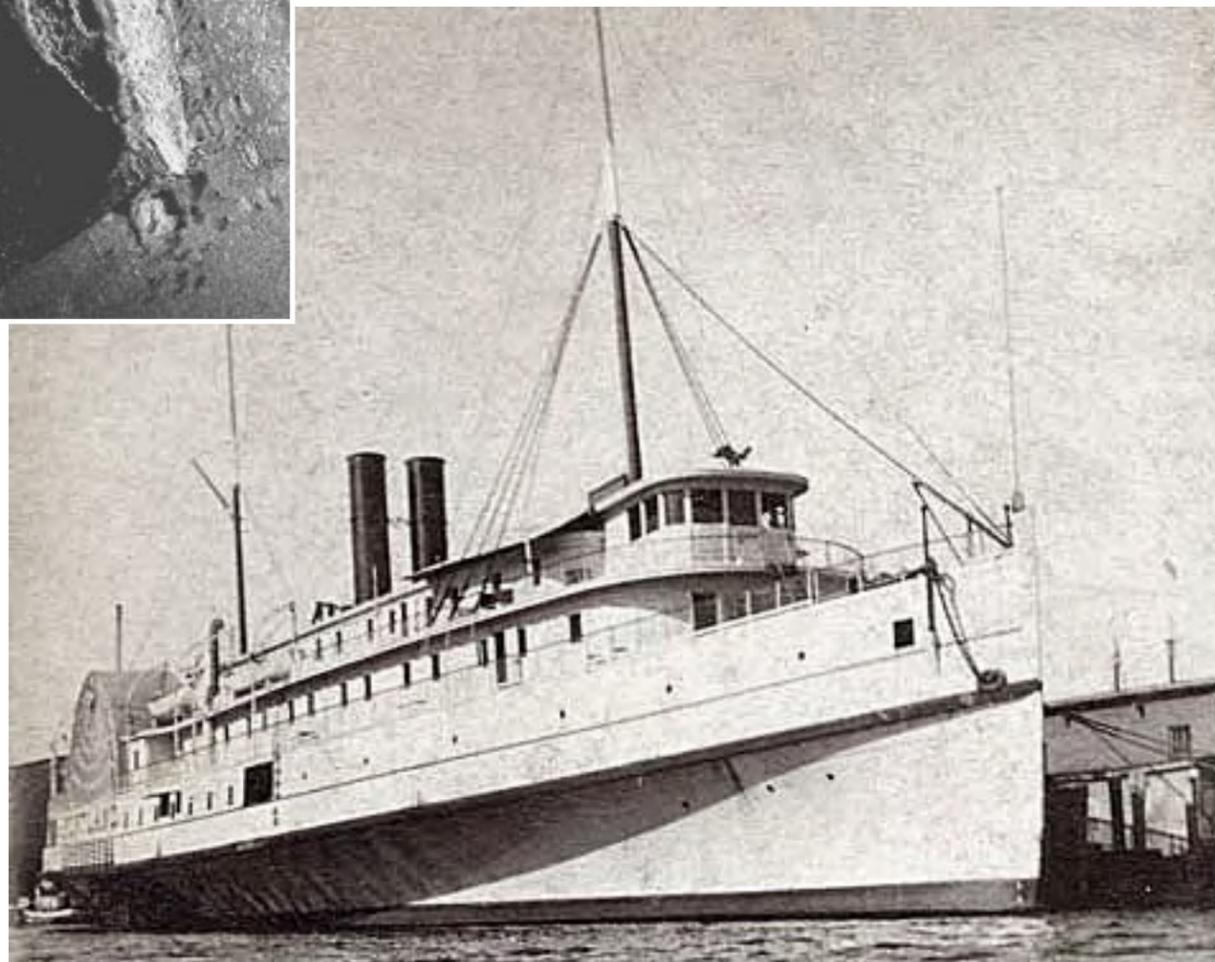
"There are more artifacts than I've ever seen on any wreck. They're everywhere—plates and dishes and mugs and sinks all over the bottom," said Bob Foster, the leader of the three dive expeditions made between August and September 2008.

The original perfect storm

One of the last of New England's luxurious, paddlewheel-driven coastal steamers, carrying approximately 192 passengers and crew, the *Portland* left Boston bound for Portland, Maine, on 26 Nov. 1898, but was hit by a fierce storm on

the way—one of the worst in New England history and later known as the Portland Gale.

Approximately 150 additional vessels were lost in the hurricane force winds, which claimed 400 lives. Wind and water from the storm destroyed dozens of homes and even changed the course of rivers.



A side scan sonar image of SS Portland

Watch NOAAs "Live Broadcast from the Steamship Portland"



Diving Steamship Portland in the Stellwagen Bank Sanctuary



Artificial reefs



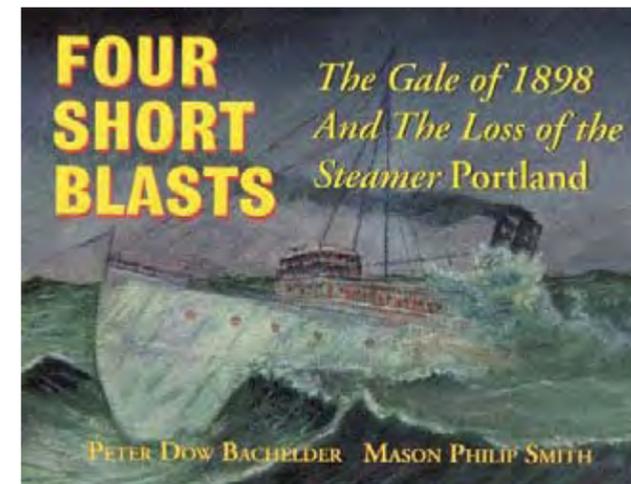
With the sinking of the *USS Kittiwake*, slated for June 2009, the Cayman Islands will create an exciting new dive attraction and artificial reef, while providing much needed relief for some of the most frequently visited dive sites.

The *USS Kittiwake*, a de-commissioned naval ship, will be sunk on the north end of Grand Cayman's world famous Seven Mile Beach, providing underwater enthusiasts of all skill levels with a new year-round diving destination that is both easy to access and a thrill to explore.

"Our sea-faring heritage, our strong interest in presenting varied tourism offerings and our belief in preserving the environment, all played a major role in the decision to acquire this latest diving attraction," said the Minister of Tourism, Hon. Charles E. Clifford,

The *USS Kittiwake* was originally commissioned as a Chanticleer-class submarine rescue ship in the United States Navy during World War II. Now it will join the *MV Captain Keith Tibbets*, a Russian Frigate sunk off the coast of Cayman Brac in 1996, as one of the greatest artificial reefs in the Caribbean.

Speaking for the Cayman Islands Tourism Authority, *USS Kittiwake* Project Manager Nancy Easterbrook noted, "The *Kittiwake* has been a labor of love and extremely hard work for more than five years, and we all look forward to seeing water-based tourism in Grand Cayman stimulated by this new underwater attraction, suitable for both divers and snorkelers." ■



Book on Amazon

Centenary Shipwreck Celebration

In December 2008, the town of Warrnambool in Victoria, Australia, festivities will take place for the 100th anniversary of one of the greatest shipwrecks of what is known as "Shipwreck Coast". The *Falls of Halladale* went down in full sight of the townsfolk gathered at the shore, after hitting a submerged reef of the coast of Peterborough, almost 100 years ago.

Centenary organizer Rex Mathieson described the wreck as one of the last "great" sailing shipwrecks. "What makes the *Falls of Halladale* more unique is that

it had steel masts and wire rigging." He added, "Most of the sailing ships of the time had wooden masts and hemp for rigging. The steel tubing on the *Falls of Halladale* would have made it handle heavy seas a lot easier without causing much damage."

One foggy day a long time ago
It was a morning with a heavy mist that prevented any visual forewarning, as the ship neared the southwest Australian coastline on 13 November 1908.

Confused, the captain miscalculated the ship's position. As the fog lifted, the ship—with full sails—was only a few hundred meters from shore and surging towards a rocky outcrop. Within minutes, the ship had struck a

The Shipwreck Coast is aptly named, with more than 200 wrecks along its length. Many occurred in the goldrush years of the mid-19th century, as sailing ships bringing hopeful immigrants foundered on the rocky cliffs and reefs of the southern coast.

submerged reef, about 150 meters out to sea. It must have been an incredible spectacle. The ship was stuck on the rocks, with only the stern submerged, leaving its bow and sails in full view. The crew escaped unharmed, rowing ashore and seeking refuge at the nearby Bay of Islands homestead.

The 2085-tonne ship was bound from New York for Melbourne and Sydney, carrying 500 sewing machines, 6500 gallons of oil, 14,400 gallons of benzene and 56,763 American slate tiles. Little remains of the wreck, as explosives were used during salvage operations and the vessel came apart over the years, due to the coast's strong swells and winds.

"It was in full view for months," Mathieson declared. "It took a while to become fully submerged. When you dive the wreck, it looks like a demolition site to the untrained eye. The steel hull is no longer intact, and it's pretty much unrecognizable."

The *Falls of Halladale* was the second last sailing ship to sink off Shipwreck Coast. The last one was the *Antares*, which sunk near Nirranda in 1914. ■



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Britannic



Is Back In Business

His Majesty's Hospital Ship *Britannic* isn't a name with which everyone is familiar. Nor did it inspire a million-dollar blockbuster movie feature like its famous sister, the *RMS Titanic*. At the time of its sinking, *HMHS Britannic* made fewer headlines, and it has since been forgotten. But modern technology and the renewed interest in the *Titanic* has also turned a few eyes towards this lesser glamorous, but very historically significant vessel.

Britannic was completed at Belfast's Harland and Wolff shipyard, two years after *Titanic* was lost in 1912. It was also built as an Olympic-class passenger liner, but before carrying a single fare-paying passenger, was commanded as a hospital ship serving in the allied effort during the First World War.

On 21 November 1916, just off the Greek coast, there was a sudden explosion near the bow. Within 55 minutes, she went to the bottom, a victim of enemy action.

Thirty lives were lost when two lifeboats were smashed by a still-rotating propeller. More pressing wartime matters caused the tragedy to be soon forgotten until French explorer Jacques Cousteau found it again in 1975. It now lies at a depth of over 100 meters.

Underwater Museum

BBC News correspondent Mike McKimm joined a Greek scientific expedition and dived to the *Britannic* to bring back dramatic footage of one of the world's largest wrecks.

The expedition will also try to

discover what caused the vessel to sink, either a German torpedo or a mine. After the war, the log of the German U boat *U73*—which roamed the area—revealed that it had laid 12 mines in the Kea Channel, just two miles from where the *Britannic* lies.

As it lies on its starboard side, which took the impact of the explosion, it's still impossible to determine what took the vessel to her grave. McKimm's documentary shows the seabed at the location where the mines were supposed to be and reveals what they found there.

Better built and hypothetically a lot safer, the *Britannic* should have remained afloat a lot longer. Nevertheless, she sank three times quicker than the *Titanic*. The probable reason is that special watertight doors were left open amidst the panic to abandon ship. But this remains one of those mysteries that generate all the allure of wreck exploration.

That is precisely what drove its current owner, Simon Mills, to purchase the shipwreck in 1996 and has since worked to protect it while still allowing divers access to the ship.



"My interest went beyond the historical conservation," explained Simon. "Diving has become a part of it. I have to work with divers to get what I require as much as they have to work with me to get what they require."

"I bought the ship for marine conservation. It's also the conserving of the artifacts. We want to create some sort of unique attraction around the world. It will combine science, history archaeology," he said.

And the site will possibly become a viable attraction for tourists, as plans are already under way to start regular submarine visitations, each taking just ten minutes to reach the bottom.

"That's much quicker than the two-and-a-half hours required to dive to *Titanic*," said McKimm, who has visited both sites. "After being lost for more than half a century, the *Britannic* could soon be the biggest must-see attraction in the Mediterranean. It's a very spectacular wreck and a very special one."

Greek interest

On a different note, Greek biologists are fascinated by the wreck, as it has become a "living" artificial reef in what is a very barren area of the Aegean Sea. Taken over by a wide variety of marine life, it is turning into a natural laboratory for scientists who want to learn more about how such reefs might benefit the marine biodiversity of the local sea-bed. ■

The *Trouvadore*, carrying 193 African captives, went down after hitting a reef. According to historical documents, 192 African prisoners managed to swim ashore. The crew shot and killed one African woman, but the others were freed in the Turks and Caicos, where Britain had abolished slavery eight years earlier.



One of the earliest photographs of Africans being rescued from a slave ship by the British Royal Navy

The discovery was made possible after 1993 when Keith and Grethe Seim, founder of the Turks and Caicos National Museum, came across an letter at the Smithsonian Institution, written by an artifact salesman from the island.

It reported the shipwreck, back in 1841, and the sale of kava kava glass-eyed dolls. Further research on historical

archives in Britain, Cuba, the Bahamas and elsewhere, completed the story and provided clues of the location of the ship. The remains of a wooden brigantine, locally known as the Black Rock Wreck, were located near the area indicated in the letter.

Researchers Seim, Keith and other archaeologists were able to determine that authorities on the islands apprenticed the marooned Africans to

local trades, subsequently allowing them to settle on the islands. The ship's 20 crewmen were arrested and sent in chains to Spanish authorities in Cuba for trial on what was then a hanging offense, though their fate is not known.

"The people of the Turks and Caicos have a direct line to this dramatic, historic event—it's how so many of them ended up being there," Keith added.

Researchers are still looking for a list of English names given to the slaves that was sent by the island's officials to the authorities, which would provide an essential piece of information to the islands' current inhabitants' history and possible descendants. ■



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Bangladesh becomes a new dive destination

Abundant corals and clear waters have catapulted Bangladesh's only coral island into a major tourist attraction



Laying approximately 14km off Bangladesh's southernmost town of Teknaf, the tiny island of Saint Martin in the Bay of Bengal attracts thou-

sands of local and foreign visitors daily thanks to its panoramic beauty and pristine marine life. Locally known as Narikel Jinjira (Coconut Island), the

island's beaches are fringed with coconut palms, a far cry from the perception most people have of this populous Muslim nation. "It's a paradise for us," said Nahreen Akhtar, a mother of two, who works for a private bank in Dhaka and was holidaying on the island.

A decade ago, fewer than 200 people made the crossing to visit the island and most returned before nightfall. Now, more than 3,000 tourists, a majority of them Bangladeshis, arrive each day. "I enjoy bringing people here, and they are pleasantly surprised when they see all the beauty. It's a shame this is not more known to the world yet," said Filip Engsig-Karup, a Danish tour operator. "When I take people from Denmark to Bangladesh, everybody is amazed, because the impression they have got about this country is quite different from the reality," he said.

Characterized by large areas of sand dunes and scattered mangroves, Saint Martin is the only island in

ActiVentures announces the opening of their new resort in Anilao Batangas

Long regarded as the birthplace of Philippines diving, Anilao's waters have been a magnet for diving enthusiasts attracted by its flourishing coral reefs and prolific fish life. ActiVentures is proud to announce the opening of the Acacia Dive Resort, a luxurious dive resort unmatched by no other in the area. Nestled right in the heart of what has been recently deemed to be

the centre of marine biodiversity, the resort provides an enticing fusion of exotic island culture and sophistication, a mere 2.5-hour drive south of Manila.

With offices in San Francisco and Manila, ActiVentures offers pre-set or fully customized dive tours that are unrivaled in service and attention to detail. All inclusive eight-day, seven-night packages include accom-

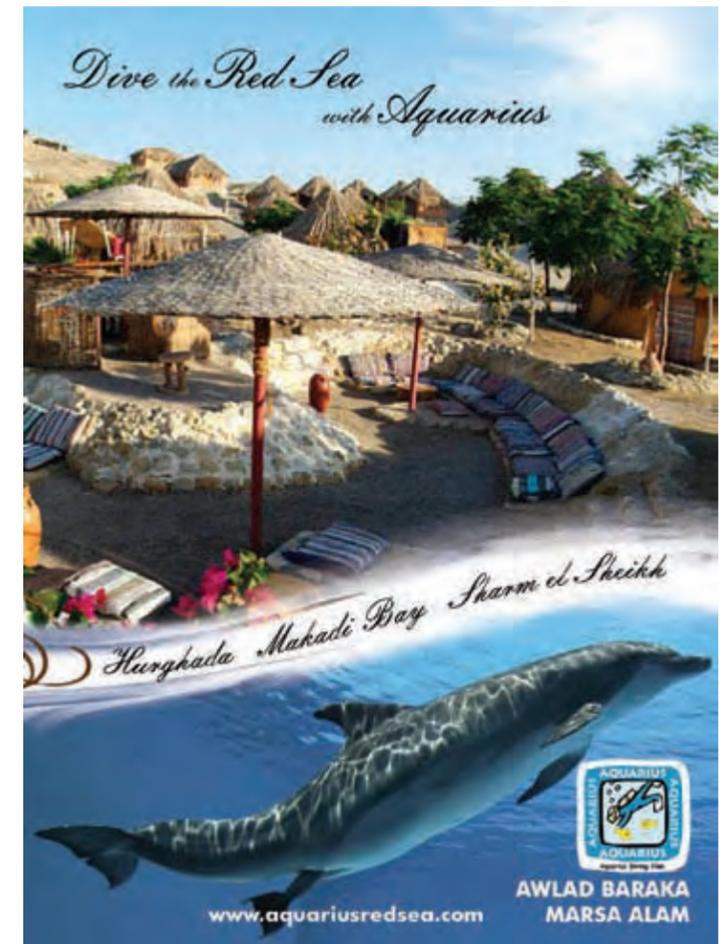
modations, all meals, 18 boat dives and unlimited shore diving, a day trip to Puerto Galera dive sites, all land and sea transfers, conservation fees and personalized ActiVentures Dive Professional Service for the duration of your trip. Prices start at US\$1650.00 excluding international airfares. For more information, contact:

info@activenturespi.com ■

Bangladesh to possess a coral reef. A total of 234 species of fish have been recorded from the coastal waters along with an abundance of molluscs and nudibranchs. In addition, the island is an important nesting site for endangered olive ridley and green turtles. Efforts are being made by local authorities to ensure protection of the turtles as well as the rare corals that are found there.

Recently introduced scuba diving has been incorporated into a bid to attract more tourists, and there are plans to bring water skiing and other sporting facilities to the island. "Bangladesh could earn millions of dollars every year if it promotes Saint Martin. People love coming here," said S. M. Kibria, a local tour operator.

Getting to Saint Martin involves flying or taking a bus to Cox's Bazar, about 400 km from the capital Dhaka, and then catching a bus to Teknaf, which is another 100 km away. From Teknaf, ferries run daily to Saint Martin, around three hours to reach the island. Most tourists visit the island from November to March. ■



Edited by
Scott Bennett

Curaçao gets deep-sea submersible

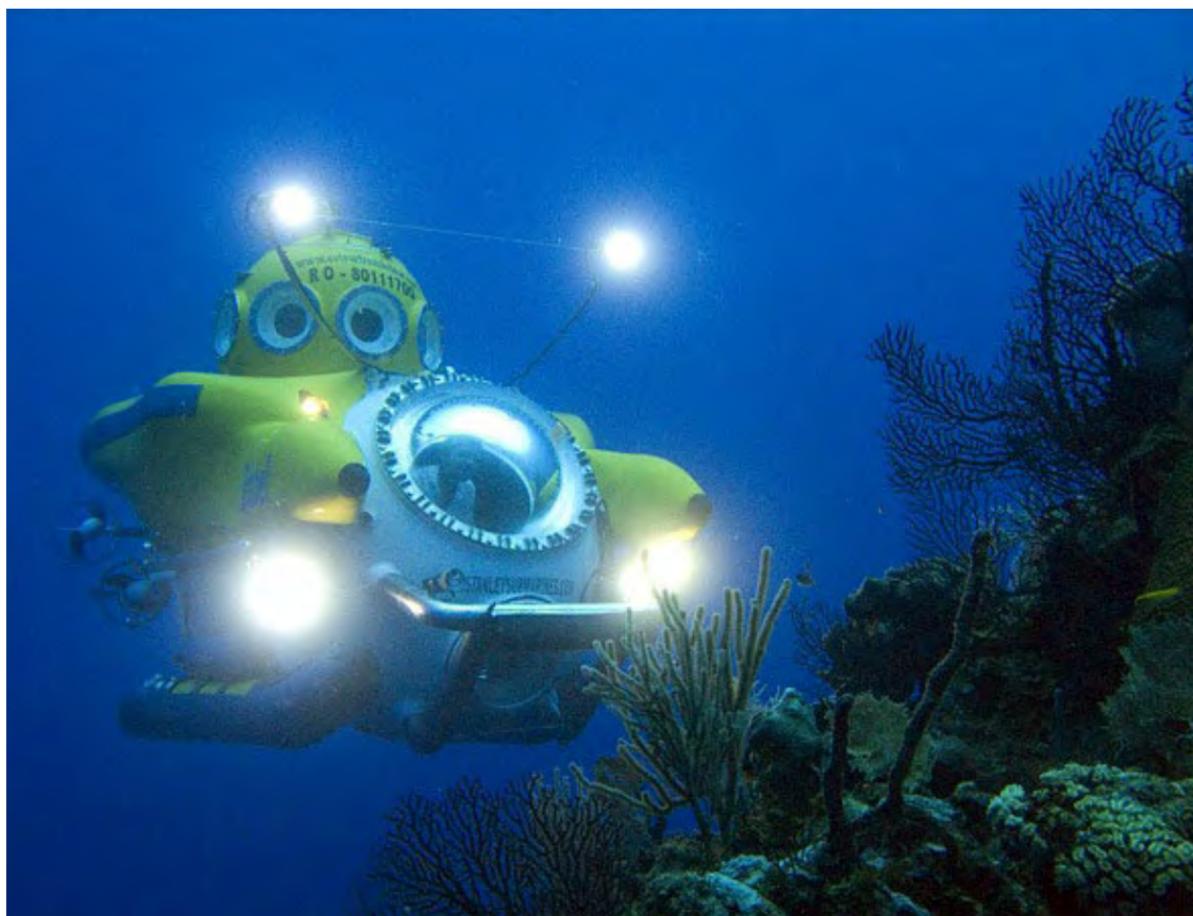
Willemstad – Curaçao will soon be having a new attraction: Substation Curaçao, a deep-diving submarine capable of cruising at depths in excess of 300 meters. Tourists can shortly experience the fascinating and spectacular underwater world in the Dutch Caribbean.

Substation Curaçao will be the only safe, certified and secured deep diving tourist submarine in the world. The waters off Curaçao have been described as "gin clear". Extraordinary fish and shipwrecks can be observed even at unsurpassed depths.

It is expected that the first submarine (for three persons, including pilot) arrives in Curaçao in December this year. It will be used temporarily until the official five-person submersible (including pilot) will be in on the island,

expected during the first quarter of 2009.

For more information, please call +5999 461 6666 or +5999 6638205. If you are in Curaçao, please drop by the Sea Aquarium, Bapor Kibra z/n. The website www.substationcuracao.com will be launched in two months including information about Substation Curaçao, pictures, a virtual tour, safety measurements, etc. Visitors can also make their online bookings through this site. ■



Diving Honduras in a homemade sub

In Honduras, a US entrepreneur takes tourists into the deep in his homemade and uninsured submarine.

In Roatan, Honduras, the 34-year-old American entrepreneur, Karl Stanley, regularly takes passengers to depths of 1700 feet, deeper than any other tourist sub in the world, in an uninsured and homemade submarine.

After nearly 1,000 dives over the past decade, Stanley has managed to accrue an enthusiastic clientele. Stanley conducts about 100 dives a year and charges US\$1,500 per person for a five-hour shark dive, not including the time it takes to prep the sub or haul a horse ahead as bait.

To help cover operating costs, he also collects a rare type of mollusc called a slit shell, which lives below 300 feet. Stanley devised a way to rig a net on the end of a pole and snags the creatures, earning him up to \$3,000 each.

"Without them," he says, "I wouldn't have been able to stay in business."

But while many admire Stanley's entrepreneurial resolve, others are concerned by his cavalier attitude towards risk. The enterprise has proven to be anything but risk-free, with assorted mishaps including cracked windows, being wedged in a cave, entanglements in lobster traps and small onboard fires.

"The guy's amazing—he's really cool," says Richard Boggs, technical superintendent at yacht brokerage firm Camper & Nicholsons International. "What disturbs me is that he's taking down people who don't fully understand the risk. That's just wrong, morally and ethically. It's illegal everywhere but the Third World, and for very good reason." ■

SOURCE: CNN MONEY

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Scandinavian Airlines demonstrate “greener” landing procedures

New landing procedures that reduce the amount of fuel burned, as well as lowering emissions and noise levels, have been validated in “green” flight trials performed with Scandinavian Airlines Airbus 330s. SAS estimates the continuous descent approach (CDA) to airports can result in an estimated annual fuel reduction of 95 tonnes per aircraft, equaling a 290-tonne reduction in CO₂ emissions and a reduction in airport noise levels by 3-5 decibels. ■

Fat Canadians get a break Canadian airlines must provide free extra seat for obese or disabled passengers.

The Canadian Supreme Court has ruled that Canadian airlines cannot charge extra for an obese person who needs an extra seat or a disabled person who needs space for a wheelchair or attendant.

Canada's largest airline is now trying to figure out which obese and disabled passengers will be eligible for the additional seats at no charge. Air Canada spokesman Peter Fitzpatrick said they are developing detailed eligibility rules for these free seats. The ruling Thursday applies only to domestic flights and will be implemented on 9 Jan 2009. ■



MV Spree moves

Spree Expeditions have announced that the company is moving the award-winning liveaboard scuba diving boat *MV Spree* to the Dry Tortugas in the Florida Keys for full-time operation based out of Key West beginning May 2009.

MV Spree offers Sport Diving Charters and Technical Diving Charters. Sport diving charters to the Dry Tortugas run for three, four or five days, and offer up to five dives each day. The *MV Spree* also offers three-day and five-day “keys crawls,” featuring the wrecks and reefs of the lower Keys. In recognition of the beneficial role that nitrox plays in diver safety, nitrox is free on all charters.

For technical divers, the *MV Spree* offers specialized technical diving charters to the Key West Ghost Fleet and the deep wrecks of the Dry Tortugas. ■

Gujarat to launch whale shark watching project to attract tourists

India – Tourists visiting Gujarat will now get a chance to watch whale sharks in their natural habitat near Saurashtra coast, with the “Whale Shark Watching Tourism” being launched in the state. The state Forest Department will also be celebrating the Whale Shark Day in Porbandar every year. This year, it is being celebrated on the day of the launch of the project.

About 1,200 to 2,000 whale sharks visit the Saurashtra coast every year. The whale sharks migrate from the north coast of Sri Lanka to the Gujarat coast. The best time for whale shark watching is between November and May.

The government plans to invite domestic as well as foreign private entrepreneurs to develop infrastructure along the coastal line, such as accommodation for tourists, restaurants and souvenir shops. ■



Punta Cana Resort inaugurates Taino Underwater Park

Dominican Republic – The destination Punta Cana Resort and Club took the first step to create the Underwater Park Igneri / Taino, in Playa Bonita, with the laying of the first two sculptures of a total of 12 that will complete the exhibit.

The project is headed by the artist, Thimo Pimentel, with the support of the Punta Cana Group's Ecological Foundation.

The sculptures were deposited 50 feet in depth and one of them has the image of a Taina maid representing Atabeira or Mother of the Waters, and the second is a Domene with pictographs representing the god Huracan (Hurricane). ■

Mafia Island—another coming dive destination?

A new gateway for those who wish to discover the last remaining unspoilt islands of the world is Mafia Island, which is located off the delta of the Rufiji Islands in the southern region of Tanzania. This island is 120km from the city of Dar es Salaam in Tanzania, and it's one of the six districts of Pwani Region in Tanzania.

The Mafia Island's economy is primarily based on agriculture and fishing. Fishing is controlled in the southern area of the island within the confines of the Mafia National Marine Park.

The island served as an important stop for the dhows (traditional sailing vessels) of Arabs and Persians who plied their trade in the Indian Ocean waters from the gulf to Mozambique and Madagascar. Consisting of one large island (394 sq km) and several smaller ones, Mafia Island attracts many scuba divers, sport-fishing enthusiasts, and other tourists.

Chole Bay, Mafia's protected deep-water anchorage and the original harbour, is studded with islands and beaches. The refreshingly clear protected waters provide wonderful snorkeling, sailing and swimming. Chole island excursion is packed with numerous ancient ruins, and it is a good starting point for Mafia Island tours.

The horseshoe-shaped Chole Bay is an ideal site for snorkeling, underwater photography, and scuba diving. The Mafia National Marine park, of which Chole Bay is part, extends to Kinasi Pass Wall. Kinasi Pass is a sheltered reef comprising of several species of hard and soft corals. The reef supports a wide variety of marine life. ■

