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Issue 155 - April 2013

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Welcome to Issue 155 of SCUBA News. In the past couple of months we've been getting to grips with [Google+](#), and found it a great place to share underwater photos and views. Thank you everyone who has added us there. If you would like to join us on Google+ (please do!) we're at <https://plus.google.com/100388265497041686164/>.

I hope you enjoy this SCUBA News but should you wish to cancel your subscription you can do so at <http://www.scubatravel.co.uk/news.html>.

You can also [download a pdf version](#) of this newsletter. SCUBA News is published by SCUBA Travel Ltd.

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## What's New at SCUBA Travel?



### [Diving Tioman Island, Malaysia](#)

Tioman is the third largest Malayasian island. It's coast is a marine park area. Our newly updated article tells you what you need to know before visiting Tioman, and about the diving there.

<http://www.scubatravel.co.uk/malaysia/tioman-diving.html>



### [Diving Costa Rica](#)

Three Costa Rica dives feature in our Top 100 Dives in the World list; all of them in the Cocos Islands. But Costa Rica also has good diving on her Pacific coast. Read new coverage of Costa Rica at

<http://www.scubatravel.co.uk/americas/costa-rica-diving.html>



### [Diving Tanzania: Zanzibar and Mafia Island](#)

The two main areas for diving in Tanzania are the Zanzibar archipelago and Mafia Island. Together these are known as Tanzania's Spice Islands. We've updatead our Tanzania diving information at

<http://www.scubatravel.co.uk/africa/tanzania.html>

For regular announcements of what's new at the SCUBA Travel site see our [Twitter feed](#), [Google+](#) or [Facebook pages](#).

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## Letters

### Diving New Zealand's Poor Knights

Has anyone been diving off New Zealand's Poor Knight Islands (NE coast, North of Great Barrier Island)?

Cindy Testa Whitfield, Newmarket, Ontario

### Diving Madagascar with Teenagers

Our Alaskan family of 5 is going to Nosy Be, Madagascar to complete our PADI dive certificates in warmer waters! Any suggestions which dive shops are outstanding with teenagers.... (only in Nosy Be).

Sara Peebles, in our [Home Page Comments](#)

Post your suggestions on our [comments page](#), or email us and we'll pass your comments on.

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## Creature of the Month: Pulsating Xenid Coral, *Heteroxenia fuscescens*



If you've dived in the Red Sea or Indo-Pacific you will have seen pulsating soft coral repetitively "grabbing" at the water. They are so common that we take them for granted. But only one family of coral does this – the Xeniidae. Even within this family, only a few members pulsate. Those that do include the Pulsating Xenid, *Heteroxenia fuscescens*. Continuous pulsating must be very costly in terms of energy used - is it worth it? Well, this month Israeli researchers found that it is. Indeed, the corals are the most efficient of any so far measured.

After watching several coral colonies with an underwater infrared-sensitive camera night and day, the researchers made a surprising discovery: *Heteroxenia* corals cease to pulsate and *take a half-hour break every single day in the afternoon*. At this stage, the afternoon "siestas" remain unexplained.

Volunteer divers helped with the investigation. They found that if a diver lightly touched the coral, the polyps "close" and remain motionless for a few minutes, after which the coral returns to its normal pulsation activity. The researchers used this behaviour in order to repeatedly measure the flow field around the *Heteroxenia* during pulsation and rest.

Even though the polyps' motions are uncoordinated (i.e. each polyp starts its period of motion at a different time), the accumulated effect of the polyps' activity is a significant enhancement of the water flow around the colony, particularly sweeping water away from the coral and reducing the probability of re-filtration of the same water.

Corals "host" photosynthetic algae in their tissues. The symbiotic algae [provides the coral](#)

with essential nutrients and lives off the waste of the coral. The pulsation motions enhance the coral's photosynthesis rate.

A previous study found that the motion of water around corals is essential in order to enhance the efflux (removal) of oxygen from the coral tissues. Without water motion, the oxygen concentration in the coral tissues would rise and the photosynthesis rate would drop.

The elegant motion of *Xenia* has fascinated scientific society for over 200 years. The first *Xeniidae* colonies were collected during Napoleon's invasion of Egypt during the years 1798-1799 when specimens of *Xenia umbellata* were brought back to Europe. Both specimens were given brief descriptions by Lamarck in 1816 and accompanied by detailed drawings of the colonies and their polyps. In spite of this the pulsations had not been explained until now.

#### **Further Reading:**

[Why does one Soft Coral Pulsate?](#)

[Israeli scientists discover why soft corals have unique pulsating motion](#)

Biological Sciences - Ecology: Maya Kremien, Uri Shavit, Tali Mass and Amatzia Genin.

[Benefit of pulsation in soft corals PNAS 2013](#) ; doi:10.1073/pnas.1301826110

[Coral Guide Red Sea](#) by Lieske and Myers, 2004

Proceedings of the 12th International Coral Reef Symposium, Cairns, Australia, 9-13 July 2012. [Synopsis of the Family Xenidae \(Cnidaria: Octocorallia\): Status and Trends](#). Michael P. Janes, Anita G. Mary

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## **Diving News From Around the World**

You can display this news, in real-time, on your web site - for more details see <http://www.scubatravel.co.uk/newsfeed.html> or grab <http://www.scubatravel.co.uk/scuba.xml>



### **Marine Invaders Threaten Galapagos**

Increasing tourism and the spread of marine invasive non-native species is threatening the unique undersea life around the Galapagos Islands.

### **Aqua Lung Recalls Buoyancy Compensators**

Aqua Lung are recalling their buoyancy compensators with SureLock II weight pocket handles.

### **Scrubs and peels put plastics in the sea**

Many personal care products like scrubs and peels now contain plastic particles. So, every time we exfoliate or peel off those dead cells, we may be doing our bodies some good, but we're giving our seas anything but a make-over. As the products are rinsed off, they go down the drain and that means we are flushing plastic into our seas where it contributes to the 'plastic soup' problem. **Sign a petition** asking the manufacturers of these care products to replace all plastic particles with environmentally friendly alternatives, such as anise seeds, sand, salt or coconut. These are materials that were used before plastic particles.



### **South Africa declares the continent's first offshore marine protected area**

Minister Edna Molewa has formally announced the declaration of the Prince Edward Islands as a marine protected area (MPA) - Africa's first offshore MPA.

### **Florida Algae Bloom Leads to Record Manatee Deaths**

Florida's endangered manatees, already reeling from an unexplained string of deaths in the state's east coast rivers, have died in record numbers from a toxic red algae bloom that appears each year off the state's west coast, state officials and wildlife experts say.

### **Shale mining under Great Barrier Reef likely to be banned**

Australia's coastline mining industry is undergoing a boom as rules relaxed, but the Great Barrier Reef is to be protected under world heritage rules



### **Depleted Fish Stocks Can Come Back from the Brink**

Nature is a lot more resilient than we sometimes think. A study by Rutgers marine scientists published recently in Science shows that species of fish that have been overfished for decades can often be brought back more easily than expected once fisheries managers put limits on the exploitation.

### **Cod stocks may never recover, study finds**

Another study, though, on northern cod has concluded that the stock may never be able to recover to its pre-moratorium glory. The report said human error, as well as pressure on the industry, are most likely to blame. Biology professor Jeff Hutchings says decision makers in Newfoundland and Labrador did not give the cod fishery enough time to properly recover. "Looking at the size of the stock today compared to what it was on the '60s, it's still miniscule," Hutchings said.

### **Cod Mislabelling Uncovered**

Food tests commissioned for BBC Northern Ireland have found two out of 10 products labelled as cod did not contain any traces of that fish whatsoever. Bad news for trade descriptions, good news for cod.

### **MSC accused of making sustainable certification too easy**

The sustainability of one third of all seafood certified as the "best environmental choice" has been questioned by a new study. So should we take no notice of the certification? At the moment it seems better than nothing.

### **Extinction debt suggests endangered species are doomed**

Today's extinctions are probably the result of ecosystem damage from the early 20th century, suggesting that our own extinction legacy could be far worse.



### **Sea urchins evolving to cope with ocean acidification**

A little good news on the climate change front, for a change: some marine organisms may be able to adapt surprisingly well to ocean acidification caused by carbon dioxide from burning fossil fuels.

### **Corals can survive warmer seas if humans don't meddle**

Coral reefs might be able to take the heat of climate change - if left well alone. A new study suggests reefs that are spared human interference can survive episodes of severe coral bleaching.

### **Control of Pollutants Can Slow the Pace of Sea-Level Rise**

The curbing of certain pollutants can mitigate future sea-level rise, according to a study led by Scripps Institution of Oceanography.

### **Scientists use 1800s data to save whales**

When whalers hunting more than 100 years ago tallied up their efforts they almost certainly didn't realise the data could be used to save the exact species they were killing.

### **Baby Turtles show Robots how to Walk on Sand**

For turtle hatchlings struggling to reach the sea, success may depend on having flexible wrists that allow them to move without disturbing too much sand. A similar wrist also helps a robot known as "FlipperBot" move through a test bed, demonstrating how animals and bio-inspired robots can together provide new information on the principles governing locomotion on granular surfaces.

### **Underwater Robot Successfully Tested at Sea**

An underwater robot has been able to find and retrieve independently an object in an unknown seabed facing the adverse conditions presented by the open ocean. The purpose of the project was originally the recovery of aircrafts' black boxes, motivated, among other reasons, by the news of the tragic disappearance in the Atlantic Ocean of the Air France plane that made the Rio-Paris route in June 2009. It can also be used in underwater archaeology, oceanography and offshore industries.

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