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## News

### Marine census continues to throw up surprises

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Furry crabs, giant microbes and a shoal of fish the size of Manhattan Island; these were just some of the findings of the Census of Marine Life in 2006. As well as discovering new species, the initiative has led to revelations about animal behaviour and the development of new, more efficient research techniques.

Now in its sixth year, the Census of Marine Life aims to record the diversity, distribution and abundance of marine life by 2010. A number of EU-funded research projects are contributing to the census, which brings together around 2000 researchers from 80 countries.

The giant microbe was found by researchers off the coast of Portugal. While most protozoans can only be seen with a microscope, the new species is 1cm across and has a shell made of mineral grains. Other new species discovered by the census include a crab with a distinctly furry appearance and a giant, 1.7 kg rock lobster. In the Southern Ocean, researchers looking at what was going on under 700m of ice and 200km from the nearest open water found more new than familiar species.

The researchers found life in the most extraordinary of places. The areas around ocean vents teem with life, leading the scientists to ask how the various shrimp, mussels and clams living there cope with such an extreme environment. The temperature around the vents can change from near freezing to almost boiling in a few centimetres, and the animals must also deal with high concentrations of heavy metals from the vent fluids.

Until this year, scientists thought the shrimp *Neoglyphea neocaledonica* died out some 50 million years ago. Census researchers found it alive and well on a seamount in the Coral Sea, a discovery which they rank on a par with the discovery of the coelacanth, an order of fish believed to have been extinct since the end of the Cretaceous period until a live specimen was found off the coast of South Africa in 1938.

The Census is about more than identifying and counting animals; the researchers are also studying animal behaviour. In 2006 census researchers tracked the epic 70,000km journey of the sooty shearwater, as it criss-crossed the Pacific Ocean in search of food. Other animals tracked by researchers include salmon, sharks and squid.

'Each expedition reveals new marvels of the ocean - and with the return of each vessel it is increasingly clear that many more discoveries await marine explorers for years to come,' commented Fred Grassle, Chair of the Census Scientific Steering Committee.

Studying this diversity has required the development of new research techniques. For the first time researchers used DNA barcoding techniques onboard ship to determine the range and abundance of microscopic plankton species.

The 20-million strong shoal of fish the size of Manhattan was discovered thanks to a new ship-based technology which uses sound to show up life across a huge area of the ocean.

The researchers are also using historical records to chart changes in marine life in the past. Using archives such as taxes on salt to cure fish, historians have been able to determine changes in the abundance of marine life in 12 estuaries and coastal seas around the world, research which confirms that exploitation and habitat destruction have depleted 90% of important species.

'The historical studies of the CoML agree with recent studies showing steep declines of most wild populations of marine animals that people eat,' said Dr Grassle. 'The past richness of the oceans in many near shore regions is hard for people today to believe.'

The most intense field work for the census will take place between now and the end of 2008. From 2009 the results will be analysed and synthesised.

For more information, please visit:

<http://www.coml.org/>

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