Oil-rig staff get into marine biology

There used to be a drawback to Tony Kastropil's job. As a pilot for the robot submarines that monitor subsea drilling operations, he spent most of his time looking at murky underwater pictures of oil rigs. It was not an experience his friends and family had much interest in sharing.

But they have started paying more attention to the images he captures. Along with around 50 other pilots of remotely operated vehicles (ROVs), he now videos the often bizarre marine life he sees when studying rigs, and e-mails the results to grateful scientists. Thanks to Kastropil and others working off four continents, several new species and behaviours have been identified. And interest from rig operators is growing.

"ROV pilots see things I never get to see," says Ian Hudson, who coordinates the project from the National Oceanography Centre in Southampton, UK, pointing out that getting access to a ROV would normally cost tens of thousands of pounds per day. Hudson started the SERPENT project (www.serpentproject.com) in 2002, after a two-week trip he made to a BP rig produced enough data for three papers.

Realizing that the research potential of industry ROVs was largely untapped, Hudson got rig, ROV and oil operators, and the United Kingdom's Natural Environmental Research Council (NERC) to sign up to his project. The industry partners fly scientists out to the rigs, and together with NERC have created three PhD studentships for young scientists to take advantage of the opportunity. "There are probably 1,000 ROVs working for oil and gas companies at any one time," says Hudson. "The potential to explore is huge."

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Some of the pilots have made significant finds since. Kastropil's team on the *Discoverer Deep Seas* in the Gulf of Mexico stumbled across the rarely seen dumbo-eared squid. Michael Vecchione, a marine biologist at the Smithsonian Institution in Washington DC, says videos of the creature sent to him through the SERPENT project helped him conclude that the animals belong to the Magnapinnidae family, adult specimens of which have never been collected or properly described.

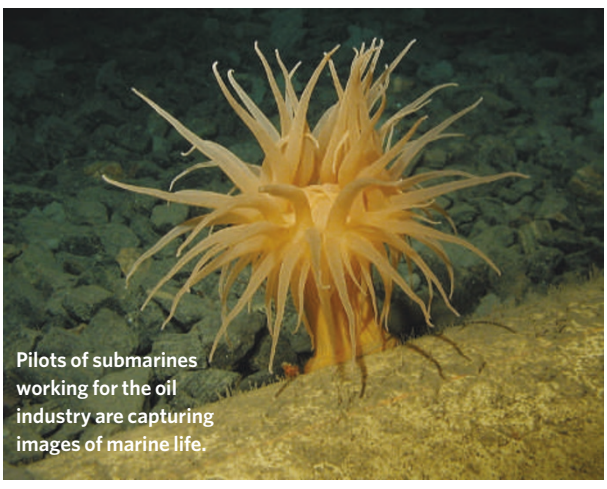
Hudson's personal favourite is a creature he dubs the 'murderous crab'. Galatheid squat lobsters (*Munida sarsi*) live at depths of 200–800 metres from Greenland to the Bay of Biscay. The lobsters were thought to scavenge fish remains from the sea floor. But in 2002, Hudson spotted one grabbing krill from the waters around it, before ripping off the animals' heads and devouring them.

The project is now expanding into the Arctic circle — Hudson expects to finalize a deal this week with Norwegian oil company Statoil. As well as giving scientists access to five rigs in and around the Barents and Norwegian seas, the firm plans to contribute nearly £500,000 (US$867,000) over three years. Other industry partners, notably rig operator Transocean, supply a total of nearly £500,000 per year.

For many of the pilots, such as Kastropil, the project has awakened a keen interest in marine biology. The dumbo-eared squid was a "once in a lifetime" sighting, he says. "The beauty as a pilot is that it gives you interesting stuff to relate to family and friends. I've taken videos to my daughter's school. They were astonished."

Marine scientists have also praised the scheme. But some caution that it shouldn't be seen as a replacement for dedicated research vehicles. Chris Grech, deputy director of marine operations at the Monterey Bay Aquarium Research Institute in Moss Landing, California, says it's a great opportunity. "But the research will be severely limited by the dive locations, which are defined by the drilling needs," he points out. ■

Jim Giles



SERPENT PROJECT

Pilots of submarines working for the oil industry are capturing images of marine life.