

# SERPENT PROJECT

By Craig Schul, ROV Senior Operations Manager



(Left to Right): Andrew Gates (SERPENT), Jayselan Naidoo, Frans Bothma, Juan Contreras, Ifeanyi Okeke and Pierre Richard in the ROV control room at the end a successful SERPENT mission.

*The deep-sea marine life lurking 2.5 km beneath the waves at a new exploration well in the Indian Ocean has been uncovered in a collaboration between SERPENT\*, Oceaneering and Statoil.*

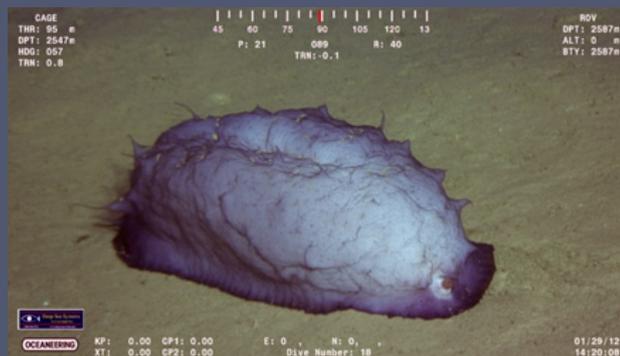
As part of the SERPENT Project, Dr Andrew Gates from the UK's National Oceanography Centre made a visit to Tanzania to join the Ocean Rig Poseidon at Statoil's Zafarani location. Andrew worked with the Oceaneering ROV team on board to explore the marine life near the seabed.

At the surface there is certainly no shortage of life. As Juan Contreras and his team launch the Millennium 93 ROV, large Dorado chase smaller fish and schools of tuna are encountered on transit to the seabed. Further down, as the light quickly disappears and the water temperature cools there are fewer creatures to be seen. At first glance the seabed at 2.5 km depth seems like a desert, evidence for life revealed only occasionally by small burrows or tracks in the expanses of deep-sea mud. Moving away from the BOP, as the pool of light from the ROV illuminates small areas of seabed it gradually becomes clear that there is actually a diverse community of organisms living at the site.

\*Scientific and Environmental ROV Partnership using Existing Industrial Technology.



A "squid worm". A swimming polychaete worm, rarely recorded on video



This is a sea cucumber called Benthothuria. It moves slowly across the seabed feeding on organic material that has settled down from the surface.

At least 30 different species of animal were recorded Millennium 93's HD video cameras. The pace of life is slow down there. From the sea cucumbers that barely seem to move as they make their way slowly over the seafloor devouring the sediment to extract any nutrients that have settled from above, to the fish that drift with the gentle current waiting to pick up the scent of their next meal, energy conservation is key. When a baited trap is deployed at the seabed the scavengers arrive. They pick up the odour plume from the bait and descend on the trap in their thousands. These small shrimp-like crustaceans (amphipods) are important in re-distributing the nutrients that reach the deep sea. Specimens have been recovered to the surface and will be examined by experts keen to describe new species.

The deep ocean is one of the least explored on Earth, and it is vast. Continued scientific exploration of its deepest points is important for our increasing our understanding of our planet. Collaborative projects such as SERPENT enable access to the resources hydrocarbon industry's resources can increase the time available to scientists working in this realm. It is only with the enthusiastic assistance and support of companies such as Oceaneering and Statoil that projects like this can succeed.



This fish, Bassozetus, was seen slowly drifting past in the current. It was the largest of the fish seen at Zafarani.



Underneath this anemone is a hermit crab. This gave the appearance of the anemones scuttling along the seabed. The anemone grows over the shell of the hermit crab and seems to be a common relationship in the deep sea.



Ifeanyi Okeke, Juan Contreras and Pirre Richard working on the baited trap used to collect specimens of deep sea scavenging organisms