Scientists explore deepest trough in Caribbean Sea

August 22 2013, by Danica Coto

The man whose research team discovered the wreckage of the Titanic has now turned his attention to the deepest trough of the Caribbean Sea.

Dr. Robert Ballard was aboard a 211-foot (64-meter) research vessel with dozens of other scientists to probe the Cayman Trough this week and collect samples of organisms they say might reveal how life might exist on other planets.

On Thursday, the team was using remotely operated vehicles that have so far captured a dumbo octopus, named for its two ear-like fins; a sea cucumber with an unidentified appendage; and various invertebrates living around hydrothermal vents that can reach temperatures of more than 400 Celsius (752 Fahrenheit).

Scientists have collected nearly 100 chemosynthetic shrimp, which can convert carbon molecules into organic matter by using inorganic molecules rather than sunlight for energy, and two worms living near the vents, Katy Croff Bell, chief scientist of the Nautilus Exploration Program, said in a phone interview from the ship.

The team also explored an underwater mountain that had never been dived before and discovered areas of underwater landslides, she said.

"That's the whole mission of the Nautilus, to get out, create maps of the sea floor and look to see where there are interesting geological features, which typically lead to biological life as well," Croff Bell said.

She said the scientists planned to launch the first exploration of a ridge located near two tectonic plates inside the trough that are moving apart and forming new earth.

Previous expeditions to the region led to the discovery in 2010 by British researchers of the world's deepest known hydrothermal vents, as well as several new species.

The current exploration of the Cayman Trough, which plunges to a depth of more than 25,000 feet (7,600 meters), ends next week. The Nautilus will then return to port in September to avoid potential hurricanes before heading to the U.S. territory of Puerto Rico in October.

There scientists hope to explore earthquake-triggered underwater landslides along the island's north coast to determine their frequency and magnitude as well as whether such slides are capable of unleashing a tsunami.

They plan to visit the islands of Montserrat and Grenada to look at underwater landslides as well. Researchers also will analyze an active underwater volcano just north of Grenada named Kick 'em Jenny that hasn't been explored in the past 10 years, Croff Bell said.

Small earthquakes occur frequently in the region, although the last tsunami occurred in October 1918 following an earthquake that struck off Puerto Rico's northwest coast and killed 116 people, including 40 from a tsunami.

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