

## Okeanos Explorer ROV Dive Summary

Dive Information	
General Location Map	
General Area Descriptor	Gulf of Mexico
Site Name	North West Florida Escarpment, DeSoto Canyon region (DC862)
Science Team Leads	Daniel Wagner (Biology) Adam Skarke (Geology)
Expedition Coordinator	Nikolai Pawlenko
ROV Dive Supervisor	Karl McLetchie
Mapping Lead	Mike White
ROV Dive Name	
Cruise	EX1803
Dive Number	DIVE09
Equipment Deployed	
ROV	Deep Discoverer
Camera	Seirios



	Christopher	Mah	Dept of Invertebrate Zoology, NMNH Smithsonian	brisinga@gmail.com
	Jim	Masterson	Florida Atlantic University	jmaster7@fau.edu
	Tina	Molodtsova	Shirshov Institute of Oceanology RAS	tina@ocean.ru
	Matthew	Poti	NOAA NCCOS	matthew.poti@noaa.gov
	Andrea	Quattrini	Harvey Mudd College	aquattrini@g.hmc.edu
	Enrique	Salgado	NOAA	enrique.salgado@noaa.gov
	William	Shedd	BOEM	william.shedd@boem.gov
	Ken	Sulak	Wetlands and Aquatic Research Center	ksulak@usgs.gov
	Michael	Vecchione	SI	vecchiom@si.edu
	Mary	Wicksten	TAMU	wicksten@bio.tamu.edu
	Amy	Bowman	NOAA/OER	amy.bowman@noaa.gov
Purpose of the Dive	<p>The purpose of Dive 9 was to survey the biology and geology in the northern end of the West Florida Escarpment in the De Soto Canyon region. This area is approximately 60 km east of the area explored during Dive 8 and completely unexplored, with the closest historical dive being conducted over 25 km away. The Dive 9 target area shows very high habitat suitability for antipatharian corals in models developed for the Gulf of Mexico (Kinlan et al. 2013). Thus, besides exploring a poorly known region of the Gulf of Mexico, observations collected during this dive would also help ground-truth existing models for deep-sea coral habitat suitability.</p>			
Description of the Dive	<p>The ROV acquired bottom on a steep, heavily-sedimented area at a depth of 2258 m at 15:04 UTC. Few shrimp were seen close to the landing spot. After reaching the seafloor, the ROV began to move upslope over steep sediment blanked terrain. Scarps resulting from soft sediment slope failure were observed indicating that seafloor sediments in the area were at angles sufficient to cause seafloor instability. Two pieces of man-made debris (mylar balloon, metal can) were observed as well as limited excavation burrows. At 15:54 UTC outcropping rocks, free of sediment cover, were observed with attached corals and sponges. For the remainder of the dive, the seafloor was characterized by alternating carbonate rock outcrops and very steep sediment covered patches. Exposed carbonate rocks almost uniformly exhibited a black coating that was likely FeMn oxide. Recently disturbed sediments, indicated by their lighter color, often ran downslope in long streaks further suggesting that slopes very close to instability. At 17:01 a tripod fish was observed and after position the ROV, all lights were turned off to determine if the tripod fish exhibited bioluminescence in its eye spots as has been hypothesized by some investigators. No bioluminescence was observed. At 19:10 UTC as the ROV moved above a depth of 1930 m, relatively abundant corals and sponges were observed on rock outcrops. A similarly abundant patch of corals and sponges was observed at 19:54 UTC.</p> <p>The most commonly observed animals were glass sponges (various species of Hexactinellida), and <i>Keratoisis</i> sp. bamboo corals. Other species observed included bamboo corals (<i>Keratoisis</i> sp., <i>Acanella</i> sp., <i>Isidella</i> sp., <i>Eknomisis</i> sp.), chrysogorgid corals (<i>Iridogorgia magnispiralis</i>, <i>Iridogorgia splendens</i>, <i>Metallogorgia melanotrichos</i>) primnoid corals (<i>Narella</i> sp., <i>Candidella umbratica</i>, unbranched <i>Candidella</i> sp.), plexaurid corals (<i>Paramuricea biscaya</i>), mushroom corals (<i>Anthomastus</i> sp.), corallids (<i>Corallium niobe</i>), bubblegum corals (<i>Sibogagorgia cauliflora</i>), stoloniferan corals (<i>Clavularia rudis</i>), black corals (<i>Stichopathes</i> sp.), seastars (<i>Circeaster</i> sp., <i>Pythonaster</i> sp.), shrimp (Mysidae, <i>Cerataspis</i> sp., <i>Nematocarcinus ensifer</i>), squat lobsters (<i>Munidopsis</i> sp.), holothurians, carnivorous sponges (<i>Chondrocladia</i> sp.), and a winged octopus (Cirroteuthidae). Fish observed during the dive included cusk-eels (<i>Acanthonus armatus</i>, <i>Diplacanthopoma</i> sp.), cut-throat eels (<i>Ilyophys brunneus</i>), tripod fish (<i>Ipnops murrayi</i>), and a</p>			



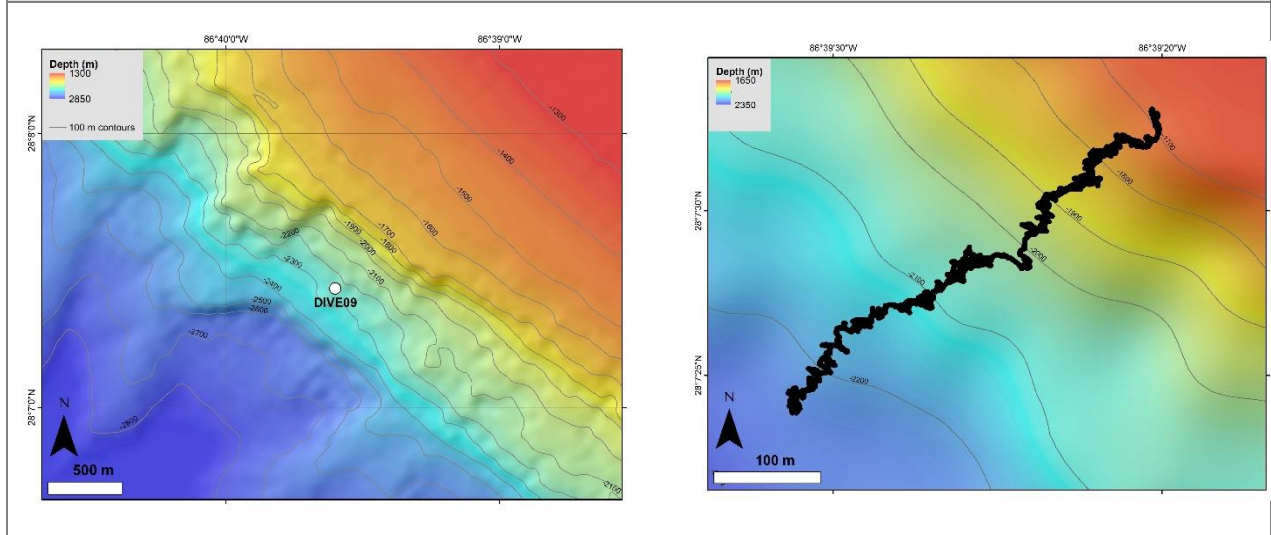
rattail (*Coryphanenoides rudis*).

The ROV left the bottom at 20:14 UTC at a final depth of 2315 m. Only a single black coral colony was documented during the dive, even though this area was predicted to have very high habitat suitability in models developed for the Gulf of Mexico ([Kinlan et al. 2013](#)).

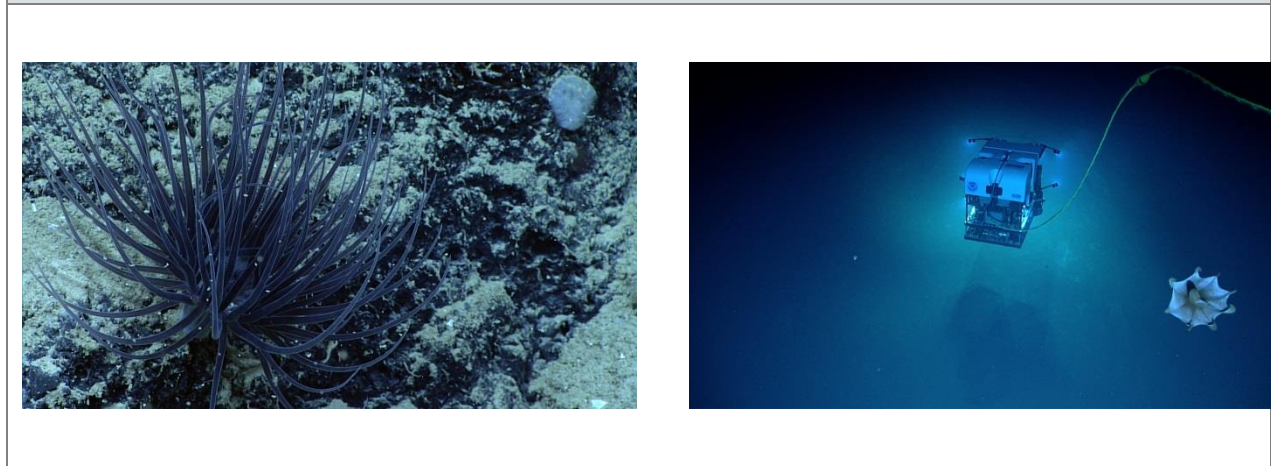
Notable Observations *[Can include number of communities, notable collections or observations, high density communities, etc.]*

Community Presence/Absence <i>(community is defined as more than two species)</i>	<input checked="" type="checkbox"/> Corals and Sponges Present	<input type="checkbox"/> Active Seep or Vent
	<input type="checkbox"/> Chemosynthetic Community Present	<input type="checkbox"/> Extinct Seep or Vent
	<input checked="" type="checkbox"/> High biodiversity Community Present	<input type="checkbox"/> Hydrates Present

Overall Map of the ROV Dive Area Close-up Map of Main Dive Site



Representative Photos of the Dive



Anemone. Cirrate octopus.



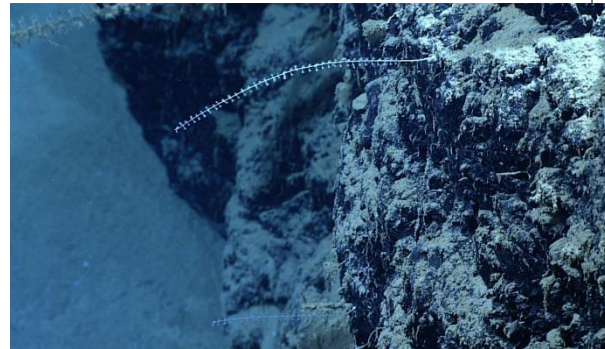
Glass sponges.

Gorgonian octocorals.

Samples Collected

Sample

Sample ID	EX1803_20180426T162534_D2_DIVE09_SPE C01BIO
Date (UTC)	20180426
Time (UTC)	162534
Depth (m)	2176.92
Temperature (°C)	4.31
Field ID(s)	Primnoidae



Commensals	Commensal ID	Field Identification	Notes
	none		
Comments			

Please direct inquiries to:

NOAA Office of Ocean Exploration & Research  
 1315 East-West Highway (SSMC3 10th Floor)  
 Silver Spring, MD 20910  
 (301) 734-1014