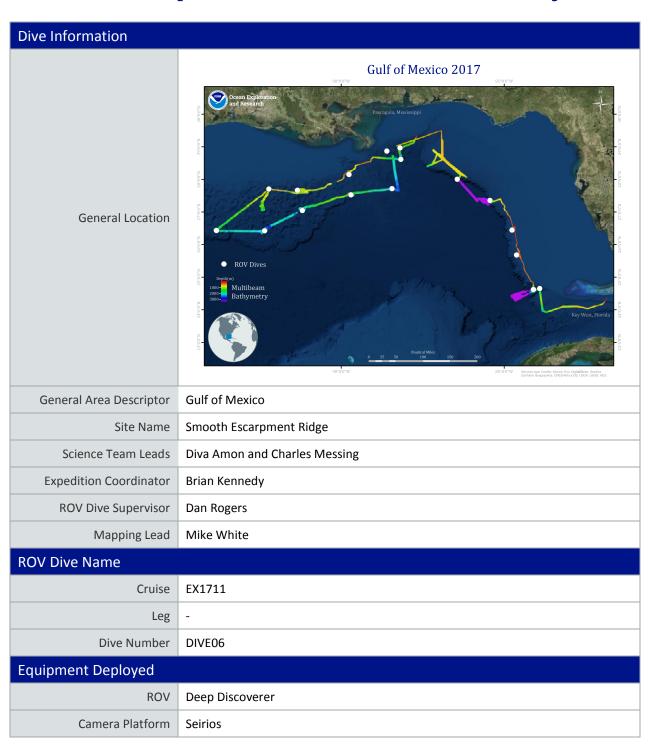


Okeanos Explorer ROV Dive Summary



	⊠ ctd	□ Depth		
ROV Measurements	Scanning Sonar	USBL Position		
	□ Pitch □ Pitch	⊠ Roll	☐ HD Camera 1	
	HD Camera 2	Low Res Cam 1	∑ Low Res Cam 2	
	Low Res Cam 3	☐ Low Res Cam 4	∑ Low Res Cam 5	
Equipment Malfunctions	none	'	'	
	Dive Summary: EX1711_DIVE06			
	^^^^^^			
	In Water: 2017-12-05T13:42:24.015000			
		28°, 00.318' N ; 086°, 2	26.536' W	
	Out Water: 2017-12-05T21:29:51.081000			
		N/A ; N/A		
	Off Bottom: 2017-12-05T20:30:35.621000			
DOV/Divo Cummany	Off Bottom:			
ROV Dive Summary (from processed ROV data)	28°, 00.392' N ; 086°, 26.245' W			
	On Bottom: 2017-12-05T14:55:11.008000			
	28°, 00.222' N ; 086°, 26.391' W			
	Dive direction: 7,47,27			
	Dive duration: 7:47:27			
	Bottom Time:	5:35:24		
		2005.0		
	Max. depth:	2095.9 m		
Special Notes	none			
Scientists Involved	Name	Affiliation	Email	
	Adam Skarke	Mississippi State University	adam.skarke@msstate.edu	
	- isam sitamo	Oregon State University	and the second s	
(please provide name,		/ Nancy Foster Scholar		
location, affiliation, email)	Alexandra Avila	(ONMŚ)	alexandra.m.avila@gmail.com	
	Amanda	11000	adamanaulaa@uaga gay	
	Demopoulos Andrea	USGS	ademopoulos@usgs.gov	
	Quattrini	Harvey Mudd College	aquattrini@g.hmc.edu	



Asako	Planetary Exploration Research Center, Chiba	
Matsumoto Amy Baco- Taylor	Institute of Technology Florida State University	amatsu@gorgonian.jp abacotaylor@fsu.edu
Charles Messing	Nova Southeastern University	messingc@nova.edu
Christopher Mah	Dept of Invertebrate Zoology, NMNH Smithsonian	brisinga@gmail.com
Diva Amon	Natural History Museum, London	divaamon@gmail.com
Enrique Salgado	NCCOS	enrique.salgado@noaa.gov
Heather Judkins	University of South Florida St. Petersburg	Judkins@mail.usf.edu
Kevin Rademacher	NOAA/NMFS/MS Labs	kevin.r.rademacher@noaa.go v
Kimberly Galvez	University of Miami	kgalvez@rsmas.miami.edu
Lauren Jackson	NCEI-Stennis	Lauren.Jackson@noaa.gov
Les Watling	University of Hawaii at Manoa	watling@hawaii.edu
Meagan Putts	University of Hawaii	meagan.putts@noaa.gov
Megan McCuller	Southern Maine Community College	mccullermi@gmail.com
Nolan Barrett	Harbor Branch Oceanographic Institute at Florida Atlantic University	barrettnh@g.cofc.edu
Rachel Bassett	NOAA NCCOS DCEL	rachel.bassett@noaa.gov
Robert Carney	Oceanography and Marine Sciences, LSU	rcarne1@lsu.edu
Scott France Steve	University of Louisiana at Lafayette	france@louisiana.edu steven.auscavitch@temple.ed
Auscavitch	Temple University	u
Tina Molodtsova	Shirshov Institute of Oceanology RAS	tina@ocean.ru
Tracey Sutton	Nova Southeastern University	tsutton1@nova.edu
William Kiene	NOAA Office of National Marine Sanctuaries	William.Kiene@noaa.gov
Daniel Warren	P&C Scientific, LLC	daniel.warren@pandcscientific .com



Purpose of the Dive

The dive was one of an exploratory pair that compared the geology and associated communities in 1800-2300 m at the northern end of the West Florida Escarpment. This second dive explored where the escarpment is very steep as a result of reduced promontories. ROV exploration of these features aided our understanding of the geological structure and origin of this area. Additionally, these exposed areas of hard substrate hosted deepwater sessile communities, for which we collected baseline data on their distribution, abundance, diversity, biogeography and connectivity.

Description of the Dive

EX1711 Dive 6 was at 'Smooth Escarpment Ridge' on the northern edge of the West Florida Escarpment. The dive track climbed a very steep slope, which consisted of mostly exposed hard substrate and hosted diverse and abundant sessile communities.

On touchdown at 2091 m, the slope (50-60°) was sedimented with a number of gullies, concretions and outcrops. We observed the fishes *Aldrovandia* sp., a Bythitidae sp., a *Monomitopus* sp. and an *Acanthonus armatus*, a variety of cnidarians (*Bathypathes* sp., a Ceriantharia sp., an Actiniaria sp., Isididae sp., ?*Anthomastus*/ *Pseudanthomastus* sp., solitary cup corals), sponges (Farreidae sp., Cladorhizidae sp. Geodiidae sp., *Polymastia* sp., *Hyalonema* sp., and *Saccocalyx* sp.), and crustaceans (Scalpellidae sp. and *Nematocarcinus* sp).

Continuing upslope, the terrain changed to a near-vertical ferromanganese-encrusted cliff wall (85° slope), which coincided with an increase in benthic abundance and diversity, including *Corallium* sp., *Metallogorgia melanotrichos* with commensal *Ophiocreas* sp., *Iridogorgia* sp., *Acanthogorgia* sp., *Lepidisis* sp., and *Candidella imbricata* with commensal polychaetes. We observed a curved, thin upright outcrop, where the crust acted as a trap for debris, including large ferromanganese-encrusted coral skeletons falling from further upslope. We also observed Hexactinellidae spp., but few fish or crustaceans.

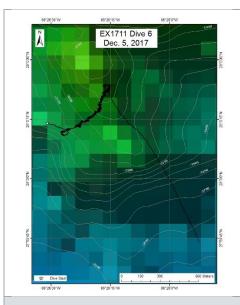
Description of the Dive

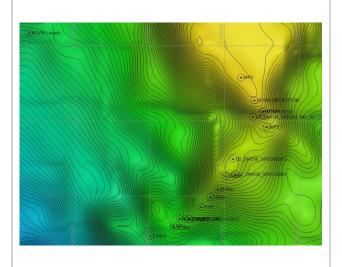
As the ROV ascended the cliff, we observed a number of exposed plateaus supporting spectacular sessile communities consisting of Iridogorgia splendens. Chrysogorgia sp., Isididae sp., Enallopsammia rostrata. Candidella gigantea with commensal euryalids, Victorgorgia sp., Paramuricea sp., Swiftia sp. and Paragorgia sp. Sponges included Farreidae sp., Polymastia sp., Amphidiscella sp., and Cladorhizidae sp. Antipatharians included abundant Heteropathes americana, Telopathes sp. Stichopathes sp., Parantipathes sp., and Bathypathes sp. The abundance of crinoids was surprising, with taxa belonging to 6-7 families: Hyocrinidae (1 likely new species—the first record of this family from the tropical western Atlantic). Bathycrinidae (possibly Monachocrinus caribbeus). Bourgueticrinidae (Democrinus sp.), Thalassometridae (probably Thalassometra n. sp.), Charitometridae (Crinometra brevipinna), Antedonidae (1-2 species), and possibly Pentametrocrinidae (?Thaumatocrinus sp.). Many of the stalked crinoids had commensals, which included featherstars and *Amathillopsis* sp. amphipods on the stalks. Notable benthic observations included an 'adolescent' *Metallogorgia* sp., a dandelion siphonophore, two asteroids (Hymenaster sp. and a Henricia sp.). and a number of Circeaster sp. or Astroceramus sp. asteroids consuming octocorals.

Overall Map of the ROV Dive Area

Close-up Map of Main Dive Site







Representative Photos of the Dive



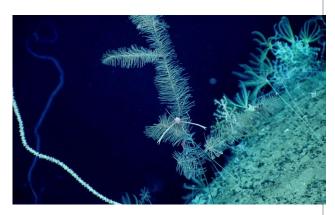
Long slender glass sponges (Farreidae), a yellow demosponge, and feather stars (Thalassometridae n. sp.) on an irregular, deeply eroded knee projecting from a near vertical wall at a depth of 1,932 m.

An unidentified octocoral (later identified likely as the stoloniferan *Clavularia rudis*) that defied collection, growing out of the flat top of an enormous, sediment-veneered apparent slump block, accompanied by *Stichopathes* sp. whips, numerous Bathycrinidae, and at least two species of bamboo corals (Isididae), one unbranched and one branched. The latter was accompanied by an asteroschematid ophiuroid and a thalassometrid feather star. Depth: 1,887 m.





Ophiocreas sp. snake star among one of several clusters of polyp-bearing branches along the central stalk of an "adolescent" Metallogorgia sp. More mature colonies have a terminal shallow umbrella of polyp-bearing branches with no polyps along the central stalk. Depth: 1,805 m.

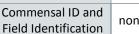


Dense assemblage of antipatharians (including large Parantipathes sp., center, with chirostylid), octocorals (including Isididae sp. whips and Plexauridae), and crinoids (yellow Thalassometridae n. sp. feather stars and stalked Bathycrinidae), on an elevated, lithified, sediment-veneered mound at a depth of 1,716 m.

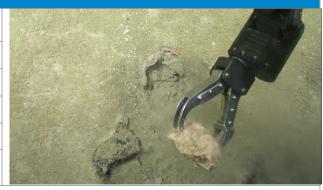
Samples Collected

Sample

Sample ID	EX1711_20171205T152021_D2_ DIVE06_SPEC01GEO	
Date (UTC)	20171205	
Time (UTC)	152021	
Depth (m)	2092.08	
Temperature (°C)	4.3	
Field ID(s)	Carbonate rock	
Commensal ID and	none	



Comments



Sample

Sample ID	EX1711_20171205T170503_D2_ DIVE06_SPEC02BIO
Date (UTC)	20171205
Time (UTC)	170503
Depth (m)	1963.33
Temperature (°C)	4.28
Field ID(s)	Isididae





Commensal ID and Field Identification	none		
Comments			
Sample			
Sample ID	EX1711_20171205T181526_D2_ DIVE06_SPEC03GEO		
Date (UTC)	20171205	一种企业	
Time (UTC)	181526	4年 在 2000年 4	
Depth (m)	1892.64	The state of the s	
Temperature (°C)	4.28		
Field ID(s)	Fossilized coral	THE STATE OF THE STATE OF	
Commensal ID and Field Identification	Stephanoscyphus (Cnidarian) N=1		
Comments			
Sample			
Sample ID	EX1711_20171205T195715_D2_ DIVE06_SPEC04BIO		
Date (UTC)	20171205		
Time (UTC)	195715		
Depth (m)	1750.19		
Temperature (°C)	4.28		
Field ID(s)	Crinoid Thalassometridae sp		
Commensal ID and Field Identification	Isididae N=1		
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

