

ROV Dive Summary, EX-21-04, Dive 09, July 12, 2021

General Location Map



Dive Information

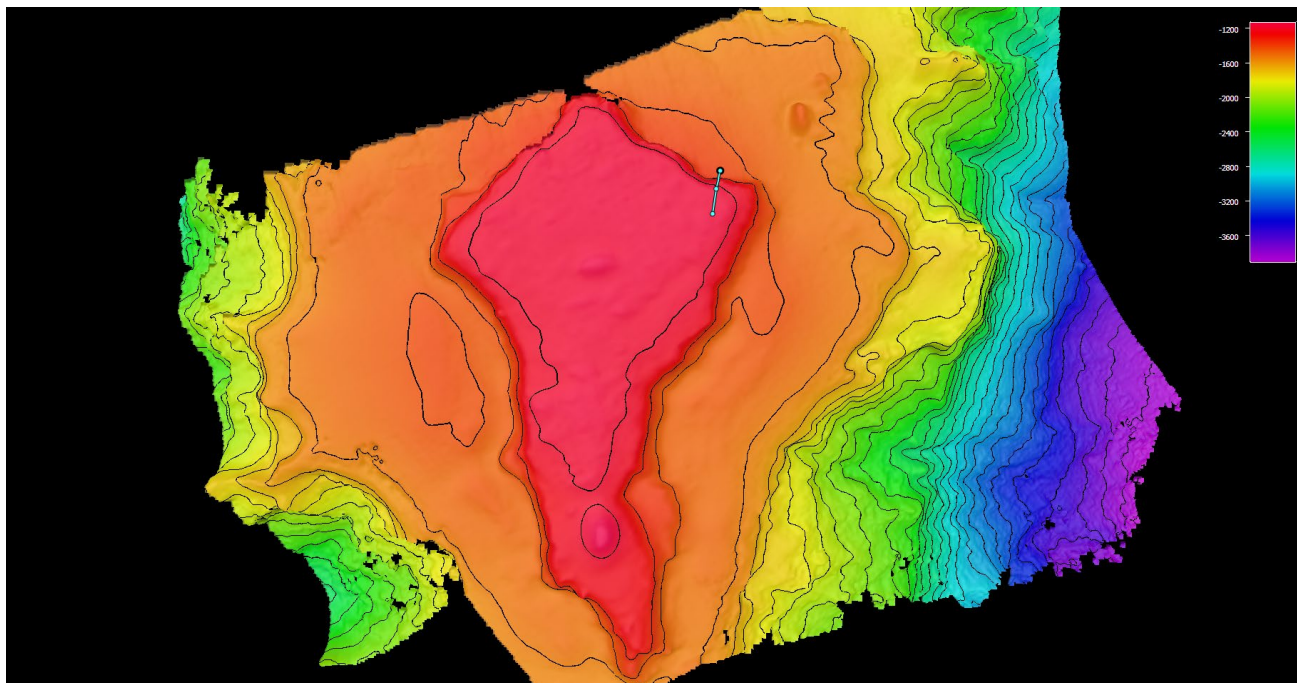
Site Name	Yakutat Seamount - Shallow
General Area Descriptor	Large seamount near the Eastern margin of the Corner Rise Seamount Complex
Science Team Leads	Rhian Waller, Kira Mizell
Expedition Coordinator	Kasey Cantwell, Kimberly Galvez (Expedition Coordinator in Training)
ROV Dive Supervisor	Chris Ritter
Mapping Lead	Shannon Hoy
Dive Purpose	Explore an unexplored region of a large seamount

	high densities in patches. A large number of fish were seen during this dive in comparison to previous dives, black dogfish (with parasites), Oreo, Zooarcid, Grenadier, Halosuar and cyclothene. Other observations include echinothurid and cidarid urchins, hymenaster and a collection of an unusual cushion star. We also observed a Homolidae Carry Crab carrying a sponge, a nemertean ribbon worm and an Aphrodite polychaete.
Notable Observations	ancient carbonate reef platform
Community and habitat observations	Corals and Sponges - (Present) Chemosynthetic Community - (Absent) High biodiversity Community - (Absent) Active Seep or Vent - (Absent) Extinct Seep or Vent - (Absent) Hydrates - (Absent)
CMECS Feature Type(s)	Rock, Sediment (coarse unconsolidated)
SeaTube Link (science annotation system)	https://data.oceannetworks.ca/SeaTubeV3?resourceTypeId=600&resourceId=2323

Equipment Deployed

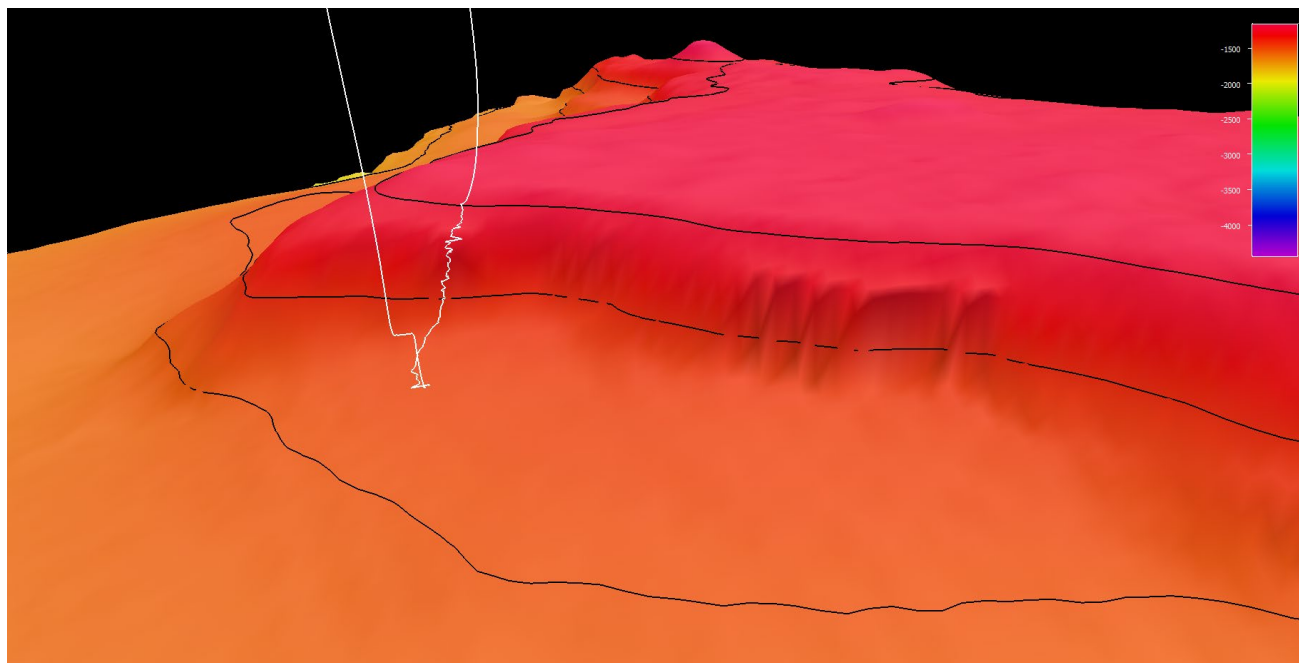
ROV	<i>Deep Discoverer</i>
Camera Platform	<i>Seirios</i>
ROV Measurements	The following ROV measurements, data streams and equipment are used on each ROV deployment: CTD, depth, scanning sonar, USBL position, altitude, heading, attitude, high-resolution cameras, low resolution cameras, manipulator arms, suction sampler, sample drawers and thrusters. The section below notes if any of these sensors were malfunctioning or not operational
Equipment Malfunctions	none

Overview of Dive Site



Smoothed ROV dive track (blue) on an overview bathymetry of the seamount, 3x vertical exaggeration.

Close-up Map of Main Dive Site

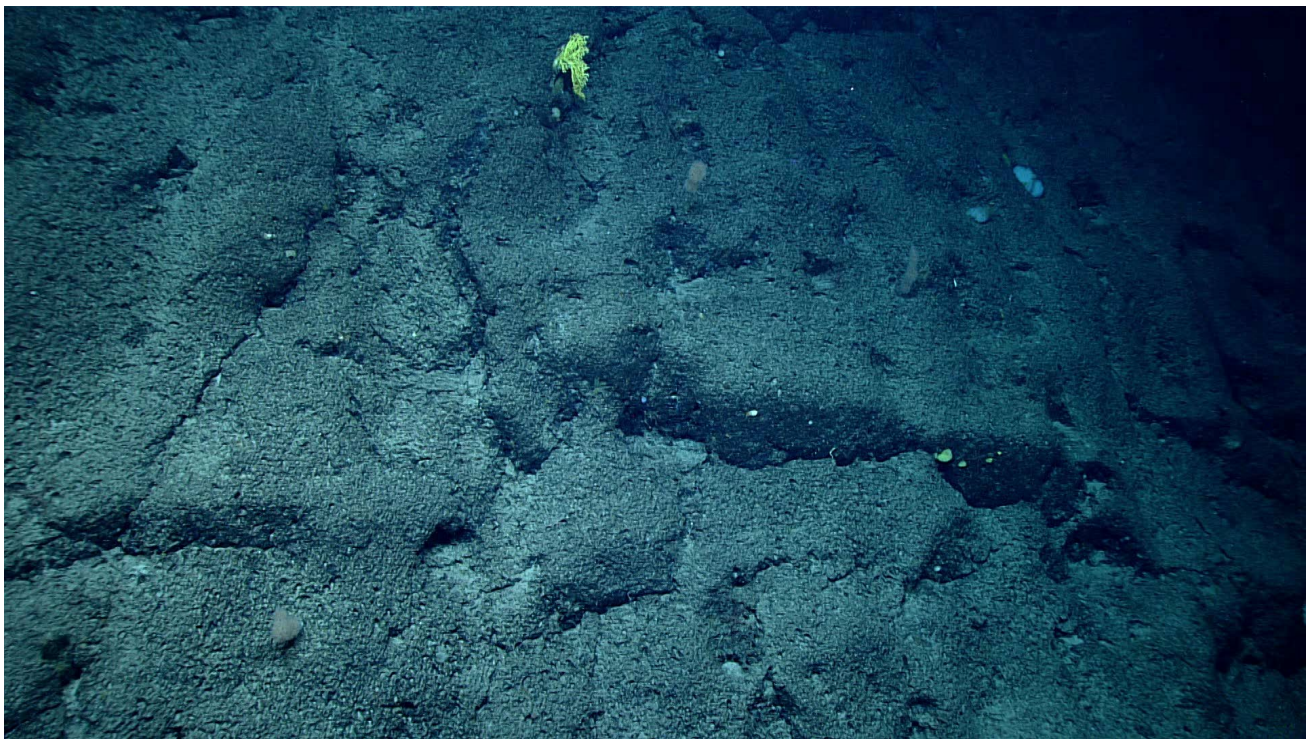


Smoothed ROV dive track in white on 25x25 cell size bathymetry, 3x vertical exaggeration, depth in meters, 100 meter contours.

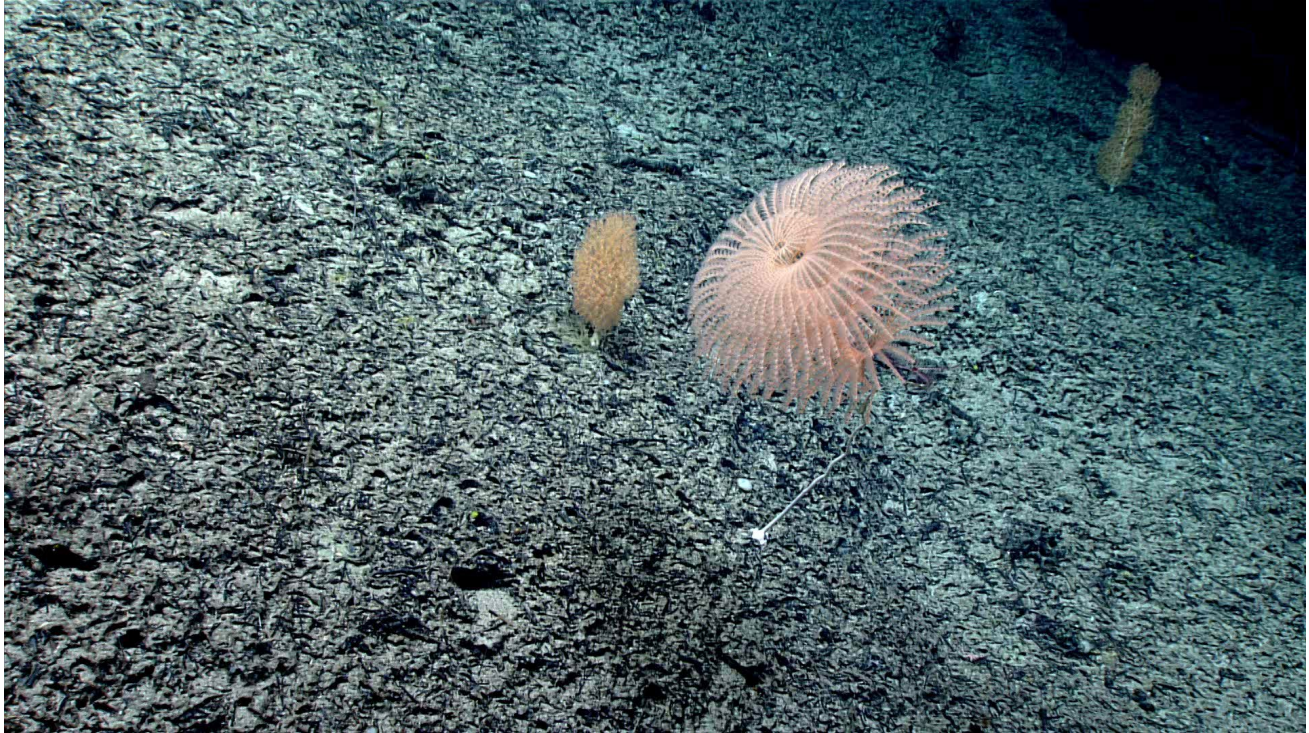
Representative Photos of the Dive



[An unknown black coral grows out of smoothed, cemented reef material along the vertical wall of a carbonate platform]



[Fractures, divots, and outcrops of smoothed and cemented reef material along the vertical wall of a carbonate platform show the erosional history of this geologic feature that is likely a paleo reef]

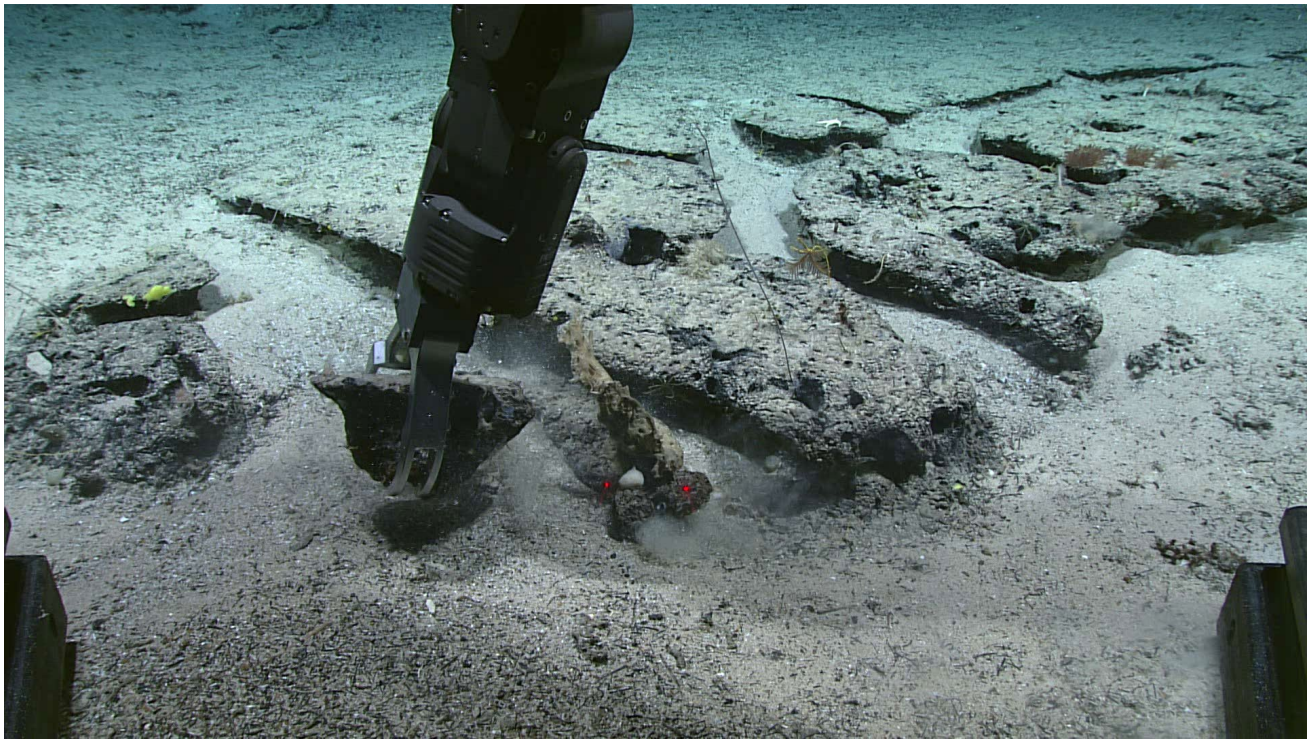


[An *Irridiogorgia fontanalis*, the second specimen ever observed, alongside an *Acanella arbuscula* at the upper summit of a carbonate platform towards the end of our dive track]



[An impressively thick sample of in-place carbonate rock is sampled by the ROV exposing a thin ferromanganese coating at the surface of the rock, iron staining near the water-rock interface, and white carbonate at the bottom. Finer carbonate sediment disturbed when the rock was removed creates a small smoke-like plume.]

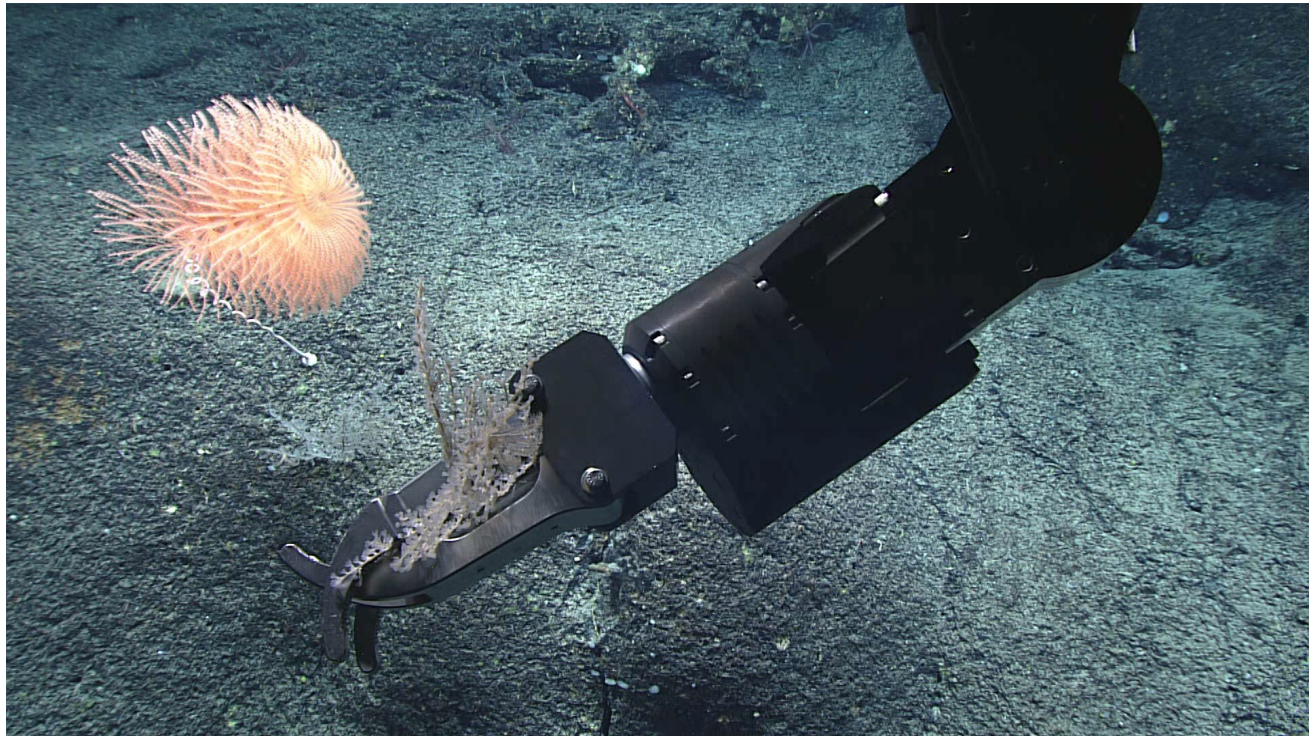
Samples Collected -



Sample ID	EX2104_D09_01G
Date (UTC)	20210712
Time (UTC)	142443
Depth (m)	1364.859009
Latitude (decimal degrees)	35.18091583

Longitude (decimal degrees)	-48.11672974
Temp. (°C)	4.477000237
Field ID(s)	Carbonate sample
Comments	Carbonate rock with partial precipitation of FeMn and large dead and live sponge on top, 37cm long 13 cm wide 7.5 cm tall

Associates Sample ID	Field Identification	Count
N/A	N/A	N/A





Sample ID	EX2104_D09_02B
Date (UTC)	20210712
Time (UTC)	165726
Depth (m)	1254.44397
Latitude (decimal degrees)	35.17882156
Longitude (decimal degrees)	-48.11699677
Temp. (°C)	4.31099987
Field ID(s)	Plexauridae
Comments	White, possible plexauridae, over 20 cm

Associates Sample ID	Field Identification	Count
EX2104_D09_02B_A01	Crinoidea	1



Sample ID	EX2104_D09_03B
Date (UTC)	20210712
Time (UTC)	172417
Depth (m)	1242.219971
Latitude (decimal degrees)	35.17876434
Longitude (decimal degrees)	-48.11707306
Temp. (°C)	4.302000046

Field ID(s)	Demospongiae
Comments	yellow and white sponge, over 20 cm

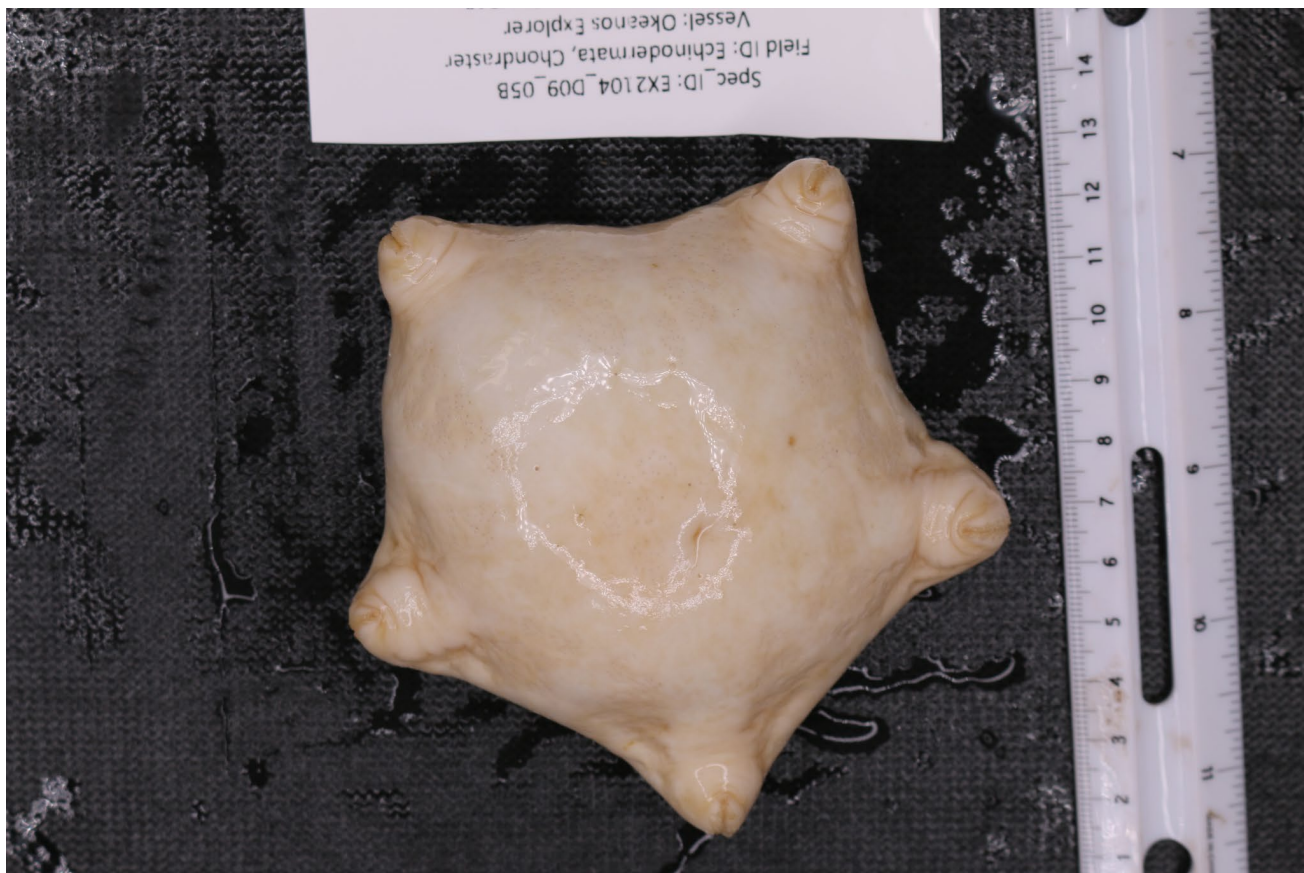
Associates Sample ID	Field Identification	Count
EX2104_D09_03B_A01	Ophiurida	4





Sample ID	EX2104_D09_04G
Date (UTC)	20210712
Time (UTC)	180813
Depth (m)	1233.386963
Latitude (decimal degrees)	35.17869186
Longitude (decimal degrees)	-48.11701584
Temp. (°C)	4.274000168
Field ID(s)	Carbonate rock slab
Comments	Loosely consolidated carbonate from paleo reef platform, upper surface with FeMn precipitation (upper 2cm), iron staining in middle section and white carbonate below, 23cm long 16 cm wide 15 cm tall

Associates Sample ID	Field Identification	Count
N/A	N/A	N/A



Sample ID	EX2104_D09_05B
Date (UTC)	20210712
Time (UTC)	185358
Depth (m)	1224.61499

Latitude (decimal degrees)	35.17853928
Longitude (decimal degrees)	-48.11698151
Temp. (°C)	4.275000095
Field ID(s)	Chondraster
Comments	White-tan, 10 cm

Associates Sample ID	Field Identification	Count
N/A	N/A	N/A



Sample ID	EX2104_D09_06B
Date (UTC)	20210712
Time (UTC)	195100
Depth (m)	1192.800049
Latitude (decimal degrees)	35.17829895

Longitude (decimal degrees)	-48.11753082
Temp. (°C)	Unknown
Field ID(s)	Polychaeta
Comments	This sample came up on the ROV but was not associated with a sample. The parameters listed for this sample are from the last depth and lat/long taken before the ROV ascended. There are no ROV images or videos of this sample.

Associates Sample ID	Field Identification	Count
N/A	N/A	N/A

Scientists Involved (provide name, email, affiliation)

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