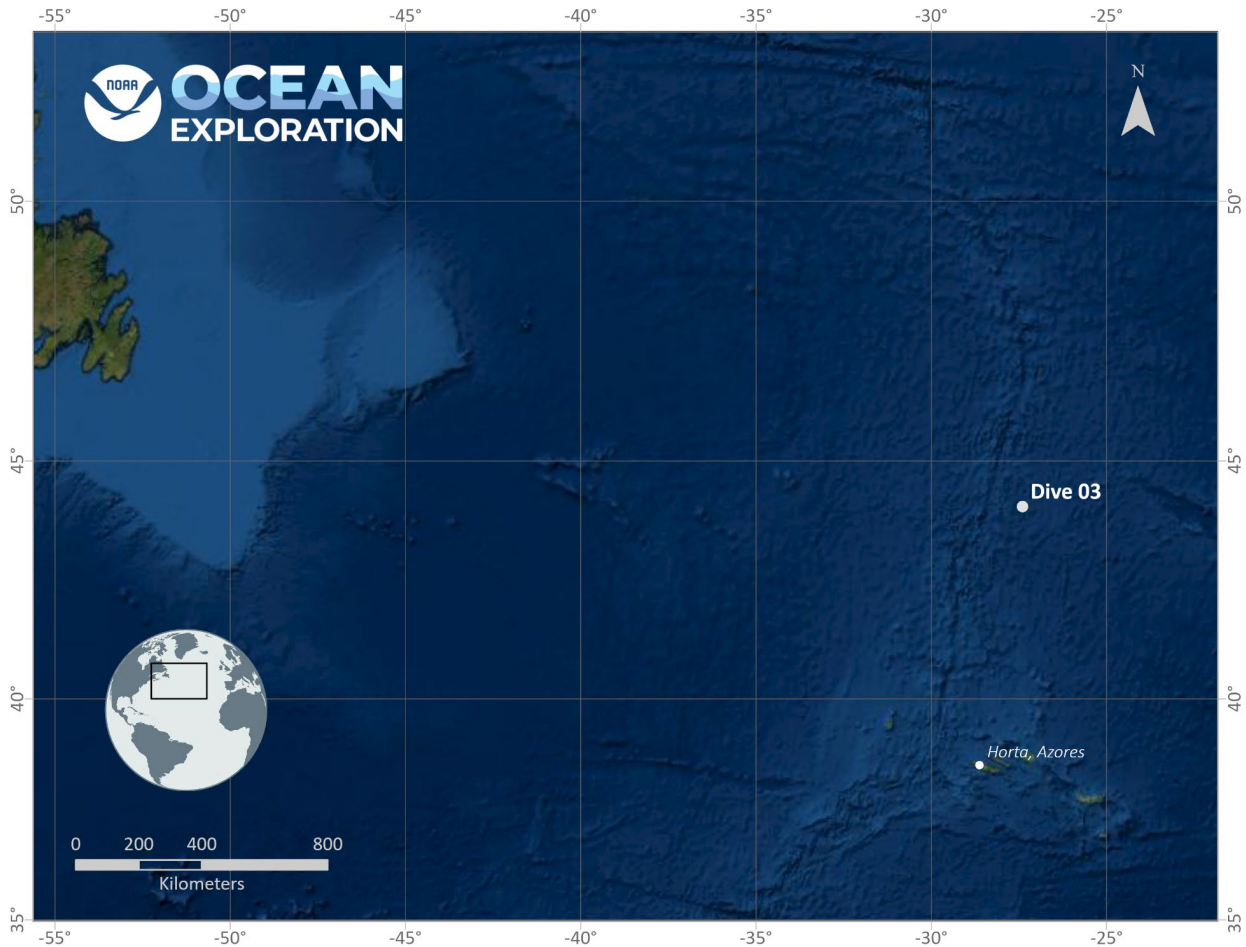


ROV Dive Summary, EX-22-05, Dive 03, July 22, 2022

General Location Map



Dive Information

Site Name	MARNA Midwater
General Area Descriptor	Water column dive
Science Team Leads	Dr. Scott France (Biology), Dr. Ashton Flinders (Geology)
Expedition Coordinator	Dr. Derek Sowers
ROV Dive Supervisor	Christopher Ritter

Sample Data Manager	Dr. Arvind Shantharam
Mapping Lead	Shannon Hoy
Dive Purpose	Midwater/water column exploration
Was the dive restricted for Underwater Cultural Heritage?	No
ROV Dive Summary Data	<p>Dive Summary: EX2205_DIVE03 ^^^</p> <p>Dive Type: Normal</p> <p>In Water: 2022-07-22T10:30:32.483438 44.09691921907849 ; -27.38438882735633</p> <p>On Bottom: 2022-07-22T11:59:54.967537 44.09863560882842 ; -27.389199482495137</p> <p>Off Bottom: 2022-07-22T18:27:56.299360 44.09712655831694 ; -27.39068088336612</p> <p>Out Water: 2022-07-22T18:36:37.378028 44.0945187439495 ; -27.393500070601675</p> <p>Dive Duration: 8:06:04</p> <p>Bottom Time: 6:28:01</p> <p>Max Vehicle Depth: 1835.2 m</p> <p>Min Seafloor Depth: 1826.1 m</p> <p>Distance Traveled: 20.9 m</p> <p>Mid Water Transects Summary ^^^</p> <p>Number of Transects: 6</p> <p>Transect 1 Start: 12:14:00 44.09865887287372 ; -27.38905951937592</p> <p>End: 12:59:00 44.09874273321747 ; -27.388973944242636</p> <p>Duration: 0:45:00</p> <p>Depth: 1817.0 m</p> <p>Transect 2 Start: 13:32:00 44.09899414047939 ; -27.38910212122722</p>

End: 13:55:13
44.0989152968748 ; -27.38893414772742

Duration: 0:23:13

Depth: 1200.0 m

Transect 3

Start: 14:36:16
44.09886219408812 ; -27.388792344116005

End: 14:59:11
44.09892864599861 ; -27.38884837687933

Duration: 0:22:55

Depth: 1200.0 m

Transect 4

Start: 15:21:50
44.099014425080505 ; -27.38899664625876

End: 16:06:12
44.09910063532689 ; -27.38870877917449

Duration: 0:44:21

Depth: 900.0 m

Transect 5

Start: 16:22:12
44.09887865209824 ; -27.388835376651823

End: 17:06:30
44.09890575871048 ; -27.38895353216721

Duration: 0:44:17

Depth: 700.0 m

Transect 6

Start: 17:21:01
44.09901948359589 ; -27.38885452854452

End: 18:12:57
44.09901150579374 ; -27.388934746234067

Duration: 0:51:55

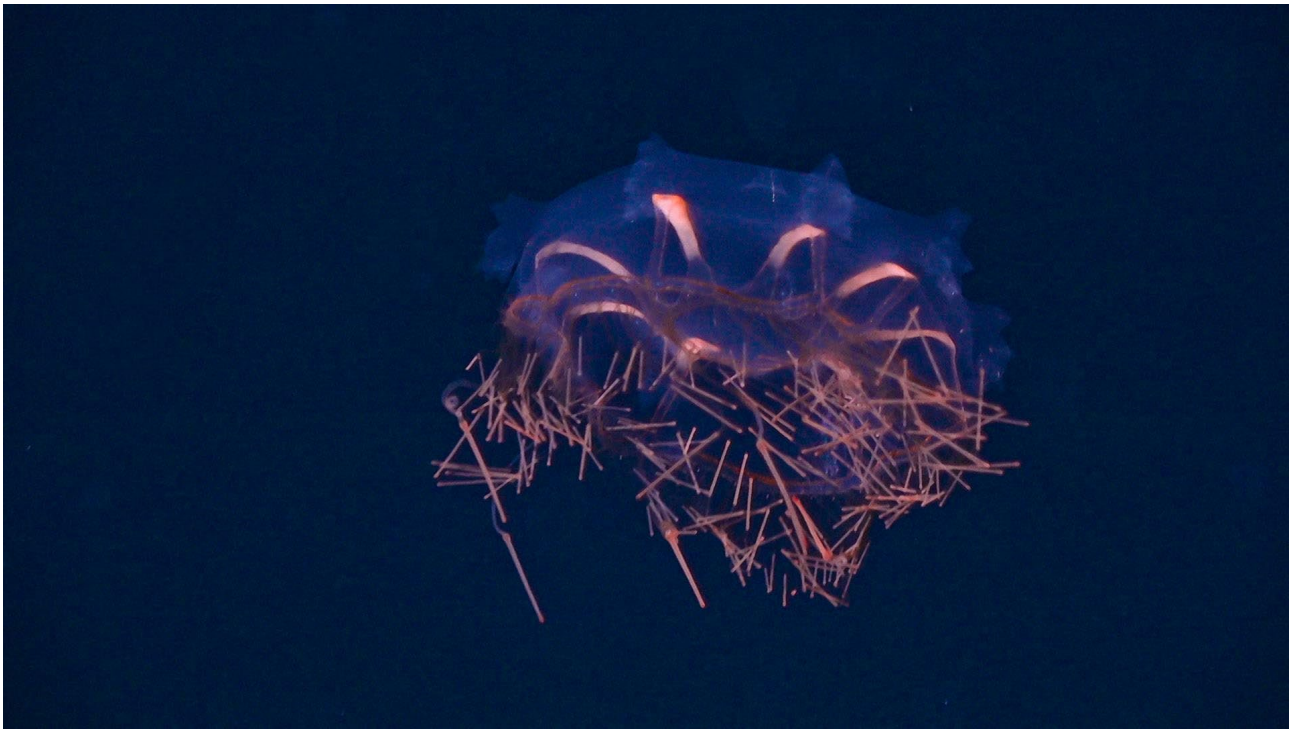
Depth: 493.0 m

Dive Description	<p>Prior to midwater transects, we spent 8 minutes looking at the seafloor at 1832 m. In the immediate vicinity of the landing site the seafloor showed mostly exposed hard substrates and coral rubble with patches of sediment. There were many sponges (multiple taxa), black coral (<i>Stichopathes</i>), plexaurid coral, zoanthids, cup corals, seastars, squat lobster, and a pycnogonid sea spider.</p> <p>We conducted 45-minute midwater transects in the benthic boundary layer (≈15 m above bottom, at 1817 m depth), 1200 m depth, 900 m depth, 700 m depth, and in the deep scattering layer at 497 m depth. The 1200 m transect was interrupted after the first 32 minutes due to a camera issue (lost focus); at this point we switched to the Mini Zeus HD camera and resumed the transect. Notable midwater observations included a hyperiid amphipod feeding on a ctenophore; a "cow-tongue" worm (pelagic nemertean); a "horned" ctenophore; a squid with apparent mimicry as a siphonophore (<i>Planctoteuthis</i>); starburst foraminifera; an <i>Arctapodema</i> hydromedusa (sampled despite being <3 mm diameter) and a large (>21 cm) <i>Aulacoctena</i> ctenophore (sampled). Several of the typical midwater fauna were observed: siphonophores, larvaceans, jellyfish, shrimp, and fish.</p>
Notable Observations	Horned ctenophore (<i>Ctenoceros</i>), <i>Aulacoctena</i> ctenophore, hyperiid amphipod feeding on a ctenophore
Community and habitat observations	<p>Corals and Sponges - Present</p> <p>Chemosynthetic Community - Absent</p> <p>High biodiversity Community - Absent</p> <p>Active Seep or Vent - Absent</p> <p>Extinct Seep or Vent - Absent</p> <p>Hydrates - Absent</p>
CMECS Feature Type(s)	N/A
SeaTube Link (science annotation system)	https://data.oceannetworks.ca/SeaTubeV3?resourceTypeId=600&resourceId=2583

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	Zeus HC camera lost focus control; switched to mini Zeus for remainder of dive.

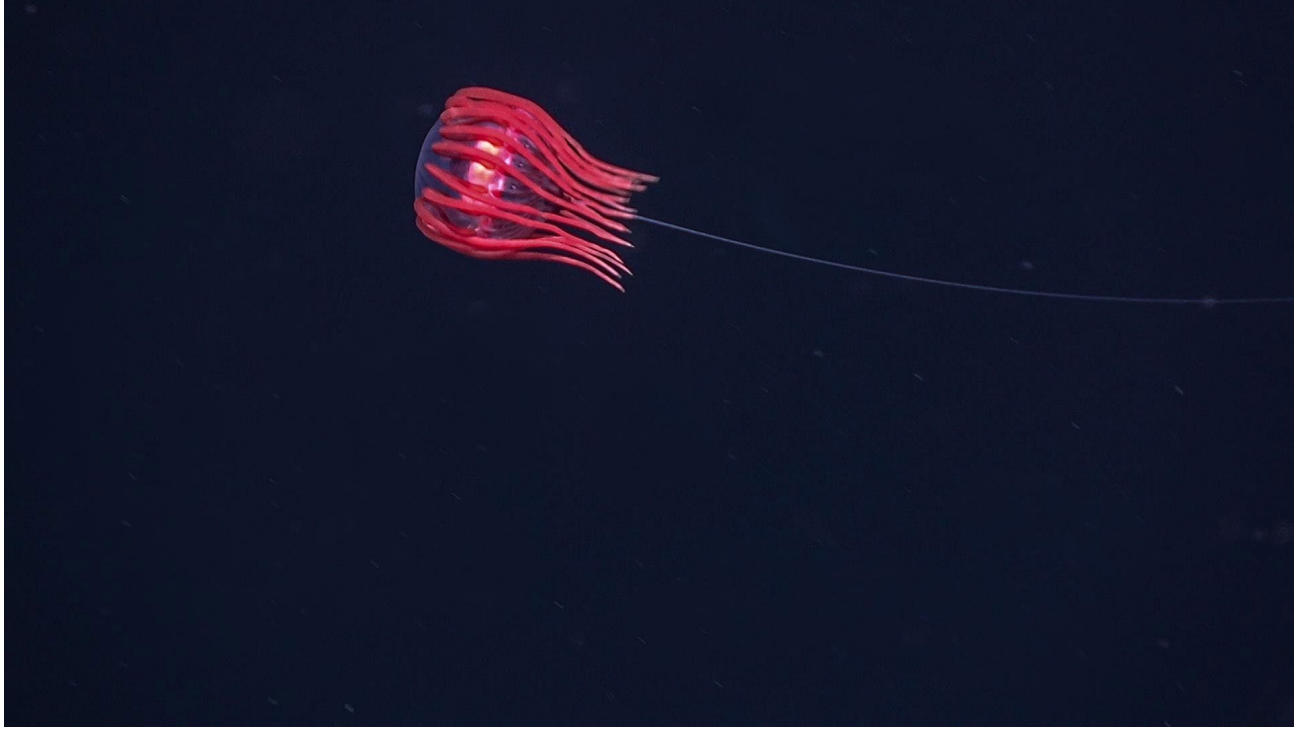
Representative Photos of the Dive



Hydromedusa, *Halicreas minimum*

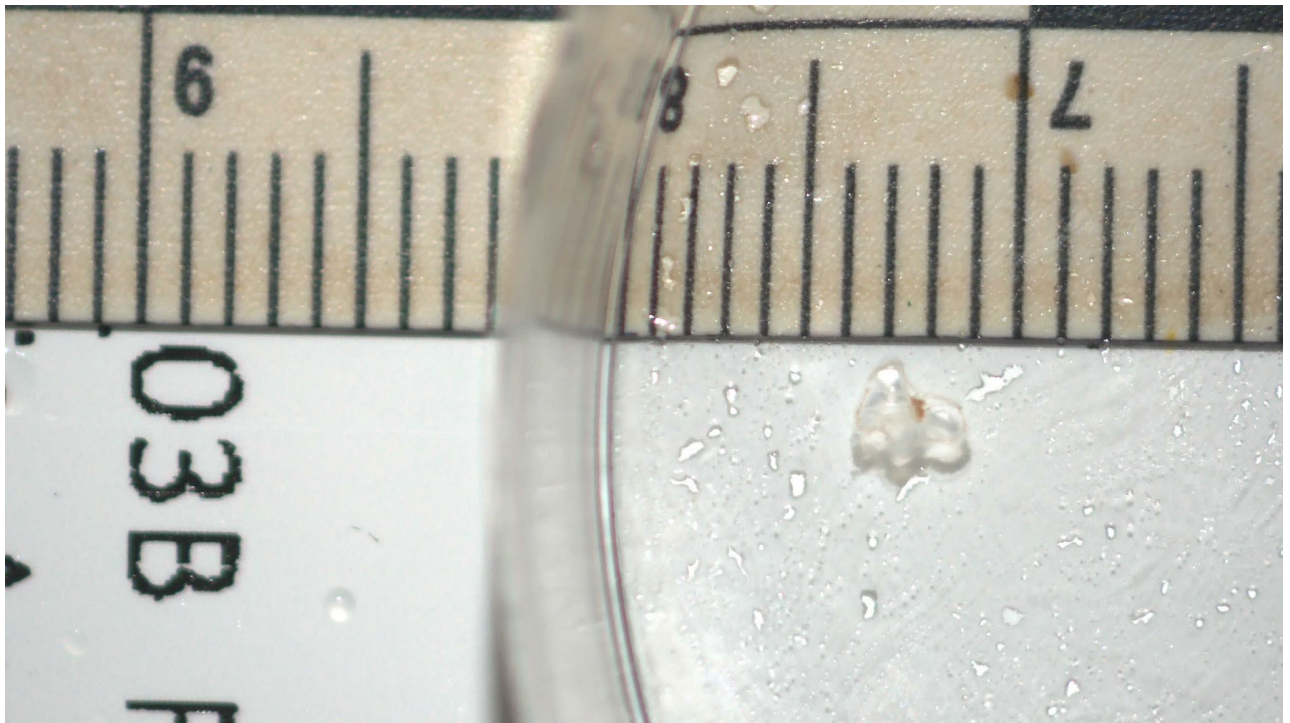
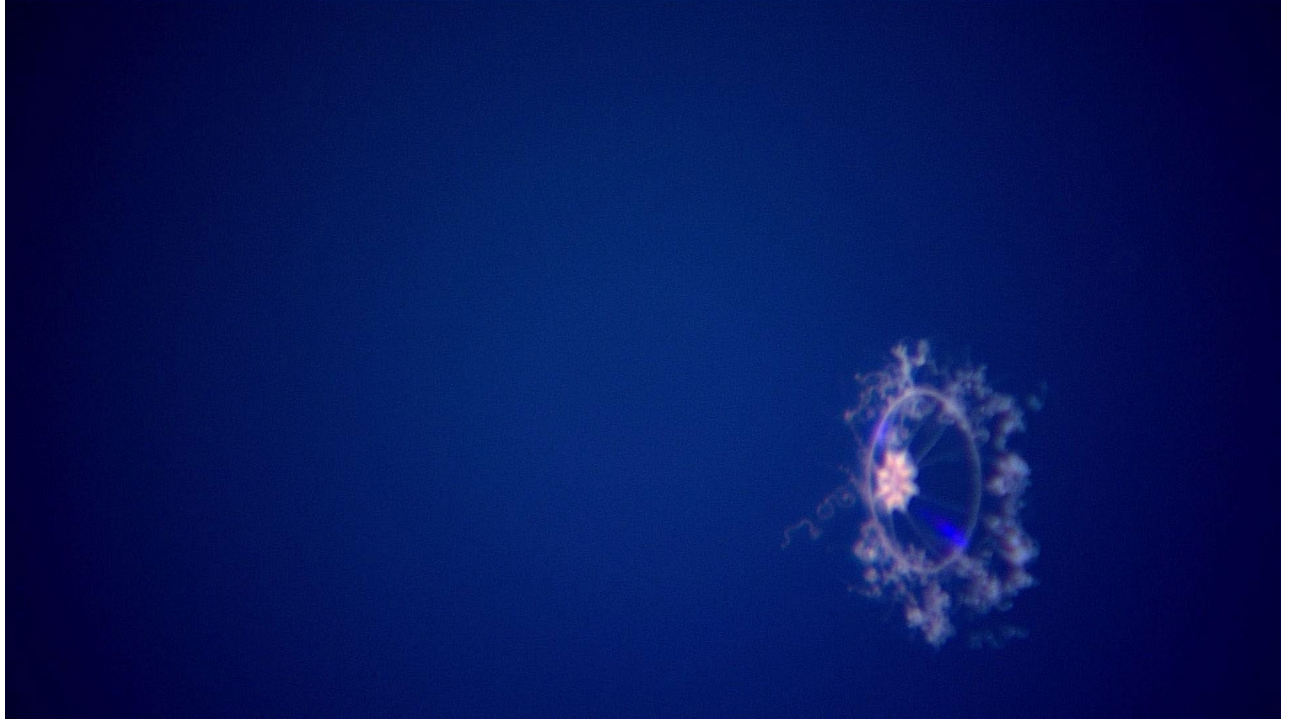


Scyphozoan jellyfish, *Poralia*



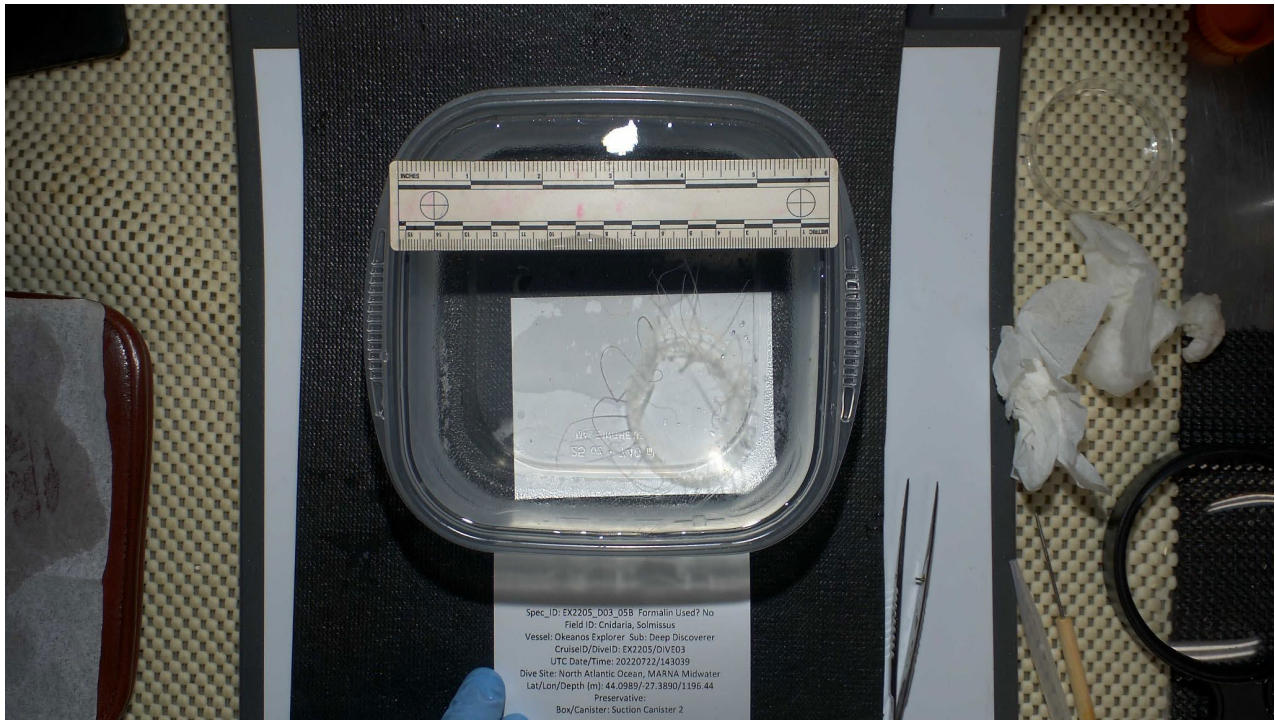
Scyphozoan jellyfish, *Atolla*

Samples Collected -



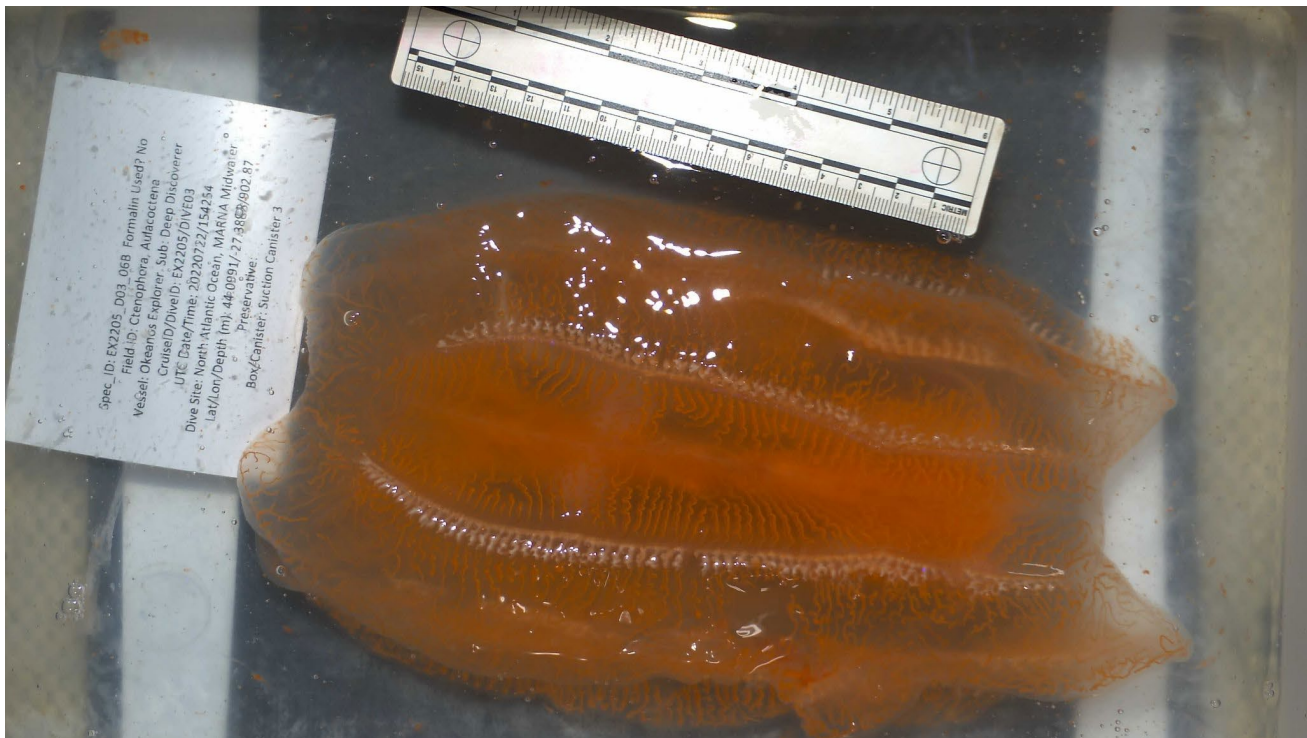
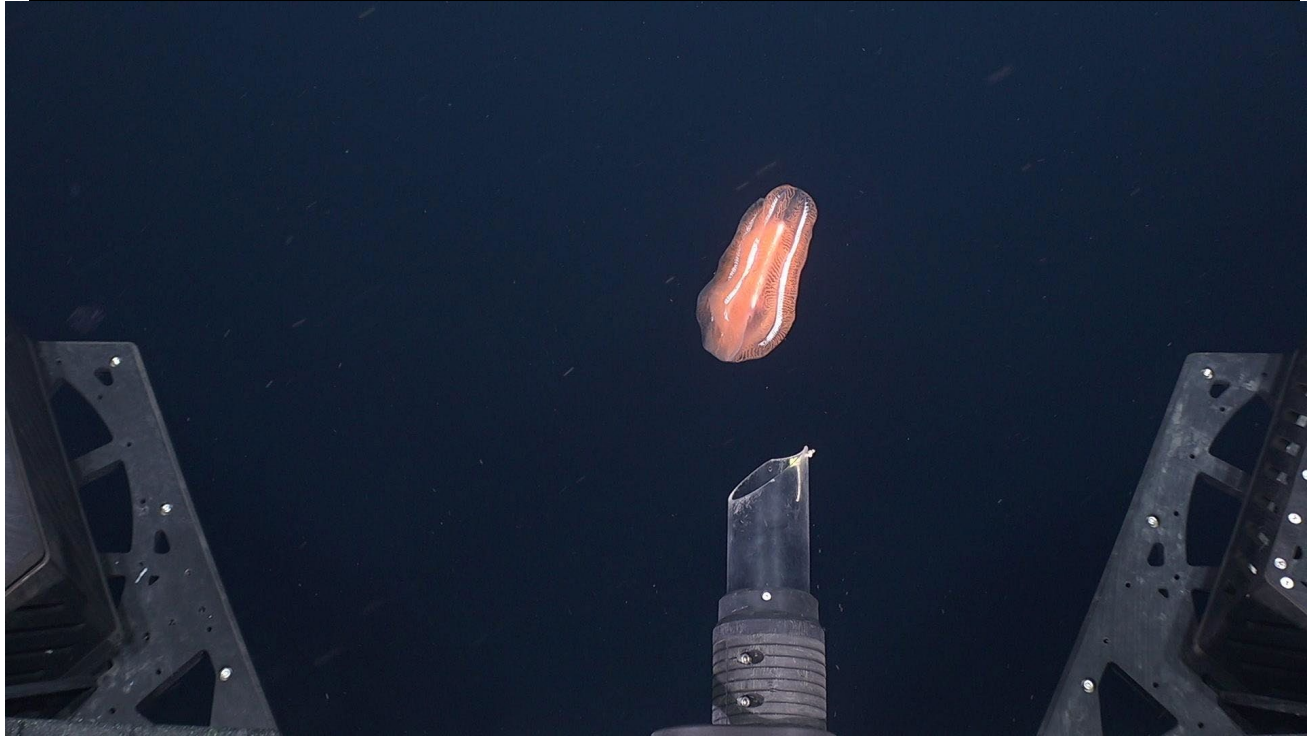
Sample ID	EX2205_D03_03B
Date (UTC)	20220722
Time (UTC)	125344
Depth (m)	1828.2
Latitude (decimal degrees)	44.099
Longitude (decimal degrees)	-27.389
Temp. (°C)	3.684

Field ID(s)	<i>Arctapodema</i>
Comments	Bell diameter <3mm



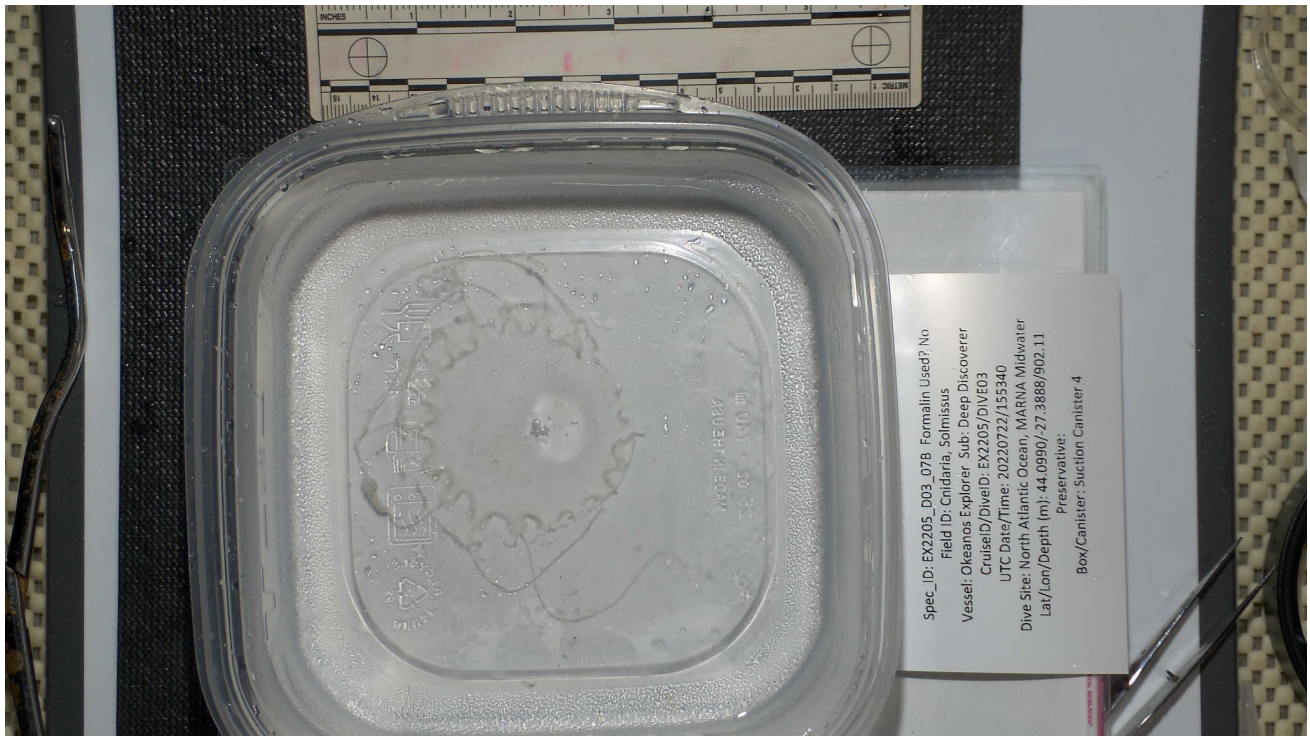
Sample ID	EX2205_D03_05B
Date (UTC)	20220722
Time (UTC)	14:3039
Depth (m)	1196.4
Latitude (decimal degrees)	44.099

Longitude (decimal degrees)	-27.389
Temp. (°C)	5.214
Field ID(s)	<i>Solmissus</i>
Comments	



Sample ID	EX2205_D03_06B
Date (UTC)	20220722
Time (UTC)	15:42

Depth (m)	902.9
Latitude (decimal degrees)	44.099
Longitude (decimal degrees)	-27.389
Temp. (°C)	7.725
Field ID(s)	<i>Aulacoctena</i>
Comments	



Sample ID	EX2205_D03_07B
Date (UTC)	20220722
Time (UTC)	15:53
Depth (m)	902.1
Latitude (decimal degrees)	44.099
Longitude (decimal degrees)	-27.389
Temp. (°C)	7.618
Field ID(s)	<i>Solmissus</i>
Comments	

Niskin Sampling Summary

Sample ID	EX2205_D03_01W
Date (UTC)	20220722
Time (UTC)	10:49:31
Depth (m)	399.6
Latitude (decimal degrees)	44.0969
Longitude (decimal degrees)	-27.3857
Bottle number	NISKIN 1
Temperature (°C)	12.89
Dissolved Oxygen (ml/L)	7.20
Treatment	eDNA

Sample ID	EX2205_D03_02W
Date (UTC)	20220722
Time (UTC)	12:02:05
Depth (m)	1828.2
Latitude (decimal degrees)	44.0987
Longitude (decimal degrees)	-27.3891
Bottle number	NISKIN 2
Temperature (°C)	3.68
Dissolved Oxygen (ml/L)	8.38

Treatment	eDNA
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Sample ID	EX2205_D03_04W
Date (UTC)	20220722
Time (UTC)	13:39:17
Depth (m)	1200.0
Latitude (decimal degrees)	44.0992
Longitude (decimal degrees)	-27.3888
Bottle number	NISKIN 3
Temperature (°C)	5.24
Dissolved Oxygen (ml/L)	7.58
Treatment	eDNA

Sample ID	EX2205_D03_08W
Date (UTC)	20220722
Time (UTC)	16:23:12
Depth (m)	699.4
Latitude (decimal degrees)	44.0990
Longitude (decimal degrees)	-27.3889
Bottle number	NISKIN 4
Temperature (°C)	10.00
Dissolved Oxygen (ml/L)	5.91
Treatment	eDNA

Sample ID	EX2205_D03_09W
Date (UTC)	20220722
Time (UTC)	17:19:05
Depth (m)	496.3
Latitude (decimal degrees)	44.0990

Longitude (decimal degrees)	-27.3888
Bottle number	NISKIN 5
Temperature (°C)	11.94
Dissolved Oxygen (ml/L)	7.00
Treatment	eDNA

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