

Okeanos Explorer ROV Dive Summary

Dive Map	Coogle certh Medicarams iff WAR MEDICARAMS I		
Site Name	New Seamount 8 cone		
ROV Lead(s)	Dan Rogers		
Expedition Coordinator(s) / Mapping Lead	Kelley Elliott / Mashkoor M	lalik	
Science Team Lead(s)	Chris Kelley & Chris Mah		
General Area Descriptor	Johnston Atoll Unit of PRIM	1NM	
ROV Dive Name			
Cruise	EX1706		
Leg			
Dive Number	15		
Equipment Deployed			
ROV	Deep Discoverer (D2)		
Camera Platform	Seirios		
ROV Measurements	🔀 СТD	🔀 Depth	🔀 Altitude

	Scanning Sonar	USBL Position	🛛 Heading
	🔀 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
	LSS	ORP	
Equipment Malfunctions	None		
	Dive Summary:	EX1706_DIVE15	٨٨٨٨٨
	In Water:	2017-07-29T18:23:32.00900	00
		15°, 09.675' N ; 167°, 02.167	' W
	Out Water:	2017-07-30T02:33:51.95200	00
		15°, 09.397' N ; 167°, 01.725	5' W
	Off Bottom:	2017-07-30T01:30:52.95700	00
ROV Dive Summary (from processed ROV data)		15°, 09.352' N ; 167°, 02.094	t' W
(nom processed nov data)	On Bottom:	2017-07-20719-36-19 21/00	00
		15°, 09.640' N ; 167°, 02.151	L' W
	Dive duration:	8:10:19	
	Bottom Time:	5:54:33	
	Max. depth:	2026.9 m	
Special Notes			
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	This dive was the last of several sites for exploring seamounts in the southern part		
	of the monument where no previous mapping or ROV surveys have been		
Purpose of the Dive	conducted. This area has a complex distribution of seamounts some of which may		
	collected at these sites may help clarify the geologic history of this region of the		
	monument. This seamount was mapped last night and was found to be a guyot		
	with volcanic cones on its summit. The shallowest cone was selected as the dive		
	site with the start position to be on the lower part of its northern flank and the		
	whether a significant community of corals and sponges existed on the cone and if		



	so, where it was located.	
	The Deep Discoverer was deployed at 8:30 AM reaching bottom at 9:30AM with starting depth at 2006 m. The dive began along the northern side of the cone proceeding up to the top along a total length of 600m, concluding at approximately 1800m.	
	Bottom Characterization: Video observations reveal a hard bottom composed of heavily consolidated manganese crust with small to moderate sediment pools present throughout. Coral and sponges moderate to heavily abundant ranging from widely spaced to more densely spaced closer to the top of the cone.	
	Cnidaria Most abundant of the fauna observed during this dive were colonial octocorals, specifically bamboo corals (family Isididae) in various morphotypes (e.g., branching forms, whips, etc.) which composed over 60% of the cnidarian observations). Multiple Isidid genera were observed including Keratoisis, Lepidisis,	
	and Isadella in addition to several unidentified bamboo coral genera and species. Other relevant octocorals included Chrysogorgiidae (Chrysogorgia, Iridigorgia, and Metallogorgia), Primnoidae (e.g, Candidella), Coraliidae (e.g. Hemicorallium), Anthohelidae (Victorgorgia) and Paragorgiidae. As with other Paragorgia colonies observed in this area, its skeleton was being overrun by a yellow zoanthid colony. Other alyconacean octocorals observed included the mushroom coral	
Description of the Dive	Anthomastus and the rockpen Anthoptilum. Many hydroids were also observed. Other cnidarians observed included at least 3 species of acintosolid sea anemones, a closed homathiid, and several black corals (antipatharians) including	
	Umbellapathes, Bathypathes, and Stauropathes. One scleractinian cup coral was observed during the dive.	
	Porifera Glass sponges were the next most abundant animals observed during the dive with several commonly encountered species observed during the dive. The most commonly encountered was in the genus Walteria sp. Many Walteria were observed with many commensals, including large isopods, shrimps, and ophiuroids present within the internal chamber. Other observed glass sponge genera included Bolosoma (medium to large sized), Caulophacus, Dictyaulus (small thistle sized), Poliopagon, Regardrella and Stelladoryx.	
	Echinodermata Asteroids were the most prominent echinoderms observed during this dive. Upon reaching the top of the cone, a high abundance of what appeared to be Evoplosoma cf. forcipifera were observed consistently feeding on bamboo corals (clade D2 as per L. Watling). These smaller and less abundant farther away from the peak. Upon reaching the top of the cone, they became far more abundant and were significantly larger (up to 10 cm diameter). Also observed was a 7 armed member of the genus Asthenactis, a member of the rarely encountered Mvxasteridae.	



Sea urchins were represented by large individuals of the echinothuriid Tromikosoma which were only encountered at the peak and which were relatively large. Sea cucumbers were relatively uncommon but included a synallactid which was tentatively idnetified as Hansenothuria, as well as species in the Deimatidae (Oneirophanta?) and a membere of the Elpidiidae.

At least 2 species of feather stars were observed in addition to one unusual observation of a stalked crinoid which might have been a juvenile pentacrinid larvae of a feather star in the genus Psyathrometra which were present in abundance around the survey track. This individual also had eggs or some gonadal structures present on the proximal pinnules adjacent to the cup. Observations of feather stars present as commensals on corals, sponges, and rocks were made throughout the dive. Similarly brittle stars, particularly ophiacanthids, were ubiquitous as commensals on sponges and corals. Amphiurid brittle stars were observed with their arms splayed out on basalt boulders. Euryalid ophiuroids were observed on several octocoral colonies observed throughout the dive, including regular commensals of Metallogorgia and Victogorgia.

Mollusca: Although many small snails were observed throughout the dive as commensals on sponges and corals, most notable was the observation of aplacophorans, tiny vermiform mollusks present on bamboo corals as predators of the tissue present on the surface.

Crustacea: Numerous smaller crustaceans were observed during the dive. Most evident were multiple species of squat lobsters (eg. Unidopsis, Urptychus) present among octocoral colonies, such as Chrysogorgia. Several smaller caridean shrimps were also observed. Nematocarcinus was regularly observed during the dive.

Moderatelly sized isopods, were observed living on the Walteria glass sponges as were multiple individuals of shrimps which permanently reside within the internal sponge chamber. A prominent isopod parasite was observed riding on the epideris of a relativley large grenadier (Coryphenoides).

Worms: Several arrow worms (Chaetognatha) were observed during the dive as was a unique observation of a swimming ribbon worm (Nemertea).

Chordata: Many fishes were observed during today's dive. This included approximatley six grenadiers (Macouridae) which were primarily identiifed as being in the genus Kumba. Approximately four cusk eels (Basogigas) were also observed as were cutthroat eels.

Overall Map of the ROV Dive Area







Moderate density of corals and sponges observed at the landing site.		High density community dominated by bamboo corals found further upslope on the flank of the cone.
Sample		
Sample ID	D2_DIVE15_SPEC01BIO	
Date (UTC)	20170729	
Time (UTC)	224022	
Depth (m)	1905	
Temperature (°C)		
Field ID(s)	Dictyaulus sp with shrimp	
Comments	Collected sponge to get the paired inside. Sponges had what appear formalin.	I shrimp. Also found an isopod and 2 polychaete worms ed to be commensal cnidarians that were preserved in
Sample		
Sample ID	D2_DIVE15_SPEC02GEO	
Date (UTC)	20170730	
Time (UTC)	010128	
Depth (m)	1805	
Temperature (°C)		
Field ID(s)	Mn crusted rock	
Comments	Collected both rocks at same site.	May only be Mn crust.
Sample		
Sample ID	D2_DIVE15_SPEC03GEO	E E SANS



Date (UTC)	20170730		
Time (UTC)	010648		
Depth (m)	1805		
Temperature (°C)			
Field ID(s)	Mn crusted rock		
Comments	Collected both rocks at same site. May only be Mn crust		
Sample			
Sample ID	D2_DIVE15_SPEC04BIO		
Date (UTC)	20170729		
Time (UTC)	224022		
Depth (m)	1905		
Temperature (°C)			
Field ID(s)	Bamboo coral		
Comments	Grabbed unintentionally with the sponge.		
Sample			
Sample ID	D2_DIVE15_SPEC05BIO		
Date (UTC)	20170729 or 30		
Time (UTC)	Unknown		
Depth (m)	Unknown	1E	
Temperature (°C)	Unkown		
Field ID(s)	Bamboo coral		
Comments	Found in ROV frame after the dive		



Please direct inquiries to:

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