

Activity Summary

Cruise **biolum2009**

Project **Bioluminescence 2009**

Little Bahama Bank Lithoherm

2009/07/22 15:00:00 EDT - 2009/07/22 18:30:00 EDT

Bioluminescence in the Deep-Sea Benthos

JSL2-3684

Activity Vitals

Dates/Times/Depth	Bndg	Coordinates	System(s)
Start 2009/07/22 15:00:00	North	27.5	Johnson Sea Link II
End 2009/07/22 18:30:00	South	24	
Time zone EDT	East	-79	Data Collected
MaxDepth (m) 2066	West	-79.5	Multimedia
Operating Depth Range (m) 1980-2066			

Participants

Charles Messing, Forward Observer
Tammy Frank, Aft Observer
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Overall Dive Site Ratings

1=low, 10=high

Uniqueness	No rating
Health	No rating
Disturbance	No rating
Biodiversity	No rating
Relief Variation (m)	

Objectives

Collection of chirostyliid (squat lobster) and isopod crustaceans for assessment of visual pigments, and quantitative transects of lithoherm fauna.

Dive Track Description

Initial bottom was low-relief hardgrounds and rippled sediment interspersed with low-relief outcrops and lithoherm ridges less than 2 m in vertical relief. Dive track passed over similar hard bottoms and expanses of both rippled and lineated sediment, and low irregular and rolling topography--all indurated limestone. Lithoherms increased in vertical relief later in dive to several meters. Spent last portion of dive motoring toward previously-visited ridge. Arrived at steep-sided huge lithoherm, with vertical relief probably exceeding 40 m.

Biological Comments

Low-relief hardgrounds and ridges were characterized by an assemblage of chiefly suspension-feeding sessile and semi-sessile invertebrates including fan sponges (Phakellia), stylasterid hydrozoans, stalked crinoids (Endoxocrinus maclearanus, E. prionodes, Democrinus sp.), feather stars (Crinometra brevipinna), mitten sponges (Pachastrellidae), and small octocorals (Primnoidae, Corallium) and large reddish octocoral fans (Paramuriceidae and probably Paragorgia) with ophiuroid snake stars (Astroschema sp.). One antipatharian black coral with chirostyliid crustaceans (Gastroptychus) was observed on a low ridge margin. Numerous caridean shrimps were observed in ridge crevices, particularly in the crescentic embayments typical of lithoherms. The upper flanks and crest of the high ridge supported a dense garden of gold coral zoanthid fans (Gerardia sp.), an understory of primnoid octocorals, paramuriceid octocorals, and an antipatharian black coral, accompanied by brisingid asteroids (Novodinia), stalked and unstalked crinoids, hormathiid anemones, and chirostyliid crustaceans. Fishes observed included small grenadiers (Macrouridae), a thresher shark (Alopias), wreckfish (Polyprion americanum), possible Alfonsino (?Beryx decadactylus), possible slimehead (Hoplostethus) and, among the gold coral fans, possible ophidiids.

Geological Comments

Most of the lithoherms observed were relatively low-relief (<3 m) with flanks characterized by substantially eroded and undercut crusts. Upcurrent (S-facing) ends of small lithoherms were abrupt and strongly eroded. Unconsolidated bottoms were either rippled or lineated. Rippled bottom were deeper sediment as evidenced by little or no attached fauna and occasional tests of deposit-feeding spatangoid echinoids (Linopneustes?). Lineated bottoms were chiefly pavements veneered with sediment. Approach to large lithoherm was characterized by dark, apparently roughly textured pavement that lapped up against the relatively smooth lithoherm flank (which became rough again higher up). Upper reaches and crest of large lithoherm were deeply eroded.

Living Habitat Structure

Type	% Cover
Nothing recorded	

Sediments

Type	% Cover
Nothing recorded	

Geomorphology

Type	% Cover
Nothing recorded	

Anthropogenics

Type/Description
Nothing recorded

Living Marine Resources Abundance

None (0) Single (1) Few (2-10) Many (11-100) Abundant (>100)

Nothing recorded

Observations and Comments on Living Marine Resources

No other comments.

Unique or Rare Invertebrates

Nothing recorded.

Unique or Rare Vertebrates

Nothing recorded.

Fish Observation and Abundance

None (0) Single (1) Few (2-10) Many (11-100) Abundant (>100)

Nothing recorded

Other Comments/Notes

No additional comments.