Abundance of calanoid copepods found Guaymas Basin deep-sea vent field from R/V Atlantis II AII-112-28 in the Guaymas Basin from July 1985 (Vent Benthos project)

Website: https://www.bco-dmo.org/dataset/473670
Version: 2013-12-30

Project
» Benthic Ecology of Soft Sediments Associated with Hydrothermal Vents (Vent Benthos)

Contributors	Affiliation	Role
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Dataset Description

Zooplankton from the Guaymas Basin deep-sea vent field were collected with a 1 m^2 MOCNESS to examine the distribution of total standing stock, taxonomic composition, size-frequency distribution of zooplankton, and the species composition of calanoid copepods. Low altitude (similar to 100 m above the bottom) horizontal tows along and across the axis of the basin's southern trough, and oblique tows from the bottom of the basin (similar to 2000 m) to the surface were made. Total biomass in near-bottom samples (range: 13-46 cc/1000 m^3) was only about a factor of 10 lower than in the upper 100 m. Of the 67 species of copepods identified in two samples taken on low altitude tows, only 15 occurred in both samples. Many of the species in this relatively diverse community remain to be described. Larval and post-larval forms of benthic clams, gastropods, polychaetes, and crustaceans associated with the vents were collected 100-200 m above the southern trough, indicating the post-larvae may play an active role in dispersal of hydrothermal vent species.

Methods & Sampling

MOC-GY-3 and MOC-GY-7 were both horizontal MOCNESS tows, with MOC-GY-3 passing down the length of the vent trough and MOC-GY-7 cutting across it. On each tow, eight samples were collected. Copepods in one sample from each of the tows were identified for this report. MOC-GY-3, sample 4 was selected for enumeration of all copepod individuals because it was a collection taken nearly at the middle of the hydrothermal vent field. MOC-GY-7, sample 7 was selected because it was furthest away from the vent field. Lack of funds prevented the analysis of other samples. Alvin dive 1629 was at a vent patch under the path of MOC-GY-3. Only a small portion of the sample was examined.

Relevant References:

Drawings and descriptions of some deep-sea copepods living above the Guaymas Basin hydrothermal vent field.
Copley, N J; Wiebe, PH; Woods Hole Oceanographic Inst., MA (USA). Technical Rpt. WHOI-90-15.

Deep-water zooplankton of the Guaymas Basin hydrothermal vent field.
Wiebe, PH; Copley, N; Van Dover, C; Tamse, A; Manrique, F. Deep-Sea Research35.6A (1988): 985-1013.

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Data Files

File
guaymas_copepods.csv (Comma Separated Values (.csv), 33.91 KB) MD5:9f760cecc28c01a7bafab5fdc70debcf Primary data file for dataset ID 473670

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Parameters

Parameter	Description	Units
cruise_id	cruise identification	unitless
date	date; local time	YYYYMMDD
time	local time	HHMM
lat	latitude; north is positive	decimal degrees
lon	longitude; east is positive	decimal degrees
tow	tow number	unitless
net	net number	integer
depth_min	minimum depth of sample	meters
depth_max	maximum depth of sample	meters
species	species	text
sex	sex or stage: M=male; F=female; C=copepodite; MFC=all stages	text
abundance	abundance	number per 1000 meter^3
comments	comments; * indicates that the abundance is not included in total species counts	text

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Instruments

Dataset-specific Instrument Name	MOC1
Generic Instrument Name	MOCNESS1
Dataset-specific Description	333 micron mesh, 9 nets
Generic Instrument Description	The Multiple Opening/Closing Net and Environmental Sensing System or MOCNESS is a family of net systems based on the Tucker Trawl principle. The MOCNESS-1 carries nine 1-m2 nets usually of 335 micrometer mesh and is intended for use with the macrozooplankton. All nets are black to reduce contrast with the background. A motor/toggle release assembly is mounted on the top portion of the frame and stainless steel cables with swaged fittings are used to attach the net bar to the toggle release. A stepping motor in a pressure compensated case filled with oil turns the escapement crankshaft of the toggle release which sequentially releases the nets to an open then closed position on command from the surface. -- from the MOCNESS Operations Manual (1999 + 2003).

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Deployments

AII-112-28

Website	https://www.bco-dmo.org/deployment/473669
Platform	R/V Atlantis II
Report	http://bcodata.whoi.edu/Wiebe_Vents/ATII-112-28_cruise_rpt_Wiebe.pdf
Start Date	1985-07-24
End Date	1985-08-03
Description	Zooplankton from the Guaymas Basin deep-sea vent field were collected with a 1 m^2 MOCNESS to examine the distribution of total standing stock, taxonomic composition, size-frequency distribution of zooplankton, and the species composition of calanoid copepods.

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Project Information

Benthic Ecology of Soft Sediments Associated with Hydrothermal Vents (Vent Benthos)

Coverage: Guaymas Basin

Description not available.

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Funding

Funding Source	Award
NSF Division of Ocean Sciences (NSF OCE)	OCE-8709962
NSF Division of Ocean Sciences (NSF OCE)	OCE-8311201

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