Coral, algae, and invertebrate percent visual cover in Moorea, French Polynesia from 2012-2016

Website: https://www.bco-dmo.org/dataset/645774
Data Type: Other Field Results
Version: 2
Version Date: 2017-12-20

Project
» Spatial patterns of coral-vermetid interactions: short-term effects and long-term consequences (Vermetids_Corals)

Contributors	Affiliation	Role
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Coverage

Spatial Extent: **Lat**:-17.47499 **Lon**:-149.79251
Temporal Extent: 2012-01-24 - 2016-08-06

Dataset Description

Coral, algae, and invertebrates were observed, and their percent cover on each of the patch reefs used in the vermetid removal study (both vermetid removal and non-removal reefs were assessed). These data were collected beginning in 2012 at each reef. These data are meant to provide contextual information for how vermetids affect reef communities.

Long Term Vermetid Removal (LTVR) Reef sites in this project are manipulated reefs characterized in the Long Term Reef Physical Characteristics dataset.

Reefs labeled "TOW" in this dataset, numbered 129-144, are a subset of a larger number of Long Term Reefs (LTR) that were monitored as part of the project "Cryptic density dependence: the effects of spatial, ontogenetic, and individual variation in reef fish" beginning in 2003. This long term study continues to monitor those reefs in addition to reefs 193-198 starting in 2012. Data for these reefs between the years 2003 and 2009 can be found on the project site http://www.bco-dmo.org/project/540423.

Location: Moorea, French Polynesia (17.48 degrees S, 149.82 degrees W)

Other associated LTVR datasets:

LTVR - Fate of Reefs - Contains latitude and longitude of reefs used in this dataset
LTVR - Physical Characteristics - Contains characteristics of reefs used in this dataset.
LTVR - Fish Survey
LTVR - Percent Cover Point Contact
LTVR - Pomacentrids
LTVR - Thalasssoma
LTVR - Vermetid Counts
LTVR - Vermetid Removal
LTVR - Vermetid Sizes in Quadrat

Methods & Sampling

Sampling and Analytical Methodology:
One person swims around the reef and visually estimates the relative cover of different substrates. Divers ignored taxa that covered less 2% of the benthos. The investigators also completed point contact surveys to verify their estimates, see “LTVR_PercentCoverPointContact” sheet for more details.

Materials: diver and slates

Data Processing Description

Data Processing:
To obtain “TOTALPOINTS”: Sum across all species columns, should sum to close to 100.

NA- Not applicable (never recorded) to this data set
NR- Not recorded at certain times throughout the data set

BCO-DMO Processing Notes
- Generated from original file "LTVR_PercentVisualCover.csv" contributed by Rebecca Atkins
- Parameter names edited to conform to BCO-DMO naming convention found at Choosing Parameter Name
- Any blank rows removed

Data version 2: 2017-12-20 replaces data version 1: 2016-05-23 and extends the dataset time range to 2016.

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Data Files

File
LTVR_PercentVisualCover.csv (Comma Separated Values (.csv), 20.45 KB) MD5:caf169068dcdad3b59681e0ba5149a81 Primary data file for dataset ID 645774

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Parameters

Parameter	Description	Units
DATE	Date Data Collected	DD-MMM-YYYY
OBSERV	Initials of observer (CWO-Craig Osenberg; JS-Jeff Shima)	text

Reef_let	Reef_let (does not apply to this data set)	NA
SITE	Location of reefs (TOW)	text
REEF	Reef # (129-144; 193-198)	dimensionless
TREATMENT	Indicates removal versus control for each reef (Control; Removal)	text
PSPSMOO	Porites sp. (Smooth) (Range: 0-100)	number of individuals
PSPRIDG	Porites sp. (Ridged) (Range: 0-100)	number of individuals
PSPCOLUM	Porites sp. (Columnar) (Range: 0-100)	number of individuals
PRUS	Porites rus (Range: 0-100)	number of individuals
MONTIP	Montipora spp. (Range: 0-100)	number of individuals
POC	Pocillopora spp. (Range: 0-100)	number of individuals
ACROP	Acropora spp. (Range: 0-100)	number of individuals
OTHCORAL	Total coverage of other live coral (Range: 0-100)	number of individuals
TURF	Stegastes sp. turf (Range: 0-100)	number of individuals
TURF_steg	Turf in Stegastes territories (Range: 0-100)	number of individuals
TURF_surg	Turf grazed by Acanthurids (Range: 0-100)	number of individuals
TURBINAR	Turbinaria sp. (Range: 0-100)	number of individuals
Bare	Bare substrate; including coralline algae (Range: 0-100)	number of individuals
PIRREG	Porites irregularis (Range: 0-100)	number of individuals
LEPTASTR	Leptastrea spp. (Range: 0-100)	number of individuals

PAVONA	Pavona cactus (Range: 0-100)	number of individuals
FUNGIA	Fungia spp. (Range: 0-100)	number of individuals
MUSSIDAE	other corals (Range: 0-100)	number of individuals
CAULERPA	Caulerpa spp. (Range: 0-100)	number of individuals
DICTYOTA	Dictyota spp. (Range: 0-100)	number of individuals
HALIMEDA	Halimeda spp. (Range: 0-100)	number of individuals
PADINA	Padina spp. (Range: 0-100)	number of individuals
CYANO	Various growth forms of cyanobacteria (Range: 0-100)	number of individuals
GALAXAUR	Galaxaura sp. (Range: 0-100)	number of individuals
AMANSIA	Amansia rhodantha (Range: 0-100)	number of individuals
SPONGE	Fleshy grey sponge (Range: 0-100)	number of individuals
CCA	CCA (crustose coraline algae) (Range: 0-100)	number of individuals
OTHER	Total coverage of other dominant substrate: algae; sponges; etc. (Range: 0-100)	number of individuals
TOTAL_POINTS	sum of points (Range: 0-100)	number of individuals
NOTES	Notes	text

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Instruments

Dataset-specific Instrument Name	Mask and snorkel
Generic Instrument Name	Diving Mask and Snorkel
Generic Instrument Description	A diving mask (also half mask, dive mask or scuba mask) is an item of diving equipment that allows underwater divers, including, scuba divers, free-divers, and snorkelers to see clearly underwater. Snorkel: A breathing apparatus for swimmers and surface divers that allows swimming or continuous use of a face mask without lifting the head to breathe, consisting of a tube that curves out of the mouth and extends above the surface of the water.

Dataset-specific Instrument Name	Transect Tape
Generic Instrument Name	Measuring Tape
Dataset-specific Description	Materials: transect tape and slates
Generic Instrument Description	A tape measure or measuring tape is a flexible ruler. It consists of a ribbon of cloth, plastic, fibre glass, or metal strip with linear-measurement markings. It is a common tool for measuring distance or length.

Dataset-specific Instrument Name	Slate
Generic Instrument Name	Underwater Writing Slate
Dataset-specific Description	Materials: transect tape and slates
Generic Instrument Description	Underwater writing slates and pencils are used to transport pre-dive plans underwater, to record facts whilst underwater and to aid communication with other divers.

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Deployments

Osenberg_et_al_Moorea

Website	https://www.bco-dmo.org/deployment/644752
Platform	Osenberg et al Moorea
Start Date	2003-05-19
End Date	2015-07-12

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Project Information

Spatial patterns of coral-vermetid interactions: short-term effects and long-term consequences

(Vermetids_Corals)

Coverage: Moorea, French Polynesia (-17.48 degrees S, -149.82 degrees W)

Description from NSF abstract:
Ecological surprises are most likely to be manifest in diverse communities where many interactions remain uninvestigated. Coral reefs harbor much of the world's biodiversity, and recent studies by the investigators suggest that one overlooked, but potentially important, biological interaction involves vermetid gastropods. Vermetid gastropods are nonmobile, tube-building snails that feed via an extensive mucus net. Vermetids reduce coral growth by up to 80%, and coral survival by as much as 60%. Because effects vary among coral taxa, vermetids may substantially alter the structure of coral communities as well as the community of fishes and invertebrates that inhabit the coral reef.

The investigators will conduct a suite of experimental and observational studies that: 1) quantify the effects of four species of vermetids across coral species to assess if species effects and responses are concordant or idiosyncratic; 2) use meta-analysis to compare effects of vermetids relative to other coral stressors and determine the factors that influence variation in coral responses; 3) determine the role of coral commensals that inhabit the branching coral, Pocillopora, and evaluate how the development of the commensal assemblage modifies the deleterious effects of vermetids; 4) determine how vermetid mucus nets affect the local environment of corals and evaluate several hypotheses about proposed mechanisms; and 5) assess the long-term implications of vermetids on coral communities and the fishes and invertebrates that depend on the coral.

Note: The Principal Investigator, Dr. Craig W. Osenberg, was at the University of Florida at the time the NSF award was granted. Dr. Osenberg moved to the University of Georgia during the summer of 2014 (current contact information).

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Funding

Funding Source	Award
NSF Division of Ocean Sciences (NSF OCE)	OCE-1130359

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