

Photoquadrat surveys of coral lesions at two sites on the backreef of Cook's Bay in Moorea, French Polynesia from May through July 2012

Website: <https://www.bco-dmo.org/dataset/777230>

Data Type: Other Field Results

Version: 1

Version Date: 2019-09-20

Project

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

Contributors	Affiliation	Role
Hamman, Elizabeth	University of Georgia (UGA)	Principal Investigator
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Abstract

4 central corals were chosen at two sites on the backreef on either side of Cook's Bay in Moorea, French Polynesia. At each central coral, 4 transects were run in the cardinal directions, and 10 random locations photographed along the transect using a camera mounted to a .25m² quadrat. Technicians then circled all scars in the photographs, and recorded the summary statistics presented in this dataset.

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Coverage

Spatial Extent: Lat:-17.48 Lon:-149.82

Temporal Extent: 2012-05-01 - 2012-07-31

Dataset Description

4 central corals were chosen at two sites on the backreef on either side of Cook's Bay in Moorea, French Polynesia. At each central coral, 4 transects were run in the cardinal directions, and 10 random locations photographed along the transect using a camera mounted to a .25m² quadrat. Technicians then circled all scars in the photographs, and recorded the summary statistics presented in this dataset.

Processing Description

BCO-DMO Processing Notes:

- added conventional header with dataset name, PI name, version date
- modified parameter names to conform with BCO-DMO naming conventions
- added lat, lon columns.

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Parameters

Parameter	Description	Units
Density	Scar density per area of live coral	count per centimeter squared (#/cm ²)
Area	Average scar area	centimeter squared (cm ²)
Perimeter	Average scar perimeter	centimeters (cm)
Area_Perimeter	Area/Perimeter	centimeter (cm)
NN	Average distance to nearest neighboring scar	centimeter (cm)
Num_Scars	Total number of scars in that quadrat	count
Damaged_Area	Total area of damaged area of coral	centimeter squared (cm ²)
Coral_Area	Total area of coral (live or damaged) in quadrat	centimeter squared (cm ²)
Point_Pattern	Clark-Evans Point Pattern: 1 (clustered); 2 (CSR); 3 (Even)	unitless
Site	Site identifier	unitless
Tech	Tech who analyzed images	unitless
lat	Latitude of sampling. Positive values indicate North.	decimal degrees
lon	Longitude of sampling. Negative values indicate West.	decimal degrees

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Instruments

Dataset-specific Instrument Name	photographed
Generic Instrument Name	Camera
Dataset-specific Description	Coral lesions were also photographed and images analyzed to assess the % of lesion with regenerated tissue.
Generic Instrument Description	All types of photographic equipment including stills, video, film and digital systems.

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).

Funding

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

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