

Size comparisons of vermetids between 2008 and 2015 at Moorea, French Polynesia (Vermetids_Corals project)

Website: <https://www.bco-dmo.org/dataset/721581>

Data Type: Other Field Results

Version: 2017-10-05

Project

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

(Vermetids_Corals)

Contributors	Affiliation	Role
Brown, Anya L.	University of Georgia (UGA)	Principal Investigator, Contact
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Coverage

Spatial Extent: N:-17.47279 E:-149.78277 S:-17.48365 W:-149.84698

Temporal Extent: 2008-01-01 - 2015-12-31

Dataset Description

Size comparisons of vermetids between 2008 and 2015.

Related Datasets:

- Brown_et_al_2016_SimpleCounts: <https://www.bco-dmo.org/dataset/721511>
- Brown_et_al_2016_SizeComparison: <https://www.bco-dmo.org/dataset/721581> (The current page.)
- Brown_et_al_2016_QuadratSurvey: <https://www.bco-dmo.org/dataset/721232>

Methods & Sampling

Chunks of rubble containing vermetids at a site near the reef crest were collected. Researchers targeted a range of sizes, and attempted to collect haphazardly from the site, removing the snail and its entire shell.

In the lab, the shell aperture (maximum internal diameter) was measured, then vermetids were extracted from the shell, their operculums were measured and their wet weight (blotted dry) was recorded. Data were

collected similarly in 2008 and 2015 by Tom Frazer and Jeff Shima.

Data Processing Description

Size data were converted into log in base 10.

BCO-DMO Processing:

- added conventional header with dataset name, PI name, version date
- modified parameter names to conform with BCO-DMO naming conventions
- blank values replaced with no data value 'nd'.

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Data Files

File
Brown_2016_SizeComparisons.csv (Comma Separated Values (.csv), 8.82 KB) MD5:ecb205115e7f361bc20826a71f3861de
Primary data file for dataset ID 721581

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Related Publications

Brown, A. L., Frazer, T. K., Shima, J. S., & Osenberg, C. W. (2016). Mass mortality of the vermetid gastropod *Ceraesignum maximum*. *Coral Reefs*, 35(3), 1027–1032. doi:[10.1007/s00338-016-1438-8](https://doi.org/10.1007/s00338-016-1438-8)
Results

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Parameters

Parameter	Description	Units
YEAR	year of sampling in yyyy format	unitless
VERMETID_ID	id number of vermetid	unitless
SHELL_OPENING_DIA_MM	maximum internal shell diameter	millimeters (mm)
OPERCULUM_DIA_MM	diameter of operculum	millimeters (mm)
WEIGHT_g	mass of tissue	grams (g)
log_shell	Log10(shell opening diameter)	unitless
log_aper	Log10(operculum)	unitless
log_wt	Log10(mass)	unitless

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Instruments

Dataset-specific Instrument Name	snorkel
Generic Instrument Name	Diving Mask and Snorkel
Dataset-specific Description	Researchers snorkeled to the reef crest.
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.

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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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