

Mass mortality of the vermetid gastropod *Ceraesignum maximum*

Website: <https://www.bco-dmo.org/dataset/721232>

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
Frazer, Thomas	University of Florida (UF)	Co-Principal Investigator
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Coverage

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

Temporal Extent: 2015-06-05 - 2015-08-27

Dataset Description

Vermetid counts and their status on reefs around French Polynesia.

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

Methods & Sampling

In Tahiti and Moorea, Anya, Amy and Morgan visited different sites around the island and counted the vermetids, recorded the aperture size (length of the shell opening) as well as their statuses. Statuses were determined by Alive Net (AN), if snails were alive and making a net, Alive (A), if snails were alive and are not retracted but are not making a net, Alive Retracted (AR), if snails are alive, but they are retracted at least 5mm into the shell, or Recently Dead (RD) if snails had recently died and have either a bright white shell or a shell

with a light layer of turf growing.

Hal Lecinsky and Nicole Boriski and Leslie Bissey (from the Paul Gaughin) took photographs of vermetids and sent them to Anya, and she determined the status of the snails (AN, A, AR, RD). For these data, aperture size could not be determined.

For the Hilton site, we used the reefs where we had counted vermetids and also assessed vermetid status.

Data Processing Description

BCO-DMO Processing:

- added conventional header with dataset name, PI name, version date
- modified parameter names to conform with BCO-DMO naming conventions
- converted date from mm-dd-yy to yyyymmdd.
- replaced spaces with underscores.
- blank values replaced with no data value 'nd'.

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Data Files

File
Brown_2016_Quadrat_Survey.csv (Comma Separated Values (.csv), 137.37 KB) MD5:bf0495acfae457c80262cfe8ad0ec9a3 Primary data file for dataset ID 721232

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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 *Cerastium 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
Date	date of sampling in yyyyymmdd format	unitless
Observer	Initials of the observer (Anya L Brown; Morgan V Farrell; Amy A Briggs; Hal Lescinsky; Leslie Bissey and Nicole Boriski)	unitless
Site	Name of site	unitless
Location_name	Island name and number that corresponds to a unique site	unitless
Island	Island where counts were made	unitless
quad_num	photo number (for Hal; Nicol and Leslie data); reef number (Hilton site) or quadrature number from which data were collected. (the rest)	unitless
Aperature_size	length of aperature	millimeters (mm)
Verm_status	status of vermetids (Alive; Alive with a net; Alive and retracted; Recently Dead)	unitless
Amount_retracted	length retracted into shell	millimeters (mm)
Net_presence	Presence or absence of a net	unitless
Loc_num	numerical representation of different sites	unitless
Notes	Additional comments.	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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