

Field surveys that compare the relationship between dead coral and the number of *Ceraesignum* (*Dendropoma*) maximum in Moorea, French Polynesia from (Vermetids_Corals project)

Website: <https://www.bco-dmo.org/dataset/726107>

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
Shima, Jeffrey	Victoria University of Wellington	Principal Investigator, Contact
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Coverage

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

Dataset Description

Researchers examined the effects of vermetids on the growth and survival of three species of coral in Moorea, French Polynesia as well as the relationship between the proportion of dead coral and the number of vermetids.

Related Datasets:

- Shima et al 2010 experimental: <https://www.bco-dmo.org/dataset/726082>
- Shima et al 2010 survey: <https://www.bco-dmo.org/dataset/726107> (current page)

Methods & Sampling

Divers surveyed covariance between dead reef substrate in 103 22.36 x 22.36 cm quadrats placed haphazardly on monotypic patches of coral (*Montipora*, *Porites lobata*, *Porites rus*, *Pocillopora*). They counted the number of live *Ceraesignum* (formerly *Dendropoma*) *maximum* (>5mm in aperture diameter) in the quadrat and visually estimated the proportion of dead coral.

Data Processing Description

BCO-DMO Processing:

- added conventional header with dataset name, PI name, version date

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Data Files

File
Shimaetal_2010_survey.csv (Comma Separated Values (.csv), 1.53 KB) MD5:8d0a79aefddfc444aab988f3467519cd Primary data file for dataset ID 726107

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Related Publications

Shima, J. S., Osenberg, C. W., & Stier, A. C. (2010). The vermetid gastropod *Dendropoma maximum* reduces coral growth and survival. *Biology Letters*, 6(6), 815–818. doi:[10.1098/rsbl.2010.0291](https://doi.org/10.1098/rsbl.2010.0291)
General

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Parameters

Parameter	Description	Units
Focal_habitat	monotypic habitats characterizing each quadrat (Montipora = Montipora spp.; Pocillopora spp.; Porites = Porites lobata; Prus = Porites rus)	unitless
D_max_count	number of vermetids	unitless
prop_dead	visual estimates of proportion of quadrat comprised of dead coral substrate	unitless

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Instruments

Dataset-specific Instrument Name	Scaled
Generic Instrument Name	scale
Dataset-specific Description	Corals were attached to plastic bases and weighed using the bouyant method (Davies 1989) and then placed onto to the reefs in triplicate.
Generic Instrument Description	An instrument used to measure weight or mass.

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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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