Reef Locations

Website: https://www.bco-dmo.org/dataset/645257
Version: 12 May 2016
Version Date: 2016-05-12

Project
» Spatial patterns of coral-vermetid interactions: short-term effects and long-term consequences (Vermetids_Corals)
» Cryptic density dependence: the effects of spatial, ontogenetic, and individual variation in reef fish (CDD_in_Reef_Fish)

Contributors	Affiliation	Role
Osenberg, Craig	University of Georgia (UGA)	Principal Investigator, Contact
Frazer, Thomas	University of Florida (UF)	Co-Principal Investigator
Shima, Jeffrey	Victoria University of Wellington	International Collaborator
Gegg, Stephen R.	Woods Hole Oceanographic Institution (WHOI BCO-DMO)	BCO-DMO Data Manager

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Dataset Description

Latitude and longitude positions of reefs/sites sampled

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

Methods & Sampling

(na)

Data Processing Description

Data Processing:
(na)

BCO-DMO Processing Notes
- Generated from table in file "Metadata_FateOfReef" contributed by Rebecca Atkins
- Parameter names edited to conform to BCO-DMO naming convention found at Choosing Parameter Name
- Lat and Lon of general work area (Moorea) added

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Data Files

File
LTR_Reef_Locations.csv (Comma Separated Values (.csv), 488 bytes) MD5:e320f17ae5ddf29eb92be2be0d26725f Primary data file for dataset ID 645257

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Parameters

Parameter	Description	Units
Reef_Name	Site Name	text
IR_Reef_Number	Number given to reef	dimensionless
LATITUDE	Latitude (South is negative)	decimal degrees
LONGITUDE	Longitude (West is negative)	decimal degrees

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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).

Cryptic density dependence: the effects of spatial, ontogenetic, and individual variation in reef fish (CDD_in_Reef_Fish)

Coverage: Moorea, French Polynesia (-17.48, -149.82)

Description from NSF award abstract:
Ecologists have long been interested in the factors that drive spatial and temporal variability in population density and structure. In marine reef systems, attention has focused on the role of settlement-the transition of pelagic larvae to a benthic stage-and on density-dependent processes affecting recently settled juveniles. Recent data suggest that co-variance in settlement and subsequent density-dependent survival can obscure the patterns of density dependence at larger scales, a phenomenon called cryptic density dependence. This research will explore the mechanisms that underlie the spatial covariance of settlement and site quality - a process that has received little attention in the standard paradigm. These mechanistic studies of cryptic density dependence will facilitate the development of new frameworks for fish population dynamics that incorporate larval ecology, habitat quality, density dependence, life history, and the patterns and implications of spatial covariance among these factors. More generally, the work provides a specific empirical context, and a general theoretical treatment, of cryptic heterogeneity (hidden individual variation in demographic rates).

Note: Drs. Craig W. Osenberg and Ben Bolker were 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). Dr. Bolker moved to McMaster University in 2010 (current contact information).

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Funding

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