Protoconch size at days 0 and 11 of Ceraesignum maximum larvae after 3, 6, and 9 days depending food level in Moorea, French Polynesia (Vermetids_Corals project)

Website: https://www.bco-dmo.org/dataset/725943
Data Type: experimental
Version: 2017-10-05

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

Contributors	Affiliation	Role
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Coverage

Spatial Extent: **N**:-17.47279 **E**:-149.78277 **S**:-17.48365 **W**:-149.84698
Temporal Extent: 2009-10-10 - 2009-10-21

Dataset Description

These data are from an experiment that test the nutritional strategies of Ceraesignum (Dendropoma) maximum larvae. For additional datasets see related files.

Related Datasets:

- Phillips_2011 - Experiment 1 Larval Mortality: https://www.bco-dmo.org/dataset/725276
- Phillips_2011 - Experiment 1 Larval Size: https://www.bco-dmo.org/dataset/725317
- Phillips_2011 - Experiment 1 Settlement Challenge 10: https://www.bco-dmo.org/dataset/725335
- Phillips_2011 - Experiment 1 SettlementChallenge18: https://www.bco-dmo.org/dataset/725392
- Phillips_2011 - Experiment 2 Larval Mortality: https://www.bco-dmo.org/dataset/725880
- Phillips_2011 - Experiment 2 Larval Size: https://www.bco-dmo.org/dataset/725943 (Current page)
- Phillips_2011 - Experiment 2 Larval Velum Size: https://www.bco-dmo.org/dataset/725957
- Phillips_2011 - Experiment 2 Settlement Challenge 6: https://www.bco-dmo.org/dataset/725973
- Phillips_2011 - Experiment 2 Settlement Challenge 8: https://www.bco-dmo.org/dataset/726002

Methods & Sampling

In this experiment, larval growth and metamorposis was tested using different food levels.

Larvae hatched on October 10, 2009 and ~50 were distributed into each tubs on 500mL filtered sea water (FSW). Because the greatest metamorphic success was in the *Isochrysis galbana* treatment during experiment 1, only that species was used in this experiment. Three food densities were created high food (4 x 104 cells mL-1), low food (4 x 103 cells mL-1) plus an Unfed treatment in which larvae were raised in FSW.

For this experiment, larval shell height was only measured 1- and 11-day post-hatch, the first and final days of the experiment (N = 10 from each treatment, after pooling larvae across replicate containers).

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
- empty values were replaced with 'nd' (no data).

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Data Files

File	
Phillips_2011_Expt2_LarvalSize.csv	(Comma Separated Values (.csv), 547 bytes) MD5:baff569fb134d5b1bb8030ba10e23f11
Primary data file for dataset ID 725943	

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Related Publications

Phillips, N. E. (2011). Where are larvae of the vermetid gastropod Dendropoma maximum on the continuum of larval nutritional strategies? Marine Biology, 158(10), 2335–2342. doi:10.1007/s00227-011-1737-0
General

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Parameters

Parameter	Description	Units
Larva_num	larval number ID	unitless
Day	Day of measurement post hatch	day
FOOD_LEVEL	treatment where larva came from Low (LO); High (HI) or Unfed	unitless
Protoconch_height	height of protoconch	microns (um)

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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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