

Size of individuals used within each experiment at Moorea, French Polynesia from February-August 2007 (CDD_in_Reef_Fish project)

Website: <https://www.bco-dmo.org/dataset/726781>

Data Type: experimental

Version: 1

Version Date: 2017-10-05

Project

» [Cryptic density dependence: the effects of spatial, ontogenetic, and individual variation in reef fish](#)

(CDD_in_Reef_Fish)

Contributors	Affiliation	Role
Geange, Shane	Victoria University of Wellington	Principal Investigator, Contact
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Abstract

This dataset is from a manipulative experiment investigating intracohort priority effects between two competing reef fishes (*Thalassoma hardwicke* and *T. quinquevittatum*). This particular dataset is descriptive, describing the size of individuals used within each experiment.

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Coverage

Spatial Extent: Lat:-17.5 Lon:-149.8333333

Temporal Extent: 2007-02 - 2007-08

Dataset Description

This dataset is from a manipulative experiment investigating intracohort priority effects between two competing reef fishes (*Thalassoma hardwicke* and *T. quinquevittatum*). This particular dataset is descriptive, describing the size of individuals used within each experiment. For additional data, please see files listed in Related Datasets.

Related Datasets

- Geange_and_Stier_2009 Order of Arrival: <https://www.bco-dmo.org/dataset/726744>
- Geange_and_Stier_2009 Order of Arrival Size: <https://www.bco-dmo.org/dataset/726781> (current page)
- Geange_and_Stier_2009 Order of Arrival Background Community: <https://www.bco-dmo.org/dataset/726766>

Methods & Sampling

The study was conducted in the northern lagoon of Moorea, French Polynesia (17 30'S, 149 50'W), at the Gump Research Station between February and August 2007, using a grid of 28 live-coral patch reefs in water 2 to 4 meters deep.

Data Processing Description

This is raw data.

BCO-DMO Processing:

- added conventional header with dataset name, PI name, version date
- modified parameter names to conform with BCO-DMO naming conventions

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Data Files

File
GeangeandStier_2009_Orderofarrival_Size.csv (Comma Separated Values (.csv), 26.06 KB) MD5:f76d70a34dff3c476fa0f8957c38a912
Primary data file for dataset ID 726781

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Related Publications

Geange, S. W., & Stier, A. C. (2009). Order of arrival affects competition in two reef fishes. *Ecology*, 90(10), 2868–2878. doi:[10.1890/08-0630.1](https://doi.org/10.1890/08-0630.1)
General

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Related Datasets

IsRelatedTo

Geange, S., Stier, A. (2021) **Data generated from the manipulative experiments in Moorea, French Polynesia from February-August 2007 (CDD_in_Reef_Fish project)**. Biological and Chemical Oceanography Data Management Office (BCO-DMO). (Version 1) Version Date 2017-10-05 doi:10.26008/1912/bco-dmo.726744.1 [[view at BCO-DMO](#)]

Geange, S., Stier, A. (2021) **Description of the background community of reefs used in an experiment at Moorea, French Polynesia from February-August 2007 (CDD_in_Reef_Fish project)**. Biological and Chemical Oceanography Data Management Office (BCO-DMO). (Version 1) Version Date 2017-10-05 doi:10.26008/1912/bco-dmo.726766.1 [[view at BCO-DMO](#)]

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Parameters

Parameter	Description	Units
run	experimental run identifier	unitless
species	Genus and species	unitless
experiment	Either the intraspecific or interspecific component of the experiment	unitless
size	standard length of individuals in mm	millimeters (mm)

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Instruments

Dataset-specific Instrument Name	tanks
Generic Instrument Name	Aquarium
Dataset-specific Description	All captured fish were held in tanks with running seawater for 6–12 h, then individually tagged with different colors of Visible Implant Elastomer forward of the caudal peduncle.
Generic Instrument Description	Aquarium - a vivarium consisting of at least one transparent side in which water-dwelling plants or animals are kept

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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

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-0242312

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