Feeding positions of two basslet species from an experiment conducted in 2014 in the Bahamas.

Website: https://www.bco-dmo.org/dataset/735267
Data Type: Other Field Results
Version: 1
Version Date: 2018-05-07

Project
» Mechanisms and Consequences of Fish Biodiversity Loss on Atlantic Coral Reefs Caused by Invasive Pacific Lionfish (BiodiversityLossEffects_lionfish)

Contributors	Affiliation	Role
Hixon, Mark	University of Hawai'i (UH)	Principal Investigator
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Abstract
Feeding positions of two basslet species from an experiment conducted in 2014 in the Bahamas.

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Coverage

Spatial Extent: **Lat**:24 **Lon**:-76
Temporal Extent: 2014-08 - 2014-08

Dataset Description

Feeding positions of two basslet species from an experiment conducted in 2014. Location: Cape Eleuthera Institute, Eleuthera, The Bahamas.

Methods & Sampling

For methodology, see papers in the Related Publications section below.

Data Processing Description

For methodology, see papers in the Related Publications section below.

BCO-DMO Processing Notes:

-Added location coordinates

-Reformatted column names to comply with BCO-DMO standards
-Replaced species codes with full common names according to species key

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Data Files

File
position.csv (Comma Separated Values (.csv), 17.55 KB) MD5:9c35cc9b2a3092821c01c8157ffdc026 Primary data file for dataset ID 735267

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Related Publications

Kindinger, T. (2016). Symmetrical effects of interspecific competition on congeneric coral-reef fishes. Marine Ecology Progress Series, 555, 1–11. doi:10.3354/meps11836
Methods

,
Results

Kindinger, T. L. (2018). Invasive predator tips the balance of symmetrical competition between native coral-reef fishes. Ecology, 99(4), 792–800. doi:10.1002/ecy.2173
Methods

,
Results

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Parameters

Parameter	Description	Units
Survey_Num	Survey number (week where 0 = baseline)	unitless
Site_ID	Name of study site (reef)	unitless
lat	Latitude	decimal degrees
lon	Longitude	decimal degrees
Site_Treat	Lionfish treatment of site (reef): Low-lionfish reef or High-lionfish reef	unitless
Ledge_ID	Ledge identification number	unitless
Ledge_Treat	Basslet treatment of local populations under reef ledges: Fairy-rem = fairy basslet removal; Blackcap-rem = blackcap basslet removal; Control = unmanipulated population of fairy and blackcap basslets	unitless
Bass_Species	Basslet species	unitless
Ledge_Position_2	Mean feeding position (0 = back of ledge, 1 = front of ledge) of 2 cm basslets measured from maps of each local population.	unitless
Ledge_Position_3	Mean feeding position (0 = back of ledge, 1 = front of ledge) of 3 cm basslets measured from maps of each local population.	unitless
Ledge_Position_4	Mean feeding position (0 = back of ledge, 1 = front of ledge) of 4 cm basslets measured from maps of each local population.	unitless
Ledge_Position_5	Mean feeding position (0 = back of ledge, 1 = front of ledge) of 5 cm basslets measured from maps of each local population.	unitless

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Project Information

Mechanisms and Consequences of Fish Biodiversity Loss on Atlantic Coral Reefs Caused by Invasive Pacific Lionfish (BiodiversityLossEffects_lionfish)

Website: http://hixon.science.oregonstate.edu/content/highlight-lionfish-invasion

Coverage: Three Bahamian sites: 24.8318, -076.3299; 23.8562, -076.2250; 23.7727, -076.1071; Caribbean Netherlands: 12.1599, -068.2820

The Pacific red lionfish (Pterois volitans), a popular aquarium fish, was introduced to the Atlantic Ocean in the

vicinity of Florida in the late 20th century. Voraciously consuming small native coral-reef fishes, including the juveniles of fisheries and ecologically important species, the invader has undergone a population explosion that now ranges from the U.S. southeastern seaboard to the Gulf of Mexico and across the greater Caribbean region. The PI's past research determined that invasive lionfish (1) have escaped their natural enemies in the Pacific (lionfish are much less abundant in their native range); (2) are not yet controlled by Atlantic predators, competitors, or parasites; (3) have strong negative effects on populations of native Atlantic fishes; and (4) locally reduce the diversity (number of species) of native fishes. The lionfish invasion has been recognized as one of the major conservation threats worldwide.

The Bahamas support the highest abundances of invasive lionfish globally. This system thus provides an unprecedented opportunity to understand the direct and indirect effects of a major invader on a diverse community, as well as the underlying causative mechanisms. The PI will focus on five related questions: (1) How does long-term predation by lionfish alter the structure of native reef-fish communities? (2) How does lionfish predation destabilize native prey population dynamics, possibly causing local extinctions? (3) Is there a lionfish-herbivore-seaweed trophic cascade on invaded reefs? (4) How do lionfish modify cleaning mutualisms on invaded reefs? (5) Are lionfish reaching densities where natural population limits are evident?

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Funding

Funding Source	Award
NSF Division of Ocean Sciences (NSF OCE)	OCE-1233027

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