Species code key for Tye Kindinger datasets on native and invasive predators in the Cayman Islands.

Website: https://www.bco-dmo.org/dataset/700123
Data Type: Other Field Results
Version: 1
Version Date: 2017-05-16

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 Hawaii (UH)	Principal Investigator
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Abstract
Species code key for Tye Kindinger datasets on native and invasive predators in the Cayman Islands.

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Dataset Description

This is a key of all species sampled in the studies conducted by M. Hixon and T. Kindinger. Species codes in each related dataset are represented as the first two letters of the genus and species. This key includes the scientific and common names for each of those codes.

For related datasets, please visit the project link listed at the top of the page.

Methods & Sampling

Species observed during M. Hixon and T. Kindinger reef surveys.

Data Processing Description

BCO-DMO Processing Notes:

- reformatted column names to comply with BCO-DMO standards

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Data Files

File
speciesCodeKey.csv (Comma Separated Values (.csv), 1.02 KB) MD5:cdcb35ca2d7a9da708c3b303db68b9d8 Primary data file for dataset ID 700123

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Parameters

Parameter	Description	Units
species_code	Species code; The first two letters of the genus and species.	unitless
scientific_name	Species name	unitless
common_name	Common name	unitless

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Deployments

Cayman_Reef_Surveys_10-11

Website	https://www.bco-dmo.org/deployment/59048
Platform	Cayman_Islands
Start Date	2010-06-14
End Date	2011-08-29
Description	Coral reefs were surveyed/studied near the Cayman Islands during the summers of 2010 and 2011 as part of the projects "Ecological Release and Resistance at Sea: Invasion of Atlantic Coral Reefs by Pacific Lionfish" and "Mechanisms and Consequences of Fish Biodiversity Loss on Atlantic Coral Reefs Caused by Invasive Pacific Lionfish" (NSF OCE-0851162 & OCE-1233027).

LSI_Reef_Surveys_09-12

Website	https://www.bco-dmo.org/deployment/59019
Platform	Tropical Marine Lab at Lee Stocking Island
Start Date	2009-05-30
End Date	2012-08-18
Description	Locations of coral reef survey dives and sightings, or collections of the invasive red lionfish, Pterois volitans, near Lee Stocking Island, Bahamas for the projects "Ecological Release and Resistance at Sea: Invasion of Atlantic Coral Reefs by Pacific Lionfish" and "Mechanisms and Consequences of Fish Biodiversity Loss on Atlantic Coral Reefs Caused by Invasive Pacific Lionfish" (NSF OCE-0851162 & OCE-1233027). All dives were made from various small vessels (17' to 24' l.o.a., 40 to 275 HP outboard motors, 1 to 7 GRT). Vessel names include, Sampson, Orca, Potcake, Lusca, Lucaya, Zardoz, Parker, and Nuwanda.

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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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