

Coral species list and site descriptions for studies conducted on the partial SSU rRNA genes of bacteria and archaea in the Florida Keys, Australia, and Micronesia in 2013. (Coral Microbial Relationships project)

Website: <https://www.bco-dmo.org/dataset/662096>

Data Type: Other Field Results

Version: 1

Version Date: 2016-10-20

Project

» [Fundamental Coral-Microbial Associations](#) (Coral Microbial Relationships)

Contributors	Affiliation	Role
Apprill, Amy	Woods Hole Oceanographic Institution (WHOI)	Principal Investigator
Weber, Laura	Woods Hole Oceanographic Institution (WHOI)	Contact
Ake, Hannah	Woods Hole Oceanographic Institution (WHOI BCO-DMO)	BCO-DMO Data Manager

Abstract

Coral species list and site descriptions for studies conducted on the partial SSU rRNA genes of bacteria and archaea in the Florida Keys, Australia, and Micronesia in 2013. (Coral Microbial Relationships project)

Table of Contents

- [Coverage](#)
- [Dataset Description](#)
 - [Acquisition Description](#)
 - [Processing Description](#)
- [Parameters](#)
- [Deployments](#)
- [Project Information](#)
- [Funding](#)

Coverage

Spatial Extent: N:24.606054 E:146.852 S:-15.0883 W:-81.39111

Temporal Extent: 2013 - 2013

Dataset Description

A list of the coral species sampled and the site locations for studies conducted on the partial SSU rRNA genes of bacteria and archaea from tissue samples produced using 515F/806RB primers. Samples were collected in the Federated States of Micronesia, Australia, and the Florida Keys.

Acquisition Description

Coral collection and processing

Coral fragments were collected by a scuba diver using a hammer and chisel during field sampling trips to Kapangamarangi Atoll, Micronesia (November 2012), Florida Keys, U.S.A. (May 2013) and Magnetic Bay, Australia (November 2013). Fragments were stored in a cooler containing ice until they were flash frozen in liquid nitrogen. Fragments were obtained from 3 representative colonies of the following species:

Porites lobata, *Pocillopora verrucosa*, *Acropora humilis*, *Orbicella faveolata*, *Montastraea cavernosa*, *O. annularis*, and *Diploria strigosa*. Fragments were shipped back to Woods Hole Oceanographic Institution and stored at -80 C until they were processed.

Processing Description

BCO-DMO Data Processing Notes:

- removed spaces and replaced with underscores
- reformatted column names to comply with BCO-DMO standards
- converted all lat/lons to decimal degrees

[[table of contents](#) | [back to top](#)]

Parameters

Parameter	Description	Units
species	Species of coral sampled	unitless
collection_site	Geographic location where sampling occurred	unitless
lat	Latitude; N is positive	decimal degrees
lon	Longitude; W is positive	decimal degrees
depth	Depth where sampling occurred	meters
colony_name	PI issued ID for the coral colony sampled	unitless

[[table of contents](#) | [back to top](#)]

Deployments

Aprill_2013

Website	https://www.bco-dmo.org/deployment/565728
Platform	BIOS
Start Date	2012-09-15
End Date	2016-08-31
Description	High-throughput sequencing of small subunit ribosomal RNA (SSU rRNA) genes from marine environments. Coral-bacterioplankton mesocosm experiments.

[[table of contents](#) | [back to top](#)]

Project Information

Fundamental Coral-Microbial Associations (Coral Microbial Relationships)

Coverage: Florida Keys, Federated States of Micronesia, Red Sea, & Bermuda

Description from NSF award abstract: Reef-building corals are in decline worldwide due in part to climate change and other human activities, and it is becoming increasingly important to understand what aspects of coral biology are degraded by environmental stress which then leads to coral mortality. It is now widely known that corals harbor communities of bacteria and archaea that are believed to play important roles in maintaining the health of their hosts, but we lack any appreciable understanding about the identity of the microbial associates regularly residing within healthy, reef-building corals. This project asks the central question: do reef-building corals harbor fundamental or persistent microbial associates that are symbiotic within their tissues? In order to address this hypothesis, the investigator will assess the identity of the bacterial and archaeal microbes using a variety of molecular and microscopy approaches that includes the identification and localization of a widespread group of coral bacterial associates belonging to the genus *Endozoicomonas*. The results of this study will then be used to develop additional questions about the role of these microbial associates in nutrient cycling and how they contribute to the health and survival of corals.

[[table of contents](#) | [back to top](#)]

Funding

Funding Source	Award
NSF Division of Ocean Sciences (NSF OCE)	OCE-1233612

[[table of contents](#) | [back to top](#)]