Species barcodes and other genetic data from globally collected calanoid copepods and euphausiids from the CMarZ database as part of the Census of Marine Life program (CMarZ_2004-2010 project)

Website: https://www.bco-dmo.org/dataset/2490
Version:
Version Date: 2010-11-01

Project
» Census of Marine Zooplankton-2004-2010 (CMarZ_2004-2010)

Program
» Census of Marine Life (CoML)

Contributors	Affiliation	Role
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Coverage

Spatial Extent: **N**:78 **E**:160 **S**:-54.5 **W**:-178.5067
Temporal Extent: 1989-11-15 - 2001-09-02

Dataset Description

The CMarZ database currently comprises two groups, calanoid copepods and euphausiids. The lineage of each group from kingdom to order is as follows:

Euphausiids:
Eukaryota (Kingdom); Metazoa; Arthropoda; Crustacea;
Malacostraca; Eumalacostraca; Eucarida; Euphausiacea (Order)

Calanoid copepods:
Eukaryota (Kingdom); Metazoa; Arthropoda; Crustacea;
Maxillopoda; Copepoda; Calanoida (Order)

We anticipate that other groups of zooplankton will be added to expand the taxonomic coverage of the CMarZ database. In order to make entry into the database as straightforward as possible, the first level of the database menu will begin at the systematic level of the order, which we refer to here by the common names of these groups: calanoid, copepods and euphausiids.

Toptitle = Order
[Calanoid copepods]
[Euphausiids]

**Within each group, the hierarchies are indicated as a list.

Order: Calanoid copepods
Family: Calanidae
Genus: Calanus, Mesocalanus, Ctenocalanus, Cosmocalanus, Nannocalanus, Neocalanus, Undinula
Species and subspecies within each genus on one line

Family: Clausocalanidae
Genus: Clausocalanus, Pseudocalanus, Drepanopus

Family: Metridinidae
Genus: Metridia

Order: Euphausiids
Family: Bentheuphausiidae
Genus: Bentheuphausia
Family: Euphausiidae
Genus: Euphausia, Meganyctiphanes, Nematobrachion, Nematoscelis, Nyctiphanes, Stylocheiron, Thysanopoda, Thysanoessa

List of field names:

Clicking on an entry in the web page will cause the data system to show you all the records with that value, except for the Access1, Access2, and link entries. These entries will open up a new browser window showing you the information from the GenBank database in the case of the first two entries, and a web page of additional links to related data in the case of the link entry.

Last modified: March 3, 2003

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Data Files

File
spp_barcodes.csv (Comma Separated Values (.csv), 188.10 KB) MD5:19f3b514e90ce83a12a903ab8495e0cf Primary data file for dataset ID 2490

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Parameters

Parameter	Description	Units
lineage	lineage of each group from kingdom to order	
Family	Family	
Genus	Genus	
Species	Species	
Subspecies	Subspecies	

gene	Gene, such as mtCOI, and 18SrRNA	
SeqNumb	Unique instance of species when more than onesample is taken	
AccessNo	Accession number link to GenBank database for a gene. Clicking on this link will openup a new web browser window into the GenBank database.Click on the Assession Number link shown to view the information.	
collection_region	Short geographical description of collection region	
year	Year data collected	
month	Month data collected	
day	Day data collected	
latitude	Latitude, decimal degrees, north is positive	
longitude	Longitude, decimal degrees, east is positive	
depth_min	Minimum water depth at collection site (meters)	meters
depth_max	Maximum water depth at collection site (meters)	meters
collector	Name of person(s) who collected the data	
Collection_station	Links to other, related data sets, such as environmental data	
sequence	Gene sequence	

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Project Information

Census of Marine Zooplankton-2004-2010 (CMarZ_2004-2010)

Website: http://www.cmarz.org/

Coverage: Global ocean

The Census of Marine Zooplankton (CMarZ) is a field project of the Census of Marine Life (see www.CoML.org). CMarZ is working toward a taxonomically comprehensive assessment of biodiversity of animal plankton

throughout the world ocean. The project goal is to produce accurate and complete information on zooplankton species diversity, biomass, biogeographical distribution, genetic diversity, and community structure by 2010. Our taxonomic focus is the animals that drift with ocean currents throughout their lives (i.e., the holozooplankton, Fig. 1). This assemblage currently includes ~6,800 described species in fifteen phyla; our expectation is that at least that many new species will be discovered as a result of our efforts. The census encompasses unique marine environments and those likely to be inhabited by endemic and undescribed zooplankton species.

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Program Information

Census of Marine Life (CoML)

Website: http://www.coml.org/

Coverage: global

The Census of Marine Life is a global network of researchers in more than 80 nations engaged in a 10-year scientific initiative to assess and explain the diversity, distribution, and abundance of life in the oceans. The world's first comprehensive Census of Marine Life - past, present, and future - will be released in 2010.

The stated purpose of the Census of Marine Life is to assess and explain the diversity, distribution, and abundance of marine life. Each plays an important role in what is known, unknown, and may never be known about what lives in the global ocean.

First, diversity. The Census aims to make for the first time a comprehensive global list of all forms of life in the sea. No such unified list yet exists. Census scientists estimate that about 230,000 species of marine animals have been described and reside in jars in collections in museums of natural history and other repositories. Since the Census began in 2000, researchers have added more than 5600 species to the lists. They aim to add many thousands more by 2010. The database of the Census already includes records for more than 16 million records, old and new. By 2010, the goal is to have all the old and the new species in an on-line encyclopedia with a webpage for every species. In addition, we will estimate how many species remain unknown, that is, remain to be discovered. The number could be astonishingly large, perhaps a million or more, if all small animals and protists are included. For comparison, biologists have described about 1.5 million terrestrial plants and animals.

Second, distribution. The Census aims to produce maps where the animals have been observed or where they could live, that is, the territory or range of the species. Knowing the range matters a lot for people concerned about, for example, possible consequences of global climate change.

Third, abundance. No Census is complete without measures of abundance. We want to know not only that there is such a thing as a Madagascar crab but how many there are. For marine life, populations are being estimated either in numbers or in total kilos, called biomass.

To complete the context, it is important to understand the top motivations for the Census of Marine Life. Most importantly, much of the ocean is unexplored. Most of the records in its database are for observations near the surface, and down to 1000 meters. No observations have been made in most of the deep ocean, while most of the ocean is deep.

Another important issue is that diversity varies in space. Marine hot spots, like the rain forests of the land, exist off for large fish off the coasts of Brazil and Australia. The goal is to know much more about marine hot spots, to help conserve these large fish. Their abundance and thus their diversity is changing, especially for commercially important species. Between 1952 and 1976, for example, fishermen and their customers emptied many areas of the ocean of tuna.

The Census has evolved a strategy of 14 field projects to touch the major habitats and groups of species in the global ocean. Eleven field projects address habitats, such as seamounts or the Arctic Ocean. Three field projects look globally at animals that either traverse the seas or appear globally distributed: the top predators

such as tuna and the plankton and the microbes. The projects employ a mix of technologies. These include acoustics or sound, optics or cameras, tags placed on individual animals that store or report data, and genetics, as well as some actual capture of animals. The technologies complement one another. Sound can survey large areas in the ocean, while light cannot. Light can capture detail and characters that sound cannot. And genetics can make identifications from fragments of specimens or larvae where pictures tell little.

This mix of curiosity, need to know, technology, and scientists willing to investigate the unexplored and undiscovered will result in a Census of Marine Life in 2010 that provides a much clearer picture of what lives below the surface around the globe. Several reasons make such a report timely, indeed urgent. Crises in the sea are reported regularly. One recent study predicted the end of commercial fishery globally by 2050, if current trends persist. Better information is needed to fashion the management that will sustain fisheries, conserve diversity, reverse losses of habitat, reduce impacts of pollution, and respond to global climate change. Hence, there are biological, economic, philosophical and political reasons to push for greater exploration and understanding of the ocean and its inhabitants. Indeed, the United Nations Convention on Biological Diversity requires signatories to collect information on living resources, but, as yet, no nation has a complete baseline of such information. The Census of Marine Life's global network of researchers will help to fill this knowledge gap, providing critical information to help guide decisions on how to manage global marine resources for the future.

[Text copied from the CoML web site, November 5, 2008]

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