

List of all bongo and RMT tows conducted during RRS James Clark Ross cruise AMT24 from Immingham, United Kingdom to Punta Arenas, Chile in 2014 (Plankton Population Genetics project)

Website: <https://www.bco-dmo.org/dataset/540622>

Version: 24 Nov 2015

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Project

» [Basin-scale genetics of marine zooplankton](#) (Plankton Population Genetics)

| Contributors | Affiliation | Role |
|--------------------------------|---|------------------------|
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Dataset Description

List of dates, times, and positions of all bongo and RMT tows conducted during the AMT24 cruise.

Methods & Sampling

BCO-DMO extracted Table 1 from the [Zooplankton Ecology portion of the AMT24 cruise report](#) (PDF) prepared by E. Goetze et al.

Data Processing Description

BCO-DMO edits made:

- Extracted table from the Cruise Report in Word; converted to .csv.
- Converted original latitude and longitude values from degrees and decimal minutes to decimal degrees.
- Replaced "n.r." with "nd" to indicate "no data".
- Separated original date field into month, day, and year columns.

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Data Files

| File |
|--|
| bongo_RMT_tows.csv (Comma Separated Values (.csv), 3.64 KB) MD5:3b2b1f3bd40f07aa48f1e1e33593a478 |
| Primary data file for dataset ID 540622 |

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Parameters

| Parameter | Description | Units |
|------------|--|-----------------|
| tow | Consecutive tow number. | unitless |
| station | Unique station identification. | unitless |
| tow_type | Type of tow. CALBOBL = bongo oblique tows (quantitative tows); RMT = midwater trawl; live bongo = non-quantative tows used to collect animals for experiments and live sorting for other purposes (individual preservation). | unitless |
| date | Month, day, and year of the tow (local time zone). | unitless |
| month | 2-digit month. | unitless |
| day | 2-digit day of month. | unitless |
| year | 4-digit year. | unitless |
| time_start | Time (local time zone) when the tow began; formatted as HHMM (hours and minutes). | unitless |
| time_end | Time (local time zone) when the tow ended; formatted as HHMM (hours and minutes). | unitless |
| lat | Latitude recorded at the start of the tow. | decimal degrees |
| lon | Longitude recorded at the start of the tow. | decimal degrees |

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Deployments

AMT24

| | |
|--------------------|--|
| Website | https://www.bco-dmo.org/deployment/539721 |
| Platform | RRS James Clark Ross |
| Report | http://dmoserv3.bco-dmo.org/data_docs/Goetze/AMT24_cruise/AMT24_jr303_cruise_report.pdf |
| Start Date | 2014-09-21 |
| End Date | 2014-11-06 |
| Description | Atlantic Meridional Transect Cruise 24, transited from Immingham, United Kingdom to Punta Arenas, Chile between Sept 21, 2014 – Nov 6, 2014. The final cruise report and other cruise information, including all science components, can be found online at the Atlantic Meridional Transect webpage (http://www.amt-uk.org/Cruises), or through the British Oceanographic Data Centre (BODC) (http://www.bodc.ac.uk/projects/uk/amt/). Zooplankton ecology data from the project "Basin-scale genetics of marine zooplankton" (NSF OCE-1338959) were collected on this cruise. |

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Project Information

Basin-scale genetics of marine zooplankton (Plankton Population Genetics)

Coverage: Atlantic Ocean, 46 N - 46 S

Description from NSF award abstract:

Marine zooplankton show strong ecological responses to climate change, but little is known about their capacity for evolutionary response. Many authors have assumed that the evolutionary potential of zooplankton is limited. However, recent studies provide circumstantial evidence for the idea that selection is a dominant evolutionary force acting on these species, and that genetic isolation can be achieved at regional spatial scales in pelagic habitats. This RAPID project will take advantage of a unique opportunity for basin-scale transect sampling through participation in the Atlantic Meridional Transect (AMT) cruise in 2014. The cruise will traverse more than 90 degrees of latitude in the Atlantic Ocean and include boreal-temperate, subtropical and tropical waters. Zooplankton samples will be collected along the transect, and mitochondrial and microsatellite markers will be used to identify the geographic location of strong genetic breaks within three copepod species. Bayesian and coalescent analytical techniques will test if these regions act as dispersal barriers. The physiological condition of animals collected in distinct ocean habitats will be assessed by measurements of egg production (at sea) as well as body size (condition index), dry weight, and carbon and nitrogen content. The PI will test the prediction that ocean regions that serve as dispersal barriers for marine holoplankton are areas of poor-quality habitat for the target species, and that this is a dominant mechanism driving population genetic structure in oceanic zooplankton.

Note: This project is funded by an NSF RAPID award. This RAPID grant supported the shiptime costs, and all the sampling reported in the [AMT24 zooplankton ecology cruise report \(PDF\)](#).

Online science outreach blog at: <https://atlanticplankton.wordpress.com>

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Funding

| Funding Source | Award |
|--|-----------------------------|
| NSF Division of Ocean Sciences (NSF OCE) | OCE-1338959 |

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