Biogeosciences

Discussions

Open Access

EGU

Interactive comment on "Diversity and distribution of Nitrogen Fixation Genes in the Oxygen Minimum Zones of the World Oceans" *by* Amal Jayakumar and Bess B. Ward

Amal Jayakumar and Bess B. Ward

ajayakum@princeton.edu

Received and published: 8 May 2020

The study of Jayakumar and Ward investigates the microbial nitrogen fixing community in three major oxygen minimum zones in the worlds oceans. They took samples in the ETNP, ETSP and IO where they analysed OTUs using up-to-date DNA / RNA extraction and amplification methods. The specificity of the Q-PCR assays is described in detail and the construction of phylogenetic trees is fine. All methods are described extensively and the data set allows for the first time a solid comparison among sites. Moreover, the paper is clearly written and presents interesting conclusions such as low diversity in the Arabian Sea compared to other sites. The manuscript can be published

as is.

I would only appreciate some details like the station number and depths sampled in the material and methods section. Otherwise it is a timely and very valuable contribution to our understanding of the diversity of nitrogen fixing microbes in the ocean.

Response: Thank you very much for your constructive comments, we now have Inserted new table with the information

Interactive comment on Biogeosciences Discuss., https://doi.org/10.5194/bg-2019-445, 2020.

Table 1 Sampling position details

OMZ Region	Station	Latitude	Longitude	Depth (m)	DNA Seqs	cDNA Seqs
Arabian Sea	S1	19°N	67°E	10	3	0
Arabian Sea	S1	19°N	67°E	60	20	0
Arabian Sea	S1	19°N	67°E	150	23	25
Arabian Sea	S1	19°N	67°E	175	10	22
Arabian Sea	S2	15°N	64°E	150	4	25
Arabian Sea	S3	12°N	64°E	10	25	4
Arabian Sea	S3	12°N	64°E	110	4	23
ETNP	BB1	20 9.6°N	106°W	0	26	5
ETNP	BB1	20 9.6°N	106°W	18	24	17
ETNP	BB1	20 9.6°N	106°W	90	42	38
ETNP	BB2	16 31°N	107 6.8°W	0	40	35
ETNP	BB2	16 31°N	107 6.8°W	150	47	67
ETSP	BB1	13 59.9°S	81 12.0°W	2	29	1
ETSP	BB1	13 59.9°S	81 12.0°W	130	46	44
ETSP	BB2	20. 46.1°S	70 39. 5°W	20	45	30
ETSP	BB2	20. 46.1°S	70 39. 5°W	115	23	40

Fig. 1. Table 1. Sampling regions and depths and sequences derived from each depth

C3