

# Seasonal dynamics of culturable thraustochytrids in estuarine and coastal waters (Labyrinthulomycetes, stramenopiles)

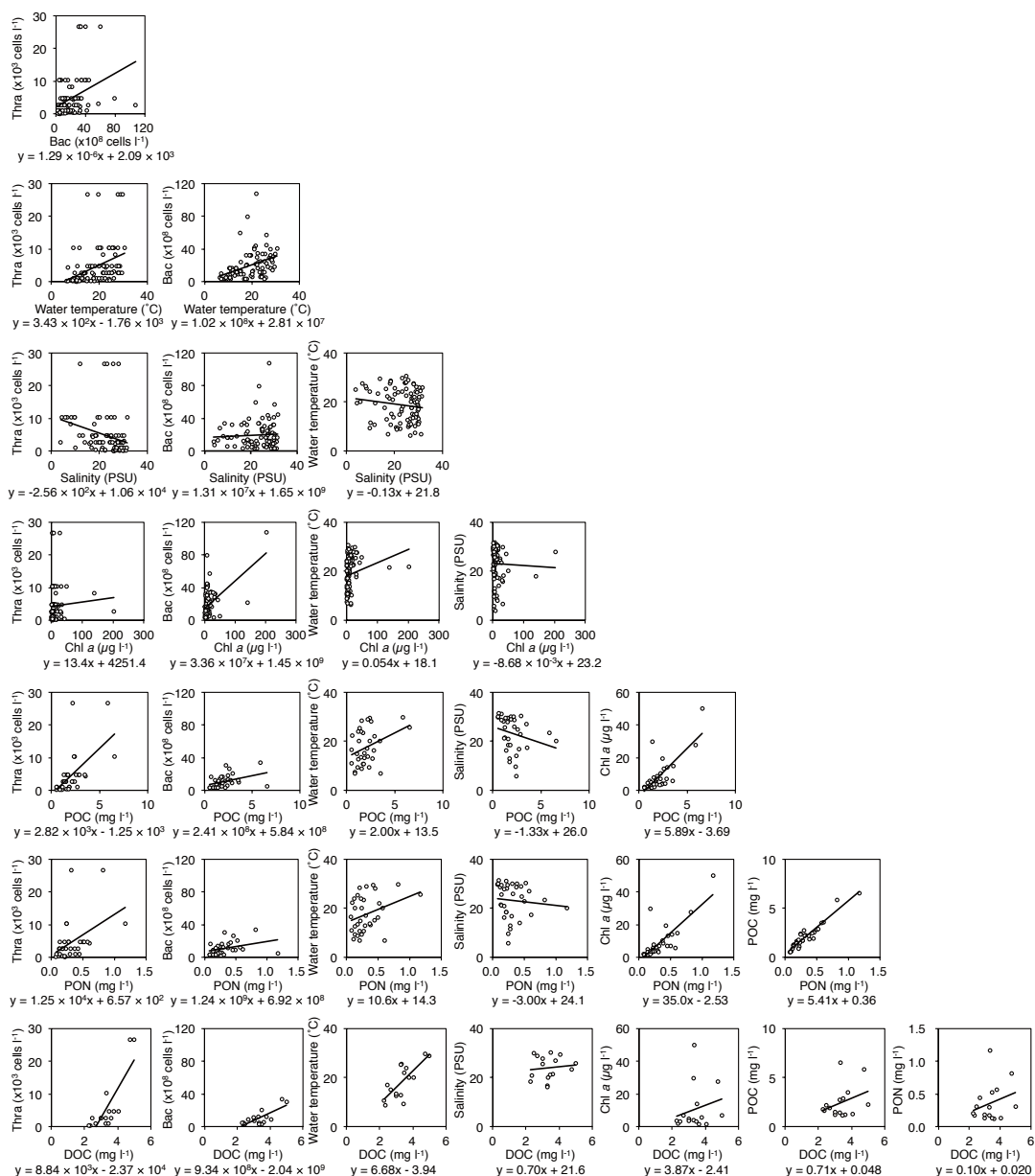
Mayumi Ueda, Yuka Nomura, Kosaku Doi, Masaki Nakajima, Daiske Honda\*

\*Corresponding author: dhonda@konan-u.ac.jp

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## Supplementary material 1.

Fig. S1. Correlations between decomposers (cell density of thraustochytrids and bacterioplankton) and environmental parameters (water temperature, salinity, chl *a* concentration, POC, PON, and DOC) at the Shukugawa River mouth, excluding data during spikes in thraustochytrid abundance.



## Supplementary tables

([www.int-res.com/articles/suppl/a074p187\\_supp2.xls](http://www.int-res.com/articles/suppl/a074p187_supp2.xls))

Table S1. Representative strains that were isolated in this study and used in the molecular phylogenetic analysis.

Table S2. Strains and DNA clones used in molecular phylogenetic analysis with accession numbers.

Table S3. Sampling data for the Shukugawa River mouth, showing water temperature, salinity, chlorophyll *a* concentration, and turbidity as measured by compact CTD. Thraustochyrid cell density was estimated using the MPN method with pine pollen. Lower and upper values of MPN estimation with 95% confidence levels are shown. Thraustochyrid and bacterioplankton biovolumes were calculated using 524 and  $0.1 \mu\text{m}^3$ , respectively (Naganuma et al. 1998, Naganuma & Miura 1997). Carbon and nitrogen biomass of thraustochytrids and bacterioplankton were calculated using  $1.65 \times 10^{-4} \mu\text{g C cell}^{-1}$  and  $1.58 \times 10^{-5} \mu\text{g N cell}^{-1}$ , and  $30.2 \text{ fg C cell}^{-1}$ , and  $5.8 \text{ fg N cell}^{-1}$ , respectively (Kimura et al. 1999, Fukuda et al. 1998). Ob1a and Ob1b are from the phylogenetic group Ob1, which was divided into two groups: 1) SEK 600, 707 and 708, and 2) SEK 709 and 710. The Ob3i phylogenetic group included an insertion and likely belongs to Ob3.

Table S4. Sampling data from Osaka Bay showing water temperature, salinity, chlorophyll *a* concentration, and turbidity as measured by compact CTD. CTD surface water values are the average taken between 0 and 0.5 m depth, and the bottom water values were taken from 2.0m (8B) or 1.0 m (15B) above the seabed. Thraustochyrid cell density was estimated using the MPN method with pine pollen. Lower and upper values of MPN estimation with 95% confidence levels are shown. Thraustochyrid and bacterioplankton biovolumes were calculated using 524 and  $0.1 \text{ m}^3$ , respectively (Naganuma et al. 1998, Naganuma & Miura 1997). Carbon and nitrogen biomass of thraustochytrids and bacterioplankton were calculated using  $1.65 \times 10^{-4} \mu\text{g C cell}^{-1}$  and  $1.58 \times 10^{-5} \mu\text{g N cell}^{-1}$ , and  $30.2 \text{ fg C cell}^{-1}$ , and  $5.8 \text{ fg N cell}^{-1}$ , respectively (Kimura et al. 1999, Fukuda et al. 1998). Ob1a and Ob1b are from the phylogenetic group Ob1, which was divided into two groups: 1) SEK 600, 707 and 708, and 2) SEK 709 and 710. The Ob3i phylogenetic group included an insertion and likely belongs to Ob3.

Table S5. Correlation coefficients of thraustochytrids (Thra), bacterioplankton (Bac), water temperature (Temp), salinity (Sali), and chl *a* concentration (Chl) at 8S of Osaka Bay.

Table S6. Correlation coefficients of thraustochytrids (Thra), bacterioplankton (Bac), water temperature (Temp), salinity (Sali), and chl *a* concentration (Chl) at 15S of Osaka Bay, excluding data during spikes in thraustochyrid abundance at 15S.