Concentration and retention of *Toxoplasma gondii* surrogates from seawater by red abalone (*Haliotis rufescens)*

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Supplementary Materials

Table S1. Results of the Shapiro-Wilk normality test, indicating that the data is significantly non-normal (*P* < 0.05) for all but two time-points (days 1 and 3). Because of the small size of the control group (n=3), the distribution of data is assumed to be non-normal amongst control animals as well.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data | Day | Number of Observations | W | *P*-value |
| Microsphere surrogates in feces (total number per abalone) | 0 | 12 | 0.650 | < 0.001\* |
| 1 | 12 | 0.930 | 0.382 |
| 2 | 12 | 0.844 | 0.031\* |
| 3 | 12 | 0.941 | 0.510 |
| 4 | 12 | 0.696 | < 0.001\* |
| 7 | 12 | 0.734 | 0.002\* |
| 11 | 12 | 0.709 | 0.001\* |
| 14 | 12 | 0.803 | 0.010\* |
| Microsphere concentration per mL feces | 0 | 12 | 0.650 | < 0.001\* |
| 1 | 12 | 0.828 | 0.020\* |
| 2 | 12 | 0.487 | < 0.001\* |
| 3 | 12 | 0.457 | < 0.001\* |
| 4 | 12 | 0.806 | 0.012\* |
| 7 | 12 | 0.743 | 0.002\* |
| 11 | 12 | 0.737 | 0.002\* |
| 14 | 12 | 0.719 | < 0.001\* |

\* Statistically significant (*P* < 0.05)

Table S2. Results of one-sided Wilcoxon rank sum tests employed to assess the significance of differences between fecal surrogate counts and concentrations of exposed (n = 12) and control (n=3) abalone at each time point.

|  |  |  |  |
| --- | --- | --- | --- |
| **Data** | **Day** | **W** | ***P*-value** |
| Microsphere surrogate counts in feces (total number per abalone) | 0 | 36 | 0.003\* |
| 1 | 36 | 0.006\* |
| 2 | 36 | 0.005\* |
| 3 | 29 |  |
| 4 | 19.5 | 0.442 |
| 7 | 28.5 | 0.057 |
| 11 | 25.5 | 0.114 |
| 14 | 27 | 0.083 |
| Microsphere concentration per mL feces | 0 | 36 | 0.003\* |
| 1 | 36 | 0.006\* |
| 2 | 36 | 0.006\* |
| 3 | 23.5 | 0.235 |
| 4 | 16 | 0.644 |
| 7 | 28.5 | 0.059 |
| 11 | 25.5 | 0.114 |
| 14 | 27 | 0.083 |

Table S3. Results of Shapiro-Wilk Normality test employed to assess the normality of data used in correlation analysis. A significance of *P* > 0.05 indicates that the null hypothesis of normal distribution cannot be rejected. Abalone size (both including and excluding controls), fecal productivity, and maximum surrogate count can therefore be assumed to be roughly parametric.

|  |  |  |  |
| --- | --- | --- | --- |
| **Data** | **No. of Observations** | **W** | ***P*-value** |
| Abalone Size (g) | 15 | 0.948 | 0.492 |
| Abalone Size (g) (exposed only) | 12 | 0.956 | 0.722 |
| Mean kelp intake (cm2/day) | 15 | 0.741 | *<* 0.001\* |
| Mean fecal productivity (mL/day) | 15 | 0.965 | 0.782 |
| Maximum surrogate count | 12 | 0.930 | 0.382 |
| Retention time (days) | 12 | 0.774 | 0.005\* |

\* Statistically significant (*P* < 0.05)



Figure S1. Plots of abalone mass versus: A) the mean area of kelp eaten in a 24-hour period; B) mean daily fecal productivity; C) the maximum number of surrogates observed in fecal samples from that abalone; and D) retention time, measured as the last time point at which surrogates were observed. *P*-values and either Kendall’s tau or Pearson’s r-values obtained from correlation analysis are shown for each plot. Dotted lines of best fit for plots A, B and C are included.