

Species-specific abundance of bivalve larvae in relation to biological and physical conditions in a Cape Cod estuary

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Supplement. Tables in this supplement represent all correlation coefficients for tests run in this study.

Table S1. Matrix of cross-correlation coefficients (r) for concentration and shell length data between sites for each species in 2007. All reported correlation coefficients were significant ($p < 0.05$) and adjusted for autocorrelation of the lowest frequency. Bold values were significant for the decorrelation time of the series. Integers in parentheses show if there was a significant lag between the sites in the columns and the rows. A positive lag means the sites in the columns lagged the sites in the rows by the factor, and a negative lag means the sites in the rows lagged behind the sites in the columns. NS: not significant

	Little River		Menauhant		Childs River	
	Conc.	Size	Conc.	Size	Conc.	Size
<i>Anomia simplex</i>						
Menauhant	0.73 (–3)	0.73 (–2) 0.67 (–1) 0.61 (0)				
Childs River	NS	NS				
Waquoit Bay	0.52 (–1)	0.65 (–3) 0.91 (–2) 0.78 (–1) 0.58 (0)				
<i>Geukensia demissa</i>						
Menauhant	0.71 (1)	0.58 (–3)				
Childs River	0.51 (1)	0.68 (–1)				
Waquoit Bay	0.62 (0)	0.63 (–1)	0.53 (–1) 0.76 (–1)	0.65 (0)	NS	NS
<i>Mercenaria mercenaria</i>						
Menauhant	0.54 (1)	NS				
Childs River	0.66 (2)	NS				
Waquoit Bay	0.73 (1)	NS				

Table S2. Matrix of cross-correlation coefficients (r) for concentration and shell length data between sites for each species in 2009. All reported correlation coefficients were significant ($p < 0.05$) and adjusted for autocorrelation of the lowest frequency. Bold values were significant for the decorrelation time of the series. Integers represent if there was a significant lag between the sites in the columns and the rows. See Table S1 caption for description of lags. NS: not significant

	Little River		Menauhant		Childs River	
	Conc.	Size	Conc.	Size	Conc.	Size
<i>Anomia simplex</i>						
Menauhant	0.84 (-2)	0.65 (-1) 0.81 (0) 0.75 (1) 0.54 (2)				
Childs River	0.83 (-2)	NS				
Waquoit Bay	0.79 (0)	0.67 (-1) 0.88 (0) 0.63 (1)	0.66 (0) 0.67 (1)	0.59 (0) 0.67 (-2) 0.85 (-1) 0.88 (0) 0.73 (1)	0.55 (1)	NS
<i>Geukensia demissa</i>						
Menauhant	0.79 (-1) 0.75 (0)	0.59 (0) 0.61 (1)				
Childs River	0.56 (1)	0.67 (0) 0.71 (1)				
Waquoit Bay	0.73 (-1) 0.94 (0) 0.60 (1)	0.66 (0) 0.64 (1) 0.68 (2)	0.74 (0) 0.80 (1)	0.57 (-1) 0.80 (0) 0.81 (1) 0.61 (2)	0.62 (-2) 0.56 (0)	0.71 (0) 0.69 (1)
<i>Mercenaria mercenaria</i>						
Menauhant	0.67 (-2) 0.79 (-1) 0.71 (0)	0.52 (0) 0.49 (1)				
Childs River	0.63 (-1)	NS				
Waquoit Bay	0.61 (-1) 0.76 (0) 0.85 (1)	0.79 (0)	NS 0.87 (1) 0.85 (2)	NS 0.41 (-1) 0.56 (0)	NS	NS

Table S3. Significant Pearson correlation coefficients (r) from cross-correlations of larval concentrations to temperature, salinity and chlorophyll time series for each species in 2007. Correlations were performed between full time series as well as independent samples only when larvae were present. All reported correlations were significant at $p < 0.05$. Numbers in front of cross-correlations represent the lag of the larval time series with respect to the physical series (i.e. a lag of -1 would mean larval concentration lagged the physical time series by one week). No correlations were significant when accounting for full decorrelation time of each time series.

	<i>Anomia simplex</i>	<i>Geukensia demissa</i>	<i>Mercenaria mercenaria</i>
Temperature			
Little River	0.58 (0)	0.76 (0)	0.48 (-1)
		0.60 (1)	0.58 (0)
		0.60 (2)	
Menauhant	0.72 (0)	0.65 (0)	0.62 (0)
Childs River		0.78 (0)	
Waquoit Bay	0.63 (-1)	0.58 (-1)	
	0.65 (0)	0.77 (0)	
Salinity			
Menauhant	-0.62 (0)		
Chlorophyll			
Childs River	0.47 (0)		
Waquoit Bay		-0.44 (0)	

Table S4. Significant Pearson correlation coefficients (r) from cross-correlations of larval concentrations to temperature and chlorophyll for each species in 2009. No significant correlations were observed with salinity. Correlations were performed between full time series as well as independent samples only when larvae were present. All reported correlations were significant at $p < 0.05$. See table S3 for description of lags. Time-series were adjusted for autocorrelation of the lowest frequency for both time-series. Bold values indicate significant correlations accounting for full decorrelation time.

	<i>Anomia simplex</i>	<i>Geukensia demissa</i>	<i>Mercenaria mercenaria</i>
Temperature			
Little River	0.66 (0)	0.54 (-2)	
		0.72 (-1)	
		0.83 (0)	
		0.79 (1)	
		0.62 (2)	
Menauhant	0.61 (0)	0.73 (-1)	0.60 (0)
	0.64 (1)	0.83 (0)	0.62 (1)
	0.68 (2)	0.80 (1)	
	0.69 (3)	0.64 (2)	
	0.63 (4)		
Childs River	0.55 (0)	0.57 (-2)	0.55 (-3)
		0.74 (-1)	0.54 (-2)
		0.85 (0)	0.57 (-1)
		0.77 (1)	0.65 (0)
		0.61 (2)	0.54 (1)
Waquoit Bay	0.68 (0)	0.58 (-2)	0.61 (0)
	0.71 (1)	0.73 (-1)	0.59 (1)
	0.73 (2)	0.84 (0)	
	0.69 (3)	0.83 (1)	
		0.73 (2)	
Chlorophyll			
Little River			-0.66 (1)
Childs River			-0.44 (-2)
			-0.51 (-1)