

1 Table S1. *Emiliana huxleyi* N and C content (pg/cell)

Treatment	Time (hours p.i.)	Replicate	pg N/cell	pg C/cell	Mean \pm SD pg N/cell	Mean \pm SD pg C/cell
Eh inf	0	A	1.580	9.190	1.507 \pm 0.077	9.268 \pm 0.1898
		B	1.550	9.580		
		C	1.500	9.036		
		D	1.555	9.165		
		E	1.366	9.368		
		F	1.488	9.270		
	24	A	1.945	11.102	1.889 \pm 0.129	10.856 \pm 0.430
		B	1.755	10.758		
		C	1.782	10.991		
		D	2.093	10.216		
		E	1.816	10.607		
		F	1.945	11.461		
Eh non-inf	0	A	1.480	8.559	1.507 \pm 0.050	8.940 \pm 0.936
		B	1.573	8.242		
		C	1.434	8.988		
		D	1.551	10.778		
		E	1.511	8.681		
		F	1.494	8.394		
	24	A	2.053	10.686	2.088 \pm 0.072	10.415 \pm 0.258
		B	1.997	10.410		
		C	2.110	10.714		
		D	2.212	10.173		
		E	2.088	10.427		
		F	2.067	10.082		

2 *Emiliana huxleyi* non-infected (Eh non-inf); *Emiliana huxleyi* infected with EhV-86 (Eh inf). Time indicate hours
3 post-infection. Values are mean \pm one standard deviation.
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14 Table S2. *Oxyrrhis marina*'s average growth (day^{-1}) and grazing rates (Eh cells $\text{Om}^{-1} \text{h}^{-1}$)
 15 (experiment1) or Eh cells $\text{Om}^{-1} \text{day}^{-1}$ (experiments 2 – 4) for each experiment under both diet
 16 conditions.

	Experiment 1		Experiment 2		Experiment 3		Experiment 4	
	Om + Eh	Om + Eh	Om + Eh	Om + Eh	Om + Eh	Om + Eh	Om + Eh	Om + Eh
	non-inf	inf	non-inf	inf	non-inf	inf	non-inf	inf
Growth	NA	NA	0.433 ± 0.020	0.563 ± 0.025	0.325 ± 0.005	0.466 ± 0.006	0.2826 ± 0.068	0.540 ± 0.052
Grazing	14.880 ± 1.570	14.480 ± 0	57.873 ± 1.067	41.163 ± 2.545	50.877 ± 2.106	25.241 ± 0.648	72.263 ± 6.963	52.821 ± 2.760
Growth/Grazing	NA	NA	0.0075 ± 0.0001	0.0140 ± 0.0008	0.0068 ± 0.0005	0.0231 ± 0.0004	0.0051 ± 0.0010	0.0130 ± 0.0008

17 *Oxyrrhis marina* (Om); *Emiliana huxleyi* non-infected (Eh non-inf); *Emiliana huxleyi* infected with EhV-86 (Eh
 18 inf). Values are mean \pm one standard deviation.

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34 Table S3. *Oxyrrhis marina*'s growth (day^{-1}) and grazing rates (Eh cells $\text{Om}^{-1} \text{day}^{-1}$ or Bact cells
35 $\text{Om}^{-1} \text{day}^{-1}$) during experiment 5.

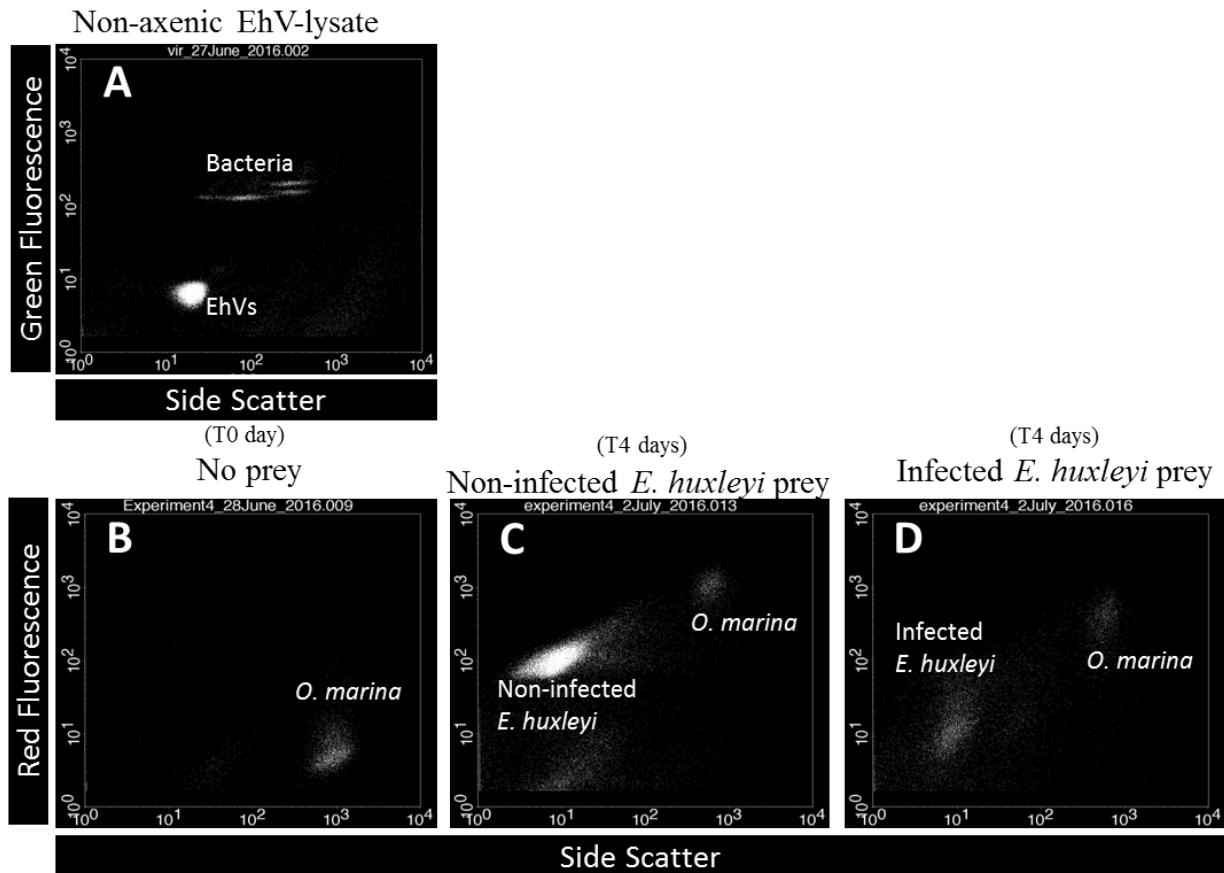
Experiment 5										
	Om + Eh inf					Om + < 0.4 μm filt				
Day	1	2	3	4	Average	1	2	3	4	Average
Growth	0.57 \pm 0.02	0.34 \pm 0.05	0.11 \pm 0.06	0.49 \pm 0.11	0.38 \pm 0.02	0.04 \pm 0.43	0.40 \pm 0.42	0.06 \pm 0.19	nd	0.10 \pm 0.05
Grazing <i>E. huxleyi</i>	49.4 \pm 1.56	60.8 \pm 2.07	93.3 \pm 5.02	56.2 \pm 2.86		3.5 \pm 4.04	nd	nd	nd	
Grazing Bacteria	226 \pm 64.51	nd	nd	nd		767 \pm 130.34	nd	3010 \pm 869.17	3132 \pm 455.02	

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37 *Oxyrrhis marina* (Om); *Emiliania huxleyi* infected with EhV-86 (Eh inf); < 0.4 μm filtrate of *Emiliania huxleyi*
38 culture infected with EhV-86 (Om + < 0.4 μm filt). Daily average values are mean of biological replicates for each
39 day \pm one standard deviation. "Average" values are the mean of the biological replicates \pm one standard deviation
40 of the averages of the biological replicates.

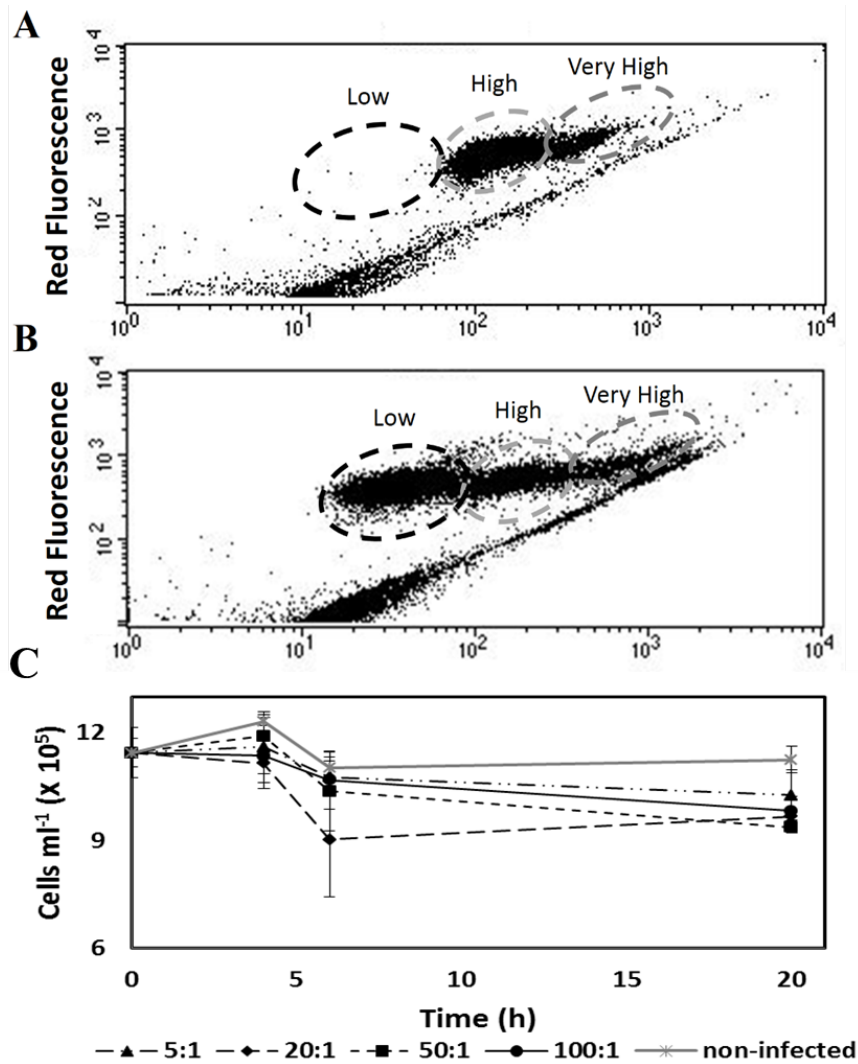
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44 Fig. S1. Representative biparametric flow cytometry dotplots from Exp. 4, showing populations
 45 of **A**: *E. huxleyi* viruses (EhVs) and bacteria, based on SYBR Green I fluorescence *versus* side
 46 scatter; **B**: *O. marina* 3-day starved at the beginning of the experiment (T0), based on
 47 chlorophyll fluorescence *versus* side scatter; **C**: *O. marina* and non-infected *E. huxleyi*, based on
 48 chlorophyll fluorescence *versus* side scatter, on the last experimental day (T4); **D**: *O. marina* and
 49 virally infected *E. huxleyi*, based on chlorophyll fluorescence *versus* side scatter, on the last
 50 experimental day (T4).



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52 Fig. S2. **A:** Non-infected *E. huxleyi* and **B:** EhV infected *E. huxleyi* representative FCM dotplots53 of *E. huxleyi* stained with lipid fluorescent dye FM1-43 20 h p.i. X-axis is relative orange

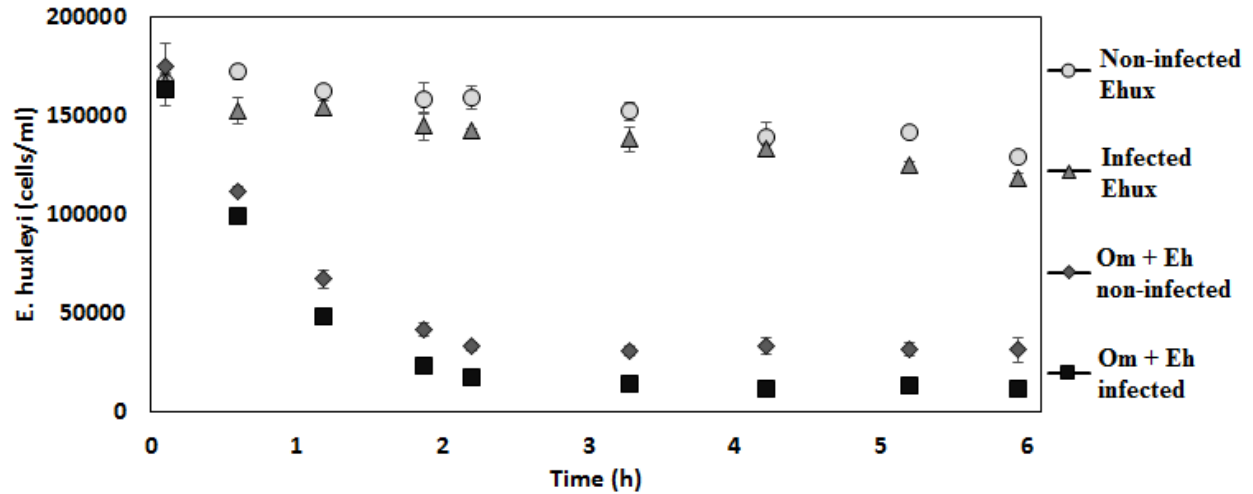
54 fluorescence and Y-axis is relative red fluorescence. Higher abundances of cells exhibiting a

55 very high or low orange fluorescence compared to non-infected cells are considered visibly

56 infected. **C:** Total *E. huxleyi* cell abundance over a 20 h period of time in non-infected cultures

57 and in cultures virally infected at virus:host ratios of 5:1, 20:1, 50:1, and 100:1. Biological

58 triplicates were enumerated for each treatment. Values are mean \pm one standard deviation.



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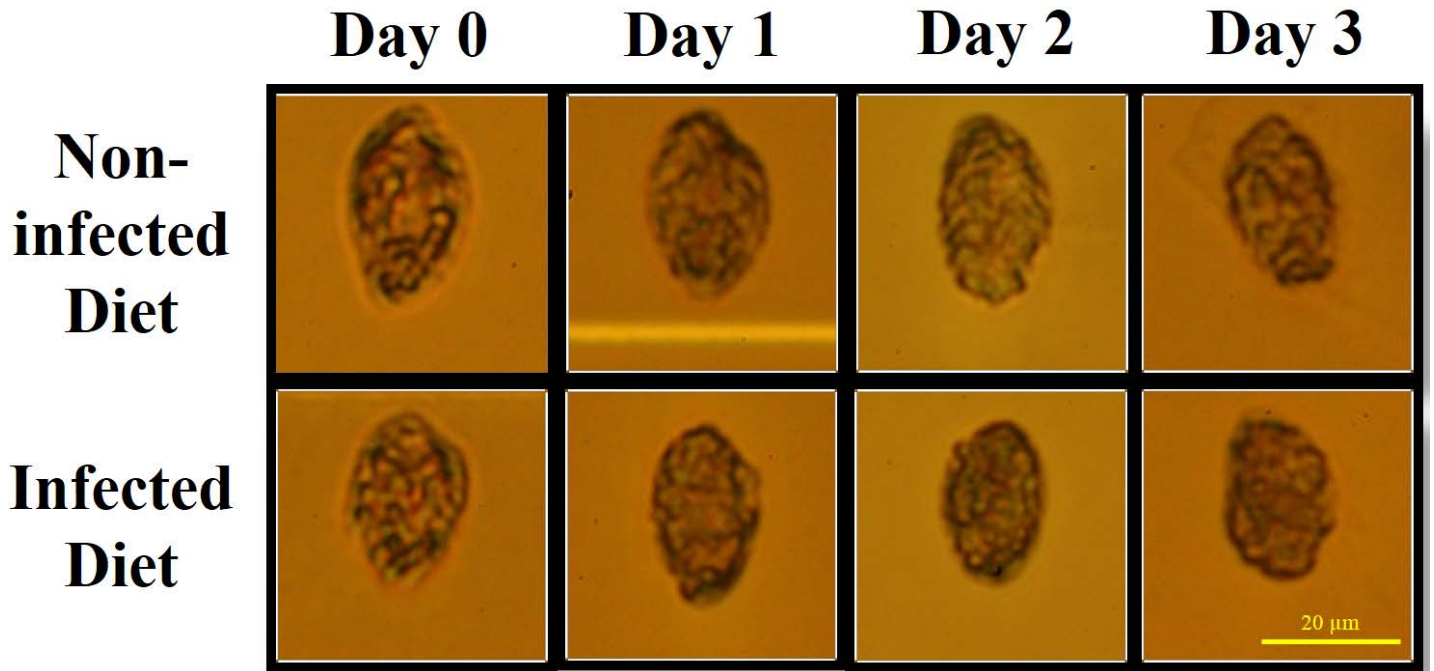
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70 Fig. S3. *E. huxleyi* concentration (cells ml⁻¹) over time (hours) during experiment 1. *Oxyrrhis*

71 *marina* (Om); *Emiliana huxleyi* (Eh). Values are mean ± one standard deviation. Measurable

72 grazing occurred during the initial 1.9 h p.i.



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84 Fig. S4. Representative *O. marina* pictures taken for volume measurements.

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