

Supplementary Information

Table S1. Results by sampling site obtained during Spring Tide regime. Data account for the sampling sites where plankton community was analyzed by Flow CAM methodology.

Spring Tides																		
Stations	1	3	5	6	8	9	10	12	13	14	17	23	24	25	26	27	28	41
Diatom cell densities ($\times 10^3$ cell L⁻¹) and biovolume ($\times 10^6$ μm^3 L⁻¹)																		
Abundance	50.9	2.0	0.7	9.5	1.7	2.0	0.5	0.7	2.6	10.2	0.3	5.9	0.7	7.6	1.5	1.6	5.1	0.9
Biovolume	6,350,626	88.3	71.8	1,428,711	71.3	324.4	8.5	8.4	89.0	2,298,395	9.0	211,611	25.8	513.0	89.2	121.4	619.3	102.3
% Microplanktonic community (abundance)																		
Diatoms	95.9	63.9	68.5	87.2	79.7	80.7	54.6	51.1	89.4	82.2	54.8	93.8	84.3	88.9	69.9	66.5	89.3	68.8
Dinoflagellates	2.0	8.7	20.5	9.5	16.2	12.3	21.0	11.3	5.4	3.6	24.9	5.0	10.7	8.1	18.6	19.6	7.8	23.8
Grazers	0.5	0.3	1.4	1.1	2.4	1.2	1.9	1.8	0.0	0.3	4.5	0.4	2.2	0.3	1.7	0.5	1.1	4.7
% Microplanktonic community (biovolume)																		
Diatoms	99.6	85.7	65.7	99.9	28.6	72.8	30.8	19.5	74.3	99.9	20.6	99.9	51.5	73.5	46.7	54.9	87.2	50.3
Dinoflagellates	0.3	8.3	12.9	0.0	42.8	16.0	7.0	11.7	13.5	0.0	28.3	0.0	34.3	10.7	25.0	16.9	2.9	13.9
Grazers	0.00	2.2	3.8	0.0	28.3	10.0	39.9	22.3	5.5	0.0	46.9	0.0	10.5	12.9	23.8	22.3	7.5	25.3
pPUAs from cells from 1 L																		
HD	1.9	0.2	0.5	0.9	0.9	1.05	1.4	0.3	0.3	0.4	0.1	0.5	0.02	0.03	0.8	0.5	0.8	0.02
OD	3.1	0.01	0.00	1.1	0.2	0.2	1.2	0.02	0.1	0.2	0.00	1.2	0.1	0.05	0.00	0.06	0.2	0.005
DD	6.3	0.09	0.4	1.5	1.9	1.6	2.4	1.4	1.1	1.2	0.01	1.8	1.6	1.4	1.4	1.6	1.5	0.02
Total PUAs	11.4	0.3	0.9	3.7	3.2	3.0	5.0	1.7	1.6	1.8	0.1	3.6	1.8	1.5	2.3	2.2	2.6	0.05
PUAs per cells (fmol cell⁻¹)																		
HD	0.03	0.1	0.6	0.1	0.5	0.5	2.7	0.4	0.1	0.04	0.3	0.09	0.03	0.004	0.5	0.3	0.1	0.02
OD	0.06	0.006	0.01	0.1	0.1	0.1	2.3	0.03	0.04	0.02	0.001	0.2	0.2	0.007	0.003	0.03	0.04	0.005
DD	0.1	0.04	0.5	0.1	1.1	0.8	4.7	1.9	0.4	0.1	0.05	0.3	2.0	0.1	0.9	1.0	0.2	0.02
Total PUAs	0.2	0.1	1.2	0.3	1.7	1.4	9.8	2.3	0.6	0.1	0.3	0.6	2.3	0.2	1.5	1.3	0.5	0.05

Table S1. Cont.

Spring Tides																		
Stations	1	3	5	6	8	9	10	12	13	14	17	23	24	25	26	27	28	41
Chlorophyll ($\mu\text{g L}^{-1}$)																		
Chla > 20 μm	0	0.02	0	0.3	0.06	0.04	0.01	0.01	0.1	0.2	0.04	0.3	0.07	0.2	0.04	0.09	0.2	0.07
Chla Total	4.2	0.1	0.4	2.1	0.5	0.2	0.4	0.3	0.9	3.9	0.4	2.3	1.0	1.5	1.1	1.3	1.4	1.0
% Active	65.0	0	0	54.9	19.8	0	22.2	17.3	30.7	49.6	0	46.6	17.1	22.1	23.6	18.3	34.6	27.3
Chlorophyll																		
Nutrients (μM)																		
Nitrate	0.8	0.5	2.5	1.2	3.8	0.2	1.0	3.1	2.1	2.4	-	2.2	1.4	0.9	0.4	0.2	1.6	1.7
Phosphate	nd	0.09	nd	nd	nd	nd	nd	nd	nd	nd	-	nd	nd	nd	nd	0.3	0.1	nd
Silicate	1.5	1.0	4.6	3.5	3.0	2.8	2.2	1.9	3.3	3.7	-	1.2	1.0	0.7	0.8	1.1	2.0	1.7

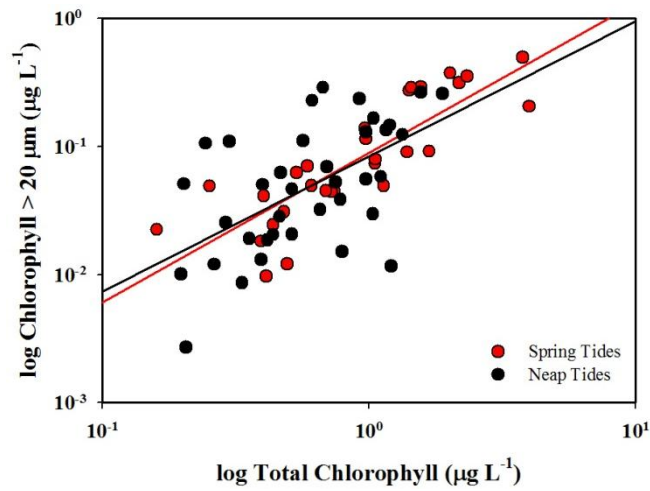
Table S2. Results by sampling site obtained during Neap Tide regime. Data account for the sampling sites where plankton community was analyzed by Flow CAM methodology.

Neap Tides																
Stations	1	5	6	8	9	10	14	19	23	24	25	26	28	36	41	
Diatom cell densities ($\times 10^3 \text{ cell L}^{-1}$) and biovolume ($\times 10^6 \mu\text{m}^3 \text{ L}^{-1}$)																
Abundance	1.1	0.3	5.9	6.8	1.2	0.4	11.3	5.6	1.1	0.9	1.8	5.1	0.6	0.2	1.0	
Biovolume	26.4	2.1	996.7	952.1	86.2	14.6	784.5	186.6	40.7	22.7	162.8	867.4	12.7	6.9	250.0	
% Microplanktonic community (abundance)																
Diatoms	61.6	44.7	86.5	89.0	62.9	68.8	89.7	86.1	72.0	79.3	66.7	90.8	66.7	34.6	78.3	
Dinoflagellates	25.2	22.3	9.4	9.5	27.3	23.1	7.7	11.9	21.3	16.1	29.5	8.0	18.0	59.7	12.5	
Grazers	1.4	13.4	2.0	0.9	4.2	1.1	0.5	0.5	3.9	2.2	1.0	0.3	3.3	4.1	4.6	
% Microplanktonic community (biovolume)																
Diatoms	28.1	8.7	87.7	88.4	35.3	28.6	84.6	63.8	33.5	38.5	40.2	93.0	26.5	7.7	68.0	
Dinoflagellates	20.9	49.9	2.4	3.5	16.3	19.2	4.9	16.3	24.1	11.5	27.6	1.9	15.0	44.6	10.9	
Grazers	31.4	31.0	8.9	5.4	41.0	29.1	8.9	17.1	35.3	39.7	27.6	1.4	52.5	31.6	16.6	

Table S2. Cont.

Neap Tides															
Stations	1	5	6	8	9	10	14	19	23	24	25	26	28	36	41
<i>p</i> PUAs from cells from 1 L															
HD	1.1	0.03	1.6	0.8	0.5	0.4	0.9	1.4	0.002	0	1.5	3.1	0.01	1.2	1.1
OD	1.1	0.001	1.5	0.02	0.02	0.000	0.3	0.04	0.02	0.01	0.3	1.7	0.02	0.1	1.3
DD	3.0	0.01	5.7	1.0	1.2	0.01	1.9	2.0	0.3	0.5	4.9	4.9	0.5	0.3	2.4
Total PUAs	5.4	0.04	8.8	1.8	1.8	0.4	3.2	3.5	0.3	0.5	6.8	9.8	0.5	1.7	5.0
PUAs per cells (fmol cell ⁻¹)															
HD	0.9	0.08	0.2	0.1	0.4	0.9	0.08	0.2	0.002	0.006	0.8	0.5	0.01	5.3	1.1
OD	1.0	0.003	0.2	0.004	0.02	0.002	0.03	0.007	0.01	0.01	0.1	0.3	0.04	0.7	1.3
DD	2.6	0.04	0.9	0.1	0.9	0.03	0.1	0.3	0.3	0.6	2.6	0.9	0.8	1.3	2.4
Total PUAs	4.6	0.1	1.4	0.2	1.4	0.9	0.2	0.6	0.3	0.6	3.6	1.8	0.9	7.3	4.8
Chlorophyll (µg L ⁻¹)															
Chla > 20 µm	0.03	0.002	0.2	0.1	0.05	0.03	0.1	0.2	0.1	0.04	0.1	0.2	0	0.01	0.2
Chla Total	0.6	0.2	0.6	1.2	0.9	0.7	0.5	0.9	0.9	0.5	1.1	1.8	0.5	0.2	0.6
% Active Chlorophyll	0	0	36.3	31.1	0	20.1	0	0	14.3	0	0	27.7	0	0	0
Nutrients (µM)															
Nitrate	0.1	0	0	0.8	0	0.09	1.1	1.9	2.0	0	0.05	1.3	1.0	0	0.09
Phosphate	nd	nd	nd	nd	nd	0.2	0.04	0.03	0.1	0.08	nd	nd	nd	0.04	nd
Silicate	1.7	1.6	0.7	1.1	1.2	1.4	1.6	3.5	2.8	2.9	1.3	3.3	1.6	24.1	5.3

Figure S1. Relation between total and fractionated chlorophyll in the sampled stations during Spring tide (red symbols) and Neap tide (Black symbols) regimes.

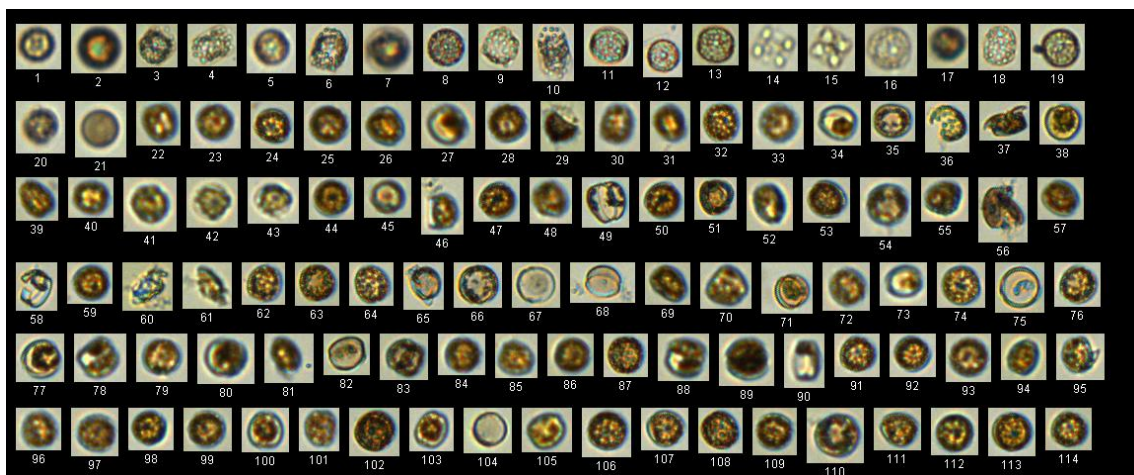


$$[y = 1.16x - 1.05; R^2 = 0.7] \tag{1}$$

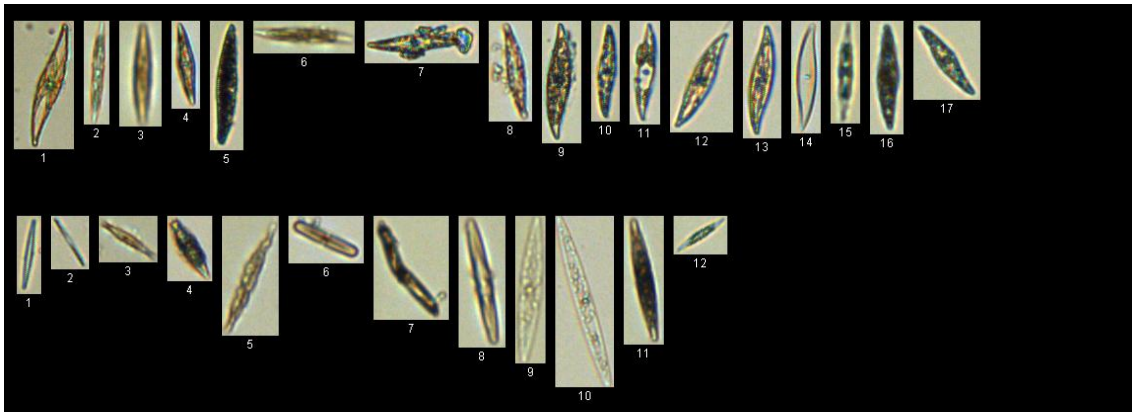
$$[y = 1.05x - 1.07; R^2 = 0.3] \tag{2}$$

Main groups used for microplankton classifications. All the images have been selected from the libraries used for the automatic classification. Vignettes presented here were taken with $\times 40$ and $\times 100$ magnification so are not comparable in size terms.

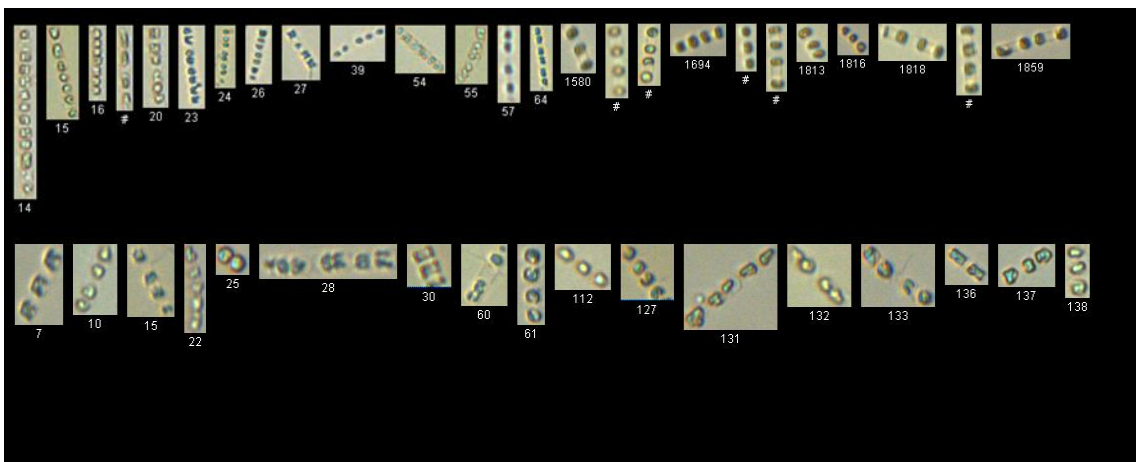
S1. Centrics Single Diatoms



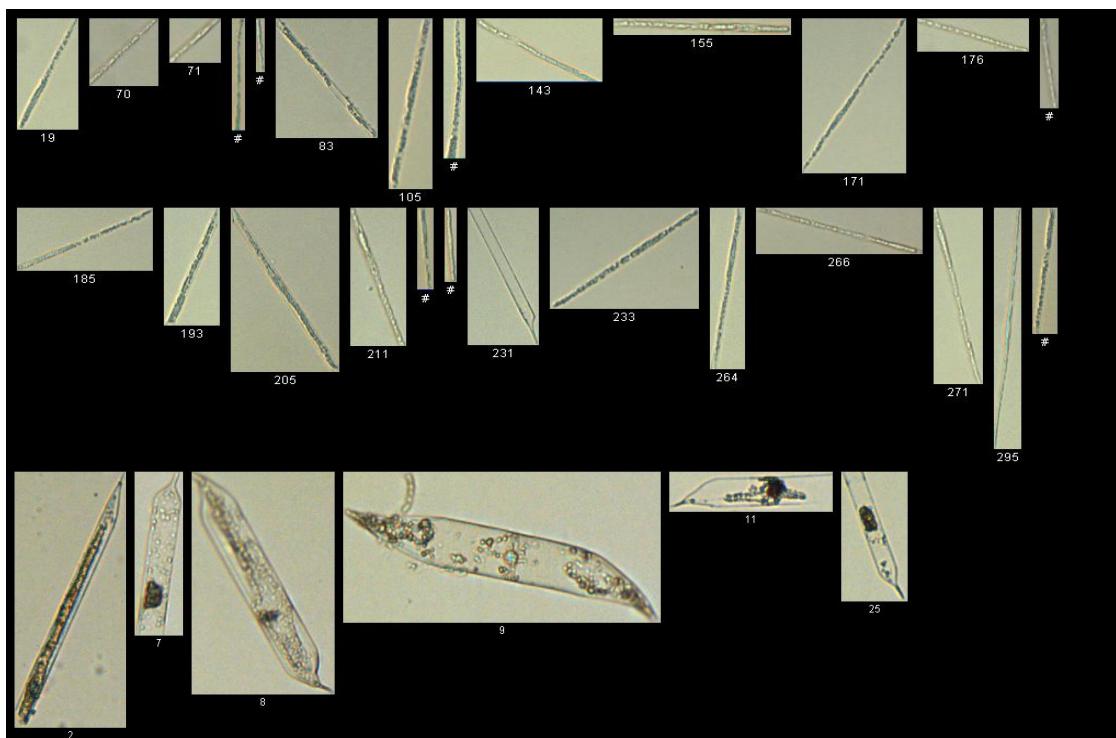
S2. Pennate Diatoms



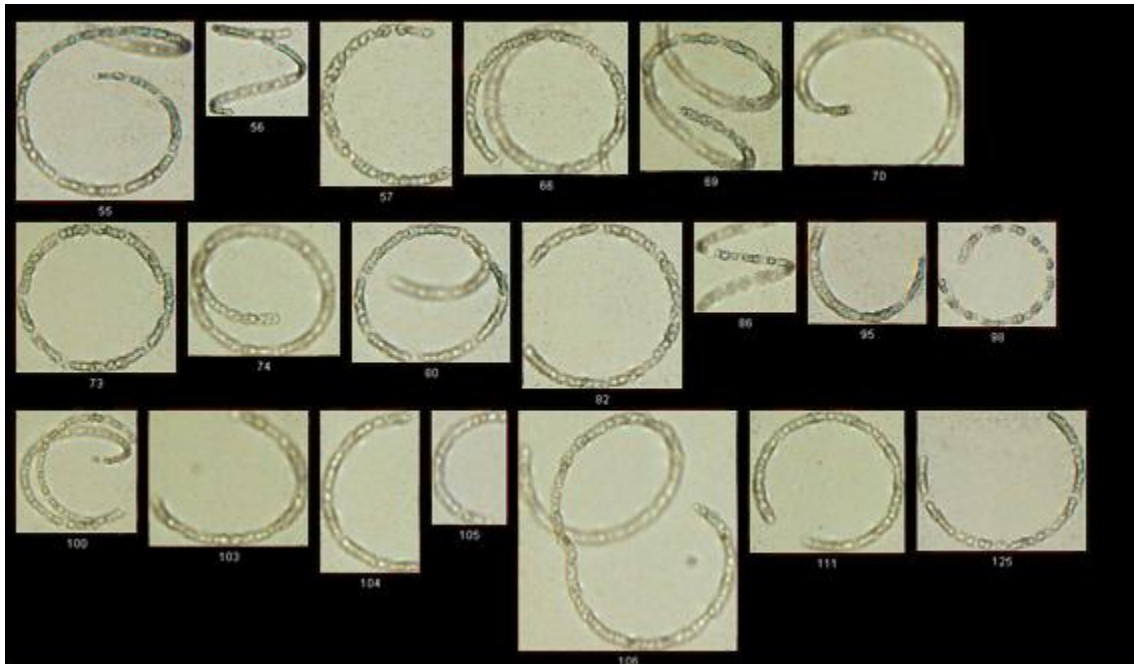
S3. Lineal Small Cells Chains



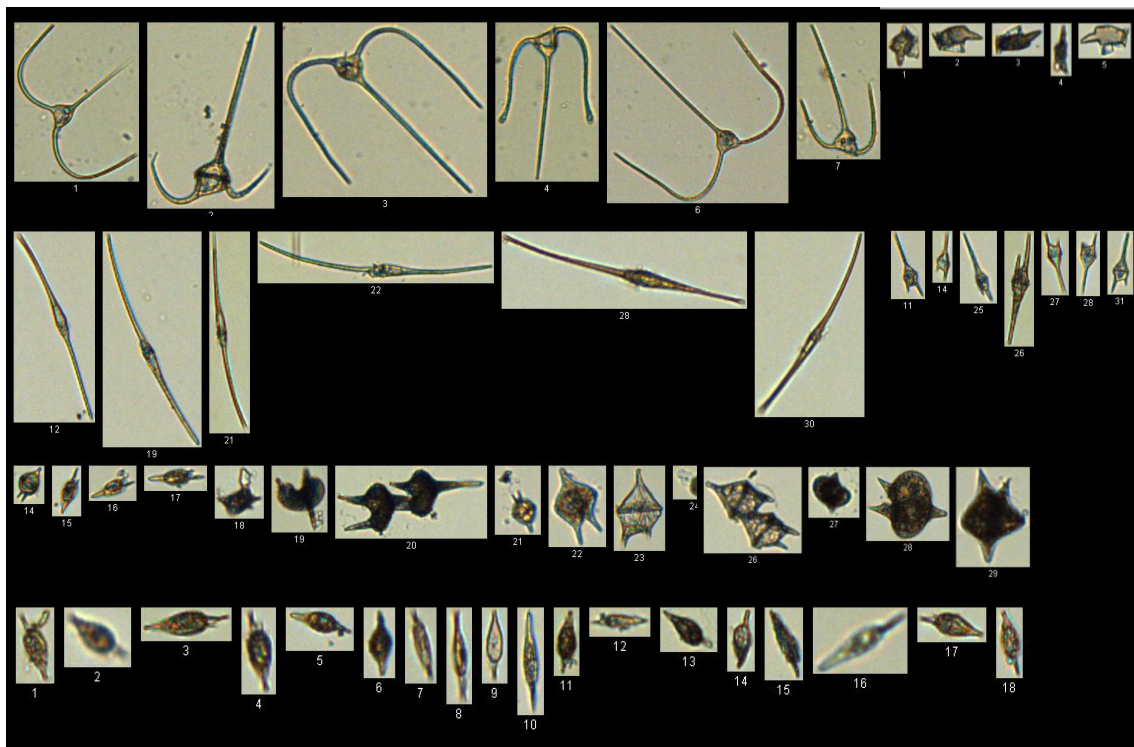
S4. Large Individual and Lineal Chains of Large Cells



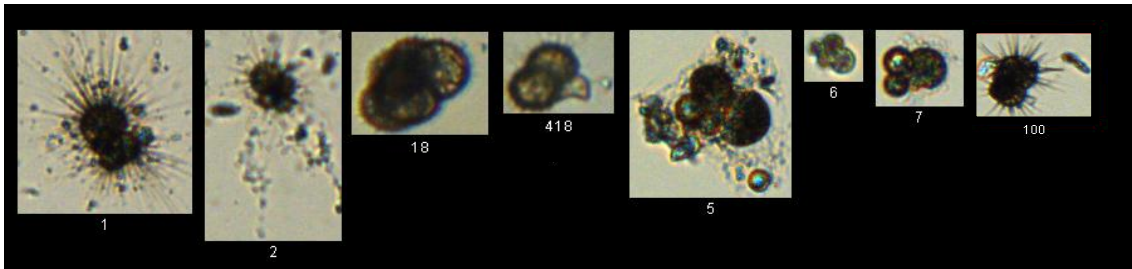
S5. Helical Chains



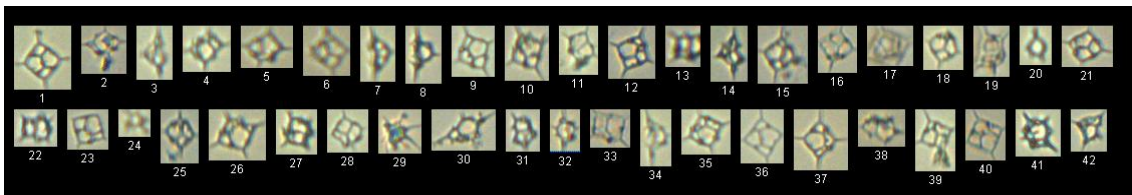
S6. Dinoflagellates



S7. Foraminifera



S8. Silicoflagellata



S9. Zooplankton (Copepods + Tintinnids)

