



Supplementary Material

Biodiversity and Abundance of Plankton Communities along the Coastal Waters of Gulf of Aqaba, Saudi Arabia

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Supplementary Table I.- List of different phytoplankton species observed during the study period. +, presence of the particular species; -, absence of the particular species.

Bacillariophyceae	Station 1	Station 2	Station 3	Station 4
Centric diatoms				
<i>Bacteriastrum comosum</i> J.Pavillard, 1916	+	-	+	-
<i>Bacteriastrum elongatum</i> Cleve, 1897	+	-	-	-
<i>Bacteriastrum delicatulum</i> Cleve, 1897	-	+	+	-
<i>Bacteriastrum furcatum</i> Shadbolt, 1854	+	+	+	+
<i>Bacteriastrum hyalinum</i> Lauder, 1864	+	-	+	-
<i>Cerataulina dentata</i> Hasle	+	-	-	-
<i>Chaetoceros affinis</i> Lauder, 1864	+	+	+	-
<i>Chaetoceros atlanticus</i> Cleve, 1873	+	+	+	+
<i>Chaetoceros coarctatus</i> Lauder, 1864	-	+	+	-
<i>Chaetoceros compressus</i> Lauder, 1864	-	-	-	+
<i>Chaetoceros convolutus</i> Castracane, 1886	-	-	-	+
<i>Chaetoceros criophilus</i> Castracane, 1886	+	-	+	+
<i>Chaetoceros decipiens</i> Cleve, 1873	+	+	+	-
<i>Chaetoceros dictyota</i> Ehrenberg, 1844	-	-	+	+
<i>Chaetoceros didymus</i> Ehrenberg, 1845	+	-	+	+
<i>Chaetoceros lacinosus</i> F.Schütt, 1895	-	-	+	-
<i>Chaetoceros lorenzianus</i> Grunow, 1863	+	+	+	-
<i>Chaetoceros messanense</i> Castracane, 1875	+	-	+	-
<i>Chaetoceros mitra</i> (Bailey) Cleve, 1896	-	-	+	-
<i>Chaetoceros neglectus</i> Karsten, 1905	-	-	-	+
<i>Chaetoceros peruvianus</i> Brightwell, 1856	+	-	+	+
<i>Chaetoceros pseudocurvisetus</i> Mangin, 1910	-	+	-	-
<i>Chaetoceros radicans</i> F.Schütt, 1895	-	-	-	+
<i>Chaetoceros teres</i> Cleve, 1896	-	-	-	+
<i>Chaetoceros tetrastichon</i> Cleve, 1897	-	+	+	+
<i>Chaetoceros tortissimus</i> Gran, 1900	+	-	-	-

Bacillariophyceae	Station 1	Station 2	Station 3	Station 4
<i>Coscinodiscus granii</i> Gough, 1905	-	-	+	-
<i>Coscinodiscus marginatus</i> Ehrenberg, 1844	+	-	-	-
<i>Coscinodiscus radiatus</i> Ehrenberg, 1840	+	-	-	-
<i>Dactyliosolen blavyanus</i> (H.Peragallo) Hasle, 1975	-	-	+	-
<i>Dactyliosolen fragilissimus</i> (Bergon) Hasle, 1996	+	+	+	+
<i>Ethmodiscus gazellae</i> (C.Janisch ex Grunow) Hustedt, 1928	+	-	-	-
<i>Guinardia cylindrus</i> (Cleve) Hasle, 1996	+	+	+	-
<i>Guinardia delicatula</i> (Cleve) Hasle, 1997	+	+	+	-
<i>Guinardia flaccida</i> (Castracane) H.Peragallo, 1892	+	+	+	+
<i>Guinardia striata</i> (Stolterfoth) Hasle, 1996	-	+	+	-
<i>Hemiaulus hauckii</i> Grunow ex Van Heurck, 1882	+	+	+	+
<i>Hemiaulus indicus</i> Karsten, 1907	-	-	+	-
<i>Hemiaulus membranaceus</i> Cleve	-	-	+	+
<i>Hemidiscus cuneiformis</i> Wallich, 1860	-	-	-	+
<i>Leptocylindrus danicus</i> Cleve, 1889	+	-	-	-
<i>Leptocylindrus mediterraneus</i> (H.Peragallo) Hasle, 1975	+	+	+	+
<i>Leptocylindrus minimus</i> Gran, 1915	+	+	+	+
<i>Planktoniella sol</i> (C.G.Wallich) Schütt, 1892	-	-	-	+
<i>Proboscia alata</i> (Brightwell) Sundström, 1986	+	+	+	+
<i>Pseudosolenia calcar-avis</i> (Schultze) B.G.Sundström, 1986	-	-	+	+
<i>Rhizosolenia acuminata</i> (H.Peragallo) H.Peragallo, 1907	-	-	+	-
<i>Rhizosolenia bergonii</i> H.Peragallo, 1892	-	-	+	-
<i>Rhizosolenia borealis</i> B.G.Sundström, 1986	-	-	+	-
<i>Rhizosolenia clevei</i> Ostefeld, 1902	-	-	+	-
<i>Rhizosolenia debyana</i> H.Peragallo, 1892	+	-	-	-
<i>Rhizosolenia hebetata</i> Bailey, 1856	+	+	+	-
<i>Rhizosolenia setigera</i> Brightwell, 1858	-	+	+	-
<i>Rhizosolenia styliformis</i> T.Brightwell, 1858	+	+	+	+
<i>Skeletonema costatum</i> (Greville) Cleve, 1873	-	-	+	-
<i>Thalassiosira</i> Cleve, 1873	-	-	+	-
<i>Thalassiosira subtilis</i> (Ostefeld) Gran, 1900	+	+	+	+
Pennate diatoms				
<i>Amphiprora gigantea</i> Grunow, 1860	-	-	+	-
<i>Amphora</i> C.G. Ehrenberg ex F.T. Kützing, 1844	-	-	+	-
<i>Asterionellopsis glacialis</i> (Castracane) Round, 1990	-	-	+	+
<i>Cylindrotheca closterium</i> (Ehrenberg) Reimann & J.C.Lewin, 1964	+	-	-	-
<i>Diploneis</i> (C. G. Ehrenberg) P.T. Cleve, 1894	-	+	-	-
<i>Gyrosigma fasciola</i> (Ehrenberg) J.W.Griffith & Henfrey, 1856	-	-	+	+
<i>Haslea trompii</i> (Cleve) Simonsen, 1974	-	-	+	-
<i>Lioloma elongatum</i> (Grunow) Hasle, 1997	-	-	+	+
<i>Navicula distans</i> (W.Smith) Ralfs, 1861	-	+	+	+
<i>Navicula directa</i> (W.Smith) Ralfs, 1861	-	-	+	-
<i>Nitzschia longissima</i> (Brébisson) Ralfs, 1861	+	+	+	-
<i>Pleurosigma angulatum</i> (Queckett) W.Smith, 1852	-	-	+	+
<i>Pleurosigma directum</i> Grunow, 1880	+	-	+	+
<i>Pleurosigma elongatum</i> W.Smith, 1852	+	-	-	-
<i>Pleurosigma normanii</i> Ralfs, 1861	-	-	+	-
<i>Pseudo-nitzschia cuspidata</i> (Hasle) Hasle, 1993	-	+	-	-
<i>Pseudo-nitzschia delicatissima</i> (Cleve) Heiden, 1928	+	+	+	+

Bacillariophyceae	Station 1	Station 2	Station 3	Station 4
<i>Pseudo-nitzschia lineola</i> (Cleve) Hasle, 1965	+	+	+	-
<i>Pseudo-nitzschia seriata</i> (Cleve) H.Peragallo, 1899	+	-	-	-
<i>Thalassionema bacillare</i> (Heiden) Kolbe, 1955	+	+	+	+
<i>Thalassionema frauenfeldii</i> (Grunow) Tempère & Peragallo, 1910	+	+	+	+
<i>Thalassiothrix longissima</i> Cleve & Grunow, 1880	+	+	+	+
<i>Toxarium undulatum</i> Bailey, 1854	+	-	-	-
Dinophyceae				
<i>Alexandrium concavum</i> (Gaarder) Balech, 1985	+	-	+	-
<i>Alexandrium minutum</i> Halim, 1960	+	-	-	-
<i>Amphidinium sphenoides</i> Wülf, 1916	-	+	-	-
<i>Ceratocorys armata</i> (Schütt) Kofoid, 1910	-	-	+	-
<i>Ceratocorys horrida</i> Stein, 1883	+	-	-	+
<i>Ceratocorys reticulata</i> H.W.Graham, 1942	-	-	+	-
<i>Citharistes regius</i> Stein, 1883	+	-	-	-
<i>Corythodinium tessellatum</i> (Stein) Loeblich Jr. & Loeblich III, 1966	-	-	+	-
<i>Dinophysis exigua</i> Kofoid & Skogsberg, 1928	-	-	-	+
<i>Dinophysis fortii</i> Pavillard, 1923	-	-	-	+
<i>Dinophysis</i> Ehrenberg, 1839	-	-	-	+
<i>Gonyaulax fusiformis</i> H.W.Graham, 1942	+	-	-	-
<i>Gonyaulax polygramma</i> Stein, 1883	+	+	+	-
<i>Gonyaulax spinifera</i> (Claparède & Lachmann) Diesing, 1866	-	+	+	-
<i>Histioneis depressa</i> Schiller, 1928	+	-	+	-
<i>Oxytoxum gracile</i> Schiller, 1937	+	-	-	-
<i>Oxytoxum scolopax</i> Stein, 1883	-	-	+	-
<i>Oxytoxum subulatum</i> Kofoid, 1907	-	+	-	-
<i>Phalacroma favus</i> Kofoid & Michener, 1911	-	+	-	-
<i>Phalacroma rapa</i> Jorgensen, 1923	+	+	-	-
<i>Phalacroma rotundatum</i> (Claparède & Lachmann) Kofoid & Michener, 1911	+	-	+	+
<i>Podolampas elegans</i> Schütt, 1895	+	-	-	-
<i>Proocentrum lima</i> (Ehrenberg) F.Stein, 1878	+	-	-	-
<i>Protoceratium reticulatum</i> (Claparède & Lachmann) Bütschli, 1885	+	-	+	-
<i>Protoperidinium divergens</i> (Ehrenberg, 1840) Balech, 1974	-	+	+	-
<i>Protoperidinium elegans</i> (Cleve, 1900) Balech, 1974	+	-	-	+
<i>Protoperidinium leonis</i> (Pavillard, 1916) Balech, 1974	-	-	+	-
<i>Protoperidinium pentagonum</i> (Gran, 1902) Balech, 1974	+	-	+	+
<i>Protoperidinium steinii</i> (Jørgensen, 1899) Balech, 1974	-	-	-	+
<i>Pyrocystis fusiformis</i> C.W.Thomson, 1876	-	-	+	-
<i>Pyrocystis lunula</i> (Schütt) Schütt, 1896	+	-	-	-
<i>Schuttiella mitra</i> (Schütt) Balech, 1988	+	-	-	-
<i>Spiraulax kofoidii</i> H.W.Graham, 1942	-	+	-	-
<i>Triadinium polyedricum</i> (Pouchet) Dodge, 1981	-	+	-	-
<i>Tripes arietinus</i> (Cleve) F.Gómez, 2013	+	+	+	-
<i>Tripes biceps</i> (Claparède & Lachmann) F.Gómez, 2013	+	+	-	+
<i>Tripes candelabrus</i> (Ehrenberg) F.Gómez, 2013	-	+	+	-
<i>Tripes contortus</i> (Gourret) F.Gómez, 2013	-	+	-	+
<i>Tripes contrarius</i> (Gourret) F.Gómez 2013	-	+	-	-
<i>Tripes declinatus</i> (G.Karsten) F.Gómez, 2013	+	-	+	-
<i>Tripes ehrenbergii</i> (Kofoid) F.Gómez, 2013	+	-	-	-
<i>Tripes furca</i> (Ehrenberg) F.Gómez, 2013	-	+	+	-

Bacillariophyceae	Station 1	Station 2	Station 3	Station 4
<i>Tripos fusus</i> (Ehrenberg) F.Gómez 2013	+	+	+	+
<i>Tripos horridus</i> (Cleve) F.Gómez 2013	+	-	-	-
<i>Tripos incisus</i> (Karsten) F.Gómez, 2013	-	+	+	+
<i>Tripos inflatus</i> (Kofoid) F.Gómez 2013	-	-	+	-
<i>Tripos kofoidii</i> (Jørgensen) F.Gómez, 2013	-	+	+	-
<i>Tripos limulus</i> (Pouchet) F.Gómez, 2013	-	-	+	+
<i>Tripos lineatus</i> (Ehrenberg) F.Gómez, 2013	-	+	-	-
<i>Tripos longissimus</i> (Schröder) F.Gómez, 2013	-	-	-	+
<i>Tripos lunula</i> (Schimper ex Karsten) F.Gómez, 2013	+	-	+	-
<i>Tripos macroceros</i> (Ehrenberg) F.Gómez, 2013	-	-	+	-
<i>Tripos muelleri</i> Bory de Saint-Vincent, 1824	-	-	-	+
<i>Tripos pentagonus</i> (Gourret) F.Gómez, 2013	-	+	+	+
<i>Tripos schrankii</i> (Kofoid) F.Gómez, 2013	-	+	+	-
<i>Tripos symmetricus</i> (Pavillard) F.Gómez 2013	-	-	+	-
<i>Tripos teres</i> (Kofoid) F.Gómez 2013	+	+	+	-
<i>Tripos trichoceros</i> (Ehrenberg) Gómez 2013	-	-	+	-
Cyanophyceae				
<i>Trichodesmium</i> sp.Ehrenberg ex Gomont, 1892	+	+	+	+

Supplementary Table II.- Mean densities of different copepod species (ind. m⁻³) observed along Gulf of Aqaba during the study period.

Order	Family	Species	Day	Night	
Calanoida Sars, 1903	Calanoidae Dana, 1864	<i>Mesocalanus tenuicornis</i> (Dana, 1849)	0.8	2.4	
		<i>Nannocalanus minor</i> (Claus, 1863)	0.5	1.5	
		<i>Undinula vulgaris</i> (Dana, 1849)	0.2	0.1	
	Paracalanidae Giesbrecht, 1893	<i>Acrocalanus gibber</i> Giesbrecht, 1888	0.2	1.2	
		<i>Calocalanus pavo</i> (Dana, 1849)	0.7	3.3	
		<i>C. pavoninus</i> Farran, 1936	0.4	1.8	
		<i>C. styliremis</i> Giesbrecht, 1888	1.2	3.7	
		<i>Paracalanus parvus</i> (Claus, 1863)	7.6	11.3	
		<i>Mecynocera clausi</i> Thompson, 1888	11.1	20.1	
		<i>Rhincalanus nasutus</i> Giesbrecht, 1888	0.0	0.2	
	Clausocalanidae Giesbrecht, 1893	<i>Clausocalanus farrani</i> Sewell, 1929	4.5	7.1	
		<i>C. furcatus</i> (Brady, 1883)	18.0	24.4	
		<i>Ctenocalanus vanus</i> Giesbrecht, 1888	5.2	13.9	
		Scolecitrichidae Giesbrecht, 1892	<i>Macandrewella chelipes</i> (Giesbrecht, 1896)	0.0	3.0
			<i>Scolecithricella minor</i> (Brady, 1883)	0.2	2.7
			<i>S. ctenopus</i> (Giesbrecht, 1888)	0.5	1.6
		Augaptilidae Sars, 1905	<i>Haloptilus longicornis</i> (Claus, 1863)	0.6	5.9
		Lucicutiidae Sars, 1902	<i>Lucicutia flavicornis</i> (Claus, 1863)	5.4	13.3
		Metridinidae Sars, 1902	<i>Pleuromamma indica</i> Wolfenden, 1905	1.1	15.5
		Centropagidae Giesbrecht, 1893	<i>Centropages calaninus</i> (Dana, 1849)	0.0	0.7
<i>C. elongatus</i> Giesbrecht, 1896	0.3		0.9		
<i>C. gracilis</i> (Dana, 1849)	0.0		0.8		
<i>C. uedai</i> El-Sherbiny, 2011*	0.0		0.0		
<i>Temoropia mayumbiensis</i> T. Scott, 1849	0.1		0.3		
Fosshageniidae Suarez-Morales&Lliffem 1996					

Order	Family	Species	Day	Night	
	Acartiidae Sars, 1903	<i>Acartia (Odontacartia) amboinensis</i> Carl, 1907*	0.2	1.1	
Calanoida Sars, 1903	Acartiidae Sars, 1903	<i>A. (Acanthacartia) fossae</i> Gurney, 1927	4.1	1.1	
		<i>A. (Acartia) danae</i> Giesbrecht, 1889	0.1	0.6	
		<i>A. (Acartia) negligens</i> Dana, 1849	3.3	14.3	
	Candaciidae Giesbrecht, 1893	<i>Candacia catula</i> (Giesbrecht, 1889)	0.0	4.8	
		<i>C. curta</i> (Dana, 1849)	0.2	2.8	
		<i>C. longimana</i> (Claus, 1863)	0.4	0.0	
		<i>C. simplex</i> (Giesbrecht, 1889)	0.1	0.6	
	Euchaetidae Giesbrecht, 1893	<i>Euchaeta concinna</i> Dana, 1849	0.1	0.7	
		<i>E. marina</i> (Prestandrea, 1833)	0.0	0.3	
	Pontellidae Dana, 1853	<i>Calanopia minor</i> Scott A., 1902	0.1	0.0	
		<i>Pontellina plumata</i> (Dana, 1849)	0.0	0.3	
	Cyclopoida Burmeister, 1834	Tortanidae Sars, 1902	<i>Tortanus (Tortanus) barbatus</i> (Brady, 1883)	0.1	1.5
		Sapphirinidae Thorell, 1859	<i>Copilia quadrata</i> Dana, 1849	0.1	0.4
			<i>Sapphirina metallina</i> Dana, 1849	0.1	0.1
<i>S. nigromaculata</i> Claus, 1863			1.6	2.9	
<i>S. opalina</i> Dana, 1849			0.2	0.1	
Corycaeidae Dana, 1852		<i>Vetoria granulosa</i> (Giesbrecht, 1891)*	0.1	0.1	
		<i>Corycaeus (Onychocorycaeus) agilis</i> Dana, 1849*	0.5	0.7	
		<i>C. (Onychocorycaeus) catus</i> F. Dahl, 1894*	0.5	1.4	
		<i>C. (Urocorycaeus) furcifer</i> Claus, 1863	1.0	2.4	
		<i>C. (Onychocorycaeus) latus</i> Dana, 1849	0.2	0.1	
		<i>C. (Ditrichocorycaeus) erythraeus</i> Cleve, 194	0.1	0.6	
		<i>C. (Corycaeus) speciosus</i> Dana, 1849	0.3	0.2	
		<i>C. (Corycaeus) crassiusculus</i> Dana, 1849	0.3	0.4	
		<i>Farranula curta</i> (Farran, 1911)	7.9	6.5	
	<i>F. gibbula</i> (Giesbrecht, 1891)	1.1	1.2		
<i>F. rostrate</i> (Claus, 1863)	2.6	5.1			
Clausidiidae Embleton, 1901	<i>Hemicyclops</i> sp.	0.1	0.1		
Lubbockiidae Huys&Böttger-Schnack, 1996/97	<i>Lubbockia aculeata</i> Giesbrecht, 1891*	1.3	0.6		
	<i>Lubbockia squillimana</i> Claus, 1863	0.0	0.3		
Oithonidae Dana, 1853	<i>Oithona attenuata</i> Farran, 1913*	3.7	10.3		
	<i>O. brevicornis</i> Giesbrecht, 1891	6.7	5.4		
	<i>O. nana</i> Giesbrecht, 1892	1.0	4.5		
	<i>O. plumifera</i> Baird, 1843	2.1	3.3		
	<i>O. similis</i> Claus, 1866	0.8	3.6		
	<i>O. simplex</i> Farran, 1913	1.8	3.0		
	<i>O. venusta</i> Philippi, 1843	2.4	6.7		
Oncaeidae Giesbrecht, 1893	<i>Oncaea media</i> Giesbrecht, 1891	6.0	6.9		
	<i>O. mediterranea</i> (Claus, 1863)	6.2	6.8		
	<i>O. ovalis</i> Shmeleva, 1966	0.0	1.4		
	<i>O. scottodicarloi</i> Heron&Bradford-Grieve, 1995	1.9	4.0		
	<i>O. venusta</i> Philippi, 1843	2.4	6.7		
Harpacticoida Sara, 1903	<i>Triconia minuta</i> Giesbrecht, 1892	0.4	0.8		
	<i>Clytemnestra asetosa</i> Huys&Conroy-Dalton, 2000	0.2	0.2		
	<i>Clytemnestra farrani</i> Huys&Conroy-Dalton, 2000*	0.1	0.1		
	<i>Macrosetella gracilis</i> (Dana, 1848)	0.2	0.2		