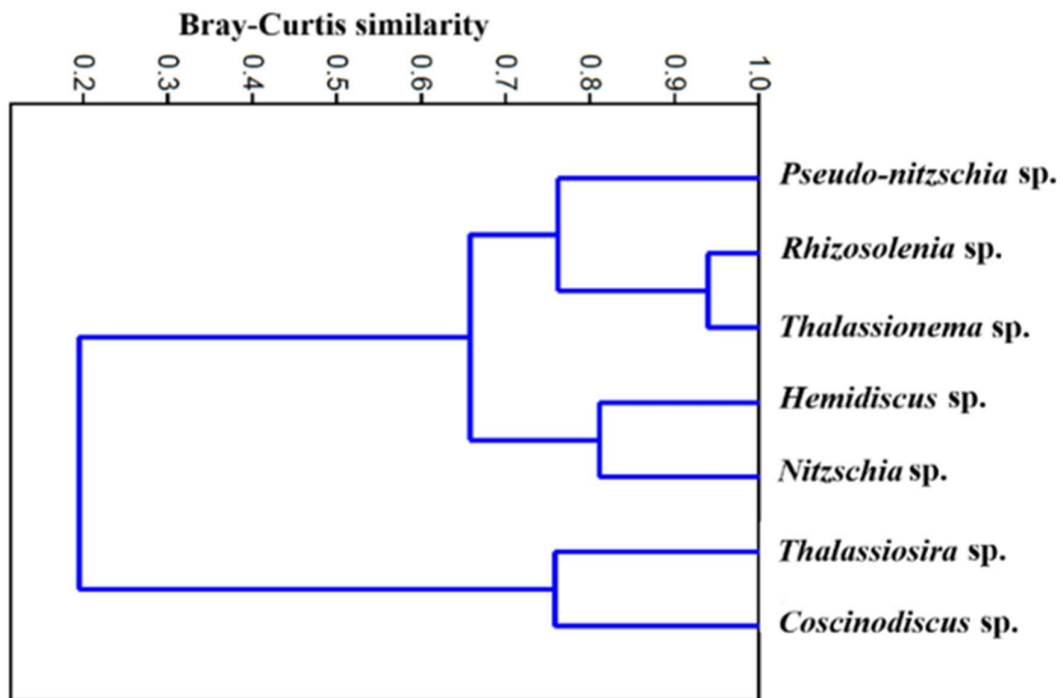
Supplementary Figure 1. Shanon-Wiener (SW) diversity index of diatoms calculated using frustules from the surface sediments of the central Arabian Sea.

Supplementary Figure 2. Bray- Curtis similarity index between different diatom genera from the surface sediments of the central Arabian Sea.

Supplementary Table 1. Absolute abundance (AA) of diatom frustules (valves g^{-1} dry sediment) and their relative abundance (RP %) in the surface sediments (0.5, 1 cm) from 5 locations in the Central Arabian Sea (average ± SD, n = 2).

Locations	21° N		19° N		15° N		13° N		11° N	
Centric diatoms	**AA**	**RP**	**AA**	**RP**	**AA**	**RP**	**AA**	**RP**	**AA**	**RP**
Actinoptychus sp.	450±71	0.8	350±71	0.6	250±71	0.5	200±283	0.5	100±141	0.4
Coscinodiscus sp.	24050±1202	45.1	29300±3818	46.1	20650±6010	44.1	11500±5223	30.7	6150±212	22.2
Cyclotella sp.	1450±1768	2.7	900±707	1.4	250±71	0.5	0	0.0	100±141	0.4
Hemidiscus sp.	800±283	1.5	1800±849	2.8	1800±1414	3.8	2300±707	6.1	1900±141	6.8
Leptocylindrus sp.	0	0.0	500±707	0.8	350±495	0.7	0	0.0	0	0.0
Proboscia sp.	200±283	0.4	0	0.0	0	0.0	0	0.0	0	0.0
Rhizosolenia sp.	3700±990	6.9	2800±283	4.4	1300±424	2.8	450±71	1.2	550±495	2.0
Thalassiosira sp.	12300±424	23.1	18450±778	29.0	16200±849	34.6	18050±7990	48.1	13700±4950	49.4
Triceratium sp.	500±141	0.9	300±141	0.5	350±495	0.7	50±71	0.1	0	0.0
Pennate diatoms										
Amphiprora sp.	200±283	0.4	0	0.0	0	0.0	0	0.0	0	0.0
Bacillaria sp.	550±778	1.0	0	0.0	0	0.0	0	0.0	0	0.0
Diploneis sp.	50±71	0.1	100±141	0.2	0	0.0	0	0.0	0	0.0
Epithemia sp.	0	0.0	0	0.0	0	0.0	0	0.0	50±71	0.2
Eunotia sp.	50±71	0.1	0	0.0	50±71	0.1	0	0.0	0	0.0
Fragilaria sp.	550±778	1.0	150±212	0.2	600±849	1.3	300±424	0.8	500±707	1.8
Fragilariopsis sp.	250±212	0.5	200±283	0.3	250±71	0.5	550±495	1.5	650±919	2.3
Gyrosigma sp.	100±141	0.2	0	0.0	0	0.0	0	0.0	0	0.0
Lioloma sp.	300±424	0.6	0	0.0	0	0.0	0	0.0	0	0.0
Navicula sp.	300±141	0.6	400±283	0.6	0	0.0	150±71	0.4	0	0.0
Nitzschia sp.	1150±71	2.2	1800±849	2.8	1350±354	2.9	1300±141	3.5	850±495	3.1
Pleurosigma sp.	50±71	0.1	50±71	0.1	0	0.0	0	0.0	0	0.0
Pseudo-nitzschia sp.	3150±354	5.9	3350±354	5.3	2200±283	4.7	2200±	5.9	2550±778	9.2
Thalassionema sp.	3150±1626	5.9	3150±1626	5.0	1250±71	2.7	450±212	1.2	650±71	2.3