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A comparative investigation of physicochemical and biological variables of Aerial & Port Blair Bays, Andaman Islands with focus on the anthropogenic influence

B K Sahu^{*,a,b}, P Goswami^a, M Begum^{a,c}, D K Jha^{a,d}, N V Vinithkumar^a & G Dharani^d

^aAtal Centre for Ocean Science & Technology for Islands, National Institute of Ocean Technology, Ministry of Earth Sciences, Government of India, Port Blair – 744 103, India

^bCSIR – National Institute of Oceanography, Dona Paula, Goa – 403 004, India

^cDepartment of Civil Engineering, SRM Institute of Science and Technology, Chennai – 603 203, India

^dOcean Science and Technology for Islands, National Institute of Ocean Technology, Ministry of Earth Sciences, Government of India, Chennai – 600 100, India

*[E-mail: birajkumar@gmail.com]

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Table S1 — Physico-chemical and biological parameters in the Aerial and Port Blair Bay (Values in Avg±SD [min – max])

	Aerial Bay		Port Blair Bay	
	Low tide	High tide	Low tide	High tide
Depth (m)	6.5±9.0 [1.3 – 20.0]	9.6±10.5 [2.0 – 25.0]	9.4±4.3 [5.5 – 14.5]	10.0±5.1 [6.0 – 17.0]
Transparency (m)	2.3±2.7 [0.4 – 6.3]	3.9±4.0 [0.9 – 9.8]	—	—
Air temperature (°C)	27.6±0.4 [27.4 – 28.2]	31.1±1.0 [29.8 – 32.0]	27.3±0.7 [26.6 – 28.2]	29.1±0.3 [28.8 – 29.6]
Water temperature (°C)	30.0±1.1 [29.0 – 31 – 2]	29.5±0.5 [29.1 – 30.1]	28.3±0.2 [28.1 – 28.5]	28.7±0.2 [28.5 – 28.9]
Salinity (PSU)	27.59±3.83 [22.01 – 30.62]	30.87±1.48 [29.11 – 32.65]	29.83±1.53 [28.07 – 31.81]	29.74±0.63 [28.86 – 30.36]
pH	8.12±0.17 [7.88 – 8.24]	8.14±0.07 [8.06 – 8.21]	8.06±0.05 [8.00 – 8.13]	8.09±0.04 [8.03 – 8.14]
TSS (mg/L)	50.10±11.40 [40.40 – 64.80]	52.07±5.31 [49.00 – 58.20]	57.12±12.39 [44.00 – 73.60]	59.36±12.19 [47.80 – 76.20]
DO (mg/L)	6.84±0.17 [6.74 – 7.09]	6.90±0.32 [6.42 – 7.06]	6.48±0.14 [6.42 – 6.74]	6.61±0.18 [6.42 – 6.74]
DO saturation (%)	105.4±4.7 [101.9 – 112.4]	107.4±5.7 [99.0 – 111.2]	98.4±2.1 [96.7 – 102.0]	101.0±2.7 [97.8 – 103.4]
BOD (mg/L)	2.19±0.32 [1.93 – 2.60]	2.24±0.45 [1.59 – 2.55]	—	—
NO ²⁻ (µmol/L)	0.21±0.29 [0.02 – 0.63]	0.22±0.13 [0.04 – 0.34]	0.25±0.15 [0.10 – 0.50]	0.29±0.13 [0.16 – 0.48]
NO ³⁻ (µmol/L)	0.28±0.32 [0 – 0.72]	0.23±0.17 [0 – 0.42]	0.73±0.57 [0.24 – 1.71]	0.49±0.48 [0.10 – 1.17]
NH ⁴⁺ (µmol/L)	0.57±0.85 [0 – 1.80]	0.02±0.03 [0 – 0.06]	0.44±0.78 [0 – 1.80]	0.83±1.00 [0.06 – 2.52]
SiO ₄ (µmol/L)	24.71±29.95 [3.05 – 68.68]	10.41±6.47 [2.90 – 16.73]	6.36±2.03 [3.35 – 7.99]	5.53±2.47 [3.65 – 9.74]
IP (µmol/L)	0.26±0.28 [0.09 – 0.67]	0.32±0.12 [0.22 – 0.45]	0.18±0.16 [0.09 – 0.45]	0.22±0.25 [0.04 – 0.63]
N:P	3.9±2.3 [0.9 – 6.5]	1.5±0.8 [0.6 – 2.6]	7.4±2.3 [3.8 – 9.6]	9.1±2.7 [6.1 – 12.7]
Si:N	29.4±19.5 [9.3 – 55.43]	26.6±23.5 [10.1 – 60.1]	7.2±3.9 [1.9 – 10.8]	6.0±5.3 [2.1 – 14.9]
TN (µmol/L)	13.30±5.46 [7.20 – 20.40]	11.30±2.15 [8.40 – 13.60]	14.16±2.36 [12.40 – 18.00]	16.16±8.76 [9.60 – 30.80]
TP (µmol/L)	0.56±0.64 [0.09 – 1.50]	0.26±0.18 [0.09 – 0.50]	0.75±0.14 [0.54 – 0.95]	0.95±0.57 [0.50 – 1.94]
Chlorophyll <i>a</i> (mg/m ³)	3.07±2.23 [1.28 – 6.11]	1.88±0.88 [0.99 – 3.08]	3.62±1.60 [2.14 – 6.02]	5.02±2.39 [1.42 – 7.91]
Phaeophytin (mg/m ³)	6.61±2.94 [4.09 – 9.53]	4.60±2.63 [2.04 – 8.17]	6.40±1.41 [4.77 – 8.17]	8.17±4.20 [2.04 – 12.94]
Phytoplankton abundance (Cells/L)	13000±4630 [9400 – 19400]	15030±8590 [7720 – 27200]	17108±20541 [4080 – 53200]	14640±8765 [2820 – 25500]
Phytoplankton species (Nos.)	26±8 [16 – 34]	25±8 [18 – 35]	33±4 [28 – 40]	31±8 [18 – 36]
Zooplankton biomass (ml/m ³)	0.97±0.52 [0.39 – 1.43]	0.78±0.79 [0.17 – 1.94]	0.82±0.28 [0.53 – 1.25]	0.60±0.32 [0.12 – 0.95]
Zooplankton abundance (Nos./m ³)	9906±12056 [2247 – 27888]	4558±4857 [1519 – 11812]	9554±5587 [1974 – 14712]	6232±4636 [718 – 13340]

Table S2 — Phytoplankton species of Aerial and Port Blair Bay during High Tide (HT) and Low Tide (LT)

Species Name	Aerial Bay		Port Blair Bay	
	HT	LT	HT	LT
<i>Eucampia zodiacus</i>			+	+
<i>Eucampia cornuta</i>			+	+
<i>Eucampia groenlandica</i>			+	+
<i>Lithodesmium undulatum</i>	+	+	+	+
<i>Hemiaulus sinensis</i>			+	+
<i>Chaetoceros lorenzianus</i>	+	++		+
<i>C. curvisetus</i>	+	+	++	++
<i>C. diversus</i>		+		
<i>C. simplex</i>		+	+	+
<i>C. affinis</i>		+		
<i>C. peruvianus</i>	+	+		
<i>C. borealis</i>			+	
<i>C. didymus</i>			+	
<i>C. decipiens</i>				+
<i>Chaetoceros sp.</i>	+	+	+	+
<i>Bacteriastrum furcatum</i>	+		+	+
<i>Leptocylindrus danicus</i>	+	+	+++	++
<i>Skeletonema costatum</i>			+++	+++
<i>Lauderia borealis</i>	+	+	+	+
<i>Coscinodiscus marginatus</i>	+	+	+	+
<i>Coscinodiscus gigas</i>	+	+		
<i>Coscinodiscus sp.</i>	+	+	+	+
<i>Hemidiscus cuneiformis</i>		+		
<i>Dactyliosolen fragilissimus</i>	+++	+++	++	+
<i>Rhizosolenia setigera</i>	+	+	+	+
<i>Rhizosolenia imbricata</i>	+		++	+
<i>Rhizosolenia hebetata</i>		+		
<i>Proboscia alata</i> (= <i>Rhizosolenia alata</i>)			+	+
<i>Guinardia flaccida</i>	++	++	+	+
<i>Triceratium sp.</i>	+	+		
<i>Ditylum brightwellii</i>	+	+		+
<i>Plagiotropis semistriata</i> (= <i>Tropidoneis semistriata</i>)			+	+
<i>Plagiotropis lepidoptera</i> (= <i>Tropidoneis lepidoptera</i>)			+	
<i>Streptothecca indica</i>			+	
<i>Climacosphenia moniligera</i>	+	+	+	+
<i>Trieres mobiliensis</i> (= <i>Biddulphia mobiliensis</i>)	+			
<i>Biddulphia sinensis</i>	+		+	+
<i>Biddulphia longicuris</i>			+	+
<i>Biddulphia sp.</i>	+			
<i>Pseudo – nitzschia seriata</i> (= <i>Nitzschia seriata</i>)	+		+	++
<i>Nitzschia closterium</i>	+	++	++	+
<i>Nitzschia migrans</i>	+	+		+
<i>Nitzschia sigma</i>		+	+	+
<i>Nitzschia longissima</i>		+	++	+
<i>Pseudo – nitzschia delicatissima</i> (= <i>Nitzschia delicatissima</i>)			+	+
<i>Fragilaria cylindrus</i>	+		+	+
<i>Thalassiothrix frauenfeldii</i>	+	+	+	
<i>Thalassiothrix longissima</i>	+	+	+	+
<i>Thalassionema nitzschioides</i>	+	+	+	+
<i>Licmophora lyngbyei</i>	+	+	+	+
<i>Licmophora abbreviata</i>	+	+	+	+
<i>Navicula directa</i>	+	+	++	+

(Contd.)

Table S2 — Phytoplankton species of Aerial and Port Blair Bay during High Tide (HT) and Low Tide (LT) (Contd.)

	Aerial Bay		Port Blair Bay	
	HT	LT	HT	LT
<i>Navicula granii</i>	+	+	+	+
<i>Navicula longa</i>	+	+		
<i>Navicula septentrionalis</i>	+			
<i>Navicula membranacea</i>	+	+	+	+
<i>Navicula pelagica</i>	+	+	+	+
<i>Lyrella clavata</i> (= <i>Navicula clavata</i>)		+	+	+
<i>Navicula protracta</i>			+	
<i>Navicula sp.</i>	+	+	+	+
<i>Gyrosigma balticum</i>		+		+
<i>Pleurosigma normanii</i>	+	+	+	+
<i>Pleurosigma angulatum</i>				
<i>Pleurosigma elongatum</i>		+	+	+
<i>Amphiprora gigantea</i>			+	
<i>Diploneis smithii</i>		+	+	
<i>Diploneis weissflogii</i>			+	+
<i>Diploneis robustus</i>			+	
<i>Cymbella marina</i>	+			+
<i>Amphora lineolata</i>		+	+	+
<i>Amphora ostrearia</i>	+	+		+
<i>Asterionellopsis glacialis</i>				+
<i>Tripes furca</i> (= <i>Ceratium furca</i>)	+	+	+	+
<i>Tripes lineatus</i>	+			
<i>Tripes macroceros</i>			+	
<i>Tripes bucephalus</i>				+
<i>Tripes extensus</i>				+
<i>Alexandrium catenella</i>	+		+	
<i>Protoperidinium quarnerense</i>	+	+	+	+
<i>Protoperidinium achromaticum</i>	+	+	+	+
<i>Protoperidinium ovatum</i>	+	+	+	+
<i>Protoperidinium antarcticum</i>				
<i>Protoperidinium pallidum</i>	+		+	
<i>Protoperidinium leonis</i>			+	
<i>Prorocentrum maximum</i>				
<i>Prorocentrum micans</i>			+	
<i>Prorocentrum gracile</i>			+	+
<i>Trichodesmium sp.</i>			+	+
<i>Anabaena sp.</i>	++	++	+	+
Unidentified			+	+

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