Supplementary Tables

Table 1. Algal samples collected from Gulf of Mannar

	Division	Algal Samples
1		*Valoniopsis pachynema* (G. Martens) Boergesen (Fig. 1)
2	Chlorophyta	*Ulva reticulata* Forsskal (Fig. 2)
3		*Chaetomorpha antennina* (Bory de Saint- Vincent) Kutzing (Fig. 3)
4		*Caulerpa scalpelliformiss* (R. Brown ex Turner) C. Agardh (Fig. 4)
5		*Turbinaria conoides* (J.Agardh) Kuetzing (Fig. 5)
6	Phaeophyta	*Sargassum wightii* Greville (Fig. 6)
7		*Padina boergesenii* Allender and Kraft (Fig. 7)
8		*Stoechospermum marginatum* (C. Agardh) Kuetzing (Fig. 8)
9		*Jania rubens* (Linnaeus) Lamouroux (Fig. 9)
10		*Gracilaria corticata* J. Agardh (Fig. 10)
11	Rhodophyta	*Gratrloupia lithophila* Boergesen (Fig. 11)
12		*Kappaphycus alavarezii* (Doty) Doty ex. Silva (Fig. 12)
13		*Gelidiella acerosa* (Forkal) J. Feldmann and G. Hamel (Fig. 13)
14		*Acanthophora spicifera* (Vahl) Boergesen (Fig. 14)

Table 2. Mineral Analysis of Algal samples Collected from Gulf of Mannar

Algal Samples	Calcium (ppm)	Zinc (ppm)	Iron (ppm)	Potassium (ppm)	Magnesium (ppm)	Manganese (ppm)	Copper (ppm)
V. pachynema	105.67 ± 0.5	0.51 ± 0.011	12.52 ± 0.01	9.27 ± 0.22	1.12 ± 0.001	3.62 ± 0.009	1.53 ± 0.006
J. rubens	112.34 ±10.26	0.73 ± 0.001	11.48 ± 0.03	6.62 ± 0.09	1.48 ± 0.002	3.67 ± 0.01	0.26 ± 0.001
T. conoides	88.20 ± 0.6	0.44 ± 0.000	5.79 ± 0.007	9.79 ± 0.05	1.30 ± 0.003	1.27 ± 0.007	0.27 ± 0.001
U. reticulata	82.16 ± 0.1	0.42 ± 0.001	1.40 ± 0.01	9.87 ± 0.963	1.33 ± 0.002	1.10 ± 0.001	0.09 ± 0.002
G. corticata	59.22 ± 0.4	0.59 ± 0.031	1.29 ± 0.011	13.49 ± 0.4	1.13 ± 0.003	1.53 ± 0.006	0.06 ± 0.003
C. antennina	96.96 ± 1.09	0.68 ± 0.001	6.63 ± 0.022	14.84 ± 1.54	1.18 ± 0.002	2.91 ± 0.01	0.20 ± 0.001
G. lithophila	59.45 ± 0.2	1.00 ± 0.001	3.57 ± 0.02	12.40 ± 0.33	1.19 ± 0.003	0.69 ± 0.001	0.69 ± 0.003
S. wightii	78.90 ± 0.7	0.78 ± 0.00	5.24 ± 0.01	9.81 ± 0.72	1.27 ± 0.007	0.82 ± 0.003	0.95 ± 0.001
K. alavarezi	53.83 ± 0.5	0.47 ± 0.002	3.36 ± 0.005	9.31 ± 0.7	1.15 ± 0.001	0.86 ± 0.002	0.71 ± 0.002
P. boergesenii	92.82 ± 0.6	0.63 ± 0.003	11.55 ± 0.008	5.70 ± 0.06	1.14 ± 0.002	2.48 ± 0.01	0.82 ± 0.003
C. scalpelliformis	88.63 ± 0.7	0.42 ± 0.003	7.93 ± 0.011	8.25 ± 1.22	1.18 ± 0.001	1.77 ± 0.001	0.29 ± 0.005
G. acerosa	71.60 ± 0.2	0.37 ± 0.00	7.54 ± 0.02	11.46 ± 0.5	1.09 ± 0.002	0.94 ± 0.01	0.32 ± 0.004
S. marginatum	88.95 ± 0.5	0.15 ± 0.00	9.19 ± 0.01	8.09 ± 0.5	1.18 ± 0.002	1.25 ± 0.003	1.05 ± 0.002
A. spicifera	90.65 ± 0.3	0.51 ± 0.001	7.56 ± 0.01	12.35 ± 0.9	1.26 ± 0.001	1.84 ± 0.02	0.35 ± 0.00

All results are indicative of triplicate values expressed as Mean ± SD.

Table 3. Nutritional Composition of Algal samples Collected from Gulf of Mannar

Algal Samples	Protein (mg g-1)	Carbohydrate (g-1)	Phenol (mg g-1)	Ash (%)	Moisture (%)
V. pachynema	0.18 ± 0.00	0.09 ± 0.00	0.37 ± 0.02	84.00 ± 1.00	1.75 ± 0.22
J. rubens	0.30 ± 0.00	0.06 ± 0.02	0.12 ± 0.02	86.66 ± 2.88	2.26 ± 0.50
T. conoides	0.50 ± 0.00	0.36 ± 0.00	0.11 ± 0.02	29.00 ± 1.00	10.22 ± 0.56
U. reticulata	0.37 ± 0.17	0.67 ± 0.02	0.32 ± 0.02	23.16 ± 1.75	9.93 ± 0.29
G. corticata	0.50 ± 0.01	0.42 ± 0.02	0.27 ± 0.02	20.86 ± 1.58	7.45 ± 0.43
C. antennina	0.38 ± 0.03	0.07 ± 0.02	0.37 ± 0.02	61.83 ± 1.75	2.90 ± 0.45
G. lithophila	0.74 ± 0.01	0.66 ± 0.01	0.65 ± 0.02	18.00 ± 2.00	13.12 ± 0.67
S. wightii	0.28 ± 0.01	0.11 ± 0.01	0.47 ± 0.02	25.00 ± 1.00	7.27 ± 0.31
K. salavarezii	0.61 ± 0.00	0.45 ± 0.02	0.32 ± 0.02	30.33 ± 1.52	11.01 ± 0.21
P. boergesenii	0.31 ± 0.00	0.23 ± 0.01	0.11 ± 0.01	85.00 ± 2.00	2.58 ± 0.55
C.scalpelliformis	0.57 ± 0.01	0.61 ± 0.00	0.46 ± 0.01	33.33 ± 1.52	7.95 ± 0.30
G. acerosa	0.61 ± 0.01	0.37 ± 0.00	1.23 ± 0.25	26.00 ± 3.60	7.11 ± 0.68
S. marginatum	0.35 ± 0.01	0.21 ± 0.01	0.22 ± 0.02	55.16 ± 2.46	7.36 ± 0.54
A. spicifera	0.89 ± 0.00	0.43 ± 0.00	0.01 ± 0.00	49.16 ± 2.56	10.02 ± 0.78

All results are indicative of triplicate values expressed as Mean ± SD.

Table 4. ANOVA table showing the statistical significance between the different algal species and the minerals

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups (algal species)	767.882	13	59.068	0.061	1.000[a]
Within Groups (minerals)	81422.371	84	969.314		
Total	82190.254	97			

a= p > 0.05, no significant difference between different algal species and the minerals
All results are indicative of triplicate values

Table 5. ANOVA table showing the statistical significance between the minerals and the algal species

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups (minerals)	77983.438	6	12997.240	281.151	0.000[a]
Within Groups (algal species)	4206.815	91	46.229		
Total	82190.254	97			

a= p < 0.05, there is significant difference between different minerals and its algal species.
All results are indicative of triplicate values

Table 6. ANOVA Statistics of the significance of Nutritional composition on different Parameter.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups (nutritional composition)	0.141	2	0.071	1.192	0.315[a]
Within Groups (paramter)	2.315	39	0.059		
Total	2.456	41			

a= P > 0.05, which implies that there is no significant difference between nutritional composition and parameter.
All results are indicative of triplicate values

Table 7. ANOVA Statistics of the significance of Algal species on different Nutritional Composition.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.207	13	.093	2.082	.051
Within Groups	1.249	28	.045		
Total	2.456	41			

a= P > 0.05, which implies that there is no significant difference between algal species and nutritional composition.
All results are indicative of triplicate values

Table 8. Correlation and Student T-test analysis between Ash Content and Moisture Content

	N	Correlation	Sig.	t	df	Sig. (2-tailed)
Ash_Content & Moisture_Cotent	14	-.647*[a]	.012	5.094	13	0.000[b]

*. Correlation is significant at the 0.05 level (2-tailed).
a= negative correlation between ash and moisture content which implies when ever ash content increases moisture content decreases.
b= P < 0.05, which implies that there is significant difference between ash content and moisture content.

Supplementary Figures
Figures of Algae

Fig. 1. *Valoniopsis pachynema*

Fig. 2. *Ulva reticulata*

Fig. 3. *Chaetomorpha antennina*

Fig. 4. *Caulerpa scalpelliformis*

Fig. 5. *Turbinaria conoides*

Fig. 6. *Sargassum wightii*

Fig. 7. *Padina boergesenii*

Fig. 8. *Stoechospermum marginatum*

Fig. 9. *Jania rubens*

Fig. 10. *Gracilaria corticata*

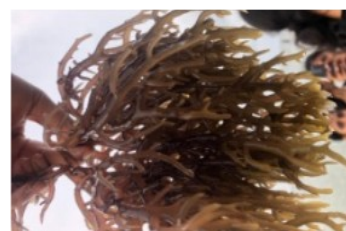**Fig. 11.** *Gratrloupia lithophila*

Fig. 12. *Kappaphycu salavarezii*

Fig. 13. *Gelidiella acerosa*

Fig. 14. *Acanthophora spicifera*