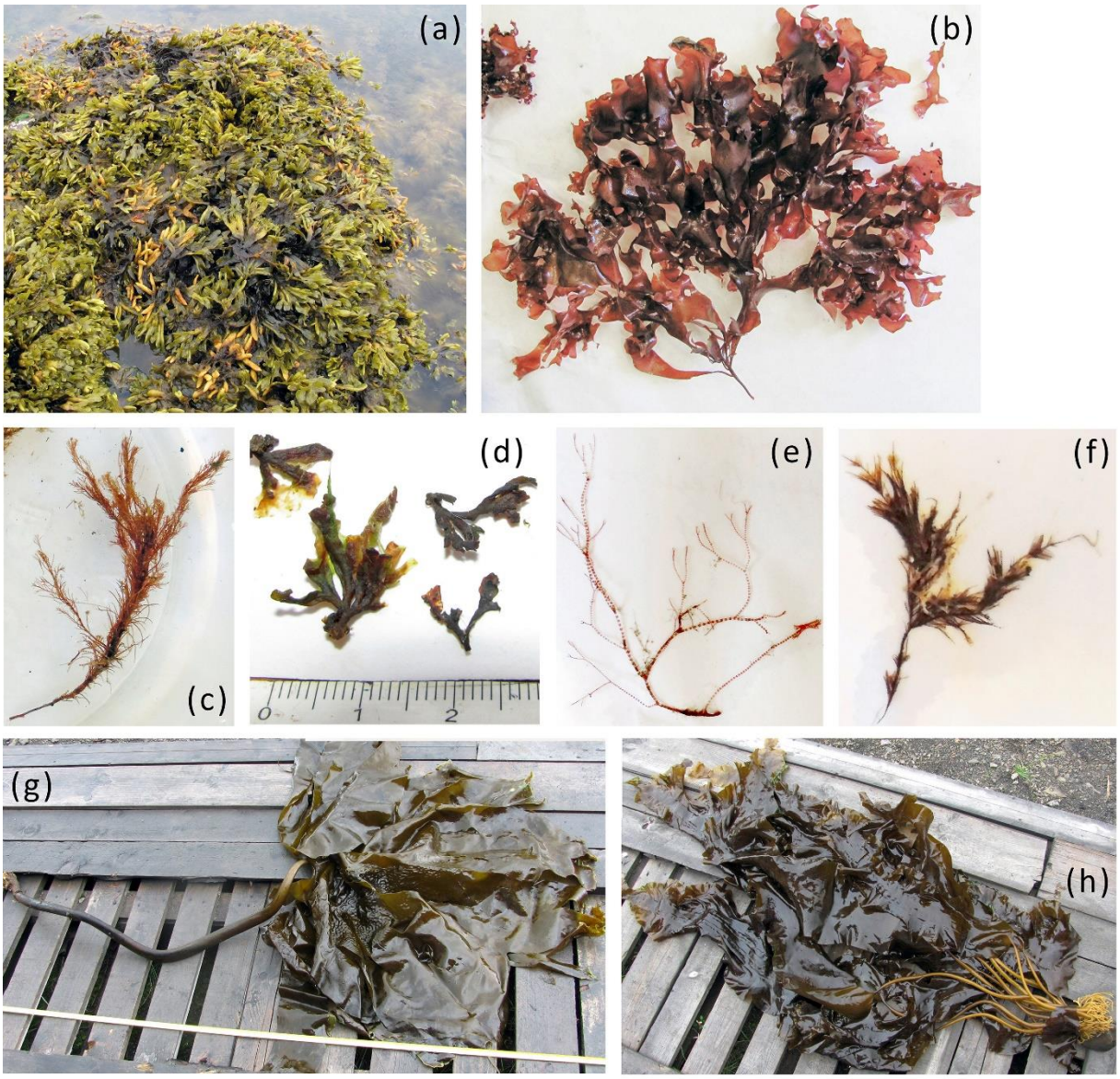
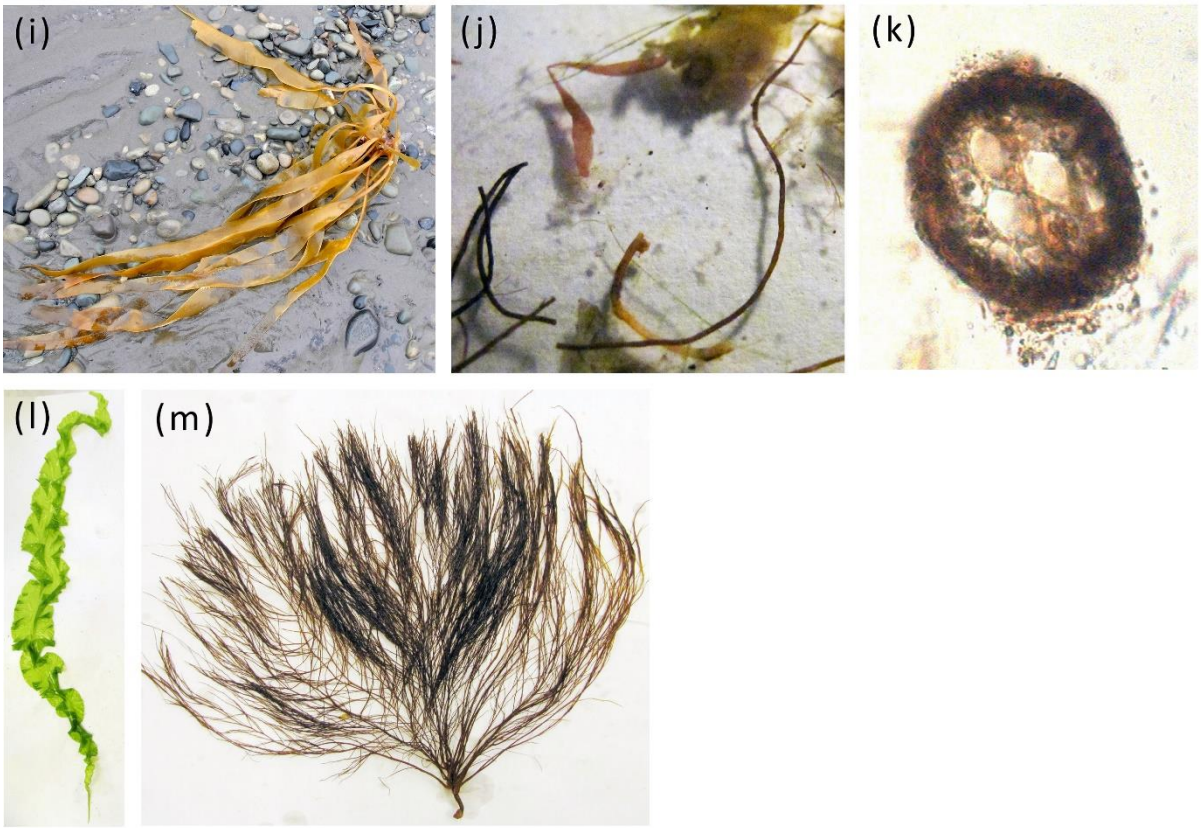
Supplementary material for: Malavenda S.V. 2021. Species diversity of macroalgae in Grønfjorden, Spitsbergen, Svalbard. *Polar Research 40*. Correspondence: Svetlana V. Malavenda, Murmansk Marine Biological Institute, Russian Academy of Sciences, Vladimirskaya St. 17, 183010, Murmansk, Russia. E-mail malavenda@yandex.ru



Supplementary Fig. S1 (continued next page). (a) *Fucus distichus* and *F. vesiculosus* on the littoral, (b) *Coccotylus truncatus*, (c) *Rhodomela confervoides*, (d) *Fucus* sp. from station 9l-14, (e) *Ceramium deslongchampsii*, (f) *Chaetopteris plumosa*, (g) *Laminaria digitata*, (h) *Saccharina latissima*, (i) *Saccorhiza dermatodea*, (j) *Stictyosiphon tortilis*, (k) cross-section *S. tortilis*, (l) *Protomonostroma undulatum* and (m) *Desmarestia aculeata*.



Supplementary Table S1. Macrophytobenthos distribution in Grønfjorden.

Species	BGS[a]	Littoral communities		Sublittoral communities	
		Bm (g m^{-2})[b] ± CI	*F*	*Bm* ± CI	*F*
Chlorophyta					
Acrosiphonia arcta (Dillwyn) Gain 1912	a-b-t	3.55 ± 2.05	75.00	4.45 ± 4.18	69.44
Acrosiphonia flagellata Kjellman 1893	a	0.67 ± 0.19	8.33	1.19 ± 0.51	16.67
Acrosiphonia incurva Kjellman 1893	a	–	0.00	0.06 ± 0.00	5.56
Acrosiphonia sonderi (Kützing) Kornmann 1962	hb	0.56 ± 0.17	11.11	0.01	5.56
Blidingia minima (Nägeli ex Kützing) Kylin 1947	a-b-t	0.23 ± 0.14	13.89	–	0.00
Chaetomorpha linum (O.F.Müller) Kützing 1845	a-b-t	1.00	2.78	0.58 ± 0.32	8.33
Chaetomorpha melagonium (F. Weber & D. Mohr) Kützing 1845	a-b-t	0.16 ± 0.11	22.22	0.03 ± 0.01	25.00

Species	BGS[a]	Littoral communities		Sublittoral communities	
		Bm (g m^{-2})[b] ± CI	*F*	*Bm* ± CI	*F*
Chaetomorpha tortuosa (Dillwyn) Kleen 1874	b	–	0.00	0.01 ± 0.00	16.67
Monostroma grevillei (Thuret) Wittrock 1866	a-b-t	0.10	2.78	0.13 ± 0.04	5.56
Protomonostroma undulatum (Wittrock) K.L. Vinogradova 1969	b-t	0.04 ± 0.02	8.33	–	0.00
Pyropia leucosticta (Thuret) Neefus & J. Brodie 2011	b-t	–	0.00	0.49 ± 0.13	11.11
Rhizoclonium riparium (Roth) Harvey 1849	a-b-t	0.30 ± 0.15	11.11	–	–
Spongomorpha aeruginosa (Linnaeus) Hoek 1963	a-hb	0.17	2.78	0.02 ± 0.00	5.56
Ulothrix implexa (Kützing) Kützing 1849	a-b-t	0.19 ±0.08	5.56	0.02	5.56
Ulothrix flacca (Dillwyn) Thuret in Le Jolis 1863	a-b-t	0.01	2.78	0.01 ± 0.00	5.56
Ulva lactuca Linnaeus 1753	a-b-t	–	0.00	0.10	2.78
Ulvaria obscura (Kützing) Gayral ex Bliding 1969	a-b	1.47 ±0.36	16.67	0.52 ± 0.36	27.78
Phaeophyceae					
Alaria esculenta (Linnaeus) Greville 1830	hb	0.68 ± 0.15	5.56	338.82 ± 130.17	38.89
Ascophyllum nodosum (Linnaeus) Le Jolis 1863	b	1.00	2.78	–	0.00
Battersia arctica (Harvey) Draisma, Prud'homme & H. Kawai 2010	hb	1.00	2.78	3.55 ± 1.80	8.33
Chaetopteris plumosa (Lyngbye) Kützing 1843	a-hb	0.70 ± 0.34	66.67	30.82 ± 11.66	55.56
Chorda filum (Linnaeus) Stackhouse 1797	a-hb	0.52 ± 0.18	11.11	1.75 ± 1.38	22.22
Chordaria flagelliformis (O.F. Müller) C. Agardh 1817	a-hb	6.43 ± 2.14	11.11	0.09 ± 0.04	19.44
Desmarestia aculeata (Linnaeus) J.V. Lamouroux 1813	b	–	0.00	35.37 ± 29.57	33.33
Desmarestia viridis (O.F. Müller) J.V. Lamouroux 1813	a-hb	0.76 ± 0.38	13.89	818.32 ± 725.80	69.44
Dictyosiphon foeniculaceus (Hudson) Greville 1830	b	1.54 ± 0.82	47.22	6.17 ± 5.32	25.00
Dictyosiphon chordaria Areschoug	a-hb	–	0.00	–	0.00

Species	BGS[a]	Littoral communities		Sublittoral communities	
		Bm (g m^{-2})[b] ± CI	*F*	*Bm* ± CI	*F*
1847					
Ectocarpus siliculosus (Dillwyn) Lyngbye 1819	a-b-t	0.01	5.56	0.01	5.56
Elachista fucicola (Velley) Areschoug 1842	a-b	0.59 ± 0.16	16.67	0.01	5.56
Elachista stellaris Areschoug 1842	a-b-t	0.01	8.33	–	–
Fucus distichus Linnaeus 1767	a-hb	172.03 ± 82.68	86.11	–	–
Fucus sp. ster.	–	12.43	2.78	10.18 ± 3.96	22.22
Fucus spiralis Linnaeus 1753	b	7.98	2.78	–	–
Fucus vesiculosus Linnaeus 1753	a-b-t	236.20 ± 50.45	13.89	81.05 ± 31.19	27.78
Halosiphon tomentosus (Lyngbye) Jaasund 1957	b	–	–	0.66 ± 0.25	8.33
Hincksia ovata (Kjellman) P.C. Silva in P.C. Silva, E.G. Meñez & R.L. Moe 1987	a-b-t	0.05	2.78	–	–
Laminaria digitata (Hudson) J.V. Lamouroux 1813	hb	–	–	1697.67 ± 609.54	16.67
Laminaria hyperborea (Gunnerus) Foslie 1884	b	–	–	2386.00	2.78
Laminaria solidungula J. Agardh 1868	a	–	–	56.67 ± 23.22	8.33
Laminaria sp.	-	0.62 ± 0.28	5.56	1365.86 ± 628.93	16.67
Leathesia marina (Lyngbye) Decaisne 1842	b-t	–	–	–	–
Petalonia fascia (O.F. Müller) Kuntze 1898	b-t	0.36 ± 0.18	8.33	0.08 ± 0.01	8.33
Haemescharia polygyna Kjellman 1883	a	–	–	0.01	5.56
Punctaria plantaginea (Roth) Greville 1830	a-b-t	–	–	0.28 ± 0.10	5.56
Pylaiella littoralis (Linnaeus) Kjellman 1872	a-b-t	12.65 ± 6.08	72.22	4.46 ± 2.69	33.33
Pylaiella varia Kjellman 1883	a-hb	–	–	0.01	11.11
Saccharina latissima (Linnaeus) C.E. Lane, C. Mayes, Druehl & G.W.Saunders 2006	b	0.87 ± 0.08	11.11	2305.88 ± 1201.49	94.44
Saccorhiza dermatodea (Bachelot de la Pylaie) J. Agardh 1868	hb	–	–	200.40 ± 68.89	13.89

Species	BGS[a]	Littoral communities		Sublittoral communities	
		Bm (g m^{-2})[b] ± CI	*F*	*Bm* ± CI	*F*
Haplospora globosa Kjellman 1872	a-hb	–	–	0.01	8.33
Scytosiphon lomentaria (Lyngbye) Link 1833	a-b-t	0.11 ± 0.02	11.11	0.53 ± 0.18	11.11
Stictyosiphon griffithsianus (Le Jolis) Holmes & Batters 1890	hb	0.05	5.60	–	–
Stictyosiphon tortilis (Gobi) Reinke 1889	a-b-t	0.68 ± 0.18	8.33	0.02	8.33
Rhodophyta					
Ceramium deslongchampsii Chauvin ex Duby 1830	a-b-t	0.24 ± 0.12	16.67	0.54 ± 0.45	38.89
Ceramium virgatum Roth 1797	a-b-t	–	–	1.01	2.78
Coccotylus truncatus (Pallas) M.J. Wynne & J.N. Heine 1992: 75	b	–	–	6.60 ± 2.83	19.44
Devaleraea ramentacea (Linnaeus) Guiry 1982	a-bh	8.52 ± 6.28	52.78	1.29 ± 0.81	25.00
Dilsea carnosa (Schmidel) Kuntze 1898	a-b	–	–	0.05	2.78
Euthora cristata (C. Agardh) J. Agardh 1847	a-hb	–	–	0.05 ± 0.02	16.67
Lithothamnion sp.	–	–	–	1.00	11.11
Palmaria palmata (Linnaeus) F. Weber & D. Mohr 1805	b	4.56 ± 2.80	16.67	0.12 ± 0.09	30.56
Membranoptera fabriciana (Lyngbye) M.J. Wynne & G.W. Saunders 2012	a	0.01	5.56	–	–
Phycodrys rubens (Linnaeus) Batters 1902	b	–	–	0.04	5.56
Savoiea arctica (J. Agardh) M.J. Wynne	a	0.35 ± 0.18	8.33	2.38 ± 1.11	33.33
Porphyra sp.	–	0.10	2.78	0.06 ± 0.02	5.56
Ptilota serrata Kützing 1847	a-b	–	–	1.17 ± 0.16	8.33
Rhodophysema elegans (P. Crouan & H. Crouan ex J. Agardh) P.S. Dixon 1964	b	–	–	0.01	8.33
Rhodomela confervoides (Hudson) P.C. Silva 1952	a-hb	0.83 ± 0.78	30.56	2.73 ± 1.13	22.22

[a] Biogeographic characteristics of the species: Arctic (a), boreal (b), highly boreal (hb), tropical species (t). [b] The average biomass of the species.