

Supplementary Materials: Figure S1; Tables S1, S2.

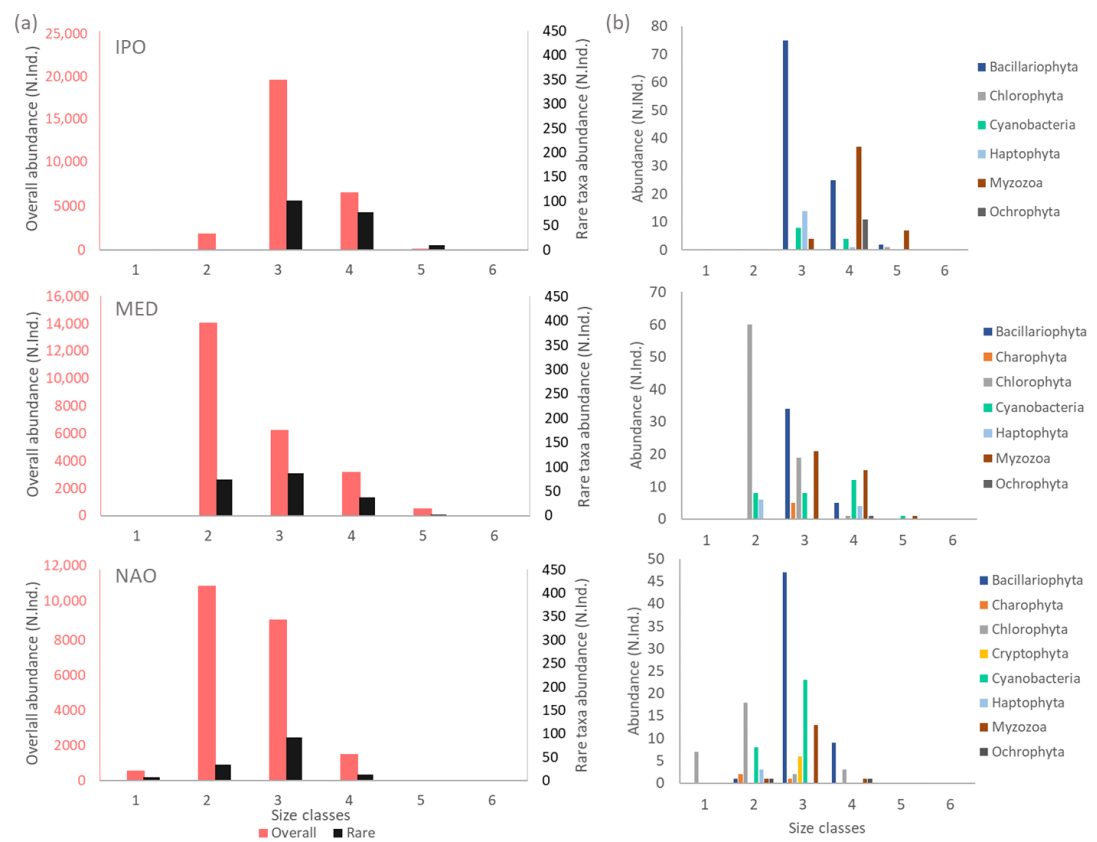


Figure S1. (a) Size class distribution of overall phytoplankton assemblage (pink) and 1% rare taxa (black) in the Indo-Pacific Ocean (IPO), the Mediterranean Sea (MED) and the Northern Atlantic Ocean (NAO). (b) Taxonomic distribution in terms of phyla for 1% rare phytoplankton taxa assemblage in associated ecoregions.

Table S1. Overall and Regional distribution of 1% rare taxa based on their nature of origin.

	Overall	Regional				
		SWPO	SWAO	IPO	MED	NAO
Marine	58	25	18	32	16	08
Freshwater	25	01	01	02	16	10
Ubiquitous	48	21	18	19	17	20

South-Western Pacific Ocean (SWPO), South-Western Atlantic Ocean (SWAO), Indo-Pacific Ocean (IPO), Mediterranean Sea (MED) and Northern Atlantic Ocean (NAO).

Table S2. List of rare phytoplankton taxa. Species are provided with scientific names and taxa identified by sp. and spp. were listed by their respective genus or family name.

Taxa list	Taxa list	Taxa list
Achnanthaceae	Cosmarium laeve	Nitzschia sigmoidea
Acutodesmus acuminatus	Cosmarium margaritifera	Ochromonadaceae
Amphidinium	Crucigenia	Oocystaceae
Amphora	Crucigenia tetrapedia	Oxytoxum crassum
Asterionella	Cyclotella meneghiniana	Oxytoxum laticeps
Asterionella formosa	Cymatosira	Oxytoxum longiceps
Asteromphalus	Dactyliosolen	Oxytoxum scolopax
Attheya longicornis	Dactyliosolen blavyanus	Oxytoxum tessellatum
Bacillaria	Desmodesmus armatus	Oxytoxum variabile
Bacteriastrium comosum	Diadesmidaceae	Peridinium
Bacteriastrium elongatum	Dictyocha	Phaeocystis pouchetii
Bacteriastrium furcatum	Dinophysis acuminata	Phalacroma
Bacteriastrium hyalinum	Euglenaceae	Plagioselmis
Bellerocha	Eunotia	Plagiotropis
Biddulphia	Glenodiniaceae	Pleurosigma angulatum
Campylodiscus	Gonyaulacaceae	Pleurosira laevis
Campylodiscus biangulatus	Gonyaulax	Podolampas
Ceratium	Gyrodinium	Podolampas bipes
Ceratium breve	Gyrosigma	Preperidinium meunieri
Ceratium setaceum	Gyrosigma balticum	Prorocentrum compressum
Ceratium teres	Hemiaulus	Protoperidinium bipes
Chaetoceraceae	Hemiaulus hauckii	Protoperidinium conicum
Chaetoceros costatus	Heterocapsa rotundata	Protoperidinium pallidum
Chaetoceros didymus var. anglica	Kirchneriella obesa	Pseudo-nitzschia
Chaetoceros laciniosus	Lagerheimia marssonii	pseudodelicatissima
Chaetoceros messanense	Leptocylindrus	Pseudo-nitzschia seriata
Chaetoceros peruvianus	Leptocylindrus minimus	Pseudopediastrum boryanum
Chaetoceros thronsenii	Lithodesmium undulatum	Pseudopedinella
Chlamydomonadaceae	Lohmannosphaera	Rhizosolenia
Chlamydomonas	Luticola	Rhizosolenia decipiens
Chlorophyceae	Melosira	Schroederia setigera
Chroococcaceae	Melosira arctica	Snowella lacustris
Chroococcus	Melosira nummuloides	Spirulina
Chroococcus turgidus	Membraneis	Spirulina subsalsa
Climacosphenia	Meringosphaera	Staurastrum
Coccolithophyceae	Monoraphidium griffithii	Syracosphaera pulchra
Cochlodinium	Nitzschia acicularis	Terpsinoë
Coelosphaerium	Nitzschia longissima	Terpsinoë musica
Cosmarium	Nitzschia lorenziana incerta	Tetraedron caudatum
Tetraedron triangulare	Thalassionema frauenfeldii	Tetraedron minimum
Tetraedron trigonum	Thalassionema	Thalassiosiraceae
Tetrastrum	pseudonitzschoides	Toxarium undulatum
Tetrastrum glabrum	Thalassiosiphysa hyalina	Tripos fusus
Tetrastrum triangulare	Thalassiosira eccentrica	Tripos minutus
		Willea rectangularis