

附录I 西北冰洋2010年夏季(7-9月)记录到的浮游植物种类。\* 至今国内尚未报道的物种; \*\* 分类地位未定, 但由于缺少叶绿素, 也曾被Tomas (1997)置于动鞭藻门之下。

Appendix I Phytoplankton species found in the Western Arctic Ocean between July and September in 2010. \* Species has not been reported so far in China; \*\* The taxon is in pending status of systematics, but was also put under division Zoomastigophora by Tomas (1997) as a class due to lack of chloroplasts.

I	蓝藻门	Cyanophyta
	鱼腥藻	<i>Anabaena</i> spp.
	节球藻	<i>Nodularia</i> sp.
	螺旋藻	<i>Spirulina</i> sp.
II	硅藻门	Bacillariophyta
	曲壳藻	<i>Achnanthes</i> sp.
1	带纹曲壳藻	<i>Achnanthes taeniata</i> Grunow 1880
	茧形藻	<i>Amphiprora</i> sp.
2	透明星脐藻	<i>Asteromphalus hyalinus</i> Karsten 1905
3	脆杆链藻	<i>Bacteriosira fragilis</i> (Gran) Gran 1900 [= <i>Bacteriosira bathyomphala</i> (Cleve) Syvertsen & Hasle 1993]
4	钟形中鼓藻	<i>Bellerochea horologicalis</i> Stosch 1980 [= 锤状中鼓藻 <i>Bellerochea malleus</i> (Brightwell) Van Heurck 1885]
5	海洋角管藻	<i>Cerataulina pelagica</i> (Cleve) Hendey 1937 [= <i>Cerataulina bergonii</i> Peragallo 1989]
6	窄隙角毛藻	<i>Chaetoceros affinis</i> Lauder 1864
7	大西洋角毛藻	<i>Chaetoceros atlanticus</i> Cleve 1873
8	北方角毛藻	<i>Chaetoceros borealis</i> Bailey 1854
9	短孢角毛藻	<i>Chaetoceros brevis</i> Schütt 1895
10	曲刺角毛藻	<i>Chaetoceros concavicornis</i> Mangin 1917
11	扭角毛藻	<i>Chaetoceros convolutus</i> Castracane 1886
12	旋链角毛藻	<i>Chaetoceros curvisetus</i> Cleve 1889
13	丹麦角毛藻	<i>Chaetoceros danicus</i> Cleve 1889
14	柔弱角毛藻	<i>Chaetoceros debilis</i> Cleve 1894
15	并基角毛藻	<i>Chaetoceros decipiens</i> Cleve 1873
16	皇冠角毛藻	<i>Chaetoceros diadema</i> (Ehrenberg) Gran 1897 [= <i>C. subsecundus</i> (Grun.) Hustedt, 1930]
17	细角毛藻	<i>Chaetoceros filiformis</i> Meunier 1910
18	叉尖角毛藻	<i>Chaetoceros furcellatus</i> Yendo 1911
19	垂缘角毛藻	<i>Chaetoceros lacinosus</i> F.Schütt 1895
20	洛氏角毛藻	<i>Chaetoceros lorenzianus</i> Grunow 1863
21	短刺角毛藻	<i>Chaetoceros messanensis</i> Castracane 1875
22	相似角毛藻	<i>Chaetoceros similis</i> Cleve 1896
23	聚生角毛藻	<i>Chaetoceros socialis</i> Lauder 1864
24	细弱角毛藻	<i>Chaetoceros subtilis</i> Cleve 1896
25	星脐圆筛藻	<i>Coscinodiscus asteromphalus</i> Ehrenberg 1844
26	中心圆筛藻	<i>Coscinodiscus centralis</i> Ehrenberg 1839
27	弓束圆筛藻	<i>Coscinodiscus curvatus</i> Grunow 1878
28	弓束圆筛藻小型变种	<i>Coscinodiscus curvatus</i> v. <i>minor</i> (Ehr.) Grunow 1884
29	多束圆筛藻	<i>Coscinodiscus divisus</i> Grunow 1878
30	虹彩圆筛藻	<i>Coscinodiscus oculus-iridis</i> Ehrenberg 1839
31	辐射圆筛藻	<i>Coscinodiscus radiatus</i> Ehrenberg 1841
32	细弱圆筛藻	<i>Coscinodiscus subtilis</i> Ehrenberg 1841
33	威氏圆筛藻	<i>Coscinodiscus wailesii</i> Gran et Angst 1931
	圆筛藻	<i>Coscinodiscus</i> sp.1
	圆筛藻	<i>Coscinodiscus</i> spp.
	小环藻	<i>Cyclotella</i> sp.
34	新月筒柱藻	<i>Cylindrotheca closterium</i> (Ehrenberg) Reimann & Lewin 1964 [= <i>Nitzschia closterium</i> (Ehrenberg) W. Smith 1853]
35	丝状短棘藻*	<i>Detonula confervacea</i> (Cleve) Gran 1900
	双壁藻	<i>Diploneis</i> sp.
36	布氏双尾藻	<i>Ditylum brightwellii</i> (West) Grunow 1881

37	翼内茧藻	<i>Entomoneis alata</i> (Ehrenberg) Reimer in Patrick & Reimer 1975 [=翼茧形藻 <i>Amphiprora alata</i> (Ehrenberg) Kützing 1844]
38	格鲁弯角藻*	<i>Eucampia groenlandica</i> Cleve 1896
39	短角弯角藻	<i>Eucampia zodiacus</i> Ehrenberg 1839
40	圆柱拟脆杆藻	<i>Fragilariopsis cylindrus</i> (Grunow) Krieger 1954 [= <i>Fragilaria cylindrus</i> Grunow 1883; <i>Nitzschia cylindrus</i> (Grunow) Hasle 1972]
41	海洋拟脆杆藻	<i>Fragilariopsis oceanica</i> (Cleve) Hasle 1965 [= <i>Nitzschia grunowii</i> Hasle 1972; <i>Fragilaria oceanica</i> Cleve 1873; <i>Fragilaria arctica</i> Grunow 1880]
	拟脆杆藻	<i>Fragilariopsis</i> spp.
42	克罗脆杆藻	<i>Fragilaria crotonensis</i> Kitton 1869
	异极藻	<i>Gomphonema</i> sp.
43	簇生布纹藻	<i>Gyrosigma fasciola</i> (Ehrenberg) J.W.Griffith & Henfrey 1856
44	长尾布纹藻	<i>Gyrosigma macrum</i> (W.Smith) J.W.Griffith & Henfrey 1856 [= <i>Gyrosigma macrum</i> (W.Smith) Cleve 1894]
	斑条藻	<i>Grammatophora</i> sp.
45	环纹劳德藻	<i>Lauderia annulata</i> Cleve 1873 [= <i>Lauderia borealis</i> Gran 1900]
46	丹麦细柱藻	<i>Leptocylindrus danicus</i> Cleve 1889
47	地中海细柱藻	<i>Leptocylindrus mediterraneus</i> (Peragallo) Hasle 1975 [= <i>Dactyliosolen mediterraneus</i> (Peragallo) Peragallo 1892 ]
48	小细柱藻*	<i>Leptocylindrus minimus</i> Gran 1915
49	短纹楔形藻	<i>Licmophora abbreviata</i> C.Agardh 1831
	楔形藻	<i>Licmophora</i> spp.
50	具槽帕拉藻	<i>Paralia sulcata</i> (Ehrenberg) Cleve 1873 [= <i>Melosira sulcata</i> (Ehrenberg) Kützing 1844]
51	北极直链藻	<i>Melosira arctica</i> Dickie 1852
52	拟货币直链藻	<i>Melosira nummuloides</i> (Dillw.)Agardh 1824
53	变异直链藻	<i>Melosira varians</i> Agardh 1827
	直链藻	<i>Melosira</i> spp.
54	膜状缪氏藻	<i>Meuniera membranacea</i> (Cleve) P.C.Silva in Hasle & Syvertsen 1996 [= <i>Navicula membranacea</i> Cleve 1897; <i>Stauroneis membranacea</i> (Cleve) Hustedt 1959 ]
55	直舟形藻	<i>Navicula directa</i> (W.Smith) Ralfs 1861
56	大洋舟形藻	<i>Navicula pelagica</i> Cleve, 1896
57	范氏舟形藻	<i>Navicula vanhoeffenii</i> Gran 1897
58	隐头舟形藻威尼托变种	<i>Navicula cryptocephala</i> var. <i>veneta</i> (Kützing) Rabenhorst 1864 [= <i>Navicula veneta</i> Kützing 1844]
59	北方舟形藻	<i>Navicula septentrionalis</i> (Grunow) Gran 1905 [ = <i>Navicula quadripedis</i> Cleve-Euler 1952]
60	横展舟形藻截平变种 柔弱变型*	<i>Navicula transitans</i> var. <i>derasa</i> f. <i>delicatula</i> Heimdal 1970
	舟形藻	<i>Navicula</i> spp.
61	西氏新细齿藻	<i>Neodenticula seminae</i> (Simonsen and Kanaya) Akiba and Yanagisawa 1986 [= <i>Denticula seminae</i> Simonsen & Kanaya 1961]
62	针状菱形藻	<i>Nitzschia acicularis</i> (Kützing) W.Smith 1853
63	寒冷菱形藻	<i>Nitzschia frigida</i> Grunow 1880
64	长菱形藻	<i>Nitzschia longissima</i> (Brébisson) Ralfs 1861
65	洛氏菱形藻	<i>Nitzschia lorenziana</i> Grunow 1880
	菱形藻	<i>Nitzschia</i> spp.
66	长耳齿状藻	<i>Odontella aurita</i> (Lyngbye) C. A. Agardh 1832 [= <i>Biddulphia aurita</i> (Lyngb) Brébisson et Godey 1838]
67	颗粒齿状藻	<i>Odontella granulata</i> (Roper) R.Ross [= <i>Biddulphia granulata</i> Roper 1859]
68	中华齿状藻	<i>Odontella sinensis</i> (Greville) Grunow 1884 [= <i>Biddulphia sinensis</i> Greville 1866]
69	柔弱伪菱形藻	<i>Pseudo-nitzschia delicatissima</i> (Cleve) Heiden 1928
70	成列伪菱形藻	<i>Pseudo-nitzschia seriata</i> (Cleve) Peragallo et Peragallo 1897
71	宽角斜纹藻	<i>Pleurosigma angulatum</i> (Quekett) W. Smith 1853
72	长斜纹藻	<i>Pleurosigma elongatum</i> W. Smith 1852
73	斯塔斜纹藻*	<i>Pleurosigma stuxbergii</i> Cleve & Grunow 1880
	斜纹藻	<i>Pleurosigma</i> spp.
74	翼鼻状藻	<i>Proboscia alata</i> (Brightwell) Sundström 1986 (= <i>Rhizosolenia alata</i> Brightwell 1858)
75	比利时缝舟藻	<i>Rhaphoneis belgica</i> Grunow 1881

76	钝棘根管藻	<i>Rhizosolenia hebetata</i> J.W.Bailey 1856
77	钝棘根管藻半刺变型	<i>Rhizosolenia hebetata</i> f. <i>semispina</i> (Hansen) Gran 1905
78	刚毛根管藻	<i>Rhizosolenia setigera</i> Brightwell 1858
79	笔尖根管藻	<i>Rhizosolenia styliformis</i> Brightwell 1858
	根管藻	<i>Rhizosolenia</i> sp.
80	中肋骨条藻	<i>Skeletonema costatum</i> (Grev.) Cleve 1878
81	日本冠盖藻	<i>Stephanopyxis nipponica</i> Gran & Yendo 1914
82	肘针杆藻	<i>Synedra ulna</i> (Nitzsch) Ehrenberg 1832
	针杆藻	<i>Synedra</i> sp.
83	菱形海线藻	<i>Thalassionema nitzschioides</i> (Grunow) Mereschkowsky 1902
84	伏氏海线藻	<i>Thalassionema frauenfeldii</i> (Grunow) Tempère & Peragallo 1910 [= <i>Thalassiothrix frauenfeldii</i> (Grunow) Grunow 1880]
	海线藻	<i>Thalassionema</i> sp.
85	长海毛藻	<i>Thalassiothrix longissima</i> Cleve & Grunow 1880
	海毛藻	<i>Thalassiothrix</i> sp.
86	南极海链藻	<i>Thalassiosira antarctica</i> Comber 1896
87	鼓胀海链藻	<i>Thalassiosira gravida</i> Cleve 1896
88	透明海链藻	<i>Thalassiosira hyalina</i> (Grun.) Gran 1897
89	诺登海链藻	<i>Thalassiosira nordenskiöldii</i> Cleve 1873
90	细弱海链藻	<i>Thalassiosira subtilis</i> (Ostenf.) Gran. 1900
91	圆海链藻	<i>Thalassiosira rotula</i> Meunier 1910
	海链藻	<i>Thalassiosira</i> spp.
<b>III</b>	<b>甲藻门</b>	<b>Pyrrophyta</b>
92	奥氏亚历山大藻*	<i>Alexandrium ostenfeldii</i> (Paulsen) Balech & Tangen 1985
93	塔马亚历山大藻	<i>Alexandrium tamarense</i> (Lebour) Balech 1995 [= <i>Gonyaulax tamarensis</i> Lebour 1925]
	亚历山大藻	<i>Alexandrium</i> spp.
94	厚前沟藻	<i>Amphidinium crassum</i> Lohmann 1908
95	奇长前沟藻	<i>Amphidinium extensum</i> Wulff 1916
96	纺锤前沟藻*	<i>Amphidinium fusiforme</i> Martin
97	楔状前沟藻	<i>Amphidinium sphenoides</i> Wülf 1916
	双甲藻	<i>Amphidinium</i> sp.1
	双甲藻	<i>Amphidinium</i> spp.
98	三刺艾米藻*	<i>Amylax triacantha</i> (Jorgensen) Sournia 1984 [= <i>Gonyaulax triacantha</i> Jörgensen 1899]
99	北极角藻	<i>Ceratium arcticum</i> (Ehrenberg) Cleve 1901
100	线形角藻	<i>Ceratium lineatum</i> (Ehrenberg) Cleve 1899
101	弯顶角藻	<i>Ceratium longipes</i> (Bailey) Gran 1902
	角藻	<i>Ceratium</i> sp.
102	美丽旋沟藻*	<i>Cochlodinium pulchellum</i> Lebour 1917
	旋沟藻	<i>Cochlodinium</i> sp.
103	渐尖鳍藻	<i>Dinophysis acuminata</i> Claparède & Lachmann 1859
104	北极鳍藻*	<i>Dinophysis arctica</i> Mereschkowsky 1879
105	诺维鳍藻*	<i>Dinophysis norvegica</i> Claparède & Lachmann 1859
106	格里膝沟藻*	<i>Gonyaulax grindleyi</i> Reinecke 1967 [= <i>Protoceratium reticulatum</i> (Claparède & Lachmann) Butschli 1885 ]
107	斯氏膝沟藻	<i>Gonyaulax scrippsae</i> Kofoid 1911
108	具刺膝沟藻	<i>Gonyaulax spinifera</i> (Claparède & Lachmann) Diesing 1866 [= <i>Peridinium spiniferum</i> Claparède & Lachmann 1859]
	膝沟藻	<i>Gonyaulax</i> sp.
109	纺锤环沟藻*	<i>Gyrodinium fusiforme</i> Kofoid & Swezy 1921 (= <i>Spirodinium fusus</i> Meunier 1910)
110	伍氏环沟藻*	<i>Gyrodinium wulfii</i> Schiller 1933
111	油脂环沟藻*	<i>Gyrodinium pingue</i> (Schütt) Kofoid & Swezy 1921
112	紫红环沟藻*	<i>Gyrodinium prunus</i> (Wulff) Lebour 1925
	环沟藻	<i>Gyrodinium</i> spp.

113	北极裸甲藻*	<i>Gymnodinium arcticum</i> Wulff 1919
114	简单裸甲藻	<i>Gymnodinium simplex</i> (Lohmann) Kofoid & Swezy 1921
115	伍氏裸甲藻*	<i>Gymnodinium wulfii</i> Schiller 1933
	裸甲藻	<i>Gymnodinium</i> spp.
116	威尼凯伦藻*	<i>Karlodinium veneficum</i> (Ballantine).Larsen 2000 [ <i>Gymnodinium micrum</i> (Leadbeater & Dodge) Loeblich III 1970]
117	多边舌甲藻	<i>Lingulodinium polyedrum</i> (Stein) Dodge 1989 [= <i>Gonyaulax polyedra</i> Stein 1883]
118	链状似多甲藻*	<i>Peridiniella catenata</i> (Levander) Balech 1977[= <i>Peridinium catenatum</i> Levander 1894 ; <i>Gonyaulax catenata</i> (Levander) Kofoid 1911]
119	圆形秃顶藻*	<i>Phalacroma rotundatum</i> (Claparède & Lachmann) Kofoid & Michener 1911 [= <i>Prodinophysis rotundatum</i> (Claparède & Lachmann) Balech 1944]
120	无色原多甲藻	<i>Protoperidinium achromaticum</i> [= <i>Peridinium achromaticum</i> ]
121	双脚原多甲藻	<i>Protoperidinium bipes</i> (Paulsen) Balech 1974 [= <i>Peridinium minisculum</i> Pavillard 1905 = <i>Miniscula bipes</i> Lebour 1925]
122	短足原多甲藻	<i>Protoperidinium brevipes</i> (Paulsen) Balech 1974 [= <i>Peridinium brevipes</i> Paulsen 1908 ]
123	樱桃原多甲藻*	<i>Protoperidinium cerasus</i> (Paulsen) Balech 1973 [= <i>Peridinium cerasus</i> Paulsen 1907]
124	曲足原多甲藻*	<i>Protoperidinium curvipes</i> (Ostenfeld) Balech 1974 [= <i>Peridinium curvipes</i> Ostenfeld 1906]
125	扁平原多甲藻	<i>Protoperidinium depressum</i> (Bailey) Balech 1974 [= <i>Peridinium depressum</i> Bailey 1854 ]
126	叉分原多甲藻	<i>Protoperidinium divergens</i> (Ehrenberg) Balech 1974 [= <i>Peridinium divergens</i> Ehrenberg 1840 ]
127	格氏原多甲藻	<i>Protoperidinium granii</i> (Ostenfeld) Balech 1974 [= <i>Peridinium granii</i> Ostenfeld 1906 ]
128	海洋原多甲藻	<i>Protoperidinium oceanicum</i> (VanHöffen) Balech 1974 [= <i>Peridinium oceanicum</i> VanHöffen 1897; <i>Protoperidinium murrayi</i> (Kofoid) Hernández-Becerril 1991]
129	光甲原多甲藻	<i>Protoperidinium pallidum</i> (Ostenfeld) Balech 1973 [= <i>Peridinium pallidum</i> Ostenfeld 1899]
130	灰甲原多甲藻	<i>Protoperidinium pellucidum</i> Bergh ex Loeblich Jr. & Loeblich III 1881 [= <i>Peridinium pellucidum</i> (Bergh) Schütt 1895 ]
131	五角原多甲藻	<i>Protoperidinium pentagonum</i> (Gran) Balech 1974 [= <i>Peridinium pentagonum</i> Gran 1902]
132	梨形原多甲藻	<i>Protoperidinium pyriforme</i> (Paulsen) Balech 1974 [= <i>Peridinium pyriforme</i> Paulsen 1907]
	原多甲藻	<i>Protoperidinium</i> spp.
133	锥状施克里普藻	<i>Scrippsiella trochoidea</i> (Stein) Balech ex Loeblich III 1965 [= <i>Peridinium trochoideum</i> (Stein) Lemmermann 1910 ]
134	有尾尖甲藻*	<i>Oxytoxum caudatum</i> Schiller 1937
135	缩球尖甲藻*	<i>Oxytoxum constrictum</i> (Stein) Bütschli 1885
136	侧头尖甲藻*	<i>Oxytoxum laticeps</i> Schiller 1937
137	长形尖甲藻*	<i>Oxytoxum longum</i> Schiller 1937
	尖甲藻	<i>Oxytoxum</i> spp.
138	帕斯网甲藻 (沃氏藻)*	<i>Woloszynskia pascheri</i> (Suchlandt) von Stosch 1973 [= <i>Glenodinium pascheri</i> Suchlandt 1916; <i>Gymnodinium pascheri</i> (Suchlandt) Schiller 1954; <i>G. inversum</i> Nygaard 1949; <i>G. veris</i> E.Lindemann 1925; <i>Woloszynskia polonica</i> (Woloszynska) Thompson 1951; <i>W. hiemale</i> (Woloszynska) Thompson 1951]
<b>IV</b>	<b>金藻门</b>	<b>Chrysophyta</b>
139	六异刺硅鞭藻	<i>Distephanus speculum</i> (Ehrenberg) Haeckel 1887 [= <i>Dictyocha speculum</i> Ehrenberg 1839 ]
<b>V</b>	<b>针胞藻门</b>	<b>Rhaphidophyta</b>
140	赤潮异弯藻	<i>Heterosigma akashiwo</i> (Hada) Hada ex Hara & Chihara 1987 [= <i>Entomosigma akashiwo</i> Hada 1967]
<b>VI</b>	<b>隐藻门</b>	<b>Cryptophyta</b>
141	卵形隐藻	<i>Cryptomonas ovata</i> Ehrenberg 1832
	半片藻	<i>Hemiselmis</i> sp.
142	梭形隐鞭藻	<i>Hillea fusiformis</i> (Schiller) Schiller 1925 [= <i>Chlamydomonas fusiformis</i> Schiller 1913]
143	海洋白隐藻*	<i>Leucocryptos marina</i> (Braarud) Butcher 1967 [= <i>Bodo marina</i> Braarud 1935; <i>Chilomonas marina</i> (Braarud) Halldal 1953]
<b>VII</b>	<b>裸藻门</b>	<b>Euglenophyta</b>
144	近轴裸藻	<i>Euglena proxima</i> Dangeard 1901
145	球状双鞭藻*	<i>Eutreptia globulifera</i> Van Goor 1925
146	兰氏双鞭藻*	<i>Eutreptia lanowii</i> Steuer 1904
147	布氏异双鞭藻*	<i>Eutreptiella braarudii</i> Throndsen 1969
148	运动异双鞭藻	<i>Eutreptiella gymnastica</i> Throndsen 1969
149	海洋异双鞭藻	<i>Eutreptiella marina</i> da Cunha 1914
	异双鞭藻	<i>Eutreptiella</i> spp.

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VIII	领鞭毛藻纲**	<b>Choanoflagellidea</b>
150	海生单领藻*	<i>Monosiga marina</i> Grøntved 1952
IX	艾鞭藻纲**	<b>Ebriidea</b>
151	三裂醉藻	<i>Ebria tripartita</i> (J.Schumann) Lemmermann 1899 [= <i>Dictyocha tripartita</i> J.Schumann 1867]
X	动质体纲**	<b>Kinetoplastidea</b>
152	细弱特洛藻*	<i>Telonema subtile</i> Greissmann 1913

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