

DREDGING AND SOUNDING STATIONS OF THE LIGHTNING, 1868.

The dredgings made by the British surveying steamer *Lightning* in 1868 were undertaken at the request of the Royal Society, and, with the exception of the dredgings of Count Pourtales in 1867 and 1868, were almost the first deliberate attempts to investigate the deep-sea fauna. The region explored was between the north of Scotland and the Färöe Islands and extending thence to a distance of about 250 miles northwest of Scotland. The series of temperatures obtained on this expedition, showing the great difference of temperature existing to the northeast and southwest of a submarine barrier (discovered by a subsequent expedition) were the first contributions of importance to our knowledge of the laws governing deep-sea temperatures. The scientific observations were under the charge of Dr. W. B. Carpenter and Prof. Wyville Thomson, and the preliminary report by Dr. Carpenter was published in No. 107 of the Proceedings of the Royal Society, 1868.

Dredging and sounding stations of the Lightning, 1868.

WARM AREA.

Serial number.	North latitude.	West longitude.	Depth.	Temperatures	
				Surface.	Bottom.
	° ′	° ′	Fathoms.	°	°
1.....	59 20	7 05	1500	54.5	49
2.....	60 32	9 10	164	54	48.5
3.....	60 31	9 18	220	54	48
4*.....	60 44	8 45	72	54	49
5*.....	61 01	7 48	62	53	50
12*.....	59 36	7 20	530	52.5	47.3
13*.....	59 05	7 29	180	52	49.3
14.....	59 59	9 15	650	53	46
15.....	60 38	11 07	570	52	47
16*.....	61 02	12 04	650	.....	.....
17.....	59 49	12 36	620	52	46

COLD AREA.

6.....	60 45	4 49	510	52	33.7
7*.....	60 07	5 21	500	51	32.2
8.....	60 10	5 50	550	53	32
9*.....	60 24	6 38	170	52	41.7
10*.....	60 28	6 55	500	51	33
11.....	60 30	7 16	1450	50	33.2

* Dredgings.

† At least.

DREDGING STATIONS OF THE PORCUPINE, 1869.

The dredgings of the British steamer *Porcupine* in 1869 were in continuation of those of the *Lightning* in 1868, and were, like them, undertaken at the request of the Royal Society. They extended west of Ireland and Scotland, as far west as the Rockall Bank, and as far north as the Färöe Islands, and reached a depth of 2,435 fathoms, a much greater

one than ever before attained. Dr. Carpenter's report on them is contained in No. 121 of the Proceedings of the Royal Society, Vol. 17, p. 397.

Dredging stations of the Porcupine, 1869.

Serial number.	Date.	Latitude.		Longitude.	Depth.	Kind of bottom.	Temperatures, Fahrenheit.		Temperatures, centigrado.	
		North.	West.				Sur-face.	Bot-tom.	Sur-face.	Bot-tom.
1	May 18	51 51	11 50	370			54.2	49.0	12.3	9.4
2	.....	51 22	12 25	808	Soft mud		54.2	41.4	12.3	5.2
3	.....	51 38	12 56	722			54.5	43.0	12.5	6.1
4	.....	51 56	13 39	251			53.5	49.5	12.0	9.7
5	.....	52 07	12 52	364			54.0	48.8	12.2	10.0
6	.....	52 25	11 40	90			54.0	50.0	12.2	10.2
7	.....	52 14	11 48	159			53.2	50.4	11.8	10.7
8	.....	53 16	11 51	106			54.2	51.2	12.3	10.7
9	.....	53 16	12 42	165			53.5	49.7	12.0	9.8
10	.....	53 23	13 29	85			54.6	49.5	12.5	9.7
11	.....	53 24	15 24	1,630						
12	.....	53 41	14 17	670			52.2	42.6	11.2	5.0
13	.....	53 42	13 55	208			53.6	49.6	12.0	9.8
14	.....	53 49	13 15	173			53.2	49.6	11.8	9.8
15	.....	54 05	12 17	422			52.2	47.0	11.2	8.3
16	.....	54 19	11 50	816			53.0	39.5	11.7	4.2
17	.....	54 28	11 44	1,230			53.2	37.8	11.8	3.2
18	June 7 to July 9	54 15	11 09	183			53.2	49.5	11.8	9.7
19	.....	54 53	10 50	1,360			54.8	37.4	12.6	3.0
20	.....	55 11	11 31	1,443			55.5	37.0	13.0	2.8
21	.....	55 40	12 46	1,476			56.2	36.9	13.4	2.7
22	.....	56 06	13 34	1,263			56.7	37.3	13.8	2.9
23	.....	56 07	14 19	630			57.3	43.5	14.1	6.4
23a	.....	56 13	14 18	420			56.8	46.4	13.7	8.0
24	.....	56 26	14 28	109			57.7	46.4	14.3	8.0
25	.....	56 41	13 39	164			56.8	46.5	13.7	8.1
26	.....	56 58	13 17	345			57.4	46.7	14.1	8.2
27	.....	Rockall Bank.		54			55.6	48.3	13.1	9.1
28	.....	56 44	12 52	1,215			57.0	37.1	14.2	2.8
29	.....	56 34	12 22	1,264			56.9	36.9	13.8	2.7
30	.....	56 24	11 40	1,380			56.0	37.1	13.3	2.8
31	.....	56 15	11 25	1,360			56.9	37.2	13.8	2.9
32	.....	56 05	10 23	1,320			55.9	37.4	13.3	3.0
33	July 20	50 38	9 27	74	Mud, gravel, dead shells		65.2	49.0	18.4	9.8
34	.....	49 51	10 12	75	do		66.0	49.6	18.9	9.8
35	July 21	49 07	10 57	98	Gravel, dead shells		63.4	51.3	17.4	10.7
36	.....	48 50	11 09	725	Muddy sand		64.0	43.9	17.7	6.1
37	July 22	47 38	12 08	2,435	Gray ooze		65.6	36.5	18.6	2.5
38	July 23	47 30	11 33	2,090	do		64.2	36.3	17.9	2.4
39	July 26	49 01	11 56	557	Ooze, sand, dead shells		63.0	47.0	17.2	8.3
40	.....	49 01	12 05	517	do		63.4	47.7	17.4	8.7
41	.....	49 04	12 22	584	do		63.4	46.5	17.4	8.1
42	July 27	49 12	12 52	862	do		62.6	39.7	17.0	4.3
43	July 28	50 01	12 26	1,207	Ooze		61.7	37.7	16.5	3.2
44	July 29	50 20	11 34	865	do		61.2	39.4	16.2	4.1
45	July 30	51 01	11 21	458	do		60.6	48.1	15.9	8.9
46	Aug. 17	59 23	7 04	374	do		53.9	46.1	12.1	7.7
47	August	59 34	7 18	542	do		54.0	43.8	12.2	6.5
48	.....	59 32	6 59	510	do					
49	.....	59 43	7 40	475	do		53.6	45.4	12.0	7.4
50	.....	59 54	7 52	355	do		52.6	46.2	11.4	7.9
51	.....	60 06	8 14	440	do		51.0	42.0	10.9	5.5
52	.....	60 25	8 10	381	do		52.1	30.0	11.2	0.8
53	.....	60 25	7 26	490	do		52.1	30.0	11.2	1.1
54	.....	59 50	6 27	303	do		52.5	31.4	11.4	0.3
55	.....	60 04	6 19	605	do		52.6	29.8	11.4	1.2
56	.....	60 02	6 11	480	do		52.6	30.7	11.4	0.7
57	.....	60 14	6 17	632	do		52.0	30.5	11.1	0.8
58	.....	60 21	6 51	540	do		51.4	30.8	10.6	0.6
59	Aug. 20	60 21	5 41	580	do		52.7	29.7	11.5	1.3
60	.....	61 03	5 58	167	do		49.5	44.3	9.7	6.9
61	Aug. 24	62 01	5 19	114	do		50.4	45.0	10.2	7.2
62	.....	61 50	4 38	125	do		49.6	44.6	9.8	7.0
63	.....	61 57	4 02	317	do		49.0	30.3	9.4	0.9
64	Aug. 25	61 21	3 44	640	do		49.7	30.0	9.3	1.1
65	Aug. 26	61 10	2 21	345	do		52.0	30.0	11.1	1.1
66	.....	61 15	1 44	267	do		52.4	45.7	11.3	7.6
67	Aug. 27	60 32	0 20	64	do		51.9	49.1	11.0	9.5

Dredging stations of the Porcupine, 1869—Continued.

Serial number.	Date.	Latitude.	Longitude.	Depth.	Kind of bottom.	Temperatures Fahrenheit.		Temperatures centigrade.	
						Sur-face.	Bot-tom.	Sur-face.	Bot-tom.
		North.	East.	Fath.		°	°	°	°
68	August	60 23	0 33	75	.....	52.5	44.0	11.4	6.7
69	do	60 01	0 18	67	.....	53.5	43.8	12.0	6.5
		West.							
70	Aug. 28	60 04	0 21	66	.....	53.4	45.1	11.9	7.3
71	Sept. 1	60 17	2 53	103	.....	53.0	48.6	11.6	0.2
72	do	60 20	3 05	76	.....	52.3	48.8	11.3	9.4
73	do	60 29	3 06	84	.....	52.7	48.8	11.5	0.4
74	do	60 39	3 09	203	.....	52.6	47.6	11.4	8.7
75	do	60 45	3 06	250	.....	51.5	41.9	10.8	5.5
76	Sept. 2	60 36	3 58	344	.....	50.3	29.7	10.1	-1.1
77	do	60 34	4 40	560	.....	50.9	29.8	10.5	-1.2
78	Septembr	60 14	4 30	290	.....	52.2	41.5	11.2	5.3
79	do	59 44	4 44	76	.....	52.1	46.9	11.2	0.4
80	do	59 49	4 42	92	.....	53.2	49.4	11.8	9.6
81	do	59 54	5 01	142	.....	53.3	49.1	11.8	9.5
82	do	60 00	5 13	312	.....	52.3	41.4	11.2	5.2
83	do	60 00	5 08	362	.....	53.1	37.5	11.7	3.0
84	Sept. 4	59 34	6 34	155	.....	54.3	49.1	11.4	9.5
85	do	59 40	6 34	190	.....	53.9	48.0	12.1	9.3
86	do	59 48	6 31	445	.....	53.0	30.1	12.0	-1.0
87	Sept. 6	59 35	9 11	767	.....	52.5	41.4	11.4	5.2
88	do	59 26	8 23	705	.....	53.5	42.6	12.0	5.9
89	Sept. 7	59 38	7 46	445	.....	53.1	45.5	11.7	7.5
90	do	60 45	4 49	510	.....	53.1	45.2	11.7	7.3
VI	do	60 07	5 21	500	.....	52.0	31.7	11.1	-0.2
VII	do	60 10	5 59	500	.....	51.0	30.2	10.6	-1.0
VIII	do	60 28	6 55	500	.....	53.0	28.8	11.7	-1.2
X	do	60 30	7 16	450	.....	51.0	30.8	10.6	-0.7
XI	do	60 30	7 16	450	.....	50.0	31.2	10.0	-0.4
XII	do	59 30	7 20	530	.....	52.5	44.8	11.4	7.1
XIII	do	59 59	9 15	650	.....	53.0	42.5	11.7	5.8
XIV	do	60 38	11 07	570	.....	52.0	43.5	11.1	6.4
XV	do	60 38	11 07	570	.....	52.0	43.5	11.1	6.4
XVII	do	59 49	12 36	620	.....	52.0	43.5	11.1	6.4

DREDGING AND SOUNDING STATIONS OF THE PORCUPINE, 1870.

The dredgings of the *Porcupine* in 1870, like those of 1869 and those of the *Lightning* in 1868, were undertaken at the request of the Royal Society to extend the examination of the deep-sea bottom to the south of Europe and the Mediterranean. Two cruises were made, the first under the scientific direction of Mr. Gwyn Jeffreys, accompanied by Mr. Josua Lindahl and Mr. W. L. Carpenter, extending from Falmouth to Gibraltar, and the second under W. B. Carpenter, assisted by Mr. Lindahl and Mr. P. H. Carpenter, exploring the western basin of the Mediterranean between Gibraltar and Malta, in order to determine its physical and biological relations to the Atlantic, with special reference to the Gibraltar current. The temperature observations made on this second cruise, showing an almost absolute uniformity of temperature from the depth of about 100 fathoms (or that of the Straits of Gibraltar) to the greatest depths reached (1,743 fathoms), shed a most important light upon the phenomena of ocean basins inclosed by shallow barriers, such as the Mediterranean, the Caribbean Sea, Gulf of Mexico, and Sooloo Sea, as contrasted with those of the open ocean. Thus, on this season's work, the six temperatures taken below 1,000 fathoms in the Mediterranean (ranging from 1,328 to 1,743 fathoms) were all between

54.7° and 56°, and one at 112 fathoms giving 55.5°, whilst in the Atlantic, almost in the same latitude, depths of 1,095 and 1,065 fathoms gave 39.7° and one of 128 fathoms, a little farther north, 52.5°. The report on the expedition, by Mr. J. Gwyn Jeffreys and Dr. W. B. Carpenter, forms No. 125 of the Proceedings of the Royal Society, December 8, 1870. There appear to be some discrepancies between the numbers assigned to the stations in the Mediterranean in the detailed description of the dredgings and those given in the list of stations and on the charts, but as the latter two series agree the others are probably erroneous. Care, therefore should be taken in making use of the lists of animals dredged to see that they really belong to the station ascribed to them in the body of the text. The explorations of the first cruise (No. 1 to 38) extended from July 7 to August 5, 1870, and those of the second cruise from August 15 to October 1.

Dredging and sounding stations of the Porcupine, 1870.

Station No.	Latitude.		Longitude.	Depth.	Temperatures.		Locality.
	North.	West.			Surface.	Bottom.	
				<i>Fathoms.</i>	°	°	
1	48 38	10 15		567			South of Ireland.
2	48 37	10 09		305	61.5	48.5	Do.
3	48 31	10 03		690			Do.
4	48 32	9 59		717	61.5	45.3	Do.
5	48 29	9 45		100	62.3	61.5	Do.
6	48 26	9 44		358	62.0	50.3	Do.
7	48 18	9 11		93	61.0	51.3	Do.
8	48 13	9 11		257	60.7	50.0	Do.
9	48 06	9 18		539	64.0	48.0	Do.
10	42 44	9 23		81	60.5	53.5	Between Capo Finisterre and Vigo.
11	42 32	9 24		332	60.5	51.5	Do.
12	42 20	9 17		128	61.5	52.5	Do.
13	40 16	9 37		220	64.5	52.0	Between Oporto and Lisbon.
14	40 06	9 44		469	65.3	61.5	Do.
15	40 02	9 49		722	67.5	49.7	Do.
16	39 55	9 56		994	69.5	40.3	Do.
17	39 42	9 43	1,095		68.0	39.7	Do.
17a	39 39	9 39	740		67.5	49.3	Do.
18	39 29	9 44	1,065		65.0	39.7	Do.
19	39 27	9 39	248		64.7	51.7	Do.
21	38 19	9 30	620		67.3	60.5	Southwest of Lisbon.
22	38 15	9 33	718		66.3	52.0	Do.
23	37 20	9 39	802		66.5	40.3	Northwest of Cape St. Vincent.
24	37 19	9 13	292		67.5	52.7	Do.
25	37 11	9 07	374		69.7	53.5	Do.
26	36 44	8 08	364		71.7	52.7	Between Cape St. Vincent and Cadiz.
27	36 37	7 33	322		73.0	51.3	Do.
28	36 29	7 16	304		71.5	53.3	Do.
29	36 20	6 47	227		73.3	55.0	Southwest of Cadiz.
30	36 15	6 52	386		73.0	52.7	Do.
31	35 58	7 06	477		71.3	60.5	Off Straits of Gibraltar.
32	35 41	7 08	651		71.5	60.0	Do.
33	35 33	6 54	554		72.0	49.7	Do.
34	35 44	6 53	414		71.7	50.0	Do.
35	35 39	6 38	335		73.5	51.5	Do.
36	35 35	6 26	128		75.0	55.0	Do.
37	35 50	6 00	190		72.0	63.7	In Straits of Gibraltar.
38	35 58	5 26	503		71.7	54.0	Do.
39	35 59	5 27	517		*66.0	55.5	Do.
40	36 00	4 40	586		74.5	55.0	Between Gibraltar and Oran.
41	35 57	4 12	739		74.5	55.0	Do.
42	35 45	3 57	790		74.0	54.0	Do.
43	35 24	3 54	102		74.7	55.0	Do.
44	35 42	3 01	453		70.0	55.0	Do.
45	35 36	2 29	207		72.7	54.7	Do.
46	35 39	1 56	493		73.5	55.5	Do.
47	37 25	1 10	845		69.5	54.7	South of Cartagena.
48	37 11	0 31	1,328		73.5	64.7	Do.

* These temperatures are the averages of the day.

Dredging and sounding stations of the Porcupine, 1870—Continued.

Station No.	Latitude.		Depth.	Temperatures.		Locality.
	North.	West.		Surface.	Bottom.	
49	36 29	0 21	1,412	71.5	54.7	Between Cartagena and Oran.
50			51	*74.4		Coast of Algiers.
50a			152			
50b			510			
51	30 55	1 10	1,415	75.0	54.7	Off coast of Algiers.
52			660	*76.2		Coast of Algiers.
52a			590			
53	36 53	5 55	112			
54	37 41	0 27	1,508	77.0	55.5	Do.
55	37 30	6 51	1,450	78.0	55.0	Off coast of Algiers.
56	37 03	11 36	390	76.5	55.0	Do.
57	36 06	13 10	224	78.0	56.5	Between Cape Bon and Pantellaria.
58	36 43	13 30	266	*76.8		South of Sicily.
59	36 32	14 12	445	75.5	56.5	Do.
60	30 31	15 46	1,743	77.0	56.0	Do.
61	38 26	15 32	392	74.0	56.0	Southeast of Sicily.
62	38 38	15 21	730	72.5	55.7	Northeast of Sicily.
63			181	72.5	55.3	Do.
64			400	68.0	54.7	Straits of Gibraltar.
65			198	65.6	54.7	Do.
66			147	63.0	54.5	Off Straits of Gibraltar.
67			188	69.0	55.3	Do.

* These temperatures are the averages of the day.

DREDGINGS OF THE SHEARWATER, 1871.

In 1871 the steamer *Shearwater* made some dredgings on the coral banks between Sicily and Cape Bon, in depths of not more than about 200 fathoms. Dredging was not the main object of the expedition and no record exists, so far as is known, of the precise localities.

SOUNDING AND DREDGING STATIONS OF THE VALOROUS, 1875.

The *Valorous* was a war-steamer sent as a store-ship with the British North-Polar Expedition of 1875 (the *Alert* and *Discovery*). As it was to return directly from Disco, Greenland, the Royal Society requested the Government to permit Mr. J. Gwyn Jeffreys and an assistant, Mr. Herbert P. Carpenter, to make the voyage, so as to undertake natural history observations both at Disco and on the *return* voyage. The reports on the dredgings, etc., between Davis's Straits and England by Mr. Jeffreys, Dr. William B. Carpenter, Rev. A. F. Norman, Dr. W. C. McIntosh, Professor Allman, Professor Duncan, Prof. George Dickie, and Mr. R. Etheridge were published in No. 173 of the Proceedings of the Royal Society, 1876. The first dredging was made about July 22 and the last on August 23, 1875. In the following table the letter D. indicates a dredging, S. T. a serial temperature. At the other stations soundings only were made.

Sounding and dredging stations of the Valorous, 1875.

Serial No.	Latitude N.		Longitude W.		Depth. Fath.	Bottom temperature. °	Kind of observation.	Nature of bottom.	Locality.
	°	'	°	'					
1	70	30	54	41	175	.....	D.	Sand, mud	North of Disco Island.
2	70	27	55	00	85	.....	D.	Gravel, stone	Do.
3	69	31	56	01	100	.....	D.	Mud	West of Disco Island.
4	67	58	55	27	20	.....	D.	Broken barnacles, shells	In Davis's Straits.
5	66	55	55	30	57	.....	D.	Rock, sand, shells	Do.
6	64	05	56	47	410	34.6	D., S. T.	Sand, mud	Do.
7	63	09	56	43	1,100	36.4	D., S. T.	Clay, mud	Do.
8	62	00	55	58	1,350	34.6	.....	Mud (blue clay under)	Do.
9	59	10	50	25	1,750	34.0	D.	do	Do.
10	58	14	46	29	1,060	34.3	S. T.	Fine sand	SW. of Cape Farowell.
11	57	50	44	52	1,863	33.4	.....	Globigerina ooze	South of Cape Farowell.
12	56	11	37	41	1,450	36.3	D., S. T.	Globigerina ooze, stone	In Atlantic Ocean.
13	56	01	34	42	600	38.2	D.	Globigerina ooze	Do.
14	55	58	31	41	1,230	36.8	.....	Mud	Do.
15	55	58	28	42	1,485	36.5	S. T.	Clay, blue mud	Do.
16	55	10	25	58	1,785	36.7	D.	Globigerina ooze (blue mud under)	Do.

DREDGING STATIONS OF THE KNIGHT ERRANT, 1880.

The dredgings of the British steamer *Knight Errant* were made in the Färöe Channel between the Färöe Islands and the north of Scotland, covering a part of the same ground that was explored by the *Lightning* in 1868, and defining the position of the submarine barrier by which the so-called warm and cold areas of the Färöe Channel are divided from each other. The report of the expedition was published in the Proceedings of the Royal Society of Edinburgh, Vol. XI, pp. 638-720, read May 15, 1882. The dredgings were under the scientific charge of Mr. John Murray, of the *Challenger* expedition.

Dredging stations of the Knight Errant.

Serial No.	Date.	Latitude N.	Longitude W.	Depth.	Kind of bottom.	Temperatures.	
						Surface.	Bottom.
1	July 27	60 04	7 37	Fath. 305	Mud	54.8	46.5
2	July 28	60 29	8 19	375	do	53.0	31.0
3	Aug. 3	59 12	5 57	53	.....	.....	.....
4	Aug. 10	59 33	7 14	555	Mud	57.0	45.0
5	Aug. 11	59 26	7 19	515	Ooze	56.6	44.0
6	do	59 37	7 19	530	do	57.0	.....
7	do	59 37	7 19	530	do	57.0	.....
8	Aug. 17	60 03	5 51	540	do	56.5	28.0

DREDGING STATIONS OF THE TRITON, 1882.

The dredgings of the British surveying steamer *Triton* in 1882 were, like those of the *Knight Errant* in 1880, directed towards the further exploration of the Färöe Channel, and covered nearly the same ground. They were also under the scientific charge of Mr. John Murray, and Mr. J. Gwyn Jeffrey's report on the mollusca obtained was published in the Proceedings of the Zoological Society of London, June 19, 1883, from which these positions have been taken.

Dredging stations of the Triton, 1882.

Serial No.	Latitude N.	Longitude W.	Depth.	Temperature of bottom.	Remarks.	Area.
			<i>Fathoms.</i>			
1	59 51 30	0 21 00	240	47.5-47.6	On the ridge.....	Warm.
2	59 37 30	0 21 00	530	40.2	West of ridge.....	
3	59 39 30	0 06 00	87	49.5	Fürße banks.....	Cold.
4	60 22 40	8 21 00	327-430	31.5-32.0	East of ridge.....	
5	60 11 45	8 15 00	433	43.5	West of ridge.....	Warm.
6	60 09 00	7 16 30	406	29.5-30.0	East of ridge.....	Cold.
7	60 19 00	7 10 00	585	29.0-30.5	do.....	Do.
8	60 18 00	6 15 00	640	30.0	do.....	Do.
9	60 05 00	0 21 00	608	30.0	do.....	Do.
10	59 40 00	7 21 00	516	40.0-40.5	West of ridge.....	Warm.
11	59 39 30	7 13 03	555	45.5	do.....	Do.
12	60 31 00	7 34 00	580	31.0	East of ridge.....	Cold.
13	59 51 02	8 18 00	570	45.7	West of ridge.....	Warm.

* Partly on the ridge.

† The trawl had been carried right over the ridge and came up in the cold area.

DREDGINGS OF THE SWEDISH FRIGATE JOSEPHINE, 1869.

These dredgings extended from the coast of Portugal to the Azores, and thence across the Atlantic to America. They were under the charge of Messrs. Smith and Ljungmans. I have been unable to meet with any details as to the precise positions or character of the dredgings.

CLASSIFIED LIST OF ALL DREDGINGS OF OVER 60 FATHOMS MADE BY U. S. FISH COMMISSION NORTH OF BAHAMAS.

Dredgings made in the Gulf of Maine are not given, nor those made *inside* the Banks situated off the coast of Nova Scotia.

The others are designated as follows:

S.—Off Savannah to Bahamas. N. Lat. 27° 30' to 34° 00'.

H.—Off Cape Hatteras. N. Lat. 34° 00' to 36° 30'.

C.—Off Chesapeake Bay. N. Lat. 36° 30' to 38° 00'.

D.—Off Delaware Bay. N. Lat. 38° 00' to 39° 00'.

M.—South of Block Island, Martha's Vineyard, and Nantucket.

G.—South to east of St. George's Bank.

N.—South and southeast of Newfoundland and on the Flemish Cap.

60 to 100 fathoms:

H.—2908, 2267, 2268, 2298, 2595, 2600, 2602, 2603.

C.—2005, 2011, 2012, 2265, 2421, 2422, 2424.

M.—865, 866, 867, 872, 874, 920, 921, 922, 941, 950, 1091, 1109, 1117, 1118, 2031, 2032, 2057, 2085, 2086, 2087, 2177, 2197, 2198, 2199, 2243, 2244, 2247, 2248.

G.—83 B., 84 B., 2065, 2066, 2079, 2524, 2525.

N.—2432, 2692, 2693, 2694, 2698, 2699, 2700, 2701.

100 fathoms:

H.—2266, 2425, 2426, 2592, 2601.

C.—2004.

D.—1046, 2746.

100 fathoms—continued.

M.—871, 873, 875, 876, 877, 923, 949, 1027, 1035, 1036, 1040, 1107, 1108, 1110, 1111, 1119, 1151, 1152, 2053, 2054, 2055, 2056, 2091, 2245, 2246, 2505, 2512, 2522, 2558, 2559, 2560.

G.—2060, 2061, 2064, 2067, 2069, 2070, 2071, 2523, 2526, 2527.

N.—2477, 2481, 2695, 2696, 2704.

150 fathoms:

H.—2109, 2310, 2593, 2594, 2613, 2614.

C.—897, 2020, 2170, 2264, 2423.

D.—1043, 1047.

M.—858, 870, 878, 924, 940, 942, 943, 944, 1034, 1038, 1039, 1097, 1098, 1115, 1116, 1150, 2026, 2088, 2089, 2090, 2184, 2185, 2200, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2555, 2557, 2582, 2583.

G.—96 B., 97 B., 2062, 2063, 2068.

N.—2431, 2472, 2474, 2479, 2488, 2703.

200 fathoms:

C.—2021.

D.—1044, 2745.

M.—869, 926, 945, 951, 1025, 1026, 1032, 1033, 1092, 1113, 1114, 1120, 1121, 1137, 1138, 1153, 1154, 2027, 2028, 2092, 2183, 2548, 2556, 2590, 2591.

N.—2430, 2469, 2470, 2471, 2473, 2475, 2476, 2478, 2480, 2483, 2484, 2485, 2486, 2697, 2702.

250 fathoms:

S.—2624, 2625, 2665, 2666, 2667, 2673.

D.—2232.

M.—878, 879, 895, 925, 939, 1112, 2024, 2025, 2178, 2188, 2262, 2589, 2686.

300 fathoms:

S.—2668, 2670, 2671, 2672, 2674, 2675.

H.—2299, 2306.

C.—898.

D.—1045.

M.—881, 933, 947, 996, 997, 998, 999, 1031, 1094, 1095, 1096, 1125, 1139, 1142, 2176, 2586.

N.—2482.

350 fathoms:

S.—2626, 2655, 2664, 2669.

M.—1030, 1093, 1122, 2186, 2687.

400 fathoms:

S.—2627, 2661, 2662, 2663, 2676.

C.—2014, 2023, 2171, 2263.

D.—1048, 1049.

M.—893, 894, 952, 994, 995, 1028, 1140, 1141, 2033, 2045, 2046, 2047, 2187, 2212, 2213, 2547, 2554, 2581, 2587.

G.—85 B.

500 fathoms:

S.—2628, 2657, 2658, 2659, 2660, 2677.

H.—2009, 2110.

C.—2001, 2006, 2022.

M.—891, 892, 1023, 1143, 1144, 2043, 2175, 2179, 2180, 2201, 2202, 2214, 2237, 2546, 2561, 2584, 2585, 2588, 2689.

G.—2073.

N.—2427, 2429.

600 fathoms:

S.—2656.

C.—2002, 2003, 2019, 2172.

600 fathoms—continued.

D.—2233, 2744.

M.—937, 1124, 1155, 2030, 2189, 2215, 2236, 2549, 2553, 2680, 2688, 2690, 2722.

G.—2073.

700 fathoms :

S.—2654, 2678.

H.—2300.

C.—2729, 2730.

M.—936, 953, 954, 2181, 2203, 2204, 2235, 2552, 2749.

G.—2528, 2529, 2532.

800 fathoms :

S.—2679.

H.—2115.

C.—2018, 2731, 2734, 2735, 2739.

D.—2721.

M.—935, 1123, 2551, 2691.

G.—2533.

N.—2428.

900 fathoms :

H.—2010, 2111, 2116.

C.—2013, 2728, 2733, 2738, 2741, 2742.

M.—2182, 2217, 2218, 2219, 2238, 2683.

G.—2072, 2075, 2076, 2531, 2709.

Dredgings in 1,000 fathoms or more are not distinguished geographically, but are all between N. lat. $36^{\circ} 06'$ and $41^{\circ} 43'$ and W. long. $65^{\circ} 22'$ and $74^{\circ} 33'$.

1,000 fathoms :

2049, 2050, 2083, 2093, 2094, 2104, 2191, 2206, 2210, 2216, 2231, 2530, 2681, 2682, 2706, 2710, 2740.

1,100 fathoms :

2044, 2051, 2052, 2103, 2192, 2193, 2194, 2195, 2205, 2207, 2209, 2211, 2220, 2550, 2684, 2685, 2707, 2743.

1,200 fathoms :

2029, 2102, 2190, 2196, 2293, 2230, 2534, 2535, 2706, 2727, 2732, 2748.

1,300 fathoms :

2034, 2074, 2077, 2084, 2095, 2705, 2726, 2747.

1,400 fathoms :

2035, 2105, 2229, 2562, 2563, 2564, 2571, 2725.

1,500 fathoms :

2043, 2096, 2106, 2221, 2222, 2711, 2719, 2720.

1,600 fathoms :

2041, 2042, 2100, 2101, 2173, 2174, 2223, 2716, 2717, 2718, 2723, 2724.

1,800 fathoms :

2036, 2037, 2568, 2569, 2570, 2572, 2573, 2574, 2575, 2712, 2713, 2714, 2715.

2,000 fathoms :

2038, 2097, 2226, 2565.

2,200 fathoms :

2040, 2098, 2227.

2,400 fathoms :

2039.

2,600 fathoms :

2223, 2224, 2225, 2566, 2567.

2,949 fathoms :

2099.