WHOI-80-18

MIDWATER FISH DATA REPORT:
COLD CORE RINGS TIME SERIES CRUISES
KNORR 62, 65, AND 71 AND ENDEAVOR 11

by

Richard H. Backus
and
James E. Craddock

WOODS HOLE OCEANOGRAPHIC INSTITUTION
Woods Hole, Massachusetts 02543

March 1980

TECHNICAL REPORT

*Prepared for the Office of Naval Research under Contract
N00014-79-C-0071; NR 083-004.*

*Reproduction in whole or in part is permitted for any
purpose of the United States Government. This report
should be cited as: Woods Hole Oceanographic Institution
Technical Report, WHOI-80-18.*

Approved for public release; distribution unlimited.

Approved for Distribution

George D. Gryce
George D. Gryce, Chairman
Department of Biology

Woods Hole Oceanographic Institution

Woods Hole, MA 02543

Phone: (617) 548-1400

TWX: 710-346-6601

March 17, 1980

This data report is for midwater fishes taken on the time-series cruises in and around cold-core Gulf Stream rings in 1976 and 1977 - KNORR cruises 62, 65, and 71 and ENDEAVOR cruise 11.

The MOCNESS-10 system was used for sampling on the three KNORR cruises. Most often, five nets were fished at each station; one (Net 0) generally sampled down to near 1000 m where the second net (Net 1) was opened and retrieval of the gear begun; successive closure-openings were done at 250-m intervals on the way up. On ENDEAVOR cruise 11, for want of a suitable winch, a single net was fished down to and up from 1000 m.

The first tables describe the circumstances surrounding the making of the collections. These tables are self-explanatory except that the second depth shown for Net 0, the down-fishing net, is the maximum depth reached by the net, not the depth at which the net was closed. (That depth is the first one given for Net 1).

The data tables can be divided into two sorts because of the difference in gear used on the ENDEAVOR and KNORR cruises. One set allows intercomparison of data by 250-m depth strata for the three KNORR cruises. A second set allows comparison of the ENDEAVOR 11 data with the remainder by the pooling of collections for each station of the KNORR cruises.

Essentially three kinds of data are given - number of specimens, number of specimens per unit volume of water, and volume of fish per unit volume of water. Most of the tables are for individual species, mainly myctophids. A few at the outset are for pooled myctophids, pooled gonostomatids, photichthyids, and sternoptychids, and for pooled Cyclothone species. The various classes of tables are set off from one another by colored separators.

Designating numbers for and values from samples taken at night are underlined; ones for daytime samples are not.

Dashes in the "KNORR-cruises" tables indicate irregularities in net operation. The match of the values given with the depth scale at the left may be approximate. For the actual sampling depths see the station-data tables.

March 17, 1980

Page 2

The water-column (usually 1000 m) values given in the "all cruise" tables for specimens per unit volume of water and fish volume per unit volume of water were calculated for the KNORR stations by averaging the down rate (Net 0 rate) and the up rate; the up rate was calculated by averaging the rates of individual nets (in those few collections where the depth intervals were not equal, a weighted average was used for this 'up' rate). In these tables stations 32 and 33 are special. Because of a missed depth interval (250-0 for 32) and a lost sample-jar of myctophids (for 33, 4), numbers of specimens are minimum ones (except for non-myctophids from 33) and are enclosed in parentheses. Station averages for specimens per unit volume of water and fish volume per unit volume of water are based on Net 0 only and are enclosed in parentheses.

These data are relatively few when they are apportioned according to season, location with respect to the ring center, time of day and depth, and, of course, the variance is large. Remember, also, that a midwater trawl catches some unknown fraction of what is actually there. This work was done under Contract N00014-79-C-0071 NR083-004 and its predecessors with the Office of Naval Research.

Richard H. Backus

James E. Craddock

RHB,JEC:md

STATION DATA

KNORR 62

MOC	Location	Position	Date	Time	Depth	Depth	Bearing to	Distance	Center
10		N W	Dec. '76		Net (m)	15° (m)	(approx.)	to (n.mi.)	of
20,0	Center "Al"	36°12', 65°36'	5-6	2245 0010	0	1050	315°	10-12	Al
1			6	0010 0037	1000	750			
2			6	0037 0057	750	500			
3			6	0057 0116	500	250			
4		36°06', 65°39'	6	0116 0144	250	0			
								322	
22,0	Flank "Al"	36°22', 65°07'	10-11	2350 0121	0	760	225°	±25	Al
2			11	0121 0210	500	250			
3		36°25', 65°03'	11	0210 0300	250	0			
								340	
23,0	Fringe "Al-Art"	37°18', 63°22'	15	0008 0103	0	780	315°	±55	Art
1			15	0103 0140	750	500			
2			15	0140 0231	500	250			
3		37°15', 63°15'	15	0231 0343	250	0			
								600	
24,0	Slope Water	38°47', 68°56'	19	1942 2030	0	775	-	-	-
1			19	2030 2107	775	500			
2			19	2107 2201	500	250			
3		38°42', 68°56'	19	2201 2300	250	0			
								100	

KNORR 71

MOC	Location	Position N W	Date Oct-Nov 77	Time	Depth Net (m)	Depth 15° (m)	Bearing to (approx.)	Distance to (n.mi.)	Center to
10									
56,0	Slope Water	38°31', 71°59'	23	1410 1628	0 830	<0	-	-	-
1			23	1628 1650	600 400				
2		38°37', 71°56'	23	1650 1732	400 0	<0			
57,0	Slope Water	38°39', 71°54'	24	0052 0217	0 1020	<0?	-	-	-
1			24	0217 0300	1000 750				
2			24	0300 0340	750 500				
3			24	0340 0420	500 250				
4		38°47', 71°51'	24	0420 0500	250 0	<0?			
58,0	Center "Em"	34°51', 70°22'	29	0201 0322	0 1010	250	020°	13-14	"Em"
1			29	0322 0350	1000 750				
2			29	0350 0412	750 500				
3			29	0412 0436	500 250				
4		34°52', 70°16'	29	0436 0501	250 0	-			
59,0	Center "Em"	34°53', 70°28'	29	1412 1550	0 1030	280	360°	15	"Em"
1			29	1550 1615	1000 750				
2			29	1615 1640	750 500				
3			29	1640 1707	500 250				
4		34°48', 70°36'	29	1707 1732	250 0	320			
61,0	Center "Frank"	36°43', 65°47'	3	1345 1502	0 1030	157	290°	12-13	"Frank"
1			3	1502 1537	1000 667				
2			3	1537 1601	667 475				
3			3	1601 1628	475 250				
4		36°46', 65°40'	3	1628 1652	250 0	-			

-continued-

KNORR 71, continued

MOC	Location	Position N W	Date Oct-Nov 77	Time	Depth Net (m)	Depth 15° (m)	Bearing to (approx.)	Distance to (n.mi.)	Center to t ₀
62,0	Center "Frank"	36°42', 65°49'	4	0123 0208	0 1020	180	290°	±15	"Frank"
1			4	0208 0325	1000 750				
2			4	0325 0339	750 500				
3			4	0339 0419	500 250				
4		36°48', 65°40'	4	0419 0502	250 0	210			
63,0	N. Sargasso Sea	36°46', 64°32'	4	2153 2317	0 1020	720	270°	70-75	"Frank"
1			4	2317 2358	1000 750				
2			4-5	2358 0043	750 500				
3			5	0043 0122	500 250				
4		36°49', 64°24'	5	0122 0201	250 0	720			
64,0	Flank "Frank"	36°39', 65°15'	5	2104 2221	0 1020	510	290°	42-43	"Frank"
1			5	2221 2257	1000 750				
2			5	2257 2341	750 500				
3			5-6	2341 0014	500 250				
4		36°38', 65°10'	6	0014 0101	250 0	540			
65,0	Center "Frank"	36°49', 65°58'	6	1232 1354	0 1040	180	290°	8-9	"Frank"
1			6	1354 1438	1000 750				
2			6	1438 1528	750 500				
3			6	1528 1614	500 250				
4		36°52', 65°46'	6	1614 1646	250 0	220			
66,0	Center "Frank"	36°56', 65°59'	6	2140 2316	0 1020	170	-	±1	"Frank"
1			6-7	2316 0002	1000 750				
2			7	0002 0045	750 500				
3			7	0045 0132	500 250				
4		37°04', 66°10'	7	0132 0213	250 0	190			

-continued-

MYCTOPHIDAE

		Nov-Dec 76 KNORR 62		April 77 KNORR 65			Oct-Nov 77 KNORR 71					
Slope Water	Collection	<u>24</u>	36	<u>38</u>	39	56	<u>57</u>	67	<u>68</u>			
	0	<u>24</u>	1	<u>23</u>	1	17	<u>13</u>	7	<u>13</u>			
	250	<u>4</u>	17	<u>5</u>	17	12	<u>4</u>	11	<u>6</u>			
	500	<u>5</u>	10	<u>5</u>	-	-	<u>5</u>	7	<u>4</u>			
	750	-	5	-	-	-	<u>1</u>	3	<u>1</u>			
	1000 Net 0	<u>14</u>	8	<u>10</u>	12	15	<u>9</u>	8	<u>9</u>			
Ring Center	Collection	<u>20</u>	35	27	<u>28</u>	<u>32</u>	<u>58</u>	59	61	<u>62</u>	65	<u>66</u>
	0	<u>A1</u>	A1	Bob	<u>Bob</u>	<u>Bob</u>	<u>Em</u>	Em	Frank	<u>Frank</u>	Frank	<u>Frank</u>
	250	<u>14</u>	0	0	<u>17</u>	-	<u>5</u>	2	4	<u>11</u>	2	<u>17</u>
	500	<u>4</u>	7	10	<u>2</u>	<u>2</u>	<u>4</u>	5	14	<u>11</u>	16	<u>5</u>
	750	<u>1</u>	14	5	<u>2</u>	<u>2</u>	<u>6</u>	11	11	<u>9</u>	15	<u>5</u>
	1000 Net 0	<u>14</u>	7	2	<u>12</u>	<u>5</u>	<u>9</u>	16	16	<u>18</u>	14	<u>17</u>
Ring Flank	Collection	<u>22</u>	<u>33</u>									
	0	<u>A1</u>	<u>Bob</u>									
	250	<u>17</u>	-									
	500	<u>5</u>	<u>6</u>									
	750	-	<u>1</u>									
	1000 Net 0	<u>14</u>	<u>18</u>									
Ring Fringe	Collection	<u>23</u>	<u>29</u>									
	0	<u>A1-Art</u>	<u>Bob</u>									
	250	<u>21</u>	<u>28</u>									
	500	<u>2</u>	<u>2</u>									
	750	<u>6</u>	<u>4</u>									
	1000 Net 0	<u>9</u>	<u>22</u>									
N. Sargasso Sea	Collection		<u>25</u>	26								
	0		<u>11</u>	1								
	250		<u>4</u>	4								
	500		<u>1</u>	8								
	750		<u>4</u>	11								
	1000 Net 0		<u>4</u>	8								
Myctophidae, Number of Species												

Myctophidae,
Number of Species

		Nov-Dec 76 KNORR 62		April 77 KNORR 65			Oct-Nov 77 KNORR 71					
		Collection	24	36	38	39	56	57	67	68		
Slope Water	Depth	0	<u>138</u>	1	<u>106</u>	1	321	<u>56</u>	42	<u>83</u>		
	250	<u>30</u>	117	<u>9</u>	125	69	<u>16</u>	174	<u>31</u>			
	500	<u>41</u>	28	<u>10</u>	-	-	<u>49</u>	27	<u>47</u>			
	750	-	8	-	-	-	<u>13</u>	7	<u>6</u>			
	1000	-	-	-	-	-	-	-	-			
	Net 0	<u>81</u>	21	<u>27</u>	48	199	<u>93</u>	52	<u>167</u>			
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66
	0	<u>Al</u>	Al	Bob	<u>Bob</u>	<u>Bob</u>	<u>Em</u>	<u>Em</u>	Frank	<u>Frank</u>	Frank	<u>Fran</u>
	250	<u>27</u>	0	0	<u>308</u>	-	<u>13</u>	3	4	<u>72</u>	3	<u>103</u>
	500	<u>4</u>	10	57	<u>2</u>	<u>6</u>	<u>8</u>	19	142	<u>71</u>	96	<u>41</u>
	750	<u>2</u>	32	12	<u>2</u>	<u>3</u>	<u>23</u>	44	172	<u>190</u>	655	<u>240</u>
	1000	<u>27</u>	5	2	<u>3</u>	<u>1</u>	<u>42</u>	32	43	-	29	<u>15</u>
Ring Flank	Net 0	<u>66</u>	11	8	<u>80</u>	<u>120</u>	<u>14</u>	43	97	<u>96</u>	64	<u>85</u>
	Collection	22	33									
	0	<u>Al</u>	<u>Bob</u>									
	250	<u>120</u>	-									
	500	<u>7</u>	7									
	750	-	4									
Ring Fringe	1000	-	4									
	Net 0	<u>84</u>	<u>73</u>									
	Collection	23	29									
	0	<u>Al-Art</u>	<u>Bob</u>									
	250	<u>231</u>	<u>129</u>									
	500	<u>2</u>	<u>2</u>									
N. Sargasso Sea	750	<u>10</u>	<u>50</u>									
	1000	-	<u>24</u>									
	Net 0	<u>31</u>	<u>44</u>									
	Collection	25	26									
	0	<u>33</u>	1									
	250	<u>4</u>	22									
N. Sargasso Sea	500	<u>1</u>	24									
	750	<u>14</u>	43									
	1000	<u>7</u>	21									
	Net 0	<u>21</u>										
	Collection	63										
	0	<u>43</u>										

Myctophidae,
number of specimens

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71								
		Collection	24	36	38	39	56	57	67	68				
Slope Water	Depth	0	35.4	0.4	27.2	0.4	91.7	24.3	21.0	27.7				
	250		10.0	41.8	2.1	50.0	40.6	6.4	64.4	9.4				
	500		17.8	11.2	2.3	-	-	22.3	10.0	15.2				
	750		-	2.9	-	-	-	5.9	2.8	2.1				
	1000													
	Net 0		50.6	8.1	7.9	4.3	33.2	38.8	20.0	38.8				
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66		
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank		
	Depth	0	5.4	0	0	146.7	-	8.1	2.0	3.1	32.7	1.5	39.6	
	250		3.3	3.3	21.1	0.8	4.3	5.3	10.6	78.9	22.2	35.6	15.2	
	500		1.5	11.0	4.6	0.9	1.9	17.7	25.9	122.8	73.1	187.1	96.0	
	750		15.9	1.9	0.9	1.4	0.6	26.3	17.8	18.7	-	13.8	5.8	
Ring Flank	1000													
	Net 0		28.7	5.0	3.8	72.7	66.7	6.4	10.5	34.6	48.0	22.8	22.9	
	Collection	22	33							64				
		Al	Bob							Frank				
	Depth	0	41.4	-							14.4			
	250		2.3	7.8							0.4			
Ring Fringe	500		-	5.0							3.0			
	750		-	5.0							17.2			
	1000													
	Net 0		19.1	60.8							17.0			
	Collection	23	29											
		Al-Art	Bob											
N. Sargasso Sea	Depth	0	57.8	67.9										
	250		0.6	1.1										
	500		4.3	41.7										
	750		-	17.1										
	1000													
	Net 0		16.3	36.7										
	Collection		25	26							63			
	Depth	0	14.3	0.5							17.2			
	250		1.4	12.9							0			
	500		0.5	16.0							2.2			
	750		8.8	22.6							47.0			
	1000		4.4	10.5							9.5			
	Net 0													

Myctophidae,
specimens/10,000 m³

		Nov-Dec 76 KNORR 62	April 77 KNORR 65		Oct-Nov 77 KNORR 71							
Slope Water	Collection	<u>24</u>	36	<u>38</u>	39	56	<u>57</u>	67	<u>68</u>			
	0	<u>11.3</u>	<0.1	<u>11.3</u>	<0.1	10.2	<u>7.1</u>	7.2	<u>12.3</u>			
	250	<u>6.5</u>	15.1	<u>2.6</u>	23.0	10.1	<u>2.4</u>	12.5	<u>11.1</u>			
	500	<u>5.5</u>	11.0	<u>15.5</u>	-	-	<u>8.8</u>	13.0	<u>9.2</u>			
	750	-	0.6	-	-	-	<u>1.1</u>	4.2	<u>5.2</u>			
	1000	-	-	-	-	-	-	-	-			
	Net 0	<u>15.4</u>	2.7	<u>17.5</u>	12.6	20.8	<u>11.3</u>	7.4	<u>14.7</u>			
Ring Center	Collection	<u>20</u>	35	27	<u>28</u>	<u>32</u>	<u>58</u>	59	61	<u>62</u>	65	<u>66</u>
		<u>A1</u>	A1	Bob	<u>Bob</u>	<u>Bob</u>	Em	Em	Frank	<u>Frank</u>	Frank	<u>Frank</u>
	0	<u>1.4</u>	0	0	<u>54.9</u>	-	<u>1.6</u>	0.7	0.3	<u>9.3</u>	0.1	<u>6.7</u>
	250	<u>3.5</u>	1.7	23.9	<u>1.3</u>	<u>10.0</u>	<u>0.8</u>	1.5	28.6	<u>2.7</u>	5.1	<u>11.0</u>
	500	<u>0.9</u>	3.2	5.8	<u>1.2</u>	<u>2.4</u>	<u>8.2</u>	5.4	27.1	<u>5.5</u>	12.8	<u>6.2</u>
	750	<u>1.4</u>	1.5	1.8	<u>1.6</u>	<0.1	<u>4.9</u>	3.4	5.0	-	11.1	<u>1.3</u>
	1000	-	-	-	-	-	-	-	-	-	-	-
	Net 0	<u>7.6</u>	1.0	1.4	<u>26.5</u>	<u>10.4</u>	<u>1.0</u>	5.2	10.6	<u>20.5</u>	9.4	<u>10.4</u>
Ring Flank	Collection	<u>22</u>	<u>33</u>									
		<u>A1</u>	<u>Bob</u>									
	0	<u>6.4</u>	-									
	250	<u>6.0</u>	<u>1.6</u>									
	500	-	<u>4.6</u>									
	750	-	<u>0.5</u>									
	1000	-	-									
	Net 0	<u>2.5</u>	<u>2.4</u>									
Ring Fringe	Collection	<u>23</u>	<u>29</u>									
		<u>A1-Art</u>	<u>Bob</u>									
	0	<u>10.3</u>	<u>11.4</u>									
	250	<u>1.9</u>	<u>1.0</u>									
	500	<u>1.2</u>	<u>1.5</u>									
	750	-	<u>2.1</u>									
	1000	-	-									
	Net 0	<u>39.6</u>	<u>13.3</u>									
N. Sargasso Sea	Collection		<u>25</u>	26								
	0		<u>1.7</u>	<0.1								
	250		<u>0.6</u>	1.2								
	500		<0.1	6.3								
	750		<u>0.7</u>	4.2								
	1000		<u>0.4</u>	1.3								
	Net 0											
					</							

Myctophidae,
ml/10,000 m³

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71
Slope Water	Collection 24	36 38 39	53 54	56 57 67 68
	29	28 30 25	16 25	27 20 22 20
Ring Center	Collection 20 Al	35 27 28 32 Al Bob Bob Bob	40 42 47 48 49 Dave Bob Bob Bob Bob	58 59 61 62 65 66 Em Frank Frank Frank Frank
Ring Flank	24	22 14 25 (8)	12 17 15 15 10 13	16 23 26 27 31 27
Ring Fringe	Collection 22 Al	33 22 Bob Al	51 24 Bob	64 30 Frank
Ring Fringe	Collection 23 Al-Art	29 30 30 Bob Bob Bob	46 19 Bob	
Sargasso Sea	Collection 22	37 (25)		
	Collection	25 26	43 44 45 52	
		16 21	21 14 15 10	

Myctophidae,
number of species

	Nov-Dec 76 KNORR 62		April 77 KNORR 65		July-Aug 77 ENDEAVOR 11		Oct-Nov 77 KNORR 71	
	Collection		Collection		Collection		Collection	
Slope Water	24	36	38	39	53	54	56	57
	290	175	152	174	152	237	589	227
								67
								68
								334
Ring Center	20	35	27	28	40	42	58	59
	AI	AI	Bob	Bob	Dave	Bob	Em	Em
	126	58	79	395	70	261	100	141
				(130)				458
								429
								847
								66
								484
Ring Flank	22	33	30	30	51	50	64	62
	AI	Bob	Bob	Bob	Bob	Bob	Frank	Frank
	211	(88)			132	154	128	65
								Frank
								Frank
Ring Fringe	23	29	30	46	46	47	66	66
	AI-Art	Bob	Bob	Bob	Bob	Bob	Myctophidae,	66
	274	249	113	63			number of specimens	
Sargasso Sea	25	25	26	43	44	45	63	63
	59	59	111	153	55	86	177	177
								27

Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71
Collection			
24	36 38 39	53 54	56 57 67 68
35.9	11.1 9.2 14.7	12.8 20.1	49.7 26.8 22.3 26.2
Collection			
20	35 27 28	40 42 47 48 49	58 59 61 62 65 66
Al	Al Bob Bob Bob Bob Bob	Dave Bob Bob Bob Bob Bob	Em Em Frank Frank Frank Frank Frank
17.6	4.6 5.3 55.1 (66.7)	6.9 19.6 12.1 10.5 6.7 13.3	10.4 12.3 45.3 40.4 41.2 31.1
Collection			
22	33	51	64
Al	Bob	Bob	Frank
20.5	(60.8)	11.3	12.9
Collection			
23	29 30	46	
Al-Art	Bob Bob	Bob	
18.6	34.4 12.6	5.8	
Collection			
25	25 26	43 44 45 52	63
5.4 11.8	11.7 4.6 7.4 2.3	13.1	

Myctophidae,
specimens/10,000 m³

STERNOPTYCHIDAE, GONOSTOMATIDAE, AND PHOTICHTHYIDAE
(EXCLUDING CYCLOTHONE SPP.)

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71							
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0	<u>2</u>	3	<u>4</u>	3	2	<u>2</u>	1	<u>0</u>			
	250		<u>0</u>	1	<u>2</u>	1	0	<u>3</u>	2	<u>3</u>			
	500		<u>1</u>	1	<u>1</u>	-	-	<u>1</u>	1	<u>2</u>			
	750		-	1	-	-	-	<u>1</u>	1	<u>0</u>			
	1000		<u>3</u>	2	<u>2</u>	2	3	<u>3</u>	1	<u>1</u>			
	Net 0		<u>3</u>		<u>2</u>	<u>2</u>		<u>3</u>		<u>1</u>			
		Collection	20	35	27	28	32	58	59	61	62	65	66
Ring Center	Depth	0	<u>A1</u>	A1	Bob	<u>Bob</u>	<u>Bob</u>	<u>Em</u>	Em	Frank	<u>Frank</u>	Frank	<u>Frank</u>
	250		<u>2</u>	1	1	<u>2</u>	-	<u>1</u>	0	0	<u>1</u>	1	<u>4</u>
	500		<u>3</u>	3	1	0	<u>2</u>	<u>3</u>	3	3	<u>3</u>	3	<u>3</u>
	750		<u>1</u>	2	2	<u>1</u>	<u>1</u>	<u>2</u>	2	2	<u>0</u>	1	<u>1</u>
	1000		<u>0</u>	1	0	<u>0</u>	<u>0</u>	<u>1</u>	2	1	-	0	<u>0</u>
	Net 0		<u>6</u>	4	1	<u>3</u>	<u>2</u>	<u>4</u>	4	4	<u>5</u>	1	<u>2</u>
		Collection	22	33									
Ring Flank	Depth	0	<u>A1</u>	<u>Bob</u>									
	250		<u>3</u>	<u>1</u>									
	500		<u>5</u>	<u>2</u>									
	750		-	<u>1</u>									
	1000		-	<u>0</u>									
	Net 0		<u>6</u>	<u>3</u>									
		Collection	23	29									
Ring Fringe	Depth	0	<u>A1-Art</u>	<u>Bob</u>									
	250		<u>7</u>	<u>5</u>									
	500		<u>4</u>	<u>5</u>									
	750		<u>1</u>	<u>1</u>									
	1000		-	<u>1</u>									
	Net 0		<u>3</u>	<u>6</u>									
		Collection	25	26									
N. Sargasso Sea	Depth	0	<u>2</u>	1									
	250		<u>4</u>	3									
	500		<u>0</u>	0									
	750		<u>1</u>	1									
	1000		<u>5</u>	2									
	Net 0		<u>5</u>										

Sternoptychidae,
Gonostomatidae, &
Photichthyidae
(excluding Cyclothone spp.),

Number of species

		Nov-Dec 76 KNORR 62		April 77 KNORR 65			Oct-Nov 77 KNORR 71						
Slope Water	Collection	24	36	38	39		56	57	67	68			
	0	12	6	8	5		3	2	1	0			
	250	0	2	4	1		0	6	4	4			
	500	5	3	9	-		-	5	2	10			
	750	-	5	-	-		-	2	1	0			
	1000 Net 0	4	8	2	19		8	11	1	1			
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66	
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank	
	0	4	1	1	3	-	1	0	0	1	1	6	
	250	16	19	1	0	2	9	3	6	11	9	14	
	500	2	3	5	3	1	15	40	4	0	1	1	
	750	0	3	0	0	0	2	3	1	-	0	0	
Ring Flank	1000 Net 0	15	18	1	6	2	16	20	5	5	1	2	
	Collection	22	33										
		Al	Bob										
	0	21	1										
	250	86	5										
	500	-	1										
Ring Fringe	750	-	0										
	1000 Net 0	11	9										
	Collection	23	29										
		Al-Art	Bob										
	0	20	41										
	250	10	15										
N. Sargasso Sea	500	2	5										
	750	-	2										
	1000 Net 0	7	52										
	Collection		25	26									
	0		5	2									
	250		29	3									
N. Sargasso Sea	500		0	0									
	750		2	3									
	1000 Net 0		9	5									
	Collection				63								
	0				16								
	250				23								

Sternoptychidae,
Gonostomatidae, &
Photichthyidae
(excluding Cyclothone spp.),

number of specimens

Sternoptychidae,
Gonostomatidae, &
Photichthyidae
(excluding Cyclothone spp.),

number of specimens

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71						
Slope Water	Collection	24	36	38	39	56	57	67	68			
	0	3.1	2.2	2.1	2.1	0.9	0.9	0.5	0			
	250	0	0.7	0.9	0.4	0	2.4	1.5	1.2			
	500	2.2	1.2	2.1	-	-	2.3	0.7	3.2			
	750	-	1.8	-	-	-	2.2	0.4	0			
	1000 Net 0	2.5	3.1	0.6	1.7	1.3	4.6	0.4	0.2			
Ring Center	Collection	20 Al	35 Al	27 Bob	28 Bob	32 Bob	58 Em	59 Em	61 Frank	62 Frank	65 Frank	66 Frank
	0	0.8	0.4	0.6	1.4	-	0.6	0	0	0.5	0.5	2.3
	250	13.3	6.3	0.4	0	1.4	6.0	1.7	3.3	3.4	3.3	5.2
	500	1.5	1.0	1.9	1.3	0.6	11.5	23.5	2.9	0	0.3	0.4
	750	0	1.1	0	0	0	1.3	1.7	0.4	-	0	0
	1000 Net 0	6.5	8.2	0.5	5.5	1.1	7.3	4.9	1.8	2.5	0.4	0.5
Ring Flank	Collection	22 Al	33 Bob					64 Frank				
	0	7.2	1.7					3.8				
	250	27.7	5.6					20.9				
	500	-	1.3					3.7				
	750	-	0					4.4				
	1000 Net 0	2.5	7.5					2.6				
Ring Fringe	Collection	23 Al-Art	29 Bob									
	0	5.0	21.6									
	250	3.2	7.9									
	500	0.9	4.2									
	750	-	1.4									
	1000 Net 0	3.7	43.3									
N. Sargasso Sea	Collection		25	26					63			
	0		2.2	1.1					6.4			
	250		10.4	1.8					9.6			
	500		0	0					2.2			
	750		1.3	1.6					1.7			
	1000 Net 0		5.6	2.5					5.9			

Sternoptychidae,
Gonostomatidae, &
Photichthyidae
(excluding Cyclothone spp.),
specimens/10,000 m³

Sternoptychidae,
Gonostomatidae, &
Photichthyidae
(excluding *Cyclothone* spp.),
specimens/10,000 m³

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71	
Slope Water	Collection 24	36 38 39	53 54	56 57 67 68	
	21	24 23 25	9 7	11 26 9 15	
Ring Center	Collection 20 Al	35 27 28 32 Al Bob Bob Bob	40 42 47 48 49 Dave Bob Bob Bob Bob	58 59 61 62 65 66 Em Frank Frank Frank Frank	
	37	44 8 12 (5)	37 8 12 9 2 20	43 66 16 17 12 23	
Ring Flank	Collection 22 Al	33 30 Bob	51 50 Bob Bob	64 63 Frank	
	118	16	39	85	
Ring Fringe	Collection 23 Al-Art	29 30 Bob Bob	46 Bob		Sternoptychidae, Gonostomatidae, & Photichthyidae (ex- cepting Cyclothone spp.), number of specimens
	39	115 56	11		
Sargasso Sea	Collection	25 26	43 44 45 52	63	
		45 13	19 24 17 16	61	

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71	
Ring Fringe	Collection 24	36 38 39	53 54	56 57 67 68	
Ring Fringe	.9	1.3 .5 .8	2.1 <.1	.4 .9 .3 .4	
Ring Fringe	Collection 20 Al	35 27 28 32 Al Bob Bob Bob	40 42 47 48 49 50 Dave Bob Bob Bob Bob Bob	58 59 61 62 65 66 Em Frank Frank Frank Frank Frank	
Ring Fringe	.8	1.2 .1 1.0 (.6)	.4 .1 .7 .3 <.1 1.7	1.0 .7 2.0 .3 .6 .1	
Ring Fringe	Collection 22 Al	33 Bob	51 Bob	64 Frank	
Ring Fringe	1.1	1.5	.1	1.0	
Ring Fringe	Collection 23 Al-Art	29 30 Bob Bob	46 Bob		Sternoptychidae, Gonostomatidae, Photichthyidae (ex- cepting Gonostoma elongatum & Cyclothone spp.), ml/10,000 m ³
Ring Fringe	.6	9.3 1.1	<.1		
Sargasso Sea	Collection	25 26	43 44 45 52	63	
Sargasso Sea	1.3	.8	.1 .3 .2 .3	1.5	

CYCLOTHONE SPP.

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71						
		Collection <u>24</u>	36	<u>38</u>	39	56	<u>57</u>	67	<u>68</u>			
Slope Water	0	<u><0.1</u>	0.2	<u>0.1</u>	0.2	0.3	<u>0.1</u>	0.1	<u><0.1</u>			
	250	<u>1.3</u>	1.8	<u>4.7</u>	6.4	5.3	<u>1.6</u>	2.2	<u>3.0</u>			
	500	<u>9.5</u>	10.8	<u>11.9</u>	-	-	<u>14.5</u>	8.9	<u>12.6</u>			
	750	-	7.5	-	-	-	<u>12.3</u>	8.4	<u>10.0</u>			
	1000											
	Net 0	<u>6.3</u>	9.6	<u>11.2</u>	8.1	5.2	<u>6.3</u>	6.5	<u>2.6</u>			
Ring Center	Collection	<u>20</u>	35	27	<u>28</u>	<u>32</u>	<u>58</u>	59	61	<u>62</u>	65	<u>66</u>
		A1	A1	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank
	0	<u><0.1</u>	0.2	0	<u><0.1</u>	-	<u>0.1</u>	0.1	0.4	<u><0.1</u>	0.2	<u><0.1</u>
	250	<u>2.1</u>	6.0		<u>3.1</u>	<u>2.9</u>	<u>0.7</u>	0.1	0.2	<u>0.5</u>	0.4	<u>0.7</u>
	500	<u>0.6</u>	9.7	18.0	<u>7.3</u>	<u>10.6</u>	<u>15.4</u>	7.1	5.0	<u>7.7</u>	5.4	<u>10.0</u>
	750	<u>8.3</u>	10.7	5.8	<u>8.0</u>	<u>10.6</u>	<u>8.8</u>	8.9	14.3	-	11.4	<u>18.1</u>
1000												
Net 0	<u>6.9</u>	8.6	18.3	19.0	<u>21.1</u>	<u>2.7</u>	4.4	5.7	<u>8.5</u>	9.6	<u>8.1</u>	
Ring Flank	Collection	<u>22</u>	<u>33</u>			<u>64</u>						
		A1	Bob			Frank						
	0	<u><0.1</u>	-			<u><0.1</u>						
	250	<u>2.9</u>	0			<u>0.9</u>						
	500	-	<u>16.3</u>			<u>4.8</u>						
	750	-	<u>20.0</u>			<u>9.4</u>						
1000												
Net 0	<u>2.5</u>	<u>21.7</u>			<u>3.9</u>							
Ring Fringe	Collection	<u>23</u>	<u>29</u>									
		A1-Art	Bob									
	0	<u><0.1</u>	0									
	250	<u>0.1</u>	<u>1.7</u>									
	500	<u>6.7</u>	<u>8.6</u>			Cyclothone spp., ml/10,000 m ³						
	750	-	<u>8.0</u>									
1000												
Net 0	<u>3.0</u>	<u>5.1</u>										
N. Sargasso Sea	Collection		<u>25</u>	26			<u>63</u>					
	0		<u>0.1</u>	0.1			<u><0.1</u>					
	250		<u>0.8</u>	0.1			<u>0.8</u>					
	500		<u>1.3</u>	2.1			<u>9.1</u>					
	750		<u>3.9</u>	5.4			<u>6.1</u>					
	1000		<u>2.9</u>	10.0			<u>5.5</u>					
Net 0												

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71
Collection	24	36	38	39
		53	54	
Slope Water	5.0	7.4	8.4	6.9
		2.0	5.5	
Collection	20	35	27	28
	Al	Al	Bob	Bob
		40	42	49
		Dave	Bob	Bob
		50	51	52
		Bob	Bob	Bob
Ring Center	4.9	7.7	13.0	11.8
		(21.1)	.6	2.1
		3.6	1.9	3.6
Collection	22	33	51	64
	Al	Bob	Bob	Frank
Ring Flank	2.2	15.4	2.1	3.9
Collection	23	29	30	46
	Al-Art	Bob	Bob	Bob
Ring Fringe	2.7	4.9	3.6	2.0
Collection	25	26	43	44
			52	53
Sargasso Sea	2.2	6.0	2.6	1.0
			2.2	.8
			4.8	

Cyclotone spp.,
ml/10,000 m³

SPECIES

NUMBER OF SPECIMENS BY DEPTH INTERVAL WITHIN STATIONS, KNORR CRUISES

		Nov-Dec 76 KNORR 62		April 77 KNORR 65			Oct-Nov 77 KNORR 71					
Slope Water	Collection	<u>24</u>	36	<u>38</u>	39		56	<u>57</u>	67	<u>68</u>		
	0	<u>31</u>	0	<u>15</u>	1		257	<u>8</u>	9	<u>35</u>		
	250	<u>26</u>	28	<u>5</u>	37		38	<u>10</u>	21	<u>19</u>		
	500	<u>31</u>	0	<u>3</u>	-		-	<u>27</u>	13	<u>18</u>		
	750	-	0	-	-		-	<u>13</u>	2	<u>6</u>		
	1000											
	Net 0	<u>25</u>	4	<u>7</u>	25		156	<u>70</u>	35	<u>97</u>		
Ring Center	Collection	<u>20</u>	35	27	<u>28</u>	<u>32</u>	<u>58</u>	59	61	<u>62</u>	65	<u>66</u>
	0	<u>Al</u>	<u>Al</u>	Bob	<u>Bob</u>	<u>Bob</u>	<u>Em</u>	<u>Em</u>	Frank	<u>Frank</u>	Frank	<u>Fran</u>
	250	<u>0</u>	0	0	<u>195</u>	-	<u>0</u>	0	1	<u>0</u>	2	<u>0</u>
	500	<u>0</u>	0	35	<u>1</u>	<u>5</u>	<u>0</u>	0	40	<u>24</u>	20	<u>31</u>
	750	<u>2</u>	1	8	<u>0</u>	<u>2</u>	<u>0</u>	0	34	<u>47</u>	58	<u>108</u>
	1000	<u>1</u>	0	0	<u>1</u>	<u>0</u>	<u>6</u>	2	17	-	12	<u>11</u>
	Net 0	<u>5</u>	0	6	<u>24</u>	<u>91</u>	<u>2</u>	4	53	<u>19</u>	21	<u>30</u>
Ring Flank	Collection	<u>22</u>	<u>33</u>									
	0	<u>Al</u>	<u>Bob</u>									
	250	<u>0</u>	-									
	500	<u>0</u>	<u>1</u>									
	750	-	<u>4</u>									
	1000	-	<u>0</u>									
	Net 0	<u>4</u>	<u>16</u>									
Ring Fringe	Collection	<u>23</u>	<u>29</u>									
	0	<u>Al-Art</u>	<u>Bob</u>									
	250	<u>0</u>	<u>0</u>									
	500	<u>0</u>	<u>0</u>									
	750	<u>0</u>	<u>0</u>									
	1000	-	<u>0</u>									
	Net 0	<u>0</u>	<u>0</u>									
N. Sargasso Sea	Collection		<u>25</u>	26								
	0		<u>0</u>	0								
	250		<u>0</u>	0								
	500		<u>0</u>	0								
	750		<u>0</u>	0								
	1000		<u>0</u>	0								
	Net 0		<u>0</u>	0								
							<u>63</u>					
							<u>0</u>					
							<u>0</u>					
							<u>0</u>					
							<u>0</u>					
							<u>0</u>					
							<u>0</u>					

Benthosema glaciale,
number

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71						
Slope Water	Collection	<u>24</u>	36	<u>38</u>	39	56	<u>57</u>	67	<u>68</u>			
	0	<u>24</u>	0	<u>2</u>	0	5	<u>3</u>	2	<u>26</u>			
	250	<u>0</u>	0	<u>0</u>	0	9	<u>0</u>	139	<u>7</u>			
	500	<u>0</u>	0	<u>0</u>	-	-	<u>17</u>	0	<u>21</u>			
	750	-	0	-	-	-	<u>0</u>	0	<u>0</u>			
	1000	-	0	-	-	-	<u>0</u>	0	<u>0</u>			
	Net 0	<u>3</u>	0	<u>0</u>	0	5	<u>0</u>	6	<u>35</u>			
Ring Center	Collection	<u>20</u>	35	27	<u>28</u>	<u>32</u>	<u>58</u>	<u>59</u>	61	<u>62</u>	65	<u>66</u>
		<u>Al</u>	Al	Bob	<u>Bob</u>	<u>Bob</u>	<u>Em</u>	<u>Em</u>	Frank	<u>Frank</u>	Frank	<u>Fra</u>
	0	<u>1</u>	0	0	<u>0</u>	-	<u>0</u>	0	1	<u>12</u>	0	<u>42</u>
	250	<u>0</u>	0	0	<u>0</u>	<u>0</u>	<u>0</u>	0	53	<u>21</u>	23	<u>3</u>
	500	<u>0</u>	0	0	<u>0</u>	<u>0</u>	<u>0</u>	0	104	<u>123</u>	523	<u>111</u>
	750	<u>0</u>	0	0	<u>0</u>	<u>0</u>	<u>0</u>	0	15	-	1	<u>0</u>
	1000	<u>0</u>	0	0	<u>0</u>	<u>0</u>	<u>0</u>	0	15	-	1	<u>0</u>
Ring Flank	Net 0	<u>14</u>	0	0	<u>0</u>	<u>0</u>	<u>0</u>	0	7	<u>3</u>	17	<u>18</u>
	Collection	<u>22</u>	<u>33</u>			<u>64</u>						
		<u>Al</u>	<u>Bob</u>			<u>Frank</u>						
	0	<u>4</u>	-			<u>12</u>						
	250	<u>0</u>	<u>0</u>			<u>0</u>						
	500	-	<u>0</u>			<u>4</u>						
	750	-	<u>0</u>			<u>1</u>						
Ring Fringe	1000	<u>0</u>	<u>0</u>			<u>13</u>						
	Net 0	<u>8</u>	<u>0</u>									
	Collection	<u>23</u>	<u>29</u>									
		<u>Al-Art</u>	<u>Bob</u>									
	0	<u>9</u>	<u>0</u>									
	250	<u>0</u>	<u>0</u>									
	500	<u>0</u>	<u>0</u>									
N. Sargasso Sea	750	<u>0</u>	<u>0</u>									
	1000	<u>0</u>	<u>0</u>									
	Net 0	<u>1</u>	<u>0</u>									
	Collection		<u>25</u>	26		<u>63</u>						
	0		<u>0</u>	0		<u>11</u>						
	250		<u>0</u>	0		<u>0</u>						
	500		<u>0</u>	0		<u>4</u>						
N. Sargasso Sea	750		<u>0</u>	0		<u>71</u>						
	1000		<u>0</u>	0		<u>1</u>						
	Net 0		<u>0</u>	0		<u>1</u>						

Ceratoscopelus maderensis,
number

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71							
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0											
			<u>1</u>	0	<u>6</u>	0	0	<u>3</u>	0	<u>2</u>			
	250		<u>0</u>	0	<u>0</u>	0	0	<u>0</u>	0	<u>0</u>			
	500		<u>0</u>	0	<u>0</u>	-	-	<u>0</u>	1	<u>0</u>			
	750		-	1	-	-	-	<u>0</u>	2	<u>0</u>			
	1000												
Net 0			<u>1</u>	2	<u>0</u>	1	1	<u>2</u>	0	<u>2</u>			
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66	
		<u>Al</u>	<u>Al</u>	<u>Bob</u>	<u>Bob</u>	<u>Bob</u>	<u>Em</u>	<u>Em</u>	<u>Frank</u>	<u>Frank</u>	<u>Frank</u>	<u>Fra</u>	
	0												
		<u>3</u>	0	0	<u>1</u>	-	<u>2</u>	0	0	<u>4</u>	1	<u>8</u>	
	250		<u>0</u>	0	<u>0</u>	<u>0</u>	<u>0</u>	0	0	<u>0</u>	0	<u>0</u>	
	500		<u>0</u>	0	<u>0</u>	<u>0</u>	<u>4</u>	2	0	<u>2</u>	0	<u>0</u>	
Ring Flank	Depth												
		<u>0</u>	0	1	<u>0</u>	<u>0</u>	<u>8</u>	7	6	-	2	<u>0</u>	
	750		<u>0</u>	0	<u>0</u>	<u>0</u>	<u>3</u>	4	3	<u>2</u>	2	<u>1</u>	
	1000												
	Net 0		<u>2</u>	0	<u>0</u>	<u>1</u>	<u>3</u>	4	3	<u>2</u>	2	<u>1</u>	
Ring Fringe	Collection	22	33										
		<u>Al</u>	<u>Bob</u>										
	0												
		<u>17</u>	-										
	250		<u>0</u>										
	500		<u>0</u>										
N. Sargasso Sea	Depth												
		<u>1</u>	<u>0</u>										
	500		<u>0</u>										
	750		<u>0</u>										
	1000		<u>0</u>										
	Net 0		<u>23</u>										
N. Sargasso Sea	Collection	23	29										
		<u>Al-Art</u>	<u>Bob</u>										
	0												
		<u>82</u>	<u>16</u>										
	250		<u>0</u>										
	500		<u>0</u>										
N. Sargasso Sea	Depth												
		<u>3</u>	<u>0</u>										
	750		<u>11</u>										
	1000		<u>2</u>										
	Net 0		<u>20</u>										
N. Sargasso Sea	Collection	25	26										
		<u>0</u>	<u>0</u>										
	250		<u>0</u>										
	500		<u>0</u>										
	750		<u>1</u>										
	1000		<u>0</u>										
N. Sargasso Sea	Net 0		<u>0</u>										
			<u>0</u>										

Ceratoscopelus warmingii,
number

		Nov-Dec 76 KNORR 62		April 77 KNORR 65			Oct-Nov 77 KNORR 71					
		Collection	24	36	38	39	56	57	67	68		
Slope Water	Depth	0	0	0	22	0	4	0	0	0		
	250	0	15	0	49	0	0	0	0			
	500	0	0	0	-	-	0	0	0			
	750	-	0	-	-	-	0	0	0			
	1000	-	0	-	-	-	0	0	0			
	Net 0	0	9	9	7	4	0	0	0			
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank
	0	0	0	0	46	-	0	0	0	0	0	0
	250	0	2	3	0	0	0	0	0	0	0	0
	500	0	7	0	0	0	0	0	0	0	2	0
	750	0	0	0	0	0	0	0	0	-	0	0
Ring Flank	Collection	22	33				64					
		Al	Bob				Frank					
	0	0	-				0					
	250	0	0				0					
	500	0	0				0					
	750	-	0				0					
Ring Fringe	Collection	23	29									
		Al-Art	Bob									
	0	1	6									
	250	0	0									
	500	0	42									
	750	-	0									
N. Sargasso Sea	Collection		25	26			63					
			11	0			0					
	250		1	0			0					
	500		0	8			0					
	750		9	2			0					
	Net 0	0	3	6			0					

Hygophum hygomii,
number

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71							
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0											
			6	0	7	0	2	0	0	0			
	250		0	5	1	1	3	1	0	1			
	500		0	9	0	-	-	0	2	0			
	750		-	0	-	-	-	0	0	0			
	1000		-	0	-	-	-	0	0	0			
Net 0			3	0	1	0	2	0	0	0			
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66	
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank	
	0		0	0	44	-	0	0	0	0	0	1	
	250		0	4	0	0	0	0	0	1	1	0	
	500		0	0	0	0	0	1	2	0	8	0	
	750		0	0	0	0	0	0	0	-	0	0	
1000			0	0	0	0	0	0	0	-	0	0	
Net 0			0	0	0	0	0	0	2	4	2	1	
Ring Flank	Collection	22	33										
		Al	Bob										
	0		-										
	250		0										
	500		0										
	750		0										
1000			0										
Net 0			0										
Ring Fringe	Collection	23	29										
		Al-Art	Bob										
	0		5										
	250		0										
	500		0										
	750		0										
1000			1										
Net 0			0										
N. Sargasso Sea	Collection	25	26										
	0		1	0									
	250		0	0									
	500		0	0									
	750		0	0									
1000			0	0									
Net 0			0	0									

Lampanyctus alatus,
number

		Nov-Dec 76 KNORR 62		April 77 KNORR 65			Oct-Nov 77 KNORR 71						
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0	1	0	0	0	0	0	0	1			
	250	0	0	0	0	0	3	0	0	1			
	500	0	1	0	-	-	-	0	9	0			
	750	-	0	-	-	-	-	0	0	0			
	1000	0	0	0	0	0	5	9	1	0			
	Net 0	0	0	0	0	0	5	9	1	0			
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66	
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank	
	Depth	0	0	0	0	-	0	0	0	0	0	1	
	250	0	0	0	0	0	0	0	0	7	0	0	
	500	0	0	0	0	0	1	0	6	2	1	0	
	750	1	0	0	0	0	3	5	1	-	9	0	
Ring Flank	1000	0	0	0	0	0	2	4	1	9	4	5	
	Net 0	0	0	0	0	0	2	4	1	9	4	5	
	Collection	22	33	64									
		Al	Bob	Frank									
	Depth	0	-	0									
	250	0	2	0									
Ring Fringe	500	0	0	0									
	750	-	0	0									
	1000	-	0	2									
	Net 0	0	1	0									
	Collection	23	29										
		Al-Art	Bob										
N. Sargasso Sea	Depth	0	1										
	250	0	0										
	500	0	0										
	750	-	0										
	1000	0	2										
	Net 0	0	2										
N. Sargasso Sea	Collection	25	26	63									
	Depth	0	7	0	0								
	250	1	0	0									
	500	0	0	0									
	750	0	15	2									
N. Sargasso Sea	1000	1	4	0									
	Net 0	1	4	0									

Lampanyctus crocodilus,
number

		Nov-Dec 76 KNORR 62		April 77 KNORR 65			Oct-Nov 77 KNORR 71						
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0											
			6	0	1	0	0	0	0	0			
	250		0	0	1	0	0	1	0	1			
	500		0	0	0	-	-	0	1	7			
	750		-	0	-	-	-	0	0	0			
	1000		-	0	-	-	-	0	0	0			
Net 0		0	1	2	0		2	2	1	0			
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66	
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank	
	0	0	0	0	0	-	0	0	0	0	0	1	
	250	1	0	0	0	0	0	0	0	4	0	0	
	500	0	3	0	1	1	1	0	0	4	0	4	
	750	0	2	0	0	0	0	0	0	-	0	0	
1000													
Net 0		0	0	0	0	0	0	1	0	0	0	3	
Ring Flank	Collection	22	33				64						
		Al	Bob				Frank						
	0	0	-				4						
	250	0	0				0						
	500	-	0				0						
	750	-	0				1						
1000													
Net 0		0	0				3						
Ring Fringe	Collection	23	29										
		Al-Art	Bob										
	0	16	3										
	250												
	500	1	1										
	750	0	0										
1000													
Net 0		0	6										
N. Sargasso Sea	Collection		25	26			63						
	0		1	0			1						
	250		0	0			0						
	500		0	3			0						
	750		0	1			4						
	1000		0	0			6						
Net 0			0	0									

Lampanyctus cuprarius,
number

		Nov-Dec 76 KNORR 62		April 77 KNORR 65			Oct-Nov 77 KNORR 71						
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0											
			3	0	0	0	0	0	0	1			
	250		0	0	0	0	1	0	0	0			
	500		0	1	0	-	-	0	1	0			
	750		0	0	-	-	-	0	0	0			
	1000		-	0	-	-	-	0	0	0			
Net 0		0	0	0	1		0	0	0	0			
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66	
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank	
	0	2	0	0	0		0	0	0	2	0	10	
	250	0	0	0	0	0	2	0	0	3	0	0	
	500	0	0	0	0	0	1	2	7	1	6	1	
	750	0	0	0	0	0	6	0	0	-	0	0	
1000													
Net 0		2	0	0	0	0	1	4	0	11	0	3	
Ring Flank	Collection	22	33				64						
		Al	Bob				Frank						
	0	1	-				3						
	250	0	0				0						
	500	-	0				0						
	750	-	0				1						
1000													
Net 0		2	1				5						
Ring Fringe	Collection	23	29										
		Al-Art	Bob										
	0	10	1										
	250	0	0										
	500	0	0										
	750	-	0										
1000													
Net 0		1	0										
N. Sargasso Sea	Collection		25	26				63					
	0		0	0				1					
	250		0	0				0					
	500		0	0				0					
	750		0	1				1					
	1000		0	0				1					
Net 0			0	0				1					

Lampanyctus photonotus,
number

		Nov-Dec 76 KNORR 62		April 77 KNORR 65			Oct-Nov 77 KNORR 71						
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0	0	0	1	0	3	1	0	4			
	250	0	0	0	0	0	1	0	0	0			
	500	0	1	0	-	-	-	0	0	0			
	750	-	0	-	-	-	-	0	0	0			
	1000	-	0	-	-	-	-	0	0	0			
	Net 0	0	0	0	0	0	1	0	0	0			
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66	
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank	
	0	2	0	0	0	-	0	0	0	25	0	11	
	250	1	0	1	0	0	0	0	6	1	4	0	
	500	0	0	0	0	0	15	17	1	0	28	0	
	750	0	0	0	0	0	15	13	0	-	0	0	
Ring Flank	1000	0	0	0	0	0	15	13	0	-	0	0	
	Net 0	7	2	0	0	1	1	9	4	25	7	4	
	Collection	22	33					64					
		Al	Bob					Frank					
	0	16	-					3					
	250	0	1					0					
Ring Fringe	500	-	0					0					
	750	-	0					0					
	1000	-	0					0					
	Net 0	4	2					3					
	Collection	23	29										
		Al-Art	Bob										
N. Sargasso Sea	0	14	2										
	250	0	0										
	500	1	0										
	750	-	1										
	1000	-	1										
	Net 0	1	2										
N. Sargasso Sea	Collection	25	26					63					
	0	2	0					7					
	250	0	0					0					
	500	0	1					0					
	750	3	0					1					
	1000	0	0					1					
N. Sargasso Sea	Net 0	0	0					1					
	Collection	25	26					63					
	0	2	0					7					
	250	0	0					0					
	500	0	1					0					
	750	3	0					1					
N. Sargasso Sea	1000	0	0					1					
	Net 0	0	0					1					

Lampanyctus pusillus,
number

		Nov-Dec 76 KNORR 62		April 77 KNORR 65			Oct-Nov 77 KNORR 71					
		Collection	24	36	38	39	56	57	67	68		
Slope Water	Depth	0	0	0	0	0	0	0	0	0		
	250	0	0	0	0	0	0	0	0	0		
	500	0	0	0	0	-	-	0	0	0		
	750	0	0	0	0	-	-	0	0	0		
	1000	-	0	-	-	-	-	0	0	0		
	Net 0	0	0	0	0	0	0	0	0	0		
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank
	0	1	0	0	0	-	0	0	0	0	0	0
	250	0	0	0	0	0	0	0	0	0	1	0
	500	0	0	0	0	0	0	1	1	0	0	0
	750	0	0	0	0	0	0	0	0	-	0	0
Ring Flank	1000	0	0	0	0	0	0	0	0	-	0	0
	Net 0	0	0	0	0	0	1	2	0	0	0	2
	Collection	22	33	64								
		Al	Bob	Frank								
	0	4	-									
	250	0	0									
Ring Fringe	Depth	0	0									
	500	-	0									
	750	-	0									
	1000	0	0									
	Net 0	0	0									
	Collection	23	29									
	Al-Art	Bob										
N. Sargasso Sea	0	8	0									
	250	0	0									
	500	0	0									
	750	-	0									
	1000	1	.2									
	Net 0	1	.2									
N. Sargasso Sea	Collection	25	26	63								
	0	0	0	2								
	250	0	0	0								
	500	0	2	0								
	750	0	0	1								
	1000	0	0	0								
N. Sargasso Sea	Net 0	0	0	0								
	Collection	25	26	63								
	0	0	0	2								
	250	0	0	0								
	500	0	2	0								
	750	0	0	1								
N. Sargasso Sea	1000	0	0	0								
	Net 0	0	0	0								

Lepidophanes gaussi,
number

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71							
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0	<u>1</u>	0	<u>4</u>	0	2	<u>1</u>	0	<u>1</u>			
		250	<u>0</u>	20	<u>0</u>	3	7	<u>0</u>	0	<u>0</u>			
		500	<u>0</u>	3	<u>0</u>	-	-	<u>0</u>	0	<u>0</u>			
		750	-	0	-	-	-	<u>0</u>	0	<u>0</u>			
		1000	-	-	-	-	-	-	-	-			
	Net 0	<u>2</u>	1	<u>0</u>	0	10	<u>0</u>	1	<u>0</u>				
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66	
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank	
	Depth	0	<u>4</u>	0	0	<u>2</u>	-	<u>0</u>	0	0	<u>7</u>	0	<u>5</u>
		250	<u>0</u>	0	2	<u>0</u>	<u>0</u>	<u>0</u>	0	3	<u>0</u>	0	<u>0</u>
		500	<u>0</u>	0	0	<u>0</u>	<u>0</u>	<u>0</u>	0	8	<u>0</u>	15	<u>0</u>
	Net 0	<u>1</u>	0	0	<u>0</u>	<u>0</u>	<u>0</u>	0	6	<u>0</u>	3	<u>0</u>	
Ring Flank	Collection	22	33										
		Al	Bob										
	Depth	0	<u>0</u>	-									
		250	<u>0</u>	<u>0</u>									
		500	<u>0</u>	<u>0</u>									
	Net 0	<u>0</u>	<u>0</u>										
Ring Fringe	Collection	23	29										
		Al-Art	Bob										
	Depth	0	<u>1</u>	<u>8</u>									
		250	<u>0</u>	<u>0</u>									
		500	<u>0</u>	<u>0</u>									
	Net 0	<u>1</u>	<u>2</u>										
N. Sargasso Sea	Collection	25	26										
		0	<u>0</u>	0									
	Depth	250	<u>0</u>	0									
		500	<u>0</u>	0									
		750	<u>0</u>	0									
	Net 0	<u>0</u>	0										

Lepidophanes guentheri,
number

Lepidophanes guentheri,
number

		Nov-Dec 76 KNORR 62		April 77 KNORR 65			Oct-Nov 77 KNORR 71					
		Collection 24	36	38	39	56	57	67	68			
Slope Water	Depth	0										
		30	0	3	0	13	12	26	7			
	250	0	0	0	3	0	4	0	0			
	500	0	0	0	-	-	2	0	0			
	750	-	0	-	-	-	0	0	0			
	1000											
	Net 0	24	0	0	2	0	5	6	27			
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank
	Depth	0										
		1	0	0	0	-	2	0	0	4	0	1
	250	0	2	0	0	0	0	4	3	0	8	0
	500	0	0	0	0	0	0	0	0	0	0	0
	750	0	0	0	0	0	0	0	0	-	0	0
Ring Flank	1000	0	0	0	0	0	0	0				
	Net 0	1	2	0	0	1	2	1	7	3	1	2
	Collection	22	33			64						
		Al	Bob			Frank						
	Depth	0	-			4						
	250	0	0			0						
	500	-	0			0						
Ring Fringe	750	-	0			0						
	1000											
	Net 0	0	2			2						
	Collection	23	29									
		Al-Art	Bob									
	Depth	0	6									
	250	0	0									
N. Sargasso Sea	500	0	6									
	750	-	0									
	1000											
	Net 0	0	2									
	Collection		25	26		63						
	Depth	0										
			2	0		0						
250		0	2		0							
500		0	0		0							
750		0	0		0							
1000		0	0		0							
Net 0		0	0		0							

Lobianchia dofleini,
number

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71							
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0											
			<u>1</u>	0	<u>0</u>	0	<u>7</u>	<u>0</u>	0	<u>1</u>			
	250		<u>0</u>	8	<u>0</u>	4	0	<u>0</u>	1	<u>0</u>			
	500		<u>0</u>	0	<u>3</u>	-	-	<u>0</u>	0	<u>0</u>			
	750		<u>0</u>	0	<u>3</u>	-	-	<u>0</u>	0	<u>0</u>			
	1000		-	2	-	-	-	<u>0</u>	0	<u>0</u>			
Net 0			<u>0</u>	2	<u>1</u>	2	2	<u>2</u>	0	<u>0</u>			
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66	
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank	
	0		<u>0</u>	0	<u>1</u>	-	<u>0</u>	0	0	<u>0</u>	0	<u>0</u>	
	250		<u>0</u>	0	<u>0</u>	<u>0</u>	<u>0</u>	0	0	<u>0</u>	0	<u>0</u>	
	500		<u>0</u>	2	0	<u>0</u>	<u>0</u>	0	0	<u>0</u>	0	<u>0</u>	
	750		<u>0</u>	0	0	<u>0</u>	<u>0</u>	0	0	<u>0</u>	-	<u>0</u>	
1000		<u>0</u>	0	0	<u>0</u>	<u>0</u>	0	0	<u>0</u>	0	<u>0</u>		
Net 0			<u>0</u>	0	<u>0</u>	<u>0</u>	<u>0</u>	0	1	<u>0</u>	0	<u>0</u>	
Ring Flank	Collection	22	33					64					
		Al	Bob					Frank					
	0		<u>0</u>	-					<u>0</u>				
	250		<u>0</u>	<u>0</u>					<u>0</u>				
	500		<u>0</u>	<u>0</u>					<u>0</u>				
	750		-	<u>0</u>					<u>0</u>				
1000		-	<u>0</u>					<u>0</u>					
Net 0			<u>0</u>	<u>2</u>					<u>1</u>				
Ring Fringe	Collection	23	29										
		Al-Art	Bob										
	0		<u>0</u>	<u>1</u>									
	250		<u>0</u>	<u>0</u>									
	500		<u>0</u>	<u>0</u>									
	750		<u>0</u>	<u>0</u>									
1000		-	<u>0</u>										
Net 0			<u>0</u>	<u>0</u>									
N. Sargasso Sea	Collection		25	26					63				
	0		<u>0</u>	0					<u>0</u>				
	250		<u>0</u>	0					<u>0</u>				
	500		<u>0</u>	0					<u>0</u>				
	750		<u>0</u>	0					<u>0</u>				
	1000		<u>0</u>	0					<u>0</u>				
Net 0			<u>0</u>	0					<u>0</u>				

Myctophum affine,
number

Myctophum affine,
number

		Nov-Dec 76 KNORR 62		April 77 KNORR 65			Oct-Nov 77 KNORR 71					
		Collection	24	36	38	39	56	57	67	68		
Slope Water	Depth	0	0	3	1	0	0	0	0	0		
	250	0	0	0	0	0	0	0	0	1		
	500	0	0	0	0	-	-	0	0	0		
	750	-	0	-	-	-	-	0	0	0		
	1000	-	0	-	-	-	-	0	0	0		
	Net 0	0	0	0	0	0	0	0	0	0		
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank
	Depth	0	0	0	0	-	0	0	0	1	1	2
	250	4	4	0	0	1	0	1	3	0	5	0
	500	0	0	0	0	0	0	0	0	0	0	0
	750	0	0	0	0	0	0	0	0	0	0	0
Ring Flank	Collection	22	33				64					
		Al	Bob				Frank					
	Depth	0	0				0					
	250	6	4				2					
	500	-	0				0					
	750	-	0				0					
Ring Fringe	Collection	23	29									
		Al-Art	Bob									
	Depth	0	0									
	250	1	4									
	500	0	0									
	750	0	0									
N. Sargasso Sea	Collection	25	26				63					
	Depth	0	0				0					
	250	3	0				1					
	500	0	0				0					
	750	0	0				0					
	Collection	25	26				63					
	Depth	0	0				0					
	250	1	0				4					
	500	0	0				0					
	750	0	0				0					

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71						
		Collection	24	36	38	39	56	57	67	68		
Slope Water	Depth	0	0	0	1	3	0	0	0	0		
	250	0	0	0	3	0	0	0	1	2		
	500	0	0	0	0	-	-	0	0	0		
	750	-	0	-	-	-	-	0	0	0		
	1000	0	0	0	0	0	2	5	1	1		
	Net 0	-	-	-	-	-	-	-	-	-		
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank
	Depth	0	1	0	0	-	1	0	0	0	0	0
	250	5	14	0	0	0	7	0	1	4	5	10
	500	2	0	0	0	0	14	39	0	0	0	0
	750	0	0	0	0	0	0	0	0	-	0	0
Ring Flank	1000	8	12	0	2	0	9	16	2	1	0	0
	Net 0	-	-	-	-	-	-	-	-	-	-	-
	Collection	22	33				64					
		Al	Bob				Frank					
	Depth	0	0				1					
	250	71	0				38					
Ring Fringe	500	-	0				7					
	750	-	0				0					
	1000	4	0				3					
	Net 0	-	-				-					
	Collection	23	29									
		Al-Art	Bob									
N. Sargasso Sea	Depth	0	1	0								
	250	5	2									
	500	2	5									
	750	-	0									
	1000	2	19									
	Net 0	-	-									
N. Sargasso Sea	Collection		25	26			63					
	Depth	0	0	0			0					
	250		13	1			13					
	500		0	0			3					
	750		0	0			0					
N. Sargasso Sea	1000		0	0			0					
	Net 0		2	0			3					

Argyrolepiscus hemigymnus,
number

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71							
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0	0	1	0	0	0	1	0	0			
	250	0	0	0	0	0	0	1	0	0			
	500	5	3	9	-	-	-	5	2	9			
	750	-	5	-	-	-	-	2	1	0			
	1000	2	6	0	11	4	3	0	0	0			
	Net 0	2	6	0	11	4	3	0	0	0			
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66	
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank	
	0	0	0	0	0	-	0	0	0	0	0	0	
	250	0	0	0	0	0	0	0	0	0	0	0	
	500	0	1	2	3	1	1	0	0	0	0	1	
	750	0	3	0	0	0	2	2	1	-	0	0	
Ring Flank	1000	1	1	0	2	1	5	1	0	1	0	0	
	Net 0	1	1	0	2	1	5	1	0	1	0	0	
	Collection	22	33										
		Al	Bob										
	0	0	0										
	250	0	0										
Ring Fringe	500	0	1										
	750	-	0										
	1000	2	1										
	Net 0	2	1										
	Collection	23	29										
		Al-Art	Bob										
N. Sargasso Sea	0	0	0										
	250	0	0										
	500	0	0										
	750	-	2										
	1000	0	3										
	Net 0	0	3										
		Collection	25	26									
		0	0	0									
		250	0	0									
		500	0	0									
		750	2	3									
		1000	3	4									
		Net 0	3	4									

Sternoptyx diaphana
number

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71							
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0											
			7	0	0	0	0	0	0	0			
	250		0	0	1	0	0	0	0	0			
	500		0	0	0	-	-	0	0	1			
	750		-	0	-	-	-	0	0	0			
	1000		-	0	-	-	-	0	0	0			
		Net 0	1	2	1	8	2	3	0	0			
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66	
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank	
	0												
			2	0	0	0	-	0	0	0	1	0	2
	250		0	0	1	0	1	0	0	0	1	1	1
	500		0	0	1	0	1	0	0	1	1	1	1
Ring Flank	Depth	0											
			0	0	0	0	0	0	0	0	0	0	0
	250		0	0	1	0	1	0	0	1	1	1	1
	500		0	2	3	0	0	1	3	0	1	0	0
	750		0	0	0	0	0	1	0	-	0	0	0
	1000		0	0	0	0	0	1	0	-	0	0	0
		Net 0	1	0	1	2	1	0	0	1	0	1	1
Ring Fringe	Collection	22	33				64						
		Al	Bob				Frank						
	0												
			12	0			1						
	250		0	0			1						
	500		0	0			0						
N. Sargasso Sea	Depth	0											
			8	26									
	250		0	0									
	500		0	0									
	750		0	0									
	1000		0	0									
		Net 0	2	1									
N. Sargasso Sea	Collection	23	29				63						
		Al-Art	Bob										
	0												
			8	26									
	250		0	0									
	500		0	0									
N. Sargasso Sea	Depth	0											
			8	26									
	250		0	0									
	500		0	0									
	750		0	0									
	1000		0	0									
		Net 0	2	1									

Gonostoma elongatum,
number

SPECIES

NUMBER OF SPECIMENS PER UNIT VOLUME OF WATER BY DEPTH INTERVAL,
WITHIN STATIONS, KNORR CRUISES

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71						
Slope Water	Collection	24	36	38	39	56	57	67	68			
	0	7.9	0	3.8	0.4	73.4	3.5	4.5	10.6			
	250	8.7	10.0	1.2	14.8	22.3	4.0	7.8	5.8			
	500	13.5	0	0.7	-	-	12.3	4.8	5.8			
	750	-	0	-	-	-	5.9	0.8	2.2			
	1000	-	-	-	-	-	-	-	-			
	Net 0	15.6	1.5	2.1	2.3	26.0	29.2	13.5	22.6			
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66
	0	A1	A1	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank
	250	0	0	0	92.9	-	0	0	0.8	0	1.0	0
	500	0	0	13.0	0.4	3.6	0	0	22.2	7.5	7.4	11.5
	750	1.5	0.3	3.1	0	1.3	0	0	24.3	18.1	16.6	43.2
	1000	0.6	0	0	0.5	0	3.8	1.1	7.4	-	5.7	4.2
	Net 0	2.2	0	2.9	21.8	50.6	0.9	1.0	18.9	9.5	7.5	8.1
Ring Flank	Collection	22	33			64						
	0	A1	Bob			Frank						
	250	0	-			0						
	500	0	1.1			0						
	750	-	5.0			0						
	1000	-	0			1.7						
	Net 0	0.9	13.3			0.4						
Ring Fringe	Collection	23	29									
	0	A1-Art	Bob									
	250	0	0									
	500	0	0									
	750	0	0									
	1000	-	0									
	Net 0	0	0									
N. Sargasso Sea	Collection		25	26			63					
	0		0	0			0					
	250		0	0			0					
	500		0	0			0					
	750		0	0			0					
	1000		0	0			0					
	Net 0		0	0			0					

Benthosema glaciale,
specimens/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71							
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0	1.3	0	2.1	0	0.3	2.2	0	0			
	250	0	1.8	0	0.4		0	0	0.4	0			
	500	0	0	0	-		-	0	0	0			
	750	-	0.4	-	-		-	0	0	0			
	1000												
	Net 0	3.8	0.4	0	0		0	0	0	0			
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66	
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank	
	0	0.2	0	0	2.9	-	0	0	0	0	0	0.8	
	250	0	0.3	1.5	0	0	0	0	3.9	0	1.9	0	
	500	0	0	0	0	0	0	0.6	0	0	0.3	0	
	750	0	0	0	0	0	0	0	0	-	0	0	
Ring Flank	1000												
	Net 0	0	0	0	2.7	0	0	0	0	0	0.4	0.5	
	Collection	22	33										
		Al	Bob										
	0	2.1	-										
	250	0	0										
Ring Fringe	500	-	0										
	750	-	0										
	1000												
	Net 0	0	0.8										
	Collection	23	29										
		Al-Art	Bob										
N. Sargasso Sea	0	0.3	3.7										
	250	0	0										
	500	0	0.8										
	750	-	0										
	1000												
	Net 0	0.5	0.8										
	Collection		25	26									
	0		0	0									
	250		0	0									
	500		0	0									
	750		0	0									
	1000		0	0									
		Net 0	0	0									

Benthosema suborbitale,
specimens/10,000 m²

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71						
Slope Water	Collection	24	36	38	39	56	57	67	68			
	0	0.5	0	0	0	0.3	4.8	0	0.3			
	250	0	0.4	0	0.4	0	0	0.8	0			
	500	0	0	0	-	-	0	0	0			
	750	-	0	-	-	-	0	0	0			
	1000	-	0	-	-	-	0	0	0			
Net 0	1.3	0	0.3	0	0.3	0	0	0	0			
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66
	0	Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank
	250	0.8	0	0	1.0	-	1.9	0.7	0	6.4	0	0.8
	500	0	0	0.4	0	0	0	6.7	2.8	0	3.7	0
	750	0	2.4	0	0	0	0	2.9	0	0	1.4	0
	1000	0	0	0	0	0	0	0	0	-	0	0
Net 0	1.7	0.5	0	0.9	0	0	0.7	0	1.5	0.7	0	
Ring Flank	Collection	22	33									
	0	Al	Bob									
	250	14.5	-									
	500	0.3	0									
	750	-	0									
	1000	-	0									
Net 0	2.7	0.8										
Ring Fringe	Collection	23	29									
	0	Al-Art	Bob									
	250	10.0	5.3									
	500	0	0									
	750	0.4	0									
	1000	-	0									
Net 0	0	1.7										
N. Sargasso Sea	Collection	25	26									
	0	0	0									
	250	0	0									
	500	0	4.7									
	750	0	0.5									
	1000	0	1.0									
Net 0	0	1.4										
Bolinichthys indicus, specimens/10,000 m ³												

Bolinichthys indicus,
specimens/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71						
Slope Water	Collection	24	36	38	39	56	57	67	68			
	0	6.2	0	0.5	0	1.4	1.3	1.0	7.9			
	250	0	0	0	0	5.3	0	51.5	2.1			
	500	0	0	0	-	-	7.7	0	6.8			
	750	-	0	-	-	-	0	0	0			
	1000	1.9	0	0	0	0.8	0	2.3	8.1			
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66
	0	Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank
	250	0.2	0	0	0	-	0	0	0.8	5.5	0	16.2
	500	0	0	0	0	0	0	0	29.4	6.6	8.5	1.1
	750	0	0	0	0	0	0	0	74.3	47.3	149.4	44.4
	1000	0	0	0	0	0	0	0	6.5	-	0.5	0
Ring Flank	Net 0	6.1	0	0	0	0	0	0	2.5	1.5	6.1	4.9
	Collection	22	33									
	0	Al	Bob									
	250	1.4	-									
	500	0	0									
	750	-	0									
Ring Fringe	1000	-	0									
	Net 0	1.8	0									
	Collection	23	29									
	0	Al-Art	Bob									
	250	2.3	0									
	500	0	0									
N. Sargasso Sea	750	0	0									
	1000	-	0									
	Net 0	0.5	0									
	Collection	25	26									
	0	0	0									
	250	0	0									
	500	0	0									
	750	0	0									
	1000	0	0									
	Net 0	0	0									
	Collection	63										
	0	4.4										
	250	0										
	500	1.7										
	750	30.9										
	1000	0.5										
	Net 0	0.5										
	Collection	63										

Ceratoscopelus maderensis,
specimens/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71						
Slope Water	Collection	<u>24</u>	36	<u>38</u>	39	56	<u>57</u>	67	<u>68</u>			
	0	<u>0.3</u>	0	<u>1.5</u>	0	0	<u>1.3</u>	0	<u>0.7</u>			
	250	<u>0</u>	0	<u>0</u>	0	0	<u>0</u>	0	<u>0</u>			
	500	<u>0</u>	0	<u>0</u>	-	-	<u>0</u>	0.4	<u>0</u>			
	750	-	0.4	-	-	-	<u>0</u>	0.8	<u>0</u>			
	1000 Net 0	<u>0.6</u>	0.8	<u>0</u>	0.1	0.2	<u>0.8</u>	0	<u>0.5</u>			
Ring Center	Collection	<u>20</u>	35	27	<u>28</u>	<u>32</u>	<u>58</u>	<u>59</u>	61	<u>62</u>	65	<u>66</u>
		<u>Al</u>	<u>Al</u>	Bob	<u>Bob</u>	<u>Bob</u>	<u>Em</u>	<u>Em</u>	Frank	<u>Frank</u>	Frank	<u>Frank</u>
	0	<u>0.6</u>	0	0	<u>0.5</u>	-	<u>1.3</u>	0	0	<u>1.8</u>	0.5	<u>3.1</u>
	250	<u>0</u>	0	0	<u>0</u>	<u>0</u>	<u>0</u>	0	0	<u>0</u>	0	<u>0</u>
	500	<u>0</u>	0	0	<u>0</u>	<u>0</u>	<u>3.1</u>	1.2	0	<u>0.8</u>	0	<u>0</u>
	750	<u>0</u>	0	0.4	<u>0</u>	<u>0</u>	<u>5.0</u>	3.9	2.6	-	1.0	<u>0</u>
1000 Net 0	<u>0.9</u>	0	0	<u>0.9</u>	<u>1.0</u>	<u>1.4</u>	1.0	1.1	<u>1.0</u>	0.7	<u>0.3</u>	
Ring Flank	Collection	<u>22</u>	<u>33</u>									
		<u>Al</u>	<u>Bob</u>									
	0	<u>5.9</u>	-									
	250	<u>0.3</u>	<u>0</u>									
	500	-	<u>0</u>									
	750	-	<u>0</u>									
1000 Net 0	<u>5.2</u>	<u>0</u>										
Ring Fringe	Collection	<u>23</u>	<u>29</u>									
		<u>Al-Art</u>	<u>Bob</u>									
	0	<u>20.5</u>	<u>8.4</u>									
	250	<u>0</u>	<u>0</u>									
	500	<u>1.3</u>	<u>0</u>									
	750	-	<u>7.9</u>									
1000 Net 0	<u>10.5</u>	<u>1.7</u>										
N. Sargasso Sea	Collection		<u>25</u>	26								
	0		<u>0</u>	0								
	250		<u>0</u>	0								
	500		<u>0</u>	0								
	750		<u>0</u>	0.5								
	1000 Net 0		<u>0</u>	0								
					<u>63</u>							
					<u>2.4</u>							
					<u>0</u>							
					<u>0</u>							
					<u>6.5</u>							
					<u>1.8</u>							

Ceratoscopelus warmingii,
specimens/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71							
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0	0.3	0	1.5	0	0	0	0.5	0			
	250	0	0	1.8	0	4.0	0	0	0	0			
	500	0	0	0	0	-	-	0	0	0			
	750	0	0	0	0	-	-	0	0	0			
	1000	-	0	0	-	-	-	0	0	0			
	Net 0	3.1	0	0.3	0	0	0	0	0	0			
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66	
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank	
	0	0	0	0	0.5	-	0	0	0	0	0	0	
	250	0	0	0	0	0	0	0	0	0	0	0	
	500	0	0	0	0	0	0	0	0	0	0	0	
	750	0	0	0	0	0	0	0	0	-	0	0	
Ring Flank	1000	0	0	0	0	0	0	0	0	0	0	0	
	Net 0	0	0	0	0	0	0	0	0	0	0	0	
	Collection	22	33										
		Al	Bob										
	0	0	-										
	250	0	0										
Ring Fringe	500	0	0										
	750	-	0										
	1000	-	0										
	Net 0	0	0										
	Collection	23	29										
		Al-Art	Bob										
N. Sargasso Sea	0	0.3	1.1										
	250	0	0										
	500	0	0										
	750	0	0										
	1000	0	0										
	Net 0	0	0										
		Collection	25	26									
		0	0	0									
		250	0	0									
		500	0	0									
		750	0	0									
		1000	0	0									
		Net 0	0	0									

Diaphus dumerilii,
specimens/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65			Oct-Nov 77 KNORR 71						
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0	0	0	0	0	0	0	0	0			
	250	0	0	0	0	0	0	0	0	0			
	500	0	0	0	0	-	-	0	0	0			
	750	0	0	0	0	-	-	0	0	0			
	1000	-	0	-	-	-	-	0	0	0			
	Net 0	0	0	0	0	0	0	0	0	0	0		
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66	
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank	
	Depth	0	0	0	0	-	0	0	0	0.5	0	0	
	250	0	0	0.4	0	0	0	0.6	2.8	0	0.7	0	
	500	0	0	0	0	0	0	0	0	0	0	0	
	750	0	0	0	0	0	0	0	0	0	0	0	
Ring Flank	1000	0	0	0	0	0	0	0	0	-	0	0	
	Net 0	0	0	0	0	0	0	0	0	0	0	0	
	Collection	22	33				64						
		Al	Bob				Frank						
	Depth	0	-				0.3						
	250	0	0				0						
Ring Fringe	500	0	0				0						
	750	-	0				0						
	1000	-	0				0						
	Net 0	0.2	0.8				0						
	Collection	23	29										
		Al-Art	Bob										
N. Sargasso Sea	Depth	0	0.5	0.5									
	250	0	0										
	500	0	0										
	750	0	0										
	1000	-	0										
	Net 0	1.1	1.7										
N. Sargasso Sea	Collection	25	26				63						
	Depth	0	0				0						
	250	0	0				0						
	500	0	0				0						
	750	0	0.7				0						
	1000	0	0				0						
N. Sargasso Sea	Net 0	0	0				0						

Diaphus effulgens,
specimens/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65			Oct-Nov 77 KNORR 71						
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0											
			0.3	0	0	0	0	0.4	0	0			
	250		0	0	0	0	0	0	0	0			
	500		0	0	0	-	-	0	0	0			
	750		0	0	-	-	-	0	0	0			
	1000		-	0	-	-	-	0	0	0			
Net 0		0.6	0	0	0.2	0	0	0	0				
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66	
		A1	A1	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank	
	0												
	250		0.2	0	0	0.5	-	2.5	1.3	0	0.5	0	1.9
	500		0	0	0	0	0	0	0	0	0	0	
	750		0	0	0	0	0	0	0	0	0	0	
Ring Flank	1000		0	0	0	0	0	0	0	-	0	0	
	Net 0	0	0	0	0	0	0	0	0.4	0	0	0	
	Collection	22	33										
		A1	Bob										
	0												
	250		1.7	-									
Ring Fringe	500		0	0									
	750		-	0									
	1000		-	0									
	Net 0	0.5	0										
	Collection	23	29										
		A1-Art	Bob										
N. Sargasso Sea	0												
	250		1.3	2.6									
	500		0	0									
	750		0	0									
	1000		-	0									
	Net 0	0	0										
N. Sargasso Sea	Collection	25	26										
	0		0	0									
	250		0	0.6									
	500		0	0.7									
	750		0	0									
N. Sargasso Sea	1000		0	0									
	Net 0	0.6	0										
	Collection	63											
	0		0										
	250		0										

Diaphus mollis,
specimens/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71							
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0	0	0.4	1.3	0	0	0	0	0			
	250	0	0	0.7	0	2.0	0	0	0.4	0			
	500	0	0	0	0	-	-	0	0	0			
	750	-	0	0	-	-	-	0	0	0			
	1000	0	0	0	0.6	0	0	0	0.4	0			
	Net 0	0	0	0	0.6	0	0	0	0.4	0			
Ring Center	Depth	Collection	20	35	27	28	32	58	59	61	62	65	66
	0	Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank	
	250	0.6	0	0	0	-	0	0	0	0	0	0	
	500	0	0.3	0	0	0.7	0	0	1.1	0	0	0.7	
	750	0	0	0	0	0	0	0	0	-	0	0	
	1000	0	0	0	0	0	0	0	0	0	0	0	
Ring Flank	Depth	Collection	22	33									
	0	Al	Bob										
	250	2.8	-										
	500	1.0	0										
	750	-	0										
	1000	-	0										
Ring Fringe	Depth	Collection	23	29									
	0	Al-Art	Bob										
	250	0.8	0										
	500	0.3	0										
	750	0	0										
	1000	-	0										
N. Sargasso Sea	Depth	Collection	25	26									
	0	0	0.9	0									
	250	0	0										
	500	0	0										
	750	0	0										
	1000	0	0										
		Net 0	0	0									
		Net 0	0	0									

Diaphus rafinesquii,
specimens/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71							
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0	0	0	1.5	0	0.3	0.9	0	0			
	250	0	1.1	0	0.4		0.6	0	1.5	0			
	500	0	0	0	-		-	0.5	0	0.3			
	750	1.7	0	0	-		-	0	0	0			
	1000	-	0	-	-		-	0	0	0			
	Net 0	1.3	0	0	0		0	0	0	0			
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66	
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank	
	0	0	0	0	0.5	-	1.3	0	0	0	0	0	0
	250	0	0	0	0	0	0	0.6	1.1	0	1.5	0	0
	500	0	1.0	0	0	0	0	0.6	0	0	0	0	0
	750	0.6	0	0	0	0	1.9	1.1	0.4	-	0.5	0	0
Ring Flank	1000	0	0.5	0	0	0	0.5	0.2	0	0	0	0	0
	Net 0	0	0.5	0	0	0	0.5	0.2	0	0	0	0	0
	Collection	22	33										
		Al	Bob										
	0	1.4	-										
	250	0	0										
Ring Fringe	500	-	0										
	750	-	0										
	1000	0	0										
	Net 0	0	0										
	Collection	23	29										
		Al-Art	Bob										
N. Sargasso Sea	0	1.5	1.6										
	250	0	0										
	500	0.4	0										
	750	-	0										
	1000	0	1.7										
	Net 0	0	1.7										
N. Sargasso Sea	Collection	25	26										
	0	0.9	0.5										
	250	0	0										
	500	0	0										
	750	0	0										
	1000	0	0.5										
		Net 0	0	0.5									

Diogenichthys atlanticus,
specimens/10,000 m³

		Nov-Dec 76 KNORR 62	April 77 KNORR 65				Oct-Nov 77 KNORR 71					
		Collection 24	36	38	39	56	57	67	68			
Slope Water	Depth	0	0	0.5	0	4.3	1.3	1.0	0.3			
	250	0	2.1	0	0.4	0	0	0	0			
	500	0	2.0	0	-	-	0	0	0			
	750	0.4	2.0	0	-	-	0	0	0			
	1000	-	0	-	-	-	0	0	0			
	Net 0	0	0	0	0	0	0	0.4	0.2			
Ring Center	Collection	20 Al	35 Al	27 Bob	28 Bob	32 Bob	58 Em'	59 Em	61 Frank	62 Frank	65 Frank	66 Frank
	0	0.4	0	0	0	-	0	0	0	0	0	0
	250	0	0.3	0	0	0	1.3	0	0.6	0	0	0
	500	0	0.3	0	0	0	0	6.5	4.3	3.5	0.9	6.4
	750	14.1	0	0	0	0.6	0	0	0	-	0	0
	Net 0	10.1	0	0	1.8	0	0	1.0	2.5	0.5	0.4	2.2
Ring Flank	Collection	22 Al	33 Bob					64 Frank				
	0	0.7	-					0				
	250	0.3	0					0				
	500	-	0					0.4				
	750	-	0					3.9				
	Net 0	3.0	0					0				
Ring Fringe	Collection	23 Al-Art	29 Bob									
	0	0	0									
	250	0	0									
	500	0	0									
	750	0	0									
	Net 0	0	0									
N. Sargasso Sea	Collection		25	26					63			
	0		0	0					0			
	250		0	0					0			
	500		0	0					0.4			
	750		0	0					0.9			
	Net 0		0	0					0.9			

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71						
		Collection <u>24</u>	36	<u>38</u>	39	<u>56</u>	<u>57</u>	67	<u>68</u>			
Slope Water	Depth	0	0	<u>5.6</u>	-	1.1	0	0	0			
	250	0	5.4	0	19.6	0	0	0	0			
	500	0	0	0	-	-	0	0	0			
	750	-	0	-	-	-	0	0	0			
	1000	0	3.5	<u>2.6</u>	0.6	0.7	0	0	0			
	Net 0	0										
Ring Center	Collection	<u>20</u>	35	27	<u>28</u>	<u>32</u>	<u>58</u>	59	61	<u>62</u>	65	<u>66</u>
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank
	Depth	0	0	0	<u>21.9</u>	-	0	0	0	0	0	0
	250	0	0.7	1.1	0	0	0	0	0	0	0	0
	500	0	2.4	0	0	0	0	0	0	0	0.6	0
	750	0	0	0	0	0	0	0	0	-	0	0
Ring Flank	1000	0	0	1.0	<u>35.5</u>	<u>14.4</u>	0	0.5	0	<u>1.5</u>	0	0
	Net 0	0										
	Collection	<u>22</u>	<u>33</u>				<u>64</u>					
		Al	Bob				Frank					
	Depth	0	-				0					
	250	0	0				0					
Ring Fringe	500	0	0				0					
	750	-	0				0					
	1000	-	0				0					
	Net 0	0	<u>13.3</u>				0					
	Collection	<u>23</u>	<u>29</u>									
		Al-Art	Bob									
N. Sargasso Sea	Depth	0	<u>0.3</u>	<u>3.2</u>								
	250	0	0									
	500	0	0									
	750	0	<u>35.0</u>									
	1000	-	0									
	Net 0	0	<u>3.3</u>									
N. Sargasso Sea	Collection		<u>25</u>	26			<u>63</u>					
	Depth	0	<u>4.8</u>	0			0					
	250		<u>0.4</u>	0			0					
	500		0	5.3			0					
	750		<u>5.6</u>	1.1			0					
	1000		<u>1.9</u>	3.0			0					
N. Sargasso Sea	Net 0											
	Collection											
	Depth											
	250											
	500											
	750											

Hygophum hygomi
specimens/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71							
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0	1.5	0	1.8	0	0.6	0	0	0			
	250		0	1.8	0.2	0.4	1.8	0.4	0	0.3			
	500		0	3.6	0	-	-	0	0	0			
	750		-	0	-	-	-	0	0	0			
	1000		1.9	0	0.3	0	0.3	0	0	0			
	Net 0												
		Collection	20	35	27	28	32	58	59	61	62	65	66
			Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank
Ring Center	Depth	0	0	0	0	21.0	-	0	0	0	0	0	0.4
	250		0	0	1.5	0	0	0	0	0	0.3	0.4	0
	500		0	0	0	0	0	0	0.6	1.4	0	2.3	0
	750		0	0	0	0	0	0	0	0	-	0	0
	1000		0	0	0	0	0	0	0	0.7	2.0	0.7	0.3
	Net 0												
		Collection	22	33									
			Al	Bob									
Ring Flank	Depth	0	0	-									
	250		0	0									
	500		-	0									
	750		-	0									
	1000		0	0									
	Net 0												
		Collection	23	29									
			Al-Art	Bob									
Ring Fringe	Depth	0	0.3	2.6									
	250		0	0									
	500		0	0									
	750		-	0									
	1000		0	0.8									
	Net 0												
		Collection	25	26									
N. Sargasso Sea	Depth	0	0.4	0									
	250		0	0									
	500		0	0									
	750		0	0									
	1000		0	0									
	Net 0												

Lampanyctus alatus,
specimens/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65			Oct-Nov 77 KNORR 71						
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0											
			0.3	0	0	0	0	0	0	0.3			
	250		0	0	0	0	1.8	0	0	0.3			
	500		0	0	0	0	-	0	0	0			
	750		0	0.4	0	-	-	0	3.3	0			
	1000		-	0	-	-	-	0	0	0			
Net 0		0	0	0	0	0	0.8	3.8	0.4	0			
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66	
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank	
	0	0	0	0	0	-	0	0	0	0	0	0.4	
	250	0	0	0	0	0	0	0	0	2.2	0	0	
	500	0	0	0	0	0	0.8	0	4.3	0.8	0.3	0	
	750	0	0	0	0	0	1.9	2.8	0.4	-	4.3	0	
1000		0.6	0	0	0	0	1.9	2.8	0.4	-	4.3	0	
Net 0		0	0	0	0	0	0.9	1.0	0.4	4.5	1.4	1.4	
Ring Flank	Collection	22	33				64						
		Al	Bob				Frank						
	0	0	-				0						
	250	0	1.1				0						
	500	0	0				0						
	750	-	0				0						
1000		-	0				1.1						
Net 0		0	0.8				0						
Ring Fringe	Collection	23	29										
		Al-Art	Bob										
	0	0	0.5										
	250	0	0										
	500	0	0										
	750	0	0										
1000		-	0										
Net 0		0	1.7										
N. Sargasso Sea	Collection		25	26			63						
			3.0	0			0						
	250		0.4	0			0						
	500		0	0			0						
	750		0	7.9			0.9						
	1000		0	2.0			0						
Net 0			0.6	2.0			0						

Lampanyctus crocodilus,
specimens/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71							
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0	1.5	0	0.3	0	0	0	0	0			
	250	0	0	0	0.2	0	0	0.4	0	0.3			
	500	0	0	0	0	-	-	0	0.4	2.3			
	750	0	0	0	-	-	-	0	0	0			
	1000	-	0	-	-	-	-	0	0	0			
	Net 0	0	0.4	0.6	0	0	0.3	0.8	0.4	0			
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66	
		AI	AI	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank	
	0	0	0	0	0	-	0	0	0	0	0	0.4	
	250	0.8	0	0	0	0	0	0	0	1.3	0	0	
	500	0	1.0	0	0.4	0.6	0.8	0	0	1.5	0	1.6	
	750	0	0.7	0	0	0	0	0	0	-	0	0	
Ring Flank	1000	0	0	0	0	0	0	0.2	0	0	0	0.8	
	Net 0	0	0	0	0	0	0	0.2	0	0	0	0.8	
	Collection	22	33					64					
		AI	Bob					Frank					
	0	0	-					0.9					
	250	0	0					0					
Ring Fringe	Depth	500	0					0					
	750	-	0					0					
	1000	-	0					0.6					
	Net 0	0	0					1.3					
	Collection	23	29										
		AI-Art	Bob										
N. Sargasso Sea	0	4.0	1.6										
	250	0.3	0.5										
	500	0	0										
	750	-	0										
	1000	0	5.0										
	Net 0	0	5.0										
N. Sargasso Sea	Collection	25	26					63					
	0	0.4	0					0.4					
	250	0	0					0					
	500	0	2.0					0					
	750	0	0.5					1.7					
	1000	0	0					2.7					
N. Sargasso Sea	Net 0	0	0					2.7					
	Collection	25	26					63					
	0	0.4	0					0.4					
	250	0	0					0					
	500	0	2.0					0					
	750	0	0.5					1.7					
N. Sargasso Sea	1000	0	0					2.7					
	Net 0	0	0					2.7					

Lampanyctus cuprarius,
specimens/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71						
		Collection	24	36	38	39	56	57	67	68		
Slope Water	Depth	0	0.8	0	0	0	0	0	0	0.3		
	250	0	0	0	0	0	0.6	0	0	0		
	500	0	0.4	0	-	-	-	0	0.4	0		
	750	-	0	-	-	-	-	0	0	0		
	1000	-	-	-	-	-	-	-	-	-		
	Net 0	0	0	0	0.1	0	0	0	0	0		
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank
	Depth	0	0.4	0	0	-	0	0	0	0.9	0	3.9
	250	0	0	0	0	0	1.3	0	0	0.9	0	0
	500	0	0	0	0	0	0.8	1.2	5.0	0.4	1.7	0.4
	750	0	0	0	0	0	3.8	0	0	-	0	0
Ring Flank	1000	0	0	0	0	0	3.8	0	0	-	0	0
	Net 0	0.9	0	0	0	0	0.5	1.0	0	5.5	0	0.8
	Collection	22	33				64					
		Al	Bob				Frank					
	Depth	0	0.3	-			0.9					
	250	0	0				0					
Ring Fringe	500	-	0				0					
	750	-	0				0.6					
	1000	-	0									
	Net 0	0.5	0.8				2.2					
	Collection	23	29									
		Al-Art	Bob									
N. Sargasso Sea	Depth	0	2.5	0.5								
	250	0	0									
	500	0	0									
	750	-	0									
	1000	-	0									
	Net 0	0.5	0									
N. Sargasso Sea	Collection	25	26				63					
	Depth	0	0				0.4					
	250	0	0				0					
	500	0	0				0					
	750	0	0.5				0.4					
	1000	0	0				0.5					
N. Sargasso Sea	Net 0	0	0				0.5					

Lampanyctus photonotus,
specimens/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71							
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0	0	0	0.3	0	0.9	0.4	0	1.3			
	250	0	0	0	0	0	0.6	0	0	0			
	500	0	0.4	0	-	-	-	0	0	0			
	750	-	0	-	-	-	-	0	0	0			
	1000	-	-	-	-	-	-	-	-	-			
	Net 0	0	0	0	0	0	0.2	0	0	0			
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66	
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank	
	0	0.4	0	0	0	-	0	0	0	11.4	0	4.2	
	250	0.8	0	0.4	0	0	0	0	3.3	0.3	1.5	0	
	500	0	0	0	0	0	11.5	10.0	0.7	0	8.0	0	
	750	0	0	0	0	0	9.4	7.2	0	-	0	0	
Ring Flank	1000	0	0	0	0	0	9.4	7.2	0	-	0	0	
	Net 0	3.0	0.9	0	0	0.6	0.5	2.2	1.4	12.5	2.5	1.1	
	Collection	22	33										
		Al	Bob										
	0	5.5	-										
	250	0	1.1										
Ring Fringe	Depth	500	0										
	750	-	0										
	1000	-	0										
	Net 0	0.9	1.7										
	Collection	23	29										
		Al-Art	Bob										
N. Sargasso Sea	0	3.5	1.1										
	250	0	0										
	500	0.4	0										
	750	-	0.7										
	1000	-	-										
	Net 0	0.5	1.7										
N. Sargasso Sea	Collection	25	26										
	0	0.9	0										
	250	0	0										
	500	0	0.7										
	750	1.9	0										
	Net 0	0	0										

Lampanyctus pusillus
specimens/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65			Oct-Nov 77 KNORR 71							
		Collection	24	36	38	39	56	57	67	68				
Slope Water	Depth	0	0	0	0	0	0	0	0	0				
	250	0	0	0	0	0	0	0	0	0				
	500	0	0	0	0	0	0	0	0	0				
	750	0	0	0	0	-	-	0	0	0				
	1000	-	0	-	-	-	-	0	0	0				
	Net 0	0	0	0	0	0	0	0	0	0				
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66		
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank		
	Depth	0	0	0	0	-	0	0	0	0	0	0		
	250	0.2	0	0	0	-	0	0	0	0	0.4	0		
	500	0	0	0	0	0	0	0	0	0	0	0		
	750	0	0	0	0	0	0	0.6	0.7	0	0	0		
Ring Flank	Depth	0	0	0	0	0	0	0	-	0	0	0		
	250	0	0	0	0	0	0	0	-	0	0	0		
	500	0	0	0	0	0	0	0	-	0	0	0		
	750	0	0	0	0	0	0	0	-	0	0	0		
	1000	0	0	0	0	0	0.5	0.5	0	0	0	0.5		
	Net 0	0	0	0	0	0	0.5	0.5	0	0	0	0.5		
Ring Fringe	Collection	22	33				64							
		Al	Bob				Frank							
	Depth	0	1.4	-				0						
	250	0	0				0							
	500	0	0				0							
	750	0	0				0							
N. Sargasso Sea	Depth	0	0	0				0						
	250	0	0	0				0						
	500	0	0	0				0						
	750	0	0	0				0						
	1000	0	0	0				0.4						
	Net 0	0	0	0				0						
		Collection	23	26				63						
			Al-Art	Bob				0.8						
		Depth	0	2.0	0				0					
		250	0	0	0				0					
		500	0	0	0				0					
		750	0	0	0				0					
		1000	0	0	0				0.4					
		Net 0	0.5	1.7				0						
		Collection	25	26				63						
		Depth	0	0				0.8						
		250	0	0				0						
		500	0	0				0						
		750	0	1.3				0						
		1000	0	0				0.4						
		Net 0	0	0				0						

Lepidophanes gaussi,
specimens/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71							
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0	0.3	0	1.0	0	0.6	0.4	0	0.3			
	250	0	7.1	0	1.2		4.1	0	0	0			
	500	0	1.2	0	-		-	0	0	0			
	750	-	0	-	-		-	0	0	0			
	1000												
	Net 0	1.3	0.4	0	0		1.7	0	0.4	0			
Ring Center	Depth	Collection	20	35	27	28	32	58	59	61	62	65	66
	0	Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank	Frank
	250	0.8	0	0	1.0	-	0	0	0	3.2	0	1.9	
	500	0	0	0.7	0	0	0	0	1.7	0	0	0	
	750	0	0	0	0	0	0	0	5.7	0	4.3	0	
	1000	0	0	0	0	0	0	0	0	-	0	0	
Ring Flank	Depth	Net 0	0.4	0	0	0	0	0	0	2.1	0	1.1	0
	Collection	22	33			64							
	0	Al	Bob			Frank							
	250	0	-			0.9							
	500	0	0			0							
	750	-	0			0							
Ring Fringe	Depth	Collection	23	29									
	0	Al-Art	Bob										
	250	0.3	4.2										
	500	0	0										
	750	0	0										
	1000	-	0										
N. Sargasso Sea	Depth	Net 0	0.5	1.7									
	Collection	25	26			63							
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	Depth	Collection	25	26									
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	1000	0	0			0							
	Depth	Net 0	0	0									
	Collection	25	26			63							
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	Depth	Collection	25	26									
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	1000	0	0			0							
	Depth	Net 0	0	0									
	Collection	25	26			63							
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	Depth	Collection	25	26									
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	1000	0	0			0							
	Depth	Net 0	0	0									
	Collection	25	26			63							
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	Depth	Collection	25	26									
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	1000	0	0			0							
	Depth	Net 0	0	0									
	Collection	25	26			63							
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	Depth	Collection	25	26									
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	1000	0	0			0							
	Depth	Net 0	0	0									
	Collection	25	26			63							
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	Depth	Collection	25	26									
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	1000	0	0			0							
	Depth	Net 0	0	0									
	Collection	25	26			63							
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	Depth	Collection	25	26									
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	1000	0	0			0							
	Depth	Net 0	0	0									
	Collection	25	26			63							
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	Depth	Collection	25	26									
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	1000	0	0			0							
	Depth	Net 0	0	0									
	Collection	25	26			63							
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	Depth	Collection	25	26									
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	1000	0	0			0							
	Depth	Net 0	0	0									
	Collection	25	26			63							
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	Depth	Collection	25	26									
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	1000	0	0			0							
	Depth	Net 0	0	0									
	Collection	25	26			63							
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	Depth	Collection	25	26									
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	1000	0	0			0							
	Depth	Net 0	0	0									
	Collection	25	26			63							
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	Depth	Collection	25	26									
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	1000	0	0			0							
	Depth	Net 0	0	0									
	Collection	25	26			63							
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	Depth	Collection	25	26									
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	1000	0	0			0							
	Depth	Net 0	0	0									
	Collection	25	26			63							
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	Depth	Collection	25	26									
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	1000	0	0			0							
	Depth	Net 0	0	0									
	Collection	25	26			63							
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	Depth	Collection	25	26									
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	1000	0	0			0							
	Depth	Net 0	0	0									
	Collection	25	26			63							
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	Depth	Collection	25	26									
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	1000	0	0			0							
	Depth	Net 0	0	0									
	Collection	25	26			63							
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	Depth	Collection	25	26									
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	1000	0	0			0							
	Depth	Net 0	0	0									
	Collection	25	26			63							
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	Depth	Collection	25	26									
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	1000	0	0			0							
	Depth	Net 0	0	0									
	Collection	25	26			63							
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	Depth	Collection	25	26									
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	1000	0	0			0							
	Depth	Net 0	0	0									
	Collection	25	26			63							
	0	0	0			0.4							
	250	0	0			0							
	500	0	0			0							
	750	0	0			0							
	Depth	Collection	25	26									
	0	0	0										

Lepidophanes guentheri,
specimens/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71							
Slope Water	Collection	24	36	38	39	56	57	67	68				
	0	7.7	0	0.8	0	4.3	5.2	13.0	2.1				
	250	0	0	0	1.2	0	1.6	0	0				
	500	0	0	0	-	-	0.9	0	0				
	750	-	0	-	-	-	0	0	0				
	1000	-	-	-	-	-	-	-	-				
Ring Center	Net 0	15.0	0	0	0.2	0	2.1	2.3	6.3				
	Collection	20	35	27	28	32	58	59	61	62	65	66	
	0	Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank	
	250	0.2	0	0	0	-	1.3	0	0	1.8	0	0.4	
	500	0	0.7	0	0	0	0	2.2	1.7	0	3.0	0	
	750	0	0	0	0	0	0	0	0	0	0	0	
Ring Flank	1000	0	0	0	0	0	0	0	-	0	0	0	
	Net 0	0.4	0.9	0	0	0.6	0.9	0.2	2.5	1.5	0.4	0.5	
	Collection	22	33										
	0	Al	Bob										
	250	0	-										
	500	0	0										
Ring Fringe	750	-	0										
	1000	-	0										
	Net 0	0	1.7										
	Collection	23	29										
	0	Al-Art	Bob										
	250	0	3.2										
N. Sargasso Sea	500	0	0										
	750	0	5.0										
	1000	-	0										
	Net 0	0	1.7										
	Collection	25	26										
	0	0.9	0										
N. Sargasso Sea	250	0	1.2										
	500	0	0										
	750	0	0										
	1000	0	0										
	Net 0	0	0										
	Collection	63											
N. Sargasso Sea	0	0											
	250	0											
	500	0											
	750	0											
	1000	0											
	Net 0	0											

Lobianchia dofleini
specimens/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65			Oct-Nov 77 KNORR 71						
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0	0.3	0	0	0	2.0	0	0	0.3			
	250	0	2.9	0	1.6	0	0	0.4	0				
	500	0	0	0.7	-	-	0	0	0				
	750	-	0.7	-	-	-	0	0	0				
	1000	-	0.7	-	-	-	0	0	0				
	Net 0	0	0.8	0.3	0.2	0.3	0.8	0	0				
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66	
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank	
	Depth	0	0	0	0.5	-	0	0	0	0	0	0	
	250	0	0	0	0	0	0	0	0	0	0	0	
	500	0	0.7	0	0	0	0	0	0	0	0	0	
	750	0	0	0	0	0	0	0	-	0	0	0	
Ring Flank	Collection	22	33										
		Al	Bob										
	Depth	0	-										
	250	0	0										
	500	-	0										
	750	-	0										
Ring Fringe	Collection	23	29										
		Al-Art	Bob										
	Depth	0	0.5										
	250	0	0										
	500	0	0										
	750	0	0										
N. Sargasso Sea	Collection	25	26										
		0	0										
	Depth	0	0										
	250	0	0										
	500	0	0										
	750	0	0										
		63											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											
		0											

Myctophum affine,
specimens/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71			
Slope Water	Collection	24	36	38	39	56	57	67	68
	0	1.8	0	0.5	0	1.1	0.4	0.5	0.7
	250	0.7	2.1	0.2	0.8	0	0	0	0
	Depth 500	0	0	0	-	-	0	0	0
	750	-	0	-	-	-	0	0	0
	1000	-	0	-	-	-	0	0	0
Ring Center	Net 0	3.1	0	0	0	0	0	0	0
	Collection	20	35	27	28	32	58	59	61
	0	Al	Al	Bob	Bob	Bob	Em	Em	Frank
	250	0	0	0	1.0	-	0	0	0.8
	Depth 500	0.8	0.7	1.9	0	0	0.7	0.6	6.7
	750	0	0.3	0.4	0	0	0	0	1.3
Ring Flank	1000	0	0	0	0	0	0	0	4.1
	Net 0	0	0	0	1.8	0	0	0	0
	Collection	22	33			64			
	0	Al	Bob			Frank			
	250	2.1	-			0.9			
	Depth 500	0	1.1			0			
Ring Fringe	750	-	0			0			
	1000	-	0			0			
	Net 0	1.8	0.8			0.4			
	Collection	23	29						
	0	Al-Art	Bob						
	250	3.8	12.1						
N. Sargasso Sea	Depth 500	0	0.5						
	750	0	0						
	1000	0	0						
	Net 0	0	0.8						
	Collection	25	26			63			
	0	1.3	0			1.6			
N. Sargasso Sea	250	0.4	8.2			0			
	Depth 500	0	0			0			
	750	0	0			0			
	1000	0	0			0			
	Net 0	0	1.0			0			

Notolychnus valdiviae,
specimens/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71							
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0	0	0	1.0	0	0	2.2	0	0.3			
	250	0	0	0	0	0	1.8	0	0	0			
	500	0	0	0	0	-	-	0	0.4	0			
	750	-	1.1	-	-	-	-	0	1.2	0			
	1000	0	0.4	0	0.3	0	1.0	0.4	0	0.2			
	Net 0	0	0	0	0	0	0	0	0	0			
		Collection	20	35	27	28	32	58	59	61	62	65	66
		AI	AI	AI	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank
Ring Center	Depth	0	0	0	0	1.0	-	0	0	0	0	0	0
	250	0	0	0	0	0	0	0	0	0	0	0	0
	500	0	0	0	0	0	0	0	0	0	0	0	0
	750	0	0.4	0	0	0	0	0	0	0.4	-	0	0
	1000	0	0	0	0	0	0	0	0	0	0.5	0	0
	Net 0	0	0	0	0	0	0	0	0	0	0	0	0
		Collection	22	33									
		AI	AI	Bob									
Ring Flank	Depth	0	0	-									
	250	0	0	0									
	500	0	0	0									
	750	0	0	0									
	1000	0	0	0									
	Net 0	0	0	0.8									
		Collection	23	29									
		AI-Art	AI-Art	Bob									
Ring Fringe	Depth	0	0	0									
	250	0	0	0									
	500	0	0	0.8									
	750	0	0	0									
	1000	0	0	1.7									
	Net 0	0	0	0									
		Collection	25	26									
		0	0	0									
N. Sargasso Sea	Depth	250	0	0									
	500	0	0	0									
	750	0.5	0	0									
	1000	0	8.9	0									
	Net 0	0	2.0	0									

Notoscopelus resplendens,
specimens/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65			Oct-Nov 77 KNORR 71						
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0	0	1.1	0.3	0	0	0	0	0			
	250	0	0	0	0	0	0	0	0	0.3			
	500	0	0	0	0	-	-	0	0	0			
	750	0	0	0	0	-	-	0	0	0			
	1000	-	0	0	-	-	-	0	0	0			
	Net 0	0	0	0	0	0	0	0	0	0			
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66	
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank	
	0	0	0	0	0	-	0	0	0	0.5	0.5	0.8	
	250	3.3	1.3	0	0	0.7	0	0.6	1.7	0	1.1	0	
	500	0	0	0	0	0	0	0	0	0	0	0	
	750	0	0	0	0	0	0	0	0	-	0	0	
Ring Flank	1000	0	0	0	0	0	0	0	0	-	0	0	
	Net 0	0.9	1.8	0	0	0	0.5	0.5	0.4	0.5	0	0	
	Collection	22	33					64					
		Al	Bob					Frank					
	0	0	0					0					
	250	1.9	4.4					0.9					
Ring Fringe	500	-	0					0					
	750	-	0					0					
	1000	0.5	2.5					0					
	Net 0	0.5	2.5					0					
	Collection	23	29										
		Al-Art	Bob										
N. Sargasso Sea	0	0.3	0										
	250	0	2.1										
	500	0	0										
	750	0	0										
	1000	-	0										
	Net 0	0	6.7										
N. Sargasso Sea	Collection	25	26					63					
	0	0	0					0					
	250	1.1	0					0.4					
	500	0	0					0					
	750	0	0					0					
	1000	0	0					0					
N. Sargasso Sea	Net 0	0.6	0					1.8					
	Collection	25	26					63					
N. Sargasso Sea	0	0	0					0					
	250	1.1	0					0.4					
	500	0	0					0					
	750	0	0					0					
	1000	0	0					0					
	Net 0	0.6	0					1.8					

Argyropelecus aculeatus,
specimens/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71							
Slope Water	Collection	24	36	38	39	56	57	67	68				
	0	<u>0</u>	0	<u>0.3</u>	1.3	0	<u>0</u>	0	<u>0</u>				
	250	<u>0</u>	0	<u>0.7</u>	0	0	<u>0</u>	0.4	<u>0.6</u>				
	500	<u>0</u>	0	<u>0</u>	-	-	<u>0</u>	0	<u>0</u>				
	750	-	0	-	-	-	<u>0</u>	0	<u>0</u>				
	1000 Net 0	<u>0</u>	0	<u>0</u>	0	0.3	<u>2.1</u>	0.4	<u>0.2</u>				
Ring Center	Collection	20 Al	35 Al	27 Bob	28 Bob	32 Bob	58 Em	59 Em	61 Frank	62 Frank	65 Frank	66 Frank	
	0	<u>0</u>	0.4	0	<u>0</u>	-	<u>0.6</u>	0	0	<u>0</u>	0	<u>0</u>	
	250	<u>4.2</u>	4.7	0	<u>0</u>	<u>0</u>	<u>4.7</u>	0	0.6	<u>1.3</u>	1.9	<u>3.7</u>	
	500	<u>1.5</u>	0	0	<u>0</u>	<u>0</u>	<u>10.8</u>	22.9	0	<u>0</u>	0	<u>0</u>	
	750	<u>0</u>	0	0	<u>0</u>	<u>0</u>	<u>0</u>	0	0	-	0	<u>0</u>	
	1000 Net 0	<u>3.5</u>	5.5	0	<u>1.8</u>	<u>0</u>	<u>4.1</u>	3.9	0.7	<u>0.5</u>	0	<u>0</u>	
Ring Flank	Collection	22 Al	33 Bob										
	0	<u>0</u>	<u>0</u>										
	250	<u>22.9</u>	<u>0</u>										
	500	-	<u>0</u>										
	750	-	<u>0</u>										
	1000 Net 0	<u>0.9</u>	<u>0</u>										
Ring Fringe	Collection	23 Al-Art	29 Bob										
	0	<u>0.3</u>	<u>0</u>										
	250	<u>1.6</u>	<u>1.1</u>										
	500	<u>0.9</u>	<u>4.2</u>										
	750	-	<u>0</u>										
	1000 Net 0	<u>1.1</u>	<u>15.8</u>										
N. Sargasso Sea	Collection	25	26										
	0	<u>0</u>	0										
	250	<u>4.6</u>	0.6										
	500	<u>0</u>	0										
	750	<u>0</u>	0										
	1000 Net 0	<u>1.3</u>	0										
<u>Argyropelecus hemigymnus,</u> specimens/10,000 m ³													

Argyropelecus hemigymnus,
specimens/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71					
		Collection	24	36	38	39	56	57	67	68	
Slope Water	Depth	0	0	0.4	0	0	0	0.4	0	0	
	250	0	0	0	0	0	0	0.4	0	0	
	500	0	0	0	0	0	0	0.4	0	0	
	750	2.2	1.2	2.1	-	-	-	2.3	0.7	2.9	
	1000	-	1.8	-	-	-	-	0.9	0.4	0	
	Net 0	1.3	2.3	0	1.0	0.7	1.3	0	0	0	
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank
	0	0	0	0	0	-	0	0	0	0	0
	250	0	0	0	0	0	0	0	0	0	0
	500	0	0.3	0.8	1.3	0.6	0.8	0	0	0	0.4
	750	0	1.1	0	0	0	1.3	1.1	0.4	-	0
Ring Flank	1000	0	1.1	0	0	0	1.3	1.1	0.4	-	0
	Net 0	0.4	0.5	0	1.8	0.6	2.3	0.2	0	0.5	0
	Collection	22	33				64				
		Al	Bob				Frank				
	0	0	0				0				
	250	0	0				0				
Ring Fringe	500	0	1.3				0.4				
	750	-	0				4.4				
	1000	0.5	0.8				1.3				
	Net 0	0	2.5								
	Collection	23	29								
		Al-Art	Bob								
N. Sargasso Sea	0	0	0								
	250	0	0								
	500	0	0								
	750	-	1.4								
	1000	0	2.5								
	Net 0	0	2.5								
N. Sargasso Sea	Collection	25	26				63				
	0	0	0				0				
	250	0	0				0				
	500	0	0				0.4				
	750	1.3	1.6				1.7				
N. Sargasso Sea	1000	1.9	2.0				2.3				
	Net 0	1.9	2.0				2.3				
	Collection	25	26				63				
	0	0	0				0				
	250	0	0				0				
N. Sargasso Sea	500	0	0				0.4				
	750	1.3	1.6				1.7				
	1000	1.9	2.0				2.3				
	Net 0	1.9	2.0				2.3				
	Collection	25	26				63				

Sternoptyx diaphana
specimens/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65			Oct-Nov 77 KNORR 71						
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0	<u>1.8</u>	0	<u>0</u>	0	0	<u>0</u>	0	<u>0</u>			
	250		<u>0</u>	0	<u>0.2</u>	0	0	<u>0</u>	0	<u>0</u>			
	500		<u>0</u>	0	<u>0</u>	-	-	<u>0</u>	0	<u>0.3</u>			
	750		<u>0</u>	0	<u>0</u>	-	-	<u>0</u>	0	<u>0</u>			
	1000		-	0	-	-	-	<u>0</u>	0	<u>0</u>			
	Net 0		<u>0.6</u>	0.8	<u>0.3</u>	0.8	0.3	<u>1.3</u>	0	<u>0</u>			
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66	
		<u>Al</u>	<u>Al</u>	<u>Bob</u>	<u>Bob</u>	<u>Bob</u>	<u>Em</u>	<u>Em</u>	<u>Frank</u>	<u>Frank</u>	<u>Frank</u>	<u>Frank</u>	
	0												
	250		<u>0.4</u>	0	0	<u>0</u>	-	<u>0</u>	0	0	<u>0</u>	0	<u>0.8</u>
	500		<u>0</u>	0	0.4	<u>0</u>	<u>0.7</u>	<u>0</u>	0	0	<u>0.3</u>	0.4	<u>0.4</u>
	750		<u>0</u>	0.7	1.2	<u>0</u>	<u>0</u>	<u>0</u>	0.6	2.1	<u>0</u>	0.3	<u>0</u>
	1000		<u>0</u>	0	0	<u>0</u>	<u>0</u>	<u>0</u>	0.6	0	-	0	<u>0</u>
Net 0		<u>0.4</u>	0	0.5	<u>1.8</u>	<u>0.6</u>	<u>0.5</u>	0	0	<u>0.5</u>	0	<u>0.3</u>	
Ring Flank	Collection	22	33										
		<u>Al</u>	<u>Bob</u>										
	0												
	250		<u>4.1</u>	<u>0</u>									
	500		<u>0</u>	<u>0</u>									
	750		<u>0</u>	<u>0</u>									
	Net 0		<u>0.2</u>	<u>4.2</u>									
Ring Fringe	Collection	23	29										
		<u>Al-Art</u>	<u>Bob</u>										
	0												
	250		<u>2.0</u>	<u>13.7</u>									
	500		<u>0</u>	<u>0</u>									
	750		<u>0</u>	<u>0</u>									
	Net 0		<u>1.1</u>	<u>0</u>									
N. Sargasso Sea	Collection		25	26									
	0		<u>0</u>	0									
	250		<u>0</u>	0									
	500		<u>0</u>	0									
	750		<u>0</u>	0									
	Net 0		<u>0</u>	0.5									

Gonostoma elongatum,
specimens/10,000 m³

Gonostoma elongatum,
specimens/10,000 m³

SPECIES

FISH VOLUME PER UNIT VOLUME OF WATER BY DEPTH INTERVAL

WITHIN STATIONS, KNORR CRUISES

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71						
Slope Water	Collection	24	36	38	39	56	57	67	68			
	0	1.79	0	4.23	.04	5.71	.26	0.4	7.67			
	250	2.67	12.1	2.33	16.0	2.06	.28	6.67	9.09			
	500	5.00	0	1.16	-	-	7.95	.89	8.71			
	750	-	0	-	-	-	1.14	2.20	5.18			
	1000 Net 0	3.44	.96	2.21	3.06	15.0	7.08	.38	3.95			
Ring Center	Collection	20 Al	35 Al	27 Bob	28 Bob	32 Bob	58 Em	59 Em	61 Frank	62 Frank	65 Frank	66 Frank
	0	0	0	0	46.67	-	0	0	.08	0	.05	0
	250	0	0	7.04	1.00	4.43	0	0	1.38	.78	.37	.81
	500	.92	.34	5.38	0	2.19	0	0	2.29	1.73	2.00	3.60
	750	.06	0	0	1.19	0	2.81	.55	1.96	-	.48	.96
	1000 Net 0	1.09	0	1.19	16.4	23.38	.09	1.71	4.29	2.30	.89	.86
Ring Flank	Collection	22 Al	33 Bob									
	0	0	-									
	250	0	.22									
	500	-	4.63									
	750	-	0									
	1000 Net 0	.02	4.33									
Ring Fringe	Collection	23 Al-Art	29 Bob									
	0		0									
	250		0									
	500		0									
	750		0									
	1000 Net 0		0									
N. Sargasso Sea	Collection		25	26								
	0		0	0								
	250		0	0								
	500		0	0								
	750		0	0								
	1000 Net 0		0	0								

Benthosema glaciale,
ml/10,000 m³

Benthosema glaciale,
ml/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71			
		Collection 24	36	38	39	56	57	67	68
Slope Water	Depth	0							
		.15	0	.10	0	.03	.04	0	0
	250	0	.07	0	.04	0	0	.04	0
	500	0	0	0	-	-	0	0	0
	750	0	0	0	-	-	0	0	0
	1000	-	.04	-	-	-	0	0	0
Net 0		.38	.04	0	0	0	0	0	0
Ring Center	Collection	20	35	27	28	32	58	59	61
		A1	A1	Bob	Bob	Bob	Em	Em	Frank
	0	.04	0	0	.19	-	0	0	0
	250	0	.03	.07	0	0	0	.33	0
	500	0	0	0	0	0	.06	0	.03
	750	0	0	0	0	0	0	0	0
1000		0	0	0	0	0	0	0	0
Net 0		0	0	0	.09	0	0	0	.04
Ring Flank	Collection	22	33			64			
		A1	Bob			Frank			
	0	.10	-			0			
	250	0	0			0			
	500	0	0			0			
	750	0	0			0			
1000		0	0			0			
Net 0		0	.08			0			
Ring Fringe	Collection	23	29						
		A1-Art	Bob						
	0	.02	.11						
	250	0	0						
	500	0	.08						
	750	0	0						
1000		0	0						
Net 0		.05	.08						
N. Sargasso Sea	Collection		25	26		63			
	0		0	0		.04			
	250		0	0		0			
	500		0	0		0			
	750		0	0		0			
	1000		0	0		0			
Net 0			0	0		0			

Benthosema suborbitale,
ml/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71							
Slope Water	Depth	Collection	24	36	38	39	56	57	67	68			
		0	.05	0	0	0	.03	.09	0	.03			
		250	0	.11	0	.12	0	0	.04	0			
		500	0	0	0	-	-	0	0	0			
		750	-	0	-	-	-	0	0	0			
		1000 Net 0	.12	0	.06	0	.08	0	0	0			
Ring Center	Depth	Collection	20	35	27	28	32	58	59	61	62	65	66
			A1	A1	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank
		0	.02	0	0	.10	-	.62	.27	0	.50	0	.04
		250	0	0	.07	0	0	0	.22	.28	0	.15	0
		500	0	.76	0	0	0	0	.18	0	0	.17	0
		750	0	0	0	0	0	0	0	0	-	0	0
Ring Flank	Depth	Collection	22	33									
			A1	Bob									
		0	1.10	-									
		250	.03	0									
		500	-	0									
		750	-	0									
Ring Fringe	Depth	Collection	23	29									
			A1-Art	Bob									
		0	1.38	1.32									
		250	0	0									
		500	.04	0									
		750	-	0									
N. Sargasso Sea	Depth	Collection	25	26									
			0	0									
		250	0	0									
		500	0	1.33									
		750	0	.26									
		1000 Net 0	0	.30									

Bolinichthys indicus,
ml/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71							
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0											
			<u>1.59</u>	0	<u>1.03</u>	0	.07	<u>.04</u>	.05	<u>.47</u>			
	250		<u>0</u>	0	<u>0</u>	0	1.47	<u>0</u>	2.59	<u>.06</u>			
	500		<u>0</u>	0	<u>0</u>	-	-	<u>.36</u>	0	<u>.32</u>			
	750		-	0	-	-	-	<u>0</u>	0	<u>0</u>			
	1000												
	Net 0		<u>.31</u>	0	<u>0</u>	0	.05	<u>0</u>	.12	<u>.93</u>			
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66	
		A1	A1	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank	
	0												
			<u>.02</u>	0	0	<u>0</u>	-	0	0	.08	<u>.23</u>	0	<u>.62</u>
	250		<u>0</u>	0	0	<u>0</u>	0	0	1.22	<u>.31</u>	.37	<u>.04</u>	
	500		<u>0</u>	0	0	<u>0</u>	0	0	3.21	<u>1.92</u>	4.57	<u>1.60</u>	
	750		<u>0</u>	0	0	<u>0</u>	0	0	.22	-	.05	<u>0</u>	
1000													
Net 0		<u>.30</u>	0	0	<u>0</u>	0	0	.18	<u>.10</u>	.32	<u>.22</u>		
Ring Flank	Collection	22	33				64						
		A1	Bob				Frank						
	0												
			<u>.07</u>				<u>.18</u>						
	250		<u>0</u>				<u>0</u>						
	500		-				<u>.04</u>						
	750		-				<u>.06</u>						
1000													
Net 0		<u>.09</u>	0				<u>.30</u>						
Ring Fringe	Collection	23	29										
		A1-Art	Bob										
	0												
			<u>.20</u>										
	250		<u>0</u>										
	500		<u>0</u>										
	750		-										
1000													
Net 0		<u>.05</u>	0										
N. Sargasso Sea	Collection		25	26			63						
	0		<u>0</u>	0			<u>.28</u>						
	250		<u>0</u>	0			<u>0</u>						
	500		<u>0</u>	0			<u>.04</u>						
	750		<u>0</u>	0			<u>1.30</u>						
	1000		<u>0</u>	0			<u>.05</u>						
	Net 0		<u>0</u>	0			<u>.05</u>						

<u>Ceratoscopelus maderensis,</u>											
ml/10,000 m ³											

Ceratoscopelus maderensis,
ml/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71							
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0											
			.33	0	.18	0	.07	.35	0	.73			
	250		0	0	0	0	1.47	0	0	0			
	500		0	0	0	-	-	0	.04	0			
	750		-	.04	-	-	-	0	.24	0			
	1000												
Net 0			.06	.08	0	.06	.05	.33	0	.37			
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66	
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank	
	0												
			.30	0	0	.10	.25	0	0	1.82	.05	1.85	
	250		0	0	0	0	0	0	0	0	0	0	
	500		0	0	0	0	.15	.12	0	.38	0	0	
Ring Flank	750		0	.04	0	0	.25	1.00	1.96	-	.19	0	
	1000		0										
	Net 0		.43	0	0	1.64	.14	.73	1.36	.55	.71	.38	
	Collection	22	33				64						
		Al	Bob				Frank						
	0												
Ring Fringe			2.41				.32						
	250												
	500		.03				0						
	750		-				.04						
	1000		-				.11						
	Net 0		.27				.87						
N. Sargasso Sea	Collection	23	29										
		Al-Art	Bob										
	0												
			3.50			1.68							
	250		0			0							
	500		.04			0							
N. Sargasso Sea	750		-			.43							
	1000												
	Net 0		3.68			.17							
	Collection	25	26				63						
			0			0	.36						
	250		0			0	0						
N. Sargasso Sea	500		0			0	0						
	750		0			.05	.35						
	1000												
	Net 0		0			0	.14						

Ceratoscopelus warmingii,
ml/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71							
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0	.03	0	.13	0	0	0	.15	0			
	250		0	.07	0	.28	0	0	0	0			
	500		0	0	0	-	-	0	0	0			
	750		-	0	-	-	-	0	0	0			
	1000		-	0	-	-	-	0	0	0			
	Net 0		1.38	0	.03	0	0	0	0	0			
		Collection	20	35	27	28	32	58	59	61	62	65	66
Ring Center	Depth	0	Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank
	250		0	0		.10	-	0	0	0	0	0	0
	500		0	0		0	0	0	0	0	0	0	0
	750		0	0		0	0	0	0	0	0	0	0
	1000		0	0		0	0	0	0	0	-	0	0
	Net 0		0	0		0	0	0	0	0	0	0	0
		Collection	22	33									
Ring Flank	Depth	0	Al	Bob									
	250		0	-									
	500		0	0									
	750		-	0									
	1000		-	0									
	Net 0		0	0									
		Collection	22	33									
Ring Fringe	Depth	0	Al	Bob									
	250		.05	.05									
	500		0	0									
	750		0	0									
	1000		-	0									
	Net 0		0	0									
		Collection	23	29									
N. Sargasso Sea	Depth	0	Al-Art	Bob									
	250		.05	.05									
	500		0	0									
	750		0	0									
	1000		-	0									
	Net 0		0	0									
		Collection	23	29									
N. Sargasso Sea	Depth	0	25	26									
	250		0	0									
	500		0	0									
	750		0	0									
	1000		0	0									
	Net 0		0	0									
		Collection	25	26									

Diaphus dumerilii,
ml/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65			Oct-Nov 77 KNORR 71							
		Collection	24	36	38	39	56	57	67	68				
Slope Water	Depth	0	0	0	0	0	0	0	0	0				
	250	0	0	0	0	0	0	0	0	0				
	500	0	0	0	0	-	-	0	0	0				
	750	0	0	0	-	-	-	0	0	0				
	1000	-	0	-	-	-	-	0	0	0				
	Net 0	0	0	0	0	0	0	0	0	0				
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66		
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank		
	0	0	0	0	0	-	0	0	0	1.23	0	0		
	250	0	0	15.9	0	0	0	.06	16.1	0	2.59	0		
	500	0	0	0	0	0	0	0	0	0	0	0		
	750	0	0	0	0	0	0	0	0	-	0	0		
Ring Flank	1000	0	0	0	0	0	0	0	0	0	0	0		
	Net 0	0	0	0	0	0	0	0	0	0	0	0		
	Collection	22	33					64						
		Al	Bob					Frank						
	0	0	-					.11						
	250	0	0					0						
Ring Fringe	500	0	0					0						
	750	-	0					0						
	1000	-	0					0						
	Net 0	.02	12.4					0						
	Collection	23	29											
		Al-Art	Bob											
N. Sargasso Sea	0	.15	.05											
	250	0	0											
	500	0	0											
	750	0	0											
	1000	-	0											
	Net 0	34.7	1.83											
	Collection	25	26					63						
	0	0	0					0						
	250	0	0					0						
	500	0	1.33					0						
	750	0	0					0						
	1000	0	0					0						
	Net 0	0	0					0						
	Collection	63												
	0	0												
	250	0												
	500	0												
	750	0												
	1000	0												
	Net 0	0												
	Collection	63												
	0	0												
	250	0												
	500	0												
	750	0												
	1000	0												
	Net 0	0												
	Collection	63												
	0	0												
	250	0												
	500	0												
	750	0												
	1000	0												
	Net 0	0												
	Collection	63												
	0	0												

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71					
		Collection 24	36	38	39	56	57	67	68		
Slope Water	Depth	0									
		.05	0	0	0	0	.22	0	0		
	250	0	0	0	0	0	0	0	0		
	500	0	0	0	-	-	0	0	0		
	750	-	0	-	-	-	0	0	0		
	1000										
Net 0		.38	0	0	.04	0	0	0	0		
Ring Center	Collection	20	35	27	28	58	59	61	62	65	66
		Al	Al	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank
	0										
		.22	0	0	.10	.19	.40	0	.18	0	.35
	250	0	0	0	0	0	0	0	0	0	0
	500	0	0	0	0	0	0	0	0	0	0
Ring Flank	Depth	0									
		.76	-			.24					
	250	0	0			0					
	500	-	0			0					
	750	-	0			0					
	1000										
Net 0		.53	0			0		.04	0	0	0
Ring Fringe	Collection	23	29								
		Al-Art	Bob								
	0										
		.45	1.32								
	250	0	0								
	500	0	0								
N. Sargasso Sea	Depth	0									
		.45	-								
	250	0	0			0					
	500	0	0			0					
	750	-	0			0					
	1000	0	0			0					
Net 0		0	0			0					
	Collection	25	26								
	0										
		0	0								
	250	0	.47								
	500	0	1.13								
	Depth	0									
		.06	0								
	250	0	0								
	500	0	0								
	750	0	0								
	1000	0	0								
Net 0		0	0								

Diaphus mollis,
ml/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71						
Slope Water	Collection	<u>24</u>	36	<u>38</u>	39	56	<u>57</u>	67	<u>68</u>			
	0	<u>0</u>	.04	<u>.10</u>	0	0	<u>0</u>	0	<u>0</u>			
	250	<u>0</u>	.18	<u>0</u>	.16	0	<u>0</u>	1.70	<u>0</u>			
	500	<u>0</u>	0	<u>0</u>	-	-	<u>0</u>	0	<u>0</u>			
	750	-	0	-	-	-	<u>0</u>	0	<u>0</u>			
	1000	<u>0</u>	0	<u>0</u>	-	-	<u>0</u>	0	<u>0</u>			
Net 0		<u>0</u>	0	<u>.06</u>	0	0	<u>0</u>	1.73	<u>0</u>			
Ring Center	Collection	<u>20</u>	35	27	<u>28</u>	<u>32</u>	<u>58</u>	59	61	<u>62</u>	65	<u>66</u>
	0	<u>Al</u>	Al	Bob	<u>Bob</u>	<u>Bob</u>	<u>Em</u>	Em	Frank	<u>Frank</u>	Frank	<u>Frank</u>
	250	<u>.02</u>	0	0	<u>0</u>	-	<u>0</u>	0	0	<u>0</u>	0	<u>0</u>
	500	<u>0</u>	1.37	0	<u>0</u>	<u>5.57</u>	<u>0</u>	0	7.22	<u>0</u>	0	<u>3.77</u>
	750	<u>0</u>	0	0	<u>0</u>	<u>0</u>	<u>0</u>	0	0	<u>0</u>	0	<u>0</u>
	1000	<u>0</u>	0	0	<u>0</u>	<u>0</u>	<u>0</u>	0	0	-	0	<u>0</u>
Net 0		<u>0</u>	.09	0	<u>0</u>	<u>0</u>	0	0	<u>0</u>	2.14	<u>0</u>	
Ring Flank	Collection	<u>22</u>	<u>33</u>									
	0	<u>Al</u>	<u>Bob</u>									
	250	<u>.03</u>	-									
	500	<u>5.81</u>	<u>0</u>									
	750	-	<u>0</u>									
	1000	-	<u>0</u>									
Net 0		<u>.02</u>	<u>1.58</u>									
Ring Fringe	Collection	<u>23</u>	<u>29</u>									
	0	<u>Al-Art</u>	<u>Bob</u>									
	250	<u>.02</u>	<u>0</u>									
	500	<u>1.61</u>	<u>0</u>									
	750	<u>0</u>	<u>0</u>									
	1000	-	<u>0</u>									
Net 0		<u>0</u>	<u>0</u>									
N. Sargasso Sea	Collection		<u>25</u>	26								
	0		<u>.09</u>	0								
	250		<u>0</u>	0								
	500		<u>0</u>	0								
	750		<u>0</u>	0								
	1000		<u>0</u>	0								
Net 0			<u>0</u>	0								
					<u>63</u>							
					<u>0</u>							
					<u>0</u>							
					<u>0</u>							
					<u>0</u>							
					<u>0</u>							
					<u>0</u>							

Diaphus rafinesquii,
ml/10,000 m³

Diaphus rafinesquii,
ml/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71						
		Collection 24	36	38	39	56	57	67	68			
Slope Water	Depth	0										
		0	0	.13	0	.03	.04	0	0			
	250	0	.07	0	.04	.06	0	.11	0			
	500	.04	0	0	-	-	.05	0	.03			
	750	-	0	-	-	-	0	0	0			
	1000	-	0	-	-	-	0	0	0			
Net 0		.06	0	0	0	0	0	0	0			
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank
	Depth	0	0	0	.05	-	.06	0	0	0	0	0
	250	0	0	0	0	0	0	.06	.06	0	.04	0
	500	0	.07	0	0	0	0	.06	0	0	0	0
	750	.06	0	0	0	0	.06	.06	.04	-	.05	0
1000		0	.05	0	0	0	.05	.02	0	0	0	0
Net 0		0										
Ring Flank	Collection	22	33			64						
		Al	Bob			Frank						
	Depth	0	-			.03						
	250	0	0			0						
	500	-	0			0						
	750	-	0			.06						
1000		0	0			0						
Net 0		0	0			0						
Ring Fringe	Collection	23	29									
		Al-Art	Bob									
	Depth	0	.02	.05								
	250	0	0									
	500	.04	0									
	750	-	0									
1000		0	.17									
Net 0		0										
N. Sargasso Sea	Collection		25	26	63							
	Depth	0	.04	.05	0							
	250		0	0	0							
	500		0	0	0							
	750		0	0	0							
1000			0	.05	0							
Net 0			0		0							

Diogenichthys atlanticus,
ml/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71							
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0	0	0	.03	0	.31	.04	.30	.10			
	250	0	.04	0	.04	0	0	0	0	0			
	500	.35	.04	0	-	-	-	0	0	0			
	750	-	0	-	-	-	-	0	0	0			
	1000	0	0	0	0	0	0	0	.04	.05			
	Net 0	0	0	0	0	0	0	0	0	0			
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66	
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank	
	0	.02	0	0	0	-	0	0	0	0	0	0	
	250	0	.03	0	0	0	.07	0	.11	0	0	0	
	500	0	.28	0	0	0	0	.65	.50	.38	.09	.88	
	750	1.24	0	0	0	.06	0	0	0	-	0	0	
Ring Flank	1000	.74	0	0	.73	0	0	.07	.29	.05	.18	.35	
	Net 0	.74	0	0	.73	0	0	.07	.29	.05	.18	.35	
	Collection	22	33					64					
		Al	Bob					Frank					
	0	.10	-					0					
	250	.06	0					0					
Ring Fringe	Depth	500	0					.04					
	750	-	0					.33					
	1000	.34	0					0					
	Net 0	.34	0					0					
	Collection	23	29										
		Al-Art	Bob										
N. Sargasso Sea	0	0	0										
	250	0	0										
	500	0	0										
	750	-	.07										
	1000	0	0										
	Net 0	0	0										
N. Sargasso Sea	Collection	25	26					63					
	0	0	0					0					
	250	0	0					0					
	500	0	0					.13					
	750	0	0					.13					
	1000	0	0					.18					
N. Sargasso Sea	Net 0	0	0					.18					

Hygophum benoiti,
ml/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71						
Slope Water	Collection	24	36	38	39	56	57	67	68			
	0	0	0	2.56	0	1.57	0	0	0			
	250	0	.89	0	5.20	0	0	0	0			
	500	0	0	0	-	-	0	0	0			
	750	-	0	-	-	-	0	0	0			
	1000 Net 0	-	1.19	.44	.20	1.07	0	0	0			
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66
	A1	A1	Bob	Bob	Bob	Em	Em	Em	Frank	Frank	Frank	Frank
	0	0	0	0	3.81	-	0	0	0	0	0	0
	250	0	.13	.04	0	0	0	0	0	0	0	0
	500	0	.41	0	0	0	0	0	0	0	1.03	0
	750	0	0	0	0	0	0	0	-	0	0	0
Ring Flank	Collection	22	33									
	A1	A1	Bob									
	0	0	-									
	250	0	0									
	500	0	0									
	750	-	0									
Ring Fringe	Collection	23	29									
	A1-Art	A1-Art	Bob									
	0	.55	.37									
	250	0	0									
	500	0	1.25									
	750	-	0									
N. Sargasso Sea	Collection	25	26									
	0	.35	0									
	250	.04	0									
	500	0	1.00									
	750	.06	.11									
	1000 Net 0	.25	.40									

Hygophum hygomii,
ml/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71						
		Collection	24	36	38	39	56	57	67	68		
Slope Water	Depth	0										
			.64	0	.26	0	.14	0	0	0		
	250		0	.21	.02	.08	.71	.44	0	.70		
	500		0	.32	0	-	-	0	0	0		
	750		-	0	-	-	-	0	0	0		
	1000		-	0	-	-	-	0	0	0		
Net 0			.69	0	.03	0	.23	0	0	0		
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank
	0		0	0	2.86	-	0	0	0	0	0	.04
	250		0	.41	0	0	0	0	0	.03	.04	0
	500		0	0	0	0	0	.35	.14	0	.71	0
	750		0	0	0	0	0	0	0	-	0	0
1000			0	0	0	0	0	0	.29	1.2	.46	.22
Net 0			0	0	0	0	0	0				
Ring Flank	Collection	22	33									
		Al	Bob									
	0		-									
	250		0									
	500		0									
	750		0									
1000			0									
Net 0			0									
Ring Fringe	Collection	23	29									
		Al-Art	Bob									
	0		.02	.21								
	250		0	0								
	500		0	0								
	750		-	0								
1000			0									
Net 0			0	.08								
N. Sargasso Sea	Collection		25	26								
			.09	0								
	250		0	0								
	500		0	0								
	750		0	0								
	1000		0	0								
Net 0			0	0								

Lampanyctus alatus,
ml/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65			Oct-Nov 77 KNORR 71						
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0											
			<u>.05</u>	0	<u>0</u>	0	0	<u>0</u>	0	<u>.27</u>			
	250		<u>0</u>	0	<u>0</u>	0	.41	<u>0</u>	0	<u>.76</u>			
	500		<u>0</u>	3.60	<u>0</u>	-	-	<u>0</u>	2.96	<u>0</u>			
	750		-	0	-	-	-	<u>0</u>	0	<u>0</u>			
	1000		<u>0</u>	0	<u>0</u>	0	.17	<u>1.08</u>	.31	<u>0</u>			
Net 0		<u>0</u>	0	0	0								
Ring Center	Depth	Collection	20	35	27	28	32	58	59	61	62	65	66
			Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank
	0		<u>0</u>	0	0	<u>0</u>	-	<u>0</u>	0	0	<u>0</u>	0	<u>.15</u>
	250		<u>0</u>	0	0	<u>0</u>	<u>0</u>	<u>0</u>	0	0	<u>.63</u>	0	<u>0</u>
	500		<u>0</u>	0	0	<u>0</u>	<u>0</u>	<u>.23</u>	0	1.21	<u>.42</u>	.09	<u>0</u>
	750		<u>0</u>	0	0	<u>0</u>	<u>0</u>	<u>.44</u>	.50	.13	-	1.05	<u>0</u>
1000		<u>.06</u>	0	0	<u>0</u>	<u>0</u>	<u>.44</u>	.50	.13	-	1.05	<u>0</u>	
Net 0		<u>0</u>	0	0	<u>0</u>	<u>0</u>	<u>.18</u>	.24	.07	<u>1.05</u>	.46	<u>.81</u>	
Ring Flank	Depth	Collection	22	33				64					
			Al	Bob				Frank					
	0		<u>0</u>	-				<u>0</u>					
	250		<u>0</u>	<u>.55</u>				<u>0</u>					
	500		<u>0</u>	<u>0</u>				<u>0</u>					
	750		-	<u>0</u>				<u>0</u>					
1000		<u>.06</u>	0	0	<u>0</u>	<u>0</u>	<u>.44</u>	.50	.13	-	1.05	<u>0</u>	
Net 0		<u>0</u>	0	0	<u>0</u>	<u>0</u>	<u>.18</u>	.24	.07	<u>1.05</u>	.46	<u>.81</u>	
Ring Fringe	Depth	Collection	23	29									
			Al-Art	Bob									
	0		<u>0</u>	<u>.05</u>									
	250		<u>0</u>	<u>0</u>									
	500		<u>0</u>	<u>0</u>									
	750		-	<u>0</u>									
1000		<u>0</u>	<u>.08</u>										
Net 0		<u>0</u>	<u>.08</u>										
N. Sargasso Sea	Depth	Collection	25	26				63					
	0		<u>.26</u>	0				<u>0</u>					
	250		<u>.04</u>	0				<u>0</u>					
	500		<u>0</u>	0				<u>0</u>					
	750		<u>0</u>	.84				<u>.22</u>					
1000		<u>0</u>	<u>.06</u>	.10				<u>0</u>					
Net 0		<u>0</u>	<u>.06</u>	.10				<u>0</u>					

Lampanyctus crocodilus,
m1/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71						
		Collection	24	36	38	39	56	57	67	68		
Slope Water	Depth	0	.13	0	.18	0	0	0	0	0		
	250	0	0	0	.19	0	0	.44	0	.48		
	500	0	0	0	0	-	-	0	.04	.10		
	750	-	0	-	-	-	-	0	0	0		
	1000	0	0	0	0	0	0	0	0	0		
	Net 0	0	0	.12	.53	0	.58	.71	.54	0		
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank
	Depth	0	0	0	0	-	0	0	0	0	0	.04
	250	2.25	0	0	0	0	0	0	0	.06	0	0
	500	0	.34	0	1.09	.19	.77	0	0	.08	0	.04
	750	0	1.11	0	0	0	0	0	0	-	0	0
Ring Flank	1000	0	0	0	0	0	0	.27	0	0	0	.03
	Net 0	0	0	0	0	0	0	0	0	0	0	0
	Collection	22	33				64					
		Al	Bob				Frank					
	Depth	0	0				.29					
	250	0	0				0					
Ring Fringe	500	0	0				0					
	750	-	0				.72					
	1000	0	0				.17					
	Net 0	0	0				0					
	Collection	23	29									
		Al-Art	Bob									
N. Sargasso Sea	Depth	0	.95	1.58								
	250	.26	.95									
	500	0	0									
	750	-	0									
	1000	0	7.08									
	Net 0	0	0									
N. Sargasso Sea	Collection	25	26				63					
		0	.17	0			.08					
	250	0	0				0					
	500	0	.73				0					
	750	0	.74				1.52					
	1000	0	0				2.5					
N. Sargasso Sea	Net 0	0	0				0					
	Collection	25	26				63					
		0	.17	0			.08					
	250	0	0				0					
	500	0	.73				0					
	750	0	.74				1.52					
N. Sargasso Sea	1000	0	0				2.5					
	Net 0	0	0				0					

Lampanyctus cuprarius,

ml/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65			Oct-Nov 77 KNORR 71						
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0	.28	0	0	0	0	0	0	.03			
	250	0	0	0	0	0	.06	0	0	0			
	500	0	.28	0	-	-	-	0	.04	0			
	750	-	0	-	-	-	-	0	0	0			
	1000	0	0	0	.01	0	0	0	0	0			
	Net 0	0	0	0	0	0	0	0	0	0			
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66	
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank	
	0	.04	0	0	0	-	0	0	0	.09	0	.42	
	250	0	0	0	0	0	.07	0	0	.03	0	0	
	500	0	0	0	0	0	.08	.12	.43	.04	.17	.04	
	750	0	0	0	0	0	.19	0	0	-	0	0	
Ring Flank	1000	0	0	0	0	0	.05	.07	0	.50	0	.30	
	Net 0	.09	0	0	0	0	.05	.07	0	.50	0	.30	
	Collection	22	33					64					
		Al	Bob					Frank					
	0	.14	-					.06					
	250	0	0					0					
Ring Fringe	500	-	0					0					
	750	-	0					.06					
	1000	0	0					.65					
	Net 0	.34	.33										
	Collection	23	29										
		Al-Art	Bob										
N. Sargasso Sea	0	1.25	.26										
	250	0	0										
	500	0	0										
	750	-	0										
	1000	0	.26										
	Net 0	.11	0										
N. Sargasso Sea	Collection	25	26					63					
	0	0	0					.04					
	250	0	0					0					
	500	0	0					0					
	750	0	.26					.04					
	1000	0	0					.05					
N. Sargasso Sea	Net 0	0	0										
	Collection	25	26					63					
	0	0	0					.04					
	250	0	0					0					
	500	0	0					0					
	750	0	.26					.04					
N. Sargasso Sea	1000	0	0					.05					
	Net 0	0	0										

Lampanyctus photonotus,
ml/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71							
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0	<u>0</u>	0	<u>.03</u>	0	.11	<u>.04</u>	0	<u>.33</u>			
	250		<u>0</u>	0	<u>0</u>	0	.18	<u>0</u>	0	<u>0</u>			
	500		<u>0</u>	.04	<u>0</u>	-	-	<u>0</u>	0	<u>0</u>			
	750		-	0	-	-	-	<u>0</u>	0	<u>0</u>			
	1000												
	Net 0		<u>0</u>	0	<u>0</u>	0	.02	<u>0</u>	0	<u>0</u>			
Ring Center	Depth	Collection	20	35	27	28	32	58	59	61	62	65	66
			A1	A1	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank
	0		<u>.04</u>	0	0	<u>0</u>	-	<u>0</u>	0	0	<u>1.82</u>	0	<u>.88</u>
	250		<u>.17</u>	0	.11	<u>0</u>	<u>0</u>	<u>0</u>	0	.67	<u>.03</u>	.19	<u>0</u>
	500		<u>0</u>	0	0	<u>0</u>	<u>0</u>	<u>1.15</u>	1.24	.29	<u>0</u>	1.71	<u>0</u>
	750		<u>0</u>	0	0	<u>0</u>	<u>0</u>	<u>1.06</u>	.83	0	-	0	<u>0</u>
	1000												
	Net 0		<u>.52</u>	.27	0	<u>0</u>	<u>.17</u>	.09	.29	.18	<u>1.95</u>	.43	<u>.22</u>
Ring Flank	Depth	Collection	22	33									
			A1	Bob									
	0		<u>1.03</u>	-									
	250		<u>0</u>	<u>.33</u>									
	500		-	<u>0</u>									
	750		-	<u>0</u>									
	1000												
	Net 0		<u>.14</u>	<u>.25</u>									
Ring Fringe	Depth	Collection	23	29									
			A1-Art	Bob									
	0		<u>.88</u>	<u>.21</u>									
	250		<u>0</u>	<u>0</u>									
	500		<u>.09</u>	<u>0</u>									
	750		-	<u>.07</u>									
	1000												
	Net 0		<u>.05</u>	<u>.50</u>									
N. Sargasso Sea	Depth	Collection		25	26								
	0			<u>.04</u>	0								
	250			<u>0</u>	0								
	500			<u>0</u>									
	750			<u>0</u>	.07								
	1000		<u>.06</u>	0									
	Net 0		0	0									

Lampanyctus pusillus,
ml/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65			Oct-Nov 77 KNORR 71					
Slope Water	Collection	24	36	38	39		56	57	67	68		
	0	0	0	0	0		0	0	0	0		
	250	0	0	0	0		0	0	0	0		
	500	0	0	0	-		-	0	0	0		
	750	-	0	-	-		-	0	0	0		
	1000	0	0	0	0		0	0	0	0		
Net 0		0		0			0	0	0	0		
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank
	0	.08	0	0	0	-	0	0	0	0	0	0
	250	0	0	0	0	0	0	0	0	0	.04	0
	500	0	0	0	0	0	0	.06	.21	0	0	0
	750	0	0	0	0	0	0	0	0	-	0	0
1000	0	0	0	0	0	0	0	0	0	0	0	
Net 0		0	0	0	0	0	.14	.10	0	0	0	.05
Ring Flank	Collection	22	33									
		Al	Bob									
	0	.14	-									
	250	0	0									
	500	0	0									
	750	-	0									
1000	0	0										
Net 0		0	0									
Ring Fringe	Collection	23	29									
		Al-Art	Bob									
	0	.10	0									
	250	0	0									
	500	0	0									
	750	-	0									
1000	0	0										
Net 0		.16	.42									
N. Sargasso Sea	Collection		25	26								
	0		0	0								
	250		0	0								
	500		0	.53								
	750		0	0								
	1000		0	0								
Net 0			0	0								
<div>Lepidophanes gaussi, m1/10,000 m³</div>												

Lepidophanes gaussi,
ml/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71					
		Collection 24	36	38	39	56	57	67	68		
Slope Water	Depth	0									
		.08	0	.05	0	.06	.04	0	.03		
	250	0	.71	0	.52	2.12	0	0	0		
	500	0	.08	0	-	-	0	0	0		
	750	-	0	-	-	-	0	0	0		
	1000										
Net 0		.56	.15	0	0	.93	0	.04	0		
Ring Center	Collection	20	35	27	28	58	59	61	62	65	66
		Al	Al	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank
	Depth	0									
		.36	0	0	.14	0	0	0	.77	0	1.54
	250	0	0	.07	0	0	0	.11	0	0	0
	500	0	0	0	0	0	0	2.14	0	1.69	0
Ring Flank	Depth	0									
		0	0	0	0	0	0	0	-	0	0
	250	0	0	0	0	0	0	0	-	0	0
	500	0	0	0	0	0	0	0	-	0	0
	750	0	0	0	0	0	0	0	-	0	0
	1000										
Net 0		.09	0	0	0	0	0	1.89	0	.89	0
Ring Fringe	Collection	22	33			64					
		Al	Bob			Frank					
	Depth	0									
		0	-			.06					
	250	0	0			0					
	500	0	0			0					
N. Sargasso Sea	Depth	0									
		-	0			0					
	250	-	0			0					
	500	-	0			0					
	750	-	0			0					
	1000										
Net 0		0	0			0					
N. Sargasso Sea	Collection	23	29			63					
		Al-Art	Bob								
	Depth	0									
		.08	.79								
	250	0	0								
	500	0	0								
N. Sargasso Sea	Depth	0									
		0	0			.08					
	250	0	0			0					
	500	0	0			0					
	750	0	0			0					
	1000										
Net 0		.11	.17			0					
N. Sargasso Sea	Collection	25	26			63					
	Depth	0	0			.08					
		0	0			0					
	250	0	0			0					
	500	0	0			0					
N. Sargasso Sea	Depth	0									
		0	0			0					
	250	0	0			0					
	500	0	0			0					
	750	0	0			0					
	1000										
Net 0		0	0			0					

Lepidophanes guentheri,
ml/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65			Oct-Nov 77 KNORR 71							
		Collection	24	36	38	39	56	57	67	68				
Slope Water		0												
			4.36	0	.31	0	1.29	2.39	5.50	1.17				
	Depth	250	0	0	0	.08	0	1.20	0	0				
		500	0	0	0	-	-	.27	0	0				
		750	0	0	0	-	-	0	0	0				
		1000	-	0	-	-	-	0	0	0				
Net 0		7.81	0	0	0	.05	0	.54	.77	3.26				
Ring Center		Collection	20	35	27	28	32	58	59	61	62	65	66	
			Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank	
		0												
			.16	0	0	0	-	.44	0	0	.64	0	.15	
	Depth	250	0	.03	0	0	0	0	1.11	.44	0	.74	0	
		500	0	0	0	0	0	0	0	0	0	0	0	
Ring Flank		0	0	0	0	0	0	0	0	0	-	0	0	
		750	0	0	0	0	0	0	0	0	-	0	0	
		1000	0	0	0	0	0	0	0	0	-	0	0	
	Net 0	.09	.14	0	0	.06	.27	.10	1.00	.25	.11	.27		
		Collection	22	33				64						
			Al	Bob				Frank						
Ring Fringe		0												
			0	-				.38						
	Depth	250	0	0				0						
		500	0	0				0						
		750	-	0				0						
		1000	-	0				0						
N. Sargasso Sea	Net 0	0	.08				.35							
		Collection	23	29										
			Al-Art	Bob										
		0												
			0	.32										
	Depth	250	0	0										
N. Sargasso Sea		500	0	0										
		750	0	.08										
		1000	0	0										
	Net 0	0	.08											
		Collection	25	26				63						
N. Sargasso Sea		0												
			.17	0				0						
	Depth	250	0	.06				0						
		500	0	0				0						
		750	0	0				0						
		1000	0	0				0						
Net 0		0	0				0							

Lobianchia dofleini,
ml/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71						
		Collection	24	36	38	39	56	57	67	68		
Slope Water	Depth	0	<u>.03</u>	0	<u>0</u>	0	.43	<u>0</u>	0	<u>.67</u>		
	250	<u>0</u>		.25	<u>0</u>	.20	0	<u>0</u>	.33	<u>0</u>		
	500	<u>0</u>		0	<u>.02</u>	-	-	<u>0</u>	0	<u>0</u>		
	750	-		.04	-	-	-	<u>0</u>	0	<u>0</u>		
	1000	<u>0</u>		.08	<u>.12</u>	.03	.43	<u>.33</u>	0	<u>0</u>		
	Net 0	<u>0</u>										
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank
	0	<u>0</u>	0	0	<u>.05</u>	-	<u>0</u>	0	0	<u>0</u>	0	<u>0</u>
	250	<u>0</u>	0	0	<u>0</u>	<u>0</u>	<u>0</u>	0	0	<u>0</u>	0	<u>0</u>
	500	<u>0</u>	.07	0	<u>0</u>	<u>0</u>	<u>0</u>	0	0	<u>0</u>	0	<u>0</u>
	750	<u>0</u>	0	0	<u>0</u>	<u>0</u>	<u>0</u>	0	0	-	0	<u>0</u>
Ring Flank	1000	<u>0</u>	0	0	<u>0</u>	<u>0</u>	<u>0</u>	0	.18	<u>0</u>	0	<u>0</u>
	Net 0	<u>0</u>										
Ring Fringe	Collection	22	33				64					
		Al	Bob				Frank					
	0	<u>0</u>	-				<u>0</u>					
	250	<u>0</u>	<u>0</u>				<u>0</u>					
	500	<u>0</u>	<u>0</u>				<u>0</u>					
	750	-	<u>0</u>				<u>0</u>					
N. Sargasso Sea	1000	<u>0</u>	<u>0</u>				<u>0</u>					
	Net 0	<u>0</u>	<u>.08</u>				<u>.04</u>					
	Collection	23	29									
		Al-Art	Bob									
	0	<u>0</u>	<u>.11</u>									
	250	<u>0</u>	<u>0</u>									
N. Sargasso Sea	500	<u>0</u>	<u>0</u>									
	750	<u>0</u>	<u>0</u>									
	1000	<u>0</u>	<u>0</u>									
	Net 0	<u>0</u>	<u>0</u>									
	Collection		25	26			63					
	0		<u>0</u>	0			<u>0</u>					
N. Sargasso Sea	250		<u>0</u>	0			<u>0</u>					
	500		<u>0</u>	0			<u>0</u>					
	750		<u>0</u>	0			<u>0</u>					
	1000		<u>0</u>	0			<u>0</u>					
	Net 0		<u>0</u>	0			<u>0</u>					
	Collection											
0												
N. Sargasso Sea	250											
	500											
	750											
	1000											
	Net 0											
	Collection											
0												
N. Sargasso Sea	250											
	500											
	750											
	1000											
	Net 0											
	Collection											
0												
N. Sargasso Sea	250											
	500											
	750											
	1000											
	Net 0											
	Collection											
0												
N. Sargasso Sea	250											
	500											
	750											
	1000											
	Net 0											
	Collection											
0												
N. Sargasso Sea	250											
	500											
	750											
	1000											
	Net 0											
	Collection											
0												
N. Sargasso Sea	250											
	500											
	750											
	1000											
	Net 0											
	Collection											
0												
N. Sargasso Sea	250											
	500											
	750											
	1000											
	Net 0											
	Collection											
0												
N. Sargasso Sea	250											
	500											
	750											
	1000											
	Net 0											
	Collection											
0												
N. Sargasso Sea	250											
	500											
	750											
	1000											
	Net 0											
	Collection											
0												
N. Sargasso Sea	250											
	500											
	750											
	1000											
	Net 0											
	Collection											
0												
N. Sargasso Sea	250											
	500											
	750											
	1000											
	Net 0											
	Collection											
0												
N. Sargasso Sea	250											
	500											
	750											
	1000											
	Net 0											
	Collection											
0												
N. Sargasso Sea	250											
	500											
	750											
	1000											
	Net 0											
	Collection											
0												
N. Sargasso Sea	250											
	500											
	750											
	1000											
	Net 0											
	Collection											
0												
N. Sargasso Sea	250											
	500											
	750											
	1000											
	Net 0											
	Collection											
0												
N. Sargasso Sea	250											
	500											
	750											
	1000											
	Net 0											
	Collection											
0												
N. Sargasso Sea	250											
	500											
	750											
	1000											
	Net 0											
	Collection											
0												
N. Sargasso Sea	250											
	500											
	750											
	1000											
	Net 0											
	Collection											
0												
N. Sargasso Sea	250											
	500											
	750											
	1000											
	Net 0											
	Collection											
0												
N. Sargasso Sea	250											
	500											
	750											
	1000											
	Net 0											
	Collection											
0												
N. Sargasso Sea	250											
	500											
	750											
	1000											
	Net 0											

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71														
		Collection 24	36	38	39	56	57	67	68											
Slope Water		0																		
		.08	0	.03	0	.03	.04	.05	.03											
	Depth																			
	250	.03	.14	.02	.04	0	0	0	0											
	500	0	0	0	-	-	0	0	0											
	750	-	0	-	-	-	0	0	0											
	1000																			
	Net 0	.12	0	0	0	0	0	0	0											
		Collection 20	35	27	28	32	58	59	61	62	65	66								
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank								
Ring Center		0	0	0	.05	-	0	0	.08	0	0	.12								
		.08	.03	.07	0	0	.07	.06	.33	.03	.15	0								
	Depth																			
	250	0	.03	.04	0	0	0	0	0	0	0	0								
	500	0	0	0	0	0	0	0	0	-	0	0								
	750	0	0	0	0	0	0	0	0	-	0	0								
	1000																			
	Net 0	0	0	0	.09	0	0	0	0	.05	0	0								
		Collection 22	33																	
		Al	Bob																	
Ring Flank		0																		
		.07	-																	
	Depth																			
	250	0	.11																	
	500	-	0																	
	750	-	0																	
	1000																			
	Net 0	.09	.08																	
		Collection 23	29																	
		Al-Art	Bob																	
Ring Fringe		0																		
		.12	.53																	
	Depth																			
	250	0	.05																	
	500	0	0																	
	750	-	0																	
	1000																			
	Net 0	0	.08																	
		Collection	25	26																
		0																		
N. Sargasso Sea			.09	0	<u>Notolychnus valdiviae</u> , ml/10,000 m ³															
			.04	.59																
	Depth																			
	250																			
	500		0	0																
	750		0	0																
	1000																			
	Net 0		0	.05																

Notolychnus valdiviae,
ml/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71									
		Collection	24	36	38	39	56	57	67	68					
Slope Water	Depth	0	0	0	.97	0	0	3.48	0	.80					
	250	0	0	0	0	0	2.71	0	0	0					
	500	0	0	0	0	-	-	0	.70	0					
	750	-	.29	-	-	-	-	0	1.80	0					
	1000	0	.04	0	.05		1.50	.58	0	.47					
	Net 0	0													
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66			
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank			
	0	0	0	0	.43	-	0	0	0	0	0	0			
	250	0	0	0	0	0	0	0	0	0	0	0			
	500	0	0	0	0	0	0	0	0	0	0	0			
	750	0	.15	0	0	0	0	0	.70	-	0	0			
Ring Flank	1000	0	0	0	0	0	0	0	0	.70	0	0			
	Net 0	0	0	0	0	0	0	0	0		0	0			
	Collection	22	33				64								
		Al	Bob				Frank								
	0	0	-				.47								
	250	0	0				0								
Ring Fringe	500	0	0				0								
	750	-	0				0								
	1000	0	.08				0								
	Net 0	0	.25				0								
	Collection	23	29						<u>Notoscopelus resplendens,</u> ml/10,000 m ³						
		Al-Art	Bob												
0	0	0													
250	0	0													
500	0	.08													
750	-	0													
N. Sargasso Sea	1000	0	.25												
	Net 0	0													
	Collection		25	26			63								
	0		0	0			0								
	250		0	0			0								
	500		.05	0			0								
N. Sargasso Sea	750		0	1.32			0								
	1000		0	.25			0								
	Net 0		0				0								

Notoscopelus resplendens,
ml/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71						
		Collection 24	36	38	39	56	57	67	68			
Slope Water	Depth	0	0	.43	0	0	0	0	0			
	250	0	0	0	0	0	0	0	.03			
	500	0	0	0	-	-	0	0	0			
	750	-	0	-	-	-	0	0	0			
	1000	0	0	0	0	0	0	0	0			
	Net 0	0	0	0	0	0	0	0	0			
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank
	Depth	0	0	0	0	-	0	0	0	.05	.75	.58
	250	2.50	.20	0	0	2.14	0	.56	6.11	0	3.33	0
	500	0	0	0	0	0	0	0	0	0	0	0
	750	0	0	0	0	0	0	0	0	-	0	0
Ring Flank	1000	0	0	0	0	0	0	0	0	-	0	0
	Net 0	.04	.68	0	0	0	.41	.02	1.79	.10	0	0
	Collection	22	33					64				
		Al	Bob					Frank				
	Depth	0	0					0				
	250	1.03	1.11					.04				
Ring Fringe	500	-	0					0				
	750	-	0					0				
	1000	0	2.08					0				
	Net 0	.02										
	Collection	23	29									
		Al-Art	Bob									
N. Sargasso Sea	Depth	0	.25	0					<u>Argyropelecus aculeatus</u> , ml/10,000 m ³			
	250	0	.21									
	500	0	0									
	750	-	0									
	1000	0	11.08									
	Net 0	0										
N. Sargasso Sea	Collection	25	26					63				
	Depth	0	0					0				
	250	.43	0					.04				
	500	0	0					0				
	750	0	0					0				
	Net 0	.06	0					.32				

Argyropelecus aculeatus,

ml/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71					
		Collection	24	36	38	39	56	57	67	68	
Slope Water	Depth	0	0	0	.08	.04	0	0	0	0	
	250	0	0	0	.05	0	0	0	.04	.03	
	500	0	0	0	0	-	-	0	0	0	
	750	-	0	-	-	-	-	0	0	0	
	1000	0	0	0	0	0	.08	.17	.15	.30	
	Net 0	0	0	0	0	0	.08	.17	.15	.30	
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank
	0	0	.07	0	0	-	.06	0	0	0	0
	250	0	.43	0	0	0	.13	0	.06	.22	.07
	500	.61	0	0	0	0	.15	1.47	0	0	0
	750	0	0	0	0	0	0	0	0	-	0
Ring Flank	1000	.13	1.00	0	.45	0	.27	.39	.04	.05	0
	Net 0	.13	1.00	0	.45	0	.27	.39	.04	.05	0
	Collection	22	33								
		Al	Bob								
	0	0	0								
	250	1.35	0								
Ring Fringe	500	-	0								
	750	-	0								
	1000	.23	0								
	Net 0	.23	0								
	Collection	23	29								
		Al-Art	Bob								
N. Sargasso Sea	0	.03	0								
	250	.13	.05								
	500	.17	.58								
	750	-	0								
	1000	.05	.83								
	Net 0	.05	.83								
N. Sargasso Sea	Collection	25	26								
	0	0	0								
	250	.79	.18								
	500	0	0								
	750	0	0								
	1000	.38	0								

Argyropelecus hemigymnus,
ml/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65		Oct-Nov 77 KNORR 71							
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0	0	.07	0	0	0	.78	0	0			
	250	0	0	0	0	0	0	.12	0	0			
	500	1.91	.96	2.33	-	-	1.36	.33	1.61				
	750	-	1.07	-	-	-	1.14	.72	0				
	1000	Net 0	.94	1.92	0	.97	.47	.63	0	0			
		Collection	20	35	27	28	32	58	59	61	62	65	66
			Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank
Ring Center	Depth	0	0	0	0	0	0	0	0	0	0	0	0
	250	0	0	0	0	0	0	0	0	0	0	0	0
	500	0	.48	.38	1.78	.06	.08	0	0	0	0	0	.08
	750	0	.56	0	0	0	.38	.83	.13	-	0	0	0
	1000	Net 0	.04	.05	0	.64	.61	.86	.02	0	.25	0	0
		Collection	22	33			64						
			Al	Bob			Frank						
Ring Flank	Depth	0	0	0			0						
	250	0	0	0			0						
	500	-	.13				.37						
	750	-	0				1.22						
	1000	Net 0	.45	.33			.87						
		Collection	23	29									
			Al-Art	Bob									
Ring Fringe	Depth	0	0	0									
	250	0	0	0									
	500	0	0	0			Sternoptyx diaphana,						
	750	-	1.29				ml/10,000 m ³						
	1000	Net 0	0	2.17									
		Collection	25	26			63						
N. Sargasso Sea	Depth	0	0	0			0						
	250	0	0	0			0						
	500	0	0	0			.04						
	750	1.19	.42				.30						
	1000	Net 0	.56	1.25			1.82						

Sternoptyx diaphana,
ml/10,000 m³

		Nov-Dec 76 KNORR 62		April 77 KNORR 65			Oct-Nov 77 KNORR 71						
		Collection	24	36	38	39	56	57	67	68			
Slope Water	Depth	0	14.36	0	0	0	0	0	0	0			
	250	0	0	1.63	0	0	0	0	0	0			
	500	0	0	0	-	-	0	0	5.16				
	750	0	0	-	-	-	0	0	0				
	1000	-	0	-	-	-	0	0	0				
	Net 0	9.38	30.96	.88	11.89	1.50	9.17	0	0				
Ring Center	Collection	20	35	27	28	32	58	59	61	62	65	66	
		Al	Al	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank	
	0	.02	0	0	0	-	0	0	0	.15	0	.08	
	250	0	0	5.22	0	35.29	0	0	0	9.38	.07	12.22	
	500	-	1.72	35.08	0	0	0	12.35	39.29	0	7.14	0	
	750	0	0	0	0	0	0	16.67	0	-	0	0	
Ring Flank	1000	0	0	0	0	0	0	0	0	-	0	0	
	Net 0	3.04	0	.38	26.00	27.00	13.64	0	0	.20	0	4.05	
	Collection	22	33						64				
		Al	Bob						Frank				
	0	.10	0						.88				
	250	0	0						5.22				
Ring Fringe	Depth	500	0						0				
	750	-	0						0				
	1000	-	0						0				
	Net 0	2.27	1.58						0				
	Collection	23	29										
		Al-Art	Bob										
N. Sargasso Sea	0	.13	5.53										
	250	0	0										
	500	0	0										
	750	0	0										
	1000	-	0										
	Net 0	.11	0										
N. Sargasso Sea	Collection	25	26						63				
	0	0	0						.16				
	250	0	0						0				
	500	0	0						0				
	750	0	0						0				
	1000	0	0						0				
N. Sargasso Sea	Net 0	0	.30						0				
	Collection	25	26						63				
	0	0	0						.16				
	250	0	0						0				
	500	0	0						0				
	750	0	0						0				
N. Sargasso Sea	1000	0	0						0				
	Net 0	0	.30						0				
	Collection	25	26						63				
	0	0	0						.16				
	250	0	0						0				
	500	0	0						0				
N. Sargasso Sea	750	0	0						0				
	1000	0	0						0				
	Net 0	0	.30						0				
	Collection	25	26						63				
	0	0	0						.16				
	250	0	0						0				
N. Sargasso Sea	500	0	0						0				
	750	0	0						0				
	1000	0	0						0				
	Net 0	0	.30						0				
	Collection	25	26						63				
	0	0	0						.16				
N. Sargasso Sea	250	0	0						0				
	500	0	0						0				
	750	0	0						0				
	1000	0	0						0				
	Net 0	0	.30						0				
	Collection	25	26						63				
N. Sargasso Sea	0	0	0						.16				
	250	0	0						0				
	500	0	0						0				
	750	0	0						0				
	1000	0	0						0				
	Net 0	0	.30						0				

Gonostoma elongatum,
ml/10,000 m³

SPECIES

NUMBER OF SPECIMENS BY STATION, ALL CRUISES

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71	
Slope Water	Collection 24	36 38 39	53 54	56 57 67 68	
	113	32 30 63	107 101	451 128 80 175	
Ring Center	Collection 20 Al	35 27 28 32 Al Bob Bob Bob	40 42 47 48 49 Dave Bob Bob Bob Bob	58 59 61 62 65 66 Em Frank Frank Frank Frank Frank	
Ring Flank	8	1 49 221 (98)	0 140 65 41 46 80	8 6 145 90 113 180	
	Collection 22 Al	33 Bob	51 Bob	64 Frank	
	4	(21)	6	4	
Ring Fringe	Collection 23 Al-Art	29 30 30 Bob Bob Bob	46 Bob		Benthosema glaciale, number
	0	0 0 0	0		
Sargasso Sea	Collection 25	25 26	43 44 45 52	63	
	0	0 0 0	0 0 0 0	0	

	Nov-Dec 76 KNORR 62		April 77 KNORR 65		July-Aug 77 ENDEAVOR 11		Oct-Nov 77 KNORR 71	
	Collection		Collection		Collection		Collection	
Slope Water	24	36	38	39	53	54	56	57
	11	7	8	1	0	8	1	5
Ring Center	20	35	27	28	40	42	58	59
	AI	AI	Bob	Bob	Dave	Bob	Em	Em
Ring Flank	1	1	4	9	0	0	0	1
	22	33	Bob	(0)	51	50	64	61
Ring Fringe	23	(1)	30	32	3	3	0	7
	AI-Art	Bob	Bob	Bob	Bob	Bob	Frank	Frank
Ring Fringe	2	9	3	3	0	46	Benthosema	suborbitale,
	Collection	25	26	43	44	45	number	
Sargasso Sea	25	0	0	1	0	0	63	
	Collection	0	0	1	0	2	1	
Sargasso Sea	25	0	0	1	0	0	1	
	Collection	0	0	1	0	0	1	

Nov-Dec 76 KNORR 62		April 77 KNORR 65		July-Aug 77 ENDEAVOR 11		Oct-Nov 77 KNORR 71			
Collection 24	36	38	39	53	54	56	57	67	68
	2	1	1	1	1	3	11	2	1
Collection 20 Al	35	27	28	40	42	47	48	49	50
	Al	Bob	Bob	Dave	Bob	Bob	Bob	Bob	Bob
Collection 8	8	1	3	7	5	3	0	0	4
			(0)						
Collection 22 Al	33	30	31	51	52	58	59	61	62
	Bob	Bob	Bob	Bob	Bob	Em	Em	Frank	Frank
Collection 55	(1)			16		3	21	5	17
									2
Collection 23 Al-Art	29	30	31	46		64			
	Bob	Bob	Bob	Bob		Frank			
Collection 41	12	5	8			4			
Collection	25	26	43	44	45	63			
	0	10	15	2	15	11			

Bolinichthys indicus,
number

Bolinichthys indicus,
number

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71
Collection	24	36	53	56
Slope Water	27	38	54	57
		39		67
				68

Ceratoscopelus maderensis,
number

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71	
Slope Water	Collection 24	36 38 39	53 54	56 57 67 68	
	2	3 6 1	7 4	1 5 3 4	
Ring Center	Collection 20 Al	35 27 28 Al Bob Bob	40 42 47 48 Dave Bob Bob Bob	58 59 61 62 65 66 Em Frank Frank Frank Frank	
Ring Flank	5	0 1 2	0 4 13 9 2	17 13 9 8 5 9	
Ring Fringe	Collection 22 Al	33 22 Bob Al	51 20 Bob	64 17 Frank	
Ring Fringe	Collection 23 Al-Art	29 30 Bob Bob	46 15 Bob		
Sargasso Sea	Collection 105	29 16	43 44 45 52	63 25	
		25 26	40 28 25 10		
		0 1			

Ceratoscopelus warmingii,
number

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71	
Slope Water	Collection 24	36	53	56	57 67 68
	6	5	0	0	1 0
	7	10	1		
Ring Center	Collection 20 Al	35	40	58	59 61 62 65 66 Em Frank Frank Frank Frank
	0	0	Dave Bob	Em	
	28	32	42	50	
	Bob	Bob	Bob	Bob	
Ring Flank	Collection 22 Al	33	51	64	Frank
	0	(0)	Bob	Frank	
			0	0	
Ring Fringe	Collection 23 Al-Art	29	46		
	1	30	Bob		
	2	Bob	0		
Diaphus dumerilii, number					
Sargasso Sea	Collection	25	43	63	
		26	44	52	
	0	0	0	0	
	0	0	0	0	

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71											
Slope Water	Collection 24	36	38	39	53	54	56	57	67	68					
	0	0	0	0	0	1	0	0	0	0					
Ring Center	Collection 20	35	27	28	40	42	48	49	50	58	59	61	62	65	66
	Al	Al	Bob	Bob	Dave	Bob	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank
	0	0	1	0	1	0	0	1	0	0	1	5	1	2	0
Ring Flank	Collection 22	33	33	32	51	52	64	65	66	67	68	69	70	71	72
	Al	Bob	Bob	Bob	Bob	Bob	Bob	Bob	Bob	Bob	Bob	Bob	Bob	Bob	Bob
	1	(1)	0	0	0	0	0	0	0	0	0	0	0	0	0
Ring Fringe	Collection 23	29	30	30	46	46	46	46	46	46	46	46	46	46	46
	Al-Art	Bob	Bob	Bob	Bob	Bob	Bob	Bob	Bob	Bob	Bob	Bob	Bob	Bob	Bob
	4	3	1	1	0	0	0	0	0	0	0	0	0	0	0
Sargasso Sea	Collection 25	25	26	26	43	44	45	45	45	45	45	45	45	45	45
		0	1	1	0	0	0	0	0	0	0	0	0	0	0

Nov-Dec 76 KNORR 62		April 77 KNORR 65		July-Aug 77 ENDEAVOR 11		Oct-Nov 77 KNORR 71	
Collection		Collection		Collection		Collection	
24		36		53		56	
2		0		0		0	
		0		0		1	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		0		0		0	

Oct-Nov 77
KNORR 71

July-Aug 77
ENDEAVOR 11

April 77
KNORR 65

Nov-Dec 76
KNORR 62

Collection

24

Slope Water

56 57 67 68

0

Slope Water

0 0 2 0

Collection

20

Ring Center

58 Em 59 Em 61 Frank 62 Frank 65 Frank 66 Frank

3

Ring Center

0 0 2 0 1 2

Collection

22

Ring Flank

64 Frank

12

Ring Flank

2

Collection

23

Ring Fringe

46 Bob

Diaphus rafinesquii,
number

4

Ring Fringe

63

Collection

25

Sargasso Sea

52

2

Sargasso Sea

0

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71	
Slope Water	Collection <u>24</u>	36 38 39	53 54	56 57 67 68	
Slope Water	6 —	3 6 1	1 3	2 3 4 1	
Ring Center	Collection 20 AI	35 AI 27 Bob 28 Bob 32 Bob	40 Dave 42 Bob 47 Bob 48 Bob 49 Bob 50 Bob	58 Em 59 Em Frank Frank Frank Frank Frank	66 Frank
Ring Flank	1 —	4 0 1 (0)	6 1 2 0 0 1	6 5 3 0 5 0	
Ring Fringe	Collection 22 AI	33 Bob	51 Bob	64 Frank	
Ring Fringe	4 —	(0) (0)	15 46	2 Bob	
Rargasso Sea	Collection 23 AI-Art	29 Bob 30 Bob	8		
Rargasso Sea	7 —	5 0 0			
Rargasso Sea	Collection	25 26	43 44 45 52	63	
Rargasso Sea		2 2	32 2 11 1	0	

	Nov-Dec 76 KNORR 62		April 77 KNORR 65		July-Aug 77 ENDEAVOR 11				Oct-Nov 77 KNORR 71			
	Collection	24	36	38	39	53	54	56	57	67	68	
Slope Water		0	24	31	56	0	0	8	0	0	0	
Ring Center	Collection	20	35	27	28	40	42	48	49	50	58	59
	Al	Al	Al	Bob	Bob	Dave	Bob	Bob	Bob	Bob	Em	Em
		0	9	5	85	(26)	0	2	0	1	0	2
											3	2
											0	0
Ring Flank	Collection	22	33			51					64	
	Al	Al	Bob			Bob					Frank	
		0	(16)			1					0	
Ring Fringe	Collection	23	29	30		46						
	Al-Art	Al-Art	Bob	Bob		Bob						
		1	52	29		0						
Sargasso Sea	Collection		25	26		43	44	45	52		63	
			24	16		1	0	2	0		0	

Hygophum hygomi,
number

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71	
Slope Water	Collection 24	36 38 39	53 54	56 57 67 68	
	9	14 9 1	0 2	7 1 0 1	
Ring Center	Collection 20 Al	35 27 28 32 Al Bob Bob Bob	40 42 47 48 49 50 Dave Bob Bob Bob Bob Bob	58 59 61 62 65 66 Em Frank Frank Frank Frank Frank	
Ring Flank	Collection 22 Al	0 4 44 (0)	0 3 5 2 2 0	0 1 4 5 11 2	
Ring Fringe	Collection 23 Al-Art	33 30 Bob Bob	51 46 Bob Bob	64 Frank	
Sargasso Sea	Collection	29 6 6 26	43 44 45 52		Lampanyctus alatus, number
		1 0 0 0	1 0 0 0		

Nov-Dec 76
KNORR 62

April 77
KNORR 65

July-Aug 77
ENDEAVOR 11

Oct-Nov 77
KNORR 71

Collection
24

Slope Water

36	38	39	53	54	56	57	67	68
1	4	0	0	1	2	3	2	8

Collection
20
Al

Ring Center

35	27	28	32	40	42	47	48	49	50	58	59	61	62	65	66
Al	Bob	Bob	Bob	Dave	Bob	Bob	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank
5	0	1	(1)	0	0	0	0	0	0	1	1	0	8	0	8

Collection
22
Al

Ring Flank

33	51	64
Bob	Bob	Frank
(0)	0	7

Collection
23
Al-Art

Ring Fringe

29	30	46	63
Bob	Bob	Bob	Lampanyctus cuprarius,
10	3	1	number

Collection

Sargasso Sea

25	26	43	44	45	52	63
1	4	1	1	3	0	11

Nov-Dec 76 KNORR 62		April 77 KNORR 65		July-Aug 77 ENDEAVOR 11		Oct-Nov 77 KNORR 71	
Collection		Collection		Collection		Collection	
24		36		53		56	
3		38		54		57	
1		39		1		67	
0		1		2		68	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	
0		1		1		1	

Nov-Dec 76 KNORR 62		April 77 KNORR 65		July-Aug 77 ENDEAVOR 11		Oct-Nov 77 KNORR 71									
Collection															
24		36	38	39	53	54	56	57	67	68					
0		0	0	0	0	1	0	0	0	0					
Slope Water															
Collection															
20		35	27	28	40	42	48	49	50	58	59	61	62	65	66
AI		AI	Bob	Bob	Dave	Bob	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank
1		0	0	0	40	2	3	1	0	1	3	1	0	1	2
Ring Center															
Collection															
22		33			51					64					
AI		Bob			Bob					Frank					
4		(0)			3					0					
Ring Flank															
Collection															
23		29	30		46										
AI-Art		Bob	Bob		Bob										
9		2	0		2										
Ring Fringe															
Collection															
25		26			43	44	45	52		63					
Sargasso Sea															
0		2			15	5	4	1		3					

Lepidophanes gaussi,
number

Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71										
Collection 24	36	38	39	53	54	56	57	67	68				
54	0	3	5	2	10	13	23	32	34				
Collection 20 Al	35 Al	27 Bob	28 Bob	40 Dave	42 Bob	48 Bob	49 Bob	50 Bob	58 Em	59 Em	61 Frank	62 Frank	65 Frank
2	4	0	0	1	2	1	9	3	4	5	10	7	9
Collection 22 Al	33 Bob	(2)	(1)	51 Bob		64 Frank							3
0				1									
Collection 23 Al-Art	29 Bob	30 Bob		46 Bob									
0	14	0		4									
Collection	25	26		43	44	45	52						
	2	2		2	2	0	0						

Lobianchia dofleini,
number

	Nov-Dec 76 KNORR 62		April 77 KNORR 65		July-Aug 77 ENDEAVOR 11				Oct-Nov 77 KNORR 71			
Slope Water	Collection 24	36	38	39	53	54		56	57	67	68	
	1	12	4	6	0	0		9	2	1	1	
Ring Center	Collection 20	35	27	28	40	42	47	48	49	50	58	
	AI	AI	Bob	Bob	Dave	Bob	Bob	Bob	Bob	Bob	Em	
	0	2	0	1	0	0	0	0	0	0	0	
Ring Flank	Collection 22	33			51			64				
	AI	Bob			Bob			Frank				
	0	(2)			0			1				
Ring Fringe	Collection 23	29	30		46							
	AI-Art	Bob	Bob		Bob							
	0	1	0		0							
Sargasso Sea	Collection	25	26		43	44	45	52	63			
		0	0		0	1	0	0	0			

Myctophum affine,
number

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71
Collection	24	36	38	39
Slope Water	24	36	38	39
	14	6	3	2
	14	6	3	2
Collection	20	35	27	28
Ring Center	20	35	27	28
	1	3	6	4
	1	3	6	4
Collection	22	33	30	31
Ring Flank	22	33	30	31
	14	(2)	17	4
	14	(2)	17	4
Collection	23	29	30	31
Ring Fringe	23	29	30	31
	15	25	8	1
	15	25	8	1
Collection	25	25	43	44
Sargasso Sea	25	25	43	44
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4	4	13	4
	4			

Notolychnus valdiviae,
number

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71													
Slope Water	Collection 24	36	38	39	53	54	56	57	67	68							
	0	4	4	3	0	0	9	6	4	2							
Ring Center	Collection 20 Al	35 Al	27 Bob	28 Bob	32 Bob	40 Dave	42 Bob	47 Bob	48 Bob	49 Bob	50 Bob	58 Em	59 Em	61 Frank	62 Frank	65 Frank	66 Frank
Ring Flank	Collection 22 Al	33 Bob	1	0	2	(0)	0	0	0	0	0	0	0	1	1	0	0
Ring Fringe	Collection 23 Al-Art	29 Bob	30 Bob	30 Bob	46 Bob	51 Bob	51 Bob	51 Bob	51 Bob	51 Bob	51 Bob	51 Bob	51 Bob	51 Bob	51 Bob	51 Bob	51 Bob
Ring Fringe	0	3	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0
Sargasso Sea	Collection	25	26	26	43	44	45	45	52	52	63	63	63	63	63	63	63
		1	21	21	0	0	0	0	0	0	0	0	0	0	0	0	0

Notoscopelus resplendens,
number

Nov-Dec 76
KNORR 62

April 77
KNORR 65

July-Aug 77
ENDEAVOR 11

Oct-Nov 77
KNORR 71

Collection

Slope Water

24
53 54

56 57 67 68

0

6 0

0 0 0 1

Collection

Ring Center

20
Al 35 Al 27 Bob 32 Bob

40 Dave 42 Bob 47 Bob 48 Bob 49 Bob 50 Bob

58 Em 59 Em 61 Frank 62 Frank 65 Frank 66 Frank

6

1

6

2

Collection

Ring Flank

22
Al 33 Bob 51 Bob

64
Frank

8

5

2

Collection

Ring Fringe

23
Al-Art 29 Bob 30 Bob

46
Bob

Argyropelecus aculeatus,
number

3

Collection

Sargasso Sea

25 26

52

63

4

1

1

5

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71
Slope Water	Collection 24	36 38 39	53 54	56 57 67 68
	0	0 4 3	0 4	2 5 2 3
Ring Center	Collection 20 Al	35 27 28 Al Bob Bob	40 42 47 48 49 Dave Bob Bob Bob	58 59 61 62 65 66 Em Frank Frank Frank Frank
Ring Flank	15	27 0 2 (0)	23 4 3 2 1	31 55 3 5 10
Ring Fringe	Collection 22 Al	33 22 Bob Al	51 51 Bob Bob	64 64 Frank Frank
	75	0	17	49
Sargasso Sea	Collection 23 Al-Art	29 30 Bob Bob	46 46 Bob Bob	
	10	26 13	5	
	Collection	25 26	43 44 45 52	
		15 1	10 11 4 8	

Argyropelecus hemigymnus,
number

	Nov-Dec 76 KNORR 62		April 77 KNORR 65		July-Aug 77 ENDEAVOR 11				Oct-Nov 77 KNORR 71			
Collection	24	36	38	39	53	54	56	57	67	68		
Slope Water	7	15	9	11	0	0	4	12	3	9		
Collection	20	35	27	28	40	42	48	49	50	58	59	60
Al	Al	Al	Bob	Bob	Dave	Bob	Bob	Bob	Bob	Em	Em	Frank
1	5	2	5	(2)	0	0	1	2	3	8	3	1
Ring Center	22	33			51		64			Frank		
Ring Flank	2	2			1		12					
Ring Fringe	23	29	30		46							
Al-Art	0	5	4		1							
Sargasso Sea	25	25	26		43	44	45	52		63		
	5	7			4	3	2	2		10		

Sternoptyx diaphana,
number

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71	
Slope Water	Collection <u>24</u>	36 38 39	53 54	56 57 67 68	
Slope Water	8	2 2 8	2 1	2 3 0 1	
Ring Center	Collection 20 AI	35 27 28 32	40 Dave 42 Bob 47 Bob 48 Bob 49 Bob 50 Bob	58 Em 59 Em 61 Frank 62 Frank 65 Frank 66 Frank	
Ring Flank	3	2 5 2 (2)	0 1 1 2 0 0	1 2 3 2 2 4	
Ring Fringe	Collection 22 AI	33 Bob	51 Bob	64 Frank	
Ring Fringe	13	5	0	2	
Gonostoma elongatum,	Collection 23 Al-Art	29 Bob 30 Bob	46 Bob		number
Gonostoma elongatum,	10	26 10	0		
Sargasso Sea	Collection	25 26	43 44 45 52	63	
Sargasso Sea		0 1	0 0 6 0	3	

SPECIES

NUMBER OF SPECIMENS PER UNIT VOLUME OF WATER BY STATION,
ALL CRUISES

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71
Slope Water	Collection 24	36 38 39	53 54	56 57 67 68
	12.8	2.0 2.0 5.0	9.0 8.6	37.4 17.8 9.0 14.4
Ring Center	Collection 20 Al	35 27 28 32 Al Bob Bob Bob	40 42 48 49 50 Dave Bob Bob Bob Bob	58 59 61 62 65 66 Em Frank Frank Frank Frank Frank
Ring Flank	1.4	<.1 3.5 22.6 (50.6)	0 10.5 5.8 3.8 4.3 6.9	.9 .6 16.3 8.0 7.6 11.4
Ring Fringe	Collection 22 Al	33 Bob	51 Bob	64 Frank
	.30	(13.3)	.5	.4
Ring Fringe	Collection 23 Al-Art	29 30 Bob Bob	46 Bob	
	0	0 0	0	
Sargasso Sea	Collection	25 26	43 44 45 52	63
		0 0	0 0 0 0	0
				Benthosoma glaciale, specimens/10,000 m ³

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71	
Slope Water	Collection 24	36 38 39	53 54	56 57 67 68	
	2.4	.5 .4 .1	0 .7	.1 .3 .1 0	
Ring Center	Collection 20 Al	35 27 28 Al Bob Bob	40 42 47 48 49 Dave Bob Bob Bob Bob	58 59 61 62 65 66 Em Em Frank Frank Frank Frank	
	<.1	<.1 .2 1.7 (0)	0 0 0 0 0 0	0 .1 .5 0 .5 .4	
Ring Flank	Collection 22 Al	33 30 Bob Bob	51 52 Bob Bob	64 65 Frank Frank	
	.7	(.8)	.3	0	
Ring Fringe	Collection 23 Al-Art	29 30 Bob Bob	46 47 Bob Bob		
	.3	1.0 .3	0		
Sargasso Sea	Collection	25 26	43 44 45 52	63	
		0 0	.1 0 .2 0	.1	
					Benthosema suborbitale, specimens/10,000 m ³

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71
Slope Water	Collection 24	36 38 39	53 54	56 57 67 68
	.8	.1 .2 .1	.1 .1	.3 .6 .1 <.1
Ring Center	Collection 20 Al	35 27 28 32 Al Bob Bob Bob	40 42 47 48 49 Dave Bob Bob Bob Bob	58 59 61 62 65 66 Em Frank Frank Frank Frank Frank
	1.0	.6 .1 .1 .6 (0)	.7 .4 .3 0 0	.2 1.1 .4 1.6 1.0 .1
Ring Flank	Collection 22 Al	33 Bob	51 Bob	64 Frank
	5.8	(.8)	1.4	.2
Ring Fringe	Collection 23 Al-Art	29 30 Bob Bob	46 Bob	
	1.7	1.5 .6	.7	
Sargasso Sea	Collection	25 26	43 44 45 52	63
		0 1.2	1.2 .2 1.3 .3	1.1

Bolinichthys indicus,
specimens/10,000 m³

[illegible]

Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71
Collection <u>24</u>	36 <u>38</u> 39	53 <u>54</u>	56 <u>57</u> 67 <u>68</u>
<u>.4</u>	.4 <u>.2</u> <.1	<u>.6</u> .3	.1 <u>.6</u> .2 <u>.3</u>
Collection <u>20</u> Al	35 27 <u>32</u> Al Bob Bob	40 Dave 42 Bob 48 Bob 49 Bob <u>50</u> Bob	58 <u>59</u> 61 62 65 66 Em Frank Frank Frank Frank
<u>.1</u>	0 <.1 <u>.5</u> (0)	0 .3 1.2 .2 1.2	1.9 <u>1.1</u> .9 <u>.8</u> .5 <u>.5</u>
Collection <u>22</u> Al	33 <u>30</u> Bob	51 <u>50</u> Bob	64 <u>63</u> Frank
<u>3.8</u>	(0)	1.7	1.9
Collection <u>23</u> Al-Art	29 <u>30</u> Bob Bob	46 Bob	
8.9	2.9 <u>1.8</u>	1.4	
Collection	25 <u>26</u>	43 <u>44</u> 45 <u>52</u>	
	0 .1	3.0 2.4 2.2 .8	

Ceratoscopelus warmingii,
specimens/10,000 m³

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71
Slope Water	Collection 24	36 38 39	53 54	56 57 67 68
	1.6	.2 .4 1.0	0 0	0 0 .1 0
Ring Center	Collection 20 Al	35 27 28 32 Al Bob Bob Bob	40 42 47 48 49 Dave Bob Bob Bob Bob	58 59 61 62 65 66 Em Em Frank Frank Frank Frank
	0	0 0 .1 (0)	0 0 0 0 0	0 0 0 0 0 0
Ring Flank	Collection 22 Al	33 Bob	51 Bob	64 Frank
	0	(0)	0	0
Ring Fringe	Collection 23 Al-Art	29 30 Bob Bob	46 Bob	
	<.1	.1 0 0	0	
Sargasso Sea	Collection	25 26	43 44 45 52	63
		0 0 0 0	0 0 0 0	0
				Diaphus dumerilii, specimens/10,000 m ³

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71	
Slope Water	Collection 24 0	36 0	38 0	39 0	53 0
					54 .1
					56 0
					57 0
					67 0
					68 0
Ring Center	Collection 20 Al	35 Al	27 Bob	28 Bob	32 Bob
	0	0	<.1	0	(0)
					40 Dave
					42 Bob
					47 Bob
					48 Bob
					49 Bob
					50 Bob
					58 Em
					59 Em
					61 Frank
					62 Frank
					65 Frank
					66 Frank
Ring Flank	Collection 22 Al	33 Bob			51 Bob
	.1	(.8)			64 Frank
					<.1
Ring Fringe	Collection 23 Al-Art	29 Bob	30 Bob		46 Bob
	.6	.9	.1		0
					Diaphus effulgens, specimens/10,000 m ³
Sargasso Sea	Collection	25	26		63
		0	.1		0

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71
Collection	24	36	38	39
Slope Water	0	.1	.5	.5

Diaphus rafinesquii,
specimens/10,000 m³

Nov-Dec 76
KNORR 62

April 77
KNORR 65

July-Aug 77
ENDEAVOR 11

Oct-Nov 77
KNORR 71

Collection

Slope Water

24	36	38	39	53	54	56	57	67	68
.9	.1	.2	.1	.1	.2	<.1	.2	.2	<.1

Collection

Ring Center

20	35	27	28	32	40	42	47	48	49	50	58	59	61	62	65	66
Al	Al	Bob	Bob	Bob	Dave	Bob	Bob	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank
.1	.4	0	.1	(0)	.6	.1	.2	0	0	.1	.6	.4	.2	0	.3	0

Collection

Ring Flank

64
Frank

22	33	51	64
Al	Bob	Bob	Frank
.5	(0)	1.3	.1

Collection

Ring Fringe

29 30
Bob Bob

Diogenichthys atlanticus,
specimens/10,000 m³

23	29	30	46	7
Al-Art	Bob	Bob	Bob	
.3	1.0	0		

Collection

Sargasso Sea

25	26	43	44	45	52	63
.1	.3	2.4	.2	1.0	.1	0

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71
Slope Water	Collection 24	36 38 39	53 54	56 57 67 68
	.1	.5 .1 .1	.7 .4	1.1 .2 .3 .1
Ring Center	Collection 20 Al	35 27 28 32 Al Bob Bob Bob	40 42 47 48 49 Dave Bob Bob Bob Bob	58 59 61 62 65 66 Em Frank Frank Frank Frank
	6.9	.1 0 .9 (0)	0 .4 .1 .2 0	.2 1.3 1.9 .7 .3 1.9
Ring Flank	Collection 22 Al	33 33 Bob Bob	51 51 Bob Bob	64 64 Frank Frank
	1.3	(0)	.9	.5
Ring Fringe	Collection 23 Al-Art	29 30 Bob Bob	46 46 Bob Bob	
	0	.4 .2	.5	
Sargasso Sea	Collection	25 26	43 44 45 52	63
		0 0	.7 .1 .8 .2	.6

Hygophum benoitii,
specimens/10,000 m³

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71	
Slope Water	Collection 24	36 38 39	53 54	56 57 67 68	
	0	2.4 2.2 5.2	0	.7 0 0 0	
Ring Center	Collection 20 Al	35 27 28 Al Bob Bob	40 42 Dave Bob Bob	58 59 Em	62 65 66 Frank Frank Frank
	0	.4 .6 20.5 (14.4)	0 .2 0 0 0	0 .2 0 .8 .1 0	
Ring Flank	Collection 22 Al	33 Bob	51 Bob	64 Frank	
	0	(13.3)	.1	0	
Ring Fringe	Collection 23 Al-Art	29 30 Bob Bob	46 Bob		
	<.1	6.4 3.2	0		
Sargasso Sea	Collection	25 26	43 44 45 52	63	
		2.3 2.3	.1 0 .2 0	0	
					Hygophum hygomi, specimens/10,000 m ³

Hygophum hygomi,
specimens/10,000 m³

Nov-Dec 76
KNORR 62

April 77
KNORR 65

July-Aug 77
ENDEAVOR 11

Oct-Nov 77
KNORR 71

Collection

Slope Water

24 53 54
25 56 57 67 68
26 58 59 Em Frank Frank Frank Frank
27 60 61 62 63 64 65 66
28 67 68 69 70 71 72 73
29 74 75 76 77 78 79 80
30 81 82 83 84 85 86 87
31 88 89 90 91 92 93 94
32 95 96 97 98 99 100 101
33 102 103 104 105 106 107 108
34 109 110 111 112 113 114 115
35 116 117 118 119 120 121 122
36 123 124 125 126 127 128 129
37 130 131 132 133 134 135 136
38 137 138 139 140 141 142 143
39 144 145 146 147 148 149 150
40 151 152 153 154 155 156 157
41 158 159 160 161 162 163 164
42 165 166 167 168 169 170 171
43 172 173 174 175 176 177 178
44 179 180 181 182 183 184 185
45 186 187 188 189 190 191 192
46 193 194 195 196 197 198 199
47 200 201 202 203 204 205 206
48 207 208 209 210 211 212 213
49 214 215 216 217 218 219 220
50 221 222 223 224 225 226 227
51 228 229 230 231 232 233 234
52 235 236 237 238 239 240 241
53 242 243 244 245 246 247 248
54 249 250 251 252 253 254 255
55 256 257 258 259 260 261 262
56 263 264 265 266 267 268 269
57 270 271 272 273 274 275 276
58 277 278 279 280 281 282 283
59 284 285 286 287 288 289 290
60 291 292 293 294 295 296 297
61 298 299 300 301 302 303 304
62 305 306 307 308 309 310 311
63 312 313 314 315 316 317 318
64 319 320 321 322 323 324 325
65 326 327 328 329 330 331 332
66 333 334 335 336 337 338 339
67 340 341 342 343 344 345 346
68 347 348 349 350 351 352 353
69 354 355 356 357 358 359 360
70 361 362 363 364 365 366 367
71 368 369 370 371 372 373 374
72 375 376 377 378 379 380 381
73 382 383 384 385 386 387 388
74 389 390 391 392 393 394 395
75 396 397 398 399 400 401 402
76 403 404 405 406 407 408 409
77 410 411 412 413 414 415 416
78 417 418 419 420 421 422 423
79 424 425 426 427 428 429 430
80 431 432 433 434 435 436 437
81 438 439 440 441 442 443 444
82 445 446 447 448 449 450 451
83 452 453 454 455 456 457 458
84 459 460 461 462 463 464 465
85 466 467 468 469 470 471 472
86 473 474 475 476 477 478 479
87 480 481 482 483 484 485 486
88 487 488 489 490 491 492 493
89 494 495 496 497 498 499 500
90 501 502 503 504 505 506 507
91 508 509 510 511 512 513 514
92 515 516 517 518 519 520 521
93 522 523 524 525 526 527 528
94 529 530 531 532 533 534 535
95 536 537 538 539 540 541 542
96 543 544 545 546 547 548 549
97 550 551 552 553 554 555 556
98 557 558 559 560 561 562 563
99 564 565 566 567 568 569 570
100 571 572 573 574 575 576 577
101 578 579 580 581 582 583 584
102 585 586 587 588 589 590 591
103 592 593 594 595 596 597 598
104 599 600 601 602 603 604 605
105 606 607 608 609 610 611 612
106 613 614 615 616 617 618 619
107 620 621 622 623 624 625 626
108 627 628 629 630 631 632 633
109 634 635 636 637 638 639 640
110 641 642 643 644 645 646 647
111 648 649 650 651 652 653 654
112 655 656 657 658 659 660 661
113 662 663 664 665 666 667 668
114 669 670 671 672 673 674 675
115 676 677 678 679 680 681 682
116 683 684 685 686 687 688 689
117 690 691 692 693 694 695 696
118 697 698 699 700 701 702 703
119 704 705 706 707 708 709 710
120 711 712 713 714 715 716 717
121 718 719 720 721 722 723 724
122 725 726 727 728 729 730 731
123 732 733 734 735 736 737 738
124 739 740 741 742 743 744 745
125 746 747 748 749 750 751 752
126 753 754 755 756 757 758 759
127 760 761 762 763 764 765 766
128 767 768 769 770 771 772 773
129 774 775 776 777 778 779 780
130 781 782 783 784 785 786 787
131 788 789 790 791 792 793 794
132 795 796 797 798 799 800 801
133 802 803 804 805 806 807 808
134 809 810 811 812 813 814 815
135 816 817 818 819 820 821 822
136 823 824 825 826 827 828 829
137 830 831 832 833 834 835 836
138 837 838 839 840 841 842 843
139 844 845 846 847 848 849 850
140 851 852 853 854 855 856 857
141 858 859 860 861 862 863 864
142 865 866 867 868 869 870 871
143 872 873 874 875 876 877 878
144 879 880 881 882 883 884 885
145 886 887 888 889 890 891 892
146 893 894 895 896 897 898 899
147 900 901 902 903 904 905 906
148 907 908 909 910 911 912 913
149 914 915 916 917 918 919 920
150 921 922 923 924 925 926 927
151 928 929 930 931 932 933 934
152 935 936 937 938 939 940 941
153 942 943 944 945 946 947 948
154 949 950 951 952 953 954 955
155 956 957 958 959 960 961 962
156 963 964 965 966 967 968 969
157 970 971 972 973 974 975 976
158 977 978 979 980 981 982 983
159 984 985 986 987 988 989 990
160 991 992 993 994 995 996 997
161 998 999 1000 1001 1002 1003 1004
162 1005 1006 1007 1008 1009 1010 1011
163 1012 1013 1014 1015 1016 1017 1018
164 1019 1020 1021 1022 1023 1024 1025
165 1026 1027 1028 1029 1030 1031 1032
166 1033 1034 1035 1036 1037 1038 1039
167 1040 1041 1042 1043 1044 1045 1046
168 1047 1048 1049 1050 1051 1052 1053
169 1054 1055 1056 1057 1058 1059 1060
170 1061 1062 1063 1064 1065 1066 1067
171 1068 1069 1070 1071 1072 1073 1074
172 1075 1076 1077 1078 1079 1080 1081
173 1082 1083 1084 1085 1086 1087 1088
174 1089 1090 1091 1092 1093 1094 1095
175 1096 1097 1098 1099 1100 1101 1102
176 1103 1104 1105 1106 1107 1108 1109
177 1110 1111 1112 1113 1114 1115 1116
178 1117 1118 1119 1120 1121 1122 1123
179 1124 1125 1126 1127 1128 1129 1130
180 1131 1132 1133 1134 1135 1136 1137
181 1138 1139 1140 1141 1142 1143 1144
182 1145 1146 1147 1148 1149 1150 1151
183 1152 1153 1154 1155 1156 1157 1158
184 1159 1160 1161 1162 1163 1164 1165
185 1166 1167 1168 1169 1170 1171 1172
186 1173 1174 1175 1176 1177 1178 1179
187 1180 1181 1182 1183 1184 1185 1186
188 1187 1188 1189 1190 1191 1192 1193
189 1194 1195 1196 1197 1198 1199 1200
190 1201 1202 1203 1204 1205 1206 1207
191 1208 1209 1210 1211 1212 1213 1214
192 1215 1216 1217 1218 1219 1220 1221
193 1222 1223 1224 1225 1226 1227 1228
194 1229 1230 1231 1232 1233 1234 1235
195 1236 1237 1238 1239 1240 1241 1242
196 1243 1244 1245 1246 1247 1248 1249
197 1250 1251 1252 1253 1254 1255 1256
198 1257 1258 1259 1260 1261 1262 1263
199 1264 1265 1266 1267 1268 1269 1270
200 1271 1272 1273 1274 1275 1276 1277
201 1278 1279 1280 1281 1282 1283 1284
202 1285 1286 1287 1288 1289 1290 1291
203 1292 1293 1294 1295 1296 1297 1298
204 1299 1300 1301 1302 1303 1304 1305
205 1306 1307 1308 1309 1310 1311 1312
206 1313 1314 1315 1316 1317 1318 1319
207 1320 1321 1322 1323 1324 1325 1326
208 1327 1328 1329 1330 1331 1332 1333
209 1334 1335 1336 1337 1338 1339 1340
210 1341 1342 1343 1344 1345 1346 1347
211 1348 1349 1350 1351 1352 1353 1354
212 1355 1356 1357 1358 1359 1360 1361
213 1362 1363 1364 1365 1366 1367 1368
214 1369 1370 1371 1372 1373 1374 1375
215 1376 1377 1378 1379 1380 1381 1382
216 1383 1384 1385 1386 1387 1388 1389
217 1390 1391 1392 1393 1394 1395 1396
218 1397 1398 1399 1400 1401 1402 1403
219 1404 1405 1406 1407 1408 1409 1410
220 1411 1412 1413 1414 1415 1416 1417
221 1418 1419 1420 1421 1422 1423 1424
222 1425 1426 1427 1428 1429 1430 1431
223 1432 1433 1434 1435 1436 1437 1438
224 1439 1440 1441 1442 1443 1444 1445
225 1446 1447 1448 1449 1450 1451 1452
226 1453 1454 1455 1456 1457 1458 1459
227 1460 1461 1462 1463 1464 1465 1466
228 1467 1468 1469 1470 1471 1472 1473
229 1474 1475 1476 1477 1478 1479 1480
230 1481 1482 1483 1484 1485 1486 1487
231 1488 1489 1490 1491 1492 1493 1494
232 1495 1496 1497 1498 1499 1500 1501
233 1502 1503 1504 1505 1506 1507 1508
234 1509 1510 1511 1512 1513 1514 1515
235 1516 1517 1518 1519 1520 1521 1522
236 1523 1524 1525 1526 1527 1528 1529
237 1530 1531 1532 1533 1534 1535 1536
238 1537 1538 1539 1540 1541 1542 1543
239 1544 1545 1546 1547 1548 1549 1550
240 1551 1552 1553 1554 1555 1556 1557
241 1558 1559 1560 1561 1562 1563 1564
242 1565 1566 1567 1568 1569 1570 1571
243 1572 1573 1574 1575 1576 1577 1578
244 1579 1580 1581 1582 1583 1584 1585
245 1586 1587 1588 1589 1590 1591 1592
246 1593 1594 1595 1596 1597 1598 1599
247 1600 1601 1602 1603 1604 1605 1606
248 1607 1608 1609 1610 1611 1612 1613
249 1614 1615 1616 1617 1618 1619 1620
250 1621 1622 1623 1624 1625 1626 1627
251 1628 1629 1630 1631 1632 1633 1634
252 1635 1636 1637 1638 1639 1640 1641
253 1642 1643 1644 1645 1646 1647 1648
254 1649 1650 1651 1652 1653 1654 1655
255 1656 1657 1658 1659 1660 1661 1662
256 1663 1664 1665 1666 1667 1668 1669
257 1670 1671 1672 1673 1674 1675 1676
258 1677 1678 1679 1680 1681 1682 1683
259 1684 1685 1686 1687 1688 1689 1690
260 1691 1692 1693 1694 1695 1696 1697
261 1698 1699 1700 1701 1702 1703 1704
262 1705 1706 1707 1708 1709 1710 1711
263 1712 1713 1714 1715 1716 1717 1718
264 1719 1720 1721 1722 1723 1724 1725
265 1726 1727 1728 1729 1730 1731 1732
266 1733 1734 1735 1736 1737 1738 1739
267 1740 1741 1742 1743 1744 1745 1746
268 1747 1748 1749 1750 1751 1752 1753
269 1754 1755 1756 1757 1758 1759 1760
270 1761 1762 1763 1764 1765 1766 1767
271 1768 1769 1770 1771 1772 1773 1774
272 1775 1776 1777 1778 1779 1780 1781
273 1782 1783 1784 1785 1786 1787 1788
274 1789 1790 1791 1792 1793 1794 1795
275 1796 1797 1798 1799 1800 1801 1802
276 1803 1804 1805 1806 1807 1808 1809
277 1810 1811 1812 1813 1814 1815 1816
278 1817 1818 1819 1820 1821 1822 1823
279 1824 1825 1826 1827 1828 1829 1830
280 1831 1832 1833 1834 1835 1836 1837
281 1838 1839 1840 1841 1842 1843 1844
282 1845 1846 1847 1848 1849 1850 1851
283 1852 1853 1854 1855 1856 1857 1858
284 1859 1860 1861 1862 1863 1864 1865
285 1866 1867 1868 1869 1870 1871 1872
286 1873 1874 1875 1876 1877 1878 1879
287 1880 1881 1882 1883 1884 1885 1886
288 1887 1888 1889 1890 1891 1892 1893
289 1894 1895 1896 1897 1898 1899 1900
290 1901 1902 1903 1904 1905 1906 1907
291 1908 1909 1910 1911 1912 1913 1914
292 1915 1916 1917 1918 1919 1920 1921
293 1922 1923 1924 1925 1926 1927 1928
294 1929 1930 1931 1932 1933 1934 1935
295 1936 1937 1938 1939 1940 1941 1942
296 1943 1944 1945 1946 1947 1948 1949
297 1950 1951 1952 1953 1954 1955 1956
298 1957 1958 1959 1960 1961 1962 1963
299 1964 1965 1966 1967 1968 1969 1970
300 1971 1972 1973 1974 1975 1976 1977
301 1978 1979 1980 1981 1982 1983 1984
302 1985 1986 1987 1988 1989 1990 1991
303 1992 1993 1994 1995 1996 1997 1998
304 1999 2000 2001 2002 2003 2004 2005
305 2006 2007 2008 2009 2010 2011 2012
306 2013 2014 2015 2016 2017 2018 2019
307 2020 2021 2022 2023 2024 2025 2026
308 2027 2028 2029 2030 2031 2032 2033
309 2034 2035 2036 2037 2038 2039 2040
310 2041 2042 2043 2044 2045 2046 2047
311 2048 2049 2050 2051 2052 2053 2054
312 2055 2056 2057 2058 2059 2060 2061
313 2062 2063 2064 2065 2066 2067 2068
314 2069 2070 2071 2072 2073 2074 2075
315 2076 2077 2078 2079 2080 2081 2082
316 2083 2084 2085 2086 2087 2088 2089
317 2090 2091 2092

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71	
Slope Water	Collection 24	36 38 39	53 54	56 57 67 68	
	0	<.1 <.1 0	.2 .8	.4 .1 0 .2	
Ring Center	Collection 20 Al	35 27 28 Al Bob Bob	40 42 47 48 49 Dave Bob Bob Bob	58 59 61 62 65 66 Em Frank Frank Frank Frank	
	1.8	.4 <.1 0 (.6)	.1 1.8 0 .3 .1 2.0	2.9 3.3 1.2 7.7 2.4 1.1	
Ring Flank	Collection 22 Al	33 Bob	51 Bob	64 Frank	
	2.1	(1.7)	.3	.8	
Ring Fringe	Collection 23 Al-Art	29 30 Bob Bob	46 Bob		
	.9	1.1 .4	.5		
Sargasso Sea	Collection	25 26	43 44 45 52	63	
		.4 .1	.7 .4 .7 .4	.7	

Lampanyctus pusillus,
specimens/10,000 m³

Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71
Collection 24	36 38 39	53 54	56 57 67 68
0	0 0 0	0 0	0 0 0 0
Collection 20 Al	35 27 32 Al Bob Bob	40 42 47 48 49 50 Dave Bob Bob Bob Bob	58 59 61 62 65 66 Em Frank Frank Frank Frank Frank
<.1	0 0 0 (0)	3.9 .2 .3 .1 0 0	.2 .3 .4 0 .1 .3
Collection 22 Al	33 Bob	51 Bob	64 Frank
.5	(0)	.3	0
Collection 23 Al-Art	29 30 Bob Bob	46 Bob	
.6	.8 0	.2	
Collection	25 26	43 44 45 52	63
	0 .2	1.2 .4 .3 .1	.2
Lepidophanes gaussi, specimens/10,000 m ³			

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71	
Slope Water	Collection 24	36 38 39	53 54	56 57 67 68	
	.7	1.2 .2 .3	.2 .2	1.6 .1 0 <.1	
Ring Center	Collection 20 Al	35 27 28 32 Al Bob Bob Bob	40 42 47 48 49 50 Dave Bob Bob Bob Bob Bob	58 59 61 62 65 66 Em Em Frank Frank Frank Frank	
	.3	0 .1 .1 (0)	0 .1 .2 .2 0 0	0 0 2.0 .4 1.1 .2	
Ring Flank	Collection 22 Al	33 Bob	51 Bob	64 Frank	
	0	(0)	0	.1	
Ring Fringe	Collection 23 Al-Art	29 30 Bob Bob	46 Bob		
	.3	.9 .8	.1		
Sargasso Sea	Collection	25 26	43 44 45 52	63	
		0 0	.2 0 0 0	.1	

Lepidophanes guentheri,
specimens/10,000 m³

	Nov-Dec 76 KNORR 62			April 77 KNORR 65			July-Aug 77 ENDEAVOR 11			Oct-Nov 77 KNORR 71						
Slope Water	Collection	24		36	38	39	53	54		56	57	67	68			
	8.8	0	.1	.4	.2	.8				1.1	2.0	2.8	5.4			
Ring Center	Collection	20	35	27	28	32	40	42	49	50	59	61	62	65	66	
	Al	Al	Al	Bob	Bob	Bob	Dave	Bob	Bob	Bob	Em	Frank	Frank	Frank	Frank	
	.2	.5	0	0	0	(.6)	.1	.2	.3	.2	.6	.4	1.5	1.0	.6	.3
Ring Flank	Collection	22	33				51				64					
	Al	Bob	Bob				Bob				Frank					
	0	(1.7)	.1							.6						
Ring Fringe	Collection	23	29	30			46									
	Al-Art	Al-Art	Bob	Bob			Bob									
	0	1.9	1.6	.4												
Sargasso Sea	Collection	25	25	26	43	44	45	52	63							
		.1	.2	.2	.2	0	0	0	0							

Lobianchia dofleini,
specimens/10,000 m³

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71
Collection	24	36 38 39	53 54	56 57 67 68
Slope Water	2.2	.3 .1 .2	.1 .3	.3 .1 .1 .1
Collection	20	35 27 28	40 42 47 48 49	58 59 61 62 65 66
Ring Center	Al	Al Bob Bob	Dave Bob Bob Bob	Em Frank Frank Frank Frank
Ring Flank	1.1	.1 .3 1.0 (0)	.4 .2 .2 .1 .1 .2	.1 .1 .9 .4 .5 .5
Collection	22	33	51	64
Ring Fringe	Al	Bob	Bob	Frank
Ring Fringe	23	(.8)	1.5	.3
Ring Fringe	Al-Art	29 30	46	
Ring Fringe		Bob Bob	Bob	
Ring Fringe	.6	2.0 .9	.1	
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				
Ring Fringe				

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71
Collection				
24	36	38	53	54
Slope Water	0	.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0
		.2	0	0

	Nov-Dec 76 KNORR 62			April 77 KNORR 65			July-Aug 77 ENDEAVOR 11			Oct-Nov 77 KNORR 71						
Collection	24	36	38	39	53	54	56	57	67	68						
Slope Water	0	.2	<.1	0	.5	0	0	0	0	.1						
Ring Center	20	35	27	28	40	42	47	48	49	50	58	59	61	62	65	66
Ring Flank	22	33	Bob	Bob	Dave	Bob	Bob	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank
Ring Fringe	23	29	30	Bob	46	Bob	51	Bob	54	Frank	64	Frank				
Sargasso Sea	25	25	26	43	43	44	45	52	63		63					
	.5	0	0	.1	.2	.1	.1	.1	.1	1.0						

Argyropelecus aculeatus,
specimens/10,000 m³

Nov-Dec 76
KNORR 62

April 77
KNORR 65

July-Aug 77
ENDEAVOR 11

Oct-Nov 77
KNORR 71

Collection

Slope Water

24

36

38

39

53

54

56

57

67

68

0

0

.2

.2

0

.3

.2

1.1

.1

.2

Collection

Ring Center

20

Al

35

Al

Bob

32

Bob

40

Dave

Bob

Bob

47

Bob

48

Bob

49

Bob

50

Bob

58

Em

59

Em

61

Frank

62

Frank

65

Frank

66

Frank

1.2

3.4

0

.9

(0)

2.3

.3

.3

.2

.1

.3

4.1

4.8

.5

.4

.5

.5

Collection

Ring Flank

22

Al

33

Bob

51

Bob

64

Frank

3.1

1.5

0

4.4

2.9

1.1

Collection

Ring Fringe

23

Al-Art

29

Bob

30

Bob

46

Bob

8.6

1.4

.5

1.0

1.5

1.5

Argyropelecus hemigymnus,
specimens/10,000 m³

Collection

Sargasso Sea

25

26

43

44

45

52

63

1.5

.1

.8

.9

.3

.7

1.6

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71
Collection	24	36	38	39
Slope Water	1.0	1.6	.3	.5
			0	0
Collection	20	35	27	28
Ring Center	Al	Al	Bob	Bob
	.2	.5	.1	1.1
			(.6)	
Collection	22	33	51	50
Ring Flank	Al	Bob	Bob	Bob
	.3	.6	.1	.3
			64	61
			Frank	Frank
			1.3	.3
Collection	23	29	30	59
Ring Fringe	Al-Art	Bob	Bob	Em
	0	1.5	.4	65
			.1	66
Collection	25	25	43	58
Sargasso Sea	1.1	1.2	.3	Em
			63	Frank
			1.4	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank
			.2	Frank

Sternoptyx diaphana,
specimens/10,000 m³

Collection	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71
Slope Water	36 <u>24</u>	38 <u>39</u>	53 <u>54</u>	56 <u>57</u> 67 <u>68</u>
	.4 <u>.6</u>	.2 <u>.4</u>	.2 <u>.1</u>	.2 <u>.7</u> 0 <u>.1</u>
Ring Center	35 <u>20</u> Al	27 <u>28</u> Bob	40 <u>42</u> Bob	58 <u>59</u> Em
	.3 <u>.3</u>	.5 <u>.9</u>	0 <u>.1</u>	.3 <u>.2</u> .3 <u>.3</u> .1 <u>.2</u>
Ring Flank	33 <u>22</u> Al	51 <u>51</u> Bob	51 <u>51</u> Bob	64 <u>64</u> Frank
	.8 <u>.8</u>	2.2 <u>.8</u>	0 <u>.8</u>	.1 <u>.1</u>
Ring Fringe	29 <u>23</u> Al-Art	30 <u>30</u> Bob	46 <u>46</u> Bob	
	1.6 <u>1.6</u>	1.7 <u>1.1</u>	0 <u>0</u>	
Sargasso Sea	25 <u>25</u>	26 <u>26</u>	43 <u>44</u> 45 <u>52</u>	63 <u>63</u>
	0 <u>0</u>	.3 <u>.3</u>	0 <u>.5</u> 0 <u>0</u>	.2 <u>.2</u>

SPECIES

FISH VOLUME PER UNIT VOLUME OF WATER BY STATION,

ALL CRUISES

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71
Slope Water				
Collection				
24		36 38 39	53 54	56 57 67 68
	.07	.01 .03 .02	.01 .01	.06 .01 .01 <.01
Ring Center				
Collection				
20		35 27 28 32	40 42 47 48 49 50	58 59 61 62 65 66
Al		Al Bob Bob Bob Bob Bob	Dave Bob Bob Bob Bob Bob	Em Frank Frank Frank Frank Frank
	<.01	.14 .01 .06 (0)	.03 .01 .01 0 0	.08 .29 .04 .14 .10 .01
Ring Flank				
Collection				
22		33 33	51	64
Al		Bob Bob	Bob	Frank
	.54	(.17)	.22	<.01
Ring Fringe				
Collection				
23		29 30	46	
Al-Art		Bob Bob	Bob	
	.24	.18 .06	.02	
Ring Fringe				
Collection				
25		25 26	43 44 45 52	63
Sargasso Sea				
		0 .35	.03 .01 .07 .08	.09

Bolinichthys indicus,
ml/10,000 m³

	Nov-Dec 76 KNORR 62				April 77 KNORR 65				July-Aug 77 ENDEAVOR 11				Oct-Nov 77 KNORR 71			
Collection	24	36	38	39	53	54	56	57	67	68						
Slope Water	.42	0	.17	0	.03	.25	.24	.05	.39	.57						
Collection	20	35	27	28	40	42	48	49	50	58	59	61	62	65	66	
Al	Al	Al	Bob	Bob	Dave	Bob	Bob	Bob	Bob	Em	Em	Frank	Frank	Frank	Frank	
Ring Center	.15	0	0	0	0	.20	.08	.09	.06	0	0	.68	.08	.79	.34	
Collection	22	33			51					64						
Ring Flank	Al	Bob			Bob					Frank						
Ring Fringe	.07	(0)			.01					.19						
Collection	23	29	30		46											
Al-Art	Al	Bob	Bob		Bob											
Ring Fringe	.06	0	0	0	.02											
Collection	25	25	26		43	44	45	52		63						
Sargasso Sea		0	0		.01	0	0	0	0	.24						

Ceratoscopelus maderensis,
ml/10,000 m³

	Nov-Dec 76 KNORR 62			April 77 KNORR 65			July-Aug 77 ENDEAVOR 11			Oct-Nov 77 KNORR 71			
Slope Water	Collection 24	36	38	39	53	54	56	57	67	68			
	.70	.01	.04	.04	0	.01	0	0	.02	0			
Ring Center	Collection 20	35	27	28	40	42	49	50	59	61	62	65	66
	Al	Al	Bob	Bob	Dave	Bob	Bob	Bob	Em	Frank	Frank	Frank	Frank
	0	0	0	.02	0	0	0	0	0	0	0	0	0
Ring Flank	Collection 22	33			51		64						
	Al	Bob			Bob		Frank						
	0	(0)			0		0						
Ring Fringe	Collection 23	29	30		46								
	Al-Art	Bob	Bob		Bob								
	.01	.01	0		0								
Sargasso Sea	Collection 25	25	26		43	44	45	52	63				
		0	0		0	0	0	0					

Diaphus dumerilii,
ml/10,000 m³

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71	
Slope Water	Collection 24	36 38 39	53 54	56 57 67 68	
	0	0 0 0	0 .58	0 0 0 0	
Ring Center	Collection 20 Al	35 27 28 Al Bob Bob	40 42 Dave Bob Bob	58 59 61 62 65 66 Em Frank Frank Frank Frank	
	0	0 1.99 0	.01 0 0	0 .01 2.02 .15 .33 0	
Ring Flank	Collection 22 Al	33 Bob	51 Bob	64 Frank	
	.02	(12.42)	0	.01	
Ring Fringe	Collection 23 Al-Art	29 30 Bob Bob	46 Bob		
	17.40	.92 .07	0		
Sargasso Sea	Collection	25 26	43 44 45 52	63	
		0 .17	0 0 0 0	0	
					Diaphus effulgens, ml/10,000 m ³

Nov-Dec 76
KNORR 62

April 77
KNORR 65

July-Aug 77
ENDEAVOR 11

Oct-Nov 77
KNORR 71

Collection

Slope Water

24

$$\underline{.20}$$
$$\begin{array}{r} 56 \\ 57 \\ \hline 67 \end{array} \quad \begin{array}{r} 68 \end{array}$$
$$\begin{array}{r} 0 \\ 0 \end{array} \begin{array}{r} .03 \\ \hline 0 \end{array} \begin{array}{r} 0 \\ 0 \end{array}$$

Collection

Ring Center

$$\frac{20}{A1}$$

35	Al	Bob	27	28	32
				<u>Bob</u>	<u>Bob</u>

40	42	47
Dave	Bob	Bob

49 $\frac{50}{p}$

58	59	61	62	65	66
Em	Em	Frank	Frank	Frank	Frank

.03

Collection

Ring Blank

$$\frac{22}{Al}$$
$$\frac{51}{\text{Bob}}$$

64
Frank

.48

60.

03

Collection

Rising Range

23
Al-Art

46

29	30
ob	<u>Bob</u>

Diaphus mollis,
ml/10,000 m³

80.

Ring

17 0

C

Collection

1. Sargasso Sea

122

43

52

53

0.20

10.

0

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71	
Slope Water	Collection 24	36 38 39	53 54	56 57 67 68	
	0	.03 .04 .02	0 0	0 0 1.08 0	
Ring Center	Collection 20 Al	35 27 28 Al Bob Bob	40 42 49 Dave Bob Bob	58 59 61 62 65 66 Em Frank Frank Frank Frank	
	<.01	.22 0 0 (0)	0 0 0 0 0 0	0 0 .90 0 1.07 .47	
Ring Flank	Collection 22 Al	33 Bob	51 Bob	64 Frank	
	.99	(1.58)	0	1.17	
Ring Fringe	Collection 23 Al-Art	29 30 Bob Bob	46 Bob		
	.27	0 0 0	0		
Ring Fringe					$\frac{\text{Diaphus rafinesquii,}}{\text{ml/10,000 m}^3}$
Sargasso Sea	Collection	25 26	43 44 45 52	63	
		.01 0	0 0 0 0	0	

Nov-Dec 76 KNORR 62		April 77 KNORR 65		July-Aug 77 ENDEAVOR 11		Oct-Nov 77 KNORR 71			
Collection 24	36	38	39	53	54	56	57	67	68
	.04	.01	.01	.01	.01	.02	.01	.01	<.01
Slope Water									
Collection 20 Al	35	27	28	40	42	47	48	49	50
	Al	Bob	Bob	Dave	Bob	Bob	Bob	Bob	Bob
.01	.04	0	.01	.01	.01	.01	0	0	.01
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Ring Center									
Collection 22 Al	33	22	23	46	47	48	49	50	51
	Bob	Bob	Bob	Bob	Bob	Bob	Bob	Bob	Bob
.01	.01	.01	.01	.03	.01	.01	.01	.01	.01
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Ring Flank									
Collection 23 Al-Art	29	30	31	42	43	44	45	46	47
	Bob	Bob	Bob	Bob	Bob	Bob	Bob	Bob	Bob
.01	.09	0	.01	.01	.01	.01	.01	.01	.01
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Ring Fringe									
Collection 25	25	26	27	48	49	50	51	52	53
	Al-Art	Bob	Bob	Bob	Bob	Bob	Bob	Bob	Bob
.01	.01	.03	.01	.01	.01	.01	.01	.01	.01
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Sargasso Sea									
Collection 26	26	27	28	49	50	51	52	53	54
	Bob	Bob	Bob	Bob	Bob	Bob	Bob	Bob	Bob
.01	.01	.03	.01	.01	.01	.01	.01	.01	.01
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Diogenichthys atlanticus, ml/10,000 m ³									

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71	
Slope Water	Collection 24	36 38 39	53 54	56 57 67 68	
	.06	.01 <.01	.01 .03	.08 .01 .06 .04	
Ring Center	Collection 20 Al	35 27 28 32 Al Bob Bob Bob	40 42 47 48 49 Dave Bob Bob Bob Bob	58 59 61 62 65 66 Em Em Frank Frank Frank Frank	
	.53	.04 0 .37 (0)	0 .02 .01 .01 0	.01 .12 .22 .07 .10 .24	
Ring Flank	Collection 22 Al	33 22 Bob Al	51 50 Bob Bob	64 Frank	
	.26	(0)	.02	.05	
Ring Fringe	Collection 23 Al-Art	29 30 Bob Bob	46 Bob		
	0	.01 .01	.02		
Ring Fringe					<u>Ilygophum benoiti,</u> ml/10,000 m ³
Sargasso Sea	Collection	25 26	43 44 45 52	63	
	0	0	.01 .01 .01 .01	.12	

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71	
Slope Water	Collection 24	36 38 39	53 54	56 57 67 68	
	.45	.07 .06 .01	0 .04	.27 .06 0 .09	
Ring Center	Collection 20 Al	35 27 28 32 Al Bob Bob Bob	40 42 47 48 49 50 Dave Bob Bob Bob Bob Bob	58 59 61 62 65 66 Em Frank Frank Frank Frank Frank	
Ring Flank	Collection 22 Al	0 .05 .34 (0)	0 .11 .25 .02 .08 0	0 .04 .16 .60 .33 .12	
Ring Fringe	Collection 23 Al-Art	33 30 Bob Bob	51 46 Bob Bob	64 Frank	
	<.01	(0) .07 .03	.01 .10	<.01	
Sargasso Sea	Collection 25	29 26	43 44 45 52	63	
	.01	.02 0 0 0	.02 0 0 0	0	

Lampanyctus alatus,
ml/10,000 m³

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71
Collection	24	36	38	39
Slope Water		53	54	56
	.01	.45	0	0
		.10	.03	.16
				.54
				.53
				.13
Collection	20	35	27	28
Al	Al	Al	Bob	Bob
		40	42	49
		Dave	Bob	Bob
				50
				Bob
				58
				Em
				Em
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank
				Frank

Lampanyctus crocodilus,
ml/10,000 m³

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71	
Slope Water	Collection 24	36 38 39	53 54	56 57 67 68	
	.02	.06 .33 0	0 .08	.37 .41 .28 .07	
Ring Center	Collection 20 Al	35 27 28 32 Al Bob Bob Bob	40 42 47 48 49 50 Dave Bob Bob Bob Bob Bob	58 59 61 62 65 66 Em Frank Frank Frank Frank Frank	
	.28	.18 0 .13 (0)	0 0 0 0 0 0	.10 .14 0 .02 0 .03	
Ring Flank	Collection 22 Al	33 Bob	51 Bob	64 Frank	
	0	(0)	0	.21	
Ring Fringe	Collection 23 Al-Art	29 30 Bob Bob	46 Bob		
	.20	3.86 .16	.01		
Sargasso Sea	Collection	25 26	43 44 45 52	63	
		.02 .19	.05 .12 .28 0	1.45	
					Lampanyctus cuprarius, ml/10,000 m ³

	Nov-Dec 76		April 77		July-Aug 77		Oct-Nov 77	
	KNORR 62		KNORR 65		ENDEAVOR 11		KNORR 71	
Slope Water	Collection							
	24		36	38 39	53 54		56 57 68	
	.05		.04 0	.01	.01 .11		.01 0	<.01
Ring Center	Collection		35	27 28	40 42	47 48 49	58 59 61	62 65 66
	20 Al		Al Bob Bob	Bob Bob Bob	Dave Bob Bob	Bob Bob Bob	Em Frank Frank Frank	Em Frank Frank Frank
	.05		0 0 0	(0)	0 0 0	0 0 0	.07 .05 .05	.27 .02 .20
Ring Flank	Collection		33		51		64	
	22 Al		Bob		Bob		Frank	
	.25		(.33)		.01		.34	
Ring Fringe	Collection		29	30	46			
	23 Al-Art		Bob Bob	Bob	Bob			
	.27		.04 .02		.10			
Sargasso Sea	Collection		25	26	43 44 45 52		63	
			0	.03	0 .01 0	.10	.04	

Lampanyctus photonotus,
ml/10,000 m³

Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71
Collection 24	36 38 39	53 54	56 57 67 68
0	0 0 .02 .01	0 0 .02	.05 .09 .08 .16
Collection 20 Al	35 27 28 32	40 42 47 48 49 50	58 59 61 62 65 66
.14	Al Bob Bob Bob Bob Bob	Dave Bob Bob Bob Bob Bob	Em Frank Frank Frank Frank Frank
.57 0 .23 (0)	.21 .05 .01 .08 .01 .02	.18 .38 .03 .06 .01 .01	
Collection 22 Al	33 33 Bob	51 Bob	64 Frank
.38	0 .03	.22	
Collection 23 Al-Art	29 30 Bob Bob	46 Bob	
.08	.50 .31	.01	
Collection	25 26	43 44 45 52	63
	.29 .03	.06 .03 .02 .02	.23

Argyropelecus hemigymnus,
ml/10,000 m³

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71
Slope Water	Collection 24	36 38 39	53 54	56 57 67 68
	.79	.73 .39 .61	0 0	.30 1.06 .13 .20
Ring Center	Collection 20 Al	35 27 28 32 Al Bob Bob Bob	40 42 48 49 50 Dave Bob Bob Bob Bob	58 59 61 62 65 66 Em Frank Frank Frank Frank Frank
Ring Flank	.02	.16 .05 .55 (.61)	0 0 .01 .14 .04 .20	.49 .12 .02 .13 0 .01
Ring Fringe	Collection 22 Al	33 Bob	51 Bob	64 Frank
	.30	.18	.01	.64
Sargasso Sea	Collection 23 Al-Art	29 30 Bob Bob	46 Bob	
	0	1.25 .54	.01	
				$\frac{\text{Sternoptyx diaphana,}}{\text{ml/10,000 m}^3}$
	Collection	25 26	43 44 45 52	63
		.43 .68	.05 .08 .03 .05	.96

	Nov-Dec 76 KNORR 62	April 77 KNORR 65	July-Aug 77 ENDEAVOR 11	Oct-Nov 77 KNORR 71
Slope Water	Collection 24	36 38 39	53 54	56 57 67 68
	7.08	15.48 .71 7.43	1.09 .59	.94 4.59 0 .65
Ring Center	Collection 20 Al	35 27 28 32 Al Bob Bob Bob	40 42 47 48 49 Dave Bob Bob Bob Bob	58 59 61 62 65 66 Em Frank Frank Frank Frank
	1.53	.22 5.23 13.00 (27.00)	0 1.35 .12 .93 0 0	6.82 3.63 4.91 1.29 .90 3.57
Ring Flank	Collection 22 Al	33 Bob	51 Bob	64 Frank
	1.60	.79	0	.77
Ring Fringe	Collection 23 Al-Art	29 30 Bob Bob	46 Bob	
	.08	.69 1.02	0	
Ring Fringe				Conostoma elongatum, ml/10,000 m ³
Sargasso Sea	Collection	25 26	43 44 45 52	63
		0 .15	0 0 2.59 0	.02

MANDATORY DISTRIBUTION LIST

FOR UNCLASSIFIED TECHNICAL REPORTS, REPRINTS, AND FINAL REPORTS
PUBLISHED BY OCEANOGRAPHIC CONTRACTORS
OF THE OCEAN SCIENCE AND TECHNOLOGY DIVISION
OF THE OFFICE OF NAVAL RESEARCH

(REVISED NOVEMBER 1978)

1	Deputy Under Secretary of Defense (Research and Advanced Technology) Military Assistant for Environmental Science Room 3D129 Washington, D.C. 20301	12	Defense Documentation Center Cameron Station Alexandria, VA 22314 ATTN: DCA
	Office of Naval Research 800 North Quincy Street Arlington, VA 22217		Commander Naval Oceanographic Office NSTL Station Bay St. Louis, MS 39522
3	ATTN: Code 483	1	ATTN: Code 8100
1	ATTN: Code 460	1	ATTN: Code 6000
2	ATTN: 102B	1	ATTN: Code 3300
1	CDR J. C. Harlett, (USN) ONR Representative Woods Hole Oceanographic Inst. Woods Hole, MA 02543	1	NODC/NOAA Code D781 Wisconsin Avenue, N.W. Washington, D.C. 20235
	Commanding Officer Naval Research Laboratory Washington, D.C. 20375		
6	ATTN: Library, Code 2627		

UNCLASSIFIED

3/80

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER WH01-80-18	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) MIDWATER FISH DATA REPORT: COLD CORE RINGS TIME SERIES CRUISES <u>KNORR</u> 62, 65, AND 71 AND <u>ENDEAVOR</u> 11.		5. TYPE OF REPORT & PERIOD COVERED Technical
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Richard H. Backus and James E. Craddock		8. CONTRACT OR GRANT NUMBER(s) N00014-79-C-0071;
9. PERFORMING ORGANIZATION NAME AND ADDRESS Woods Hole Oceanographic Institution Woods Hole, MA 02543		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS NR 083-004
11. CONTROLLING OFFICE NAME AND ADDRESS NORDA National Space Technology Laboratory Bay St. Louis, MS 39529		12. REPORT DATE March 1980
		13. NUMBER OF PAGES 187
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		15. SECURITY CLASS. (of this report) Unclassified
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) 1. Midwater fishes 2. Gulf Stream cold-core rings 3. Time-series cruises		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Station data and midwater-fish catch data are given for the cold-core ring time-series cruises <u>KNORR</u> 62, 65, and 71 and <u>ENDEAVOR</u> 11. Fish number, fish number per unit volume of water, and fish volume per unit volume of water are given for some principal fish categories, mostly myctophid species.		

<p>Woods Hole Oceanographic Institution WHOI-80-18</p> <p>MIDWATER FISH DATA REPORT: COLD CORE RINGS TIME SERIES CRUISES KNORR 62, 65, AND 71 AND ENDEAVOR 11 by Richard H. Backus and James E. Craddock. 187 pages. March 1980. Prepared for the Office of Naval Research under Contract N00014-79-C-0071; NR 083-004.</p> <p>Station data and midwater-fish catch data are given for the cold-core ring time-series cruises KNORR 62, 65, and 71 and ENDEAVOR 11. Fish number, fish number per unit volume of water, and fish volume per unit volume of water are given for some principal fish categories, mostly myctophid species.</p>	<p>1. Midwater fishes</p> <p>2. Gulf Stream cold-core rings</p> <p>3. Time-series cruises</p> <p>I. Backus, Richard H.</p> <p>II. Craddock, James E.</p> <p>III. N00014-79-C-0071; NR 083-004</p>	<p>Woods Hole Oceanographic Institution WHOI-80-18</p> <p>MIDWATER FISH DATA REPORT: COLD CORE RINGS TIME SERIES CRUISES KNORR 62, 65, AND 71 AND ENDEAVOR 11 by Richard H. Backus and James E. Craddock. 187 pages. March 1980. Prepared for the Office of Naval Research under Contract N00014-79-C-0071; NR 083-004.</p> <p>Station data and midwater-fish catch data are given for the cold-core ring time-series cruises KNORR 62, 65, and 71 and ENDEAVOR 11. Fish number, fish number per unit volume of water, and fish volume per unit volume of water are given for some principal fish categories, mostly myctophid species.</p>	<p>1. Midwater fishes</p> <p>2. Gulf Stream cold-core rings</p> <p>3. Time-series cruises</p> <p>I. Backus, Richard H.</p> <p>II. Craddock, James E.</p> <p>III. N00014-79-C-0071; NR 083-004</p>	<p>This card is UNCLASSIFIED</p>
<p>Woods Hole Oceanographic Institution WHOI-80-18</p> <p>MIDWATER FISH DATA REPORT: COLD CORE RINGS TIME SERIES CRUISES KNORR 62, 65, AND 71 AND ENDEAVOR 11 by Richard H. Backus and James E. Craddock. 187 pages. March 1980. Prepared for the Office of Naval Research under Contract N00014-79-C-0071; NR 083-004.</p> <p>Station data and midwater-fish catch data are given for the cold-core ring time-series cruises KNORR 62, 65, and 71 and ENDEAVOR 11. Fish number, fish number per unit volume of water, and fish volume per unit volume of water are given for some principal fish categories, mostly myctophid species.</p>	<p>1. Midwater fishes</p> <p>2. Gulf Stream cold-core rings</p> <p>3. Time-series cruises</p> <p>I. Backus, Richard H.</p> <p>II. Craddock, James E.</p> <p>III. N00014-79-C-0071; NR 083-004</p>	<p>Woods Hole Oceanographic Institution WHOI-80-18</p> <p>MIDWATER FISH DATA REPORT: COLD CORE RINGS TIME SERIES CRUISES KNORR 62, 65, AND 71 AND ENDEAVOR 11 by Richard H. Backus and James E. Craddock. 187 pages. March 1980. Prepared for the Office of Naval Research under Contract N00014-79-C-0071; NR 083-004.</p> <p>Station data and midwater-fish catch data are given for the cold-core ring time-series cruises KNORR 62, 65, and 71 and ENDEAVOR 11. Fish number, fish number per unit volume of water, and fish volume per unit volume of water are given for some principal fish categories, mostly myctophid species.</p>	<p>1. Midwater fishes</p> <p>2. Gulf Stream cold-core rings</p> <p>3. Time-series cruises</p> <p>I. Backus, Richard H.</p> <p>II. Craddock, James E.</p> <p>III. N00014-79-C-0071; NR 083-004</p>	<p>This card is UNCLASSIFIED</p>