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The Vertical Distribution of Zooplankton and Ichthyoplankton on the Nova Scotia Shelf — April 1984

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**Canadian Data Report of
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No. 717**



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Canadian Data Report of Fisheries and Aquatic Sciences

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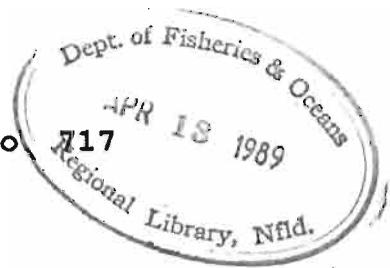
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Fisheries and Aquatic Science No.



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AND ICHTHYOPLANKTON ON THE NOVA SCOTIA SHELF

APRIL 1984

by

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ABSTRACT

Lewis, M.K. and D. Sameoto. 1988. The vertical distribution of zooplankton and ichthyoplankton on the Nova Scotia shelf. April 1984. Can. Data Rep. Fish. Aquat. Sci. No. 717: iv + 64 p.

During the period April 6 to April 19, 1984, zooplankton and micronekton samples were collected to a depth of 1000m on stations on the Nova Scotia shelf. In this report we make available the raw data for all species plus depth profiles for selected species.

RESUMÉ

Lewis, M.K. and D. Sameoto. 1988. The vertical distribution of zooplankton and ichthyoplankton on the Nova Scotia shelf during April 1984. Can. Data Rep. Fish. Aquat. Sci. No. 717: iv + 64 p.

Au cours de la période allant du 6 au 19 Avril 1984, des échantillons du zooplancton et du micronecton ont été prélevés en station, jusqu'à des profondeurs de 1000m, au dessus du talus continental de la Nouvelle Ecosse. Nous donnons dans ce rapport les résultats bruts pour toutes les espèces, et les répartitions verticales de quelques espèces sélectionnées.

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INTRODUCTION

The following is a report of BIONESS data collected during C.S.S. Hudson cruise #84008 on the Nova Scotia shelf between April 6 - 19, 1984. The purpose of this cruise was to collect zooplankton samples with the BIONESS using nets of two mesh sizes (243 and 30 μm) from the surface to within 20m of the bottom to a maximum depth of 1000m. These samples were to provide data to determine the major source of the populations of zooplankton on the Nova Scotia shelf with emphasis being placed on *Calanus finmarchicus*.

METHODS

Biological Sampling

All zooplankton samples and oceanographic data described below were collected with the BIONESS sampler (Sameoto et al., 1980). The BIONESS was equipped with ten one m² 243 μm mesh nets. Inside each of these nets was a 30 μm net. The BIONESS was towed at 3 knots (1.5 m per second) along an oblique path through the various depth strata. The volume of water sampled per sample varied from 3 to 503m³. The winch speed during sampling was constant and therefore the volume filtered depended upon the depth range of the sample. Flow through each net and the net depth were constantly monitored.

During shallow tows, (0-100m), depth strata were sampled from the surface downward and in the case of deep tows (100-1000m) the net was lowered to the deepest depth strata and sampled from the bottom up. The BIONESS provided simultaneous data on the temperature and salinity, time of sampling, speed through the water, net flow and volume of water filtered. Salinity and temperature were measured by a Guildline Instruments digital conductivity cell model 87410 and temperature probe model 87401. Values for the time, depth, flow, volume, temperature, conductivity, and salinity were recorded on magnetic tape once every second during the tows. However, temperature and salinity data are not included in this report due to problems experienced with the temperature and conductivity sensors.

The BIONESS tows were conducted in four areas on the Scotian shelf (Fig. 1). The first station was in Emerald Basin and consisted of tows 1-3. Due to rough seas the ship was forced to shelter in Chedabucto Bay which was the location of tow 4. Data from this tow is not included in the following report. The second station, (tows 5-10), was termed the 'Louisbourg Line' and ran in a north-south direction east of the Laurentian Channel. The third and fourth stations, tows 11-13 and tow 14 respectively, were located in the Laurentian Channel.

Sample Analysis

Prior to preservation subsamples were removed from the BIONESS zooplankton samples to provide animals for gut pigment analysis. The remainder of the samples were then preserved in 4% buffered formalin and seawater solution. In the lab, the total sample was wet weighed and all fish larvae and other organisms >1cm were removed. These >1cm animals were identified to the lowest taxon possible and a wet weight for each group recorded. A subsample of each group was measured for length (to the nearest millimeter). The fish were measured for standard length. The euphausiids were measured from the tip of the rostrum to the tip of the telson. The remainder of the sample containing zooplankton <1cm in length was then split using a Motoda splitter (Motoda 1959) down to approximately 400 individuals. This split was wet weighed and then all individuals identified to species for the Copepoda and genus for other classes and phyla. This analysis was completed by Spry Tech Biological Services, Elmsdale, N.S. All data were entered into the Cyber computer and an IBM microcomputer. The results from the microzooplankton analysis will be presented in a future data report.

RESULTS

Temperature/Salinity/Depth Profiles

Temperature and salinity depth profiles at the locations are not available due to problems with the temperature and conductivity sensors on the BIONESS during this cruise.

Zooplankton Composition and Depth Distribution

Numbers per cubic meter and numbers per square meter for all species are listed in Table 1. The tows are arranged in chronological order, except for tow 4, Chedabucto Bay, which was omitted from this report.

Depth profiles are included for all species/groups of mesozooplankton (<1cm) that had an abundance of greater than one individual for the entire cruise. Depth distributions for these species in the three areas are shown in Fig. 3. Tows 1-2, 8-10, and 11-13 were combined to provide a complete depth profile for their respective locations.

Length Frequencies

Length frequencies for selected groups of large animals are given in Fig. 3a to 3p. These groups include species of Amphilopoda (*Parathemisto gaudichaudii*), Euphausiacea (*Meganyctiphanes norvegica*, *Thysanoessa inermis*, *T. longicaudata*), Chaetognatha (unidentified chaetognaths, *Eukronia hamata*, *Krohnitta subtilis*, *Sagitta elegans*,

S. hexaptera, S. macrocephala, S. maxima, S. zetosis), Appendicularia (*Oikopleura* sp.) and fish larvae (*Ammodytes dubius, Benthosema glaciale, Cyclothona* sp.).

REFERENCES

- Motoda, S. 1959. Devices of simple plankton apparatus.
Mem. Fac. Fish. Hollaido Univ. 3: 181-186.
- Sameoto, D.D., L.O. Jaroszynski, and W.B. Fraser, 1980.
BIONESS, a new design in multiple net zooplankton
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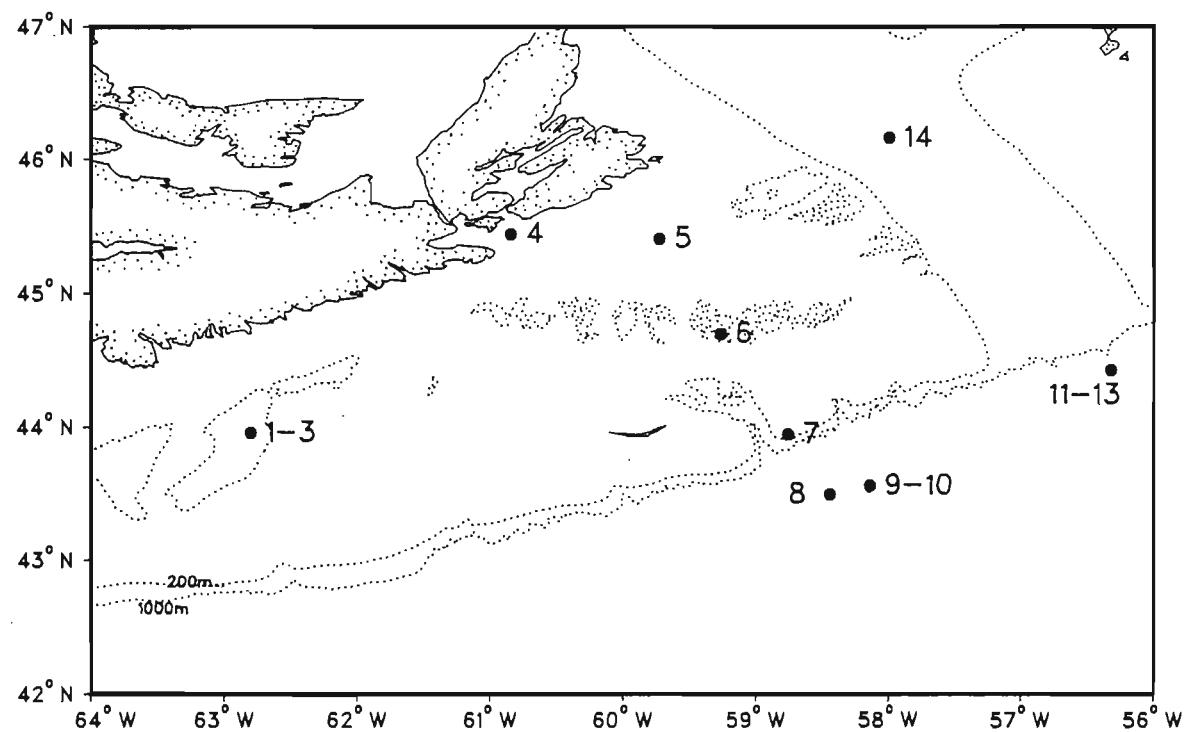


Fig. 1. Position of BIONESS tows.

Fig. 2. Vertical distributions for various groups and species (<1cm) for BIONESS tows in three areas: Emerald Basin, the Louisbourg Line and in the Laurentian Channel.

Fig. 2. (Continued)

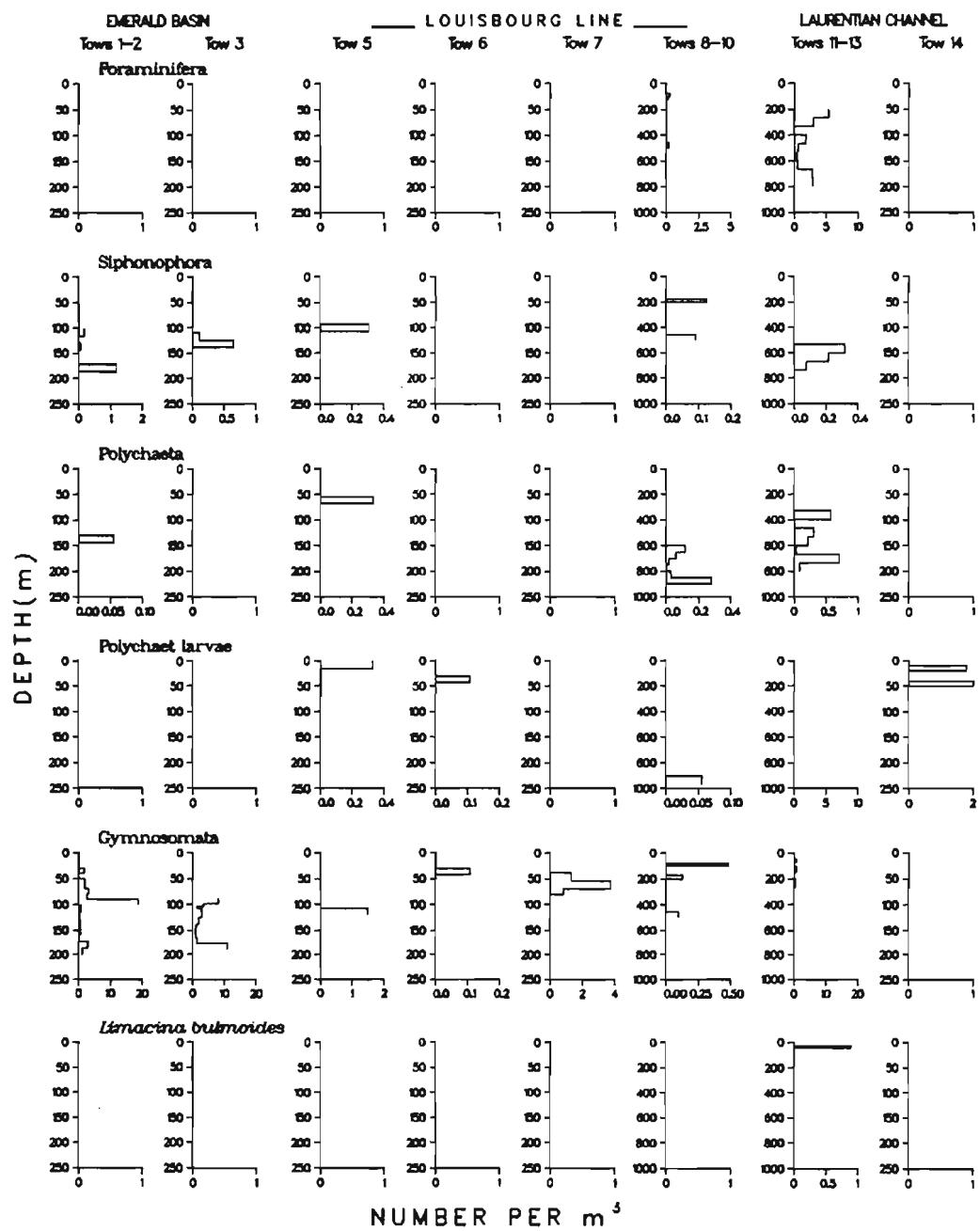


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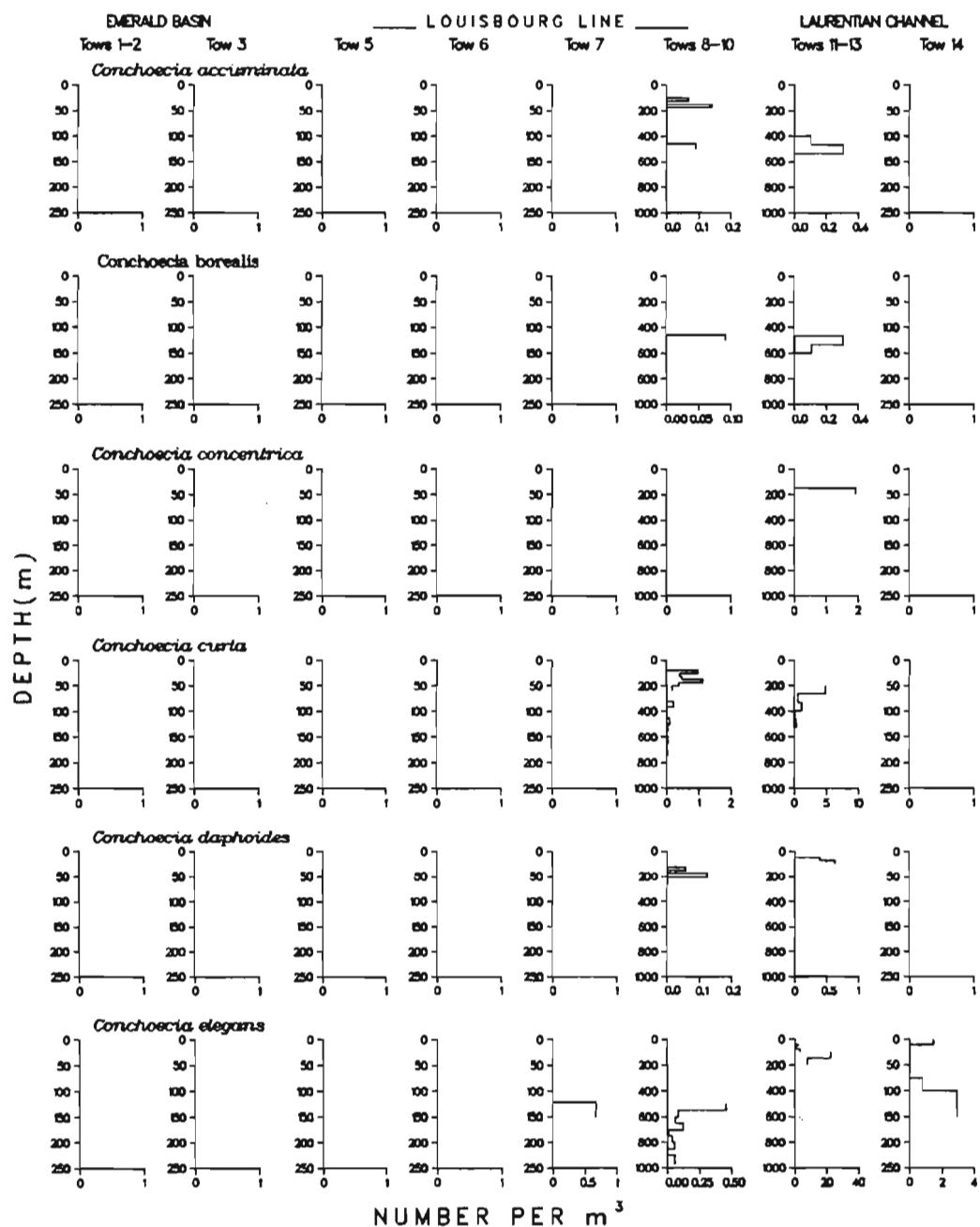


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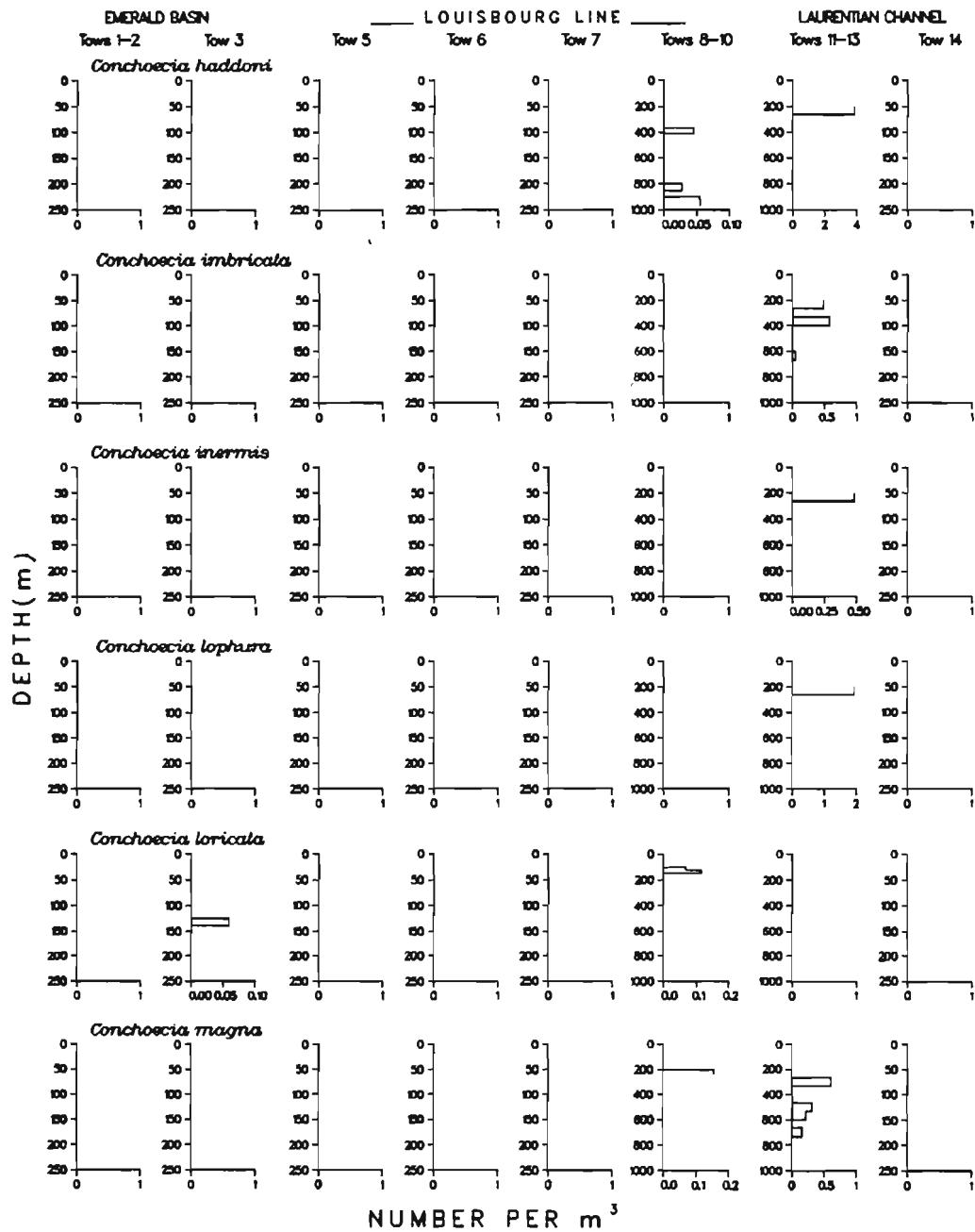


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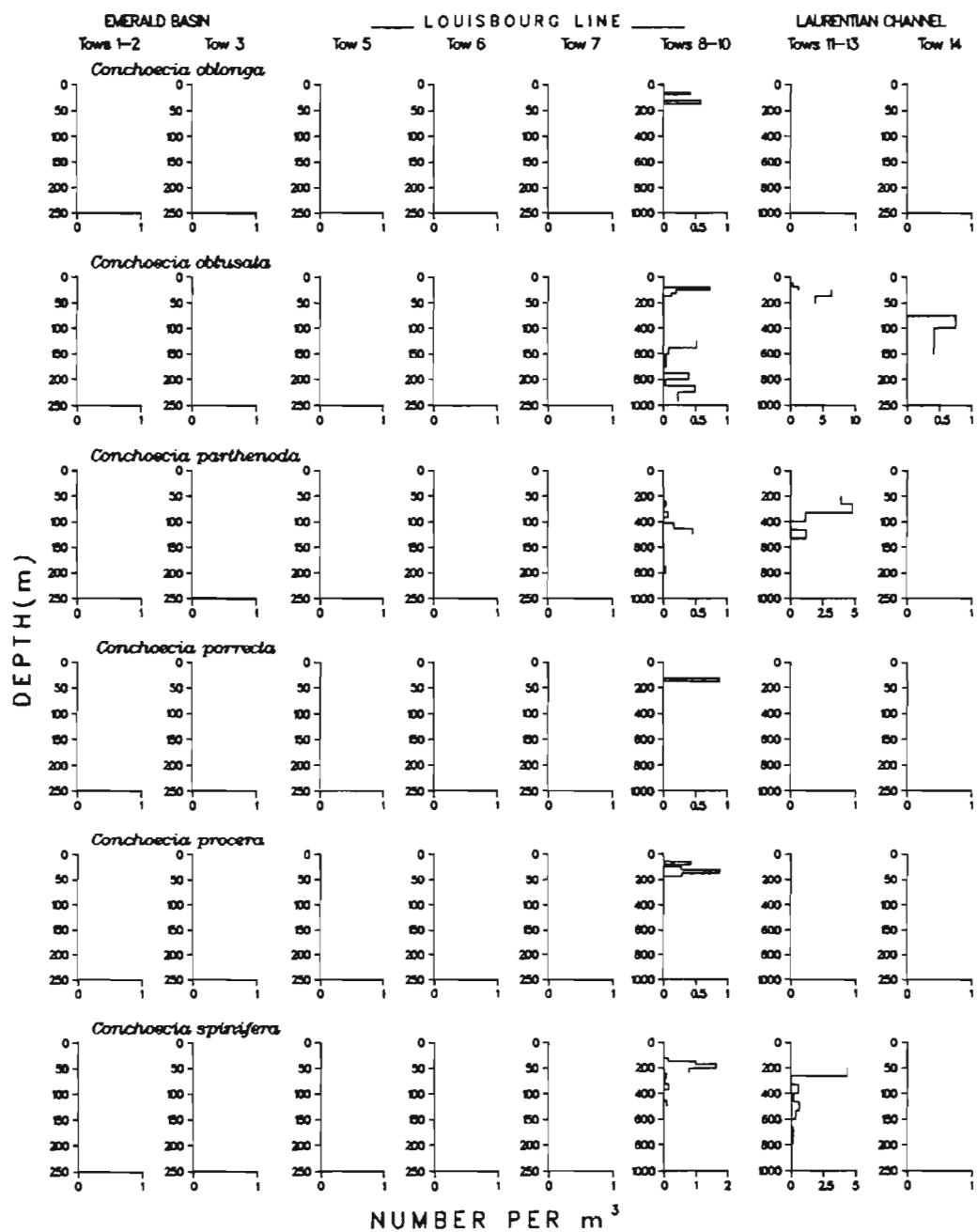


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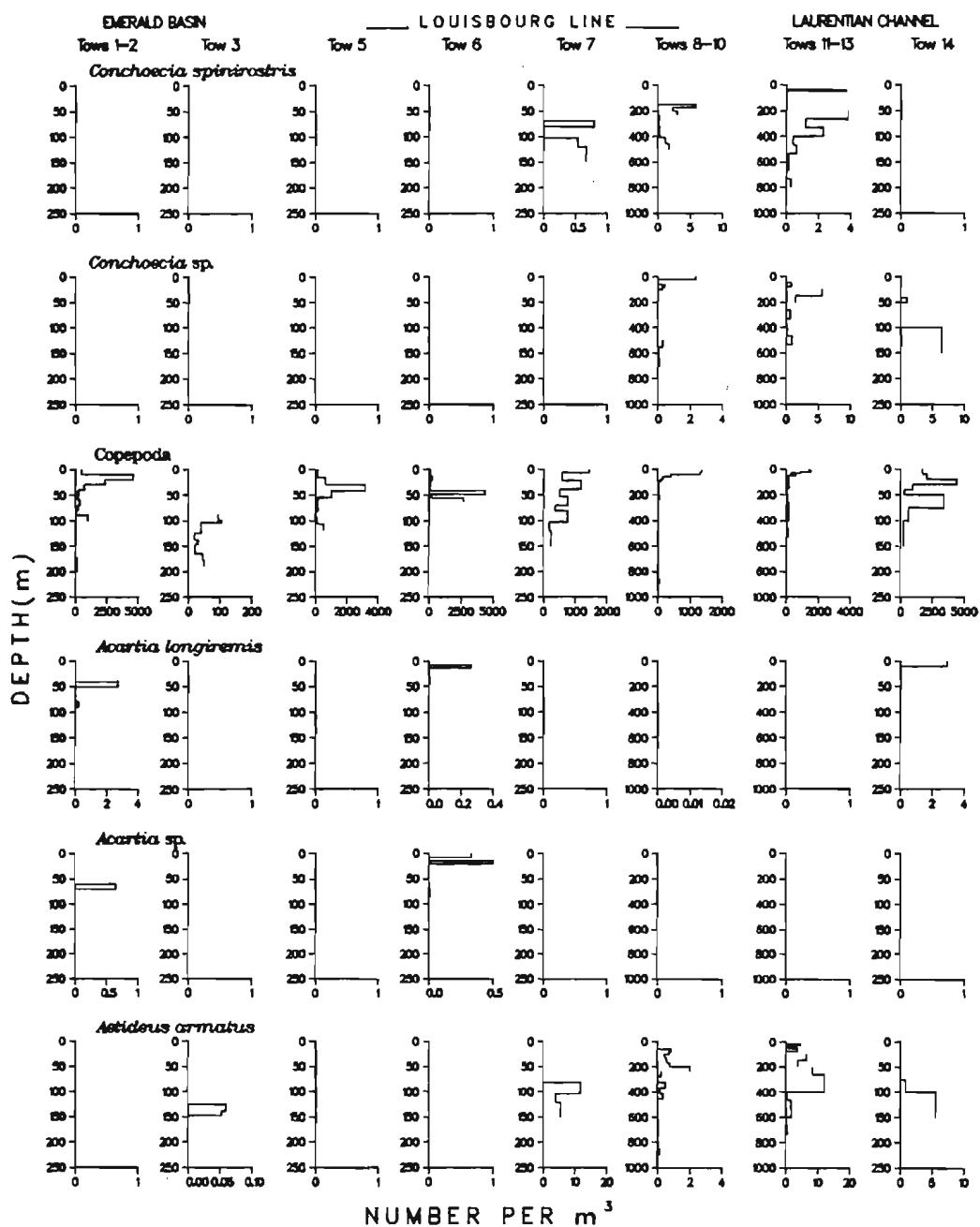


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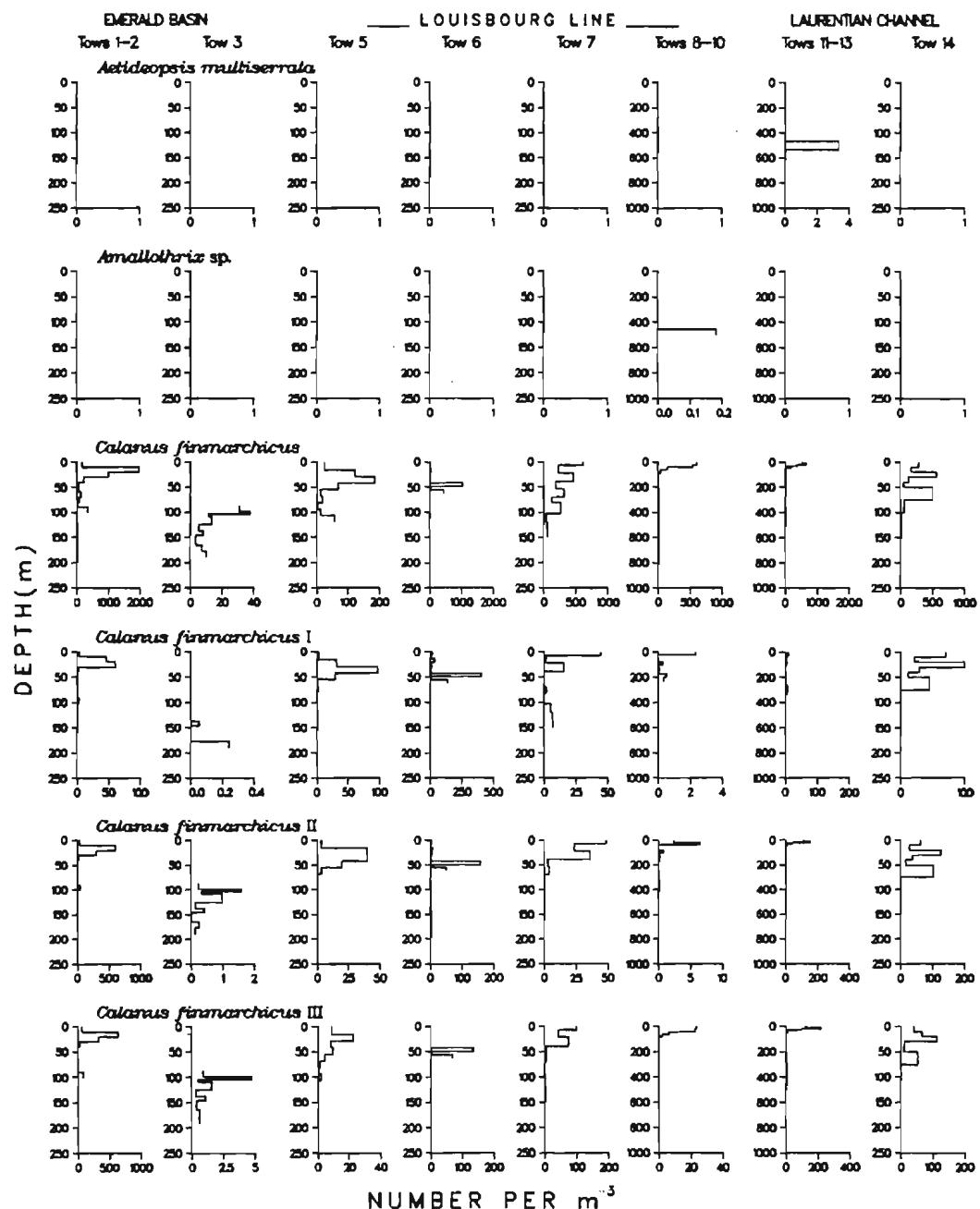


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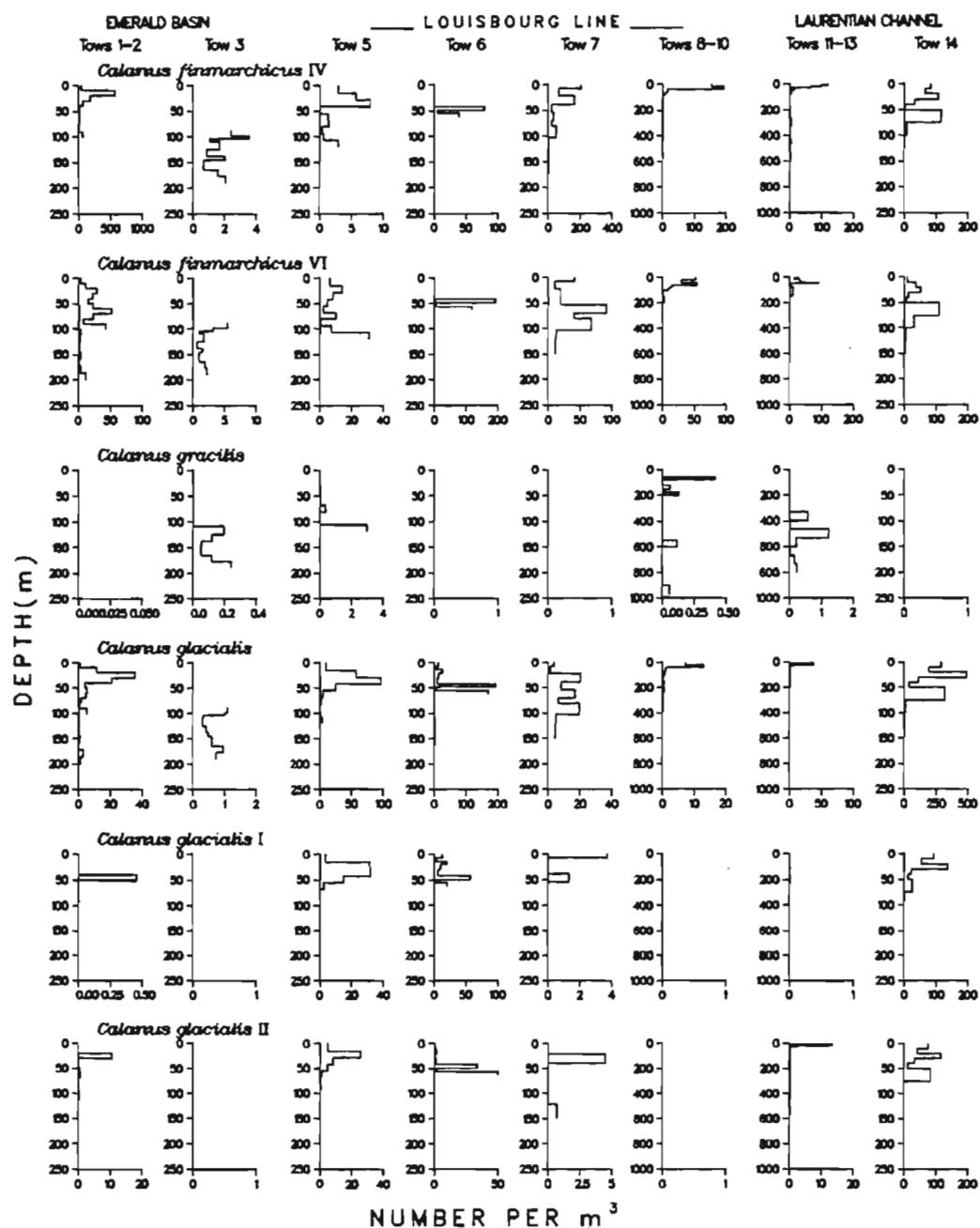


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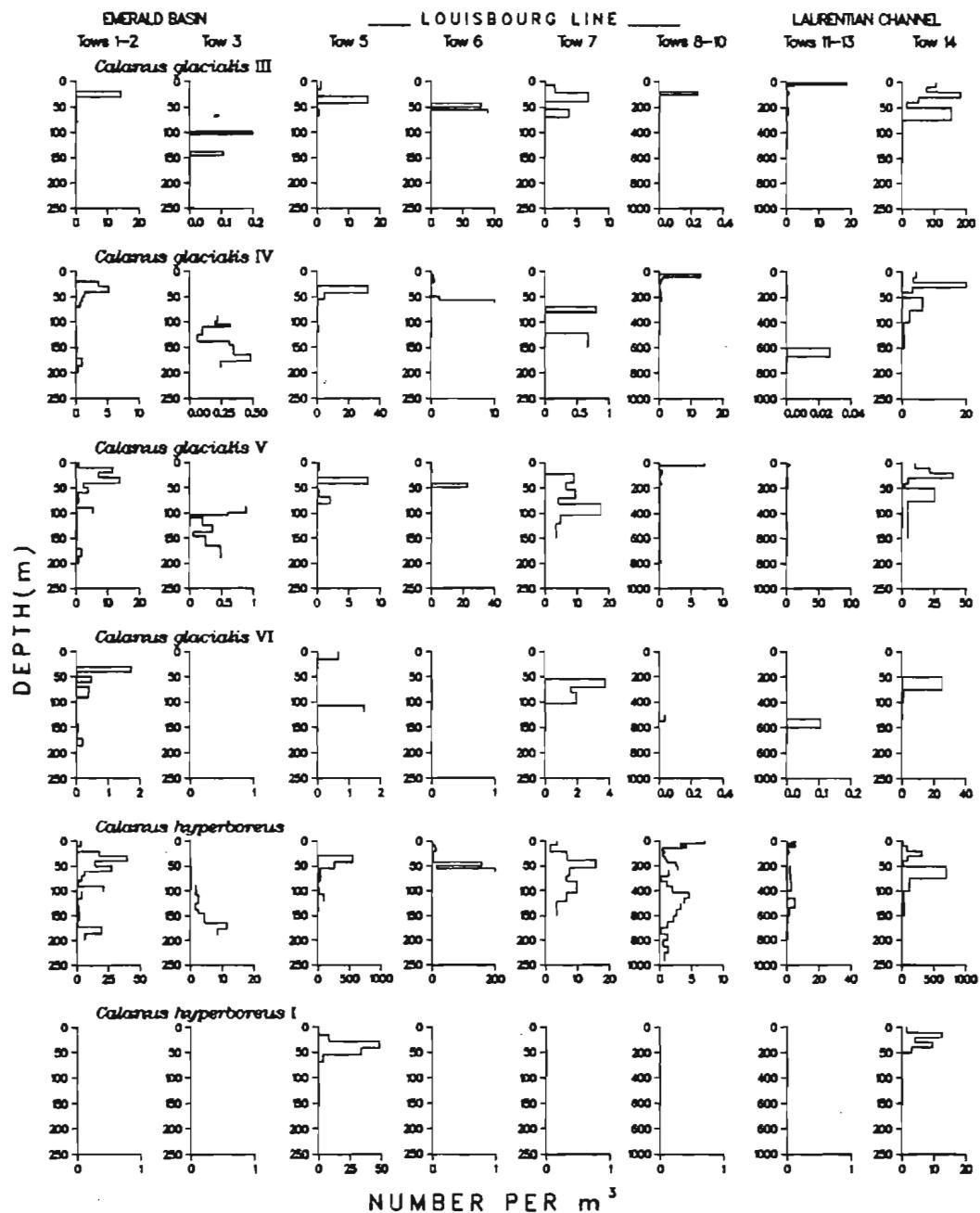


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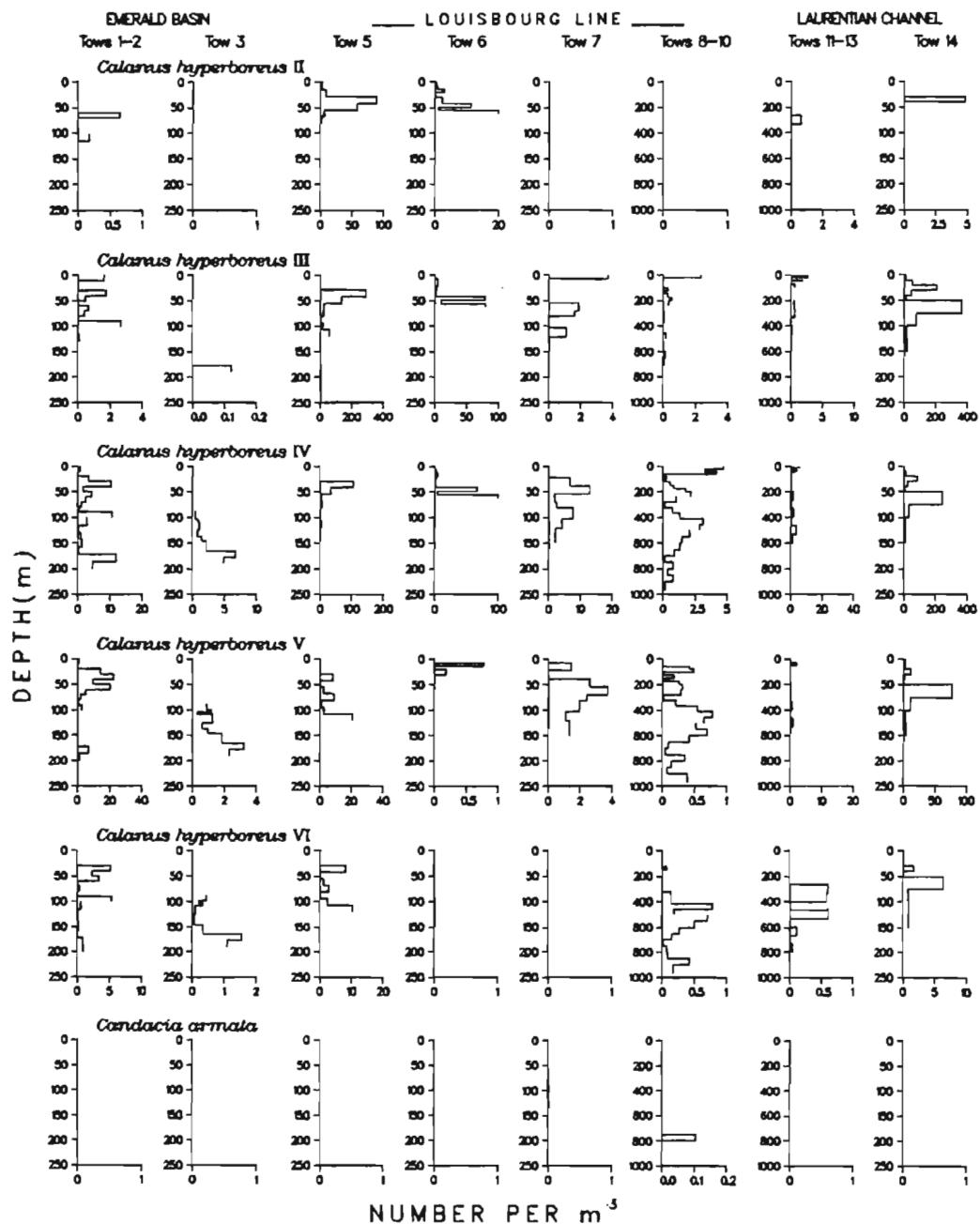


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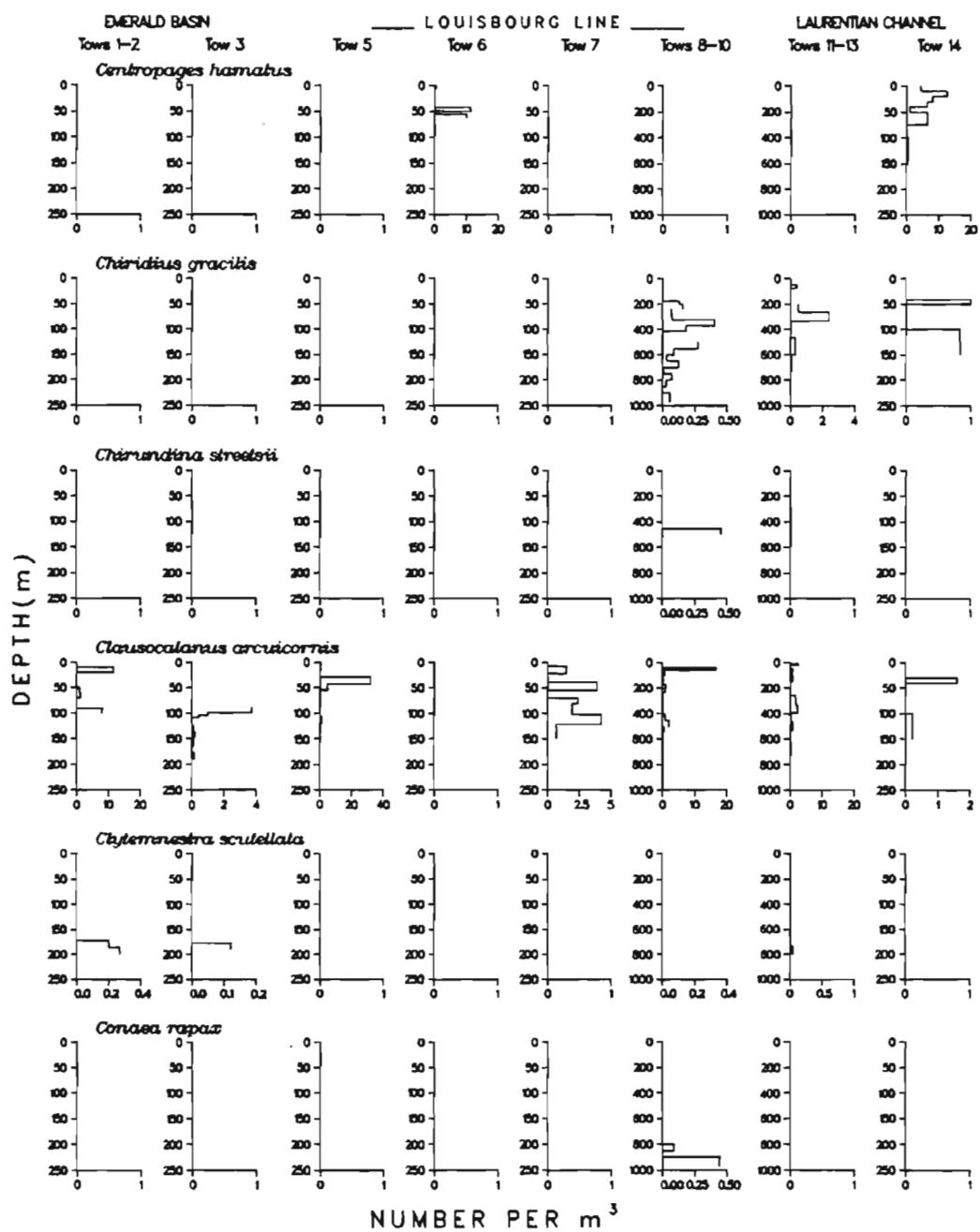


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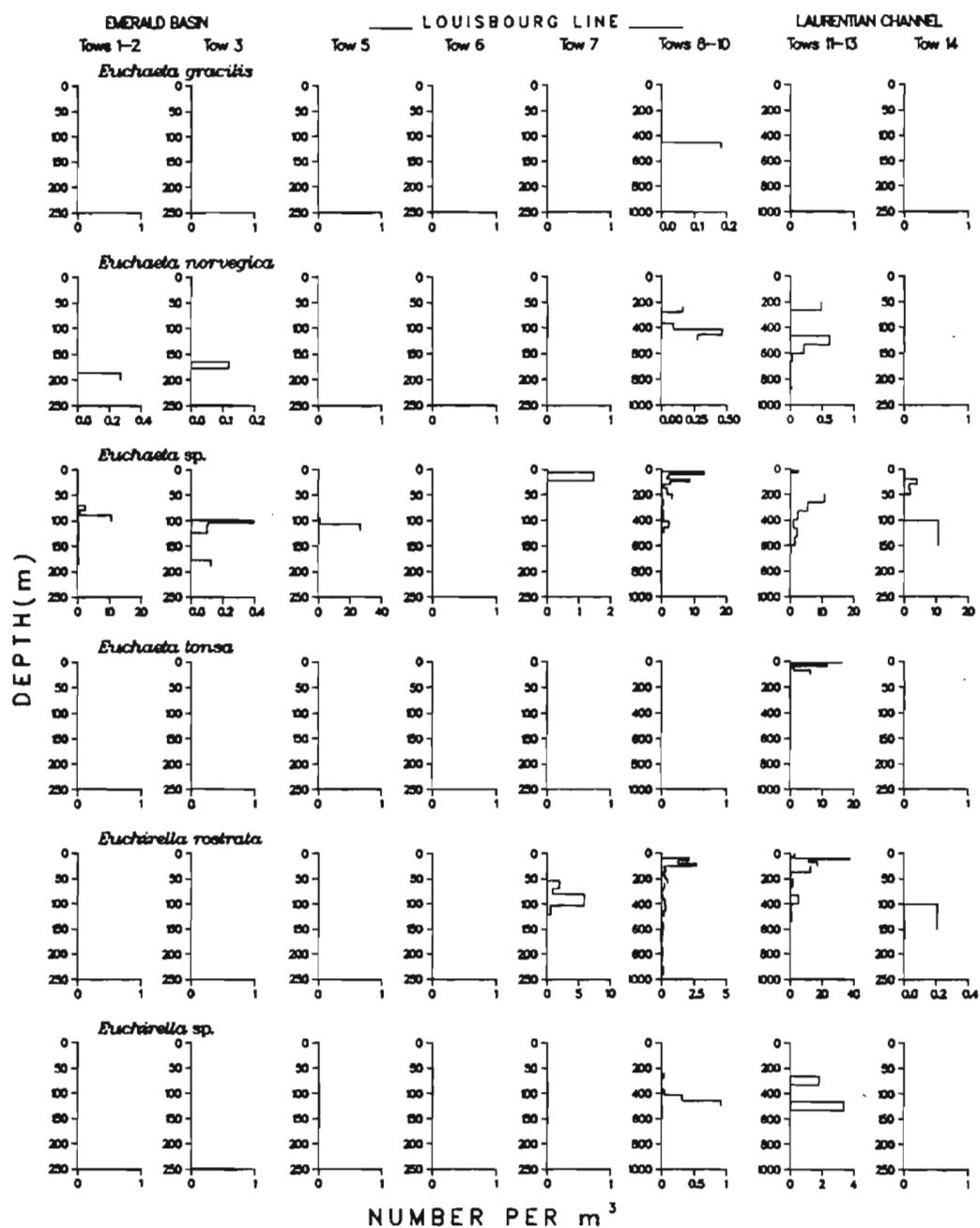


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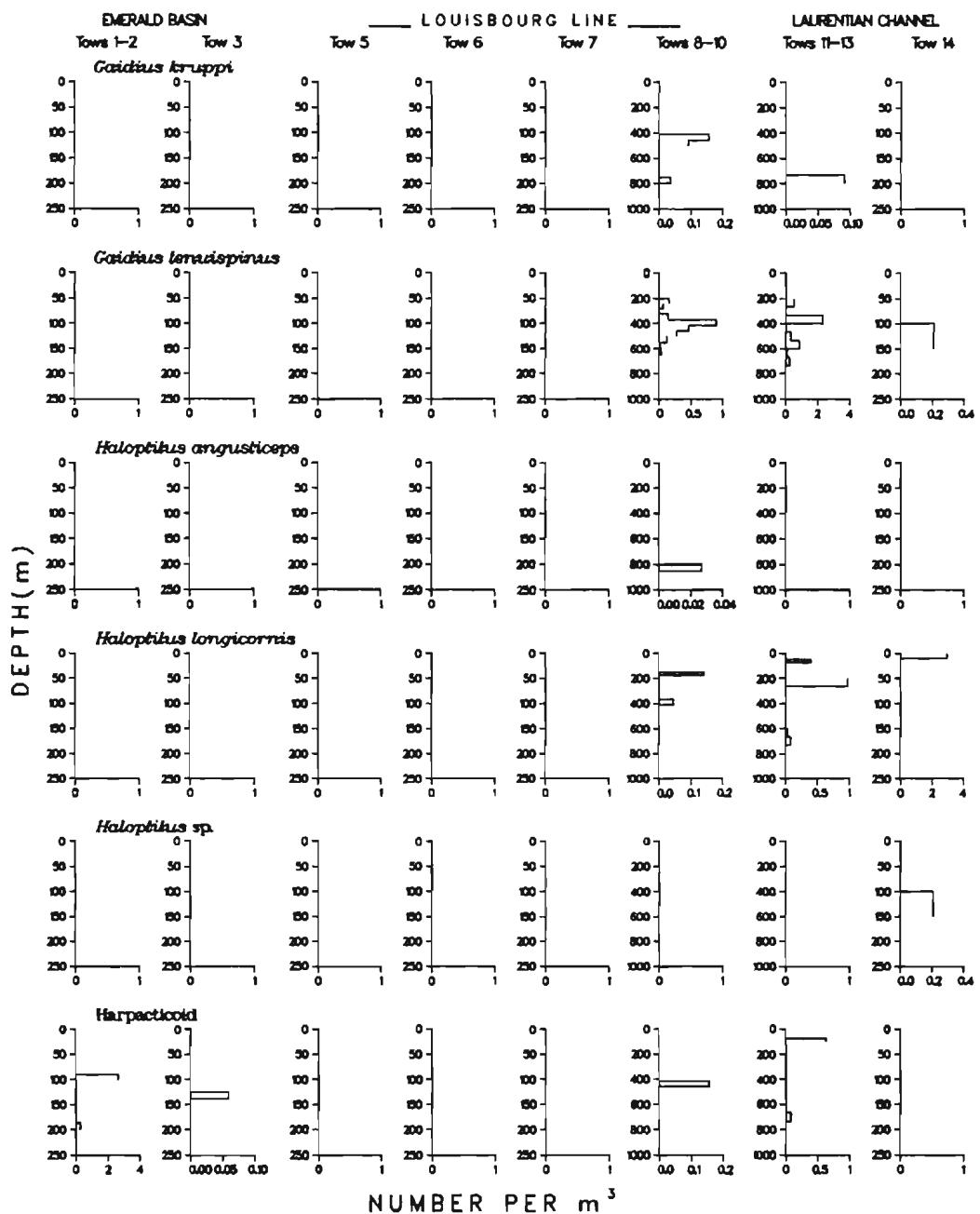


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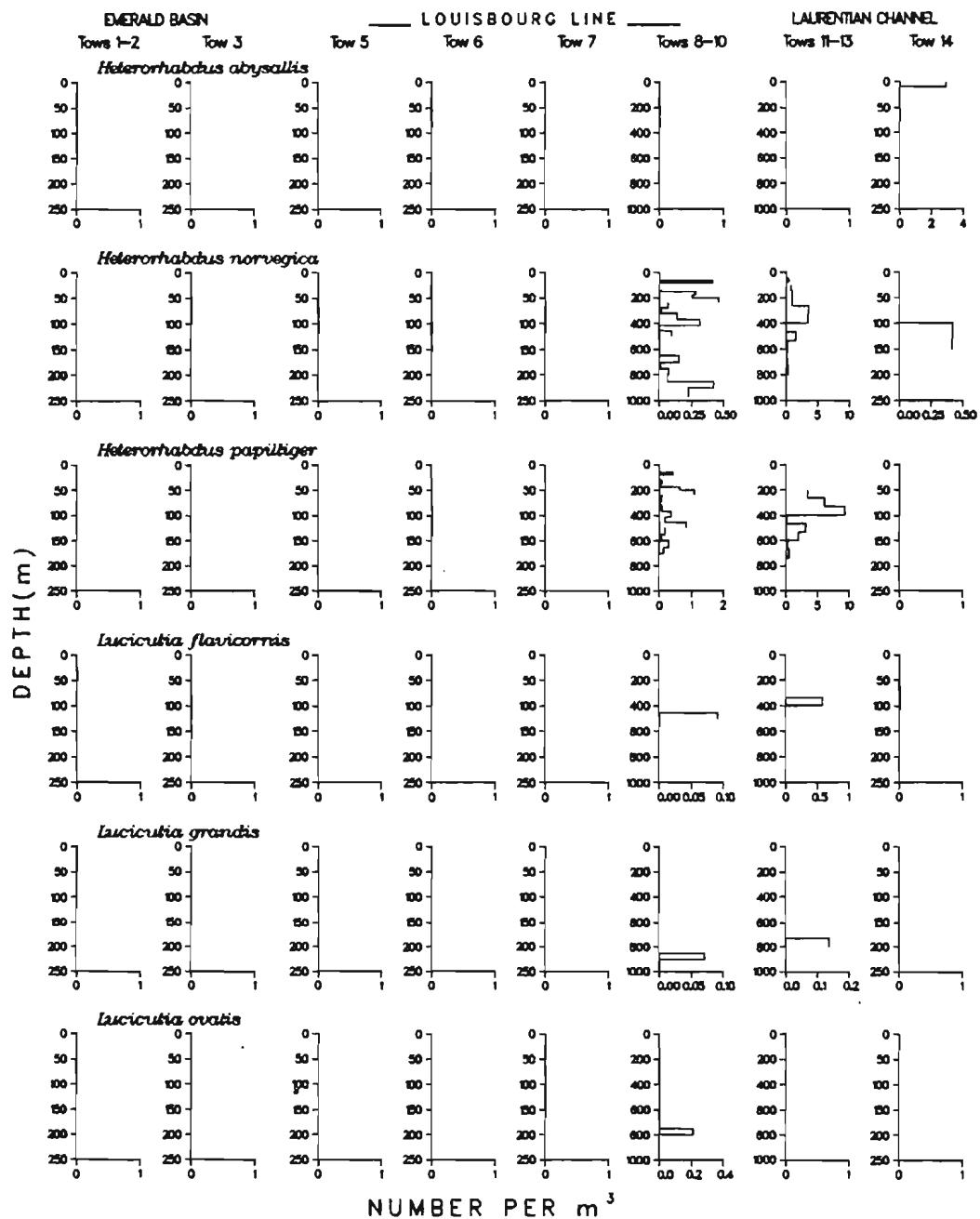


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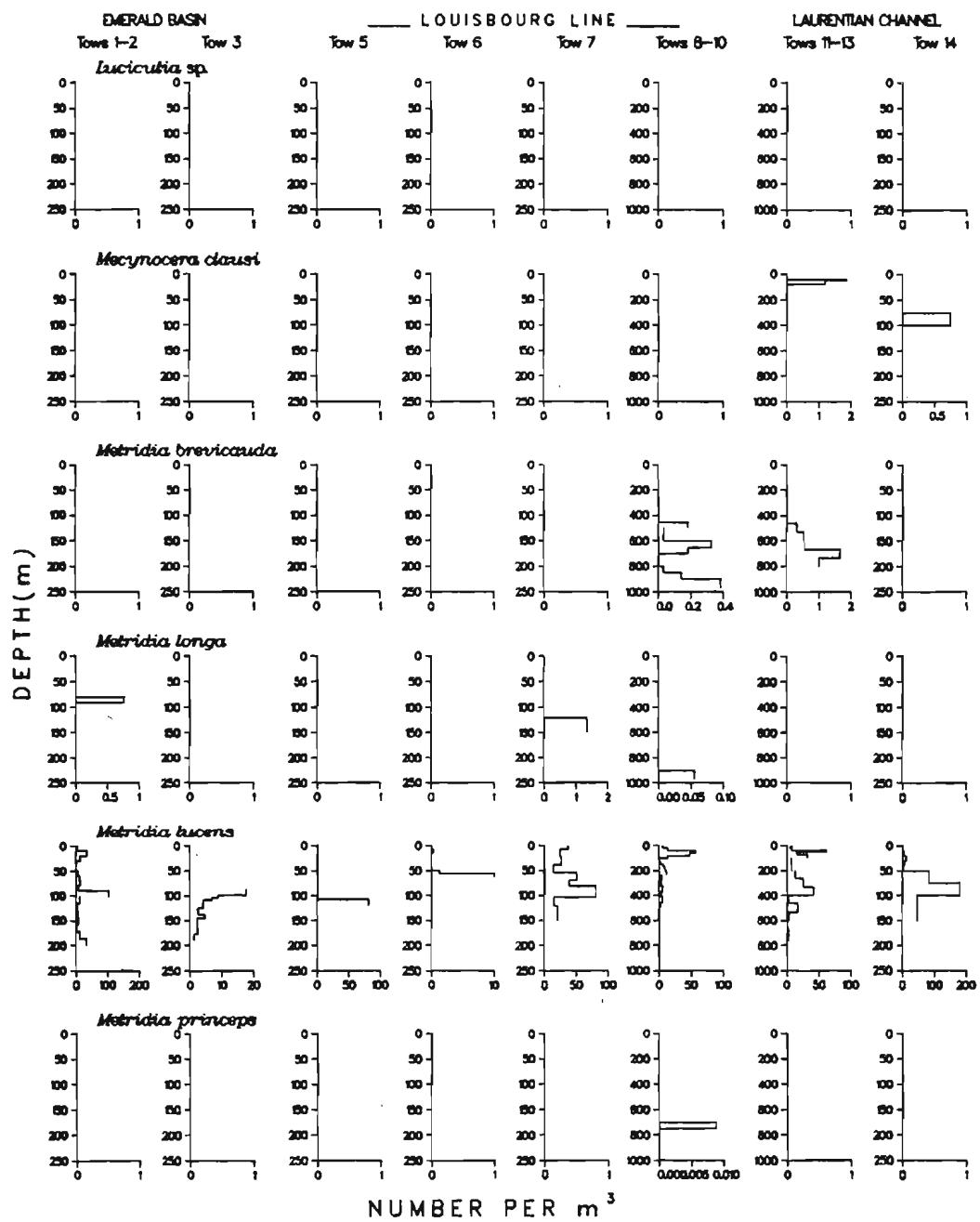


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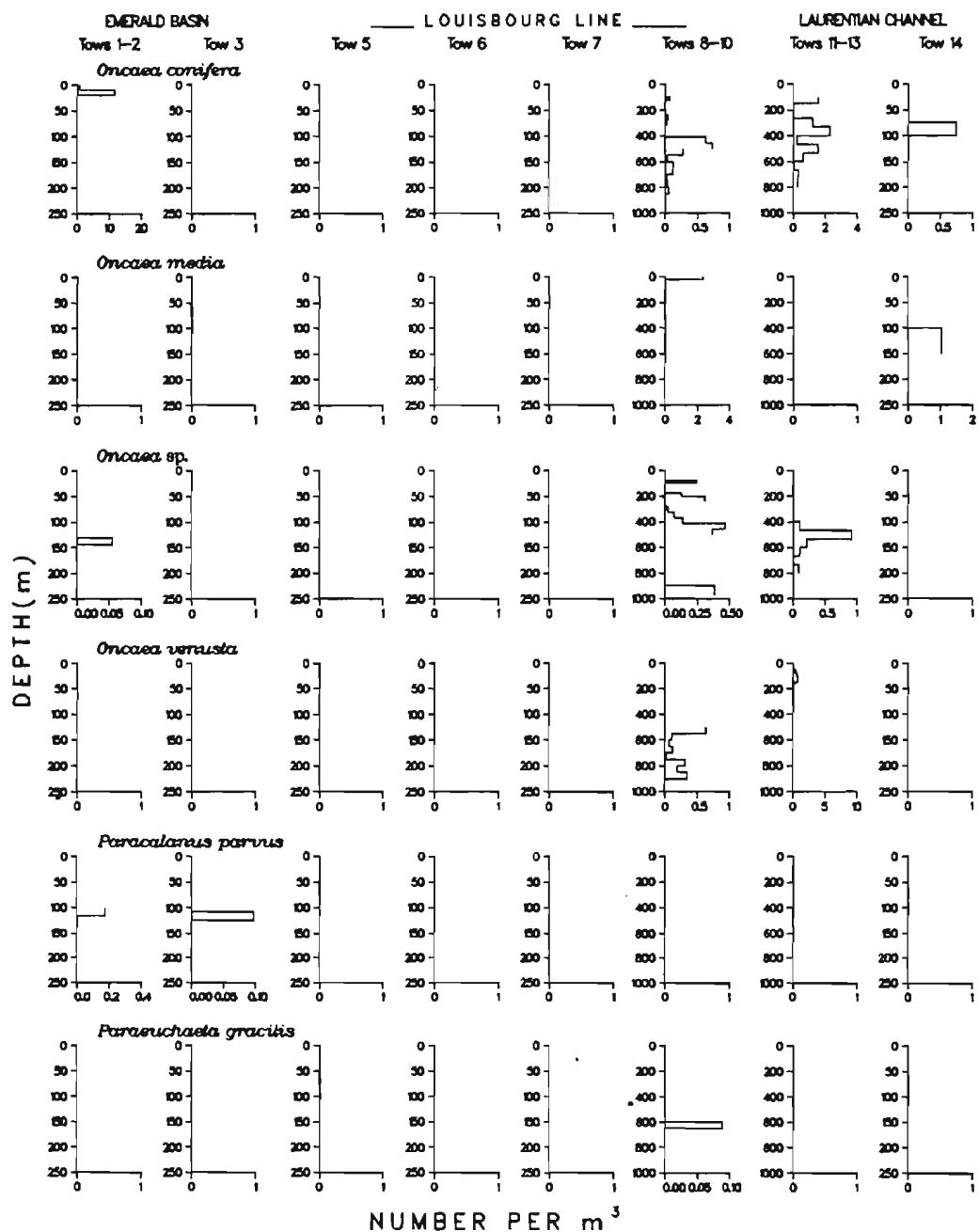


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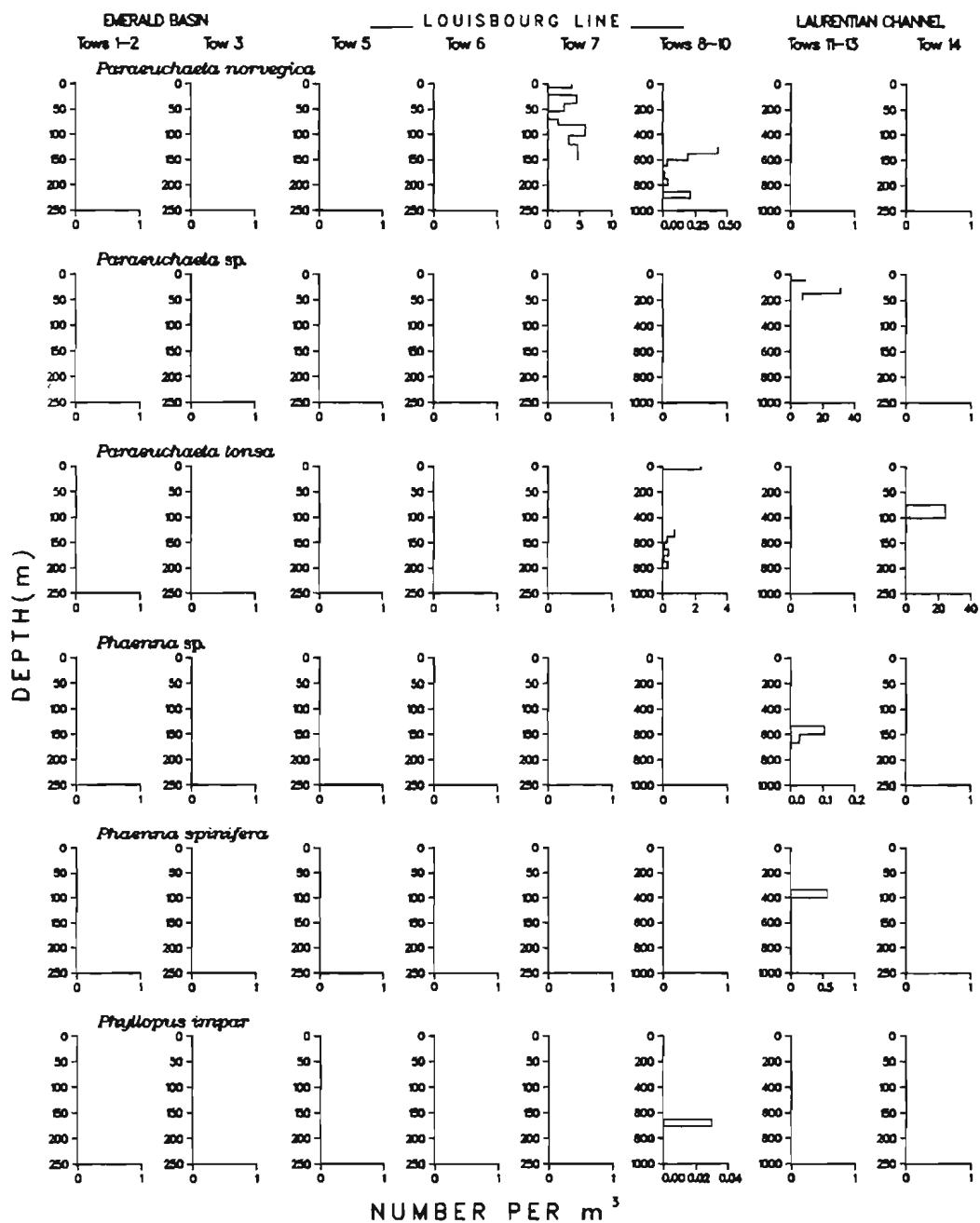


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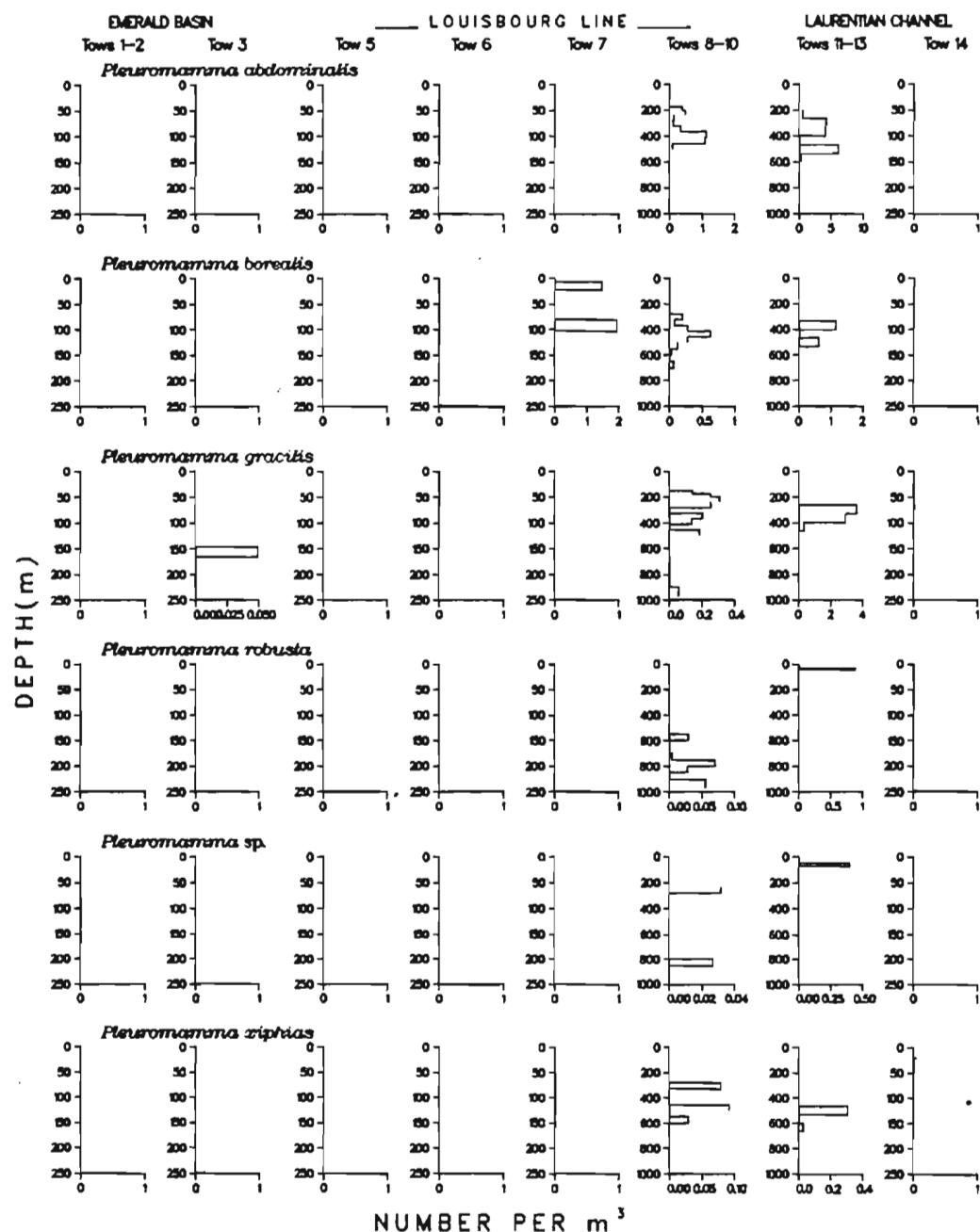


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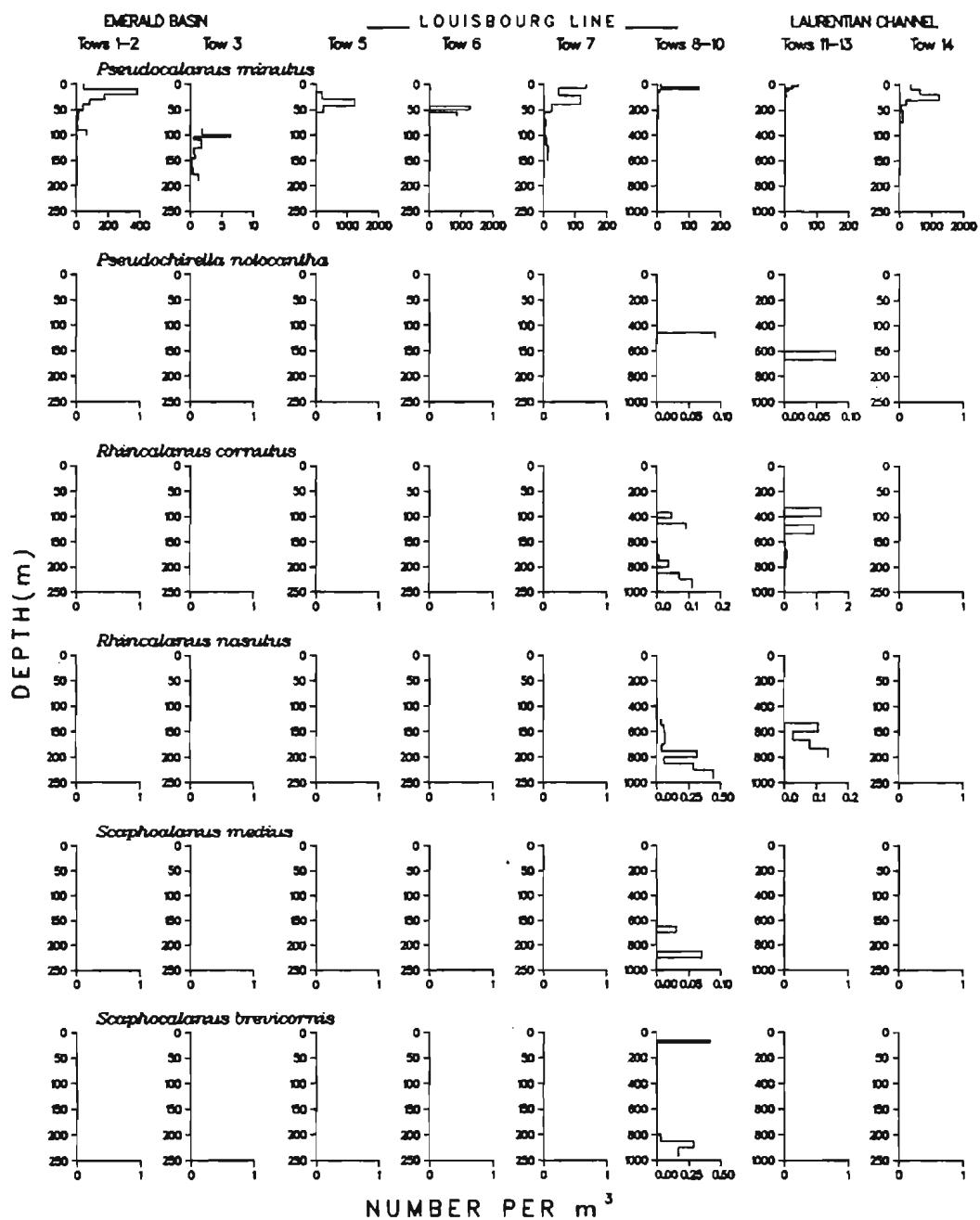


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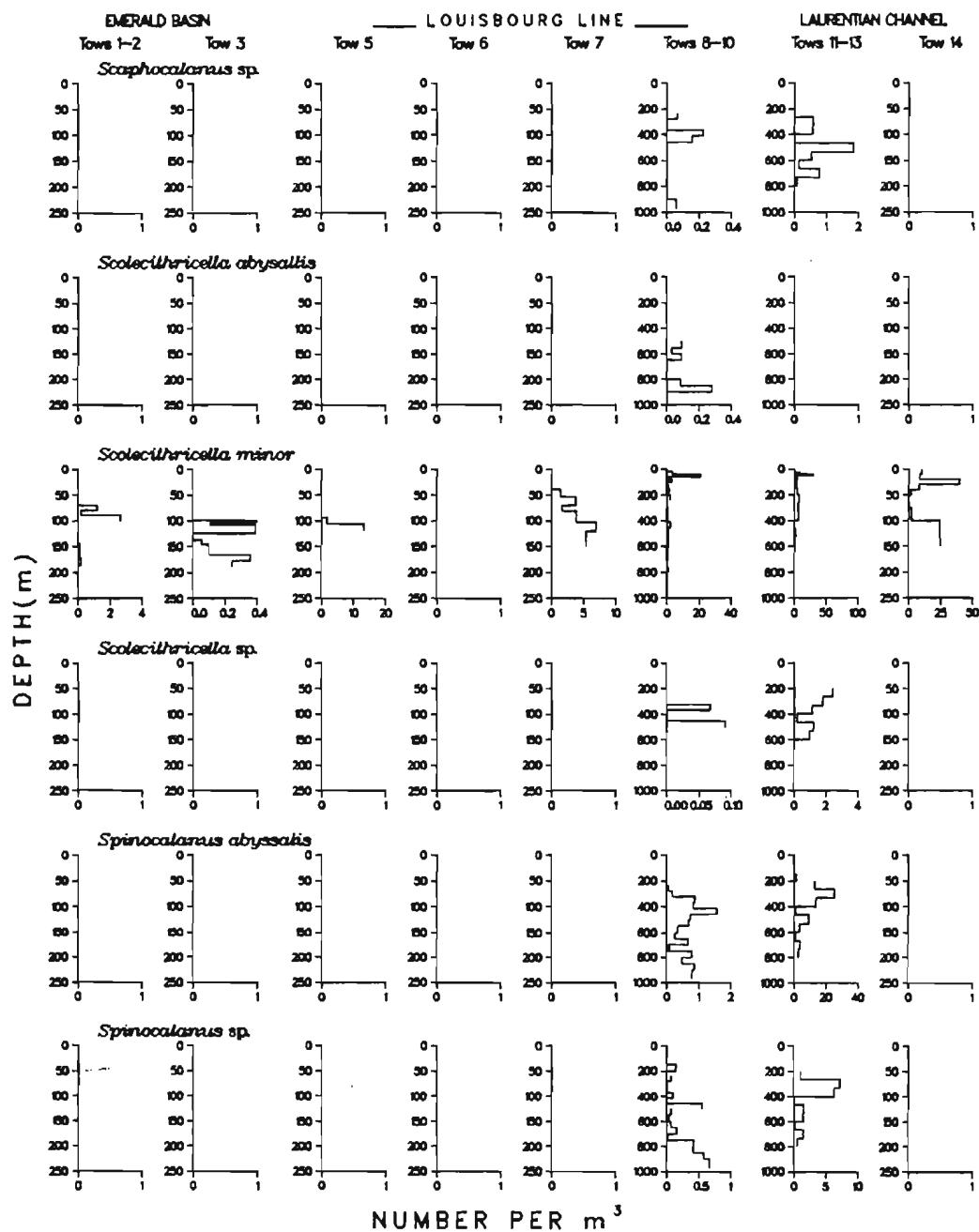


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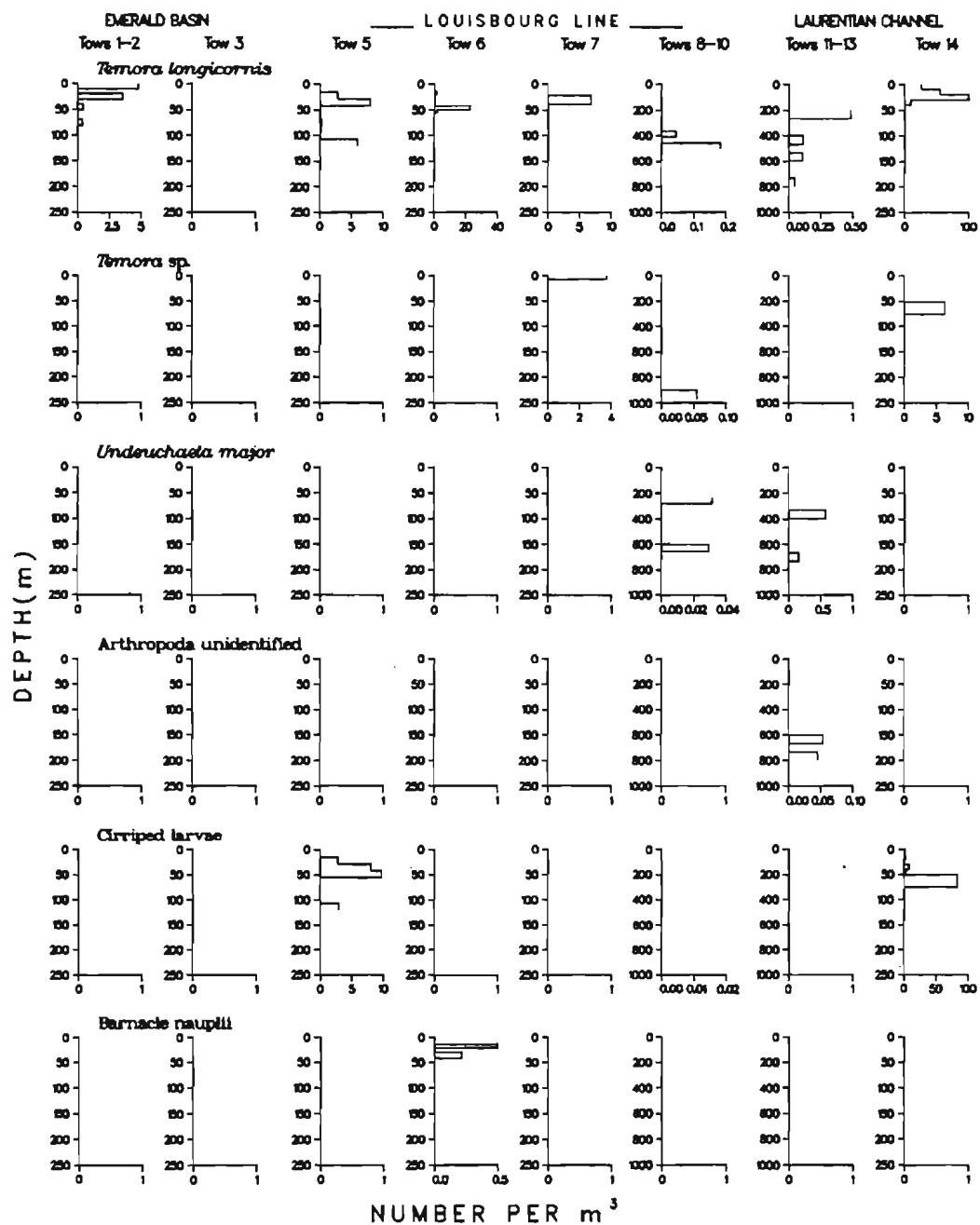


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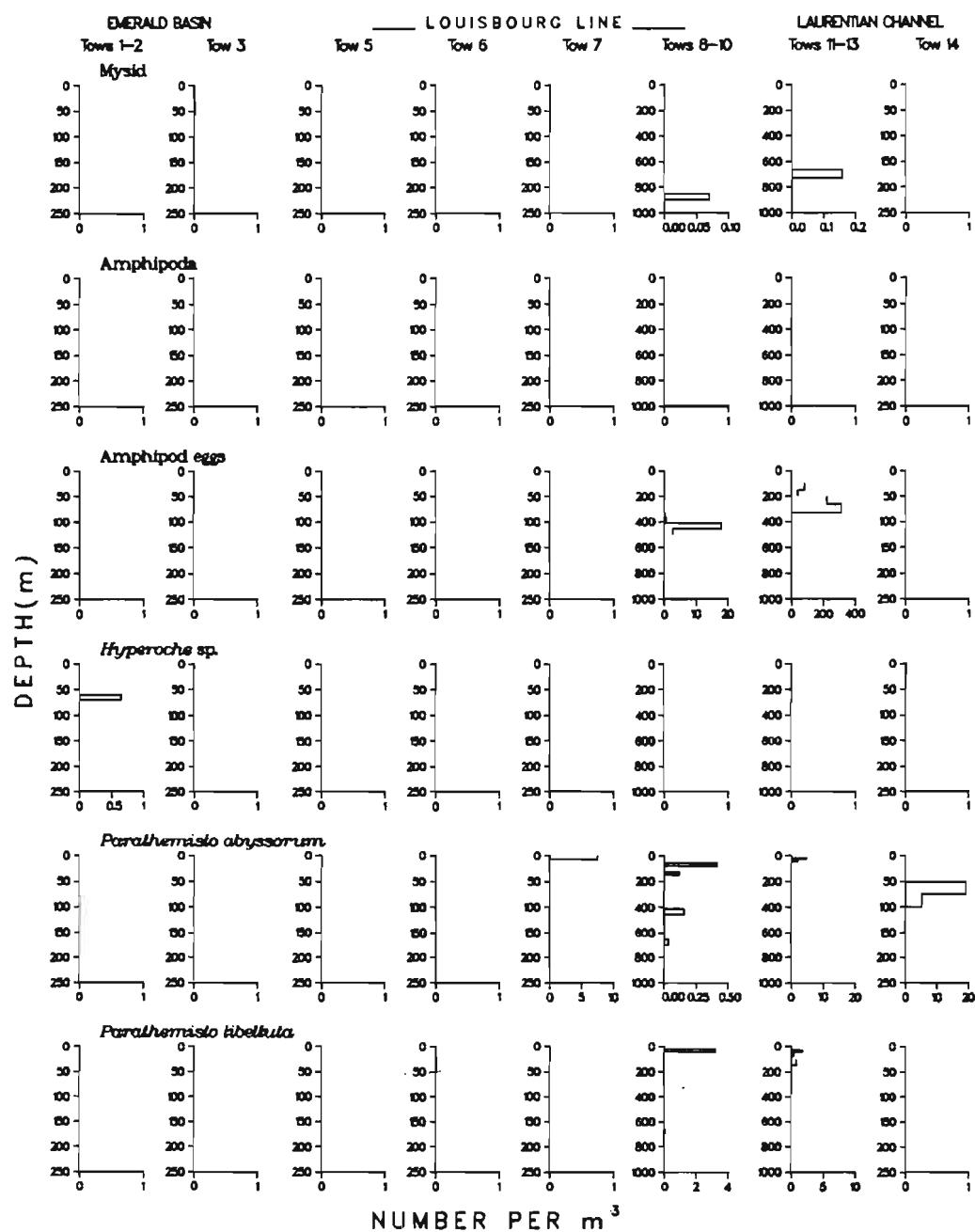


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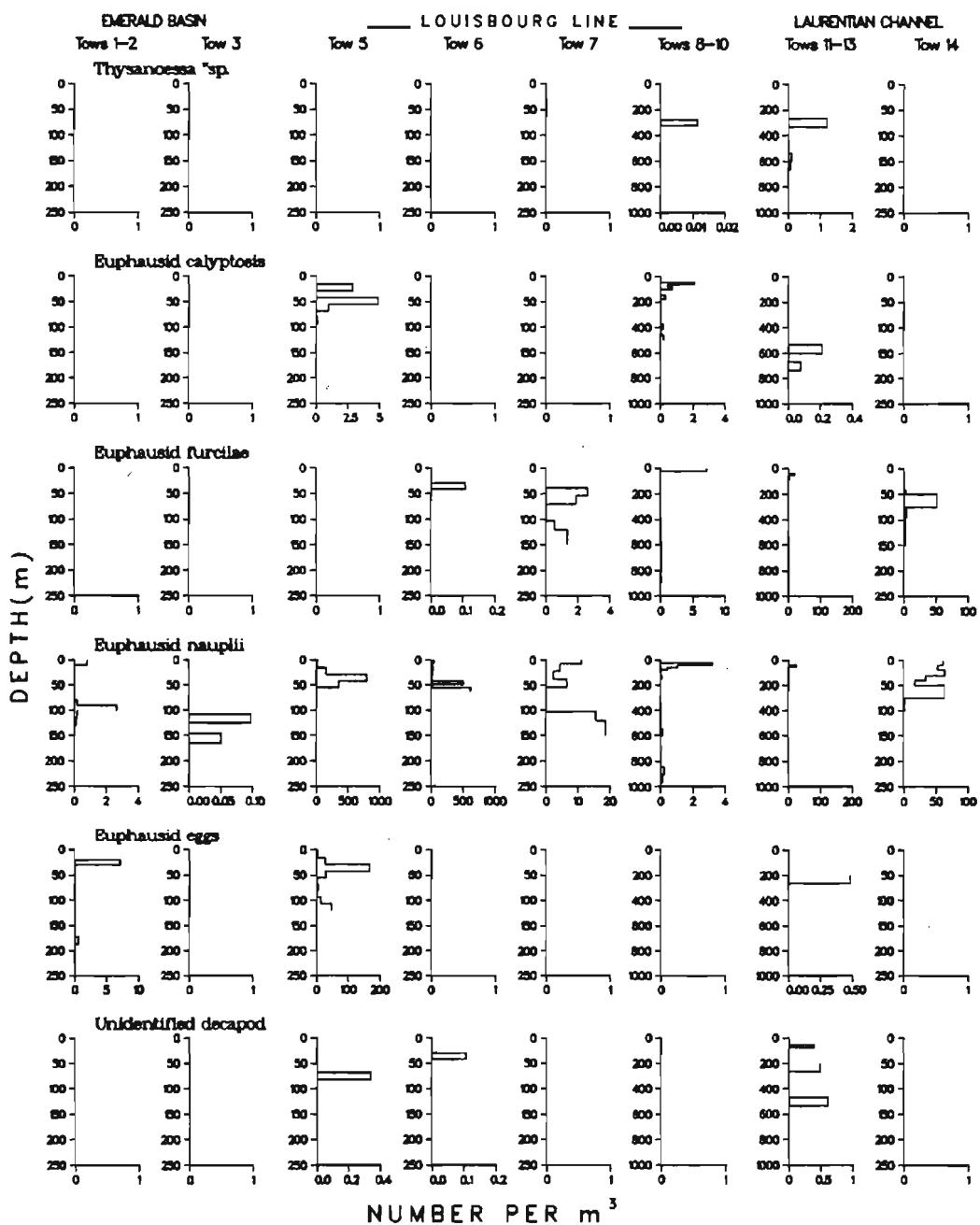


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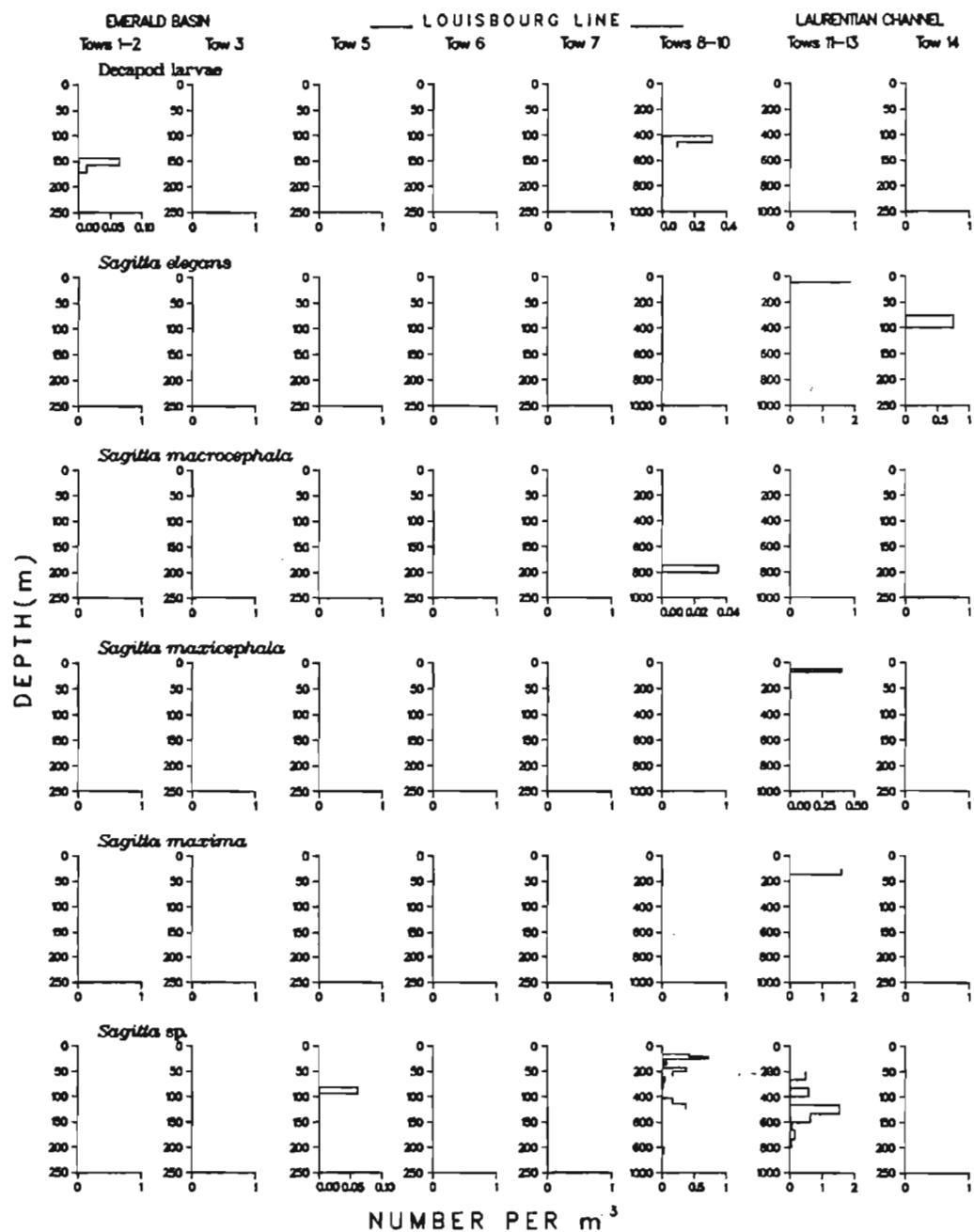


Fig. 3. Length frequencies for the following species:

Amphipoda: a) *Parathemisto gaudichaudii*

Euphausiacea: b) *Meganyctiphanes norvegica*

c) *Thysanoessa inermis*

d) *Thysanoessa longicaudata*

Chaetognatha: e) unidentified chaetognaths

f) *Eukrohnia hamata*

g) *Krohnitta subtilis*

h) *Sagitta elegans*

i) *S. hexaptera*

j) *S. macrocephala*

k) *S. maxima*

l) *S. zetosis*

Appendicularia: m) *Oikopleura* sp.

Fish larvae: n) *Ammodytes dubius*

o) *Benthosema glaciale*

p) *Cyclothona* sp.

Fig. 3. (Continued)

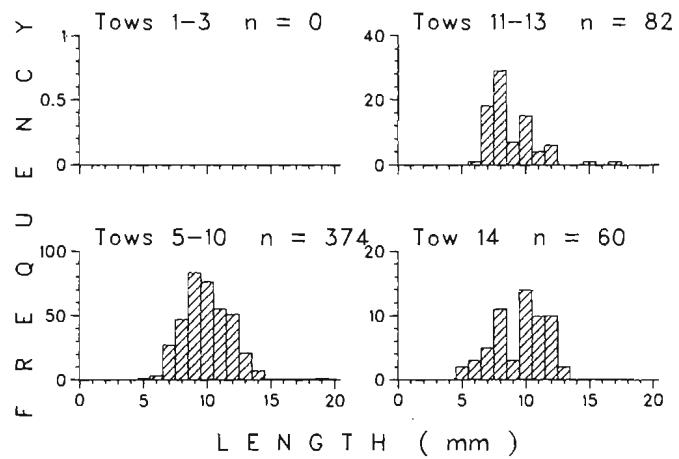
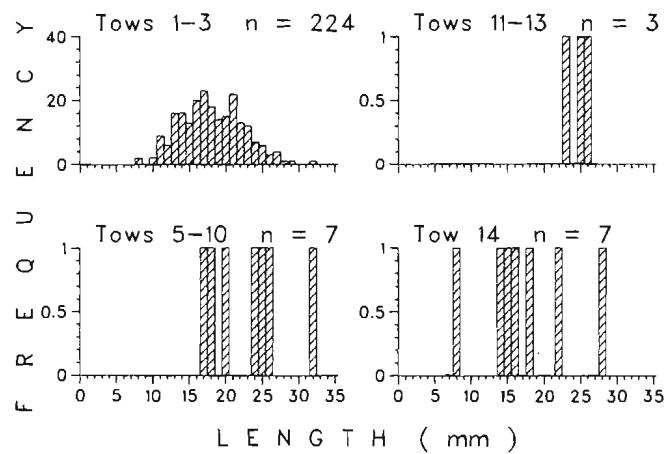
a) *Parathemisto gaudichaudii*b) *Meganyctiphanes norvegica*

Fig. 3. (Continued)

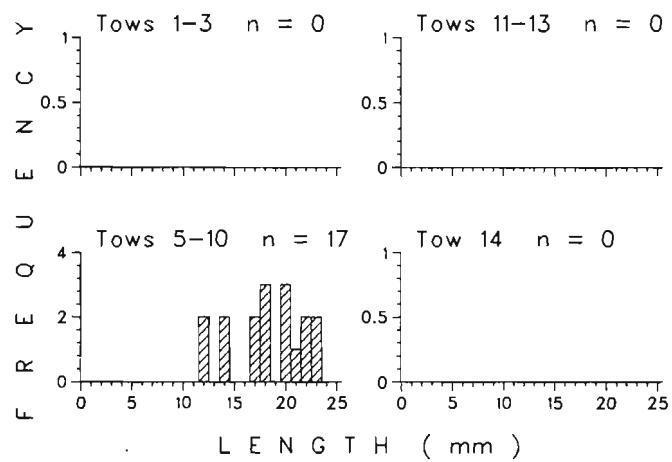
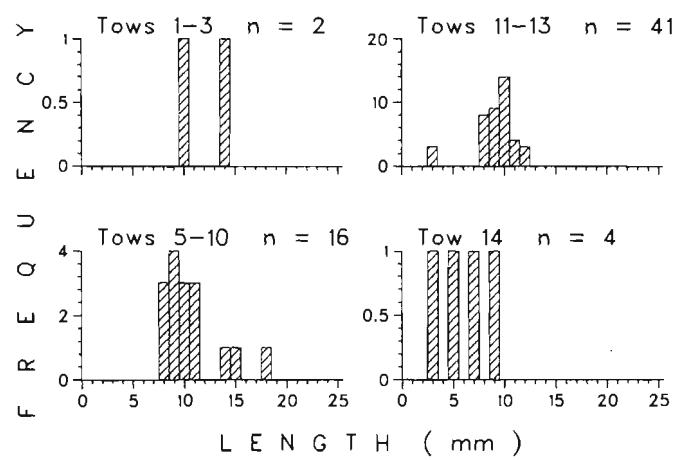
c) *Thysanoessa inermis*d) *Thysanoessa longicaudata*

Fig. 3. (Continued)

e) Unidentified Chaetognaths

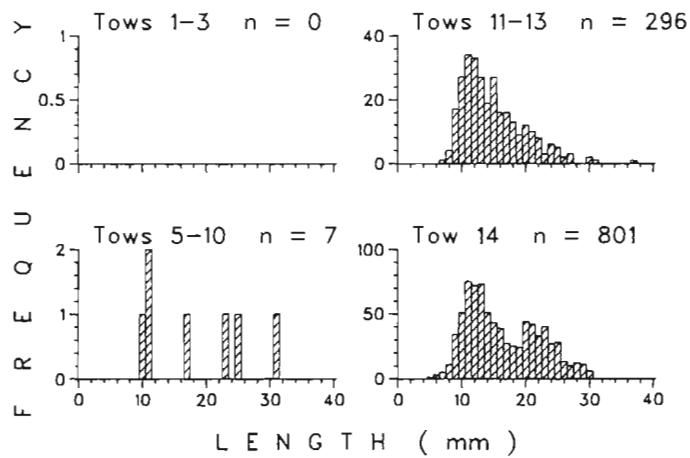
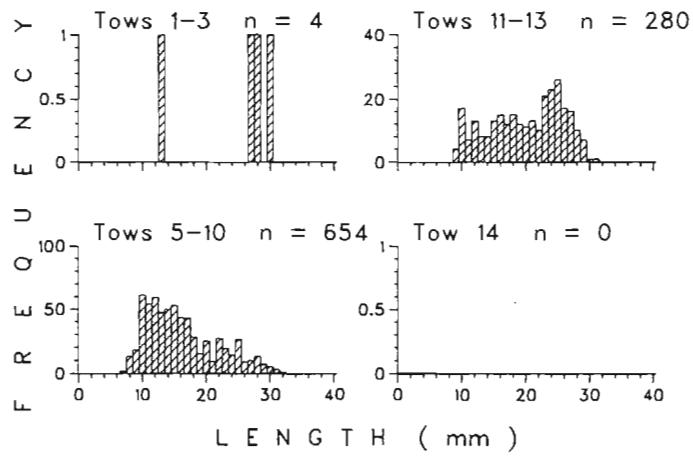
f) *Eukrohnia hamata*

Fig. 3. (Continued)

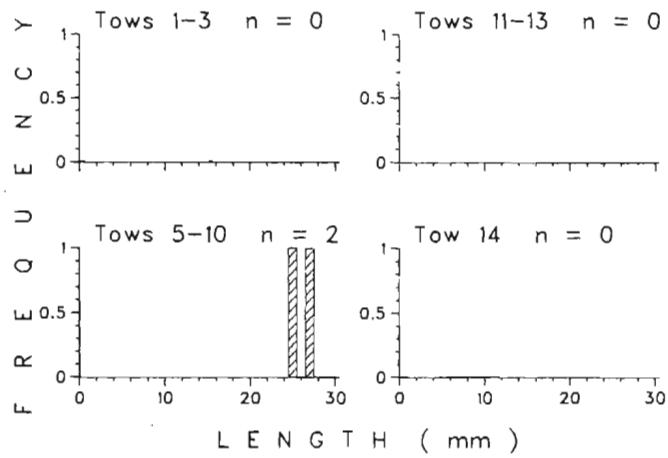
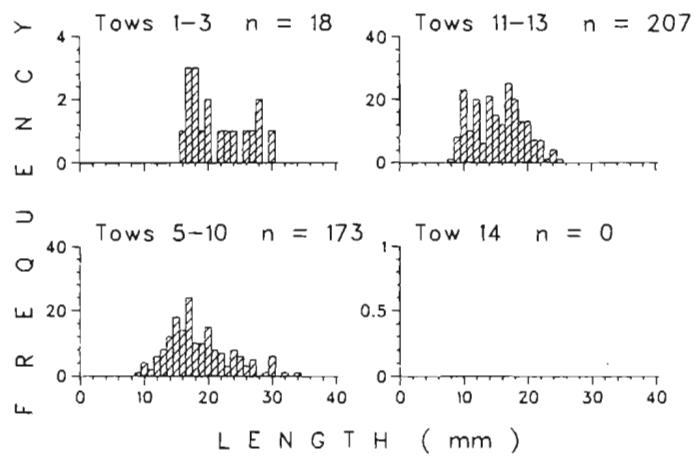
g) *Krohnilla subtilis*h) *Sagitta elegans*

Fig. 3. (Continued)

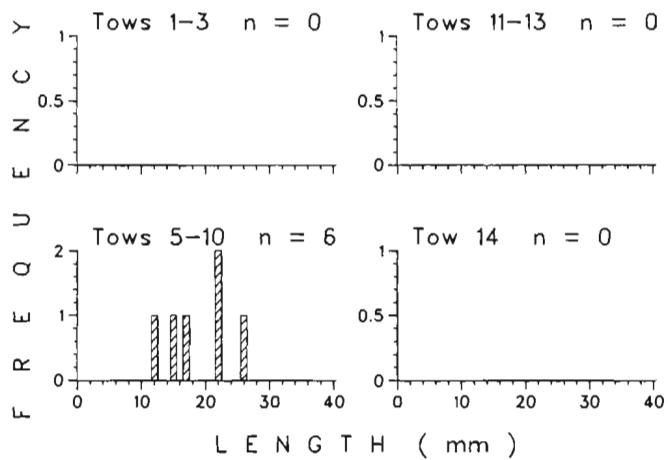
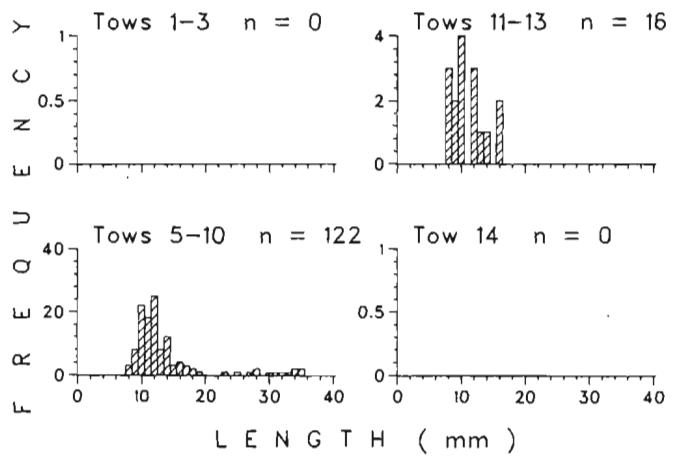
i) *Sagitta hexaptera*j) *Sagitta macrocephala*

Fig. 3. (Continued)

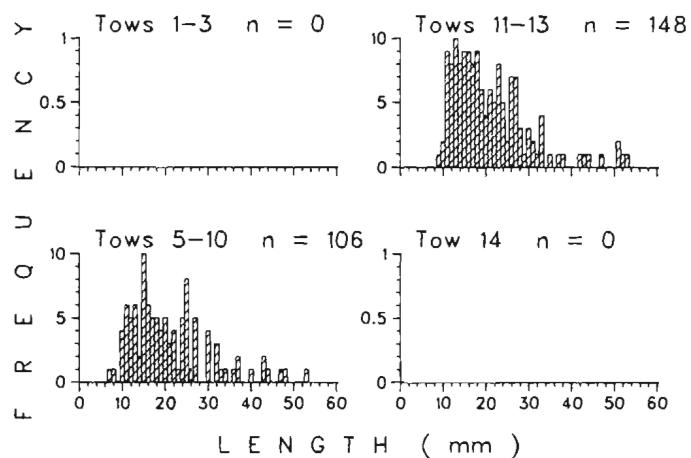
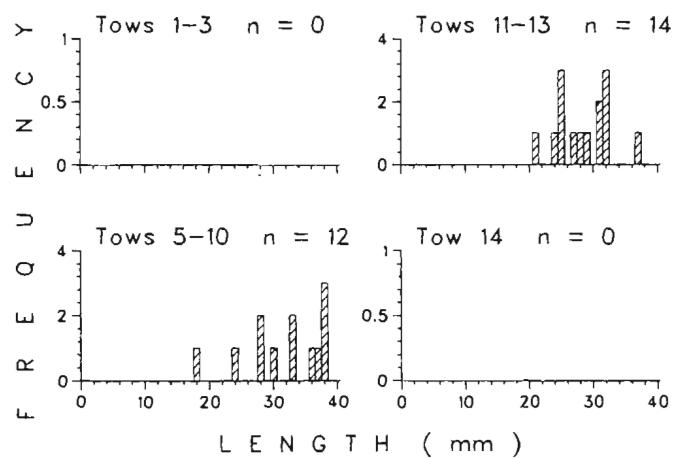
k) *Sagitta maxima*l) *Sagitta zetosis*

Fig. 3. (Continued)

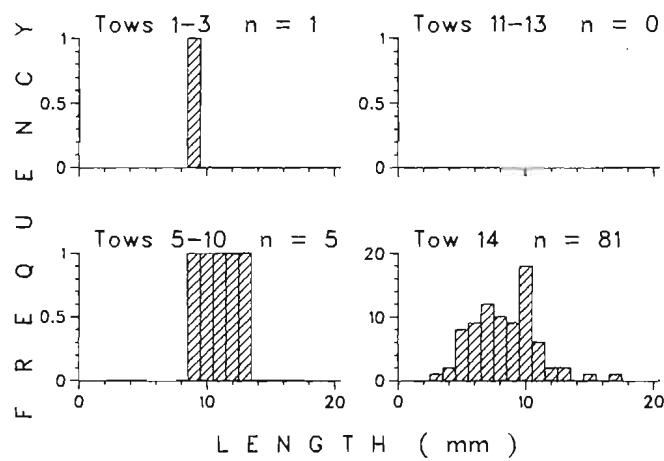
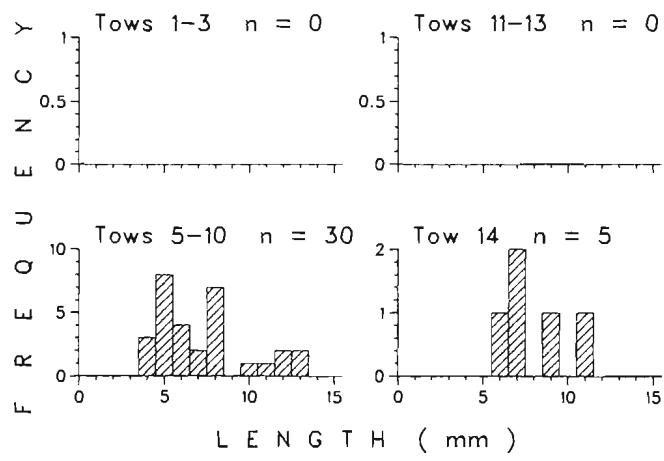
m) *Oikopleura* sp.n) *Ammodytes dubius*

Fig. 3. (Continued)

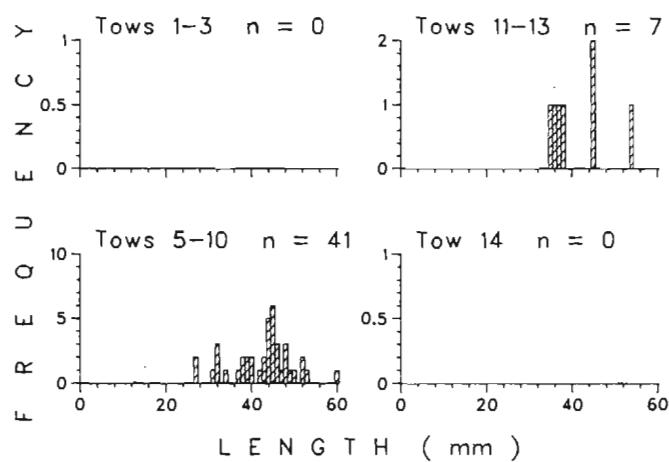
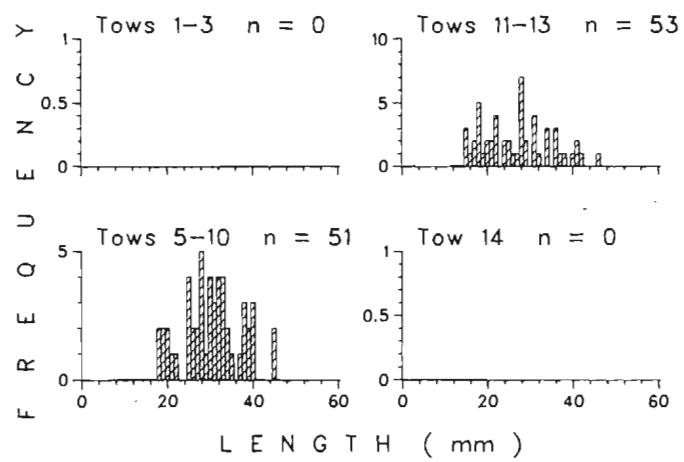
o) *Benthosema glaciale*p) *Cyclothona* sp.

Table 1. Number and biomass m^{-3} and m^{-2} for samples taken with the BIONESS over the Nova Scotian shelf. Depth1 is the depth at which the sampling started and Depth2 is the depth when it stopped for each sample. Volume of water filtered and total biomass m^{-3} for each depth strata sampled, date of the sample and the latitude and longitude for the tows are given.

STATION	1	08/04/84	1300H	43 57.43 N	62 47.89 W									
SAMPLE				1	2	3	4	5	6	7	8	9	10	
DEPTH1 (M)				.0	10.0	20.0	30.0	40.0	50.0	60.0	70.0	80.0	90.0	
DEPTH2 (M)				10.0	20.0	30.0	40.0	50.0	60.0	70.0	80.0	90.0	100.0	
VOLUME OF WATER SAMPLED (M3)				53.	11.	36.	37.	35.	44.	33.	40.	84.	3.	
TOTAL BIOMASS (G/M3)				.102	.618	.361	.267	.117	.152	.157	.096	.026	.387	22.813

SPECIES															#/M2
MEDUSA															40.40
GASTROPODA				2.42		3.56									361.13
GYMNOSOMATA															301.42
LIMACINA SP.				2.42		3.56									59.71
COPEPODA				480.60	4596.36	2368.00	747.24	214.86	204.61	330.99	174.80	68.95	1008.00	101944.16	
ACARTIA LONGIREMIS								2.74							29.33
ACARTIA SP.															6.46
CALANUS FINMARCHICUS				182.74	1978.18	1006.22	240.43	47.54	53.82	135.11	69.20	21.71	341.33	40762.98	
CALANUS FINMARCHICUS I				4.03	46.55	60.44	1.73				1.29	.80	.95	2.67	1184.57
CALANUS FINMARCHICUS II				40.25	593.45	302.22	22.49	.91	.97	3.88	2.00	.76	37.33	10042.73	
CALANUS FINMARCHICUS III				65.21	640.00	323.56	27.68	3.66	2.42	3.88	5.20	2.10	90.67	11643.61	
CALANUS FINMARCHICUS IV				50.72	570.18	184.89	67.46	8.23	7.27	16.16	8.80	2.29	64.00	9799.96	
CALANUS FINMARCHICUS V				18.52	116.36	106.67	98.59	21.49	20.36	58.18	28.80	8.38	104.00	5813.53	
CALANUS FINMARCHICUS VI				4.03	11.64	28.44	22.49	15.54	22.79	51.72	23.60	7.24	42.67	2301.45	
CALANUS GLACIALIS				.81	11.64	35.56	20.76	4.11	5.33	4.53	1.60	.38	5.33	900.41	
CALANUS GLACIALIS I								.46							4.57
CALANUS GLACIALIS II						10.67			.48	.65					117.98
CALANUS GLACIALIS III						14.22									146.22
CALANUS GLACIALIS IV						3.56	5.19	1.37	.97	.65					117.32
CALANUS GLACIALIS V				.81	11.64	7.11	13.84	2.29	3.88	.65	.80		5.33		463.35
CALANUS GLACIALIS VI								1.73		.48		.40	.38		29.96
CALANUS HYPERBOREUS				3.22		17.78	39.78	14.17	27.64	6.46	4.00	.76	21.33		1351.49
CALANUS HYPERBOREUS II															6.46
CALANUS HYPERBOREUS III				1.61				1.73	.46		.65	.40			75.10
CALANUS HYPERBOREUS IV				.81		3.56	10.38	1.83	4.36	2.59	1.20	.38	10.67		357.65
CALANUS HYPERBOREUS V				.81		14.22	22.49	9.60	19.88	5.17	2.00	.38	2.67		772.12
CALANUS HYPERBOREUS VI								5.19	2.29	3.39		.40		5.33	166.02
CENTROPAGES TYPICUS				.81						.97					19.65
CLAUSOCALANUS ARCUICORNIS					11.64					.97	1.29				218.99
EUCHAETA SP.															136.38
HARPACTICOID															26.67
METRIDIA LONGA															7.62
METRIDIA LUCENS				4.03	34.91	14.22	1.73		4.85	12.28	12.80	7.43	104.00		1962.46
OITHONA ATLANTICA								1.73							78.63
OITHONA SIMILIS				3.22	34.91	3.56	3.46	.91		9.05	1.60	.38	2.67		597.57
ONCAEA CONIFERA				.81	11.64										124.41
PSEUDOCALANUS MINUTUS				47.50	384.00	177.78	83.03	41.60	13.09	10.99	2.40	6.10	66.67		8331.44
SCOLECITHRICELLA MINOR															40.57
TEMORA LONGICORNIS				4.83		3.56		.46							92.43
TEMORA STYLIFERA						11.64									116.36
AMPHIPODA															6.46
HYPEROCHE SP.															6.46
EUPHAUSIACEA				.81											36.62
EUPHAUSID NAUPLII				.81											36.62
EUPHAUSID EGGS						7.11									71.11
OIKOPLEURA SP.						3.56	1.73								52.85

L A R G E M E S O Z O O P L A N K T O N & I C H T H Y O P L A N K T O N

TOTAL CTENOPHORA	.019	.455	.056					.023							5.636
CLIONE SP.								.029							.286
TOTAL EUPHAUSIACEA								.027							.573
MEGANYCTIPHANES NORVEGICA								.027							.270
THYSANOESSA LONGICAUDATA															.303
TOTAL CHAETOGNATHA								.027	.029	.068		.025	.012		.1.607
EUKROHNIA HAMATA								.027							.270
SAGITTA ELEGANS										.068		.025	.012		.1.051
UNIDENTIFIED CHAETOGNATHS									.029						.286
OIKOPLEURA SP.								.028							.278

STATION 2 08/04/84 1500H 43 55.97 N 62 47.01 W
 SAMPLE 2 3 4 5 6 7 8 9 10
 DEPTH1 (M) 200.0 186.0 172.0 158.0 144.0 130.0 116.0 102.0 88.0
 DEPTH2 (M) 186.0 172.0 158.0 144.0 130.0 116.0 102.0 88.0 74.0
 VOLUME OF WATER SAMPLED (M3) 33. 67. 130. 51. 81. 109. 38. 27. 73.
 TOTAL BIOMASS (G/M3) .072 .158 .010 .028 .017 .015 .043 .065 .013 5.902

SPECIES					NUMBER	PER	CUBIC	METER	#/M2
SIPHONOPHORA	.	1.19	.01	.	.05	.	.18	.	20.12
POLYCHAETA	.	.	.	.	.05	.	.	.	.77
GASTROPODA	1.08	2.79	.09	.52	.33	.37	.88	.74	.32 99.54
GYMNOPODIA	1.08	2.79	.03	.52	.33	.31	.70	.74	.27 94.69
LIMACINA SP.	.	.	.06	.	.	.06	.18	.	.05 4.85
COPEPODA	103.70	88.16	5.88	37.52	23.26	23.24	65.61	110.86	17.03 6653.93
CALANUS FINMARCHICUS	24.24	13.13	1.47	10.85	5.32	8.32	18.25	35.80	5.30 1717.61
CALANUS FINMARCHICUS I	.27	.20	.	.07	.05	.12	.70	.49	.14 28.61
CALANUS FINMARCHICUS II	.81	1.00	.10	.65	.38	.80	.88	3.21	.18 112.11
CALANUS FINMARCHICUS III	2.15	1.00	.26	1.96	.55	1.83	2.98	4.44	.87 224.63
CALANUS FINMARCHICUS IV	3.50	1.39	.13	2.35	1.15	1.59	5.26	5.43	1.19 308.01
CALANUS FINMARCHICUS V	5.93	6.17	.50	2.81	1.54	2.20	5.79	13.09	2.05 561.04
CALANUS FINMARCHICUS VI	11.58	3.38	.49	3.01	1.65	1.77	2.63	9.14	.87 483.20
CALANUS GRACILIS	.	.	.	.	.	.	.	.	.05 .64
CALANUS GLACIALIS	1.08	2.99	.10	.65	.22	.31	.35	.74	.18 92.66
CALANUS GLACIALIS II	.	.	.	.	.	.06	.	.	.86
CALANUS GLACIALIS III	.	.	.03	.13	.	.06	.	.	.05
CALANUS GLACIALIS IV	.27	1.00	.01	.20	.05	.06	.	.49	.09 30.44
CALANUS GLACIALIS V	.81	1.79	.05	.26	.16	.12	.35	.25	.09 54.43
CALANUS GLACIALIS VI	.	.20	.01	.07	.	.	.	.	.05 3.88
CALANUS HYPERBOREUS	6.46	19.50	.42	2.03	1.43	.49	3.86	3.21	.59 531.94
CALANUS HYPERBOREUS II	.	.	.	.	.	.	.18	.	.05 2.46
CALANUS HYPERBOREUS III	.	.	.	.	.	.06	.	.	.05 .86
CALANUS HYPERBOREUS IV	4.58	11.94	.27	1.31	.93	.18	2.81	2.47	.37 347.95
CALANUS HYPERBOREUS V	1.08	6.77	.13	.52	.38	.18	.53	.74	.09 145.89
CALANUS HYPERBOREUS VI	.81	.80	.03	.20	.11	.06	.53	.	.14 37.24
CENTROPAGES TYPICUS	.	.	.01	.	.	.12	.	.25	.05 5.99
CLAUSOCALANUS ARCUICORNIS	.27	.20	.	.26	.	.	.	.74	.09 21.87
CLYTEMNESTRA SCUTELLATA	.27	.20	.	.	.	.	.	.	.05 6.56
CORYCAEUS TYPICUS	.	.	.	.07	.	.	.	.	.05 .92
EUCHAETA NORVEGICA	.27	.	.	.	.	.	.	.	.05 3.77
EUCHAETA SP.	.	.20	.	.07	.05	.	.	.	.05 5.11
HARPACTICOID	.27	.	.	.	.	.	.	.	.05 4.41
METRIDIA LUCENS	33.13	11.94	1.21	4.90	6.42	2.20	12.46	19.51	3.20 1329.43
OITHONA ATLANTICA	.	.20	.01	.07	.	.	.	.99	.05 18.35
OITHONA SIMILIS	.	.80	.	.07	.	.61	.18	.25	.14 28.45
ONCAEA SP.	.	.	.	.	.05	.	.	.	.05 .77
PARACALANUS PARVUS	.	.	.	.	.	.	.18	.25	.
PSEUDOCALANUS MINUTUS	2.69	.80	.18	1.90	1.04	1.16	2.46	5.93	.87 238.26
SCOЛЕCITHRICELLA MINOR	.	.20	.08	.07	.	.	.	.	.09 6.06
EUPHAUSIACEA	.	.	.	.	.	.12	.18	.	.05 4.81
EUPHAUSID NAUPLII	.	.	.	.	.	.12	.18	.	.05 4.81
EUPHAUSID EGGS	.	.60	.	.	.	.	.	.	.14 10.28
DECAPODA	.	.	.01	.07	.	.	.	.	.05 1.09
DECAPOD LARVAE	.	.	.01	.07	.	.	.	.	.05 1.09

L A R G E M E S O Z O O P L A N K T O N & I C H T H Y O P L A N K T O N

ALGALMIDAE SP.	.	.045	.	.	.	.	.	.	.627
UNIDENTIFIED SIPHONOPHORA	.	.015	.	.	.	.	.	.	.209
TOTAL CTENOPHORA	.	.	.	.	.	.009	.	.037	.647
TOTAL EUPHAUSIACEA	.	.582	.054	.078	.062	.037	.211	.296	.096 19.817
MEGANYCTIPHANES NORVEGICA	.	.582	.054	.078	.062	.037	.211	.296	.096 19.817
TOTAL CHAETOGNATHA	.091	.090	.	.	.	.	.	.	2.526
EUKROHNIA HAMATA	.061	.	.	.	.	.	.	.	.848
SAGITTA ELEGANS	.030	.090	.	.	.	.	.	.	1.678

STATION	3	08/04/84	1730H	43 50.66 N	62 44.71 W							
SAMPLE				2	3	4	5	6	7	8	9	10
DEPTH1 (M)				190.0	177.0	165.0	146.0	138.0	125.0	109.0	104.0	99.0
DEPTH2 (M)				177.0	165.0	146.0	138.0	125.0	109.0	104.0	99.0	88.0
VOLUME OF WATER SAMPLED (M3)				33.	67.	130.	51.	81.	109.	38.	27.	73.
TOTAL BIOMASS (G/M3)				.093	.081	.048	.045	.040	.035	.032	.061	.104
												6.151

SPECIES						NUMBER	PER CUBIC METER					#/M2	
SIPHONOPHORA						.65	.10					10.04	
CTENOPHORA						.05	.10					1.98	
GASTROPODA		10.91	1.19	.94	1.05	1.84	3.13	1.26	3.56	8.11		369.57	
GYMNOSOMATA		10.91	1.19	.89	1.05	1.84	2.84	1.26	3.36	8.11		362.95	
LIMACINA SP.				.05			.29		.20			6.62	
OSTRACODA						.06						.77	
CONCHOECIA LORICATA						.06						.77	
COPEPODA		50.06	45.25	21.17	30.07	18.01	39.63	37.47	104.49	93.59		4444.21	
AETIDEUS ARMATUS						.05	.06					1.19	
CALANUS FINMARCHICUS		9.94	7.16	3.30	7.95	5.04	13.31	11.58	37.73	31.12		1208.75	
CALANUS FINMARCHICUS I		.24			.05							3.57	
CALANUS FINMARCHICUS II		.12	.24		.42	.12	.98	.32	1.58	.22		36.88	
CALANUS FINMARCHICUS III		.61	.60	.39	1.10	.30	1.57	.53	4.74	.88		96.19	
CALANUS FINMARCHICUS IV		2.06	1.55	.69	2.04	.89	1.66	1.05	3.56	2.41		162.56	
CALANUS FINMARCHICUS V		4.85	2.87	1.82	2.88	3.08	7.44	8.74	24.69	22.14		724.74	
CALANUS FINMARCHICUS VI		2.18	1.91	.89	1.46	.65	1.66	.95	3.16	5.48		195.74	
CALANUS GRACILIS		.24	.12	.05	.05	.12	.20					10.61	
CALANUS GLACIALIS		.73	.96	.59	.47	.41	.29	.32	.99	1.10		64.57	
CALANUS GLACIALIS III						.10				.20		1.82	
CALANUS GLACIALIS IV		.24	.48	.34	.31	.06	.10	.32	.20	.22		25.25	
CALANUS GLACIALIS V		.48	.48	.25	.05	.36	.20		.59	.88		37.49	
CALANUS HYPERBOREUS		8.36	11.46	4.38	2.41	1.42	2.45	1.47	1.78	1.75		441.95	
CALANUS HYPERBOREUS III		.12										1.58	
CALANUS HYPERBOREUS IV		4.85	6.69	2.22	1.41	.77	1.08	.84	.40	.44		234.90	
CALANUS HYPERBOREUS V		2.30	3.22	1.82	.94	.59	1.27	.32	1.19	.88		155.97	
CALANUS HYPERBOREUS VI		1.09	1.55	.34	.05	.06	.10	.32	.20	.44		49.50	
CENTROPAGES BRADYI			.12									1.43	
CENTROPAGES TYPICUS			.12									3.84	
CLAUSOCALANUS ARCUICORNIS		.12		.05	.16	.12		.42	.99	3.73		53.34	
CLYTEMNESTRA SCUTELLATA		.12										1.58	
EUCHAETA NORVEGICA			.12									1.43	
EUCHAETA SP.		.12							.10	.11	.40		5.64
HARPACTICOID						.06						.77	
METRIDIA LUCENS		1.33	2.27	2.22	4.60	2.49	3.91	6.95	8.69	17.53		489.52	
OITHONA ATLANTICA				.20		.06	.39		.40	.22		15.16	
OITHONA SIMILIS		.85		.05								11.97	
PARACALANUS PARVUS								.10				1.57	
PLEUROMAMMA GRACILIS				.05								.94	
PSEUDOCALANUS MINUTUS		1.21	.36	.15	.78	.53	1.66	.53	6.32	1.75		116.21	
SCOLECITHRICELLA MINOR		.24	.36	.10	.05		.39	.11	.40			18.50	
EUPHAUSIACEA					.10			.10				3.44	
EUPHAUSID NAUPLII				.05			.10					2.50	
CHAETOGNATHA				.05								.94	

L A R G E M E S O Z O O P L A N K T O N & I C H T H Y O P L A N K T O N

UNIDENTIFIED SIPHONOPHORA						.009						.147
TOTAL CTENOPHORA					.020							.157
TOTAL AMPHIPODA									.037			.185
PARATHEMISTO GRACILIPES									.037			.185
TOTAL EUPHAUSIACEA		.364	.403	.169	.235	.309	.193	.316	.148	.027	24.377	
MEGANYCTIPHANES NORVEGICA		.364	.403	.162	.235	.309	.193	.316	.148	.027	24.231	
THYSANOESSA LONGICAUDATA				.008								.146
TOTAL CHAETOGNATHA			.060	.008	.020		.018					1.313
EUKROHNIA HAMATA					.020							.157
SAGITTA ELEGANS			.060	.008			.018					1.156

STATION	5	14/04/84	2100H	45 24.61 N	59 43.31 W							
SAMPLE				2	3	4	5	6	7	8	9	10
DEPTH1 (M)				120.0	107.0	94.0	81.0	68.0	55.0	42.0	29.0	16.0
DEPTH2 (M)				107.0	94.0	81.0	68.0	55.0	42.0	29.0	16.0	.0
VOLUME OF WATER SAMPLED (M3)				87.	70.	131.	125.	97.	105.	127.	180.	65.
TOTAL BIOMASS (G/M3)				.231	.188	.016	.115	.066	.191	.446	.107	.035
												18.251

SPECIES	NUMBER PER CUBIC METER										#/M2
SIPHONOPHORA	.	.30	.	.	.	.	.	.	.	.	3.96
POLYCHAETA	.	.	.	.	.33	.	.	.	.	.	4.29
POLYCHAET LARVAE	.	.	.	.	.	.	.	.	.	.33	5.25
GASTROPODA	1.47	.	.12	.34	.	.	.	16.13	5.69	1.31	329.75
GYMNOSONATA	1.47	.	.	.	.	.	.	.	.	.	19.13
LIMACINA SP.	.	.	.	.12	.34	.	.	16.13	5.69	1.31	310.62
COPEPODA	523.77	108.80	26.75	189.44	158.02	1024.00	3176.82	631.47	130.30	77992.60	.
CALANUS FINMARCHICUS	55.91	12.80	2.26	17.41	13.53	68.27	185.45	122.31	24.29	6601.66	.
CALANUS FINMARCHICUS I	1.47	.30	.06	1.02	.66	29.26	96.76	31.29	1.97	2122.20	.
CALANUS FINMARCHICUS III	.	.	.37	.68	2.97	19.50	40.31	39.82	2.95	1394.84	.
CALANUS FINMARCHICUS IIII	.	2.13	.43	1.37	4.29	9.75	8.06	22.76	8.53	770.75	.
CALANUS FINMARCHICUS IV	2.94	.61	.31	1.37	1.32	.	8.06	5.69	2.95	311.09	.
CALANUS FINMARCHICUS V	20.60	2.74	.43	2.73	1.98	4.88	24.19	8.53	1.64	885.25	.
CALANUS FINMARCHICUS VI	30.90	7.01	.73	10.24	2.31	4.88	8.06	14.22	6.24	1118.32	.
CALANUS GRACILIS	2.94	.	.	.34	.	.	.	.	.	.	42.69
CALANUS GLACIALIS	2.94	.61	.55	2.73	4.95	24.38	96.76	56.89	10.50	2635.53	.
CALANUS GLACIALIS I	.	.30	.06	.	2.31	14.63	32.25	31.29	3.61	1108.74	.
CALANUS GLACIALIS II	.	.	.	.	.99	4.88	8.06	25.60	4.59	587.39	.
CALANUS GLACIALIS III	.	.	.24	.	.66	.	16.13	.	1.31	242.40	.
CALANUS GLACIALIS IV	1.47	.30	.06	.68	.66	4.88	32.25	.	.	524.00	.
CALANUS GLACIALIS V	.	.	.18	2.05	.33	.	8.06	.	.33	143.36	.
CALANUS GLACIALIS VI	1.47	.	.	.	.	.	.	.	.66	29.63	.
CALANUS HYPERBOREUS	97.10	22.86	6.11	40.96	41.24	263.31	548.28	17.07	7.55	13600.86	.
CALANUS HYPERBOREUS I	.	.	.	.	.85	2.05	6.27	58.51	8.53	.66	1245.55
CALANUS HYPERBOREUS II	.	.	.	.	.	3.96	34.13	48.38	8.53	.	2196.36
CALANUS HYPERBOREUS III	61.79	16.46	3.48	20.14	22.76	136.53	290.27	.	2.30	7205.40	.
CALANUS HYPERBOREUS IV	4.41	1.52	.73	6.83	4.62	34.13	104.82	.	.66	2052.39	.
CALANUS HYPERBOREUS V	20.60	2.44	.79	8.87	2.31	.	8.06	.	.33	565.25	.
CALANUS HYPERBOREUS VI	10.30	2.44	.24	3.07	1.32	.	8.06	.	.33	335.92	.
CLAUSOCALANUS ARCUICORNIS	1.47	.	.06	.	.	4.88	32.25	.	.66	513.09	.
EUCHAETA SP.	26.48	.91	.	.	.	.	.	.	.	.	356.16
METRIDIA LUCENS	80.92	.	.31	2.39	2.64	.	.	.	1.31	1142.30	.
OITHONA ATLANTICA	2.94	.30	.	.	.	.	.	.	.	.	42.21
OITHONA SIMILIS	.	.91	.12	.	.	.	24.19	2.84	1.64	391.16	.
PSEUDOCALANUS MINUTUS	17.66	9.14	2.93	10.58	16.49	243.81	1241.70	204.80	18.71	23011.83	.
SCOLECITHRICELLA MINOR	13.24	1.83	.	.	.	.	.	.	.	.	195.91
TEMORA LONGICORNIS	5.89	.	.24	.34	.	.	8.06	2.84	.	.	225.92
TORTANUS DISCAUDATUS	.	.	.	.	.	.	.	.	.33	5.25	.
CIRRIPED LARVAE	2.94	.	.	.	.	9.75	8.06	2.84	.	.	306.83
AMPHIPODA	.	.	.	.	.34	.	.	2.84	.98	.	57.17
PARATHEMISTO SP. JUVENILE	.	.	.	.	.34	.	.	2.84	.98	.	57.17
EUPHAUSIACEA	7.36	.91	.43	1.37	8.58	351.09	798.24	164.98	14.44	17550.28	.
EUPHAUSID CALYPTOSIS	.	.	.12	.	.99	4.88	.	2.84	.	.	114.82
EUPHAUSID NAUPLII	7.36	.91	.31	1.37	7.59	346.21	798.24	162.13	14.44	17444.46	.
EUPHAUSID EGGS	47.08	14.63	.67	4.78	3.63	29.26	169.32	28.44	3.61	3929.33	.
DECAPODA	.	.	.	.	.34	.	.	.	.	.	4.44
UNIDENTIFIED DECAPOD	.	.	.	.	.34	.	.	.	.	.	4.44
CHAETOGNATHA	.	.	.	.06	.	.	.	.	.	.	.79
SAGITTA SP.	.	.	.	.06	.	.	.	.	.	.	.79
OIKOPLEURA SP.	1.47	.	.06	.34	.	4.88	48.38	14.22	2.63	943.56	.

L A R G E M E S O Z O O P L A N K T O N & I C H T H Y O P L A N K T O N

AGLANTHA DIGITALE	.069	.071	.031	.024	.031	.067	.213	.	.	6.567
TOTAL CTENOPHORA	.	.	.	.008	.	.	.008	.	.	.206
CLIONE SP.	.	.	.	.	.	.	.008	.	.	.102
TOTAL AMPHIPODA	.	.	.	.008	.	.	.	.	.	.104
GAMMARID UNIDENTIFIED	.	.	.	.008	.	.	.	.	.	.104
TOTAL EUPHAUSIACEA	.034	.014	.	.008	.010	.010	.102	.033	.	2.760
MEGANYCTIPHANES NORVEGICA	.034	.014	.	.008	.	.	.008	.	.	.840
THYSANOESSA INERMIS	.	.	.	.	.	.	.087	.011	.	1.270
THYSANOESSA LONGICAUDATA	.	.	.	.	.018	.010	.008	.022	.	.649
TOTAL CHAETOGNATHA	.264	.157	.015	.040	.062	.067	.197	.006	.	10.500
EUKROHNIA HAMATA	.241	.114	.008	.016	.	.	.	.	.	4.931
SAGITTA ELEGANS	.023	.043	.008	.024	.062	.067	.197	.006	.	5.569
OIKOPLEURA SP.	.023	.	.	.	.	.	.008	.011	.	.546
TOTAL PISCES	.	.	.	.	.029	.016	.006	.	.	.648
AMMODYTES DUBIUS	.	.	.	.	.029	.016	.006	.	.	.648

LARGE MESOZOOPLANKTON & LIGHT HYDROPLANKTON

AGLANTHA DIGITALE	.039	.	.	.	.	.	.	.	.273
TOMOPTERIS HELGOLANDICA	.013	.	.	.	.	.	.	.	.091
TOTAL AMPHIPODA	.013	.013	.	.	.	.	.	.	.182
PARATHEMISTO ABYSSORUM	.013	.013	.	.	.	.	.	.	.182
TOTAL EUPHAUSIACEA	.013	.	.059	.	.	.	.	.	.503
MEGANCYCLOPHANES NORVEGICA	.013	.	.	.	.	.	.	.	.091
UNIDENTIFIED EUPHAUSIID	.	.	.059	.	.	.	.	.	.412
TOTAL CHAETOGNATHA	.143	.052	.059	.	.	.	.	.	1.775
EUKROHNIA HAMATA	.013	.	.	.	.	.	.	.	.091
SAGITTA ELEGANS	.130	.052	.059	.	.	.	.	.	1.684
OIKOPLEURA SP.	.	.	.029	.	.	.	.	.	.206
TOTAL PISCES	.052	.013	.500	.	.	.	.	.	3.955
AMMODYTES DUBIUS	.052	.013	.500	.	.	.	.	.	3.955

STATION	7	15/04/84	2000H	43 56.78 N	58 45.43 W							
SAMPLE				2	3	4	5	6	7	8	9	10
DEPTH1 (M)				150.0	121.0	103.0	81.0	70.0	54.0	39.0	22.0	7.0
DEPTH2 (M)				121.0	103.0	81.0	70.0	54.0	39.0	22.0	7.0	0
VOLUME OF WATER SAMPLED (M3)				36.	120.	99.	48.	68.	49.	85.	87.	103.
TOTAL BIOMASS (G/M3)				.102	.073	.130	.158	.163	.150	.185	.147	.193
												20.444

SPECIES						NUMBER	PER CUBIC METER			#/M2
INVERTEBRATE EGGS										3.73
GASTROPODA						1.60	3.76	3.92	15.81	4.41
GYMNOSOMATA						.80	3.76	1.31		
LIMACINA LESEURI								2.61	13.55	4.41
LIMACINA TROCHIFORMIS						.80			2.26	
OSTRACODA										3.73
CONCHOECIA ELEGANS						.67				
CONCHOECIA SPINOIROSTRIS						.67	.53	.80		
COPEPODA						223.33	167.47	748.61	354.40	768.00
AETIDEUS ARMATUS						5.33	3.73	11.64		
CALANUS FINMARCHICUS						57.33	34.13	267.64	127.20	314.35
CALANUS FINMARCHICUS I						6.67	5.33		1.60	
CALANUS FINMARCHICUS II									3.76	
CALANUS FINMARCHICUS III						1.33			.80	
CALANUS FINMARCHICUS IV						2.67	3.20	50.42	20.80	32.00
CALANUS FINMARCHICUS V						35.33	13.87	149.33	64.00	182.59
CALANUS FINMARCHICUS VI						11.33	11.73	67.88	40.00	92.24
CALANUS GLACIALIS						4.67	4.80	19.39	6.40	16.94
CALANUS GLACIALIS I									7.84	20.33
CALANUS GLACIALIS II						.67			1.31	
CALANUS GLACIALIS III										3.73
CALANUS GLACIALIS IV						.67				
CALANUS GLACIALIS V						3.33	4.80	17.45	4.00	9.41
CALANUS GLACIALIS VI								1.94	1.60	3.76
CALANUS HYPERBOREUS						3.33	6.40	9.70	6.40	7.53
CALANUS HYPERBOREUS III							1.07		1.60	1.88
CALANUS HYPERBOREUS IV						2.00	4.27	7.76	2.48	1.88
CALANUS HYPERBOREUS V						1.33	1.07	1.94	2.40	3.76
CLAUSOCALANUS ARCUICORNIS						.67	4.27	1.94	2.40	
EUCHAETA SP.										3.92
EUCHIRELLA ROSTRATA							.53	5.82	.80	1.88
METRIDIA LONGA						1.33				
METRIDIA LUCENS						20.67	14.93	81.45	39.20	50.82
OITHONA ATLANTICA						3.33	6.93	1.94	4.80	1.88
OITHONA SIMILIS						.67	1.60			
PARAEUCHAETA NORVEGICA						4.67	3.20	5.82	1.60	
PLEUROMAMMA BOREALIS								1.94		
PSEUDOCALANUS MINUTUS						12.00	8.00	3.88	8.00	1.88
SCOLECTHIRICELLA MINOR						5.33	6.93	3.88	1.60	3.76
TEMORA LONGICORNIS										1.31
TEMORA SP.										
UNIDENTIFIED CUMACEAN								1.94		
AMPHIPODA										4.41
PARATHEMISTO ABYSSORUM										11.18
PARATHEMISTO SP.										144.58
EUPHAUSIACEA						20.00	16.00	3.88	.80	1.88
THYSANOESSA INERMIS FURCILAE								.80		
T. LONGICAUDATA FURCILAE								3.88		
THYSANOESSA RASCHII FURCILAE								1.60	1.88	
EUPHAUSID FURCILAE						1.33	.53		2.61	
EUPHAUSID NAUPLII						18.67	15.47			6.53
OIKOPLEURA SP.							.53			

LARGE MESOZOOPLANKTON & ICHTHYOPLANKTON

AGLANTHA DIGITALE			.010	.021			.012	.011		.824
UNIDENTIFIED SIPHONOPHORA							.020			.306
CLIONE SP.									.011	.172
TOTAL AMPHIPODA			.028	.033	.071	.021	.029	.041	.092	.330
PARATHEMISTO ABYSSORUM			.028							.806
PARATHEMISTO GAUDICHAUDII				.033	.071		.029	.041	.092	.330
PARATHEMISTO SP.						.021				.229
TOTAL EUPHAUSIACEA						.061		.041	.011	.2118
THYSANOESSA INERMIS								.020	.011	.479
THYSANOESSA LONGICAUDATA						.061		.020		1.639

STATION 7 15/04/84 2000H
SAMPLE

(CONTINUED)

2 3 4 5 6 7 8 9 10

SPECIES	NUMBER PER CUBIC METER									#/M2
TOTAL CHAETOGNATHA	.361	.350	.323	.646	.191	.184	.153	.057	.165	41.419
EUKROHNIA HAMATA	.250	.317	.232	.521	.147	.102	.012	.	.	27.874
SAGITTA ELEGANS	.056	.017	.071	.125	.044	.082	.141	.057	.165	11.189
SAGITTA HEXAPTERA	.056	.017	.020	.	.	.	.	.	.	2.356
TOTAL PISCES	.	.	.	.	.	.020	.	.011	.010	.546
AMMODYTES DUBIUS	.	.	.	.	.	.	.	.011	.010	.240
UROPHYCIS CHUSS	.	.	.	.	.	.020	.	.	.	.306

SPECIES											/M2
INVERTEBRATE EGGS			.03								1.36
POLYCHAETA		.28	.03		.02	.06	.12				25.37
POLYCHAET LARVAE	.06										3.88
GASTROPODA	.06	.14				.09		.06	.03		19.79
LIMACINA LESEURI	.06	.07				.09		.03	.03		14.86
LIMACINA TROCHIFORMIS		.07							.03		4.93
OSTRACODA	.50	.50	.14	.70	.01	.24	.15	.28	1.32		201.35
CONCHOECIA CURTA							.03		.03		3.24
CONCHOECIA ELEGANS	.06		.05	.04		.12	.06	.08	.46		44.74
CONCHOECIA HADDONI	.06		.03								5.24
CONCHOECIA OBTUSATA	.22	.50	.03	.39		.03	.03	.08	.52		94.19
CONCHOECIA PARTHENODA				.04							1.75
CONCHOECIA SPINIROSTRIS	.06										3.88
CONCHOECIA SP.	.06			.04		.09	.03	.06	.28		28.21
COPEPODA	16.35	18.05	8.52	16.11	1.17	11.70	12.01	13.71	20.14		6215.18
AETIDEUS ARMATUS		.07	.03			.06	.03	.06			12.41
AMALLOTHRIX VALIDA		.07									3.54
ARIETELLUS SP.		.07									3.54
CALANUS FINMARCHICUS	1.11	1.56	.68	.81	.08	1.08	1.28	.72	.98		437.45
CALANUS FINMARCHICUS I	.06							.03			5.37
CALANUS FINMARCHICUS II				.04	.01	.03	.03	.06	.03		9.51
CALANUS FINMARCHICUS III	.06						.03	.03			7.09
CALANUS FINMARCHICUS IV	.11	.21	.11	.14	.04	.18	.15	.08	.06		56.78
CALANUS FINMARCHICUS V	.72	.78	.46	.49	.03	.60	.86	.47	.74		272.09
CALANUS FINMARCHICUS VI	.17	.57	.11	.14		.24	.18	.11	.15		86.83
CALANUS GRACILIS	.06								.11		9.46
CALANUS GLACIALIS	.06	.07		.14				.03			22.06
CALANUS GLACIALIS V	.06	.07		.14				.03			20.52
CALANUS GLACIALIS VI									.03		1.53
CALANUS HYPERBOREUS	.72	1.27	.57	1.23	.16	1.17	2.14	2.68	3.31		676.98
CALANUS HYPERBOREUS III							.06	.12			8.96
CALANUS HYPERBOREUS IV	.17	.78	.35	.77	.10	.87	1.34	1.48	2.08		400.60
CALANUS HYPERBOREUS V	.39	.07	.14	.35	.04	.09	.42	.70	.52		143.29
CALANUS HYPERBOREUS VI	.17	.42	.08	.07	.01	.15	.27	.50	.70		122.38
CANDACIA ARMATA				.11							5.26
CHIRIDIUS GRACILIS	.06		.03	.07		.12	.03	.08	.28		34.45
CHIRIDIUS OBTUSIFRONS		.07									3.54
CLAUSOCALANUS ARCUICORNIS	.33	.42	.27	.32		.12	.06	.11	.55		116.29
CLAUSOCALANUS SP.			.03								1.36
CLYTEMNESTRA ROSTRATA	.06										3.88
CONAEA RAPAX	.44		.08								35.13
EUCALEANUS ATTENUATUS			.03					.06	.06		7.12
EUCALEANUS CRASSUS	.28	.21	.11				.18	.18	.08	.21	68.54
EUCALEANUS ELONGATUS			.08							.03	5.61
EUCHAETA ACUTA							.03				1.50
EUCHIRELLA ROSTRATA	.11		.05	.07		.03	.06	.11			24.04
GAIDIUS KRUPPI				.04							1.75
GAIDIUS TENUISPINUS								.03	.03	.12	9.01
HALOPTILUS ANGUSTICEPS			.03								1.36
HETERORHABDUS NORVEGICUS	.22	.42	.05	.07			.15				50.73
HETERORHABDUS PAPILLIGER							.12	.27	.06	.15	29.85
HETERORHABDUS SP.	.06										3.88
LUCICUTIA ATLANTICA			.03								1.36
LUCICUTIA GRANDIS		.07									3.54
LUCICUTIA OVALIS				.21							10.53
METRIDIA BREVICAUDA	.39	.14	.03				.18	.33	.03	.03	63.91
METRIDIA LONGA	.06										3.88
METRIDIA LUCENS	1.44	1.56	.98	1.19	.09	1.35	.27	.75	.46		433.54
METRIDIA PRINCEPS					.01						.45
MICROCALANUS PUSSILUS	.55	.35	.05						.06		62.02
MICROCALANUS SP.	.28										19.40
MORMONILLA PHASMA			.05								2.72
OITHONA ATLANTICA							.09	.03		.03	7.53
OITHONA SIMILIS	.06		.03				.18				14.26
ONCAEA CONIFERA			.05	.04	.02	.12	.12	.03	.28		32.52
ONCAEA SP.	.39										27.17
ONCAEA VENUSTA		.35	.19	.32	.01	.12	.06	.11	.64		90.21

STATION 8 16/04/84 0900H
SAMPLE

(CONTINUED)

	2	3	4	5	6	7	8	9	10
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SPECIES										#/M2
PARAEUCHAETA GRACILIS09	.	.	4.46
PARAEUCHAETA NORVEGICA	.	.21	.	.04	.01	.	.03	.20	.43	45.52
PARAEUCHAETA TONSA	.	.	.	.28	.01	.33	.06	.25	.70	82.01
PHYLLOPODUS IMPAR	.	.	.	.	.	.03	.	.	.	1.50
PLEUROMAMMA BOREALIS	.	.	.	.	.	.06	.	.03	.12	10.53
PLEUROMAMMA GRACILIS	.06	.	.	.	.	.	.	.	.	3.88
PLEUROMAMMA ROBUSTA	.06	.	.03	.07	.	.	.	.03	.	10.37
PLEUROMAMMA SP.	.	.	.03	.	.	.	.	.	.	1.36
PLEUROMAMMA XIPHIAS	.	.	.	.	.	.	.	.03	.	1.39
PSEUDOCALANUS MINUTUS	.28	.14	.	.14	.	.03	.03	.03	.09	42.71
RHINCALANUS CORNUTUS	.11	.07	.	.04	.	.	.	.	.	13.28
RHINCALANUS NASUTUS	.44	.28	.05	.32	.04	.06	.06	.06	.03	75.80
SCAPHOCALANUS MEDIUS	.	.07	.	.	.	.03	.	.	.	5.04
SCAPHOCALANUS BREVICORNIS	.17	.28	.03	.	.	.	.	.	.	27.16
SCAPHOCALANUS SP.	.06	.	.	.	.	.	.	.	.	3.88
SCOLECITHRICELLA ABYSSALLIS	.	.28	.08	.	.	.	.09	.03	.09	28.69
SCOLECITHRICELLA MINOR	.17	.14	.05	.63	.02	.21	.15	.47	.77	134.11
SPINOCALANUS ABYSSALIS	.78	.85	.46	.77	.07	.66	.24	.33	.67	257.53
SPINOCALANUS SP.	.67	.57	.41	.42	.01	.15	.06	.03	.06	131.75
TEMORA SP.	.06	.	.	.	.	.	.	.	.	3.88
UNDEUCHAETA MAJOR	.	.	.	.	.	.	.03	.	.	1.49
MYSID	.	.07	.	.	.	.	.	.	.	3.54
AMPHIPODA	.	.	.03	.04	.	.12	.03	.	.03	12.15
PARATHEMISTO ABYSSORUM	.	.	.	.	.	.03	.	.	.	1.50
PARATHEMISTO LIBELLUTA	.	.	.	.	.	.03	.	.	.	1.50
PARATHEMISTO SP.	.	.	.	.	.	.	.	.	.03	1.53
UNIDENTIFIED AMPHIPODA	.	.	.03	.04	.	.06	.03	.	.	7.61
EUPHAUSIACEA	.11	.28	.03	.11	.01	.	.09	.11	.06	42.09
EUPHAUSID FURCILAE	.	.07	.	.	.	.	.	.	.	3.76
EUPHAUSID NAUPLII	.11	.21	.03	.	.	.	.	.11	.	25.54
CHAETOGNATHA	.06	.	.03	.04	.	.03	.	.	.09	13.10
SAGITTA MACROCEPHALA	.	.	.	.04	.	.	.	.	.	1.75
SAGITTA SP.	.	.	.	.03	.	.	.	.	.	1.36

L A R G E M E S O Z O O P L A N K T O N & I C H T H Y O P L A N K T O N

AGLANTHA DIGITALE	.002	.	.	.	.	.	.	.	.	.146
UNIDENTIFIED SIPHONOPHORA	.002	.	.	.	.	.	.	.	.004	.337
TOTAL MEDUSAE	.010	.004	.	.004	.009	.011	.	.003	.	2.309
TOTAL AMPHIPODA	.	.004	.	.	.	.	.007	.003	.008	1.150
PARATHEMISTO GAUDICHAUDII	.	.	.	.	.	.	.004	.003	.004	.552
GAMMARID 1	.	.004	.	.	.	.	.004	.	.004	.599
TOTAL EUPHAUSIACEA	.	.004	.	.	.	.	.	.003	.	.395
THYSANOESSA INERMIS	.	.004	.	.	.	.	.	.003	.	.395
TOTAL MYSIDACEA	.008	.027	.020	.021	.004	.008	.011	.007	.	5.488
TOTAL DECAPODA	.	.004	.007	.	.009	.	.007	.003	.008	1.937
GENNADAS SP.	.	.	.	.	.004	.	.007	.	.	.595
SERGESTES SP.	.	.004	.007	.	.004	.	.	.003	.008	1.342
TOTAL CHAETOGNATHA	.127	.102	.102	.105	.031	.045	.041	.028	.050	34.078
EUKROHNIA FOWLERI	.	.	.	.	.	.011	.	.	.	.564
EUKROHNIA HAMATA	.017	.	.017	.025	.022	.015	.011	.028	.042	9.169
KROHNITTA SUBTILIS	.	.	.	.	.004	.	.	.	.	.223
SAGITTA ELEGANS	.	.	.	.	.	.	.004	.	.	.186
SAGITTA MACROCEPHALA	.110	.066	.082	.070	.004	.015	.019	.	.	20.527
SAGITTA MAXIMA	.	.	.003	.	.	.	.004	.	.008	.739
SAGITTA ZETOSIS	.	.004	.	.011	.	.004	.004	.	.	1.121
UNIDENTIFIED CHAETOGNATHS	.031	.	.	.	.	.	.	.	.	1.549
TOTAL PISCES	.	.004	.007	.	.009	.019	.026	.045	.031	7.046
BENTHOSEMA GLACIALE	.	.	.	.	.	.	.004	.	.	.186
CYCLOTHONE SP.	.	.004	.007	.	.009	.019	.022	.045	.031	6.860

STATION 9 16/04/84 1300H
SAMPLE

(CONTINUED)

2 3 4 5 6 7 8 9 10

SPECIES										#/M2
OITHONA ATLANTICA	.	.16	.05	.	.02	.13	.22	.09	1.85	118.00
OITHONA SIMILIS	.09	.	.	.	.01	.	.	.02	.62	34.79
OITHONA SP.	.	.	.	.	.01	.	.	.	.	.50
ONCAEA CONIFERA	.74	.62	.	.	.01	.03	.07	.02	.	65.82
ONCAEA SP.	.37	.47	.14	.07	.02	.	.	.02	.	47.47
PLEUROMAMMA ABDOMINALIS	.09	1.09	1.13	.34	.10	.13	.07	.	.	129.99
PLEUROMAMMA BOREALIS	.28	.62	.27	.07	.19	.	.	.	.	63.10
PLEUROMAMMA GRACILIS	.18	.	.14	.20	.	.25	.15	.03	.	42.10
PLEUROMAMMA SP.	.	.	.	.	.	.03	.	.	.	1.40
PLEUROMAMMA XIPHIAS	.09	.	.	.	.08	.	.	.	.	7.59
PSEUDOCALANUS MINUTUS	.28	.	.23	.20	.01	.19	.52	.02	.31	78.25
PSEUDOCHIRELLA NOTOCANTHA	.09	.	.	.	.	.	.	.	.	4.06
RHINCALANUS CORNUTUS	.09	.	.05	.	.	.	.	.	.	6.04
SCAPHOCALANUS SP.	.	.	.16	.23	.	.06	.	.02	.	20.27
SCOЛЕCITHRICELLA MINOR	1.11	2.19	.23	.47	.03	.19	.15	.02	3.69	369.99
SCOЛЕCITHRICELLA SP.	.09	.	.	.07	.	.	.	.	.	7.04
SCOTTOCALANUS SECURIFRONS	.	.	.	.07	.	.	.	.	.	2.97
SPINOCALANUS ABYSSALIS	.74	1.56	.81	.88	.17	.03	.45	.	.	204.10
SPINOCALANUS SP.	.55	.	.09	.	.	.06	.	.03	.	32.51
TEMORA LONGICORNIS	.18	.	.05	.	.	.	.	.	.	10.11
UNDEUCHAETA MAJOR	.	.	.	.	.	.03	.	.	.	1.40
UNDEUCHAETA PLUMOSA	.09	.	.	.	.	.	.	.	.	4.06
CIRRIPED LARVAE	.	.	.	.	.	.	.	.02	.	.69
AMPHIPODA	2.49	18.11	.41	.14	.	.	.07	.09	1.85	1026.19
AMPHIPOD EGGS	2.49	17.95	.36	.14	.	.	.07	.08	1.85	1016.65
PARATHEMISTO ABYSSORUM	.	.16	.	.	.	.	.	.	.	6.87
PARATHEMISTO SP. JUVENILE	.	.	.05	.	.	.	.	.02	.	2.67
EUPHAUSIACEA	.18	.	.14	.	.01	.03	.	.02	.31	31.43
THYSANOESSA SP.	.	.	.	.	.01	.	.	.	.	.50
EUPHAUSID CALYPTOSIS	.18	.	.14	.	.	.03	.	.02	.31	30.93
DECAPODA	.09	.31	.	.	.	.	.	.	.	17.80
DECAPOD LARVAE	.09	.31	.	.	.	.	.	.	.	17.80
CHAETOGNATHA	.37	.16	.	.	.01	.03	.	.	.	25.02
SAGITTA SP.	.37	.16	.	.	.01	.03	.	.	.	25.02

LARGE MESOZOOPLANKTON & ICHTHYOPLANKTON

AGLANTHA DIGITALE	.	.	.	.	.	.	.	.002	.007	.432
TOTAL MEDUSAE	.005	.	.	.	.002	.	.	.	.	.317
SOUID	.	.	.	.	.	.	.	.002	.	.115
UNIDENTIFIED POLYCHAETA	.005	.	.	.	.	.	.	.	.	.212
TOTAL AMPHIPODA	.014	.041	.075	.063	.002	.382	.044	.004	.038	29.375
PARATHEMISTO GAUDICHAUDII	.014	.033	.075	.063	.002	.382	.044	.004	.038	29.017
GAMMARID UNIDENTIFIED	.	.008	.	.	.	.	.	.	.	.358
TOTAL EUPHAUSIACEA	.010	.	.	.	.005	.008	.002	.	.	1.085
EUPHAUSIA GIBBA GROUP	.	.	.	.	.	.002	.	.	.	.087
MEGANYCTIPHANES NORVEGICA	.	.	.	.	.002	.	.	.	.	.105
NEMATOSCELIS SP.	.	.	.	.	.	.	.002	.	.	.102
THYSANODESSA LONGICAUDATA	.	.	.	.	.002	.006	.	.	.	.367
THYSANOPODA SP.	.010	.	.	.	.	.	.	.	.	.423
TOTAL DECAPODA	.005	.008	.005	.	.	.	.	.	.002	.891
SERGESTES SP.	.005	.008	.005	.	.	.	.	.	.	.776
DECAPOD LARVAE	.	.	.	.	.	.	.	.	.002	.115
TOTAL CHAETOGNATHA	.058	.057	.038	.035	.005	.018	.111	.021	.322	30.549
EUKROHNIA HAMATA	.048	.024	.038	.035	.002	.014	.095	.016	.228	22.942
KROHNITTA SUBTILIS	.005	.	.	.	.	.	.	.	.	.212
SAGITTA ELEGANS	.	.	.	.	.	.	.009	.004	.007	.926
SAGITTA MAXIMA	.	.016	.	.	.	.004	.007	.002	.087	.5.436
SAGITTA ZETOSIS	.005	.016	.	.	.002	.	.	.	.	1.032
TOTAL PISCES	.053	.049	.019	.092	.007	.	.002	.	.002	9.860
AMMODYTES DUBIUS	.	.	.	.	.	.	.	.	.002	.115
BENTHOSEMA GLACIALE	.010	.016	.019	.092	.007	.	.	.	.	6.308
CYCLOTHONE SP.	.043	.033	.	.	.	.	.002	.	.	3.437

STATION 10 16/04/84 1600H
SAMPLE

(CONTINUED)

SPECIES	1	2	3	4	5	6	7	8	9	10	#/M2
PARATHEMISTO SP.	2.37	.	.	.	.	.	.	.	.	.	47.41
PARATHEMISTO SP. JUVENILE	.	.	2.09	.41	.	.	.	.	.	.	50.08
EUPHAUSIACEA	21.33	6.44	3.13	.83	.73	.	.06	.28	.	.	657.79
T. LONGICAUDATA FURCILAE	2.37	.	.	.	.	.	.	.	.	.	47.41
EUPHAUSID CALYPTOSIS	.	.	2.09	.41	.73	.	.	.28	.	.	71.67
EUPHAUSID FURCILAE	7.11	.	.	.	.	.	.	.	.	.	142.22
EUPHAUSID NAUPLII	.	3.22	1.04	.41	.	.	.06	.	.	.	95.05
CHAETOGNATHA	.	.	.	.41	.73	.	.06	.	.38	.16	40.00
SAGITTA SP.	.	.	.	.41	.73	.	.06	.	.38	.16	40.00
OIKOPLEURA SP.	.	.	.	.41	.	.07	.12	.	.	.	12.89

L A R G E M E S O Z O O P L A N K T O N & I C H T H Y O P L A N K T O N

AGLANTHA DIGITALE	.	.	.	.	.006	.007	.018	.022	.015	.	1.667
TOTAL MEDUSAE	.019	.	.010	.	.	.	.	.	.	.	.574
TOTAL CTENOPHORA	.019	.	.	.	.	.	.	.	.	.	.370
QUID	.	.	.010	.	.	.	.	.	.	.	.314
TOTAL AMPHIPODA	.019	.019	.041	.039	.023	.	.026	.018	.020	.242	14.067
PARATHEMISTO ABYSSORUM	.	.	.	.	.	.	.	.004	.	.	.110
PARATHEMISTO GAUDICHAUDII	.019	.019	.041	.039	.023	.	.026	.013	.020	.242	13.956
TOTAL EUPHAUSIACEA	.074	.	.	.	.	.	.	.	.010	.	1.729
EUPHAUSIA SP.	.	.	.	.	.	.	.	.	.010	.	.248
THYSANOESSA LONGICAUDATA	.074	.	.	.	.	.	.	.	.	.	1.481
TOTAL DECAPODA	.	.019	.	.	.	.	.	.	.	.	.377
SERGESTES SP.	.	.019	.	.	.	.	.	.	.	.	.377
TOTAL CHAETOGNATHA	.667	.132	.173	.650	.392	.112	.172	.260	.124	.039	58.558
EUKROHNIA HAMATA	.056	.019	.163	.485	.313	.091	.142	.216	.114	.024	35.764
SAGITTA ELEGANS	.574	.113	.010	.010	.	.	.004	.	.	.	14.235
SAGITTA MAXIMA	.019	.	.	.155	.080	.021	.026	.044	.010	.012	8.067
SAGITTA ZETOSIS	.019	.	.	.	.	.	.	.	.	.003	.492
TOTAL PISCES	.	.	.020	.	.	.	.	.004	.	.	.518
BENTHOSEMA GLACIALE	.	.	.020	.	.	.	.	.	.	.	.408
NOTOLEPIS RISSORI	.	.	.	.	.	.	.	.004	.	.	.110

STATION 11 17/04/84 0800H 44 25.7 N 56 19.34 W

SAMPLE	2	3	4	5	6	7	8	9	10
DEPTH1 (M)	800.0	733.0	666.0	599.0	532.0	465.0	398.0	331.0	264.0
DEPTH2 (M)	733.0	666.0	599.0	532.0	465.0	398.0	331.0	264.0	200.0
VOLUME OF WATER SAMPLED (M3)	389.	224.	246.	200.	104.	121.	183.	88.	109.
TOTAL BIOMASS (G/M3)	.020	.048	.042	.149	.123	.018	.113	.145	.085
									49.538

SPECIES	NUMBER	PER CUBIC METER	#/M2
FORAMINIFERA	2.88	2.78	1154.52
SIPHONOPHORA	.08	.22	41.28
POLYCHAETA	.09	.71	129.76
POLYCHAET LARVAE	.05		3.06
GASTROPODA	.08	.08	297.97
GYMNOSOMATA	.	.	31.31
LIMACINA HELICOIDES	.	.	62.63
LIMACINA RETROVERSA	.	.	31.31
LIMACINA TROCHIFORMIS	.	.	38.70
LIMACINA SP.	.08	.08	134.01
OSTRACODA	.37	.48	2837.05
CONCHOECIA ACCUMINATA	.	.	28.00
CONCHOECIA BOREALIS	.	.	27.76
CONCHOECIA CURTA	.08	.	465.18
CONCHOECIA HADDONI	.	.	250.52
CONCHOECIA IMBRICATA	.	.05	74.00
CONCHOECIA INERMIS	.	.	31.31
CONCHOECIA LOPHURA	.	.	125.26
CONCHOECIA MAGNA	.	.16	86.15
CONCHOECIA PARTHENODA	.	.	735.94
CONCHOECIA SPINIFERA	.09	.16	416.90
CONCHOECIA SPINIROSTRIS	.27	.11	591.49
CONCHOECIA SP.	.08	.	115.15
COPEPODA	16.04	31.11	47257.38
AETIDEUS ARMATUS	.40	.22	2459.80
AETIDEOPSIS MULTISERRATA	.	.	226.77
CALANUS FINMARCHICUS	.78	3.33	5603.68
CALANUS FINMARCHICUS I	.05	.	793.65
CALANUS FINMARCHICUS II	.	.32	820.58
CALANUS FINMARCHICUS III	.	.40	1044.79
CALANUS FINMARCHICUS IV	.14	.95	947.31
CALANUS FINMARCHICUS V	.37	1.43	1668.61
CALANUS FINMARCHICUS VI	.23	.24	328.74
CALANUS GRACILIS	.23	.16	161.75
CALANUS GLACIALIS	.23	.08	136.92
CALANUS GLACIALIS II	.	.	7.38
CALANUS GLACIALIS III	.	.	31.31
CALANUS GLACIALIS IV	.	.03	1.82
CALANUS GLACIALIS V	.	.08	73.95
CALANUS GLACIALIS VI	.	.	7.15
CALANUS HYPERBOREUS	.32	.08	995.89
CALANUS HYPERBOREUS II	.05	.	43.67
CALANUS HYPERBOREUS III	.	.03	88.27
CALANUS HYPERBOREUS IV	.14	.16	598.85
CALANUS HYPERBOREUS V	.09	.08	133.90
CALANUS HYPERBOREUS VI	.05	.	131.21
CHIRIDIUS GRACILIS	.	.08	246.56
CLAUSOCALANUS ARCUICORNIS	.	.16	394.10
CLYTEMNESTRA SCUTELLATA	.05	.	3.06
CONAEA SP.	.78	.71	188.59
EUAUGAPTILUS SP. (FILIGER)	.	.	20.62
EUCALANUS ATTENUATUS	.14	.08	21.65
EUCALANUS ELONGATUS	.09	.	13.27
EUCALANUS SUBCRASSUS	.27	.16	32.64
EUCHAETA NORVEGICA	.	.03	88.65
EUCHAETA SP.	.14	.24	1537.69
EUCHIRELLA ROSTRATA	.09	.	550.19
EUCHIRELLA SP.	.	.	348.59
GAIIDIUS KRUPPI	.09	.	6.12
GAIIDIUS TENUISPINUS	.	.24	286.71
HALOPTILUS LONGICORNIS	.	.08	69.76
HARPACTICOID	.	.08	5.32
HETERORHABDUS NORVEGICUS	.32	.24	700.79
HETERORHABDUS PAPILLIGER	.09	.48	1644.84
LUCICUTIA FLAVICORNIS	.	.	39.05
LUCICUTIA GRANDIS	.14	.	9.19
METRIDIA BREVICAUDA	1.01	1.67	273.51

STATION 11 17/04/84 0800H

(CONTINUED)

SAMPLE	2	3	4	5	6	7	8	9	10	#/M2
SPECIES										
METRIDIA LUCENS	.73	2.14	.46	2.99	16.31	2.42	41.97	25.45	12.72	7010.02
MICROCALANUS SP.	.55	.32	.19	.43	2.15	.11	1.17	.	.	329.11
MICROSETELLA ROSEA	.05	.	.	.	.	.	.	.	.	3.06
MORMONILLA PHASMA	.27	.16	.05	.	.	.	1.75	.	.	149.80
OITHONA ATLANTICA	.	.08	.	.11	.	.66	.	.61	.49	128.68
OITHONA SIMILIS	.	.24	.11	.32	1.23	.44	.	3.03	.	359.68
ONCAEA CONIFERA	.27	.32	.05	.64	1.54	.22	2.33	1.21	.	441.42
ONCAEA SP.	.09	.	.11	.21	.92	.11	.	.	.	96.91
ONCHOCALANUS SP.	.	.	.03	.	.	.	.	.	.	1.82
PHAEINA SP.	.	.	.03	.11	.	.	.	.	.	8.96
PHAEINA SPINIFERA	.	.	.	.	.	.	.58	.	.	39.05
PLEUROMAMMA ABDOMINALIS	.	.08	.	.21	6.15	.11	4.08	4.24	.49	1028.23
PLEUROMAMMA BOREALIS	.	.	.03	.	.62	.	1.17	.	.	121.15
PLEUROMAMMA GRACILIS	.	.	.	.	.	.33	2.91	3.64	.	461.05
PLEUROMAMMA XIPHIAS	.	.	.03	.	.31	.	.	.	.	22.43
PSEUDOCALANUS MINUTUS	.09	.40	.08	.32	.92	2.42	3.50	3.03	.49	752.53
PSEUDOCHIRELLA NOTOCANTHA	.	.	.08	.	.	.	.	.	.	5.45
PSEUDOCHIRELLA SP.	.	.	.	.	.31	.	.	.	.	20.62
RHINCALANUS CORNUTUS	.05	.08	.03	.	.92	.	1.17	.	.	150.15
RHINCALANUS NASUTUS	.14	.08	.03	.11	.	.	.	.	.	23.47
SCAPHOCALANUS SP.	.09	.79	.14	.53	1.85	.	.58	.61	.	307.46
SCOЛЕCITHRICELLA MINOR	.27	.32	.11	.	1.85	.33	6.41	6.06	7.83	1529.43
SCOЛЕCITHRICELLA SP.	.	.	.	.96	1.23	.22	1.17	1.82	2.45	518.05
SPINOCALANUS ABYSSALIS	2.88	4.13	.87	3.41	9.23	1.10	13.99	25.45	13.21	4936.73
SPINOCALANUS SP.	.50	1.43	.08	1.49	1.54	.	6.41	7.27	.98	1317.46
TEMORA LONGICORNIS	.05	.	.	.11	.	.11	.	.	.49	48.91
TEMORITES BREVIS	.	.08	.	.	.	.	.	.	.	5.32
UNDEUCHAETA MAJOR	.	.16	.	.	.	.	.58	.	.	49.69
UNDEUCHAETA SP.	.	.	.	.11	.	.	.	.	.	7.15
UNDINELLA OBLONGA	.	.	.	.	.31	.	.	.	.	20.62
ARTHROPODA UNIDENTIFIED	.05	.	.05	.	.	.	.	.	.	6.69
MYSID	.	.16	.	.	.	.	.	.	.	10.63
AMPHIPODA	.	.	.08	.	.62	.22	.	314.55	219.69	35196.42
AMPHIPOD EGGS	.	.	.	.	.	.	.	314.55	219.20	35103.66
PARATHEMISTO ABYSSORUM	.	.	.	.	.	.11	.	.	.	7.38
PARATHEMISTO SP. JUVENILE	.	.	.	.	.62	.11	.	.	.49	79.93
UNIDENTIFIED AMPHIPODA	.	.	.08	.	.	.	.	.	.	5.45
EUPHAUSIACEA	.14	.16	.05	.64	.62	.33	.	1.21	.	210.92
THYSANOESSA SP.	.	.	.05	.11	.	.	.	1.21	.	91.99
EUPHAUSID CALYPTOSIS	.	.08	.	.21	.	.	.	.	.	19.61
EUPHAUSID NAUPLII	.05	.08	.	.32	.62	.11	.	.	.	78.43
EUPHAUSID EGGS	.	.	.	.	.	.	.	.	.49	31.31
DECAPODA	.	.	.	.	.62	.	.	.	.49	72.55
UNIDENTIFIED DECAPOD	.	.	.	.	.62	.	.	.	.49	72.55
CHAETOGNATHA	.05	.16	.05	.64	1.54	.	.58	.	.49	233.65
SAGITTA SP.	.05	.16	.05	.64	1.54	.	.58	.	.49	233.65
ECHINODERM VELLIGER	.	.	.	.	.	.22	.	.	.	14.77

L A R G E M E S O Z O O P L A N K T O N & I C H T H Y O P L A N K T O N

AGLANTHA DIGITALE	.	.	.	.005	.010	.	.	.	.009	1.566
ALGALMIDAE SP.	.	.	.024	.015	.	.	.	.	.	2.639
DIPHYIDAE SP.	.008	.067	.	.	.	.	.016	.	.	6.102
TOTAL MEDUSAE	.005	.009	.016	.015	.	.	.005	.	.	3.403
TOTAL CTENOPHORA	.	.	.	.	.	.	.	.011	.	.761
TOMOPTERIS	.	.	.	.005	.	.	.	.	.	.335
TOTAL AMPHIPODA	.003	.	.008	.010	.019	.017	.016	.057	.367	32.174
HYPERID	.	.	.	.005	.	.008	.	.	.	.889
PARATHEMISTO GAUDICHAUDII	.003	.	.004	.	.019	.008	.016	.057	.367	30.678
GAMMARID UNIDENTIFIED	.	.	.004	.005	.	.	.	.	.	.607

STATION 11 17/04/84 0800H

(CONTINUED)

SAMPLE 2 3 4 5 6 7 8 9 10

SPECIES	NUMBER PER CUBIC METER									#/M2
TOTAL EUPHAUSIACEA	.004	.	.015	.010	.	.027	.034	.037	8.412	
EUPHAUSIA SP.	.	.	.	.	.	.	.011	.018	1.936	
MEGANYCTIPHANES NORVEGICA	.	.	.	.	.	.016	.	.	1.098	
NEMATOSCELIS ATLANTICA	.	.	.	.	.	.005	.	.	.366	
THYSANOESSA LONGICAUDATA	.	.	.	.010	.	.005	.023	.018	3.733	
THYSANOPODA SP.	.004	.	.005	.010	.	.	.	.	1.278	
TOTAL MYSIDACEA	.015	.031	.024	.010	.	.	.	.	5.431	
TOTAL DECAPODA	.003	.004	.028	.005	.019	.	.011	.009	5.350	
ACANTHEPHYRA SP.	.	.	.004	.	.	.	.	.	.272	
GENNADAS SP.	.	.004	.020	.005	.	.	.	.	1.996	
PASIPHAEA SP.	.	.	.004	.	.	.	.	.	.272	
DECAPOD 1	.003	.	.	.	.019	.	.011	.009	.172	
DECAPOD 2	.	.	.	.	.	.	.	.	2.637	
TOTAL CHAETOGNATHA	.134	.156	.024	.065	.394	.041	.186	.273	.220	99.409
EUKROHNIA FOWLERI	.003	.018	.	.	.	.	.	.	.	1.369
EUKROHNIA HAMATA	.059	.080	.008	.050	.317	.	.164	.239	.183	73.215
SAGITTA ELEGANS	.	.	.	.	.	.025	.	.	.	1.661
SAGITTA MACROCEPHALA	.072	.058	.004	.	.	.	.005	.011	.	10.111
SAGITTA MAXIMA	.	.	.008	.015	.019	.017	.011	.023	.028	7.962
SAGITTA ZETOSIS	.	.	.004	.	.058	.	.005	.	.009	5.091
TOTAL PISCES	.005	.018	.037	.055	.192	.	.071	.011	.	26.083
ARGYROPELECUS SP.	.	.	.	.	.	.	.005	.011	.	1.127
BENTHOSEMA GLACIALE	.	.	.	.	.019	.	.027	.	.	3.119
CYCLOTHONE SP.	.005	.018	.037	.050	.173	.	.038	.	.	21.581
GONOSTOMA SP.	.	.	.	.005	.	.	.	.	.	.335

STATION	12	17/04/84	1055H	44	21.93 N	56	15.44 W				
SAMPLE				1	2	3	4	5	6	7	
DEPTH1 (M)				.0	10.0	20.0	30.0	40.0	50.0	75.0	
DEPTH2 (M)				10.0	20.0	30.0	40.0	50.0	75.0	100.0	
VOLUME OF WATER SAMPLED (M3)				39.	20.	17.	18.	17.	40.	42.	
TOTAL BIOMASS (G/M3)				.410	.628	.735	.269	.595	.105	.142	32.557

GASTROPODA	19.15	26.67	7.06	20.44	13.18	8.40	3.17	1154.28
GYMNOSOMATA	.	.	.	.	.	.80	.	20.00
LIMACINA BULMOIDES	.	.	.	.89	.	.	.	8.89
LIMACINA LESEURI	19.15	26.67	7.06	19.56	9.41	4.40	2.54	991.87
LIMACINA TROCHIFORMIS	.	.	.	.	3.76	3.20	.63	133.52
OSTRACODA	.	.	.	.	5.65	1.60	5.08	223.45
CONCHOECIA DAPHOIDES	.	.	.	.	.	.40	.63	25.87
CONCHOECIA ELEGANS	.	.	.	.	1.88	.	3.17	98.19
CONCHOECIA OBTUSATA	.	.	.	.	.	.40	1.27	41.75
CONCHOECIA SPINIROSTRIS	.	.	.	.	3.76	.	.	37.65
CONCHOECIA SP.	.	.	.	.	.	.80	.	20.00
COPEPODA	1419.49	1528.00	948.24	267.56	594.82	119.20	156.19	54465.78
AETIDEUS ARMATUS	.	.	4.71	.89	.	3.60	.	145.95
CALANUS FINMARCHICUS	549.74	650.67	383.53	92.44	169.41	24.80	31.75	19871.61
CALANUS FINMARCHICUS I	8.21	10.67	11.76	.	3.76	2.00	3.81	489.25
CALANUS FINMARCHICUS II	112.14	154.67	44.71	2.67	9.41	4.40	1.27	3377.62
CALANUS FINMARCHICUS III	123.08	218.67	98.82	7.11	11.29	2.00	2.54	4703.22
CALANUS FINMARCHICUS IV	120.34	98.67	65.88	2.67	13.18	4.00	3.17	3186.71
CALANUS FINMARCHICUS V	161.37	154.67	129.41	43.56	41.41	8.80	11.43	5809.85
CALANUS FINMARCHICUS VI	24.62	13.33	32.94	36.44	90.35	3.60	9.52	2304.97
CALANUS GLACIALIS	.	37.33	4.71	.	.	2.00	1.27	502.14
CALANUS GLACIALIS II	.	13.33	2.35	.	.	.40	.	166.86
CALANUS GLACIALIS III	.	18.67	2.35	.	.	.	.63	226.07
CALANUS GLACIALIS V	.	5.33	.	.	.	1.60	.63	109.21
CALANUS HYPERBOREUS	5.47	2.67	.	5.33	5.65	.	1.27	222.92
CALANUS HYPERBOREUS II	.	2.67	.	.	1.88	.	.63	61.36
CALANUS HYPERBOREUS IV	5.47	.	.	3.56	1.88	.	.63	124.95
CALANUS HYPERBOREUS V	.	.	.	1.78	1.88	.	.	36.60
CHIRIDIUS GRACILIS	.	.	.	.	.	.40	.	10.00
CLAUSOCALANUS ARCUICORNIS	.	2.67	.	.	.	.80	.63	62.54
EUCHAETA SP.	.	2.67	2.35	.	.	.	.	50.20
EUCHAETA TONSA	16.41	.	.	11.56	.	1.20	6.35	468.39
EUCHIRELLA ROSTRATA	2.74	2.67	2.35	.89	37.65	11.60	17.14	1181.48
HALOPTILUS LONGICORNIS	.	.	.	.	.	.40	.	10.00
HARPACTICOID	.	.	.	.	.	.	.63	15.87
HETERORHABDUS NORVEGICUS	.	.	.	.	.	.40	.	10.00
MECYNOCERA CLAUSI	.	.	.	.	1.88	1.20	.	48.82
METRIDIA LUCENS	8.21	5.33	7.06	8.00	62.12	16.00	32.38	2116.67
OITHONA ATLANTICA	.	2.67	.	.	16.94	2.00	5.08	373.06
OITHONA SIMILIS	.	24.00	4.71	1.78	3.76	.80	2.54	425.98
ONCAEA VENUSTA	.	.	.	.	.	.40	.63	25.87
PARAEUCHAETA SP.	.	.	.	.	9.41	.	.	94.12
PLEUROMAMMA ROBUSTA	.	.	.	.89	.	.	.	8.89
PLEUROMAMMA SP.	.	.	.	.	.	.40	.	10.00
PSEUDOCALANUS MINUTUS	43.76	21.33	25.88	.89	11.29	1.60	4.44	1182.70
SCOLECITHRICELLA MINOR	.	.	2.35	9.78	30.12	3.60	4.44	623.59
AMPHIPODA	2.74	5.33	9.41	2.67	5.65	.40	1.27	299.68
AMPHIPOD EGGS	2.74	.	.	.	.	.	.	27.35
PARATHEMISTO ABYSSORUM	.	.	4.71	.	1.88	.	.	65.88
PARATHEMISTO LIBELLUTA	.	.	.	1.78	.	.40	.	27.78
PARATHEMISTO SP.	.	5.33	4.71	.89	3.76	.	1.27	178.67
EUPHAUSIACEA	2.74	2.67	7.06	10.67	75.29	3.60	6.98	1248.82
THYSANOESSA INERMIS FURCILAE	.	.	2.35	6.22	7.53	.	.63	176.92
T. LONGICAUDATA FURCILAE	.	.	2.35	.89	1.88	.	.	51.24
EUPHAUSID FURCILAE	.	.	.	1.78	20.71	2.40	2.54	348.33
EUPHAUSID NAUPLII	2.74	.	.	.	26.35	1.20	2.54	384.37
DECAPODA	.	.	.	.	.	.40	.	10.00
UNIDENTIFIED DECAPOD	.	.	.	.	.	.40	.	10.00
CHAETOGNATHA	.	2.67	.	.	1.88	.40	.63	71.36
SAGITTA ELEGANS	.	.	.	.	1.88	.	.	18.82
SAGITTA MAXICEPHALA	.	.	.	.	.	.40	.	10.00
OIKOPLEURA SP.	5.47	.	.	4.44	20.71	4.80	6.98	600.81
FRITILLARIA SP.	.	.	.	3.56	.	.	.	35.56

STATION 12 17/04/84 1055H
SAMPLE

(CONTINUED)

	1	2	3	4	5	6	7
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L A R G E M E S O Z O O P L A N K T O N & I C H T H Y O P L A N K T O N

AGLANTHA DIGITALE	.	.050	.059	.	.235	.025	.024	4.661
TOTAL MEDUSAE	.	.	.	.	.059	.	.	.588
TOTAL CTENOPHORA	.	.	.	.056	.	.	.	.556
TOTAL AMPHIPODA	.	.	.	.111	.059	.025	.024	2.920
PARATHEMISTO GAUDICHAUDII	.	.	.	.111	.059	.025	.024	2.920
TOTAL EUPHAUSIACEA	.	.	.	.056	.176	.025	.	2.945
THYSANOESSA LONGICAUDATA	.	.	.	.	.176	.025	.	2.390
THYSANOPODA SP.	.	.	.	.056	.	.	.	.556
TOTAL CHAETOGNATHA	.718	.300	1.118	2.556	3.824	.375	.738	112.974
EUKROHNIA HAMATA	.128	.	.235	.444	.	.125	.238	17.157
SAGITTA ELEGANS	.590	.300	.706	2.111	3.471	.025	.024	72.993
SAGITTA MAXIMA	.	.	.	.176	.353	.225	.476	22.824
TOTAL PISCES	.026	.	.	.167	.059	.	.	2.511
CYCLOTHONE SP.	.026	.	.	.167	.	.	.	1.923
UROPHYCIS CHUSS	.	.	.	.	.059	.	.	.588

STATION	13	17/04/84	1200H	44	20.67 N	56	12.94 W						
SAMPLE				2	3	4	5	6	7	8	9	10	
DEPTH1 (M)				200.0	150.0	100.0	75.0	50.0	40.0	30.0	20.0	10.0	
DEPTH2 (M)				150.0	100.0	75.0	50.0	40.0	30.0	20.0	10.0	.0	
VOLUME OF WATER SAMPLED (M3)				198.	120.	51.	36.	15.	18.	21.	19.	24.	
TOTAL BIOMASS (G/M3)				.060	.114	.073	.147	.646	.408	.493	.204	.503	36.738

SPECIES											
POLYCHAET LARVAE						6.40					64.00
GASTROPODA	.24	.80	.94	12.00	57.60	37.33	109.71	3.37	80.00	3255.81	
GYMNOSEOMATA		.80		.67			18.29	1.68		256.37	
LIMACINA LESEURI	.24		.47	7.33	57.60	37.33	85.33	1.68	80.00	2826.73	
LIMACINA RETROVERSA				.67						16.67	
LIMACINA TROCHIFORMIS			.47	3.33			6.10			156.05	
OSTRACODA	15.27	35.20	4.24	4.67	6.40	5.33	12.19			2985.42	
CONCHOECIA CONCENTRICA	1.94									96.97	
CONCHOECIA CURTA							6.10			60.95	
CONCHOECIA DAPHOIDES			.47							11.76	
CONCHOECIA ELEGANS	7.76	22.40	1.41	1.33		2.67				1603.17	
CONCHOECIA OBTUSATA	3.88	6.40	.94	2.00		2.67				614.14	
CONCHOECIA SP.	1.45	5.60	1.41	1.33	6.40		6.10			546.31	
COPEPODA	58.42	177.60	121.41	231.33	1312.00	784.00	1767.62	879.16	3080.00	98847.61	
AETIDEUS ARMATUS	3.64	6.40	3.76	1.33						629.27	
CALANUS FINMARCHICUS	8.97	31.20	23.06	42.67	371.20	240.00	676.57	333.47	1352.00	33384.07	
CALANUS FINMARCHICUS I	.97		.47		38.40	5.33		23.58	160.00	2333.37	
CALANUS FINMARCHICUS II	.73		.47	2.67	6.40	16.00	152.38	97.68	376.00	6599.45	
CALANUS FINMARCHICUS III	.24	.80	.94	1.33	12.80	21.33	134.10	89.26	352.00	6203.90	
CALANUS FINMARCHICUS IV			.94	4.00	64.00	29.33	73.14	52.21	184.00	4150.40	
CALANUS FINMARCHICUS V	6.30	20.00	9.41	14.67	102.40	90.67	170.67	60.63	264.00	8800.76	
CALANUS FINMARCHICUS VI	.73	10.40	10.82	20.00	147.20	77.33	146.29	10.11	16.00	5296.19	
CALANUS GLACIALIS	1.45	1.60	1.88	3.33	25.60	53.33	36.57			1438.17	
CALANUS GLACIALIS II				.67						16.67	
CALANUS GLACIALIS V	1.45	1.60	1.88	2.67	25.60	53.33	36.57			1421.50	
CALANUS HYPERBOREUS			.94	.67		26.67	36.57	3.37	8.00	786.26	
CALANUS HYPERBOREUS II						2.67				26.67	
CALANUS HYPERBOREUS III			.47			2.67	6.10	1.68		116.23	
CALANUS HYPERBOREUS IV			.47	.67		5.33	24.38	1.68	8.00	422.42	
CALANUS HYPERBOREUS V						16.00	6.10			220.95	
CLAUSOCALANUS ARCUICORNIS		.80	.47	2.67	12.80	2.67	6.10			334.05	
CLYTEMNESTRA SCUTELLATA				.67						16.67	
CYCLOPOID UNIDENTIFIED		.80								40.00	
EUCHIRELLA ROSTRATA		12.80	12.71	16.00	12.80		6.10	1.68		1563.44	
HETERORHABDUS NORVEGICUS	.97	.80	.47				6.10	1.68		178.04	
METRIDIA LUCENS	7.76	6.40	29.18	40.67	89.60	8.00	12.19			3551.86	
OITHONA ATLANTICA	1.45	24.00	2.35	3.33	6.40	5.33	6.10	1.68		1610.01	
OITHONA SIMILIS	.24		.47	2.67	6.40	10.67	6.10	3.37		355.86	
ONCAEA CONIFERA		1.60								80.00	
ONCAEA VENUSTA	.24	.80		1.33	6.40					149.45	
PARAEUCHAETA SP.	7.27	31.20	4.71	10.00	32.00	16.00	36.57			3137.00	
PSEUDOCALANUS MINUTUS	1.21	.80	.47	.67	76.80	13.33	48.76	32.00	144.00	3277.99	
SCOLECTHRICELLA MINOR	5.33	4.00	.94	20.67	57.60	13.33	12.19			1838.10	
SCOLECTHRICELLA OVATA	.24			.67						28.79	
SPINOCALANUS ABYSSALIS	1.70					2.67				111.52	
AMPHIPODA	38.30	80.80	16.47	50.67	192.00	74.67	158.48	5.05	64.00	12575.54	
AMPHIPOD EGGS	38.30	80.00	16.47	50.00	166.40	56.00	146.29	3.37	64.00	11937.46	
PARATHEMISTO ABYSSORUM					6.40	10.67		1.68		187.51	
PARATHEMISTO LIBELLUTA		.80		.67		5.33				110.00	
PARATHEMISTO SP.					19.20		12.19			313.90	
UNIDENTIFIED AMPHIPODA						2.67				26.67	
EUPHAUSIACEA	.24	.80	1.88	5.33	371.20	128.00	79.24	3.37	24.00	6290.58	
THYSANOESSA INERMIS FURCILAE					6.40	5.33	12.19			239.24	
T. LONGICAUDATA FURCILAE						8.00	24.38			323.81	
THYSANOPODA ACUTIFRONS FURCI		.80								40.00	
EUPHAUSID FURCILAE			.47	.67	121.60	72.00	12.19			2086.34	
EUPHAUSID NAUPLII			.47	3.33	121.60	10.67	12.19		24.00	1779.67	
CHAETOGNATHA	1.45	3.20	.47	.67		2.67				287.83	
SAGITTA MAXIMA		1.60								80.00	
OIKOPLEURA SP.	.24	1.60		6.00	12.80	5.33	12.19	13.47	72.00	1400.10	
FISH LARVAE				1.33	12.80	2.67				188.00	

STATION 13 17/04/84 1200H
SAMPLE

(CONTINUED)

	2	3	4	5	6	7	8	9	10
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SPECIES	NUMBER PER CUBIC METER								#/M2
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L A R G E M E S O Z O O P L A N K T O N & I C H T H Y O P L A N K T O N

AGLANTHA DIGITALE	.015	.042	.137	.389	.267	.222	.095	.053	.042	22.779
TOTAL CTENOPHORA	.	.	.	.	.	.056	.429	.	.125	6.091
CLIONE SP.	.005	.	.	.	.	.	.	.	.	.253
TOTAL AMPHIPODA	.040	.017	.	.	.	.	.143	.053	.	4.808
HYPERID	.	.	.	.	.	.	.143	.	.	1.429
PARATHEMISTO GAUDICHAUDII	.040	.017	.	.	.	.	.	.053	.	3.380
TOTAL EUPHAUSIACEA	.	.006	.	.	.	.167	.333	.	.	5.417
THYSANODESSA LONGICAUDATA	.	.006	.	.	.	.167	.333	.	.	5.417
TOTAL CHAETOGNATHA	.328	.908	.373	1.333	3.933	2.667	2.286	.316	.458	201.076
EUKROHNIA HAMATA	.	.433	.	.	.	*	.	.	.	21.667
SAGITTA ELEGANS	.	.008	.	.	.	.	.	.	.	.417
SAGITTA MAXIMA	.	.258	.	.	.	.	.	.	.	12.917
SAGITTA ZETOSIS	.	.025	.	.	.	.	.	.	.	1.250
UNIDENTIFIED CHAETOGNATHS	.328	.183	.373	1.333	3.933	2.667	2.286	.316	.458	164.826
TOTAL PISCES	.	.	.	.	.067	.	.	.	.	.667
MYCTOPHID LARVAE	.	.	.	.	.067	.	.	.	.	.667

STATION	14	18/04/84	0900H	46	9.74 N	57	59.21 W								
SAMPLE				3	4	5	6	7	8	9	10				
DEPTH1 (M)				150.0	100.0	75.0	50.0	40.0	30.0	20.0	10.0				
DEPTH2 (M)				100.0	75.0	50.0	40.0	30.0	20.0	10.0	.0				
VOLUME OF WATER SAMPLED (M3)				154.	85.	40.	16.	20.	16.	18.	22.				
TOTAL BIOMASS (G/M3)				.161	.269	1.047	.387	.433	.896	.536	.244	65.898			

POLYCHAET LARVAE															
GASTROPODA				.83	1.51	57.60	2.00	12.80	24.00	5.33	8.73	2047.81			
LIMACINA HELICOIDES				.21	.	.	.	.	.	.	.	10.39			
LIMACINA LESEURI				.21	.	44.80	1.00	9.60	24.00	3.56	5.82	1570.13			
LIMACINA RETROVERSA				.	.	6.40	.	.	.	.	.	160.00			
LIMACINA TROCHIFORMIS				.42	1.51	6.40	.	.	.	.	.	218.43			
LIMACINA SP.				.	.	.	1.00	3.20	.	1.78	2.91	88.87			
OSTRACODA				11.01	1.51	.	1.00	.	.	.	1.45	612.84			
CONCHOECIA ELEGANS				2.91	.75	.	.	.	.	.	1.45	178.82			
CONCHOECIA OBTUSATA				.42	.75	.	.	.	.	.	.	39.60			
CONCHOECIA SP.				6.44	.	.	1.00	.	.	.	.	332.08			
COPEPODA				220.05	630.96	3411.20	293.00	963.20	4428.00	2081.78	1719.27	206909.22			
ACARTIA LONGIREMIS				.	.	.	.	.	.	.	2.91	29.09			
AETIDEUS ARMATUS				5.61	.75	.	.	.	.	.	.	299.34			
CALANUS FINMARCHICUS				8.73	55.72	499.20	43.00	124.80	556.00	160.00	273.45	25881.85			
CALANUS FINMARCHICUS I				.42	.	44.80	11.00	28.80	100.00	21.33	69.82	3450.29			
CALANUS FINMARCHICUS II				.21	.	102.40	15.00	36.80	124.00	26.67	61.09	5205.97			
CALANUS FINMARCHICUS III				.	.75	51.20	9.00	11.20	112.00	65.78	40.73	3685.87			
CALANUS FINMARCHICUS IV				.62	6.78	115.20	1.00	32.00	108.00	65.78	82.91	5977.45			
CALANUS FINMARCHICUS V				4.16	18.07	76.80	1.00	3.20	32.00	8.89	10.18	3132.26			
CALANUS FINMARCHICUS VI				3.32	30.12	108.80	6.00	12.80	52.00	37.33	8.73	4807.78			
CALANUS GLACIALIS				5.40	8.28	320.00	39.00	112.00	492.00	193.78	286.55	19710.42			
CALANUS GLACIALIS I				.	.	25.60	13.00	22.40	136.00	53.33	93.09	3818.24			
CALANUS GLACIALIS II				.	.75	83.20	11.00	32.00	116.00	40.89	74.18	4839.53			
CALANUS GLACIALIS III				.62	.	153.60	13.00	49.60	180.00	74.67	104.73	8091.11			
CALANUS GLACIALIS IV				.62	2.26	6.40	.	3.20	20.00	3.56	4.36	558.83			
CALANUS GLACIALIS V				4.16	4.52	25.60	2.00	4.80	40.00	21.33	10.18	1743.88			
CALANUS GLACIALIS VI				.	.75	25.60	.	.	.	.	.	658.82			
CALANUS HYPERBOREUS				24.52	118.21	691.20	18.00	84.80	308.00	78.22	10.18	26453.31			
CALANUS HYPERBOREUS I				.	.	.	3.00	9.60	4.00	12.44	1.45	304.99			
CALANUS HYPERBOREUS II				.	.	.	.	4.80	.	.	.	48.00			
CALANUS HYPERBOREUS III				14.34	76.05	364.80	10.00	46.40	208.00	51.56	5.82	14955.80			
CALANUS HYPERBOREUS IV				6.86	38.87	243.20	5.00	20.80	84.00	12.44	1.45	8431.61			
CALANUS HYPERBOREUS V				2.49	10.54	76.80	.	1.60	12.00	1.78	1.45	2476.53			
CALANUS HYPERBOREUS VI				.83	.75	6.40	.	1.60	.	.	.	236.38			
CENTROPAGES HAMATUS				.42	.	6.40	1.00	6.40	8.00	12.44	4.36	502.86			
CHIRIDIUS GRACILIS				.83	.	.	1.00	.	.	.	.	51.56			
CLAUSOCALANUS ARCUICORNIS				.21	.	.	.	1.60	.	.	.	26.39			
EUCHAETA SP.				10.81	.	.	2.00	1.60	4.00	.	.	616.26			
EUCHIRELLA ROSTRATA				.21	.	.	.	.	.	.	.	10.39			
EURYTEMORA HERDMANI				.	.	.	.	.	.	1.78	.	17.78			
GAIIDIUS TENUISPINUS				.21	.	.	.	.	.	.	.	10.39			
HALOPTILUS LONGICORNIS				.	.	.	.	.	.	.	.	2.91	29.09		
HALOPTILUS SP.				.21	.	.	.	.	.	.	.	10.39			
HETERORHABDUS ABYSALLIS				.	.	.	.	.	.	.	2.91	29.09			
HETERORHABDUS NORVEGICUS				.42	.	.	.	.	.	.	.	20.78			
MECYNOCERA CLAUSI				.	.75	.	.	.	.	.	.	18.82			
METRIDIA LUCENS				45.09	180.71	83.20	2.00	4.80	12.00	3.56	.	9075.75			
OITHONA ATLANTICA				6.65	.75	6.40	.	.	.	.	.	511.29			
OITHONA SIMILIS				1.04	.75	25.60	4.00	14.40	4.00	14.22	7.27	1149.72			
ONCAEA CONIFERA				.	.75	.	.	.	.	.	.	18.82			
ONCAEA MEDIA				1.04	.	.	.	.	.	.	.	51.95			
PAREUCHAETA TONSA				.	24.09	.	.	.	.	.	.	602.35			
PSEUDOCALANUS MINUTUS				3.12	6.02	96.00	36.00	192.00	1232.00	632.89	352.00	27155.32			
SCOЛЕCITHRICELLA MINOR				24.31	2.26	.	2.00	8.00	40.00	8.89	10.18	1962.76			
TEMORA LONGICORNIS				.	.	.	.	9.60	100.00	55.11	26.18	1908.93			
TEMORA SP.				.	.	6.40	.	.	.	.	.	160.00			
CIRRIPED LARVAE				.21	.75	83.20	3.00	8.00	.	1.78	1.45	2251.54			
AMPHIPODA				.83	7.53	83.20	1.00	3.20	8.00	1.78	1.45	2464.12			
PARATHEMISTO ABYSSORUM				.	5.27	19.20	.	.	.	.	.	611.76			
PARATHEMISTO SP.				.	.75	12.80	.	1.60	4.00	.	.	394.82			
UNIDENTIFIED AMPHIPODA				.83	1.51	51.20	1.00	1.60	4.00	1.78	1.45	1457.53			
EUPHAUSIACEA				3.74	6.78	166.40	22.00	36.80	80.00	60.44	62.55	7134.32			
EUPHAUSID FURCILAE				2.70	3.76	51.20	3.00	.	.	.	.	1539.18			
EUPHAUSID NAUPLII				.42	.75	64.00	16.00	33.60	64.00	51.56	61.09	3982.07			
CHAETOGNATHA				1.45	1.51	.	.	.	.	.	.	110.37			
SAGITTA ELEGANS				.	.75	.	.	.	.	.	.	18.82			

STATION 14 18/04/84 0900H
SAMPLE

(CONTINUED)

3 4 5 6 7 8 9 10

OIKOPLERA SP.	.62	5.27	192.00	88.00	99.20	136.00	49.78	8.73	8779.98
FRITILLARIA SP.	.	.	.			12.00	1.78	.	137.78
FISH EGGS	.	.	.				1.78	.	17.78

L A R G E M E S O Z O O P L A N K T O N & I C H T H Y O P L A N K T O N

AGLANTHA DIGITALE	.052	.235	1.375	.250	.050	.063	.056	.	47.035
NANOMIA CARA	.	.	.250	.	.	.	.	.	6.250
UNIDENTIFIED SIPHONOPHORA	.013	.012	.100	.	.	.	.	.	3.443
TOTAL CTENOPHORA	.	.	.	.	.	.	.056	.	.556
TOMOPTERIS HELGOLANDICA	.091	.012	.	.	.	.	.	.	4.840
TOTAL AMPHIPODA	.247	.035	.	.063	.	.	.056	.	14.401
PARATHEMISTO GAUDICHAUDII	.247	.035	.	.063	.	.	.056	.	14.401
TOTAL EUPHAUSIACEA	.013	.012	.025	.063	.	.	.	.	2.193
MEGANYCTIPHANES NORVEGICA	.006	.	.	.	.	.	.	.	.325
THYSANOESSA LONGICAUDATA	.006	.012	.025	.063	.	.	.	.	1.869
TOTAL DECAPODA	.013	.	.	.	.	.	.	.	.649
PONTOPHILUS NORVEGICA	.013	.	.	.	.	.	.	.	.649
TOTAL CHAETOGNATHA	.851	.953	4.275	.625	.150	1.000	.444	.	195.425
UNIDENTIFIED CHAETOGNATHS	.851	.953	4.275	.625	.150	1.000	.444	.	195.425
OIKOPLERA SP.	.	.	1.675	.563	.100	.125	.	.	49.750
TOTAL PISCES	.	.	.100	.063	.	.	.	.	3.125
AMMODYTES DUBIUS	.	.	.025	.	.	.	.	.	.625
SEBASTES MARINUS	.	.	.075	.063	.	.	.	.	2.500