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Zooplankton Distribution and Abundance in the Georges Bank-Nantucket Shoals Area during the Autumn-Winter Larval Atlantic Herring Surveys (1973-1977)*

by

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TABLE OF CONTENTS

Page

1. List of Tables. 1
2. List of Figures 3
3. Introduction. 52
4. Methods 53
5. Summary of Results. 56
6. Acknowledgements. 58
7. References. 59

LIST OF TABLES

Table	Page
1. Albatross IV 73-09, 12/4 - 12/20/73, relative abundance (no./1000 m^3) of copepods in the Georges Bank-Nantucket Shoals area collected with a 61-cm diameter 0.333-mm mesh net, including mean rank (species are ranked within each sample on the basis of total number of individuals and then ranks for each species are averaged over all samples for each cruise), dominance (number of stations where a species is $\geq$ 50% of the total number of individuals), frequency of occurrence, abundance (median, mean and percentage of total), and coefficient of variation.	63-65
2. Albatross IV 74-02, 2/11 - 2/22/74, relative abundance of copepods in the Georges Bank-Nantucket Shoals area.	66
3. Cryos 74-04, 9/7 - 9/24/74, relative abundance of copepods in the Georges Bank-Nantucket Shoals area.	67-68
4. Wieczno 74-01, 9/27 - 10/18/74, relative abundance of copepods in the Georges Bank-Nantucket Shoals area.	69-71
5. Prognoz 74-01, 10/18 - 10/30/74, relative abundance of copepods in the Georges Bank-Nantucket Shoals area.	72-73

Table		Page
6.	Anton Dohrn 74-01, 11/16 - 11/23/74, relative abundance of copepods in the Georges Bank-Nantucket Shoals area.	74-75
7.	Albatross IV 74-13, 12/4 - 12/19/74, relative abundance of copepods in the Georges Bank-Nantucket Shoals area.	76-77
8.	Albatross IV 75-02, 2/12 - 2/28/75, relative abundance of copepods in the Georges Bank-Nantucket Shoals area.	78-79
9.	Belogorsk 75-02, 9/25 - 10/8/75, relative abundance of copepods in the Georges Bank-Nantucket Shoals area.	80-82
10.	Belogorsk 75-03, 10/17 - 10/30/75, relative abundance of copepods in the Georges Bank-Nantucket Shoals area.	83-85
11.	Anton Dohrn 75-187, 11/1 - 11/18/75, relative abundance of copepods in the Georges Bank-Nantucket Shoals area.	86-87
12.	Albatross IV 75-14, 12/5 - 12/17/75, relative abundance of copepods in the Georges Bank-Nantucket Shoals area.	88-90
13.	Albatross IV 76-01, 2/10 - 2/25/76, relative abundance of copepods in the Georges Bank-Nantucket Shoals area.	91-92
14.	Researcher 76-01, 11/27 - 12/11/76, relative abundance of copepods in the Georges Bank-Nantucket Shoals area.	93-95
15.	Mount Mitchell 77-01, 2/13 - 2/24/77, relative abundance of copepods in the Georges Bank-Nantucket Shoals area.	96-97

LIST OF FIGURES

Figure		Page
1.	Albatross IV 73-09, 12/4 - 12/20/82, zooplankton sample stations (61-cm bongo, 0.333-mm mesh net) in the Georges Bank-Nantucket Shoals area.	98
2.	Albatross IV 73-09, 12/4 - 12/20/82, displacement volumes (ml/100 m^3) of zooplankton.	99
3.	Albatross IV 73-09, 12/4 - 12/20/82, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage 3.	100
4.	Albatross IV 73-09, 12/4 - 12/20/82, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage 4.	101
5.	Albatross IV 73-09, 12/4 - 12/20/82, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage 5.	102
6.	Albatross IV 73-09, 12/4 - 12/20/82, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., adult.	103
7.	Albatross IV 73-09, 12/4 - 12/20/82, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, copepodite stage 4.	104
8.	Albatross IV 73-09, 12/4 - 12/20/82, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, copepodite stage 5.	105

Figure		Page
9.	Albatross IV 73-09, 12/4 - 12/20/82, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, copepodite stage unknown.	106
10.	Albatross IV 73-09, 12/4 - 12/20/82, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, adult.	107
11.	Albatross IV 73-09, 12/4 - 12/20/82, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 3.	108
12.	Albatross IV 73-09, 12/4 - 12/20/82, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 4.	109
13.	Albatross IV 73-09, 12/4 - 12/20/82, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 5.	110
14.	Albatross IV 73-09, 12/4 - 12/20/82, distribution and abundance (no./10 m^3) of *Centropages typicus*, adult.	111
15.	Albatross IV 73-09, 12/4 - 12/20/82, distribution and abundance (no./10 m^3) of *Centropages hamatus*, copepodite stage 4.	112
16.	Albatross IV 73-09, 12/4 - 12/20/82, distribution and abundance (no./10 m^3) of *Centropages hamatus*, copepodite stage 5.	113
17.	Albatross IV 73-09, 12/4 - 12/20/82, distribution and abundance (no./10 m^3) of *Centropages hamatus*, copepodite stage unknown.	114
18.	Albatross IV 73-09, 12/4 - 12/20/82, distribution and abundance (no./10 m^3) of *Centropages hamatus*, adult.	115

Figure		Page
19.	Albatross IV 73-09, 12/4 - 12/20/82, distribution and abundance (no./10 m^3) of Oithona spp., adult.	116
20.	Albatross IV 73-09, 12/4 - 12/20/82, distribution and abundance (no./10 m^3) of Calanus finmarchicus, copepodite stage 1.	117
21.	Albatross IV 73-09, 12/4 - 12/20/82, distribution and abundance (no./10 m^3) of Calanus finmarchicus, copepodite stage 2.	118
22.	Albatross IV 73-09, 12/4 - 12/20/82, distribution and abundance (no./10 m^3) of Calanus finmarchicus, copepodite stage 3.	119
23.	Albatross IV 73-09, 12/4 - 12/20/82, distribution and abundance (no./10 m^3) of Calanus finmarchicus, copepodite stage 4.	120
24.	Albatross IV 73-09, 12/4 - 12/20/82, distribution and abundance (no./10 m^3) of Calanus finmarchicus, copepodite stage 5.	121
25.	Albatross IV 73-09, 12/4 - 12/20/82, distribution and abundance (no./10 m^3) of Calanus finmarchicus, copepodite stage unknown.	122
26.	Albatross IV 73-09, 12/4 - 12/20/82, distribution and abundance (no./10 m^3) of Calanus finmarchicus, adult.	123
27.	Albatross IV 73-09, 12/4 - 12/20/82, distribution and abundance (no./10 m^3) of Chaetognatha.	124

Figure		Page
28.	Albatross IV 73-09, 12/4 - 12/20/82, distribution and abundance (no./10 m^3) of Amphipoda.	125
29.	Albatross IV 73-09, 12/4 - 12/20/82, distribution and abundance (no./10 m^3) of Euphausiacea.	126
30.	Albatross IV 73-09, 12/4 - 12/20/82, distribution and abundance (no./10 m^3) of Mysidacea.	127
31.	Albatross IV 73-09, 12/4 - 12/20/82, distribution and abundance (no./10 m^3) of Salpa.	128
32.	Albatross IV 74-02, 2/11 - 2/22/74, zooplankton sample stations (61-cm bongo, 0.333-mm mesh net) in the Georges Bank-Nantucket Shoals area.	129
33.	Albatross IV 74-02, 2/11 - 2/22/74, displacement volumes (ml/100 m^3) of zooplankton.	130
34.	Albatross IV 74-02, 2/11 - 2/22/74, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage 2.	131
35.	Albatross IV 74-02, 2/11 - 2/22/74, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage 3.	132
36.	Albatross IV 74-02, 2/11 - 2/22/74, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage 4.	133

Figure		Page
37.	Albatross IV 74-02, 2/11 - 2/22/74, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage 5.	134
38.	Albatross IV 74-02, 2/11 - 2/22/74, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage unknown.	135
39.	Albatross IV 74-02, 2/11 - 2/22/74, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., adult.	136
40.	Albatross IV 74-02, 2/11 - 2/22/74, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, copepodite stage 5.	137
41.	Albatross IV 74-02, 2/11 - 2/22/74, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, adult.	138
42.	Albatross IV 74-02, 2/11 -2/22/74, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 1.	139
43.	Albatross IV 74-02, 2/11 -2/22/74, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 2.	140
44.	Albatross IV 74-02, 2/11 - 2/22/74, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 3.	141
45.	Albatross IV 74-02, 2/11 - 2/22/74, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 4.	142

Figure		Page
46.	Albatross IV 74-02, 2/11 - 2/22/74, distribution and abundance (no./10 m^3) of Centropages typicus, copepodite stage 5.	143
47.	Albatross IV 74-02, 2/11 - 2/22/74, distribution and abundance (no./10 m^3) of Centropages typicus, copepodite stage unknown.	144
48.	Albatross IV 74-02, 2/11 - 2/22/74, distribution and abundance (no./10 m^3) of Centropages typicus, adult.	145
49.	Albatross IV 74-02, 2/11 - 2/22/74, distribution and abundance (no./10 m^3) of Centropages hamatus, copepodite stage 4.	146
50.	Albatross IV 74-02, 2/11 - 2/22/74, distribution and abundance (no./10 m^3) of Centropages hamatus, copepodite stage 5.	147
51.	Albatross IV 74-02, 2/11 - 2/22/74, distribution and abundance (no./10 m^3) of Centropages hamatus, adult.	148
52.	Albatross IV 74-02, 2/11 - 2/22/74, distribution and abundance (no./10 m^3) of Oithona spp., copepodite stage unknown.	149
53.	Albatross IV 74-02, 2/11 - 2/22/74, distribution and abundance (no./10 m^3) of Oithona spp., adult.	150
54.	Albatross IV 74-02, 2/11 -2/22/74, distribution and abundance (no./10 m^3) of Calanus finmarchicus, copepodite stage 2.	151

Figure		Page
55.	Albatross IV 74-02, 2/11 - 2/22/74, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 3.	152
56.	Albatross IV 74-02, 2/11 - 2/22/74, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 4.	153
57.	Albatross IV 74-02, 2/11 -2/22/74, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 5.	154
58.	Albatross IV 74-02, 2/11 - 2/22/74, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage unknown.	155
59.	Albatross IV 74-02, 2/11 - 2/22/74, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, adult.	156
60.	Albatross IV 74-02, 2/11 - 2/22/74, distribution and abundance (no./10 m^3) of Chaetognatha.	157
61.	Albatross IV 74-02, 2/11 - 2/22/74, distribution and abundance (no./10 m^3) of Amphipoda.	158
62.	Albatross IV 74-02, 2/11 - 2/22/74, distribution and abundance (no./10 m^3) of Euphausiacea.	159
63.	Albatross IV 74-02, 2/11 - 2/22/74, distribution and abundance (no./10 m^3) of Mysidacea.	160

Figure | Page

64. Cryos 74-04, 9/7 - 9/24/74, zooplankton sample stations (61-cm bongo, 0.333-mm mesh net) in the Georges Bank-Nantucket Shoals area. 161

65. Cryos 74-04, 9/7 - 9/24/74, displacement volumes (ml/100 m^3) of zooplankton. 162

66. Cryos 74-04, 9/7 - 9/24/74, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage 1. 163

67. Cryos 74-04, 9/7 - 9/24/74, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage 2. 164

68. Cryos 74-04, 9/7 - 9/24/74, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage 3. 165

69. Cryos 74-04, 9/7 - 9/24/74, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage 4. 166

70. Cryos 74-04, 9/7 - 9/24/74, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage 5. 167

71. Cryos 74-04, 9/7 - 9/24/74, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., adult. 168

72. Cryos 74-04, 9/7 - 9/24/74, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, copepodite stage 4. 169

Figure		Page
73.	Cryos 74-04, 9/7 - 9/24/74, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, copepodite stage 5.	170
74.	Cryos 74-04, 9/7 - 9/24/74, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, copepodite stage unknown.	171
75.	Cryos 74-04, 9/7 - 9/24/74, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, adult.	172
76.	Cryos 74-04, 9/7 - 9/24/74, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 1.	173
77.	Cryos 74-04, 9/7 - 9/24/74, distribution and abundance (no.10 m^3) of *Centropages typicus*, copepodite stage 2.	174
78.	Cryos 74-04, 9/7 - 9/24/74, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 3.	175
79.	Cryos 74-04, 9/7 - 9/24/74, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 4.	176
80.	Cryos 74-04, 9/7 - 9/24/74, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 5.	177
81.	Cryos 74-04, 9/7 - 9/24/74, distribution and abundance (no./10 m^3) of *Centropages typicus*, adult.	178

Figure		Page
82.	Cryos 74-04, 9/7 - 9/24/74, distribution and abundance (no./10 m^3) of Centropages hamatus, copepodite stage 5.	179
83.	Cryos 74-04, 9/7 - 9/24/74, distribution and abundance (no./10 m^3) of Centropages hamatus, copepodite stage unknown.	180
84.	Cryos 74-04, 9/7 - 9/24/74, distribution and abundance (no./10 m^3) of Centropages hamatus, adult.	181
85.	Cryos 74-04, 9/7 - 9/24/74, distribution and abundance (no./10 m^3) of Oithona spp., copepodite stage unknown.	182
86.	Cryos 74-04, 9/7 - 9/24/74, distribution and abundance (no./10 m^3) of Oithona spp., adult.	183
87.	Cryos 74-04, 9/7 - 9/24/74, distribution and abundance (no./10 m^3) of Calanus finmarchius, copepodite stage 1.	184
88.	Cryos 74-04, 9/7 - 9/24/74, distribution and abundance (no./10 m^3) of Calanus finmarchicus, copepodite stage 2.	185
89.	Cryos 74-04, 9/7 - 9/24/74, distribution and abundance (no./10 m^3) of Calanus finmarchicus, copepodite stage 3.	186
90.	Cryos 74-04, 9/7 - 9/24/74, distribution and abundance (no./10 m^3) of Calanus finmarchicus, copepodite stage 4.	187

Figure | Page

91. Cryos 74-04, 9/7 - 9/24/74, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 5. 188

92. Cryos 74-04, 9/7 - 9/24/74, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, adult. 189

93. Cryos 74-04, 9/7 - 9/24/74, distribution and abundance (no./10 m^3) of Chaetognatha. 190

94. Cryos 74-04, 9/7 - 9/24/74, distribution and abundance (no./10 m^3) of Amphipoda. 191

95. Cryos 74-04, 9/7 - 9/24/74, distribution and abundance (no./10 m^3) of Euphausiacea. 192

96. Cryos 74-04, 9/7 - 9/24/74, distribution and abundance (no./10 m^3) of Mysidacea. 193

97. Cryos 74-04, 9/7 - 9/24/74, distribution and abundance (no./10 m^3) of Salpa. 194

98. Wieczno 74-01, 9/27 - 10/18/74, zooplankton sample stations (61-cm bongo, 0.333-mm mesh net) in the Georges Bank-Nantucket Shoals area. 195

99. Wieczno 74-01, 9/27 - 10/18/74, displacement volumes (ml/100 m^3) of zooplankton. 196

Figure		Page
100.	Wieczno 74-01, 9/27 - 10/18/74, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage 4.	197
101.	Wieczno 74-01, 9/27 - 10/18/74, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage 5.	198
102.	Wieczno 74-01, 9/27 - 10/18/74, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage unknown.	199
103.	Wieczno 74-01, 9/27 - 10/18/74, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., adult.	200
104.	Wieczno 74-01, 9/27 - 10/18/74, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, copepodite stage 4.	201
105.	Wieczno 74-01, 9/27 - 10/18/74, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, copepodite stage 5.	202
106.	Wieczno 74-01, 9/27 - 10/18/74, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, copepodite stage unknown.	203
107.	Wieczno 74-01, 9/27 - 10/18/74, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, adult.	204
108.	Wieczno 74-01, 9/27 - 10/18/74, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 1.	205

Figure		Page
109.	Wieczno 74-01, 9/27 - 10/18/74, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 2.	206
110.	Wieczno 74-01, 9/27 - 10/18/74, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 3.	207
111.	Wieczno 74-01, 9/27 - 10/18/74, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 4.	208
112.	Wieczno 74-01, 9/27 - 10/18/74, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 5.	209
113.	Wieczno 74-01, 9/27 - 10/18/74, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage unknown.	210
114.	Wieczno 74-01, 9/27 - 10/18/74, distribution and abundance (no./10 m^3) of *Centropages typicus*, adult.	211
115.	Wieczno 74-01, 9/27 - 10/18/74, distribution and abundance (no./10 m^3) of *Centropages hamatus*, copepodite stage 4.	212
116.	Wieczno 74-01, 9/27 - 10/18/74, distribution and abundance (no./10 m^3) of *Centropages hamatus*, copepodite stage 5.	213
117.	Wieczno 74-01, 9/27 - 10/18/74, distribution and abundance (no./10 m^3) of *Centropages hamatus*, copepodite stage unknown.	214

Figure		Page
118.	Wieczno 74-01, 9/27 - 10/18/74, distribution and abundance (no./10 m^3) of *Centropages hamatus*, adult.	215
119.	Wieczno 74-01, 9/27 - 10/18/74, distribution and abundance (no./10 m^3) of *Oithona* spp., copepodite stage unknown.	216
120.	Wieczno 74-01, 9/27 - 10/18/74, distribution and abundance (no./10 m^3) of *Oithona* spp., adult.	217
121.	Wieczno 74-01, 9/27 - 10/18/74, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 2.	218
122.	Wieczno 74-01, 9/27 - 10/18/74, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 3.	219
123.	Wieczno 74-01, 9/27 - 10/18/74, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 4.	220
124.	Wieczno 74-01, 9/27 - 10/18/74, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 5.	221
125.	Wieczno 74-01, 9/27 - 10/18/74, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage unknown.	222
126.	Wieczno 74-01, 9/27 - 10/18/74, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, adult.	223

Figure		Page
127.	Wieczno 74-01, 9/27 - 10/18/74, distribution and abundance (no./10 m^3) of Chaetognatha.	224
128.	Wieczno 74-01, 9/27 - 10/18/74, distribution and abundance (no./10 m^3) of Amphipoda.	225
129.	Wieczno 74-01, 9/27 - 10/18/74, distribution and abundance (no./10 m^3) of Euphausiacea.	226
130.	Wieczno 74-01, 9/27 - 10/18/74, distribution and abundance (no./10 m^3) of Mysidacea.	227
131.	Wieczno 74-01, 9/27 - 10/18/74, distribution and abundance (no./10 m^3) of Salpa.	228
132.	Prognoz 74-01, 10/18 - 10/30/74, zooplankton sample stations (61-cm bongo, 0.333-mm mesh net) in the Georges Bank-Nantucket Shoals area.	229
133.	Prognoz 74-01, 10/18 - 10/30/74, displacement volumes (ml/100 m^3) of zooplankton.	230
134.	Prognoz 74-01, 10/18 - 10/30/74, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage 4.	231
135.	Prognoz 74-01, 10/18 - 10/30/74, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage 5.	232

Figure		Page
136.	Prognoz 74-01, 10/18 - 10/30/74, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., adult.	233
137.	Prognoz 74-01, 10/18 - 10/30/74, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, copepodite stage 5.	234
138.	Prognoz 74-01, 10/18 - 10/30/74, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, copepodite stage unknown.	235
139.	Prognoz 74-01, 10/18 - 10/30/74, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, adult.	236
140.	Prognoz 74-01, 10/18 - 10/30/74, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 3.	237
141.	Prognoz 74-01, 10/18 - 10/30/74, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 4.	238
142.	Prognoz 74-01, 10/18 - 10/30/74, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 5.	239
143.	Prognoz 74-01, 10/18 - 10/30/74, distribution and abundance (no./10 m^3) of *Centropages typicus*, adult.	240
144.	Prognoz 74-01, 10/18 - 10/30/74, distribution and abundance (no./10 m^3) of *Centropages hamatus*, copepodite stage 4.	241

Figure		Page
145.	Prognoz 74-01, 10/18 - 10/30/74, distribution and abundance (no./10 m^3) of *Centropages hamatus*, copepodite stage 5.	242
146.	Prognoz 74-01, 10/18 - 10/30/74, distribution and abundance (no./10 m^3) of *Centropages hamatus*, adult.	243
147.	Prognoz 74-01, 10/18 - 10/30/74, distribution and abundance (no./10 m^3) of *Oithona* spp., copepodite stage unknown.	244
148.	Prognoz 74-01, 10/18 - 10/30/74, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 2.	245
149.	Prognoz 74-01, 10/18 - 10/30/74, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 3.	246
150.	Prognoz 74-01, 10/18 - 10/30/74, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 4.	247
151.	Prognoz 74-01, 10/18 - 10/30/74, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 5.	248
152.	Prognoz 74-01, 10/18 - 10/30/74, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage unknown.	249
153.	Prognoz 74-01, 10/18 - 10/30/74, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, adult.	250

Figure	Page
154. Prognoz 74-01, 10/18 - 10/30/74, distribution and abundance (no./10 m^3) of Chaetognatha.	251
155. Prognoz 74-01, 10/18 - 10/30/74, distribution and abundance (no./10 m^3) of Amphipoda.	252
156. Prognoz 74-01, 10/18 - 10/30/74, distribution and abundance (no./10 m^3) of Euphausiacea.	253
157. Prognoz 74-01, 10/18 - 10/30/74, distribution and abundance (no./10 m^3) of Mysidacea.	255
158. Prognoz 74-01, 10/18 - 10/30/74, distribution and abundance (no./10 m^3) of Salpa.	256
159. Anton Dohrn 74-01, 11/16 - 11/23/74, zooplankton sample stations (61-cm bongo, 0.333-mm mesh net) in the Georges Bank-Nantucket Shoals area.	257
160. Anton Dohrn 74-01, 11/16 - 11/23/74, displacement volumes (ml/100 m^3) of zooplankton.	258
161. Anton Dohrn 74-01, 11/16 - 11/23/74, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage 4.	259
162. Anton Dohrn 74-01, 11/16 - 11/23/74, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage 5.	260

Figure		Page
163.	Anton Dohrn 74-01, 11/16 - 11/23/74, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage unknown.	261
164.	Anton Dohrn 74-01, 11/16 - 11/23/74, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., adult.	262
165.	Anton Dohrn 74-01, 11/16 - 11/23/74, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, copepodite stage 4.	263
166.	Anton Dohrn 74-01, 11/16 - 11/23/74, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, copepodite stage 5.	264
167.	Anton Dohrn 74-01, 11/16 - 11/23/74, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, copepodite stage unknown.	265
168.	Anton Dohrn 74-01, 11/16 - 11/23/74, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, adult.	266
169.	Anton Dohrn 74-01, 11/16 - 11/23/74, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 3.	267
170.	Anton Dohrn 74-01, 11/16 - 11/23/74, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 4.	268
171.	Anton Dohrn 74-01, 11/16 - 11/23/74, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 5.	269

Figure		Page
172.	Anton Dohrn 74-01, 11/16 - 11/23/74, distribution and abundance (no./10 m^3) of *Centropages typicus*, adult.	270
173.	Anton Dohrn 74-01, 11/16 - 11/23/74, distribution and abundance (no./10 m^3) of *Centropages hamatus*, copepodite stage 5.	271
174.	Anton Dohrn 74-01, 11/16 - 11/23/74, distribution and abundance (no./10 m^3) of *Centropages hamatus*, adult.	272
175.	Anton Dohrn 74-01, 11/16 - 11/23/74, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 2.	273
176.	Anton Dohrn 74-01, 11/16 - 11/23/74, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 3.	274
177.	Anton Dohrn 74-01, 11/16 - 11/23/74, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 4.	275
178.	Anton Dohrn 74-01, 11/16 - 11/23/74, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 5.	276
179.	Anton Dohrn 74-01, 11/16 - 11/23/74, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage unknown.	277
180.	Anton Dohrn 74-01, 11/16 - 11/23/74, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, adult.	278
181.	Anton Dohrn 74-01, 11/16 - 11/23/74, distribution and abundance (no./10 m^3) of Chaetognatha.	279

Figure		Page
182.	Anton Dohrn 74-01, 11/16 - 11/23/74, distribution and abundance (no./10 m^3) of Amphipoda.	280
183.	Anton Dohrn 74-01, 11/16 - 11/23/74, distribution and abundance (no./10 m^3) of Euphausiacea.	281
184.	Anton Dohrn 74-01, 11/16 - 11/23/74, distribution and abundance (no./10 m^3) of Mysidacea.	282
185.	Anton Dohrn 74-01, 11/16 - 11/23/74, distribution and abundance (no./10 m^3) of Salpa.	283
186.	Albatross IV 74-13, 12/4 - 12/19/74, zooplankton sample stations (61-cm bongo, 0.333-mm mesh net) in the Georges Bank-Nantucket Shoals area.	284
187.	Albatross IV 74-13, 12/4 - 12/19/74, displacement volumes (ml/100 m^3) of zooplankton.	285
188.	Albatross IV 74-13, 12/4 - -2/19/74, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage 3.	286
189.	Albatross IV 74-13, 12/4 - 12/19/74, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage 4.	287
190.	Albatross IV 74-13, 12/4 - 12/19/74, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage 5.	288

Figure		Page
191.	Albatross IV 74-13, 12/4 - 12/19/74, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., adult.	289
192.	Albatross IV 74-13, 12/4 - 12/19/74, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, copepodite stage 5.	290
193.	Albatross IV 74-13, 12/4 - 12/19/74, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, copepodite stage unknown.	291
194.	Albatross IV 74-13, 12/4 - 12/19/74, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, adult.	292
195.	Albatross IV 74-13, 12/4 - 12/19/74, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 2.	293
196.	Albatross IV 74-13, 12/4 - 12/19/74, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 3.	294
197.	Albatross IV 74-13, 12/4 - 12/19/74, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 4.	295
198.	Albatross IV 74-13, 12/4 - 12/19/74, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 5.	296
199.	Albatross IV 74-13, 12/4 - 12/19/74, distribution and abundance (no./10 m^3) of *Centropages typicus*, adult.	297

Figure	Page
200. Albatross IV 74-13, 12/4 - 12/19/74, distribution and abundance (no./10 m^3) of Centropages hamatus, copepodite stage 4.	298
201. Albatross IV 74-13, 12/4 -12/19/74, distribution and abundance (no./10 m^3) of Centropages hamatus, copepodite stage 5.	299
202. Albatross IV 74-13, 12/4 - 12/19/74, distribution and abundance (no./10 m^3) of Centropages hamatus, adult.	300
203. Albatross IV 74-13, 12/4 - 12/19/74, distribution and abundance (no./10 m^3) of Oithona spp., adult.	301
204. Albatross IV 74-13, 12/4 - 12/19/74, distribution and abundance (no./10 m^3) of Calanus finmarchicus, copepodite stage 3.	302
205. Albatross IV 74-13, 12/4 -12/19/74, distribution and abundance (no./10 m^3) of Calanus finmarchicus, copepodite stage 4.	303
206. Albatross IV 74-13, 12/4 -12/19/74, distribution and abundance (no./10 m^3) of Calanus finmarchicus, copepodite stage 5.	304
207. Albatross IV 74-13, 12/4 - 12/19/74, distribution and abundance (no./10 m^3) of Calanus finmarchicus, copepodite stage unknown.	305
208. Albatross IV 74-13, 12/4 -12/19/74, distribution and abundance (no./10 m^3) of Calanus finmarchicus, adult.	306

Figure		Page
209.	Albatross IV 74-13, 12/4 - 12/19/74, distribution and abundance (no./10 m^3) of Chaetognatha.	307
210.	Albatross IV 74-13, 12/4 - 12/19/74, distribution and abundance (no./10 m^3) of Amphipoda.	308
211.	Albatross IV 74-13, 12/4 - 12/19/74, distribution and abundance (no./10 m^3) of Euphausiacea.	309
212.	Albatross IV 74-13, 12/4 - 12/19/74, distribution and abundance (no./10 m^3) of Mysidacea.	310
213.	Albatross IV 74-13, 12/4 - 12/19/74, distribution and abundance (no./10 m^3) of Salpa.	311
214.	Albatross IV 75-02, 2/12 - 2/28/75, zooplankton sample stations (61-cm bongo, 0.333-mm mesh net) in the Georges Bank-Nantucket Shoals area.	312
215.	Albatross IV 75-02, 2/12 - 2/28/75, displacement volumes (ml/100 m^3) of zooplankton.	313
216.	Albatross IV 75-02, 2/12 - 2/28/75, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., adult.	314
217.	Albatross IV 75-02, 2/12 - 2/28/75, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, adult.	315

Figure		Page
218.	Albatross IV 75-02, 2/12 - 2/28/75, distribution and abundance (no./10 m^3) of Centropages typicus, adult.	316
219.	Albatross IV 75-02, 2/12 - 2/28/75, distribution and abundance (no./10 m^3) of Centropages hamatus, adult.	317
220.	Albatross IV 75-02, 2/12 - 2/28/75, distribution and abundance (no./10 m^3) of Oithona spp., adult.	318
221.	Albatross IV 75-02, 2/12 - 2/28/75, distribution and abundance (no./10 m^3) of Calanus finmarchicus, adult.	319
222.	Albatross IV 75-02, 2/12 - 2/28/75, distribution and abundance (no./10 m^3) of Chaetognatha.	320
223.	Albatross IV 75-02, 2/12 - 2/28/75, distribution and abundance (no./10 m^3) of Amphipoda.	321
224.	Albatross IV 75-02, 2/12 -2/28/75, distribution and abundance (no./10 m^3) of Euphausiacea.	322
225.	Albatross IV 75-02, 2/12 - 2/28/75, distribution and abundance (no./10 m^3) of Salpa.	323
226.	Albatross IV 75-02, 2/12 - 2/28/75, distribution and abundance (no./10 m^3) of Scyphoza.	324

Figure		Page
227.	Belogorsk 75-02, 9/25 - 10/8/75, zooplankton sample stations (61-cm bongo, 0.333-mm mesh net) in the Georges Bank-Nantucket Shoals area.	325
228.	Belogorsk 75-02, 9/25 - 10/8/75, displacement volumes (ml/100 m^3) of zooplankton.	326
229.	Belogorsk 75-02, 9/25 - 10/8/75, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage 5.	327
230.	Belogorsk 75-02, 9/25 - 10/8/75, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage unknown.	328
231.	Belogorsk 75-02, 9/25 - 10/8/75, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., adult.	329
232.	Belogorsk 75-02, 9/25 - 10/8/75, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, copepodite stage 5.	330
233.	Belogorsk 75-02, 9/25 - 10/8/75, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, copepodite stage unknown.	331
234.	Belogorsk 75-02, 9/25 - 10/8/75, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, adult.	332
235.	Belogorsk 75-02, 9/25 - 10/8/75, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 2.	333

Figure		Page
236.	Belogorsk 75-02, 9/25 - 10/8/75, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 3.	334
237.	Belogorsk 75-02, 9/25 - 10/8/75, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 4.	335
238.	Belogorsk 75-02, 9/25 - 10/8/75, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 5.	336
239.	Belogorsk 75-02, 9/25 - 10/8/75, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage unknown.	337
240.	Belogorsk 75-02, 9/25 - 10/8/75, distribution and abundance (no./10 m^3) of *Centropages typicus*, adult.	338
241.	Belogorsk 75-02, 9/25 - 10/8/75, distribution and abundance (no./10 m^3) of *Centropages hamatus*, copepodite stage 5.	339
242.	Belogorsk 75-02, 9/25 - 10/8/75, distribution and abundance (no./10 m^3) of *Centropages hamatus*, copepodite stage unknown.	340
243.	Belogorsk 75-02, 9/25 - 10/8/75, distribution and abundance (no./10 m^3) of *Centropages hamatus*, adult.	341
244.	Belogorsk 75-02, 9/25 - 10/8/75, distribution and abundance (no./10 m^3) of *Oithona* spp., copepodite stage unknown.	342

Figure		Page
245.	Belogorsk 75-02, 9/25 - 10/8/75, distribution and abundance (no./10 m^3) of Oithona spp., adult.	343
246.	Belogorsk 75-02, 9/25 - 10/8/75, distribution and abundance (no./10 m^3) of Calanus finmarchicus, copepodite stage 1.	344
247.	Belogorsk 75-02, 9/25 - 10/8/75, distribution and abundance (no./10 m^3) of Calanus finmarchicus, copepodite stage 2.	345
248.	Belogorsk 75-02, 9/25 - 10/8/75, distribution and abundance (no./10 m^3) of Calanus finmarchicus, copepodite stage 3.	346
249.	Belogorsk 75-02, 9/25 - 10/8/75, distribution and abundance (no./10 m^3) of Calanus finmarchicus, copepodite stage 4.	347
250.	Belogorsk 75-02, 9/25 - 10/8/75, distribution and abundance (no./10 m^3) of Calanus finmarchicus, copepodite stage 5.	348
251.	Belogorsk 75-02, 9/25 - 10/8/75, distribution and abundance (no./10 m^3) of Calanus finmarchicus, copepodite stage unknown.	349
252.	Belogorsk 75-02, 9/25 - 10/8/75, distribution and abundance (no./10 m^2) of Calanus finmarchicus, adult.	350
253.	Belogorsk 75-02, 9/25 - 10/8/75, distribution and abundance (no./10 m^3) of Chaetognatha.	351

Figure		Page
254.	Belogorsk 75-02, 9/25 - 10/8/75, distribution and abundance (no./10 m^3) of Amphipoda.	352
255.	Belogorsk 75-02, 9/25 - 10/8/75, distribution and abundance (no./10 m^3) of Euphausiacea.	353
256.	Belogorsk 75-02, 9/25 - 10/8/75, distribution and abundance (no./10 m^3) of Mysidacea.	354
257.	Belogorsk 75-02, 9/25 - 10/8/75, distribution and abundance (no./10 m^3) of Salpa.	355
258.	Belogorsk 75-02, 9/25 - 10/8/75, distribution and abundance (no./10 m^3) of Scyphozoa.	356
259.	Belogorsk 75-03, 10/17 - 10/30/75, zooplankton sample stations (61-cm bongo, 0.333-mm mesh net) in the Georges Bank-Gulf of Maine area.	357
260.	Belogorsk 75-03, 10/17 - 10/30/75, displacement volumes (ml/100 m^3) of zooplankton.	358
261.	Belogorsk 75-03, 10/17 -10/30/75, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage 5.	359
262.	Belogorsk 75-03, 10/17 - 10/30/75, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage unknown.	360

Figure		Page
263.	Belogorsk 75-03, 10/17 - 10/30/75, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., adult.	361
264.	Belogorsk 75-03, 10/17 - 10/30/75, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, copepodite stage 5.	362
265.	Belogorsk 75-03, 10/17 - 10/30/75, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, copepodite stage unknown.	363
266.	Belogorsk 75-03, 10/17 - 10/30/75, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, adult.	364
267.	Belogorsk 75-03, 10/17 - 10/30/75, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 2.	365
268.	Belogorsk 75-03, 10/17 - 10/30/75, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 3.	366
269.	Belogorsk 75-03, 10/17 - 10/30/75, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 4.	367
270.	Belogorsk 75-03, 10/17 - 10/30/75, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 5.	368
271.	Belogorsk 75-03, 10/17 - 10/30/75, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage unknown.	369

Figure		Page
272.	Belogorsk 75-03, 10/17 - 10/30/75, distribution and abundance (no./10 m^3) of *Centropages typicus*, adult.	370
273.	Belogorsk 75-03, 10/17 - 10/30/75, distribution and abundance (no./10 m^3) of *Centropages hamatus*, copepodite stage 3.	371
274.	Belogorsk 75-03, 10/17 - 10/30/75, distribution and abundance (no./10 m^3) of *Centropages hamatus*, copepodite stage 4.	372
275.	Belogorsk 75-03, 10/17 - 10/30/75, distribution and abundance (no./10 m^3) of *Centropages hamatus*, copepodite stage 5.	373
276.	Belogorsk 75-03, 10/17 - 10/30/75, distribution and abundance (no./10 m^3) of *Centropages hamatus*, copepodite stage unknown.	374
277.	Belogorsk 75-03, 10/17 - 10/30/75, distribution and abundance (no./10 m^3) of *Centropages hamatus*, adult.	375
278.	Belogorsk 75-03, 10/17 - 10/30/75, distribution and abundance (no./10 m^3) of *Oithona* spp., adult.	376
279.	Belogorsk 75-03, 10/17 - 10/30/75, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 2.	377
280.	Belogorsk 75-03, 10/17 - 10/30/75, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 3.	378

Figure		Page
281.	Belogorsk 75-03, 10/17 - 10/30/75, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 4.	379
282.	Belogorsk 75-03, 10/17 - 10/30/75, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 5.	380
283.	Belogorsk 75-03, 10/17 - 10/30/75, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage unknown.	381
284.	Belogorsk 75-03, 10/17 - 10/30/75, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, adult.	382
285.	Belogorsk 75-03, 10/17 - 10/30/75, distribution and abundance (no./10 m^3) of Chaetognatha.	383
286.	Belogorsk 75-03, 10/17 - 10/30/75, distribution and abundance (no./10 m^3) of Amphipoda.	384
287.	Belogorsk 75-03, 10/17 - 10/30/75, distribution and abundance (no./10 m^3) of Euphausiacea.	385
288.	Belogorsk 75-03, 10/17 - 10/30/75, distribution and abundance (no./10 m^3) of Mysidacea.	386
289.	Belogorsk 75-03, 10/17 - 10/30/75, distribution and abundance (no./10 m^3) of Salpa.	387

Figure		Page
290.	Belogorsk 75-03, 10/17 - 10/30/75, distribution and abundance (no./10 m^3) of Scyphoza.	388
291.	Anton Dohrn 75-187, 11/I - 11/18/75, zooplankton sample stations (61-cm bongo, 0.333-mm mesh net) in the Georges Bank-Nantucket Shoals area.	389
292.	Anton Dohrn 75-187, 11/1 - 11/18/75, displacement volumes (ml/100 m^3) of zooplankton.	390
293.	Anton Dohrn 75-187, 11/1 - 11/18/75, distribution and abundance (no./10 m^3) of Pseudocalanus sp., copepodite stage 2.	391
294.	Anton Dohrn 75-187, 11/1 - 11/18/75, distribution and abundance (no./10 m^3) of Pseudocalanus sp., copepodite stage 3.	392
295.	Anton Dohrn 75-187, 11/1 - 11/18/75, distribution and abundance (no./10 m^3) of Pseudocalanus sp., copepodite stage 4.	393
296.	Anton Dohrn 75-187, 11/1 - 11/18/75, distribution and abundance (no./10 m^3) of Pseudocalanus sp., copepodite stage 5.	394
297.	Anton Dohrn 75-187, 11/1 - 11/18/75, distribution and abundance (no./10 m^3) of Pseudocalanus sp., copepodite stage unknown.	395
298.	Anton Dohrn 75-187, 11/1 - 11/18/75, distribution and abundance (no./10 m^3) of Pseudocalanus sp., adult.	396

Figure		Page
299.	Anton Dohrn 75-187, 11/1 - 11/18/75, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, copepodite stage 4.	397
300.	Anton Dohrn 75-187, 11/1 - 11/18/75, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, copepodite stage 5.	398
301.	Anton Dohrn 75-187, 11/1 - 11/18/75, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, copepodite stage unknown.	399
302.	Anton Dohrn 75-187, 11/1 - 11/18/75, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, adult.	400
303.	Anton Dohrn 75-187, 11/1 - 11/18/75, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 2.	401
304.	Anton Dohrn 75-187, 11/1 - 11/18/75, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 3.	402
305.	Anton Dohrn 75-187, 11/1 - 11/18/75, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 4.	403
306.	Anton Dohrn 75-187, 11/1 - 11/18/75, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 5.	404
307.	Anton Dohrn 75-187, 11/1 - 11/18/75, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage unknown.	405

Figure		Page
308.	Anton Dohrn 75-187, 11/1 - 11/18/75, distribution and abundance (no./10 m^3) of Centropages typicus, adult.	406
309.	Anton Dohrn 75-187, 11/1 - 11/18/75, distribution and abundance (no./10 m^3) of Centropages hamatus, copepodite stage 4.	407
310.	Anton Dohrn 75-187, 11/1 - 11/18/75, distribution and abundance (no./10 m^3) of Centropages hamatus, copepodite stage 5.	408
311.	Anton Dohrn 75-187, 11/1 - 11/18/75, distribution and abundance (no./10 m^3) of Centropages hamatus, copepodite stage unknown.	409
312.	Anton Dohrn 75-187, 11/1 - 11/18/75, distribution and abundance (no./10 m^3) of Centropages hamatus, adult.	410
313.	Anton Dohrn 75-187, 11/1 - 11/18/75, distribution and abundance (no./10 m^3) of Calanus finmarchicus, copepodite stage 1.	411
314.	Anton Dohrn 75-187, 11/1 - 11/18/75, distribution and abundance (no./10 m^3) of Calanus finmarchicus, copepodite stage 2.	412
315.	Anton Dohrn 75-187, 11/1 - 11/18/75, distribution and abundance (no./10 m^3) of Calanus finmarchicus, copepodite stage 3.	413
316.	Anton Dohrn 75-187, 11/1 - 11/18/75, distribution and abundance (no./10 m^3) of Calanus finmarchicus, copepodite stage 4.	414

Figure		Page
317.	Anton Dohrn 75-187, 11/1 - 11/18/75, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 5.	415
318.	Anton Dohrn 75-187, 11/1 - 11/18/75, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage unknown.	416
319.	Anton Dohrn 75-187, 11/1 - 11/18/75, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, adult.	417
320.	Anton Dohrn 75-187, 11/1 - 11/18/75, distribution and abundance (no./10 m^3) of Chaetognatha.	418
321.	Anton Dohrn 75-187, 11/1 - 11/18/75, distribution and abundance (no./10 m^3) of Amphipoda.	419
322.	Anton Dohrn 75-187, 11/1 - 11/18/75, distribution and abundance (no./10 m^3) of Euphausiacea.	420
323.	Anton Dohrn 75-187, 11/1 - 11/18/75, distribution and abundance (no./10 m^3) of Mysidacea.	421
324.	Anton Dohrn 75-187, 11/1 - 11/18/75, distribution and abundance (no./10 m^3) of Salpa.	422
325.	Albatross IV 75-14, 12/5 - 12/17/75, zooplankton sample stations (61-cm bongo, 0.333-mm mesh net) in the Georges Bank-Nantucket Shoals area.	423

Figure		Page
326.	Albatross IV 75-14, 12/5 - 12/17/75, displacement volumes (ml/100 m^3) of zooplankton.	424
327.	Albatross IV 75-14, 12/5 - 12/17/75, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage unknown.	425
328.	Albatross IV 75-14, 12/5 - 12/17/75, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., adult.	426
329.	Albatross IV 75-14, 12/5 - 12/17/75, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, copepodite stage unknown.	427
330.	Albatross IV 75-14, 12/5 - 12/17/75, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, adult.	428
331.	Albatross IV 75-14, 12/5 - 12/17/75, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage unknown.	429
332.	Albatross IV 75-14, 12/5 - 12/17/75, distribution and abundance (no./10 m^3) of *Centropages typicus*, adult.	430
333.	Albatross IV 75-14, 12/5 - 12/17/75, distribution and abundance (no./10 m^3) of *Centropages hamatus*, stage unknown.	431
334.	Albatross IV 75-14, 12/5 - 12/17/75, distribution and abundance (no./10 m^3) of *Centropages hamatus*, adult.	432

Figure		Page
335.	Albatross IV 75-14, 12/5 - 12/17/75, distribution and abundance (no./10 m^3) of *Oithona* spp., copepodite stage unknown.	433
336.	Albatross IV 75-14, 12/5 - 12/17/75, distribution and abundance (no./10 m^3) of *Oithona* spp., adult.	434
337.	Albatross IV 75-14, 12/5 - 12/17/75, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage unknown.	435
338.	Albatross IV 75-14, 12/5 - 12/17/75, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, stage unknown.	436
339.	Albatross IV 75-14, 12/5 - 12/17/75, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, adult.	437
340.	Albatross IV 75-14, 12/5 - 12/17/75, distribution and abundance (no./10 m^3) of Chaetognatha.	438
341.	Albatross IV 75-14, 12/5 - 12/17/75, distribution and abundance (no./10 m^3) of Amphipoda.	439
342.	Albatross IV 75-14, 12/5 - 12/17/75, distribution and abundance (no./10 m^3) of Euphausiacea.	440
343.	Albatross IV 75-14, 12/5 - 12/17/75, distribution and abundance (no./10 m^3) of Mysidacea.	441

Figure		Page
344.	Albatross IV 75-14, 12/5 - 12/17/75, distribution and abundance (no./10 m^3) of Salpa.	442
345.	Albatross IV 75-14, 12/5 - 12/17/75, distribution and abundance (no./10 m^3) of Scyphozoa.	443
346.	Albatross IV 76-01, 2/10 - 2/25/76, zooplankton sample stations (61-cm bongo, 0.333-mm mesh net) in the Georges Bank-Nantucket Shoals area.	444
347.	Albatross IV 76-01, 2/10 - 2/25/76, displacement volumes (ml/100 m^3) of zooplankton.	445
348.	Albatross IV 76-01, 2/10 - 2/25/76, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage 2.	446
349.	Albatross IV 76-01, 2/10 - 2/25/76, distribution and abundance (no./10 m^3), *Pseudocalanus* sp., copepodite stage 3.	447
350.	Albatross IV 76-01, 2/10 - 2/25/76, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage 4.	448
351.	Albatross IV 76-01, 2/10 - 2/25/76, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage 5.	449
352.	Albatross IV 76-01, 2/10 - 2/25/76, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage unknown.	450

Figure		Page
353.	Albatross IV 76-01, 2/10 - 2/25/76, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., adult.	451
354.	Albatross IV 76-01, 2/10 - 2/25/76, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, copepodite stage 5.	452
355.	Albatross IV 76-01, 2/10 - 2/25/76, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, copepodite stage unknown.	453
356.	Albatross IV 76-01, 2/10 - 2/25/76, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, adult.	454
357.	Albatross IV 76-01, 2/10 - 2/25/76, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 2.	455
358.	Albatross IV 76-01, 2/10 - 2/25/76, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 3.	456
359.	Albatross IV 76-01, 2/10 - 2/25/76, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 4.	457
360.	Albatross IV 76-01, 2/10 - 2/25/76, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 5.	458
361.	Albatross IV 76-01, 2/10 - 2/25/76, distribution and abundance (no./10 m^3) of *Centropages typicus*, adult.	459

Figure		Page
362.	Albatross IV 76-01, 2/10 - 2/25/76, distribution and abundance (no./10 m^3) of *Centropages hamatus*, copepodite stage 3.	460
363.	Albatross IV 76-01, 2/10 - 2/25/76, distribution and abundance (no./10 m^3) of *Centropages hamatus*, copepodite stage 4.	461
364.	Albatross IV 76-01, 2/10 - 2/25/76, distribution and abundance (no./10 m^3) of *Centropages hamatus*, copepodite stage 5.	462
365.	Albatross IV 76-01, 2/10 - 2/25/76, distribution and abundance (no./10 m^3) of *Centropages hamatus*, copepodite stage unknown.	463
366.	Albatross IV 76-01, 2/10 - 2/25/76, distribution and abundance (no./10 m^3) of *Centropages hamatus*, adult.	464
367.	Albatross IV 76-01, 2/10 - 2/25/76, distribution and abundance (no./10 m^3) of *Oithona* spp., copepodite stage unknown.	465
368.	Albatross IV 76-01, 2/10 - 2/25/76, distribution and abundance (no./10 m^3) of *Oithona* spp., adult.	466
369.	Albatross IV 76-01, 2/10 - 2/25/76, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 1.	467
370.	Albatross IV 76-01, 2/10 - 2/25/76, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 2.	468

Figure		Page
371.	Albatross IV 76-01, 2/10 - 2/25/76, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 3.	469
372.	Albatross IV 76-01, 2/10 - 2/25/76, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 4.	470
373.	Albatross IV 76-01, 2/10 - 2/25/76, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 5.	471
374.	Albatross IV 76-01, 2/10 - 2/25/76, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage unknown.	472
375.	Albatross IV 76-01, 2/10 - 2/25/76, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, adult.	473
376.	Albatross IV 76-01, 2/10 - 2/25/76, distribution and abundance (no./10 m^3) of Chaetognatha.	474
377.	Albatross IV 76-01, 2/10 - 2/25/76, distribution and abundance (no./10 m^3) of Amphipoda.	475
378.	Albatross IV 76-01, 2/10 - 2/25/76, distribution and abundance (no./10 m^3) of Euphausiacea.	476
379.	Albatross IV 76-01, 2/10 - 2/25/76, distribution and abundance (no./10 m^3) of Mysidacea.	477

Figure		Page
380.	Albatross IV 76-01, 2/10 - 2/25/76, distribution and abundance (no./10 m^3) of Salpa.	478
381.	Researcher 76-01, 11/27 - 12/11/76, zooplankton sample stations (61-cm bongo, 0.333-mm mesh net) in the Georges Bank-Nantucket Shoals area.	479
382.	Researcher 76-01, 11/27 - 12/11/76, displacement volumes (ml/100 m^3) of zooplankton.	480
383.	Researcher 76-01, 11/27 - 12/11/76, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage 4.	481
384.	Researcher 76-01, 11/27 - 12/11/76, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage 5.	482
385.	Researcher 76-01, 11/27 - 12/11/76, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., adult.	483
386.	Researcher 76-01, 11/27 - 12/11/76, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, copepodite stage 5.	484
387.	Researcher 76-01, 11/27 - 12/11/76, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, copepodite stage unknown.	485
388.	Researcher 76-01, 11/27 - 12/11/76, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, adult.	486

Figure		Page
389.	Researcher 76-01, 11/27 - 12/11/76, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 4.	487
390.	Researcher 76-01, 11/27 - 12/11/76, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 5.	488
391.	Researcher 76-01, 11/27 - 12/11/76, distribution and abundance (no./10 m^3) of *Centropages typicus*, adult.	489
392.	Researcher 76-01, 11/27 - 12/11/76, distribution and abundance (no./10 m^3) of *Centropages hamatus*, copepodite stage 4.	490
393.	Researcher 76-01, 11/27 - 12/11/76, distribution and abundance (no./10 m^3) of *Centropages hamatus*, copepodite stage 5.	491
394.	Researcher 76-01, 11/27 - 12/11/76, distribution and abundance (no./10 m^3) of *Centropages hamatus*, adult.	492
395.	Researcher 76-01, 11/27 - 12/11/76, distribution and abundance (no./10 m^3) of *Oithona* spp., adult.	493
396.	Researcher 76-01, 11/27 - 12/11/76, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 2.	494
397.	Researcher 76-01, 11/27 - 12/11/76, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 3.	495

Figure		Page
398.	Researcher 76-01, 11/27 - 12/11/76, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 4.	496
399.	Researcher 76-01, 11/27 - 12/11/76, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 5.	497
400.	Researcher 76-01, 11/27 - 12/11/76, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage unknown.	498
401.	Researcher 76-01, 11/27 - 12/11/76, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, adult	499
402.	Researcher 76-01, 11/27 - 12/11/76, distribution and abundance (no./10 m^3) of Chaetognatha.	500
403.	Researcher 76-01, 11/27 - 12/11/76, distribution and abundance (no./10 m^3) of Amphipoda.	501
404.	Researcher 76-01, 11/27 - 12/11/76, distribution and abundance (no./10 m^3) of Euphausiacea.	502
405.	Researcher 76-01, 11/27 - 12/11/76, distribution and abundance (no./10 m^3) of Mysidacea.	503
406.	Researcher 76-01, 11/27 - 12/11/76, distribution and abundance (no./10 m^3) of Salpa.	504

Figure		Page
407.	Mount Mitchell 77-01, 2/13 - 2/24/77, zooplankton sample stations (61-cm bongo, 0.333-mm mesh net) in the Georges Bank-Nantucket Shoals area.	505
408.	Mount Mitchell 77-01, 2/13 - 2/24/77, displacement volumes (ml/100 m^3) of zooplankton.	506
409.	Mount Mitchell 77-01, 2/13 - 2/24/77, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage 1.	507
410.	Mount Mitchell 77-01, 2/13 - 2/24/77, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage 2.	508
411.	Mount Mitchell 77-01, 2/13 - 2/24/77, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage 3.	509
412.	Mount Mitchell 77-01, 2/13 - 2/24/77, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage 4.	510
413.	Mount Mitchell 77-01, 2/13 - 2/24/77, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., copepodite stage 5.	511
414.	Mount Mitchell 77-01, 2/13 - 2/24/77, distribution and abundance (no./10 m^3) of *Pseudocalanus* sp., adult.	512
415.	Mount Mitchell 77-01, 2/13 - 2/24/77, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, copepodite stage 5.	513

Figure		Page
416.	Mount Mitchell 77-01, 2/13 - 2/24/77, distribution and abundance (no./10 m^3) of *Paracalanus parvus*, adult.	514
417.	Mount Mitchell 77-01, 2/13 - 2/24/77, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 3.	515
418.	Mount Mitchell 77-01, 2/13 - 2/24/77, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 4.	516
419.	Mount Mitchell 77-01, 2/13 - 2/24/77, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage 5.	517
420.	Mount Mitchell 77-01, 2/13 - 2/24/77, distribution and abundance (no./10 m^3) of *Centropages typicus*, copepodite stage unknown.	518
421.	Mount Mitchell 77-01, 2/13 - 2/24/77, distribution and abundance (no./10 m^3) of *Centropages typicus*, adult.	519
422.	Mount Mitchell 77-01, 2/13 - 2/24/77, distribution and abundance (no./10 m^3) of *Centropages hamatus*, copepodite stage 5.	520
423.	Mount Mitchell 77-01, 2/13 - 2/24/77, distribution and abundance (no./10 m^3) of *Centropages hamatus*, copepodite stage unknown.	521
424.	Mount Mitchell 77-01, 2/13 - 2/24/77, distribution and abundance (no./10 m^3) of *Centropages hamatus*, adult.	522

Figure		Page
425.	Mount Mitchell 77-01, 2/13 - 2/24/77, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 1.	523
426.	Mount Mitchell 77-01, 2/13 - 2/24/77, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 2.	524
427.	Mount Mitchell 77-01, 2/13 - 2/24/77, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 3.	525
428.	Mount Mitchell 77-01, 2/13 - 2/24/77, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 4.	526
429.	Mount Mitchell 77-01, 2/13 - 2/24/77, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage 5.	527
430.	Mount Mitchell 77-01, 2/13 - 2/24/77, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, copepodite stage unknown.	528
431.	Mount Mitchell 77-01, 2/13 - 2/24/77, distribution and abundance (no./10 m^3) of *Calanus finmarchicus*, adult.	529
432.	Mount Mitchell 77-01, 2/13 - 2/24/77, distribution and abundance (no./10 m^3) of Chaetognatha.	230
433.	Mount Mitchell 77-01, 2/13 - 2/24/77, distribution and abundance (no./10 m^3) of Amphipoda.	531

Figure		Page
434.	Mount Mitchell 77-01, 2/13 - 2/24/77, distribution and abundance (no./10 m^3) of Euphausiacea.	532
435.	Mount Mitchell 77-01, 2/13 - 2/24/77, distribution and abundance (no./10 m^3) of Mysidacea.	533

Introduction

Larval Atlantic herring (Clupea harengus L.) surveys were conducted in the Georges Bank-Gulf of Maine region from 1971 to 1979 by ICNAF (International Commission for the Northwest Atlantic Fisheries) participants in order to explain variations in larval distribution, abundance, growth, mortality and production (Lough et al., 1980, 1981). Cohen and Lough (1982) conducted a concurrent investigation[1], as part of the Northeast Fisheries Center's MARMAP (Marine Resources Monitoring, Assessment and Prediction) program (Sherman, 1980), into the relation between larval survival and the distribution and abundance of their copepod prey during the 1974, 1975, and 1976 spawning seasons. Two sets of zooplankton collections, 0.333-mm and 0.165-mm mesh samples, were used in the study to infer the general occurrence patterns of the prey and to estimate the densities available to the larvae, respectively. The 0.333-mm mesh series of processed samples is far more extensive in its spatial coverage of the area than the 0.165-mm series, but it does not quantitatively sample many of the important stages of the dominant copepod prey. The 0.165-mm series retains more of the prey stages quantitatively, but only 5 stations per survey were sorted. In this data report the 0.333-mm mesh data are displayed in detailed tables and figures. Davis (1982a and b) presents several analyses of the 0.165-mm mesh data series.

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[1]This report is MARMAP Contribution MED/NEFC 82-12

Methods

Surveys were conducted in the Georges Bank-Nantucket Shoals area on a standard grid of stations 15-20 miles (24-32 km) apart at approximately monthly intervals from September/October through December and since 1974, again in February. Details of all the cruise tracks and larval herring catches are presented by Lough and Bolz (1980). Double oblique bongo hauls were made at each station using a 61-cm diameter frame (0.333-mm and 0.505-mm mesh nets) and a 20-cm diameter frame (0.053 or 0.253-mm and 0.165-mm mesh nets). This sampling array was lowered at a rate of 50 m/min to 100 m or to within 5 m of the bottom and retrieved at 10 m/min at a ship speed of 3.5 knots (Posgay and Marak, 1980).

The 15 cruises referred to in this report are listed below:

Vessel Cruise No.	Survey Dates
1. Albatross IV 73-09	12/4 - 12/20/73
2. Albatross IV 74-02	2/11 - 2/22/74
3. Cryos 74-04	9/7 - 9/24/74
4. Wieczno 74-01	9/27 - 10/18/74
5. Prognoz 74-01	10/18 - 10/30/74
6. Anton Dohrn 74-01	11/16 - 11/23/74
7. Albatross IV 74-13	12/4 - 12/19/74
8. Albatross IV 75-02	2/12 - 2/28/75
9. Belogorsk 75-02	9/25 - 10/8/75
10. Belogorsk 75-03	10/17 - 10/30/75
11. Anton Dohrn 75-187	11/1 - 11/18/75
12. Albatross IV 75-14	12/5 - 12/17/75
13. Albatross IV 76-01	2/10 - 2/25/76
14. Researcher 76-01	11/27 - 12/11/76
15. Mount Mitchell 77-01	2/13 - 2/24/77

The 0.333-mm mesh zooplankton samples were sorted and identified, and displacement volumes were recorded at the Plankton Sorting Center in Szczecin, Poland according to the protocols outlined by Sherman et al. (1976), Sherman and Colton (1976), and Sherman and Ejsymont (1976). This data was coded and organized into files on a computer at the University of Rhode Island along with information on survey dates, station locations, and net-tow data according to procedures of the MARMAP Information System of data management. The data for the 15 cruises presented in this report were later transferred to files on the Sigma-7 computer at the Woods Hole Oceanographic Institution. An existing Northeast Fisheries Center (NEFC) program, FISHMAP, was used to generate all the plots of stations sampled, displacement volumes, and species distribution and abundance. Another existing NEFC program was adapted by NEFC programmers for generating the tables of species abundance and occurrence (Fager, 1963) included for every cruise. The variety of units which appear in the tables and plots (abundance in no./1000 m^3 in Fager tables, displacement volumes in ml/100 m^3 and abundance in no./10 m^3 in species plots) is unfortunately the result of specifications built into these computer programs.

A Fager table, a plot of stations sampled, displacement volumes, and plots of larval herring prey and potential predator distribution and abundance are presented for each cruise. The Fager tables list all the species of copepods sorted from selected sample stations of one cruise organized according to abundance and occurrence in the area sampled. The categories are:

<u>Mean rank</u> - species were ranked within each sample on the basis of total number of individuals, and then ranks for each species were averaged over all samples for each cruise.

Dominance - the number of stations (and the percent) at which a species was $\geq$ 50% of the total number of individuals.

Occurrence - the number (and percent) of stations at which a species was recorded.

Abundance - expressed as median and mean number/1000 m^3, and also as a percent of the total number of individuals. Standard deviation (SD) of the mean and coefficient of variation (SD/Mean) are listed as indices of dispersion.

A plot of the sampled stations sorted is included for every cruise because only selected samples could be processed due to the amount of time and expense involved in sorting and identification. This plot is followed by the displacement volumes of the <2.5 cm fraction of the zooplankton expressed in ml/100 m^3. The plots of occurrence of the major larval herring prey (*Pseudocalanus* sp., *Paracalanus parvus*, *Centropages typicus*, *Centropages hamatus*, *Oithona* spp., and *Calanus finmarchicus*) appear next (abundance expressed in number/10 m^3), followed by plots of potential larval predators (Chaetognatha, Amphipoda, Euphausiacea, Mysidacea, Salpa, and Scyphozoa) (Theilacker and Lasker, 1974; von Westernhagen et al., 1976; Alvarino, 1980; Coston-Clements, 1980; Möller, 1980; and others). The developmental stages and adults are represented in the prey plots when the information was available, but it should be noted that only those copepods whose cephalothorax length is greater than 0.9-1.0 mm are sampled quantitatively by the 0.333-mm mesh bongo net (Davis, 1980). Therefore, copepodite stages 3 through adult of *Calanus finmarchicus*, adults of *Centropages typicus* and *C. hamatus*, and larger adult females of *Pseudocalanus* sp. are the only stages for which the abundance levels are representative. The predator plots combine the species and stages within a taxonomic group because of either very

low abundance of separate species and stages or lack of more specific taxonomic information. It is difficult to generalize about the retention efficiencies of the 0.333-mm mesh net for these groups due to the diversity of sizes included, but see Colton et al. (1980) for some specific information on the performance of 0.253 and 0.333-mm mesh bongos towed at 1.5 and 3.5 knots.

Summary of Results

Because starvation is one of the major causes of larval mortality, a principal aim in this investigation was to try to explain differences in larval herring survival during the 1974, 1975, and 1976 spawning seasons by comparing and contrasting the distribution and abundance levels of their major prey during these years (Cohen and Lough, 1982). The occurrence of potential larval predators also was examined because predation is, ultimately, the source of most larval losses (Hunter, 1976).

The data presented here concur with the general seasonal patterns in this region of the dominant copepods described by Bigelow (1926), Cohen (1976), Sherman et al. (1978), Sherman and Jones (1980), and Davis (1982a), although our coverage was concentrated during the fall and winter seasons. They characterized *Calanus finmarchicus* and *Pseudocalanus* sp. as spring-dominant species in this area, and *Paracalanus parvus* and both species of *Centropages* as autumn-dominants. *Oithona* spp. maintained fairly similar levels of occurrence in all our samples. *Metridia lucens*, *Clausocalanus arcuicornis*, *Nannocalanus minor* frequently had high ranks in the Fager tables but never were found in the

larval guts (see Cohen and Lough, 1982 for detailed results).

The Fager tables are useful in determining the dominant copepods of each survey. The mean yearly abundance levels of each species did not appear to change greatly over the years studied, considering the high variability of the values. The coefficients of variation were consistently between 1.0 to 2.0 for the first 4 to 5 dominant species and then increased progressively for the rarer species. This trend indicates that the abundance estimates for the rarer species are much more subject to error than those from the more common species.

The displacement volumes were fairly constant over the seasons and among years, usually ranging from 30 to 90 ml/100 m^3 at each station. Sherman and Jones (1980) and Sherman et al. (1979) also recorded fairly constant displacement volumes (20-60 ml/100 m^3) on Georges Bank during the autumn and winter seasons (1977-1979), with a low point in February. Peak values were measured in mid to late spring ranging from 70 to 130 ml/100 m^3.

The plots are useful in comparing seasonal and yearly species occurrences. The major deviation from the consistent patterns of prey occurrence which emerged was the virtual disappearance of adults of both species of Centropages on central and eastern Georges Bank during December 1975 and February 1977 compared to the same sampling periods during the other years examined. Also, Paracalanus parvus was much more widespread in February 1975 than in 1974 or 1976. The overall yearly patterns of occurrence of each predator were similar. Chaetognaths were abundant and widespread over the entire area each year. Amphipods were much more sparsely distributed during the winters of 1973 and 1974 than in 1975 or 1976. Euphausiids were concentrated in the deeper waters outside the 100-m depth contour and appeared more abundant in the autumn than in

the winter. In contrast, the mysiids were generally found within the 100-m depth contour on eastern and central Georges Bank, although none were recorded in February 1975. Salps were more widespread during autumn 1974 than at other times when they were very sparse. Scyphozoans only appeared in our samples in February, late September, October, and December of 1975. Because of problems involved in collecting and preserving gelatinous forms, it may not be possible to assess their occurrence from this series of samples. However, Rogers et al. (1978) reported high concentrations of the siphonophore, Nanomia cara in the Gulf of Maine during the autumn and winter of 1975 at the same time the ICNAF surveys recorded the occurrence of Scyphozoans.

Chaetognaths seem to be the most widespread and abundant of all the potential predators in the areas where larval herring and their food are concentrated, and may therefore have a major impact on the herring population as potential predators and/or competitors.

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Table 1. Albatross IV 73-09, 12/4 - 12/20/73, relative abundance (no./1000 m^3) of copepods in the Georges Bank-Nantucket Shoals area collected with a 61-cm diameter 0.333-mm mesh net, including mean rank (species are ranked within each sample on the basis of total number of individuals and then ranks for each species are averaged over all samples for each cruise), dominance (number of stations where a species is $\geq$ 50% of the total number of individuals), frequency of occurrence, abundance (median, mean and percentage of total), and coefficient of variation.

Total stations sorted-49

Species name	Mean rank*	Dominance** Stations	Dominance** Percent	Occurrence Stations	Occurrence Percent	Abundance*** Median	Abundance*** Mean	Abundance*** SD	Abundance*** Percent	SD/Mean
Centropages typicus	61.469	26	53.0612	48	97.9592	209722	352240	434953	60.3402	1.2348
Pseudocalanus sp.	58.143	4	8.1633	46	93.8775	14719	115731	202541	19.8252	1.7501
Paracalanus parvus	56.724	0	.0000	45	91.8367	7896	23851	43939	4.0857	1.8422
Calanus finmarchicus	53.571	3	6.1224	41	83.6735	5544	13838	21806	2.3705	1.5758
Metridia lucens	52.541	1	2.0408	39	79.5918	3555	6324	7384	1.0834	1.1675
Clausocalanus arcuicornis	49.816	0	.0000	36	73.4694	1702	4936	8315	.8455	1.6846
Centropages hamatus	42.704	0	.0000	25	51.0204	609	47965	160005	8.2167	3.3359
Oithona spinirostris	40.061	0	.0000	23	46.9388	0	716	1630	.1226	2.2767
Pleuromamma borealis	39.031	3	6.1224	18	36.7347	0	4641	9567	.7950	2.0615
Nannocalanus minor	36.541	0	.0000	15	30.6122	0	1088	2634	.1864	2.4212
Candacia armata	35.898	0	.0000	15	30.6122	0	1074	2656	.1839	2.4734
Temora longicornis	34.357	0	.0000	13	26.5306	0	857	2167	.1467	2.5301
Rhincalanus nasutus	32.704	0	.0000	10	20.4082	0	710	1869	.1217	2.6299
Acartia sp.	31.939	0	.0000	8	16.3265	0	1842	5790	.3155	3.1435
Meganoctera clausi	31.602	0	.0000	9	18.3673	0	293	837	.0502	2.8566
Oncaea venusta	31.398	0	.0000	8	16.3265	0	292	966	.0500	3.3126
Centropages bradyi	31.378	0	.0000	8	16.3265	0	398	1594	.0683	4.0006
Euchaetidae	31.286	0	.0000	8	16.3265	0	269	907	.0460	3.3773
Alteutha depressa	31.265	0	.0000	8	16.3265	0	474	1532	.0812	3.2309
Calanoid spp.	30.480	0	.0000	6	12.2449	0	231	723	.0396	3.1272
Calocalanus sp.	30.378	0	.0000	6	12.2449	0	176	635	.0302	3.5983
Harpacticoid sp.	30.286	0	.0000	7	14.2857	0	283	942	.0484	3.3309
Calanoid sp.	30.112	0	.0000	6	12.2449	0	708	3269	.1213	4.6150
Oncaea sp.	29.827	0	.0000	6	12.2449	0	223	746	.0381	3.3512
Lucicutia flavicornis	29.806	0	.0000	5	10.2041	0	192	862	.0329	4.4863
Labidocera aestiva	28.949	0	.0000	4	8.1633	0	241	1358	.0412	5.6407
Acartia longiremis	28.602	0	.0000	3	6.1224	0	148	667	.0254	4.5020
Scolecithrix danae	28.469	0	.0000	3	6.1224	0	69	356	.0118	5.1462
Euchaeta norvegica	28.439	0	.0000	3	6.1224	0	108	435	.0186	4.0112
Acartia danae	28.408	0	.0000	3	6.1224	0	64	268	.0110	4.1932
Lucicutia sp.	28.296	0	.0000	3	6.1224	0	58	241	.0099	4.1648
Eucalanus sp.	28.296	0	.0000	3	6.1224	0	102	600	.0175	5.8709
Corycaeidae	28.184	0	.0000	3	6.1224	0	58	269	.0100	4.6180
Copepoda	28.143	0	.0000	3	6.1224	0	78	440	.0134	5.6269

Table 1. Continued

Total stations sorted-49

Species name	Mean rank*	Dominance** Stations	Dominance** Percent	Occurrence Stations	Occurrence Percent	Abundance*** Median	Abundance*** Mean	Abundance*** SD	Abundance*** Percent	SD/Mean
Cyclopoid sp.	28.102	0	.0000	3	6.1224	0	46	261	.0079	5.6483
Clausocalanus spp.	28.020	0	.0000	2	4.0816	0	144	712	.0246	4.9466
Pseudocalanus minor	27.898	0	.0000	2	4.0816	0	1455	9777	.2493	6.7179
Oithona spp.	27.806	0	.0000	2	4.0816	0	46	305	.0079	6.6441
Acartia spp.	27.806	0	.0000	2	4.0816	0	292	1604	.0500	5.5000
Pleuromamma sp.	27.796	0	.0000	2	4.0816	0	54	293	.0093	5.4274
Pseudocalanus sp.or *Paracalanus*	27.786	0	.0000	2	4.0816	0	117	573	.0200	4.9005
Clausocalanus sp.	27.755	0	.0000	2	4.0816	0	406	2649	.0696	6.5207
Calanus sp.	27.724	0	.0000	2	4.0816	0	42	213	.0071	5.1331
Halithalestris avoni	27.714	0	.0000	2	4.0816	0	4	23	.0007	5.7866
Oithona sp.	27.714	0	.0000	2	4.0816	0	68	334	.0117	4.8988
Scolecithricidae	27.704	0	.0000	2	4.0816	0	99	529	.0170	5.3466
Scolecithrix sp.	27.684	0	.0000	2	4.0816	0	73	357	.0125	4.8979
Temora stylifera	27.643	0	.0000	2	4.0816	0	49	319	.0084	6.5125
Calocalanus pavo	27.633	0	.0000	2	4.0816	0	29	145	.0049	5.0808
Pleuromamma abdominalis	27.296	0	.0000	1	2.0408	0	12	81	.0020	7.0000
Candacia spp.	27.296	0	.0000	1	2.0408	0	219	1531	.0375	7.0000
Pleuromamma spp.	27.296	0	.0000	1	2.0408	0	219	1531	.0375	7.0000
Eucalanus spp.	27.265	0	.0000	1	2.0408	0	28	195	.0048	7.0000
Calanus spp.	27.163	0	.0000	1	2.0408	0	14	98	.0024	7.0000
Labidocera sp.	27.163	0	.0000	1	2.0408	0	43	304	.0074	7.0000
Candacia sp.	27.143	0	.0000	1	2.0408	0	12	87	.0021	7.0000
Neocalanus gracilis	27.133	0	.0000	1	2.0408	0	12	87	.0021	7.0000
Oncaea conifera	27.092	0	.0000	1	2.0408	0	3	20	.0005	7.0000
Rhincalanus sp.	27.092	0	.0000	1	2.0408	0	15	102	.0025	7.0000
Neocalanus sp.	27.092	0	.0000	1	2.0408	0	22	152	.0037	7.0000
Pleuromamma xiphias	27.031	0	.0000	1	2.0408	0	9	64	.0016	7.0000
Undinula vulgaris	27.031	0	.0000	1	2.0408	0	9	64	.0016	7.0000
Pleuromamma peseki	27.020	0	.0000	1	2.0408	0	1	10	.0002	7.0000

*Mean rank: species were ranked within each sample on the basis of total number of individuals, and then ranks for each species were averaged over all samples for each cruise.

**Dominance: number of stations where a species is $\geq$ 50% of the total number of individuals.

***No./1000m^3

Table 2. Albatross IV 74-02, 2/11 - 2/22/74, relative abundance of copepods in the Georges Bank-Nantucket Shoals area.

Total stations sorted-28

Species name	Mean rank*	Dominance** Stations	Dominance** Percent	Occurrence Stations	Occurrence Percent	Abundance*** Median	Abundance*** Mean	Abundance*** SD	Abundance*** Percent	SD/Mean
Pseudocalanus sp.	38.536	15	53.5714	27	96.4286	81135	199905	316504	61.7679	1.5833
Calanus finmarchicus	36.821	2	7.1429	27	96.4286	4092	19574	37095	6.0480	1.8951
Centropages typicus	36.411	1	3.5714	26	92.8571	11513	60544	98296	18.7072	1.6235
Centropages hamatus	31.839	2	7.1429	21	75.0000	3908	35283	83571	10.9019	2.3686
Metridia lucens	29.750	2	7.1429	18	64.2857	709	3801	8680	1.1744	2.2838
Paracalanus parvus	27.000	0	.0000	16	57.1429	46	714	1127	.2206	1.5781
Clausocalanus arcuicornis	27.000	0	.0000	16	57.1429	98	490	880	.1514	1.7967
Oithona spinirostris	23.357	0	.0000	10	35.7143	0	536	1579	.1657	2.9452
Pleuromamma borealis	20.768	1	3.5714	6	21.4286	0	380	1067	.1175	2.8046
Temora longicornis	20.304	0	.0000	6	21.4286	0	543	1459	.1676	2.6899
Alteutha depressa	19.821	0	.0000	5	17.8571	0	336	881	.1037	2.6253
Nannocalanus minor	19.625	0	.0000	5	17.8571	0	15	39	.0048	2.5266
Oithona spp.	18.768	0	.0000	3	10.7143	0	303	1132	.0937	3.7338
Calanoid spp.	18.482	0	.0000	3	10.7143	0	79	395	.0243	5.0121
Calanoid sp.	18.214	0	.0000	3	10.7143	0	32	117	.0100	3.6219
Mecynocera clausi	18.107	0	.0000	2	7.1429	0	39	153	.0122	3.8905
Oithona sp.	17.821	0	.0000	2	7.1429	0	189	707	.0584	3.7390
Euchaeta norvegica	17.750	0	.0000	2	7.1429	0	44	167	.0136	3.7974
Lucicutia sp.	17.714	0	.0000	2	7.1429	0	5	22	.0016	4.0737
Labidocera sp.	17.714	0	.0000	2	7.1429	0	5	22	.0016	4.0737
Candacia armata	17.679	0	.0000	2	7.1429	0	60	236	.0184	3.9621
Euchaetidae	17.679	0	.0000	2	7.1429	0	26	115	.0080	4.4080
Pleuromamma sp.	17.589	0	.0000	2	7.1429	0	13	69	.0041	5.2325
Centropages bradyi	17.571	0	.0000	2	7.1429	0	34	177	.0105	5.2112
Harpacticoid sp.	17.500	0	.0000	2	7.1429	0	293	1550	.0906	5.2888
Heterorhabdidae	17.482	0	.0000	2	7.1429	0	2	8	.0005	4.3923
Calocalanus sp.	17.196	0	.0000	1	3.5714	0	1	7	.0004	5.2915
Pseudocalanus sp. or *Paracalanus*	17.125	0	.0000	1	3.5714	0	110	584	.0341	5.2915
Aetideidae	17.125	0	.0000	1	3.5714	0	1	6	.0004	5.2915
Acartia longiremis	17.089	0	.0000	1	3.5714	0	84	444	.0259	5.2915
Cyclopoid spp.	17.071	0	.0000	1	3.5714	0	20	108	.0063	5.2915
Labidocera spp.	17.071	0	.0000	1	3.5714	0	13	69	.0040	5.2915
Oncaea sp.	17.054	0	.0000	1	3.5714	0	1	4	.0002	5.2915
Candacia sp.	17.054	0	.0000	1	3.5714	0	93	494	.0288	5.2915
Neocalanus gracilis	17.054	0	.0000	1	3.5714	0	1	4	.0002	5.2915
Acartia sp.	17.036	0	.0000	1	3.5714	0	39	204	.0119	5.2915
Pleuromamma abdominalis	17.018	0	.0000	1	3.5714	0	1	8	.0004	5.2915
Tortanus sp.	17.018	0	.0000	1	3.5714	0	28	148	.0086	5.2915
Clytemnestra sp.	16.964	0	.0000	1	3.5714	0	1	3	.0002	5.2915
Scolecithricidae	16.821	0	.0000	1	3.5714	0	0	1	.0000	5.2915

See Table 1 for explanation of asterisks.

Table 3. Cryos 74-04, 9/7 - 9/24/74, relative abundance of copepods in the Georges Bank-Nantucket Shoals area.

Total stations sorted-49

Species name	Mean rank*	Dominance** Stations	Dominance** Percent	Occurrence Stations	Occurrence Percent	Abundance*** Median	Abundance*** Mean	Abundance*** SD	Abundance*** Percent	SD/Mean
Centropages typicus	70.082	22	44.8979	48	97.9592	258175	433424	799597	46.9990	1.8448
Calanus finmarchicus	69.061	2	4.0816	48	97.9592	64605	114773	131557	12.4455	1.1462
Pseudocalanus sp.	67.184	3	6.1224	47	95.9184	48466	162810	256160	17.6545	1.5734
Paracalanus parvus	65.480	0	.0000	45	91.8367	28643	75900	123321	8.2303	1.6248
Metridia lucens	56.663	0	.0000	35	71.4286	3999	11506	22789	1.2476	1.9807
Nannocalanus minor	53.755	0	.0000	31	63.2653	1777	10047	28554	1.0894	2.8421
Centropages hamatus	50.357	3	6.1224	27	55.1020	1865	58756	167988	6.3714	2.8590
Temora longicornis	48.765	0	.0000	26	53.0612	1036	11947	31738	1.2955	2.6566
Clausocalanus arcuicornis	44.378	0	.0000	19	38.7755	0	4298	9518	.4661	2.2145
Acartia danae	40.173	0	.0000	13	26.5306	0	1274	3738	.1381	2.9351
Cyclopoid sp.	39.398	0	.0000	13	26.5306	0	1950	5321	.2114	2.7294
Oithona sp.	38.143	0	.0000	11	22.4490	0	1753	6164	.1901	3.5158
Labidocera aestiva	37.939	0	.0000	11	22.4490	0	1439	4643	.1561	3.2264
Centropages bradyi	36.663	0	.0000	8	16.3265	0	1122	5177	.1216	4.6155
Clausocalanus furcatus	36.531	0	.0000	8	16.3265	0	2181	9271	.2366	4.2497
Temora stylifera	36.378	0	.0000	9	18.3673	0	503	1981	.0545	3.9383
Oithona spinirostris	35.939	0	.0000	7	14.2857	0	1202	6431	.1304	5.3491
Scolecithrix danae	35.847	0	.0000	7	14.2857	0	1100	4633	.1192	4.2133
Calanoid sp.	35.816	0	.0000	8	16.3265	0	659	2547	.0715	3.8635
Clausocalanus sp.	35.796	0	.0000	8	16.3265	0	316	935	.0342	2.9646
Pleuromamma borealis	35.724	1	2.0408	7	14.2857	0	2330	12139	.2526	5.2107
Oncaea venusta	35.653	0	.0000	7	14.2857	0	1432	7415	.1553	5.1781
Acartia longiremis	35.296	0	.0000	7	14.2857	0	418	1390	.0454	3.3213
Acartia sp.	35.153	0	.0000	7	14.2857	0	329	996	.0357	3.0260
Macrosetella clausi	35.102	0	.0000	7	14.2857	0	337	1287	.0366	3.8177
Oncaea sp.	35.010	0	.0000	6	12.2449	0	3174	15009	.3442	4.7288
Euchaetidae	34.969	0	.0000	6	12.2449	0	697	2674	.0756	3.8343
Corycaeidae	34.806	0	.0000	6	12.2449	0	719	3157	.0779	4.3934
Oncaea spp.	34.561	0	.0000	5	10.2041	0	1629	10386	.1767	6.3756
Oithona spp.	34.531	0	.0000	5	10.2041	0	1940	6801	.2103	3.5059
Acartia spp.	34.347	0	.0000	5	10.2041	0	3270	12540	.3546	3.8345
Oithona helgolandica	34.327	0	.0000	5	10.2041	0	750	3093	.0813	4.1262
Calocalanus sp.	34.122	0	.0000	5	10.2041	0	313	1173	.0340	3.7452
Calocalanus pavo	33.949	0	.0000	5	10.2041	0	410	1533	.0445	3.7371
Aletutha depressa	33.449	0	.0000	4	8.1633	0	199	735	.0216	3.6888
Calanus sp.	33.327	0	.0000	4	8.1633	0	271	1603	.0294	5.9151
Candacia armata	33.306	0	.0000	4	8.1633	0	380	1701	.0412	4.4784

Table 3. Continued

Species name	Mean rank*	Dominance** Stations	Dominance** Percent	Occurrence Stations	Occurrence Percent	Total stations sorted-49 Abundance*** Median	Mean	SD	Percent	SD/Mean
Clausocalanus spp.	32.878	0	.0000	3	6.1224	0	938	4338	.1018	4.6235
Euchaeta norvegica	32.775	0	.0000	3	6.1224	0	308	1357	.0334	4.4131
Calocalanus plumulosus	32.622	0	.0000	3	6.1224	0	210	1217	.0228	5.7961
Aetideus armatus	32.480	0	.0000	3	6.1224	0	91	536	.0098	5.9021
Calanoid spp.	32.224	0	.0000	2	4.0816	0	429	2679	.0465	6.2465
Corycaeus sp.	32.051	0	.0000	2	4.0816	0	65	339	.0071	5.2034
Eurytemora herdmani	32.010	0	.0000	2	4.0816	0	349	1712	.0379	4.8992
Acartia clausi	31.990	0	.0000	2	4.0816	0	64	316	.0070	4.9188
Anomalocera patersoni	31.939	0	.0000	2	4.0816	0	64	399	.0069	6.2262
Undinula vulgaris	31.878	0	.0000	2	4.0816	0	61	371	.0066	6.0583
Eucalanus sp.	31.878	0	.0000	2	4.0816	0	123	800	.0133	6.5082
Eurytemora sp.	31.847	0	.0000	2	4.0816	0	190	950	.0206	4.9977
Pleuromamma spp.	31.704	0	.0000	1	2.0408	0	2474	17320	.2683	7.0000
Pleuromamma abdominalis	31.439	0	.0000	1	2.0408	0	228	1599	.0248	7.0000
Corycaeus spp.	31.357	0	.0000	1	2.0408	0	215	1508	.0234	7.0000
Pleuromamma sp.	31.357	0	.0000	1	2.0408	0	11	76	.0012	7.0000
Cyclopoid spp.	31.337	0	.0000	1	2.0408	0	56	392	.0061	7.0000
Pontellidae	31.337	0	.0000	1	2.0408	0	46	324	.0050	7.0000
Scolecithricella sp.	31.337	0	.0000	1	2.0408	0	152	1066	.0165	7.0000
Harpacticoid sp.	31.316	0	.0000	1	2.0408	0	32	226	.0035	7.0000
Lucicutia flavicornis	31.286	0	.0000	1	2.0408	0	114	799	.0124	7.0000
Scolecithricidae	31.275	0	.0000	1	2.0408	0	108	754	.0117	7.0000
Sapphirinidae	31.275	0	.0000	1	2.0408	0	37	256	.0040	7.0000
Scolecithrix sp.	31.265	0	.0000	1	2.0408	0	11	74	.0012	7.0000
Copepoda	31.245	0	.0000	1	2.0408	0	15	102	.0016	7.0000
Heterorhabdus spp.	31.224	0	.0000	1	2.0408	0	4	25	.0004	7.0000
Euchaeta marina	31.224	0	.0000	1	2.0408	0	9	62	.0010	7.0000
Sapphirina sp.	31.224	0	.0000	1	2.0408	0	4	25	.0004	7.0000
Candacia sp.	31.224	0	.0000	1	2.0408	0	4	25	.0004	7.0000
Euchaeta sp.	31.214	0	.0000	1	2.0408	0	54	377	.0058	7.0000
Scolecithrix bradyi	31.214	0	.0000	1	2.0408	0	20	139	.0022	7.0000
Pleuromamma pseseki	31.204	0	.0000	1	2.0408	0	76	533	.0083	7.0000
Aetideidae	31.204	0	.0000	1	2.0408	0	76	533	.0083	7.0000
Candacia simplex	31.092	0	.0000	1	2.0408	0	38	266	.0041	7.0000
Centropages violaceus	31.092	0	.0000	1	2.0408	0	38	266	.0041	7.0000

See Table 1 for explanation of asterisks

Table 4. Wieczno 74-01, 9/27 - 10/18/74, relative abundance of copepods in the Georges Bank-Nantucket Shoals area.

						Total stations sorted -69				
		Dominance**		Occurrence		Abundance***				
Species name	Mean rank*	Stations	Percent	Stations	Percent	Median	Mean	SD	Percent	SD/Mean
Centropages typicus	87.609	35	50.7246	68	98.5507	171762	723096	4063920	59.2094	5.6202
Pseudocalanus sp.	82.638	5	7.2464	65	94.2029	19098	83522	166327	6.8391	1.9914
Calanus finmarchicus	82.058	3	4.3478	63	91.3043	38592	114888	461004	9.4074	4.0127
Paracalanus parvus	81.754	1	1.4493	64	92.7536	21557	223836	1454639	18.3284	6.4987
Metridia lucens	73.029	0	.0000	53	76.8116	3657	8113	13608	.6643	1.6772
Nannocalanus minor	68.891	0	.0000	46	66.6667	669	12182	72821	.9975	5.9777
Clausocalanus arcuicornis	66.123	0	.0000	43	62.3188	901	4014	6395	.3287	1.5932
Acartia danae	56.493	0	.0000	27	39.1304	0	4104	24292	.3360	5.9191
Temora longicornis	55.464	0	.0000	27	39.1304	0	2497	8302	.2045	3.3250
Centropages bradyi	53.971	0	.0000	25	36.2319	0	1993	12140	.1632	6.0927
Centropages hamatus	52.290	0	.0000	22	31.8840	0	13465	45206	1.1025	3.3574
Candacia armata	51.949	0	.0000	21	30.4348	0	1639	6846	.1342	4.1758
Euchaetidae	50.957	0	.0000	20	28.9855	0	718	1623	.0588	2.2591
Oithona spinirostris	50.283	0	.0000	18	26.0869	0	531	1638	.0434	3.0863
Acartia sp.	49.616	0	.0000	18	26.0869	0	938	3051	.0768	3.2519
Pleuromamma borealis	48.464	0	.0000	15	21.7391	0	586	2115	.0480	3.6085
Oithona sp.	48.087	0	.0000	16	23.1884	0	4967	36443	.4067	7.3346
Scolecithrix danae	46.884	0	.0000	13	18.8406	0	391	1185	.0320	3.0304
Oncaea venusta	46.174	0	.0000	11	15.9420	0	2954	14700	.2419	4.9770
Mecynocera clausi	46.058	0	.0000	13	18.8406	0	225	701	.0185	3.1114
Temora stylifera	45.957	0	.0000	12	17.3913	0	444	1650	.0363	3.7179
Oithona spp.	45.514	0	.0000	10	14.4928	0	1164	4194	.0953	3.6044
Oncaea sp.	45.225	0	.0000	10	14.4928	0	680	2852	.0556	4.1968
Clausocalanus sp.	43.819	0	.0000	9	13.0435	0	4504	36458	.3688	8.0944
Calocalanus pavo	43.268	0	.0000	8	11.5942	0	103	379	.0085	3.6712
Undinula vulgaris	43.232	0	.0000	8	11.5942	0	90	284	.0074	3.1529
Calocalanus sp.	43.152	0	.0000	8	11.5942	0	137	701	.0112	5.1305
Oncaea spp.	42.978	0	.0000	6	8.6957	0	745	3573	.0610	4.7969
Calanoid sp.	42.609	0	.0000	7	10.1449	0	154	667	.0126	4.3313
Corycaeus spp.	42.543	0	.0000	6	8.6957	0	213	851	.0174	3.9956
Acartia spp.	42.536	0	.0000	6	8.6957	0	439	2924	.0359	6.6597
Harpacticoid sp.	42.348	0	.0000	7	10.1449	0	76	314	.0063	4.1090
Rhincalanus nasutus	42.304	0	.0000	6	8.6957	0	148	688	.0121	4.6617
Candacia sp.	42.181	0	.0000	6	8.6957	0	86	395	.0070	4.6180

Table 4. Continued

Species name	Mean rank*	Dominance** Stations	Dominance** Percent	Occurrence Stations	Occurrence Percent	Total stations sorted-69 Abundance*** Median	Mean	SD	Percent	SD/Mean
Pleuromamma sp.	42.029	0	.0000	6	8.6957	0	1549	12156	.1268	7.8486
Euchaeta norvegica	41.623	0	.0000	5	7.2464	0	145	738	.0118	5.1025
Scolecithrix sp.	41.565	0	.0000	5	7.2464	0	2984	24308	.2443	8.1467
Corycaeus sp.	41.551	0	.0000	5	7.2464	0	57	295	.0046	5.1952
Acartia longiremis	41.514	0	.0000	5	7.2464	0	132	565	.0108	4.2678
Aetideidae	41.471	0	.0000	5	7.2464	0	50	277	.0041	5.5245
Eucalanus sp.	41.435	0	.0000	5	7.2464	0	112	623	.0091	5.5783
Labidocera sp.	41.399	0	.0000	5	7.2464	0	200	1441	.0164	7.2103
Clausocalanus spp.	41.362	0	.0000	4	5.7971	0	326	1806	.0267	5.5342
Sapphirina sp.	41.341	0	.0000	5	7.2464	0	40	164	.0033	4.0713
Calanoid spp.	41.080	0	.0000	4	5.7971	0	59	320	.0048	5.4330
Calanus spp.	40.899	0	.0000	4	5.7971	0	73	406	.0060	5.5259
Alteutha depressa	40.891	0	.0000	4	5.7971	0	80	360	.0065	4.5208
Labidocera aestiva	40.884	0	.0000	4	5.7971	0	89	395	.0073	4.4444
Lucicutia sp.	40.848	0	.0000	4	5.7971	0	46	269	.0037	5.8782
Cyclopoid sp.	40.841	0	.0000	4	5.7971	0	94	605	.0077	6.4434
Corycaeidae	40.790	0	.0000	3	4.3478	0	679	4080	.0556	6.0098
Copepoda	40.739	0	.0000	4	5.7971	0	39	187	.0032	4.8148
Clausocalanus furcatus	40.428	0	.0000	3	4.3478	0	122	683	.0100	5.5875
Paracalanus sp.	40.406	0	.0000	3	4.3478	0	130	681	.0106	5.2577
Labidocera acutifrons	39.855	0	.0000	2	2.8986	0	44	352	.0036	8.0301
Eucalanus spp.	39.812	0	.0000	2	2.8986	0	77	589	.0063	7.6532
Calocalanus tenuis	39.746	0	.0000	2	2.8986	0	17	126	.0014	7.4221
Scolecithrix bradyi	39.696	0	.0000	2	2.8986	0	24	141	.0020	5.8529
Halithalestris croni	39.681	0	.0000	2	2.8986	0	13	104	.0011	7.9168
Corycaeus speciosus	39.674	0	.0000	2	2.8986	0	14	87	.0012	6.1184
Centropages violaceus	39.674	0	.0000	2	2.8986	0	18	102	.0014	5.8422
Calocalanus plumulosus	39.667	0	.0000	2	2.8986	0	15	110	.0012	7.2133
Scolecithricidae	39.667	0	.0000	2	2.8986	0	30	211	.0025	7.0656
Pleuromamma gracilis	39.290	0	.0000	1	1.4493	0	2	17	.0002	8.3066
Scolecithrix spp.	39.268	0	.0000	1	1.4493	0	78	651	.0064	8.3066
Candacia spp.	39.239	0	.0000	1	1.4493	0	11	88	.0009	8.3066
Sapphirina spp.	39.203	0	.0000	1	1.4493	0	88	734	.0072	8.3066
Calanus hyperboreus	39.196	0	.0000	1	1.4493	0	47	388	.0038	8.3066
Paracalanus spp.	39.188	0	.0000	1	1.4493	0	44	365	.0036	8.3066
Corycella carinata	39.181	0	.0000	1	1.4493	0	10	81	.0008	8.3066
Paracalanus aculeatus	39.167	0	.0000	1	1.4493	0	33	271	.0027	8.3066

Table 4. Continued

						Total stations sorted-69				
		Dominance**		Occurrence		Abundance***				
Species name	Mean rank*	Stations	Percent	Stations	Percent	Median	Mean	SD	Percent	SD/Mean
Euchaeta sp.	39.159	0	.0000	1	1.4493	0	5	41	.0004	8.3066
Undeuchaeta major	39.159	0	.0000	1	1.4493	0	1	6	.0001	8.3066
Eurytemora sp.	39.159	0	.0000	1	1.4493	0	14	115	.0011	8.3066
Oithona helgolandica	39.152	0	.0000	1	1.4493	0	11	95	.0009	8.3066
Cyclops sp.	39.152	0	.0000	1	1.4493	0	2	20	.0002	8.3066
Eucalanidae	39.152	0	.0000	1	1.4493	0	9	74	.0007	8.3066
Sapphirinidae	39.152	0	.0000	1	1.4493	0	3	22	.0002	8.3066
Euchaeta marina	39.145	0	.0000	1	1.4493	0	13	104	.0010	8.3066
Cyclopoid spp.	39.138	0	.0000	1	1.4493	0	1	10	.0001	8.3066
Pleuromamma pseseki	39.130	0	.0000	1	1.4493	0	1	4	.0000	8.3066
Calanidae	39.123	0	.0000	1	1.4493	0	25	208	.0021	8.3066
Macrosetella sp.	39.123	0	.0000	1	1.4493	0	2	16	.0002	8.3066
Eucalanus monachus	39.109	0	.0000	1	1.4493	0	13	108	.0011	8.3066
Lucicutia flavicornis	39.109	0	.0000	1	1.4493	0	5	40	.0004	8.3066
Temora sp.	39.109	0	.0000	1	1.4493	0	5	40	.0004	8.3066
Lubbockia sp.	39.072	0	.0000	1	1.4493	0	1	10	.0001	8.3066
Lucicutia spp.	39.051	0	.0000	1	1.4493	0	0	1	.0000	8.3066
Euaetideus giesbrechti	39.051	0	.0000	1	1.4493	0	0	1	.0000	8.3066

See Table 1 for explanation of asterisks

Table 6. Prognoz 74-01, 10/18 - 10/30/74, relative abundance of copepods in the Georges Bank-Nantucket Shoals area.

						Total stations sorted-45				
		Dominance**		Occurrence		Abundance***				
Species name	Mean rank*	Stations	Percent	Stations	Percent	Median	Mean	SD	Percent	SD/Mean
Centropages typicus	73.711	30	66.6667	44	97.7778	152648	322090	364518	64.0509	1.1317
Calanus finmarchicus	66.256	0	.0000	39	86.6667	9401	23768	45273	4.7264	1.9048
Paracalanus parvus	65.611	0	.0000	39	86.6667	9394	26447	36695	5.2592	1.3875
Pseudocalanus sp.	64.489	0	.0000	38	84.4444	5120	38072	74033	7.5710	1.9445
Metridia lucens	59.000	0	.0000	32	71.1111	2169	3596	5639	.7150	1.5683
Clausocalanus arcuicornis	52.422	0	.0000	25	55.5555	309	2339	5631	.4652	2.4071
Nannocalanus minor	51.044	0	.0000	22	48.8889	0	1697	5516	.3375	3.2497
Centropages hamatus	49.967	0	.0000	21	46.6667	0	49686	124645	9.8805	2.5087
Temora longicornis	47.178	0	.0000	19	42.2222	0	2362	6754	.4697	2.8596
Candacia armata	46.944	0	.0000	18	40.0000	0	868	2351	.1726	2.7088
Centropages bradyi	44.667	0	.0000	16	35.5555	0	489	1456	.0973	2.9753
Oithona spinirostris	43.633	0	.0000	14	31.1111	0	1157	3667	.2300	3.1703
Euchaetidae	43.456	0	.0000	14	31.1111	0	764	1664	.1519	2.1780
Oncaea venusta	39.933	0	.0000	8	17.7778	0	1469	5062	.2922	3.4450
Scolecithrix danae	39.822	0	.0000	9	20.0000	0	619	1900	.1230	3.0712
Calanoid spp.	39.433	0	.0000	9	20.0000	0	154	420	.0307	2.7218
Oncaea spp.	39.244	0	.0000	9	20.0000	0	623	2388	.1238	3.8339
Pleuromamma borealis	38.756	0	.0000	7	15.5556	0	714	2499	.1420	3.5005
Acartia danae	38.200	0	.0000	7	15.5556	0	650	2805	.1292	4.3176
Acartia longiremis	37.433	0	.0000	7	15.5556	0	490	1658	.0974	3.3841
Oncaea spp.	37.333	0	.0000	6	13.3333	0	1033	4376	.2054	4.2367
Rhincalanus nasutus	37.122	0	.0000	7	15.5556	0	109	409	.0216	3.7562
Oithona sp.	37.089	0	.0000	7	15.5556	0	277	844	.0550	3.0486
Temora stylifera	36.978	0	.0000	6	13.3333	0	149	555	.0296	3.7376
Calanoid sp.	36.689	0	.0000	6	13.3333	0	373	1470	.0742	3.9425
Corycaeidae	36.578	0	.0000	5	11.1111	0	274	1476	.0546	5.3788
Labidocera aestiva	36.122	0	.0000	5	11.1111	0	485	1576	.0965	3.2492
Acartia sp.	36.067	0	.0000	5	11.1111	0	5598	36958	1.1133	6.6016
Eucalanus spp.	35.989	0	.0000	5	11.1111	0	669	4329	.1330	6.4704
Clausocalanus sp.	35.767	0	.0000	5	11.1111	0	108	530	.0216	4.8909
Undinula vulgaris	35.700	0	.0000	5	11.1111	0	213	1216	.0424	5.7019
Calocalanus sp.	35.578	0	.0000	5	11.1111	0	100	535	.0199	5.3473
Alteutha depressa	35.200	0	.0000	4	8.8889	0	208	716	.0414	3.4439
Harpacticoid sp.	35.033	0	.0000	4	8.8889	0	209	888	.0416	4.2431
Sapphirina sp.	34.922	0	.0000	4	8.8889	0	121	496	.0240	4.1028
Acartia clausi	34.700	0	.0000	3	6.6667	0	13439	88541	2.6726	6.5881

Table 5. Continued

Total stations sorted-45

Species name	Mean rank*	Dominance** Stations	Dominance** Percent	Occurrence Stations	Occurrence Percent	Abundance*** Median	Abundance*** Mean	Abundance*** SD	Abundance*** Percent	SD/Mean
Calocalanus pavo	34.567	0	.0000	4	8.8889	0	27	105	.0054	3.8502
Scolecithrix sp.	34.111	0	.0000	3	6.6667	0	73	374	.0146	5.1074
Sapphirinidae	33.967	0	.0000	2	4.4444	0	56	305	.0112	5.4171
Acartia spp.	33.911	0	.0000	2	4.4444	0	69	325	.0137	4.7147
Mecynocera clausi	33.889	0	.0000	3	6.6667	0	32	175	.0064	5.4435
Copepoda	33.844	0	.0000	3	6.6667	0	11	42	.0021	3.9643
Candacia spp.	33.744	0	.0000	2	4.4444	0	29	138	.0058	4.7518
Sapphirina spp.	33.711	0	.0000	2	4.4444	0	43	204	.0085	4.7717
Tortanus discaudatus	33.567	0	.0000	2	4.4444	0	304	1546	.0604	5.0931
Euchaeta norvegica	33.544	0	.0000	2	4.4444	0	37	179	.0074	4.8288
Aetideus armatus	33.411	0	.0000	2	4.4444	0	30	175	.0059	5.8875
Neocalanus gracilis	33.367	0	.0000	2	4.4444	0	18	102	.0037	5.5572
Scolecithrix bradyi	33.333	0	.0000	2	4.4444	0	2	9	.0004	4.6906
Macrosetella gracilis	33.278	0	.0000	2	4.4444	0	58	361	.0115	6.2279
Lucicutia flavicornis	33.233	0	.0000	2	4.4444	0	28	173	.0055	6.2290
Harpacticoid spp.	33.222	0	.0000	2	4.4444	0	27	173	.0053	6.4678
Pleuromamma sp.	33.178	0	.0000	2	4.4444	0	5	29	.0010	5.5810
Centropages furcatus	33.022	0	.0000	1	2.2222	0	220	1473	.0437	6.7082
Scolecithricidae	32.956	0	.0000	1	2.2222	0	66	445	.0132	6.7082
Oithona spp.	32.833	0	.0000	1	2.2222	0	17	117	.0035	6.7082
Eucalanidae	32.767	0	.0000	1	2.2222	0	8	55	.0016	6.7082
Cyclopoid spp.	32.756	0	.0000	1	2.2222	0	8	57	.0017	6.7082
Corycaeus spp.	32.756	0	.0000	1	2.2222	0	3	21	.0006	6.7082
Candacia pachydactyla	32.756	0	.0000	1	2.2222	0	8	57	.0017	6.7082
Rhincalanus spp.	32.756	0	.0000	1	2.2222	0	39	260	.0077	6.7082
Corycaeus sp.	32.756	0	.0000	1	2.2222	0	3	21	.0006	6.7082
Mecynocera sp.	32.756	0	.0000	1	2.2222	0	108	722	.0214	6.7082
Eurytemora herdmani	32.744	0	.0000	1	2.2222	0	107	720	.0213	6.7082
Oithona helgolandica	32.733	0	.0000	1	2.2222	0	10	68	.0020	6.7082
Neocalanus sp.	32.733	0	.0000	1	2.2222	0	4	26	.0008	6.7082
Cyclopoid sp.	32.711	0	.0000	1	2.2222	0	15	100	.0030	6.7082
Microsetella spp.	32.656	0	.0000	1	2.2222	0	4	29	.0009	6.7082
Pleuromamma peseki	32.656	0	.0000	1	2.2222	0	3	23	.0007	6.7082
Metridia sp.	32.656	0	.0000	1	2.2222	0	4	29	.0009	6.7082
Aetideidae	32.656	0	.0000	1	2.2222	0	3	23	.0007	6.7082
Caligus spp.	32.633	0	.0000	1	2.2222	0	4	28	.0008	6.7082
Heterorhabdidae	32.633	0	.0000	1	2.2222	0	4	27	.0008	6.7082
Candacia sp.	32.567	0	.0000	1	2.2222	0	13	87	.0026	6.7082
Copilia sp.	32.567	0	.0000	1	2.2222	0	13	87	.0026	6.7082

See Table 1 for explanation of asterisks

Table 6. Anton Dohrn 74-01, 11/16 - 11/23/74, relative abundance of copepods in the Georges Bank-Nantucket Shoals area.

						Total stations sorted-36				
		Dominance**		Occurrence		Abundance***				
Species name	Mean rank*	Stations	Percent	Stations	Percent	Median	Mean	SD	Percent	SD/Mean
Centropages typicus	59.861	26	72.2222	35	97.2222	246935	318269	283909	49.8127	.8920
Calanus finmarchicus	56.531	0	.0000	35	97.2222	9106	35535	96442	6.5617	2.7140
Pseudocalanus sp.	55.375	1	2.7778	34	94.4444	42024	163346	704841	25.5656	4.3150
Paracalanus parvus	55.181	0	.0000	34	94.4444	22677	42072	76934	6.5848	1.8286
Metridia lucens	48.722	0	.0000	28	77.7778	2736	12037	19255	1.8839	1.5997
Clausocalanus arcuicornis	44.583	0	.0000	24	66.6667	1726	4296	7130	.6724	1.6597
Nannocalanus minor	44.472	0	.0000	22	61.1111	1160	4635	7840	.7254	1.6914
Centropages hamatus	41.389	2	5.5556	20	55.5555	605	36300	114498	5.6813	3.1542
Candacia armata	40.417	0	.0000	19	52.7778	463	2441	4178	.3821	1.7114
Temora longicornis	37.389	0	.0000	15	41.6667	0	1906	3191	.2983	1.6743
Rhincalanus nasutus	33.972	0	.0000	11	30.5555	0	1611	4075	.2521	2.5300
Pleuromamma borealis	33.917	0	.0000	11	30.5555	0	1343	3438	.2103	2.5591
Centropages bradyi	32.917	0	.0000	11	30.5555	0	561	1261	.0878	2.2481
Cyclopoid sp.	32.653	0	.0000	11	30.5555	0	596	1485	.0933	2.4904
Euchaetidae	32.361	0	.0000	10	27.7778	0	629	1346	.0985	2.1389
Temora stylifera	31.583	0	.0000	9	25.0000	0	601	1373	.0941	2.2824
Oncaea sp.	30.806	0	.0000	7	19.4444	0	708	2137	.1108	3.0199
Acartia sp.	30.778	0	.0000	8	22.2222	0	928	2788	.1452	3.0049
Eucalanus spp.	30.514	0	.0000	6	16.6667	0	1558	4388	.2439	2.8158
Corycaeidae	30.139	0	.0000	7	19.4444	0	384	905	.0601	2.3564
Scolecithrix danae	29.500	0	.0000	6	16.6667	0	490	1396	.0767	2.8488
Acartia danae	29.208	0	.0000	5	13.8889	0	977	3911	.1529	4.0045
Alteutha depressa	28.681	0	.0000	5	13.8889	0	415	1188	.0650	2.8608
Clausocalanus sp.	28.528	0	.0000	5	13.8889	0	224	663	.0350	2.9626
Oithona spinirostris	28.375	0	.0000	5	13.8889	0	253	805	.0396	3.1803
Oncaea spp.	27.778	0	.0000	3	8.3333	0	1196	4067	.1872	3.3996
Calanoid sp.	27.750	0	.0000	4	11.1111	0	82	261	.0128	3.1973
Mecynocera clausi	27.542	0	.0000	4	11.1111	0	159	473	.0249	2.9667
Oncaea venusta	27.514	0	.0000	3	8.3333	0	718	3570	.1123	4.9740
Labidocera aestiva	27.222	0	.0000	3	8.3333	0	236	854	.0370	3.6153
Calanoid spp.	27.111	0	.0000	3	8.3333	0	728	3528	.1139	4.8488
Lucicutia flavicornis	27.097	0	.0000	3	8.3333	0	244	875	.0382	3.5824
Oithona sp.	27.069	0	.0000	3	8.3333	0	151	525	.0236	3.4728
Corycaeus spp.	26.958	0	.0000	3	8.3333	0	158	603	.0248	3.8084

Table 6. Continued

Species name	Mean rank*	Dominance** Stations	Dominance** Percent	Occurrence Stations	Occurrence Percent	Total stations sorted-36 Abundance*** Median	Mean	SD	Percent	SD/Mean
Nannocalanus sp.	26.944	0	.0000	3	8.3333	0	91	310	.0142	3.4194
Pleuromamma sp.	26.931	0	.0000	3	8.3333	0	127	440	.0199	3.4653
Clausocalanus furcatus	26.875	0	.0000	3	8.3333	0	79	354	.0124	4.4732
Eucalanus sp.	26.472	0	.0000	2	5.5556	0	211	931	.0329	4.4207
Aetideidae	26.375	0	.0000	2	5.5556	0	162	848	.0254	5.2341
Oithona similis	26.125	0	.0000	2	5.5556	0	176	784	.0275	4.4572
Acartia longiremis	26.042	0	.0000	2	5.5556	0	46	196	.0072	4.2463
Euchaeta marina	26.028	0	.0000	2	5.5556	0	56	246	.0088	4.3995
Undinula vulgaris	25.986	0	.0000	2	5.5556	0	63	284	.0099	4.5110
Calocalanus pavo	25.944	0	.0000	2	5.5556	0	34	142	.0053	4.2231
Calocalanus sp.	25.903	0	.0000	2	5.5556	0	33	150	.0052	4.5552
Eucalanidae	25.833	0	.0000	1	2.7778	0	1285	7709	.2011	6.0000
Rhincalanus spp.	25.819	0	.0000	1	2.7778	0	102	609	.0159	6.0000
Calocalanus tenuis	25.625	0	.0000	1	2.7778	0	118	708	.0185	6.0000
Oithona spp.	25.583	0	.0000	1	2.7778	0	140	842	.0220	6.0000
Acartia spp.	25.583	0	.0000	1	2.7778	0	140	842	.0220	6.0000
Euchaeta norvegica	25.514	0	.0000	1	2.7778	0	36	218	.0057	6.0000
Candacia sp.	25.472	0	.0000	1	2.7778	0	13	79	.0021	6.0000
Lucicutia spp.	25.458	0	.0000	1	2.7778	0	45	272	.0071	6.0000
Sapphirina sp.	25.458	0	.0000	1	2.7778	0	14	87	.0023	6.0000
Clausocalanus spp.	25.444	0	.0000	1	2.7778	0	94	561	.0146	6.0000
Eucalanus elongatus	25.417	0	.0000	1	2.7778	0	37	221	.0058	6.0000
Euchaeta sp.	25.347	0	.0000	1	2.7778	0	35	211	.0055	6.0000
Heterorhabdus spp.	25.333	0	.0000	1	2.7778	0	15	87	.0023	6.0000
Lucicutia sp.	25.306	0	.0000	1	2.7778	0	47	281	.0073	6.0000
Scolecithrix bradyi	25.194	0	.0000	1	2.7778	0	7	44	.0011	6.0000
Harpacticoid sp.	25.194	0	.0000	1	2.7778	0	7	44	.0011	6.0000

See Table 1 for explanation of asterisks

Table 7. Albatross IV 74-13, 12/4 - 12/19/74, relative abundance of copepods in the Georges Bank-Nantucket Shoals area.

Total stations sorted-34

Species name	Mean rank*	Dominance** Stations	Dominance** Percent	Occurrence Stations	Occurrence Percent	Abundance*** Median	Abundance*** Mean	Abundance*** SD	Abundance*** Percent	SD/Mean
Pseudocalanus sp.	46.971	4	11.7647	33	97.0588	50712	125159	218433	31.2626	1.7452
Centropages typicus	46.912	14	41.1765	32	94.1176	185046	169285	139232	42.2845	.8225
Calanus finmarchicus	44.162	1	2.9412	33	97.0588	6800	25581	53456	6.3898	2.0896
Paracalanus parvus	42.500	0	.0000	29	85.2941	22717	24630	26506	6.1523	1.0761
Metridia lucens	42.176	1	2.9412	30	88.2353	6617	13154	15917	3.2855	1.2101
Clausocalanus arcuicornis	38.029	0	.0000	26	76.4706	2252	7561	13185	1.8886	1.7439
Nannocalanus minor	31.926	0	.0000	19	55.8823	238	1255	2352	.3135	1.8735
Centropages hamatus	30.426	0	.0000	15	44.1176	0	22662	63599	5.6605	2.8064
Temora longicornis	30.221	0	.0000	16	47.0588	0	1571	3154	.3924	2.0078
Oithona spinirostris	29.721	0	.0000	15	44.1176	0	1528	2746	.3818	1.7965
Candacia armata	28.676	0	.0000	13	38.2353	0	1030	2301	.2574	2.2331
Pleuromamma borealis	25.382	0	.0000	7	20.5882	0	1660	4466	.4148	2.6896
Euchaetidae	24.191	0	.0000	7	20.5882	0	187	542	.0468	2.8905
Mecynocera clausi	23.926	0	.0000	7	20.5882	0	341	1024	.0852	3.0017
Acartia sp.	23.132	0	.0000	5	14.7059	0	923	4040	.2304	4.3792
Alteutha depressa	23.074	0	.0000	5	14.7059	0	351	990	.0876	2.8224
Centropages bradyi	22.956	0	.0000	5	14.7059	0	261	1045	.0653	3.9984
Rhincalanus nasutus	22.515	0	.0000	4	11.7647	0	200	571	.0500	2.8559
Oithona sp.	22.221	0	.0000	4	11.7647	0	84	251	.0210	2.9801
Calanoid sp.	22.000	0	.0000	4	11.7647	0	105	312	.0263	2.9676
Eucalanus spp.	21.971	0	.0000	3	8.8235	0	193	709	.0483	3.6707
Corycaeidae	21.809	0	.0000	3	8.8235	0	232	1030	.0578	4.4505
Candacia sp.	21.794	0	.0000	3	8.8235	0	112	489	.0279	4.3826
Lucicutia spp.	21.706	0	.0000	3	8.8235	0	193	809	.0482	4.1948
Oncaea sp.	21.662	0	.0000	3	8.8235	0	299	1566	.0748	5.2305
Oithonia spp.	21.309	0	.0000	2	5.8824	0	237	1210	.0593	5.0994
Calanoid spp.	21.132	0	.0000	2	5.8824	0	354	1466	.0883	4.1472
Lucicutia sp.	21.059	0	.0000	2	5.8824	0	47	205	.0117	4.3581
Calocalanus sp.	21.044	0	.0000	2	5.8824	0	72	297	.0181	4.1014
Acartia longiremis	21.015	0	.0000	2	5.8824	0	15	62	.0037	4.1537
Harpacticoid spp.	21.015	0	.0000	2	5.8824	0	59	281	.0147	4.7717
Harpacticoid sp.	20.985	0	.0000	2	5.8824	0	178	962	.0445	5.3993
Temora stylifera	20.971	0	.0000	2	5.8824	0	147	731	.0366	4.9931
Corycaeus spp.	20.897	0	.0000	2	5.8824	0	64	270	.0159	4.2450

Table 7. Continued

						Total stations sorted-34				
		Dominance**		Occurrence				Abundance ***		
Species name	Mean rank*	Stations	Percent	Stations	Percent	Median	Mean	SD	Percent	SD/Mean
Scolecithrix bradyi	20.824	0	.0000	2	5.8824	0	41	170	.0102	4.1550
Oncaea mediterranea	20.544	0	.0000	1	2.9412	0	103	601	.0257	5.8309
Eucalanus sp.	20.441	0	.0000	1	2.9412	0	134	783	.0336	5.8309
Labidocera aestiva	20.397	0	.0000	1	2.9412	0	54	316	.0136	5.8309
Scolecithrix danae	20.397	0	.0000	1	2.9412	0	41	240	.0103	5.8310
Rhincalanus sp.	20.397	0	.0000	1	2.9412	0	90	522	.0224	5.8309
Euchaeta norvegica	20.382	0	.0000	1	2.9412	0	26	152	.0065	5.8310
Acartia danae	20.353	0	.0000	1	2.9412	0	6	35	.0015	5.8309
Cyclopoid sp.	20.338	0	.0000	1	2.9412	0	8	45	.0019	5.8309
Pleuromamma sp.	20.338	0	.0000	1	2.9412	0	13	78	.0033	5.8310
Aetideidae	20.250	0	.0000	1	2.9412	0	16	94	.0040	5.8310
Tortanus spp.	20.235	0	.0000	1	2.9412	0	22	131	.0056	5.8310
Eucalanus elongatus	20.206	0	.0000	1	2.9412	0	21	120	.0051	5.8310
Heterorhabdidae	20.206	0	.0000	1	2.9412	0	21	120	.0051	5.8310
Lucicutia flavicornia	20.206	0	.0000	1	2.9412	0	21	120	.0051	5.8310

See Table 1 for explanation of asterisks

Table 8. Albatross IV 75-02, 2/12 - 2/28/75, relative abundance of copepods in the Georges Bank-Nantucket Shoals area.

						Total stations sorted-81				
		Dominance**		Occurrence		Abundance***				
Species name	Mean rank *	Stations	Percent	Stations	Percent	Median	Mean	SD	Percent	SD/Mean
Pseudocalanus sp.	51.117	49	60.4938	80	98.7654	61666	124356	169384	65.0763	1.3621
Calanus finmarchicus	49.148	9	11.1111	79	97.5309	6969	11301	11483	5.9137	1.0161
Centropages typicus	49.000	1	1.2346	80	98.7654	4399	29841	61407	15.6161	2.0578
Metridia lucens	43.673	2	2.4691	64	79.0123	1620	6011	14814	3.1456	2.4644
Centropages hamatus	36.037	0	.0000	41	50.6173	8	11271	26981	5.8982	2.3939
Calanoid spp.	33.951	0	.0000	34	41.9753	0	3771	8683	1.9733	2.3027
Oithona helgolandica	30.407	0	.0000	26	32.0988	0	199	591	.1039	2.9793
Alteutha depressa	30.056	0	.0000	24	29.6296	0	439	1229	.2296	2.8008
Temora longicornis	29.654	0	.0000	23	28.3951	0	1187	5692	.6210	4.7962
Oithona similis	28.741	0	.0000	20	24.6913	0	173	518	.0907	2.9900
Pleuromamma borealis	27.265	0	.0000	14	17.2839	0	374	1442	.1957	3.8559
Clausocalanus arcuicornis	26.883	0	.0000	13	16.0494	0	117	441	.0613	3.7678
Copepoda	26.605	0	.0000	12	14.8148	0	1253	4599	.6557	3.6702
Euchaeta norvegica	26.216	0	.0000	12	14.8148	0	30	97	.0155	3.2827
Mecynocera clausi	25.006	0	.0000	7	8.6420	0	48	300	.0252	6.2188
Oithona spp.	24.519	0	.0000	6	7.4074	0	36	233	.0188	6.5004
Candacia armata	24.222	0	.0000	5	6.1728	0	28	172	.0149	6.0469
Harpacticoid spp.	24.142	0	.0000	5	6.1728	0	7	35	.0038	4.9221
Tortanus discaudatus	23.926	0	.0000	4	4.9383	0	25	176	.0131	7.0404
Clytemnestra rostrata	23.864	0	.0000	4	4.9383	0	22	190	.0118	8.4506
Rhincalanus nasutus	23.852	0	.0000	4	4.9383	0	2	12	.0013	5.0679
Centropages spp.	23.716	0	.0000	3	3.7037	0	221	1466	.1154	6.6452
Metridia longa	23.667	0	.0000	3	3.7037	0	49	343	.0254	7.0530
Pleuromamma gracilis	23.660	0	.0000	3	3.7037	0	3	19	.0018	5.6338
Acartia danae	23.642	0	.0000	3	3.7037	0	14	113	.0075	7.8835
Pleuromamma robusta	23.586	0	.0000	3	3.7037	0	13	115	.0070	8.5618
Metridia spp.	23.457	0	.0000	2	2.4691	0	27	179	.0140	6.6809
Oithona spinirostris	23.358	0	.0000	2	2.4691	0	90	787	.0471	8.7486
Sapphirina spp.	23.352	0	.0000	2	2.4691	0	8	53	.0044	6.3389
Aetideus armatus	23.339	0	.0000	2	2.4691	0	2	17	.0012	7.2822
Oithona setigera	23.309	0	.0000	2	2.4691	0	5	37	.0027	7.1941
Pleuromamma peseki	23.309	0	.0000	2	2.4691	0	1	8	.0007	6.3470
Xanthocalanus spp.	23.296	0	.0000	2	2.4691	0	3	20	.0013	8.0800
Calanoid sp.	23.111	0	.0000	1	1.2346	0	98	880	.0512	9.0000
Euchaeta sp.	23.111	0	.0000	1	1.2346	0	4	37	.0021	9.0000

Table 8. Continued

						Total stations sorted-81				
		Dominance**		Occurrence		Abundance***				
Species name	Mean rank*	Stations	Percent	Stations	Percent	Median	Mean	SD	Percent	SD/Mean
Paracalanus parvus	23.080	0	.0000	1	1.2346	0	5	45	.0026	9.0000
Tortanus spp.	23.080	0	.0000	1	1.2346	0	5	48	.0028	9.0000
Acartia longiremis	23.062	0	.0000	1	1.2346	0	13	113	.0066	9.0000
Microcalanus pusilus	23.062	0	.0000	1	1.2346	0	19	174	.0101	9.0000
Pleuromamma xiphias	23.056	0	.0000	1	1.2346	0	1	5	.0003	9.0000
Scottocalanus persecans	23.056	0	.0000	1	1.2346	0	1	5	.0003	9.0000
Corycaeus spp.	23.056	0	.0000	1	1.2346	0	4	35	.0020	9.0000
Acartia sp.	23.049	0	.0000	1	1.2346	0	9	80	.0047	9.0000
Cyclopoid spp.	23.049	0	.0000	1	1.2346	0	1	8	.0005	9.0000
Oncaea venusta	23.049	0	.0000	1	1.2346	0	1	10	.0006	9.0000
Oncaea spp.	23.049	0	.0000	1	1.2346	0	1	5	.0003	9.0000
Cyclopena longicornis	23.043	0	.0000	1	1.2346	0	2	16	.0009	9.0000
Paracalanidae	23.037	0	.0000	1	1.2346	0	1	5	.0003	9.0000
Macrosetella gracilis	23.025	0	.0000	1	1.2346	0	0	3	.0002	9.0000
Megacalanus longicornis	23.025	0	.0000	1	1.2346	0	0	3	.0002	9.0000
Lucicutia spp.	23.012	0	.0000	1	1.2346	0	0	1	.0001	9.0000
Undinopsis spp.	23.012	0	.0000	1	1.2346	0	0	2	.0001	9.0000

See Table 1 for explanation of asterisks

Table 9. Belogorsk 75-02, 9/25 - 10/8/75, relative abundance of copepods in the Georges Bank-Nantucket Shoals area. Nantucket Shoals area.

Total stations sorted-82

Species name	Mean rank*	Dominance** Stations	Dominance** Percent	Occurrence Stations	Occurrence Percent	Abundance*** Median	Abundance*** Mean	Abundance*** SD	Abundance*** Percent	SD/Mean
Centropages typicus	88.622	32	39.0244	78	95.1219	146903	231844	277719	51.9121	1.1979
Calanus finmarchicus	84.433	7	8.5366	74	90.2439	16540	42444	79986	9.5036	1.8845
Pseudocalanus sp.	83.780	2	2.4390	73	89.0244	18691	54963	103708	12.3067	1.8869
Paracalanus parvus	79.000	0	.0000	66	80.4878	7152	32126	66977	7.1934	2.0848
Oithona spinirostris	70.238	1	1.2195	52	63.4146	1099	4309	13770	.9648	3.1956
Metridia lucens	67.152	0	.0000	45	54.8780	1186	8792	17360	1.9686	1.9746
Centropages hamatus	64.878	2	2.4390	43	52.4390	40	34640	132836	7.7562	3.8348
Clausocalanus arcuicornis	63.348	0	.0000	39	47.5610	0	2458	6196	.5506	2.5204
Candacia armata	58.787	0	.0000	33	40.2439	0	2049	5083	.4589	2.4806
Metridia spp.	58.762	0	.0000	30	36.5854	0	13950	40422	3.1234	2.8977
Calanoid spp.	56.677	0	.0000	27	32.9268	0	2690	8536	.6023	3.1732
Temora longicornis	54.768	0	.0000	25	30.4878	0	1491	4463	.3338	2.9932
Oithona similis	51.579	0	.0000	19	23.1707	0	1536	4856	.3438	3.1624
Mecynocera clausi	51.262	0	.0000	18	21.9512	0	155	401	.0347	2.5875
Acartia danae	50.817	0	.0000	17	20.7317	0	318	1027	.0711	3.2335
Pleuromamma borealis	50.445	3	3.6585	16	19.5122	0	1790	7503	.4008	4.1920
Oncaea venusta	47.354	0	.0000	11	13.4146	0	420	2250	.0940	5.3599
Oithona helgolandica	47.104	0	.0000	11	13.4146	0	795	3760	.1781	4.7282
Acartia sp.	46.055	0	.0000	9	10.9756	0	3546	30357	.7940	8.5609
Acartia longiremis	45.610	0	.0000	8	9.7561	0	134	690	.0300	5.1440
Oncaea sp.	44.402	0	.0000	6	7.3171	0	42	265	.0093	6.3681
Nannocalanus minor	44.262	0	.0000	5	6.0976	0	105	631	.0235	6.0070
Acartia spp.	44.213	0	.0000	5	6.0976	0	2819	17940	.6311	6.3646
Calocalanus pavo	44.183	0	.0000	5	6.0976	0	17	104	.0038	6.1739
Pleuromamma abdominalis	44.146	0	.0000	5	6.0976	0	162	937	.0362	5.7926
Euchaeta sp.	43.969	0	.0000	5	6.0976	0	508	2971	.1136	5.8533
Altentha depressa	43.939	0	.0000	5	6.0976	0	67	312	.0151	4.6238
Oithona spp.	43.445	0	.0000	4	4.8780	0	86	704	.0192	8.2096
Candacia sp.	43.378	0	.0000	4	4.8780	0	91	617	.0204	6.7611
Rhincalanus nasutus	43.366	0	.0000	4	4.8780	0	11	63	.0025	5.5302
Macrosetella gracilis	43.360	0	.0000	4	4.8780	0	5	27	.0011	5.6769
Harpacticoid sp.	43.341	0	.0000	4	4.8780	0	58	334	.0129	5.7803
Copepoda	43.299	0	.0000	4	4.8780	0	51	335	.0115	6.5258
Pleuromamma spp.	43.122	0	.0000	3	3.6585	0	259	2162	.0580	8.3537
Temora stylifera	43.012	0	.0000	3	3.6585	0	11	79	.0025	7.0499
Calanoid sp.	43.000	0	.0000	3	3.6585	0	400	3608	.0897	9.0122

Table 9. Continued

						Total stations sorted-82				
		Dominance**		Occurrence		Abundance***				
Species name	Mean rank*	Stations	Percent	Stations	Percent	Median	Mean	SD	Percent	SD/Mean
Oncaea sp.	42.982	0	.0000	3	3.6585	0	33	225	.0073	6.8957
Corycaeus spp.	42.927	0	.0000	3	3.6585	0	3	23	.0008	6.5350
Acartia clausi	42.915	0	.0000	3	3.6585	0	21	137	.0048	6.3902
Centropages bradyi	42.915	0	.0000	3	3.6585	0	15	116	.0033	8.0055
Pleuromamma xiphias	42.902	0	.0000	3	3.6585	0	37	331	.0084	8.8563
Cyclopoid sp.	42.872	0	.0000	3	3.6585	0	27	149	.0061	5.4434
Pleuromamma sp.	42.835	0	.0000	3	3.6585	0	22	157	.0050	7.0710
Corycella carinata	42.671	0	.0000	2	2.4390	0	22	175	.0049	7.9664
Corycaeidae	42.500	0	.0000	2	2.4390	0	26	187	.0057	7.3182
Labidocera aestiva	42.457	0	.0000	2	2.4390	0	554	3711	.1241	6.6932
Pseudocalanus sp. or *Paracalanus*	42.451	0	.0000	2	2.4390	0	99	759	.0223	7.6370
Corycaeus speciosus	42.439	0	.0000	2	2.4390	0	15	135	.0034	8.7834
Scolecithricella minor	42.421	0	.0000	2	2.4390	0	5	37	.0010	8.0737
Aetideidae	42.384	0	.0000	2	2.4390	0	7	64	.0016	8.6957
Sapphirina spp.	42.378	0	.0000	2	2.4390	0	6	46	.0013	7.7347
Rhincalanus cornutus	42.360	0	.0000	2	2.4390	0	2	16	.0005	7.1721
Calanidae	42.354	0	.0000	2	2.4390	0	10	66	.0022	6.6163
Tortanus discaudatus	42.348	0	.0000	2	2.4390	0	9	74	.0021	8.0081
Clytemnestra rostrata	42.335	0	.0000	2	2.4390	0	7	64	.0016	8.9008
Labidocera spp.	42.311	0	.0000	2	2.4390	0	12	107	.0027	8.8721
Scolecithrix danae	42.274	0	.0000	2	2.4390	0	3	19	.0006	7.7599
Pleuromamma robusta	42.262	0	.0000	2	2.4390	0	0	3	.0001	6.4771
Acartia negligens	42.262	0	.0000	2	2.4390	0	7	58	.0015	8.7404
Clausocalanus sp.	42.018	0	.0000	1	1.2195	0	21	193	.0048	9.0554
Calanus spp.	41.921	0	.0000	1	1.2195	0	12	108	.0027	9.0554
Corycaeus venustus	41.921	0	.0000	1	1.2195	0	13	116	.0029	9.0554
Euchaeta marina	41.872	0	.0000	1	1.2195	0	9	77	.0019	9.0554
Undeuchaeta major	41.872	0	.0000	1	1.2195	0	0	4	.0001	9.0554
Candacia spp.	41.872	0	.0000	1	1.2195	0	9	77	.0019	9.0554
Eucalanus attenuatus	41.866	0	.0000	1	1.2195	0	2	21	.0005	9.0554
Labidocera acutifrons	41.860	0	.0000	1	1.2195	0	105	947	.0234	9.0554
Temora spp.	41.860	0	.0000	1	1.2195	0	101	913	.0226	9.0554
Oithona plumifera	41.854	0	.0000	1	1.2195	0	231	2094	.0518	9.0554

Table 9. Continued

Total stations sorted-82

Species name	Mean rank*	Dominance** Stations	Dominance** Percent	Occurrence Stations	Occurrence Percent	Abundance*** Median	Abundance*** Mean	Abundance*** SD	Abundance*** Percent	SD/Mean
Corycaeus lautus	41.854	0	.0000	1	1.2195	0	0	2	.0001	9.0554
Eurytemora herdmani	41.848	0	.0000	1	1.2195	0	15	132	.0033	9.0554
Heterorhabdus spinifrons	41.848	0	.0000	1	1.2195	0	4	33	.0008	9.0554
Cyclops sp.	41.841	0	.0000	1	1.2195	0	5	48	.0012	9.0554
Centropages violaceus	41.835	0	.0000	1	1.2195	0	20	177	.0044	9.0554
Pontellidae	41.835	0	.0000	1	1.2195	0	0	0	.0000	9.0554
Aetideus armatus	41.829	0	.0000	1	1.2195	0	1	5	.0001	9.0554
Macrosetella sp.	41.829	0	.0000	1	1.2195	0	1	7	.0002	9.0554
Metridia sp.	41.829	0	.0000	1	1.2195	0	0	1	.0000	9.0554
Oithona sp.	41.823	0	.0000	1	1.2195	0	6	54	.0013	9.0554
Euchaeta norvegica	41.817	0	.0000	1	1.2195	0	4	34	.0008	9.0554
Sapphirina sp.	41.817	0	.0000	1	1.2195	0	1	5	.0001	9.0554
Heterorhabdidae	41.805	0	.0000	1	1.2195	0	8	75	.0019	9.0554
Undinula vulgaris	41.799	0	.0000	1	1.2195	0	4	39	.0010	9.0554
Halithalestris croni	41.799	0	.0000	1	1.2195	0	0	4	.0001	9.0554
Lucicutia spp.	41.780	0	.0000	1	1.2195	0	0	2	.0001	9.0554
Oithona linearis	41.756	0	.0000	1	1.2195	0	0	2	.0001	9.0554
Corycaeus giesbrechti	41.756	0	.0000	1	1.2195	0	0	2	.0001	9.0554
Megacalanus longicornis	41.744	0	.0000	1	1.2195	0	2	19	.0005	9.0554
Calocalanus sp.	41.744	0	.0000	1	1.2195	0	2	19	.0005	9.0554
Calocalanus plumulosus	41.744	0	.0000	1	1.2195	0	2	19	.0005	9.0554
Candacia simplex	41.744	0	.0000	1	1.2195	0	2	19	.0005	9.0554
Lucicutia sp.	41.744	0	.0000	1	1.2195	0	2	19	.0005	9.0554

See Table 1 for explanation of asterisks

Table 10. Belogorsk 75-03, 10/17 - 10/30/75, relative abundance of copepods in the Georges Bank-Nantucket Shoals area.

						Total stations sorted-86				
		Dominance**		Occurrence		Abundance***				
Species name	Mean rank*	Stations	Percent	Stations	Percent	Median	Mean	SD	Percent	SD/Mean
Centropages typicus	90.326	23	26.7442	83	96.5116	84423	187731	264407	49.5609	1.4084
Paracalanus parvus	86.453	0	.0000	80	93.0233	18165	32330	40527	8.5351	1.2535
Pseudocalanus sp.	84.203	0	.0000	76	88.3721	21318	31108	33346	8.2124	1.0720
Calanus finmarchicus	83.105	0	.0000	74	86.0465	10858	28887	38720	7.6261	1.3404
Metridia lucens	81.570	1	1.1628	71	82.5581	8121	41618	66216	10.9872	1.5910
Oithona spinirostris	72.587	0	.0000	59	68.6046	813	2857	4403	.7542	1.5412
Calanoid spp.	71.512	0	.0000	55	63.9535	883	6719	12507	1.7738	1.8615
Centropages hamatus	67.605	1	1.1628	48	55.8139	145	34069	141586	8.9941	4.1559
Clausocalanus arcuicornis	62.895	0	.0000	40	46.5116	0	2086	4958	.5507	2.3768
Candacia armata	60.959	0	.0000	37	43.0233	0	2714	7205	.7165	2.6549
Mesocalanus clausi	51.244	0	.0000	18	20.9302	0	143	618	.0378	4.3216
Temora longicornis	50.244	0	.0000	17	19.7674	0	424	1565	.1120	3.6882
Pleuromamma borealis	50.221	2	2.3256	16	18.6046	0	1455	5892	.3841	4.0501
Oithona helgolandica	49.808	0	.0000	16	18.6046	0	599	2856	.1580	4.7705
Acartia danae	48.640	0	.0000	13	15.1163	0	60	263	.0159	4.3808
Candacia sp.	47.610	0	.0000	12	13.9535	0	117	379	.0309	3.2442
Altcutha depressa	47.169	0	.0000	11	12.7907	0	144	515	.0380	3.5820
Candacia spp.	45.959	0	.0000	8	9.3023	0	615	2786	.1623	4.5308
Oithona spp.	45.872	0	.0000	8	9.3023	0	624	2711	.1648	4.3428
Aetideidae	45.744	0	.0000	8	9.3023	0	84	423	.0222	5.0328
Acartia longiremis	45.733	0	.0000	8	9.3023	0	66	294	.0173	4.4815
Acartia sp.	45.721	0	.0000	8	9.3023	0	105	512	.0276	4.8961
Acartia spp.	45.372	0	.0000	7	8.1395	0	1453	11584	.3837	7.9707
Centropages bradyi	45.349	0	.0000	7	8.1395	0	17	103	.0045	5.9678
Euchaetidae	45.279	0	.0000	7	8.1395	0	39	177	.0103	4.5164
Pleuromamma spp.	44.488	1	1.1628	5	5.8140	0	474	3653	.1251	7.7101
Labidocera aestiva	44.302	0	.0000	5	5.8140	0	576	4403	.1520	7.6492
Oithona sp.	44.192	0	.0000	5	5.8140	0	41	264	.0108	6.4503
Oncaea venusta	43.849	0	.0000	4	4.6512	0	47	298	.0125	6.2714
Rhincalanus nasutus	43.797	0	.0000	4	4.6512	0	3	18	.0008	6.0591
Oithona similis	43.709	0	.0000	4	4.6512	0	33	256	.0087	7.8109
Oncaea sp.	43.703	0	.0000	4	4.6512	0	116	706	.0305	6.1099
Nannocalanus minor	43.395	0	.0000	3	3.4884	0	20	160	.0054	7.8106
Acartia clausi	43.337	0	.0000	3	3.4884	0	23	155	.0062	6.6119
Metridia spp.	43.314	0	.0000	3	3.4884	0	172	1047	.0455	6.0751
Calanoid sp.	43.262	0	.0000	3	3.4884	0	9	52	.0023	5.9486

Table 10. Continued

Species name	Mean rank*	Dominance** Stations	Dominance** Percent	Occurrence Stations	Occurrence Percent	Total stations sorted-86 Abundance*** Median	Mean	SD	Percent	SD/Mean
Calocalanus pavo	43.244	0	.0000	3	3.4884	0	1	10	.0004	7.0138
Euchaeta norvegica	43.233	0	.0000	3	3.4884	0	35	251	.0092	7.2287
Corycaeus spp.	43.209	0	.0000	3	3.4884	0	19	174	.0051	9.0055
Pleuromamma sp.	43.128	0	.0000	3	3.4884	0	1	3	.0001	6.2482
Clausocalanus sp.	42.942	0	.0000	2	2.3256	0	389	3569	.1026	9.1836
Calanus tenuicornis	42.890	0	.0000	2	2.3256	0	2	17	.0006	7.7639
Corycaeus speciosus	42.849	0	.0000	2	2.3256	0	2	15	.0006	7.0111
Temora stylifera	42.814	0	.0000	2	2.3256	0	2	11	.0004	6.6584
Oncaea spp.	43.773	0	.0000	2	2.3256	0	150	1136	.0396	7.5740
Aetideus armatus	42.756	0	.0000	2	2.3256	0	7	47	.0019	6.5188
Pseudocalanus sp. or *Paracalanus*	42.756	0	.0000	2	2.3256	0	275	2407	.0725	8.7659
Labidocera spp.	42.756	0	.0000	2	2.3256	0	83	684	.0220	8.2073
Pleuromamma abdominalis	42.750	0	.0000	2	2.3256	0	20	185	.0053	9.2627
Scolecithricella minor	42.738	0	.0000	2	2.3256	0	2	16	.0006	7.4820
Harpacticoid spp.	42.721	0	.0000	2	2.3256	0	5	42	.0013	8.5454
Pontellidae	42.709	0	.0000	2	2.3256	0	3	19	.0007	6.8022
Calocalanus sp.	42.692	0	.0000	2	2.3256	0	8	56	.0021	7.0463
Metridia sp.	42.692	0	.0000	2	2.3256	0	7	68	.0020	9.2442
Scolecithricidae	42.360	0	.0000	1	1.1628	0	3	30	.0009	9.2736
Oithona plumifera	42.337	0	.0000	1	1.1628	0	1	10	.0003	9.2736
Undinula vulgaris	42.326	0	.0000	1	1.1628	0	2	21	.0006	9.2736
Paracalanus or *Clausocalanus*	42.302	0	.0000	1	1.1628	0	14	133	.0038	9.2736
Oncaea conifera	42.302	0	.0000	1	1.1628	0	29	269	.0077	9.2736
Pseudocalanus minor	42.285	0	.0000	1	1.1628	0	2	22	.0006	9.2736
Calocalanus tenuis	42.273	0	.0000	1	1.1628	0	0	1	.0000	9.2736
Calanus spp.	42.262	0	.0000	1	1.1628	0	2	15	.0004	9.2736
Acartia tonsa	42.256	0	.0000	1	1.1628	0	49	453	.0129	9.2736
Lucicutia flavicornis	42.256	0	.0000	1	1.1628	0	5	50	.0014	9.2736
Cyclopidae	42.238	0	.0000	1	1.1628	0	21	192	.0055	9.2736
Calanus sp.	42.233	0	.0000	1	1.1628	0	1	8	.0002	9.2736
Pleuromamma xiphias	42.227	0	.0000	1	1.1628	0	4	34	.0010	9.2736
Cyclopoid spp.	42.227	0	.0000	1	1.1628	0	16	144	.0041	9.2736
Pleuromamma peseki	42.227	0	.0000	1	1.1628	0	4	34	.0010	9.2736
Clytemnestra scutellata	42.227	0	.0000	1	1.1628	0	0	1	.0000	9.2736
Corycella carinata	42.227	0	.0000	1	1.1628	0	0	2	.0001	9.2736

Table 10. Continued

Species name	Mean rank*	Dominance** Stations	Dominance** Percent	Occurrence Stations	Occurrence Percent	Total stations sorted-86 Abundance*** Median	Mean	SD	Percent	SD/Mean
Cyclopoid sp.	42.227	0	.0000	1	1.1628	0	2	19	.0005	9.2736
Harpacticoid sp.	42.221	0	.0000	1	1.1628	0	10	94	.0027	9.2736
Scolecithrix sp.	42.221	0	.0000	1	1.1628	0	0	2	.0001	9.2736
Scolecithricella sp.	42.221	0	.0000	1	1.1628	0	1	8	.0002	9.2736
Gaetanus sp.	42.221	0	.0000	1	1.1628	0	1	8	.0002	9.2736
Eucalanus sp.	42.221	0	.0000	1	1.1628	0	1	8	.0002	9.2736
Chirondina streetski	42.215	0	.0000	1	1.1628	0	17	156	.0045	9.2736
Metridia longa	42.209	0	.0000	1	1.1628	0	15	142	.0040	9.2736
Euchaeta spp.	42.209	0	.0000	1	1.1628	0	34	316	.0090	9.2736
Clytemnestra rostrata	42.203	0	.0000	1	1.1628	0	0	1	.0000	9.2736
Microsetella norvegica	42.203	0	.0000	1	1.1628	0	8	78	.0022	9.2736
Scolecithrix danae	42.203	0	.0000	1	1.1628	0	1	7	.0002	9.2736
Corycaeus flaccus	42.203	0	.0000	1	1.1628	0	1	7	.0002	9.2736
Pleuromamma gracilis	42.198	0	.0000	1	1.1628	0	0	2	.0001	9.2736
Clausocalanus furcatus	42.198	0	.0000	1	1.1628	0	17	156	.0045	9.2736
Macrosetella gracilis	42.186	0	.0000	1	1.1628	0	0	1	.0000	9.2736
Euchaeta sp.	42.180	0	.0000	1	1.1628	0	0	5	.0001	9.2736
Euchaeta marina	42.180	0	.0000	1	1.1628	0	0	5	.0001	9.2736
Eucalanus atlanticus	42.134	0	.0000	1	1.1628	0	0	2	.0001	9.2736
Corycella rostrata	42.134	0	.0000	1	1.1628	0	0	2	.0001	9.2736
Scolecithricella spp.	42.134	0	.0000	1	1.1628	0	0	2	.0001	9.2736

See Table 1 for explanation of asterisks

Table 11. Anton Dohrn 75-187, 11/1 - 11/18/75, relative abundance of copepods in the Georges Bank-Nantucket Shoals area.

Species name	Mean rank*	Dominance** Stations	Dominance** Percent	Occurrence Stations	Occurrence Percent	Abundance*** Median	Abundance*** Mean	Abundance*** SD	Abundance*** Percent	SD/Mean
						Total stations sorted-56				
Centropages typicus	62.134	14	25.0000	56	100.0000	137971	424205	1855122	23.7611	4.3732
Pseudocalanus sp.	59.500	2	3.5714	55	98.2143	37176	114368	395593	6.4062	3.4589
Calanus finmarchicus	59.259	0	.0000	55	98.2143	30901	645041	4457543	36.1309	6.9105
Paracalanus parvus	58.687	1	1.7857	54	96.4286	24007	104787	289442	5.8695	2.7622
Metridia lucens	54.938	3	5.3571	47	83.9286	19357	81402	239889	4.5596	2.9469
Candacia armata	45.616	0	.0000	35	62.5000	1012	11805	46822	.6612	3.9664
Clausocalanus arcuicornis	45.161	0	.0000	33	58.9286	579	62401	441536	3.4953	7.0758
Oithona spinirostris	44.884	0	.0000	34	60.7143	585	3589	12045	.2010	3.3563
Centropages hamatus	40.964	0	.0000	25	44.6429	0	21669	64568	1.2137	2.9798
Temora longicornis	33.277	0	.0000	12	21.4286	0	10579	73628	.5926	6.9595
Acartia sp.	32.786	0	.0000	11	19.6429	0	16235	117802	.9094	7.2562
Pleuromamma borealis	32.786	1	1.7857	10	17.8571	0	119260	883773	6.6801	7.4105
Oncaea sp.	32.696	0	.0000	11	19.6429	0	4327	29427	.2424	6.8006
Euchaetidae	32.634	0	.0000	11	19.6429	0	725	2607	.0406	3.5958
Acartia longiremis	32.366	0	.0000	11	19.6429	0	267	675	.0149	2.5316
Alteutha depressa	31.000	0	.0000	8	14.2857	0	2296	14746	.1286	6.4229
Centropages bradyi	30.688	0	.0000	7	12.5000	0	9993	73640	.5597	7.3695
Calanoid sp.	29.750	0	.0000	6	10.7143	0	2098	14728	.1175	7.0190
Mecynocera clausi	29.509	0	.0000	5	8.9286	0	5960	44188	.3338	7.4140
Cyclopoid sp.	29.429	0	.0000	5	8.9286	0	95	359	.0053	3.7845
Nannocalanus minor	29.357	0	.0000	4	7.1429	0	21705	162043	1.2158	7.4657
Oithona sp.	29.009	0	.0000	4	7.1429	0	153	712	.0086	4.6457
Scolecithrix danae	28.929	0	.0000	4	7.1429	0	1996	14729	.1118	7.3778
Calanoid spp.	28.634	0	.0000	3	5.3571	0	333	2245	.0187	6.7364
Temora stylifera	28.634	0	.0000	3	5.3571	0	23669	176775	1.3258	7.4685
Labidocera aestiva	28.563	0	.0000	3	5.3571	0	673	4434	.0377	6.5889
Candacia sp.	28.527	0	.0000	3	5.3571	0	91	443	.0051	4.8623
Calocalanus sp.	28.473	0	.0000	3	5.3571	0	3949	29462	.2212	7.4616
Clausocalanus sp.	28.473	0	.0000	3	5.3571	0	55	299	.0031	5.3894
Calocalanus pavo	28.223	0	.0000	3	5.3571	0	1983	14730	.1111	7.4273
Aetideidae	28.214	0	.0000	2	3.5714	0	39378	294635	2.2057	7.4822
Labidocera sp.	28.107	0	.0000	2	3.5714	0	63	400	.0035	6.3501
Neocalanus sp.	28.036	0	.0000	2	3.5714	0	27	140	.0015	5.2535

Table 11. Continued

Species name	Mean rank*	Dominance** Stations	Dominance** Percent	Occurrence Stations	Occurrence Percent	Total stations sorted-56 Abundance*** Median	Mean	SD	Percent	SD/Mean
Acartia danae	28.018	0	.0000	2	3.5714	0	90	635	.0050	7.0711
Euchaeta norvegica	27.991	0	.0000	2	3.5714	0	194	1075	.0109	5.5333
Cyclopoid spp.	27.964	0	.0000	2	3.5714	0	127	686	.0071	5.4093
Euchaeta sp.	27.902	0	.0000	2	3.5714	0	68	486	.0038	7.1969
Rhincalanus nasutus	27.804	0	.0000	2	3.5714	0	5	27	.0003	5.2440
Scolecithrix bradyi	27.804	0	.0000	2	3.5714	0	5	27	.0003	5.2440
Oncaea venusta	27.643	0	.0000	1	1.7857	0	23	174	.0013	7.4833
Clausocalanus spp.	27.616	0	.0000	1	1.7857	0	123	918	.0069	7.4833
Metridia sp.	27.598	0	.0000	1	1.7857	0	85	637	.0048	7.4833
Pleuromamma xiphias	27.580	0	.0000	1	1.7857	0	10	78	.0006	7.4833
Pleuromamma abdominalis	27.580	0	.0000	1	1.7857	0	49	368	.0028	7.4833
Lucicutia flavicornis	27.580	0	.0000	1	1.7857	0	10	78	.0006	7.4833
Calanus sp.	27.571	0	.0000	1	1.7857	0	21655	162050	1.2130	7.4833
Corycaeus spp.	27.527	0	.0000	1	1.7857	0	13780	103123	.7719	7.4833
Acartia spp.	27.518	0	.0000	1	1.7857	0	74	553	.0041	7.4833
Calocalanus tenuis	27.491	0	.0000	1	1.7857	0	8	56	.0004	7.4833
Candacia spp.	27.482	0	.0000	1	1.7857	0	23	169	.0013	7.4833
Eucalanus spp.	27.455	0	.0000	1	1.7857	0	5906	44195	.3308	7.4833
Scolecithrix sp.	27.446	0	.0000	1	1.7857	0	18	138	.0010	7.4833
Tortanus discaudatus	27.438	0	.0000	1	1.7857	0	19	142	.0011	7.4833
Temora spp.	27.438	0	.0000	1	1.7857	0	10	72	.0005	7.4833
Calanus spp.	27.420	0	.0000	1	1.7857	0	1	10	.0001	7.4833
Corycaeus speciosus	27.402	0	.0000	1	1.7857	0	3937	29464	.2205	7.4833
Clytemnestra scutellata	27.384	0	.0000	1	1.7857	0	3	19	.0001	7.4833
Pleuromamma peseki	27.366	0	.0000	1	1.7857	0	3	19	.0001	7.4833
Macrosetella sp.	27.366	0	.0000	1	1.7857	0	3	19	.0001	7.4833
Eucalanus sp.	27.366	0	.0000	1	1.7857	0	3	19	.0001	7.4833
Corycaeus sp.	27.366	0	.0000	1	1.7857	0	3	19	.0001	7.4833
Copepoda	27.321	0	.0000	1	1.7857	0	1969	14732	.1103	7.4833
Rhincalanus sp.	27.321	0	.0000	1	1.7857	0	1969	14732	.1103	7.4833

See Table 1 for explanation of asterisks

Table 12. Albatross IV 75-14, 12/5 - 12/17/75, relative abundance of copepods in the Georges Bank-Nantucket Shoals area.

						Total stations sorted-91				
		Dominance**		Occurrence		Abundance***				
Species name	Mean rank*	Stations	Percent	Stations	Percent	Median	Mean	SD	Percent	SD/Mean
Centropages typicus	94.588	10	10.9890	91	100.0000	71724	135351	184473	39.0192	1.3629
Pseudocalanus sp.	90.626	5	5.4945	87	95.6044	27107	70576	138520	20.3457	1.9627
Paracalanus parvus	88.989	1	1.0989	84	92.3077	13656	36217	64189	10.4407	1.7723
Metridia lucens	87.440	2	2.1978	80	87.9121	20705	44587	63400	12.8537	1.4219
Calanus finmarchicus	86.731	0	.0000	82	90.1099	6020	17967	25352	5.1797	1.4110
Oithona spinirostris	74.874	0	.0000	61	67.0330	1624	6705	12090	1.9331	1.8030
Clausocalanus arcuicornis	71.846	0	.0000	56	61.5385	467	2933	6347	.8455	2.1642
Candacia armata	67.286	0	.0000	48	52.7472	167	2424	4722	.6988	1.9481
Temora longicornis	57.473	0	.0000	29	31.8681	0	964	2536	.2779	2.6307
Nannocalanus minor	56.890	0	.0000	25	27.4725	0	2601	6330	.7499	2.4335
Centropages hamatus	55.038	1	1.0989	24	26.3736	0	11567	56567	3.3346	4.8904
Pleuromamma borealis	53.005	0	.0000	18	19.7802	0	4266	15696	1.2298	3.6793
Oithona spp.	52.082	0	.0000	18	19.7802	0	1161	3940	.3346	3.3954
Acartia danae	51.363	0	.0000	18	19.7802	0	207	505	.0598	2.4379
Calanoid spp.	50.747	0	.0000	15	16.4835	0	833	2417	.2402	2.9008
Temora stylifera	50.104	0	.0000	15	16.4835	0	308	850	.0889	2.7554
Euchaetidae	49.973	0	.0000	15	16.4835	0	205	672	.0592	3.2739
Centropages bradyi	49.868	0	.0000	15	16.4835	0	246	772	.0710	3.1340
Candacia sp.	49.824	0	.0000	15	16.4835	0	387	1550	.1114	4.0104
Altcutha depressa	49.687	0	.0000	14	15.3846	0	271	821	.0781	3.0273
Eucalanus spp.	49.538	0	.0000	13	14.2857	0	514	1620	.1482	3.1519
Scolecithrix danae	49.456	0	.0000	14	15.3846	0	237	881	.0683	3.7188
Calanoid sp.	49.390	0	.0000	14	15.3846	0	108	374	.0311	3.4648
Oncaea spp.	49.225	0	.0000	12	13.1868	0	608	2146	.1751	3.5327
Acartia sp.	48.731	0	.0000	13	14.2857	0	287	1506	.0828	5.2411
Rhincalanus nasutus	48.692	0	.0000	12	13.1868	0	252	779	.0726	3.0934
Mecynocera clausi	48.269	0	.0000	12	13.1868	0	120	397	.0345	3.3161
Acartia longiremis	48.033	0	.0000	11	12.0879	0	435	2334	.1253	5.3710
Corycaeus spp.	47.626	0	.0000	10	10.9890	0	246	840	.0708	3.4212
Candacia spp.	46.934	0	.0000	8	8.7912	0	392	1563	.1131	3.9864
Oithona sp.	46.445	0	.0000	8	8.7912	0	193	804	.0555	4.1766
Oncaea sp.	45.764	0	.0000	6	6.5934	0	169	767	.0488	4.5280

Table 12. Continued

						Total stations sorted-91				
		Dominance**		Occurrence		Abundance***				
Species name	Mean rank*	Stations	Percent	Stations	Percent	Median	Mean	SD	Percent	SD/Mean
Calocalanus pavo	45.753	0	.0000	7	7.6923	0	49	183	.0140	3.7640
Lucicutia sp.	45.451	0	.0000	6	6.5934	0	70	455	.0201	6.5133
Corycaeidae	45.220	0	.0000	5	5.4945	0	187	1121	.0538	6.0020
Undinula vulgaris	45.214	0	.0000	6	6.5934	0	92	411	.0265	4.4652
Euchaeta sp.	44.989	0	.0000	5	5.4945	0	20	120	.0058	5.9695
Clausocalanus furcatus	44.797	0	.0000	4	4.3956	0	1166	8882	.3362	7.6159
Oncaea venusta	44.681	0	.0000	4	4.3956	0	203	1246	.0585	6.1378
Aetideidae	44.560	0	.0000	4	4.3956	0	31	169	.0090	5.4152
Pleuromamma spp.	44.302	0	.0000	3	3.2967	0	572	4355	.1649	7.6113
Eucalanus elongatus	44.253	0	.0000	4	4.3956	0	19	110	.0056	5.6618
Rhincalanus cornutus	44.126	0	.0000	3	3.2967	0	79	496	.0229	6.2521
Acartia spp.	44.126	0	.0000	3	3.2967	0	107	621	.0308	5.8054
Labidocera aestiva	44.121	0	.0000	3	3.2967	0	103	727	.0297	7.0586
Oithona helgolandica	44.060	0	.0000	3	3.2967	0	22	141	.0064	6.3494
Temora sp.	44.027	0	.0000	3	3.2967	0	16	99	.0045	6.3499
Euchaeta marina	43.994	0	.0000	3	3.2967	0	30	169	.0085	5.7048
Rhincalanus spp.	43.962	0	.0000	3	3.2967	0	41	248	.0118	6.0393
Pleuromamma paseki	43.852	0	.0000	3	3.2967	0	17	110	.0049	6.4312
Lucicutia spp.	43.736	0	.0000	2	2.1978	0	44	297	.0127	6.7178
Lucicutiidae	43.709	0	.0000	2	2.1978	0	65	439	.0189	6.7093
Copepoda	43.648	0	.0000	2	2.1978	0	21	143	.0061	6.7433
Euchaeta norvegica	43.604	0	.0000	2	2.1978	0	41	321	.0118	7.8110
Harpacticoid sp.	43.604	0	.0000	2	2.1978	0	19	130	.0055	6.7875
Eucalanidae	43.604	0	.0000	2	2.1978	0	50	412	.0145	8.1963
Eucalanus sp.	43.571	0	.0000	2	2.1978	0	29	215	.0084	7.4193
Undeuchaeta major	43.544	0	.0000	2	2.1978	0	9	78	.0026	8.5349
Pleuromamma abdominalis	43.544	0	.0000	2	2.1978	0	10	66	.0028	6.7127
Rhincalanus sp.	43.522	0	.0000	2	2.1978	0	5	35	.0015	6.8259
Calocalanus sp.	43.511	0	.0000	2	2.1978	0	26	188	.0075	7.2445
Cyclopoid sp.	43.500	0	.0000	2	2.1978	0	10	76	.0028	7.7987
Copilia sp.	43.390	0	.0000	2	2.1978	0	3	24	.0010	7.1581
Clausocalanus spp.	43.264	0	.0000	1	1.0989	0	46	437	.0132	9.5394
Pleuromamma robusta	43.176	0	.0000	1	1.0989	0	87	827	.0250	9.5394
Calanus tenuicornis	43.176	0	.0000	1	1.0989	0	49	470	.0142	9.5394

Table 12. Continued

Species name	Mean rank*	Dominance** Stations	Dominance** Percent	Occurrence Stations	Occurrence Percent	Total stations sorted-91 Abundance*** Median	Mean	SD	Percent	SD/Mean
Clytemnestra rostrata	43.170	0	.0000	1	1.0989	0	54	513	.0155	9.5394
Eucalanus crassus	43.148	0	.0000	1	1.0989	0	16	153	.0046	9.5394
Cyclopoid spp.	43.115	0	.0000	1	1.0989	0	27	261	.0079	9.5394
Calanus spp.	43.115	0	.0000	1	1.0989	0	11	109	.0033	9.5394
Harpacticoid spp.	43.110	0	.0000	1	1.0989	0	0	3	.0001	9.5394
Paracalanidae	43.104	0	.0000	1	1.0989	0	19	181	.0055	9.5394
Scolecithricella spp.	43.099	0	.0000	1	1.0989	0	9	87	.0026	9.5394
Sapphirina sp.	43.093	0	.0000	1	1.0989	0	7	63	.0019	9.5394
Undeuchaeta plumosa	43.093	0	.0000	1	1.0989	0	3	29	.0009	9.5394
Heterorhabdus norvegica	43.093	0	.0000	1	1.0989	0	3	29	.0009	9.5394
Tortanus discaudatus	43.088	0	.0000	1	1.0989	0	5	49	.0015	9.5394
Halithalestris croni	43.082	0	.0000	1	1.0989	0	0	1	.0000	9.5394
Oncaea conifera	43.082	0	.0000	1	1.0989	0	33	317	.0096	9.5394
Scolocithricella sp.	43.071	0	.0000	1	1.0989	0	9	86	.0026	9.5394
Calocalanus plumulosus	43.066	0	.0000	1	1.0989	0	8	73	.0022	9.5394
Pleuromamma sp.	43.066	0	.0000	1	1.0989	0	8	73	.0022	9.5394
Acartia clausi	43.060	0	.0000	1	1.0989	0	5	48	.0015	9.5394
Paracalanus pygmaeus	43.055	0	.0000	1	1.0989	0	17	159	.0048	9.5394
Pleuromamma xiphias	43.033	0	.0000	1	1.0989	0	4	36	.0011	9.5394
Eurytemora sp.	43.033	0	.0000	1	1.0989	0	9	87	.0026	9.5394
Eucalanus attenuatus	43.027	0	.0000	1	1.0989	0	5	44	.0013	9.5394
Clytemnestra scutellata	43.027	0	.0000	1	1.0989	0	5	44	.0013	9.5394
Euchaeta spp.	43.027	0	.0000	1	1.0989	0	3	25	.0008	9.5394
Pontellina plumata	43.022	0	.0000	1	1.0989	0	1	10	.0003	9.5394
Metridia sp.	43.022	0	.0000	1	1.0989	0	1	10	.0003	9.5394
Eucalanus atlanticus	43.022	0	.0000	1	1.0989	0	1	10	.0003	9.5394
Corycella sp.	43.005	0	.0000	1	1.0989	0	4	40	.0012	9.5394
Heterorhabdidae	42.984	0	.0000	1	1.0989	0	4	37	.0011	9.5394
Candacia bispinosa	42.984	0	.0000	1	1.0989	0	4	37	.0011	9.5394
Scolecithrix bradyi	42.967	0	.0000	1	1.0989	0	2	22	.0007	9.5394

See Table 1 for explanation of asterisks

Table 13. Albatross IV 76-01, 2/10 - 2/25/76, relative abundance of copepods in the Georges Bank-Nantucket Shoals area.

						Total stations sorted-115				
		Dominance**		Occurrence		Abundance***				
Species name	Mean rank*	Stations	Percent	Stations	Percent	Median	Mean	SD	Percent	SD/Mean
Pseudocalanus sp.	75.709	58	50.4348	114	99.1304	83682	345228	2298980	17.2996	6.6593
Centropages typicus	73.404	0	.0000	110	95.6522	19714	454576	3802570	22.7791	8.3651
Calanus finmarchicus	71.552	3	2.6087	109	94.7826	4652	268291	1886906	13.4442	7.0331
Metridia lucens	71.000	9	7.8261	104	90.4348	11793	475901	3087470	23.8477	6.4876
Oithona spinirostris	62.265	0	.0000	84	73.0435	1773	94577	959040	4.7393	10.1403
Paracalanus parvus	60.100	0	.0000	81	70.4348	635	12190	69233	.6109	5.6795
Clausocalanus arcuicornis	50.352	0	.0000	51	44.3478	0	56955	544326	2.8541	9.5571
Candacia armata	48.665	0	.0000	47	40.8696	0	8026	72999	.4022	9.0957
Acartia longiremis	48.635	0	.0000	46	40.0000	0	2615	17269	.1310	6.6046
Centropages hamatus	48.226	0	.0000	42	36.5217	0	4816	13218	.2413	2.7449
Alteutha depressa	45.478	0	.0000	35	30.4348	0	4231	36326	.2120	8.5862
Pleuromamma borealis	43.713	0	.0000	28	24.3478	0	3346	16586	.1677	4.9576
Oithona spp.	40.530	0	.0000	20	17.3913	0	4260	41695	.2135	9.7880
Temora longicornis	39.770	0	.0000	18	15.6522	0	176	537	.0088	3.0551
Nannocalanus minor	39.478	0	.0000	17	14.7826	0	18008	183616	.9024	10.1963
Acartia sp.	39.430	0	.0000	17	14.7826	0	151	539	.0076	3.5684
Tortanus discaudatus	39.370	0	.0000	17	14.7826	0	13645	145390	.6838	10.6552
Calanoid sp.	39.170	0	.0000	17	14.7826	0	2396	25022	.1200	10.4450
Aetideidae	38.461	0	.0000	13	11.3043	0	507	2605	.0254	5.1352
Candacia sp.	37.391	0	.0000	11	9.5652	0	14073	150160	.7052	10.6704
Cyclopoid sp.	36.974	0	.0000	10	8.6957	0	812	8341	.0407	10.2745
Pleuromamma sp.	36.861	0	.0000	9	7.8261	0	17087	175289	.8562	10.2586
Acartia spp.	36.352	0	.0000	7	6.0870	0	107	619	.0053	5.8080
Mecynocera clausi	36.196	0	.0000	7	6.0870	0	17923	191876	.8981	10.7059
Oithona sp.	36.183	0	.0000	7	6.0870	0	73	470	.0037	6.3964
Rhincalanus nasutus	36.135	0	.0000	7	6.0870	0	746	7722	.0374	10.3468
Aetideus armatus	35.978	0	.0000	6	5.2174	0	70819	759171	3.5488	10.7198
Euchaetidae	35.926	0	.0000	6	5.2174	0	7827	83422	.3922	10.6575
Lucicutia sp.	35.639	0	.0000	5	4.3478	0	7817	83422	.3917	10.6722
Harpacticoid sp.	35.600	0	.0000	5	4.3478	0	1587	15497	.0795	9.7621
Lucicutia flavicornis	35.587	0	.0000	5	4.3478	0	52	322	.0026	6.1648
Candacia spp.	35.391	0	.0000	4	3.4783	0	56	379	.0028	6.7119
Calanoid spp.	35.383	0	.0000	4	3.4783	0	42	249	.0021	5.9603
Pleuromamma abdominalis	35.335	0	.0000	4	3.4783	0	26	147	.0013	5.7028
Oncaea sp.	35.183	0	.0000	4	3.4783	0	785	8342	.0394	10.6221
Centropages bradyi	35.139	0	.0000	4	3.4783	0	788	8342	.0395	10.5918
Neocalanus sp.	35.126	0	.0000	3	2.6087	0	57589	617347	2.8858	10.7199

Table 13. Continued

Total stations sorted-115

Species name	Mean rank*	Dominance** Stations	Dominance** Percent	Occurrence Stations	Occurrence Percent	Abundance*** Median	Abundance*** Mean	Abundance*** SD	Abundance*** Percent	SD/Mean
Calanus spp.	35.091	0	.0000	3	2.6087	0	87	619	.0043	7.1434
Scolecithricella minor	34.983	0	.0000	3	2.6087	0	2142	22853	.1074	10.6671
Pleuromamma xiphias	34.952	0	.0000	3	2.6087	0	7	51	.0003	7.3011
Heterorhabdus spp.	34.922	0	.0000	3	2.6087	0	7784	83425	.3900	10.7179
Rhincalanus spp.	34.913	0	.0000	3	2.6087	0	25	168	.0013	6.6047
Pleuromamma spp.	34.735	0	.0000	2	1.7391	0	49	440	.0024	9.0562
Oncaea spp.	34.704	0	.0000	2	1.7391	0	45	434	.0023	9.6339
Lucicutia spp.	34.691	0	.0000	2	1.7391	0	18	141	.0009	7.6255
Calocalanus sp.	34.665	0	.0000	2	1.7391	0	3125	33369	.1566	10.6793
Oithona helgolandica	34.665	0	.0000	2	1.7391	0	20	175	.0010	8.9551
Corycaeus spp.	34.657	0	.0000	2	1.7391	0	37	364	.0019	9.8277
Eucalanus spp.	34.652	0	.0000	2	1.7391	0	19	148	.0010	7.6555
Eucalanus sp.	34.626	0	.0000	2	1.7391	0	7	51	.0003	7.7049
Halithalestris croni	34.622	0	.0000	2	1.7391	0	3	24	.0001	8.4350
Acartia danae	34.617	0	.0000	2	1.7391	0	4	35	.0002	7.9976
Heterorhabdidae	34.617	0	.0000	2	1.7391	0	6	43	.0003	7.6751
Euchaeta norvegica	34.613	0	.0000	2	1.7391	0	4	30	.0002	8.1148
Rhincalanus sp.	34.604	0	.0000	2	1.7391	0	4	37	.0002	8.9335
Scolecithricidae	34.574	0	.0000	2	1.7391	0	9	87	.0005	9.3207
Scolecithrix sp.	34.574	0	.0000	2	1.7391	0	3893	41713	.1951	10.7149
Calocalanus pavo	34.522	0	.0000	2	1.7391	0	780	8342	.0391	10.7015
Clausocalanus furcatus	34.383	0	.0000	1	.8696	0	9335	100111	.4678	10.7238
Oncaea venusta	34.352	0	.0000	1	.8696	0	11	120	.0006	10.7238
Undeuchaeta major	34.352	0	.0000	1	.8696	0	5	57	.0003	10.7238
Tortanus sp.	34.352	0	.0000	1	.8696	0	7	70	.0003	10.7238
Cyclopoid spp.	34.348	0	.0000	1	.8696	0	15	165	.0008	10.7238
Actideidae	34.348	0	.0000	1	.8696	0	15	165	.0008	10.7238
Cyclopidae	34.343	0	.0000	1	.8696	0	7	72	.0003	10.7238
Eucalanus attenuatus	34.339	0	.0000	1	.8696	0	0	1	.0000	10.7238
Corycaeus sp.	34.339	0	.0000	1	.8696	0	5	50	.0002	10.7238
Lucicutiidae	34.335	0	.0000	1	.8696	0	6	69	.0003	10.7238
Euchaeta sp.	34.330	0	.0000	1	.8696	0	3	29	.0001	10.7238
Sapphirina sp.	34.326	0	.0000	1	.8696	0	20	210	.0010	10.7238
Corycaeidae	34.322	0	.0000	1	.8696	0	5	57	.0003	10.7238
Euchirella rostrata	34.317	0	.0000	1	.8696	0	3	36	.0002	10.7238
Temora sp.	34.313	0	.0000	1	.8696	0	8	84	.0004	10.7238
Calanus sp.	34.313	0	.0000	1	.8696	0	1	8	.0000	10.7238
Acartia clausi	34.309	0	.0000	1	.8696	0	3	36	.0002	10.7238
Scaphocalanus spp.	34.304	0	.0000	1	.8696	0	5	52	.0002	10.7238
Temora stylifera	34.287	0	.0000	1	.8696	0	3	35	.0002	10.7238

See Table 1 for explanation of asterisks

Table 14. Research 76-01, 11/27 - 12/11/76, relative abundance of copepods in the Georges Bank-Nantucket Shoals area.

						Total stations sorted-52				
		Dominance**		Occurrence		Abundance***				
Species name	Mean rank*	Stations	Percent	Stations	Percent	Median	Mean	SD	Percent	SD/Mean
Centropages typicus	81.346	24	46.1538	52	100.0000	96167	195105	241805	50.4128	1.2394
Pseudocalanus sp.	77.221	2	3.8462	50	96.1538	22088	60231	88587	15.5629	1.4708
Metridia lucens	75.933	3	5.7692	49	94.2308	12165	20009	24576	5.1701	1.2283
Paracalanus parvus	72.981	0	.0000	46	88.4615	5756	19851	31967	5.1292	1.6103
Calanus finmarchicus	69.558	1	1.9231	43	82.6923	3818	12346	33705	3.1902	2.7300
Centropages hamatus	60.519	0	.0000	32	61.5385	662	43300	113779	11.1882	2.6277
Clausocalanus arcuicornis	60.413	0	.0000	33	63.4615	370	1565	2733	.4044	1.7458
Oithona spinirostris	57.481	0	.0000	29	55.7692	167	1652	3469	.4268	2.0998
Nannocalanus minor	55.962	0	.0000	26	50.0000	35	2210	4963	.5711	2.2456
Temora longicornis	54.904	0	.0000	26	50.0000	30	1448	2893	.3742	1.9980
Candacia armata	53.683	0	.0000	24	46.1538	0	1424	3292	.3680	2.3114
Pleuromamma borealis	49.587	0	.0000	17	32.6923	0	5802	17344	1.4992	2.9892
Acartia sp.	45.981	0	.0000	14	26.9231	0	1854	8158	.4791	4.3999
Alteutha depressa	44.077	0	.0000	12	23.0769	0	392	1048	.1014	2.6701
Rhincalanus nasutus	43.375	0	.0000	11	21.1538	0	373	1070	.0963	2.8702
Euchaetidae	43.202	0	.0000	11	21.1538	0	300	886	.0774	2.9551
Centropages bradyi	42.346	0	.0000	10	19.2308	0	255	670	.0660	2.6227
Oithona sp.	42.308	0	.0000	10	19.2308	0	1049	4640	.2710	4.4242
Euchaeta norvegica	41.212	0	.0000	8	15.3846	0	337	1214	.0871	3.6033
Calanoid sp.	40.692	0	.0000	8	15.3846	0	149	426	.0385	2.8592
Labidocera aestiva	40.317	0	.0000	7	13.4615	0	1405	7148	.3631	5.0874
Pleuromamma sp.	40.317	0	.0000	7	13.4615	0	577	2808	.1491	4.8659
Scolecithrix danae	39.471	0	.0000	6	11.5385	0	121	406	.0313	3.3495
Aetideus armatus	39.288	0	.0000	6	11.5385	0	108	383	.0280	3.5316
Paracalanus sp.	38.933	0	.0000	5	9.6154	0	2304	16324	.5953	7.0855
Lucicutia flavicornis	38.875	0	.0000	5	9.6154	0	166	657	.0428	3.9662
Acartia spp.	38.865	0	.0000	5	9.6154	0	1471	9663	.3802	6.5672
Calocalanus sp.	38.654	0	.0000	5	9.6154	0	103	352	.0267	3.4085
Oncaea spp.	38.558	0	.0000	4	7.6923	0	174	736	.0451	4.2186
Copepoda	38.548	0	.0000	5	9.6154	0	133	575	.0342	4.3397
Mecynocera clausi	38.500	0	.0000	5	9.6154	0	122	404	.0316	3.3037
Eucalanus sp.	38.490	0	.0000	5	9.6154	0	231	1249	.0598	5.3984
Neocalanus sp.	38.346	0	.0000	5	9.6154	0	96	400	.0247	4.1806
Corycaeidae	38.096	0	.0000	4	7.6923	0	65	256	.0167	3.9581
Clausocalanus sp.	38.067	0	.0000	4	7.6923	0	92	468	.0237	5.1035
Tortanus discaudatus	37.856	0	.0000	4	7.6923	0	113	487	.0291	4.3160
Acartia longiremis	37.519	0	.0000	3	5.7692	0	5827	40980	1.5056	7.0330

Table 14. Continued

						Total stations sorted-52				
		Dominance**		Occurrence		Abundance***				
Species name	Mean rank*	Stations	Percent	Stations	Percent	Median	Mean	SD	Percent	SD/Mean
Paracalanus spp.	37.481	0	.0000	3	5.7692	0	795	4676	.2054	5.8827
Corycaeus sp.	37.385	0	.0000	3	5.7692	0	788	5488	.2036	6.9656
Scolecithrix sp.	37.269	0	.0000	3	5.7692	0	80	398	.0206	4.9805
Cyclopoid sp.	37.144	0	.0000	3	5.7692	0	97	530	.0250	5.4767
Candacia sp.	37.058	0	.0000	3	5.7692	0	56	298	.0145	5.2956
Scolecithricidae	37.038	0	.0000	3	5.7692	0	80	449	.0206	5.6436
Labidocera sp.	37.029	0	.0000	3	5.7692	0	60	262	.0156	4.3524
Clausocalanus spp.	36.827	0	.0000	2	3.8462	0	127	744	.0329	5.8378
Eucalanus attenuatus	36.779	0	.0000	2	3.8462	0	143	755	.0369	5.2807
Acartia danae	36.760	0	.0000	2	3.8462	0	116	705	.0300	6.0727
Corycaeus spp.	36.712	0	.0000	2	3.8462	0	331	1699	.0855	5.1357
Lucicutia spp.	36.673	0	.0000	2	3.8462	0	83	577	.0215	6.9308
Temora stylifera	36.625	0	.0000	2	3.8462	0	37	188	.0096	5.0494
Oncaea sp.	36.587	0	.0000	2	3.8462	0	182	1115	.0471	6.1175
Eucalanus spp.	36.519	0	.0000	2	3.8462	0	20	136	.0053	6.6544
Oncaea venusta	36.500	0	.0000	2	3.8462	0	37	186	.0095	5.0490
Corycaeus speciosus	36.490	0	.0000	2	3.8462	0	98	585	.0253	5.9738
Temora sp.	36.442	0	.0000	2	3.8462	0	101	645	.0261	6.3891
Lucicutia sp.	36.433	0	.0000	2	3.8462	0	66	344	.0170	5.2207
Scolecithrix bradyi	36.375	0	.0000	2	3.8462	0	11	69	.0029	6.2242
Aetideidae	36.346	0	.0000	2	3.8462	0	13	87	.0034	6.5920
Pleuromamma spp.	36.019	0	.0000	1	1.9231	0	55	396	.0142	7.2111
Calanoid spp.	36.000	0	.0000	1	1.9231	0	149	1072	.0384	7.2111
Clausocalanus furcatus	36.000	0	.0000	1	1.9231	0	50	363	.0130	7.2111
Pleuromamma abdominalis	35.971	0	.0000	1	1.9231	0	50	363	.0130	7.2111
Corycaeus lautus	35.933	0	.0000	1	1.9231	0	176	1266	.0455	7.2111
Oithona spp.	35.875	0	.0000	1	1.9231	0	287	2068	.0741	7.2111
Euchaeta sp.	35.865	0	.0000	1	1.9231	0	8	59	.0021	7.2111
Oithona helgolandica	35.817	0	.0000	1	1.9231	0	28	204	.0073	7.2111
Paracalanus aculeatus	35.808	0	.0000	1	1.9231	0	14	99	.0035	7.2111
Rhincalanus sp.	35.779	0	.0000	1	1.9231	0	7	47	.0017	7.2111
Pleuromamma robusta	35.769	0	.0000	1	1.9231	0	9	64	.0023	7.2111

Table 14. Continued

Species name	Mean rank*	Dominance* Stations	Dominance* Percent	Occurrence Stations	Occurrence Percent	Total stations sorted-52 Abundance*** Median	Mean	SD	Percent	SD/Mean
Euchaeta marina	35.769	0	.0000	1	1.9231	0	14	99	.0035	7.2111
Clytemnestra scutellata	35.769	0	.0000	1	1.9231	0	30	214	.0077	7.2111
Centropages spp.	35.750	0	.0000	1	1.9231	0	8	60	.0022	7.2111
Halithalestris croni	35.750	0	.0000	1	1.9231	0	1	10	.0004	7.2111
Harpacticoid sp.	35.721	0	.0000	1	1.9231	0	1	8	.0003	7.2111
Pleuromamma pseseki	35.702	0	.0000	1	1.9231	0	19	134	.0048	7.2111
Undinula vulgaris	35.702	0	.0000	1	1.9231	0	19	134	.0048	7.2111
Calocalanus pavo	35.692	0	.0000	1	1.9231	0	12	87	.0031	7.2111
Sapphirina sp.	35.692	0	.0000	1	1.9231	0	12	87	.0031	7.2111
Heterorhabdidae	35.692	0	.0000	1	1.9231	0	12	87	.0031	7.2111
Calocalanus tenuis	35.692	0	.0000	1	1.9231	0	12	87	.0031	7.2111
Calanus sp.	35.683	0	.0000	1	1.9231	0	24	176	.0063	7.2111
Pontellidae	35.596	0	.0000	1	1.9231	0	5	33	.0012	7.2111

See Table 1 for explanation of asterisks

Table 15. Mount Mitchell 77-01, 2/13 - 2/24/77, relative abundance of copepods in the Georges Bank-Nantucket Shoals area.

		Dominance**		Occurrence		Total stations sorted-50 Abundance***				
Species name	Mean rank*	Stations	Percent	Stations	Percent	Median	Mean	SD	Percent	SD/Mean
Pseudocalanus minutus	46.100	20	40.0000	48	96.0000	23924	198362	982660	26.4321	4.9539
Calanus finmarchicus	45.580	17	34.0000	48	96.0000	15489	72229	301281	9.6246	4.1712
Metridia lucens	40.850	3	6.0000	40	80.0000	1404	69968	436724	9.3234	6.2417
Centropages typicus	36.950	4	8.0000	33	66.0000	286	62754	265311	8.3621	4.2278
Oithona spinirostris	33.960	0	0.0000	28	56.0000	170	780	1372	0.1039	1.7587
Clausocalanus arcuicornis	27.980	1	2.0000	16	32.0000	0	84502	594635	11.2601	7.0369
Alteutha depressa	27.280	0	0.0000	14	28.0000	0	505	1456	0.0673	2.8833
Euchaeta norvegica	27.050	0	0.0000	14	28.0000	0	257	563	0.0342	2.1933
Centropages hamatus	26.240	0	0.0000	12	24.0000	0	828	3216	0.1103	3.8839
Oithona sp.	25.960	0	0.0000	11	22.0000	0	143269	1009788	19.0909	7.0482
Nannocalanus minor	25.800	0	0.0000	12	24.0000	0	1711	11215	0.2279	6.5563
Paracalanus parvus	25.650	0	0.0000	11	22.0000	0	3765	22472	0.5017	5.9688
Euchaetidae	25.500	0	0.0000	10	20.0000	0	42998	302934	5.7295	7.0454
Rhincalanus nasutus	25.410	0	0.0000	11	22.0000	0	1687	11210	0.2248	6.6448
Cyclopoid sp.	24.490	0	0.0000	9	18.0000	0	3246	22432	0.4326	6.9099
Pleuromamma borealis	23.360	0	0.0000	6	12.0000	0	126	527	0.0168	4.1767
Temora longicornis	23.280	0	0.0000	6	12.0000	0	654	3089	0.0872	4.7222
Acartia sp.	23.210	0	0.0000	6	12.0000	0	88	362	0.0118	4.1028
Calanoid sp.	22.840	0	0.0000	5	10.0000	0	89	313	0.0118	3.5303
Aetideidae	22.810	0	0.0000	5	10.0000	0	42	208	0.0056	4.9799
Harpacticoid sp.	22.350	0	0.0000	4	8.0000	0	19	81	0.0026	4.1883
Cyclopoid spp.	22.040	0	0.0000	3	6.0000	0	41	196	0.0055	4.7592
Mecynocera clausi	21.980	0	0.0000	3	6.0000	0	15888	112203	2.1171	7.0623
Oncaea sp.	21.930	0	0.0000	3	6.0000	0	11	48	0.0014	4.3832
Acartia spp.	21.650	0	0.0000	2	4.0000	0	438	2927	0.0584	6.6773
Neocalanus sp.	21.590	0	0.0000	2	4.0000	0	17460	123426	2.3265	7.0692
Halithalestris sp.	21.530	0	0.0000	2	4.0000	0	3	17	0.0005	4.9598
Tortanus discaudatus	21.130	0	0.0000	1	2.0000	0	28	201	0.0038	7.0711
Clytemnestra sp.	21.120	0	0.0000	1	2.0000	0	13	90	0.0017	7.0711

Table 15. Continued

Species name	Mean rank*	Dominance** Stations	Dominance** Percent	Occurrence Stations	Occurrence Percent	Total stations sorted-50 Abundance*** Median	Mean	SD	Percent	SD/Mean
Aetideidae	21.110	0	0.0000	1	2.0000	0	4	30	0.0006	7.0711
Calocalanus sp.	21.110	0	0.0000	1	2.0000	0	12695	89765	1.6916	7.0711
Calanus sp.	21.100	0	0.0000	1	2.0000	0	6	41	0.0008	7.0711
Calanoid spp.	21.090	0	0.0000	1	2.0000	0	9521	67323	1.2687	7.0711
Rhincalanus sp.	21.090	0	0.0000	1	2.0000	0	5	38	0.0007	7.0711
Acartia danae	21.090	0	0.0000	1	2.0000	0	31	221	0.0042	7.0711
Halithalestris oroni	21.090	0	0.0000	1	2.0000	0	21	151	0.0028	7.0711
Pleuromamma peseki	21.090	0	0.0000	1	2.0000	0	5	38	0.0007	7.0711
Lucicutia spp.	21.080	0	0.0000	1	2.0000	0	6	44	0.0008	7.0711
Aetideus armatus	21.070	0	0.0000	1	2.0000	0	4760	33662	0.6343	7.0711
Rhincalanus cornutus	21.070	0	0.0000	1	2.0000	0	2	11	0.0002	7.0711
Clytemnestra scutellata	21.070	0	0.0000	1	2.0000	0	20	145	0.0027	7.0711
Acartia longiremis	21.070	0	0.0000	1	2.0000	0	9	67	0.0013	7.0711
Centropages bradyi	21.070	0	0.0000	1	2.0000	0	10	70	0.0013	7.0711
Clausocalanus sp.	21.060	0	0.0000	1	2.0000	0	4	27	0.0005	7.0711
Pleuromamma robusta	21.060	0	0.0000	1	2.0000	0	2	12	0.0002	7.0711
Euchaeta sp.	21.050	0	0.0000	1	2.0000	0	1	4	0.0001	7.0711
Eucalanus sp.	21.020	0	0.0000	1	2.0000	0	8	54	0.0010	7.0711
Scolecithrix sp.	20.990	0	0.0000	1	2.0000	0	1587	11221	0.2114	7.0711

See Table 1 for explanation of asterisks

Stations Sampled

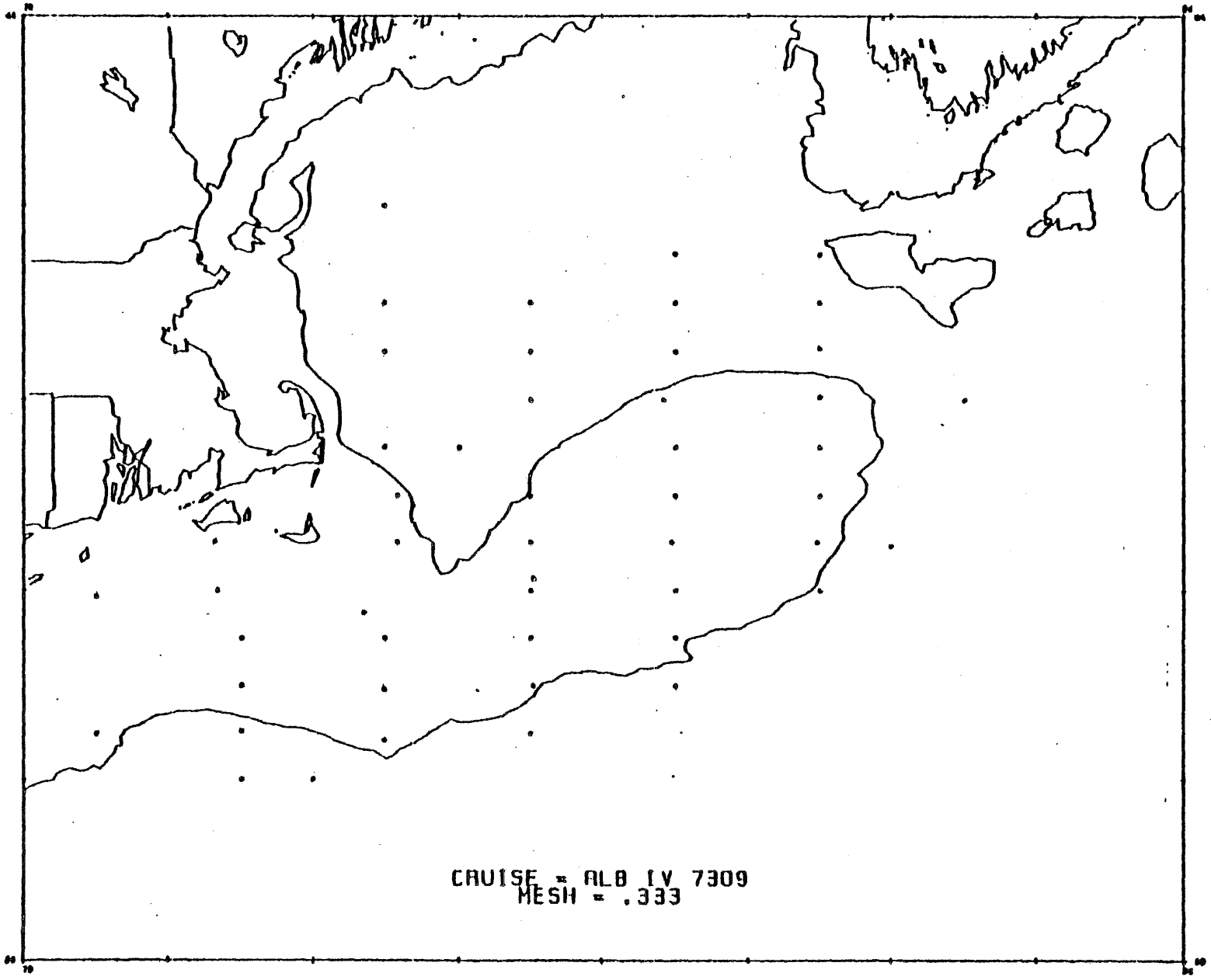

Figure 1

DISPLACEMENT VOLUME

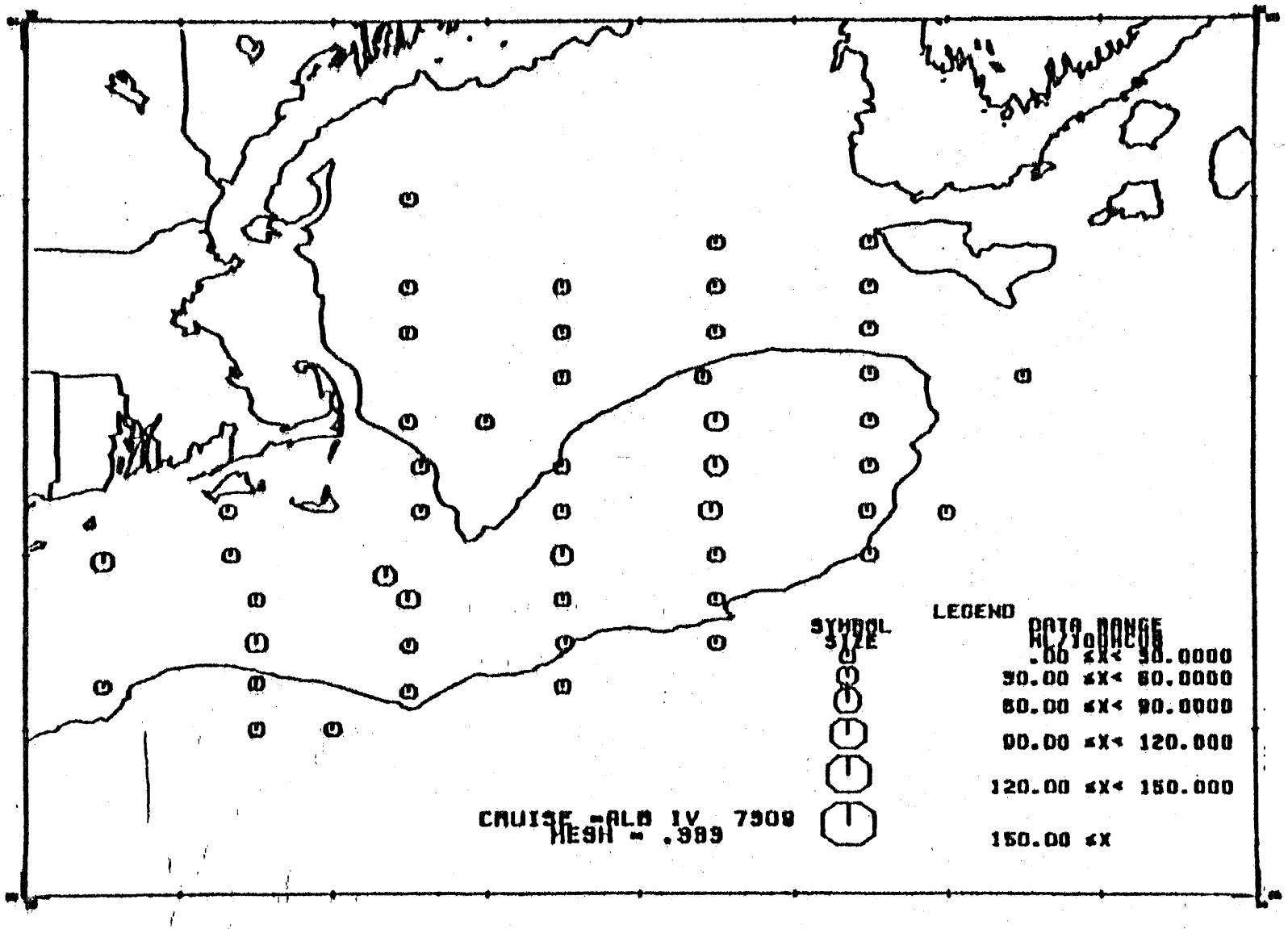

Figure 2

Pseudocalanus sp.

Copepodite Stage 3

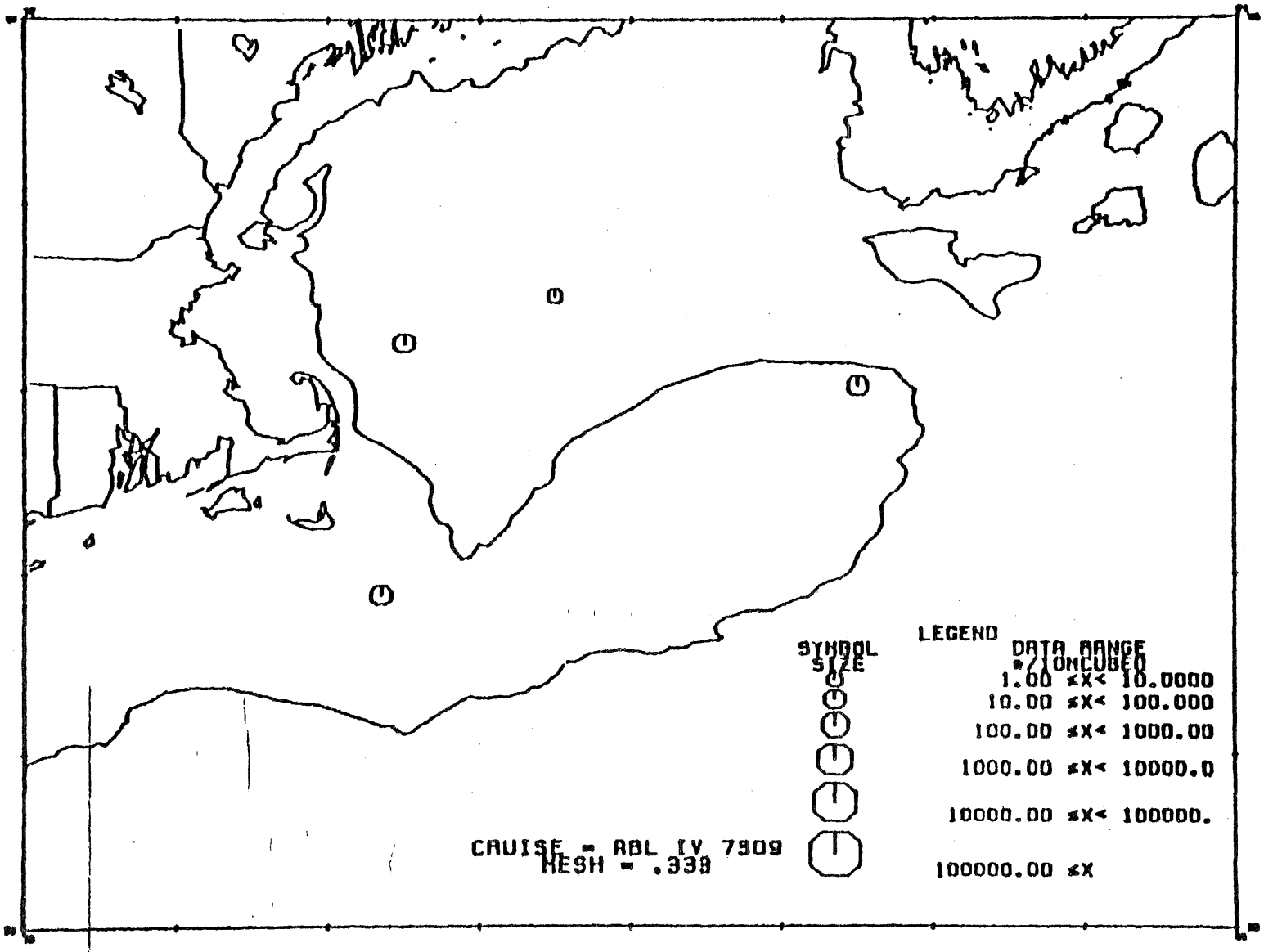

Figure 3

Pseudocalanus sp.

Copepodite Stage 4

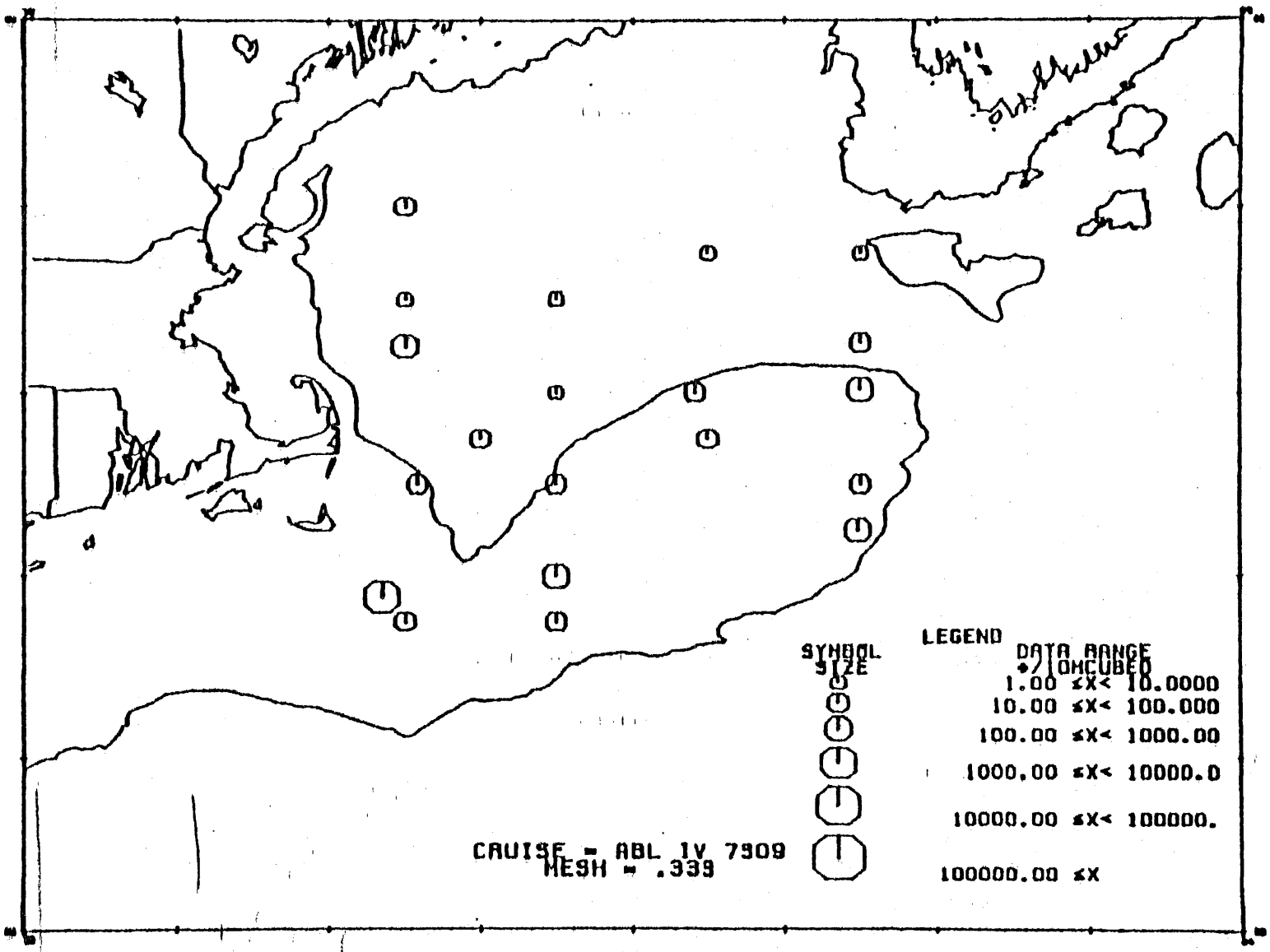

Figure 4

Pseudocalanus sp.

Copepodite Stage 5

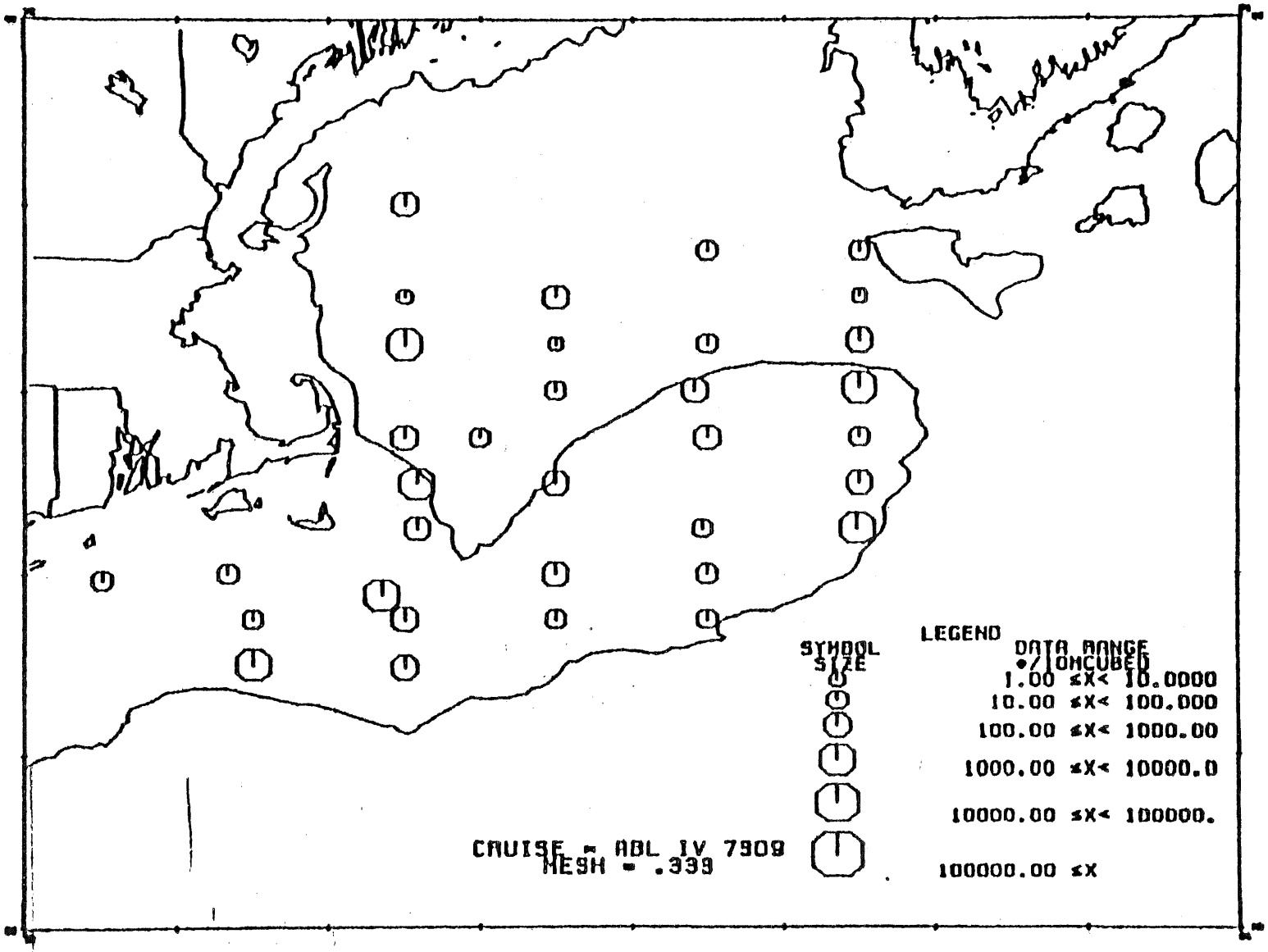

Figure 5

Pseudocalanus sp.

Adult

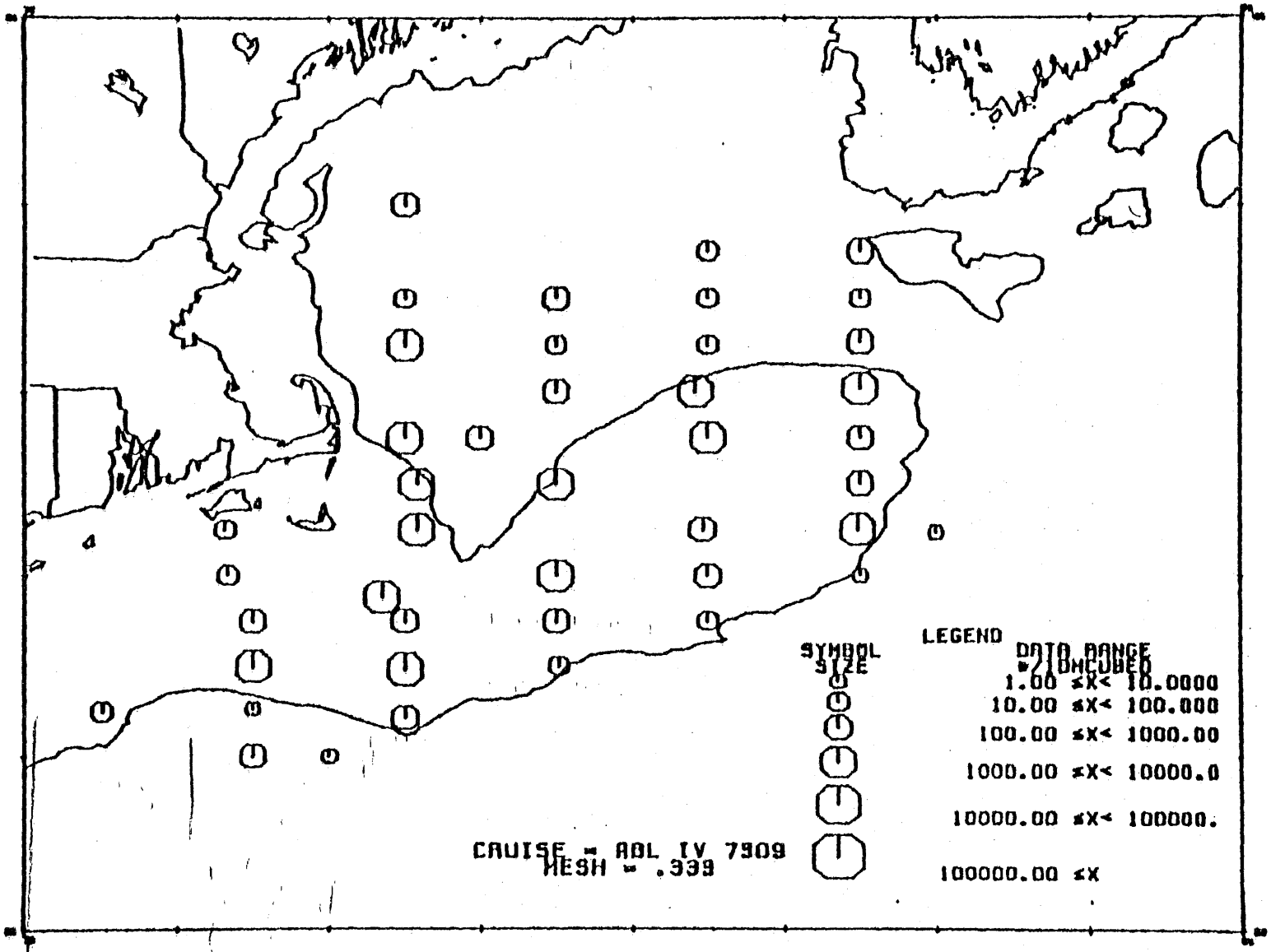

Figure 6

Paracalanus parvus

Copepodite Stage 4

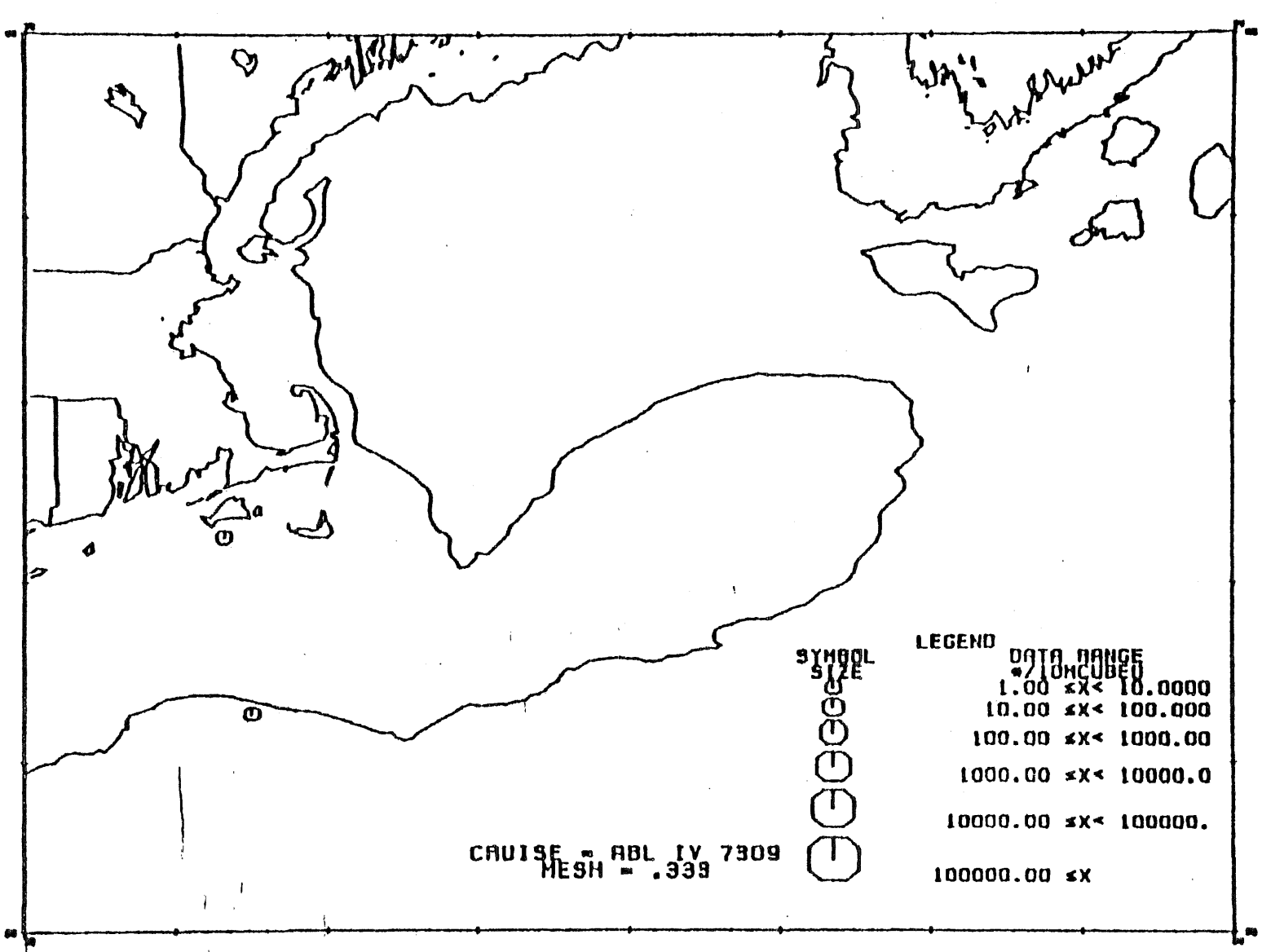

Figure 7

Paracalanus parvus

Copepodite Stage 5

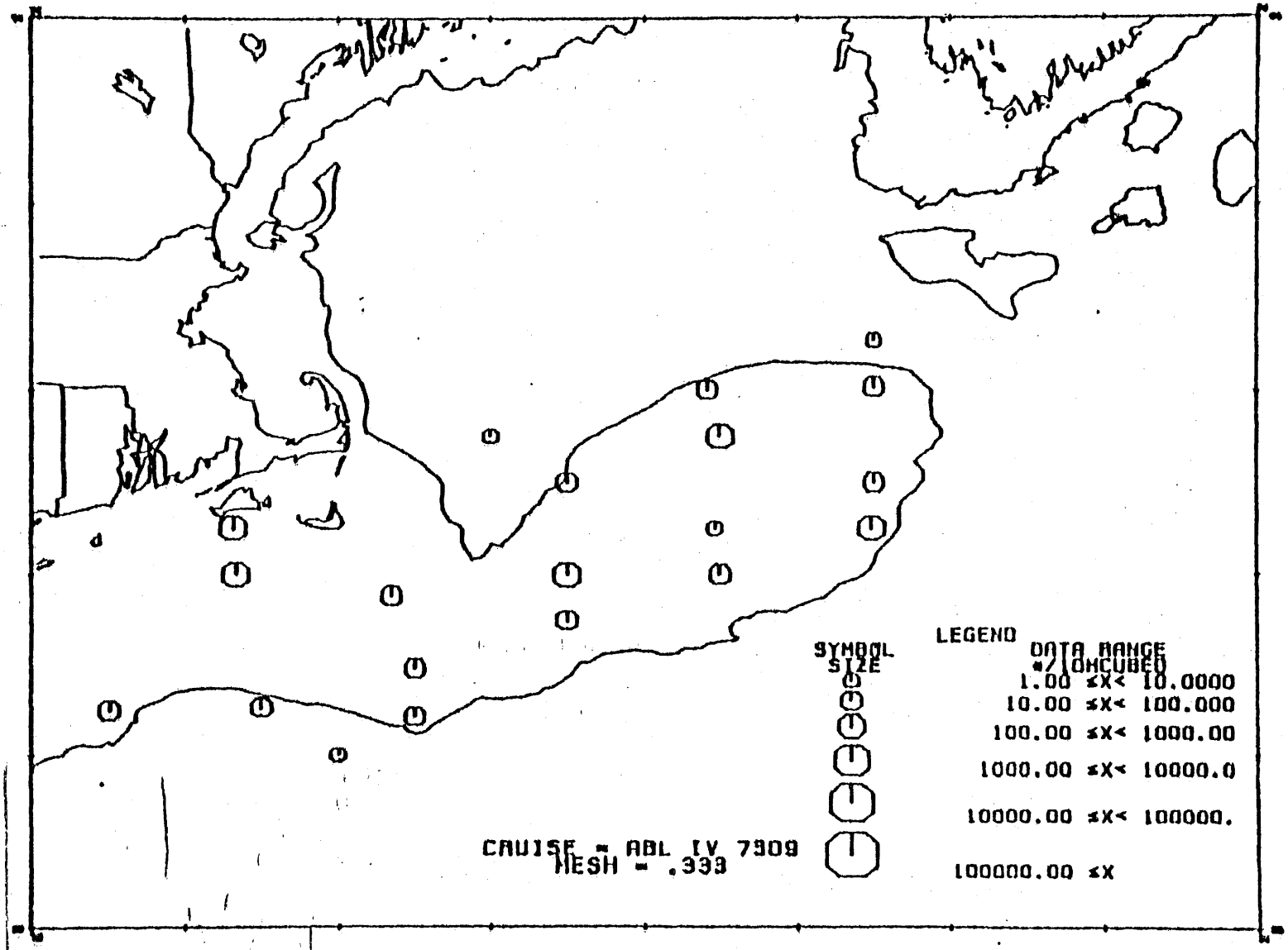

Figure 8

Paracalanus parvus

Copepodite

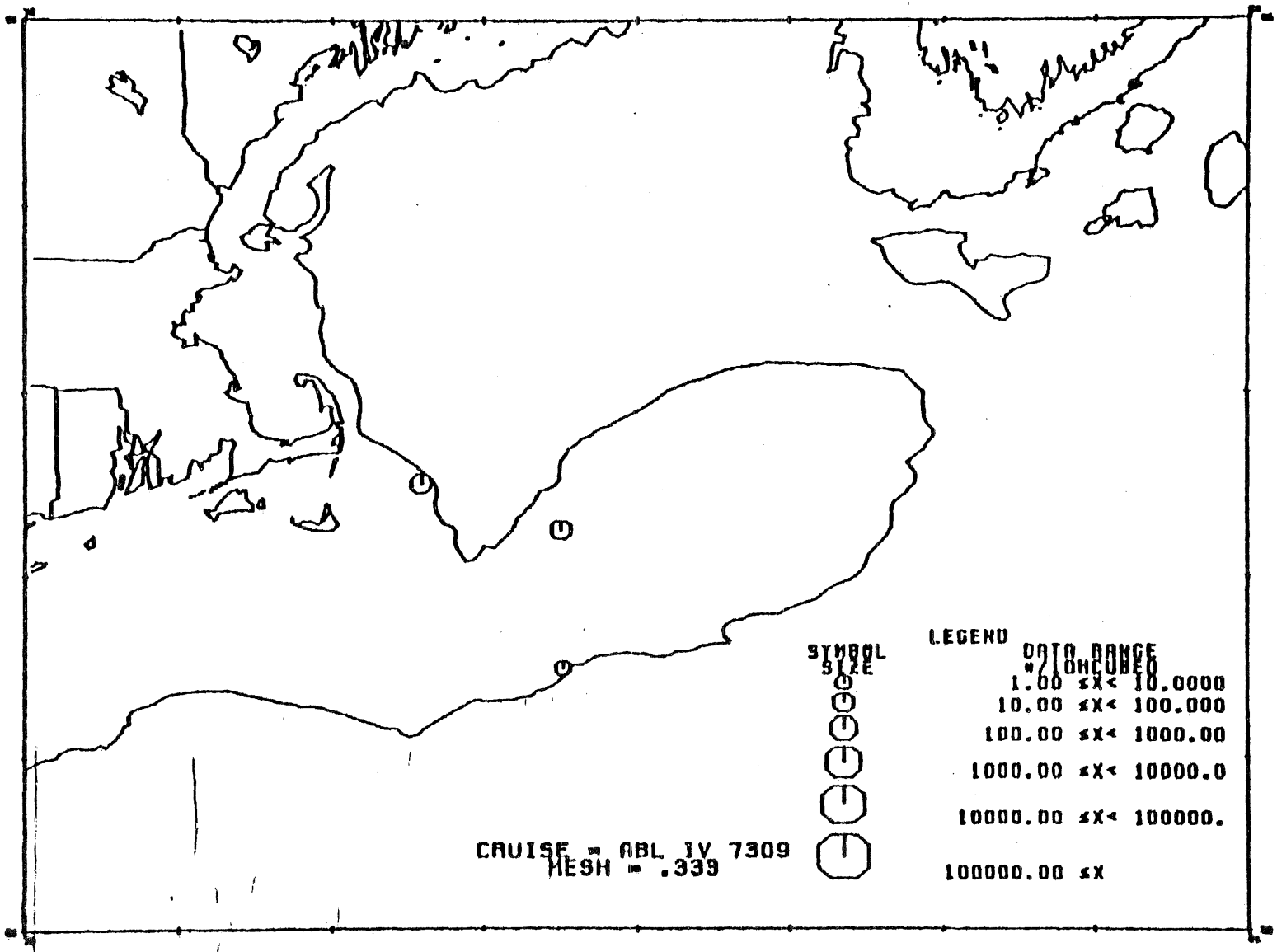

Figure 9

Paracalanus parvus

Adult

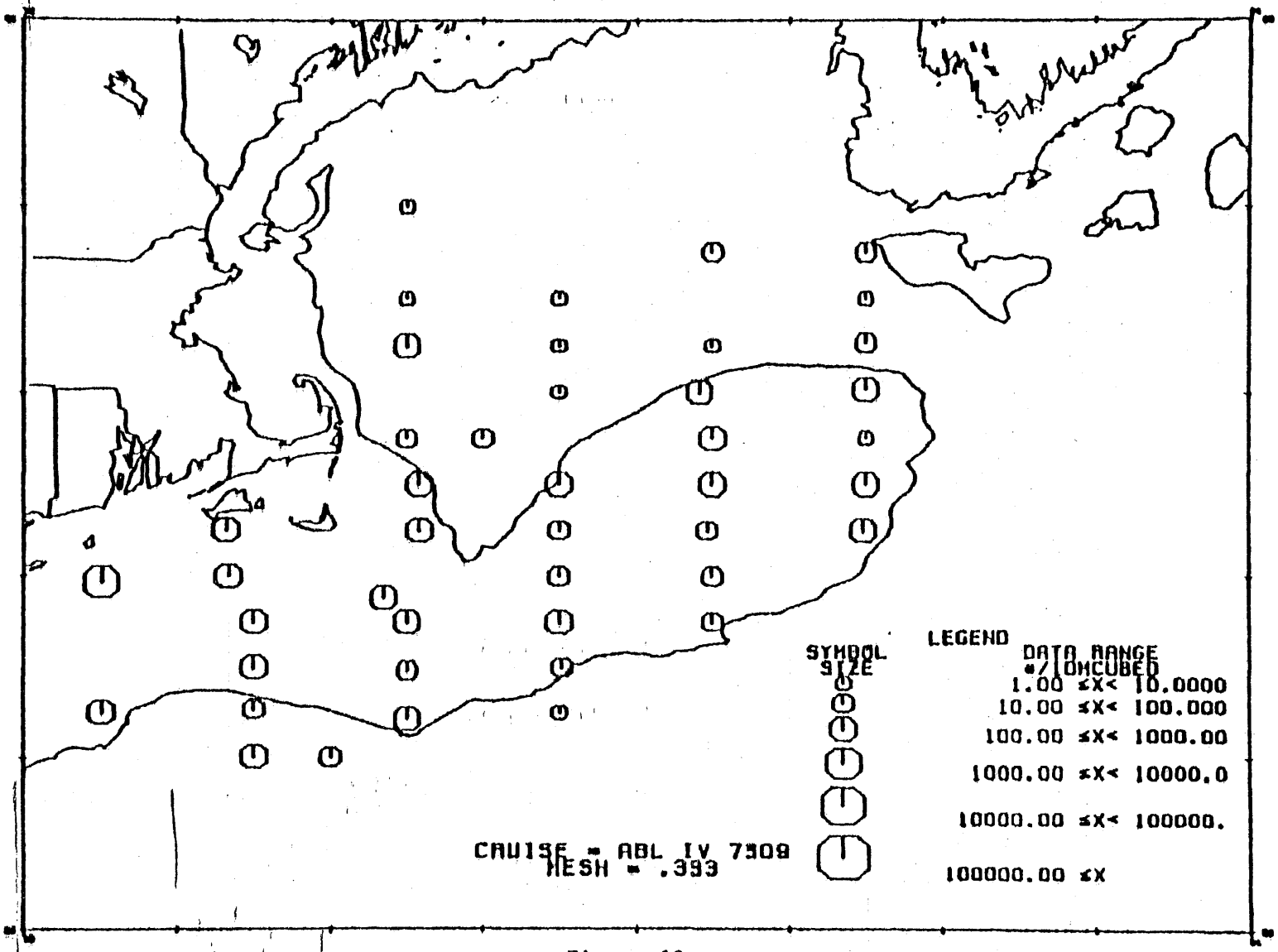

Figure 10

Centropages typicus

Copepodite Stage 3

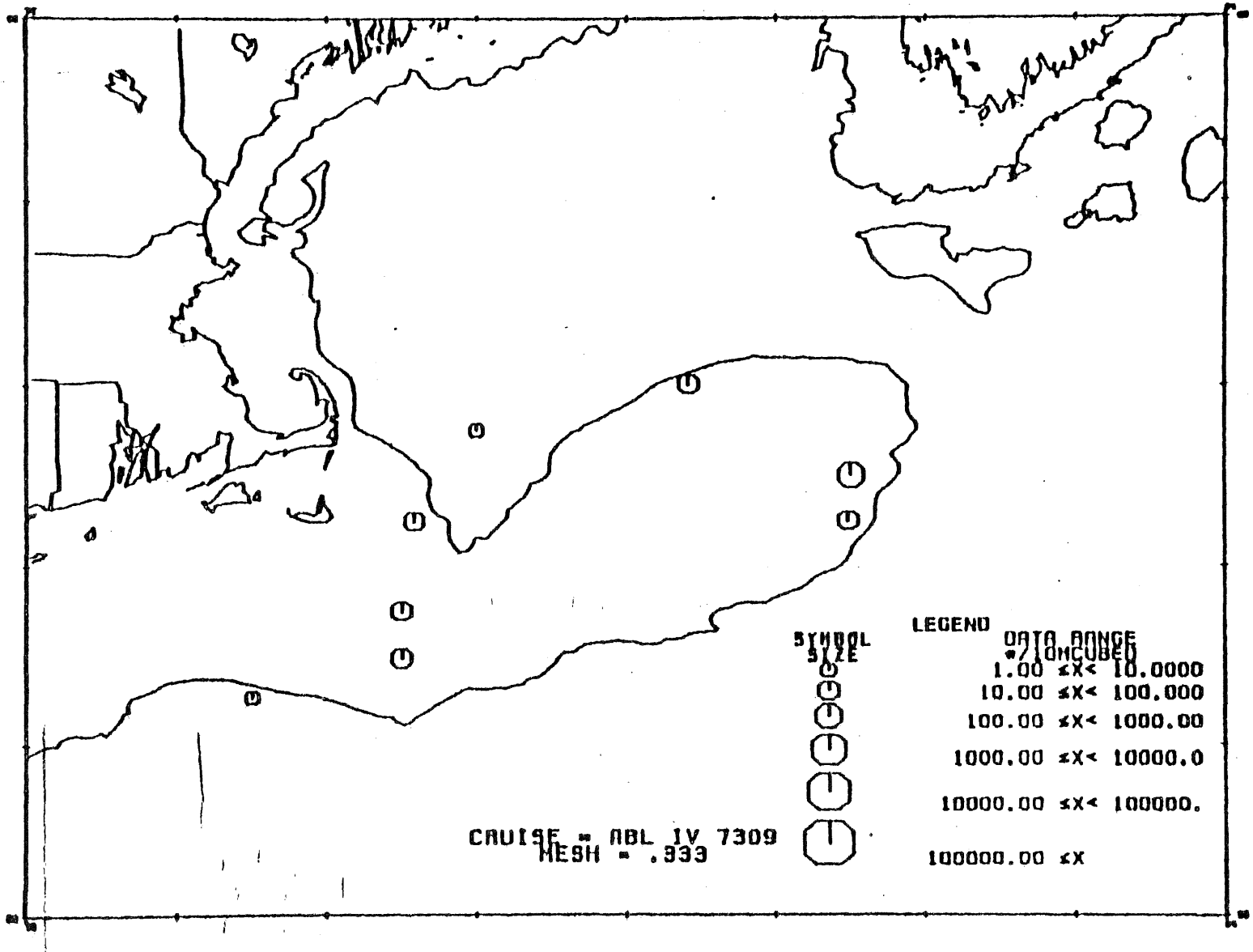

Figure 11

Centropages typicus

Copepodite Stage 4

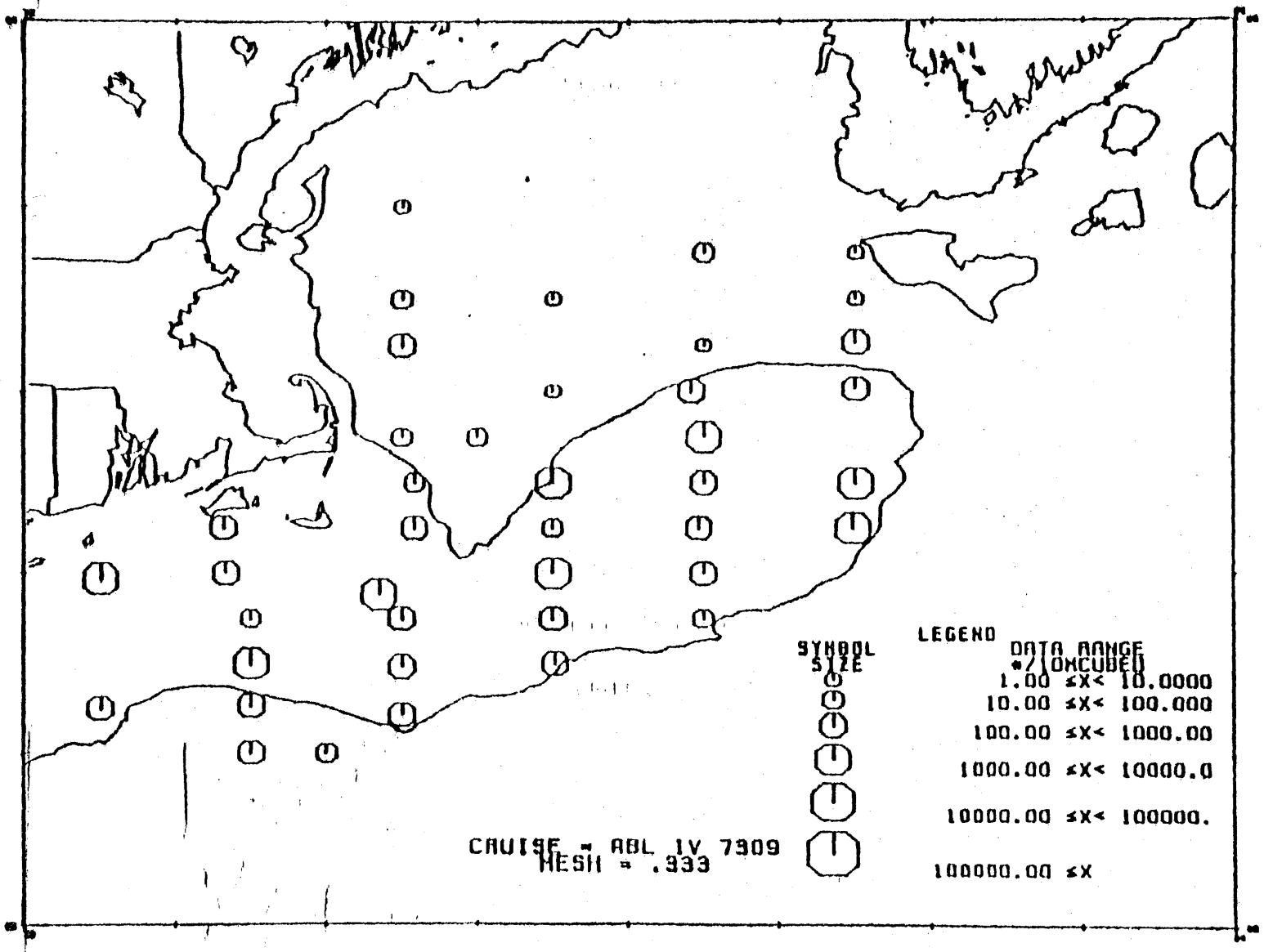

Figure 12

Centropages typicus

Copepodite Stage 5

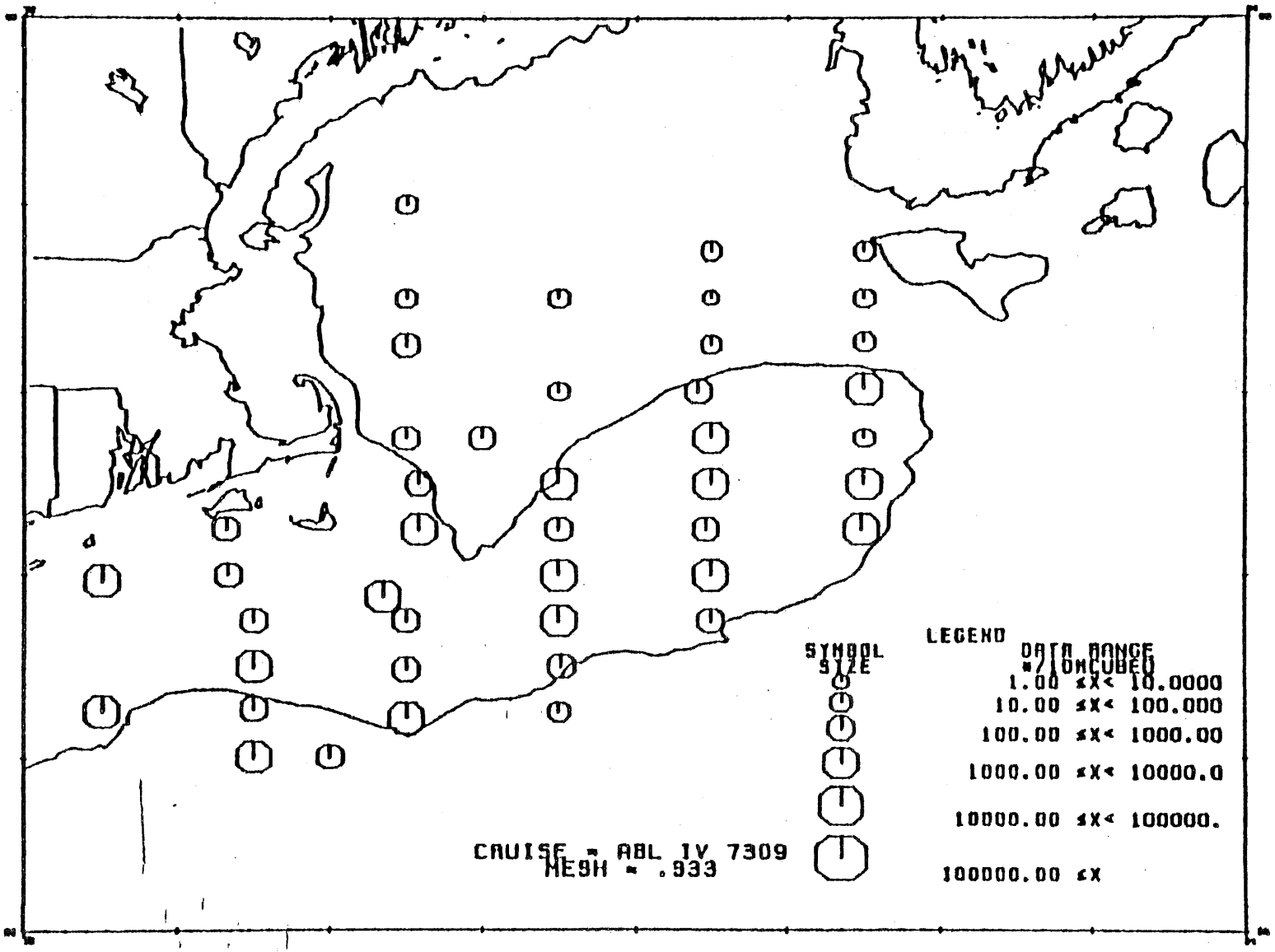

Figure 13

Centropages typicus

Adult

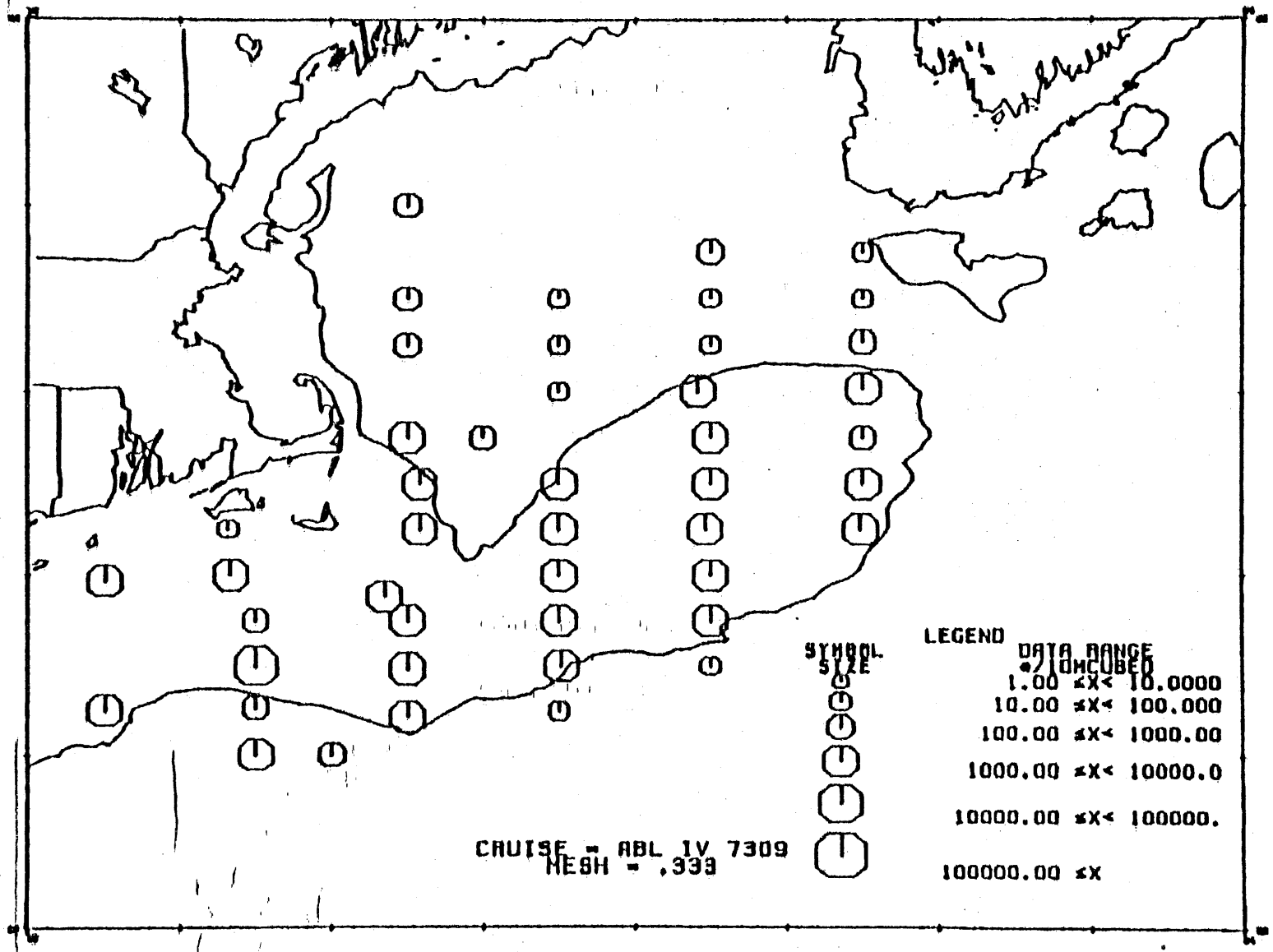

Figure 14

Centropages hamatus

Copepodite Stage 4

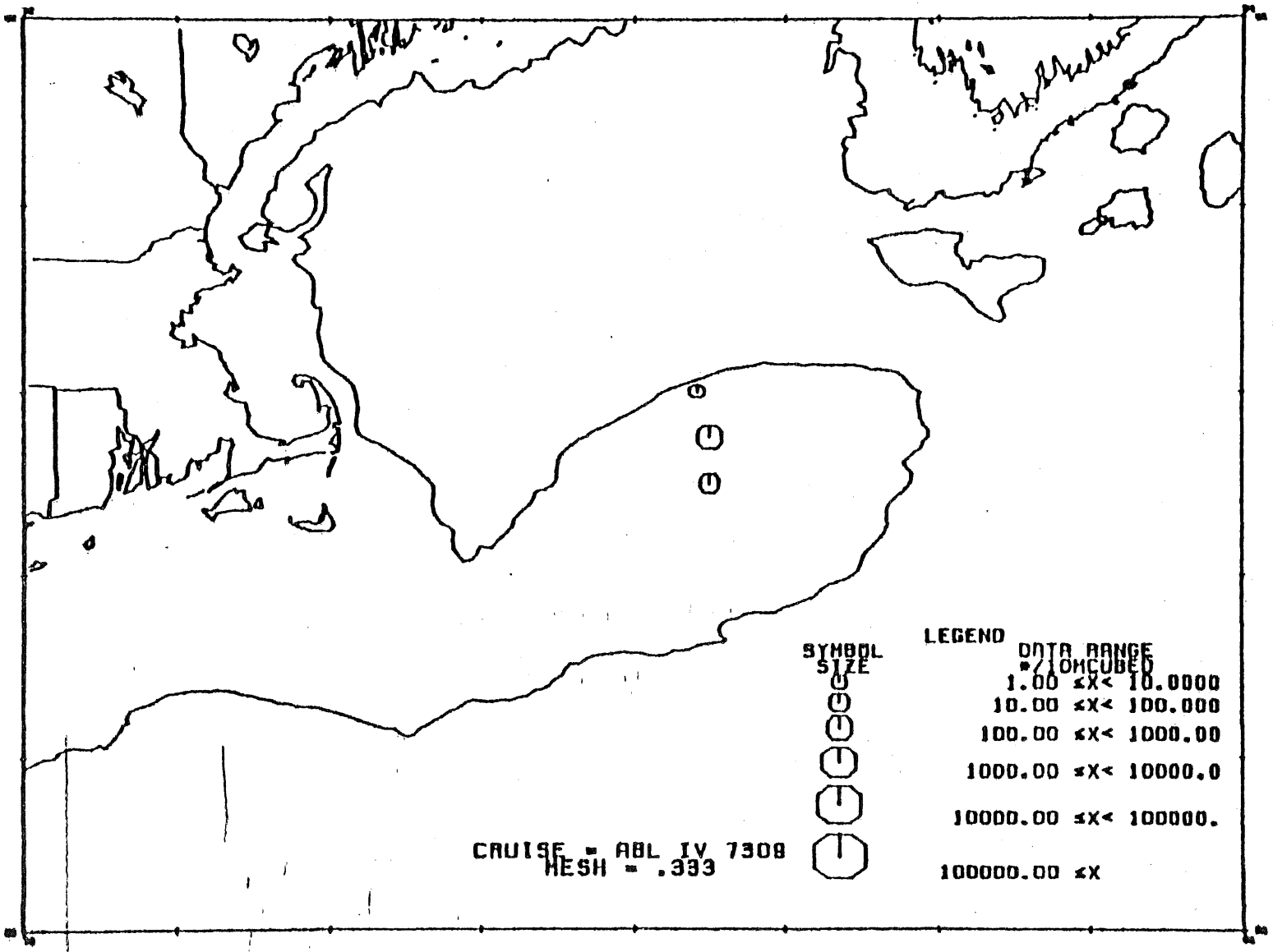

Figure 15

Centropages hamatus

Copepodite Stage 5

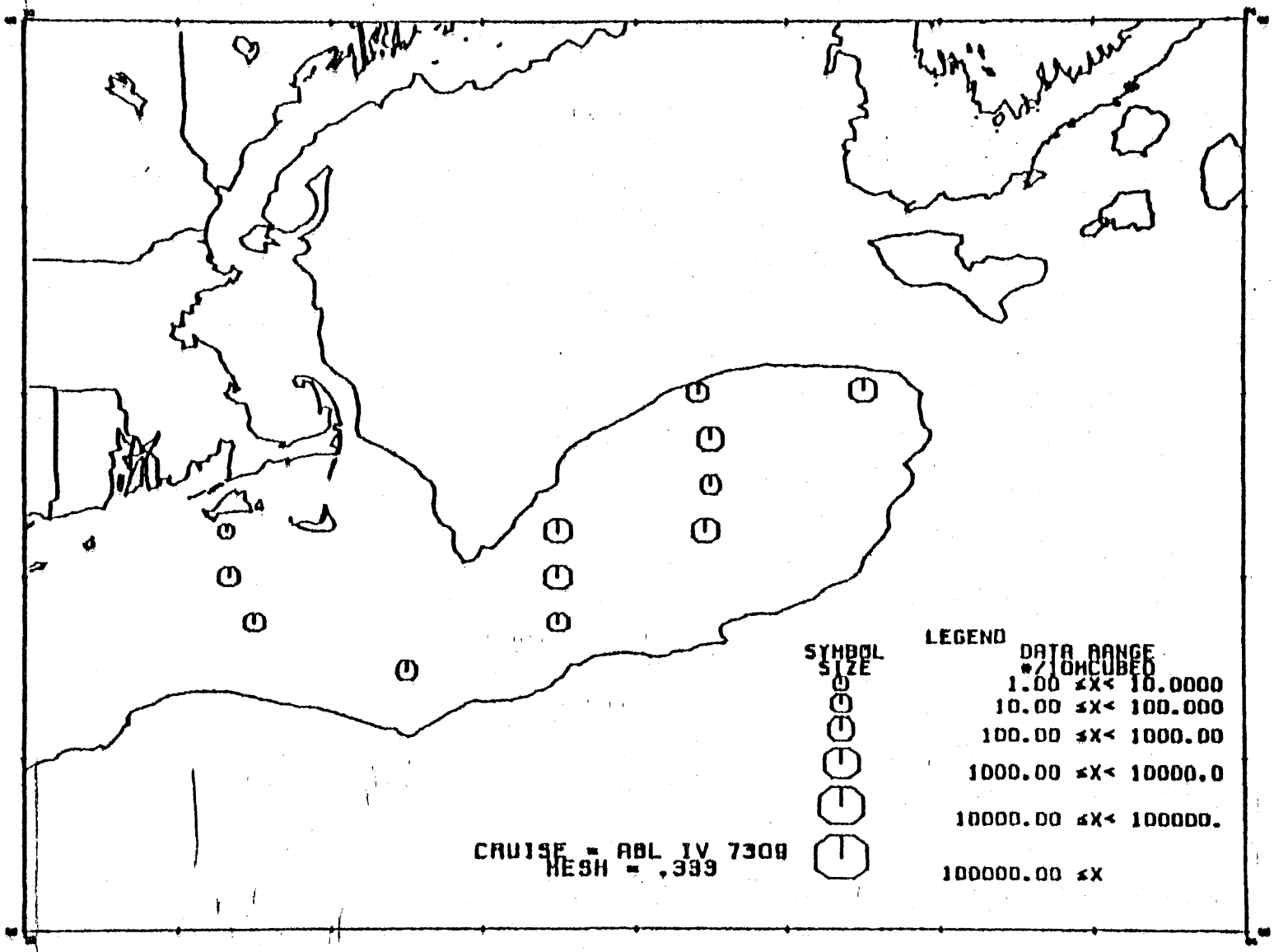

Figure 16

Centropages hamatus

Copepodite

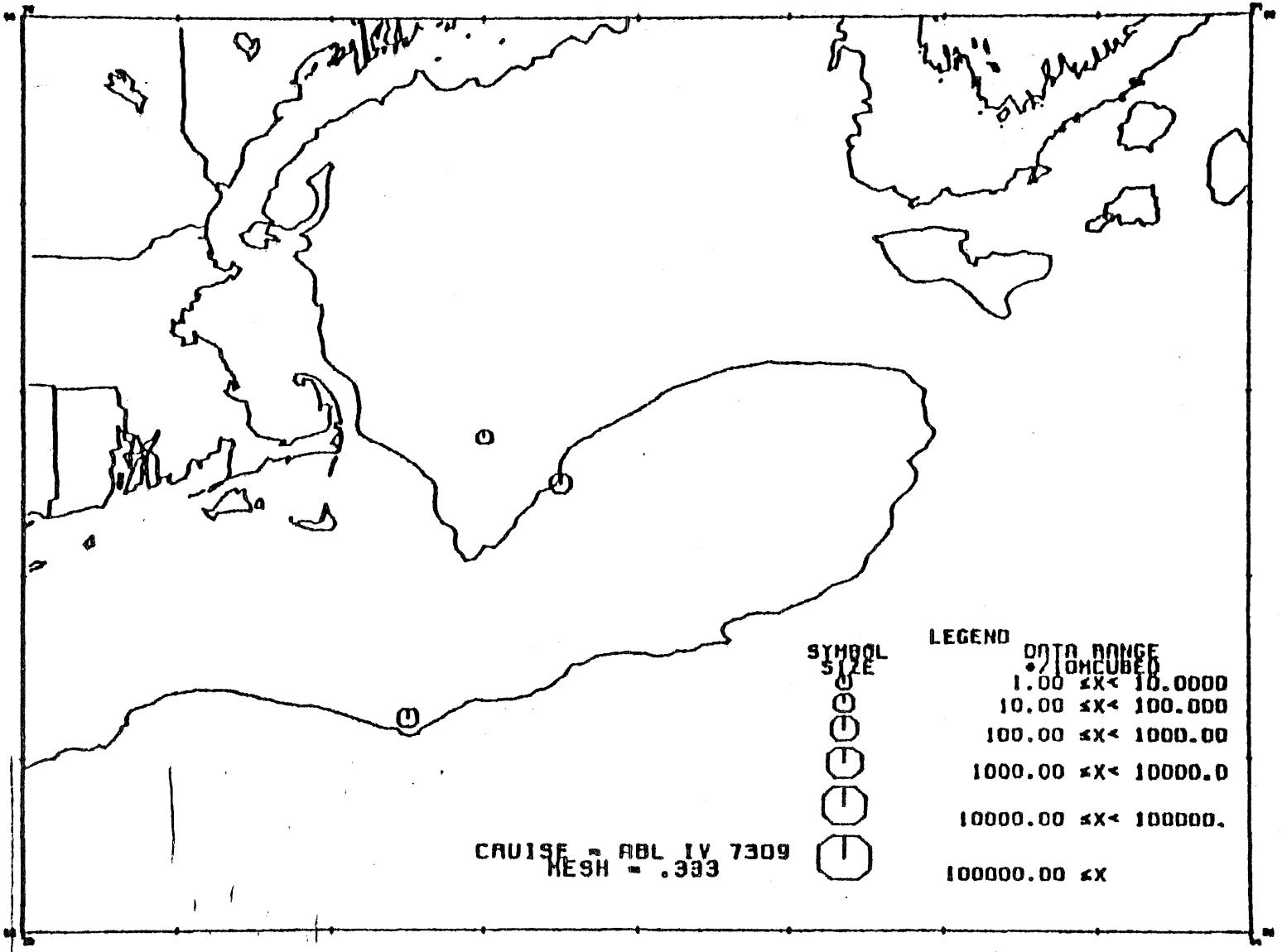

Figure 17

Centropages hamatus

Adult

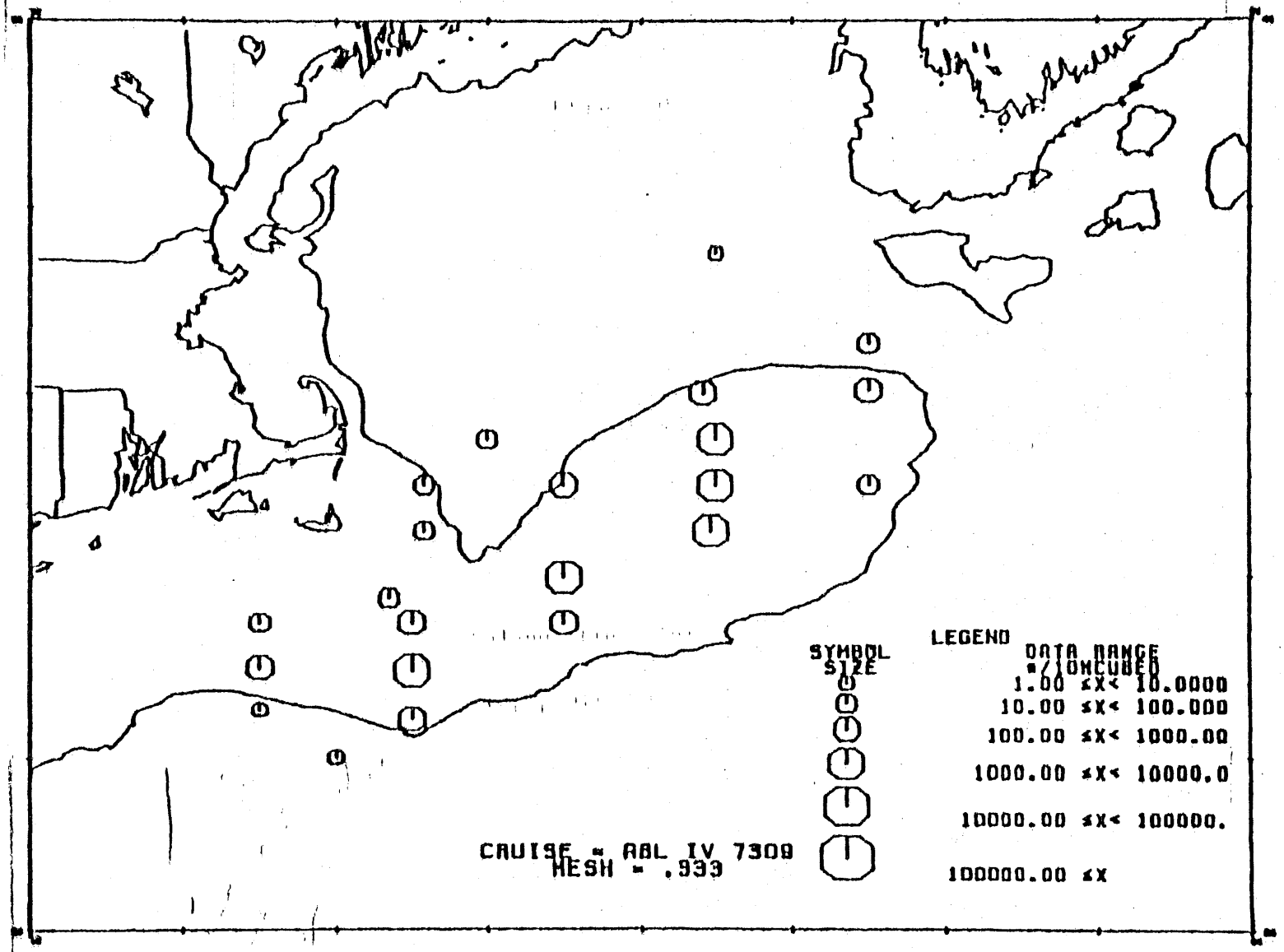

Figure 18

Oithona spp.

Adult

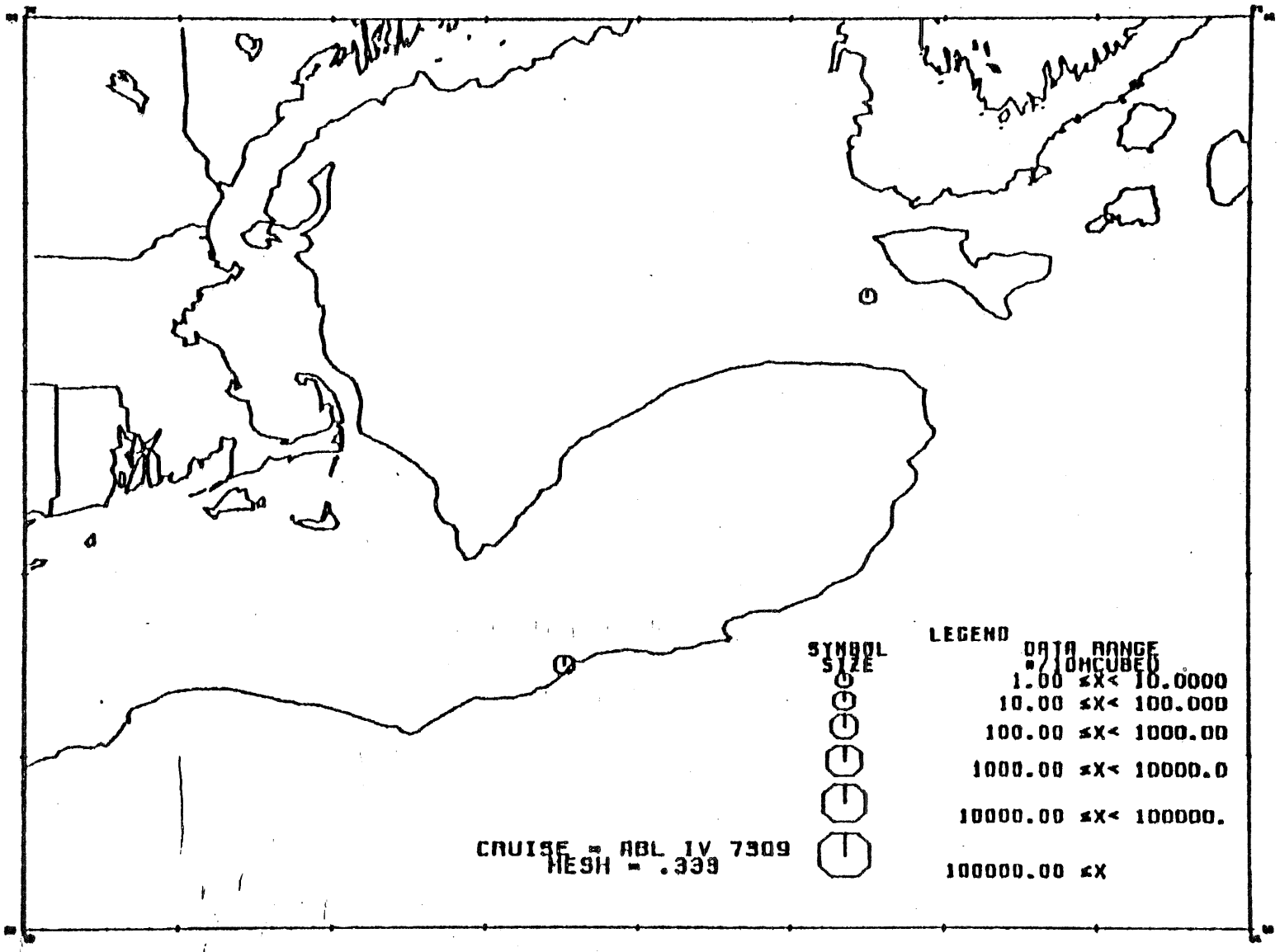

Figure 19

Calanus finmarchicus

Copepodite Stage 1

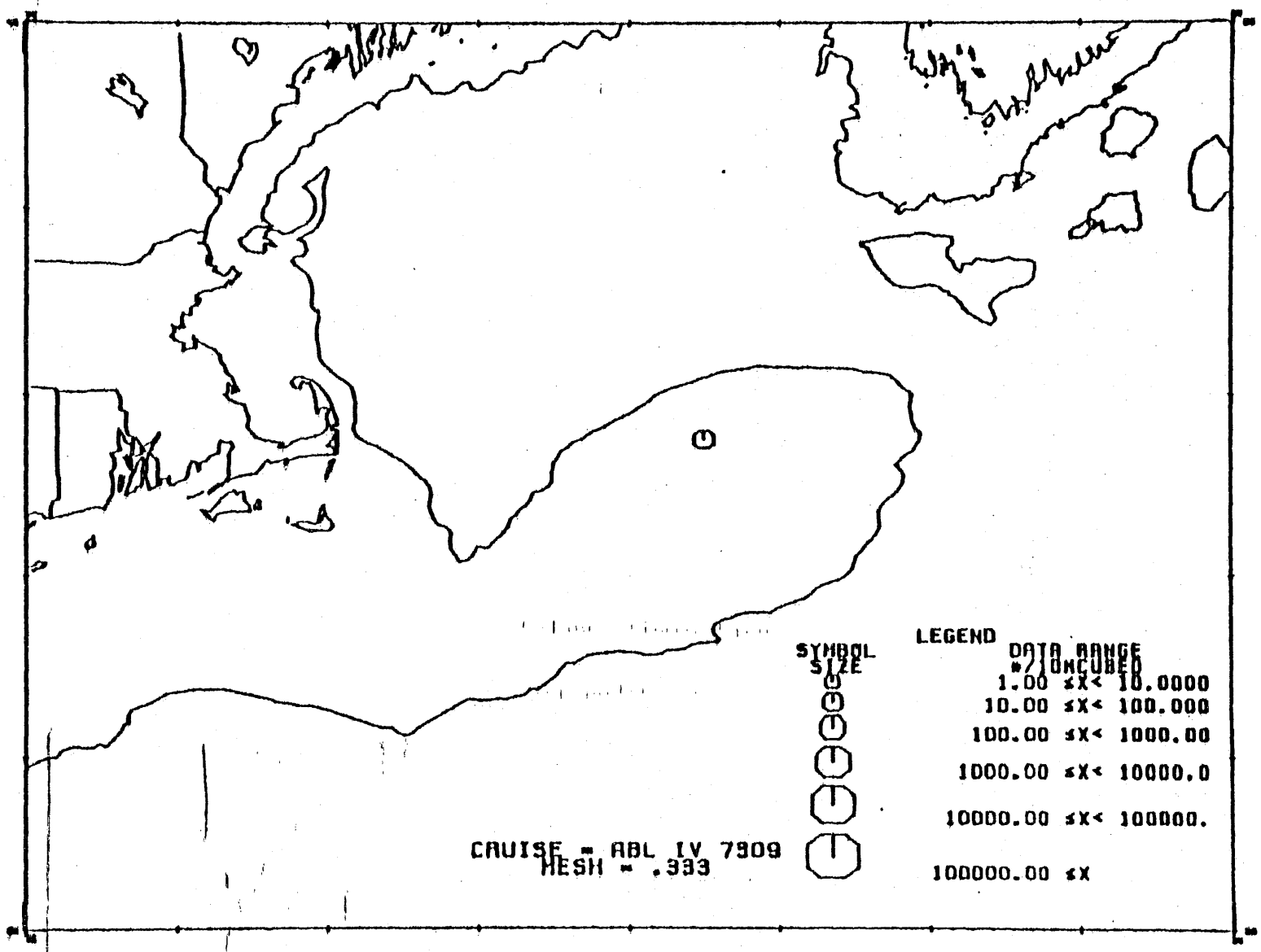

Figure 20

Calanus finmarchicus

Copepodite Stage 2

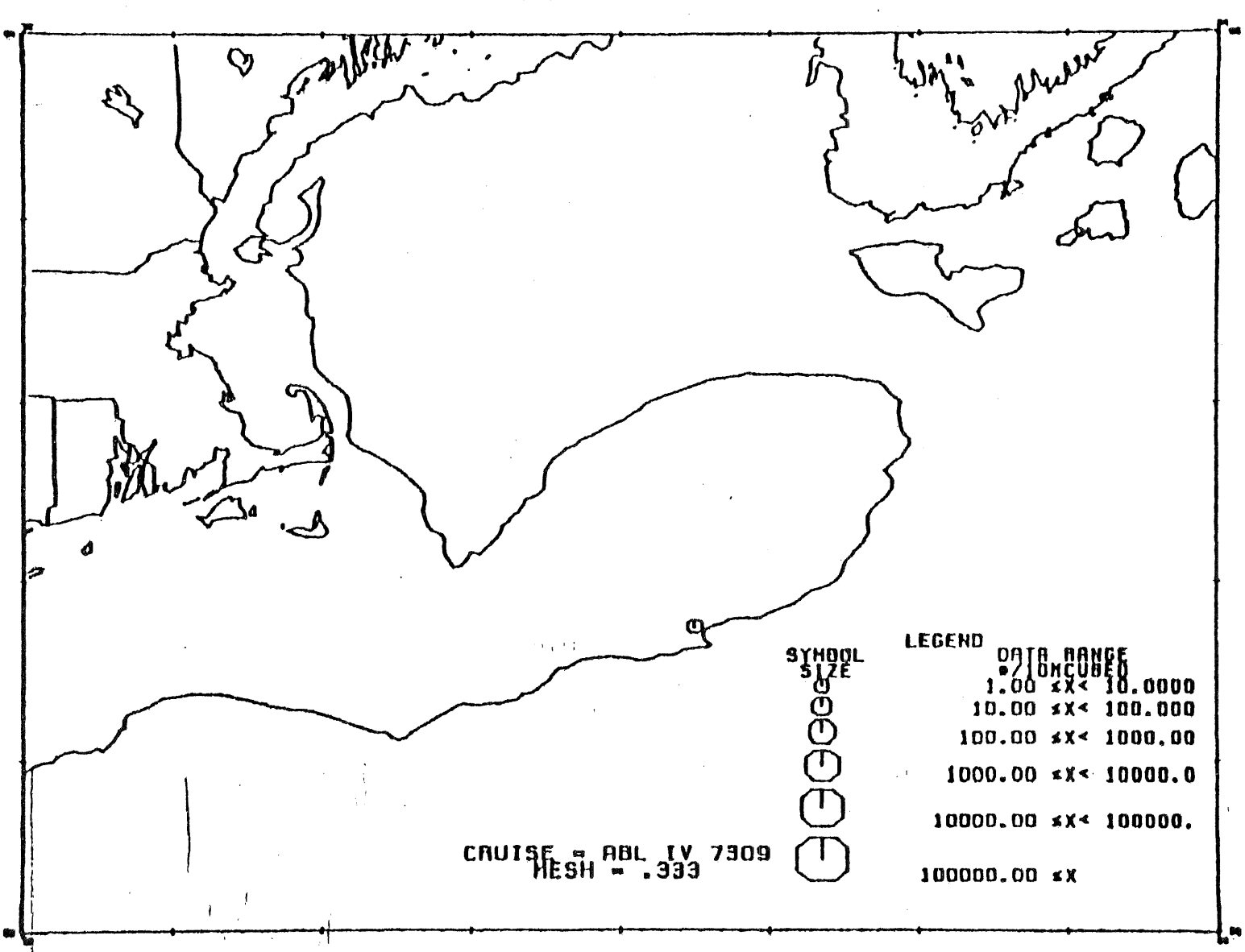

Figure 21

Calanus finmarchicus

Copepodite Stage 3

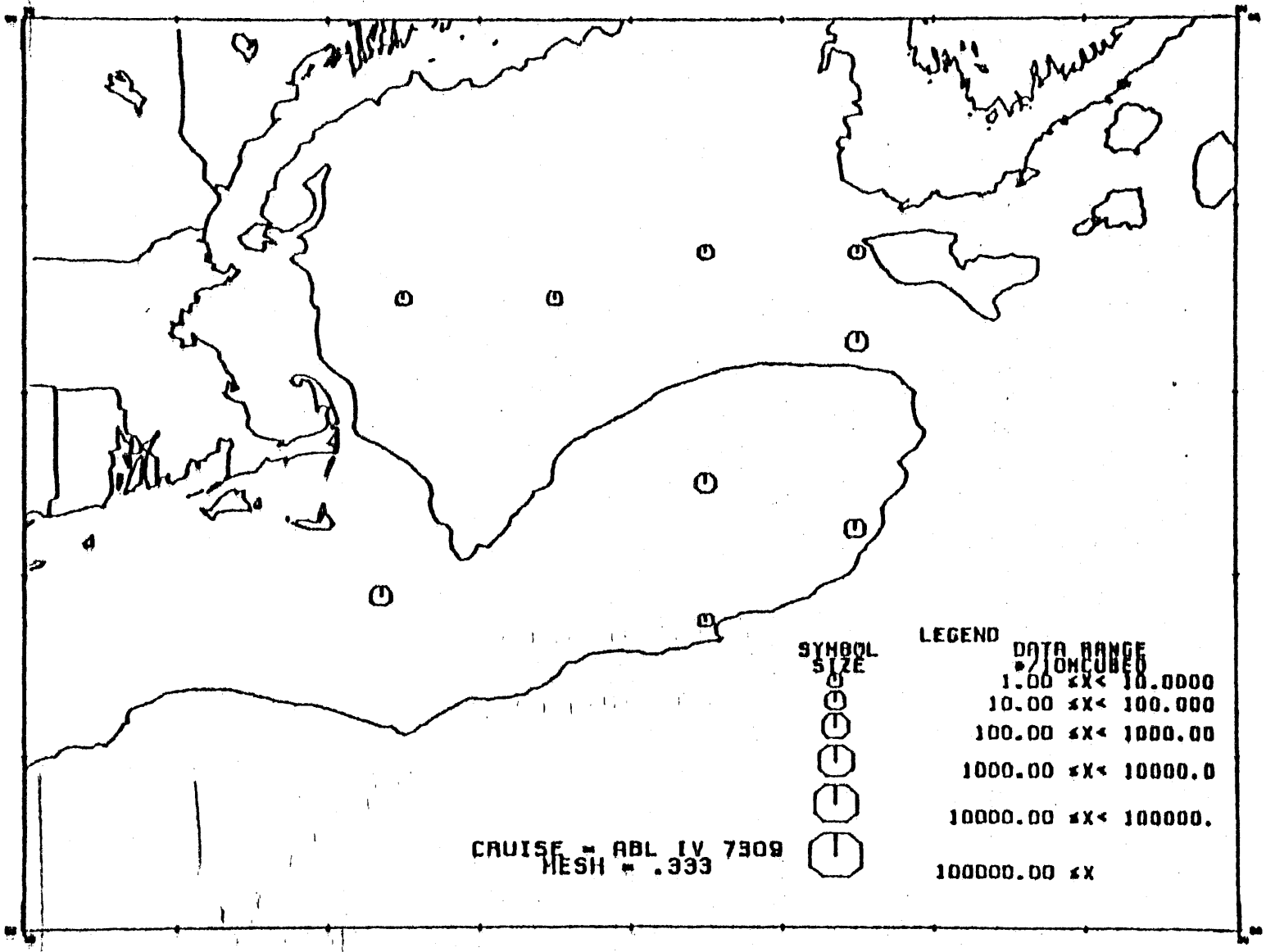

Figure 22

Calanus finmarchicus

Copepodite Stage 4

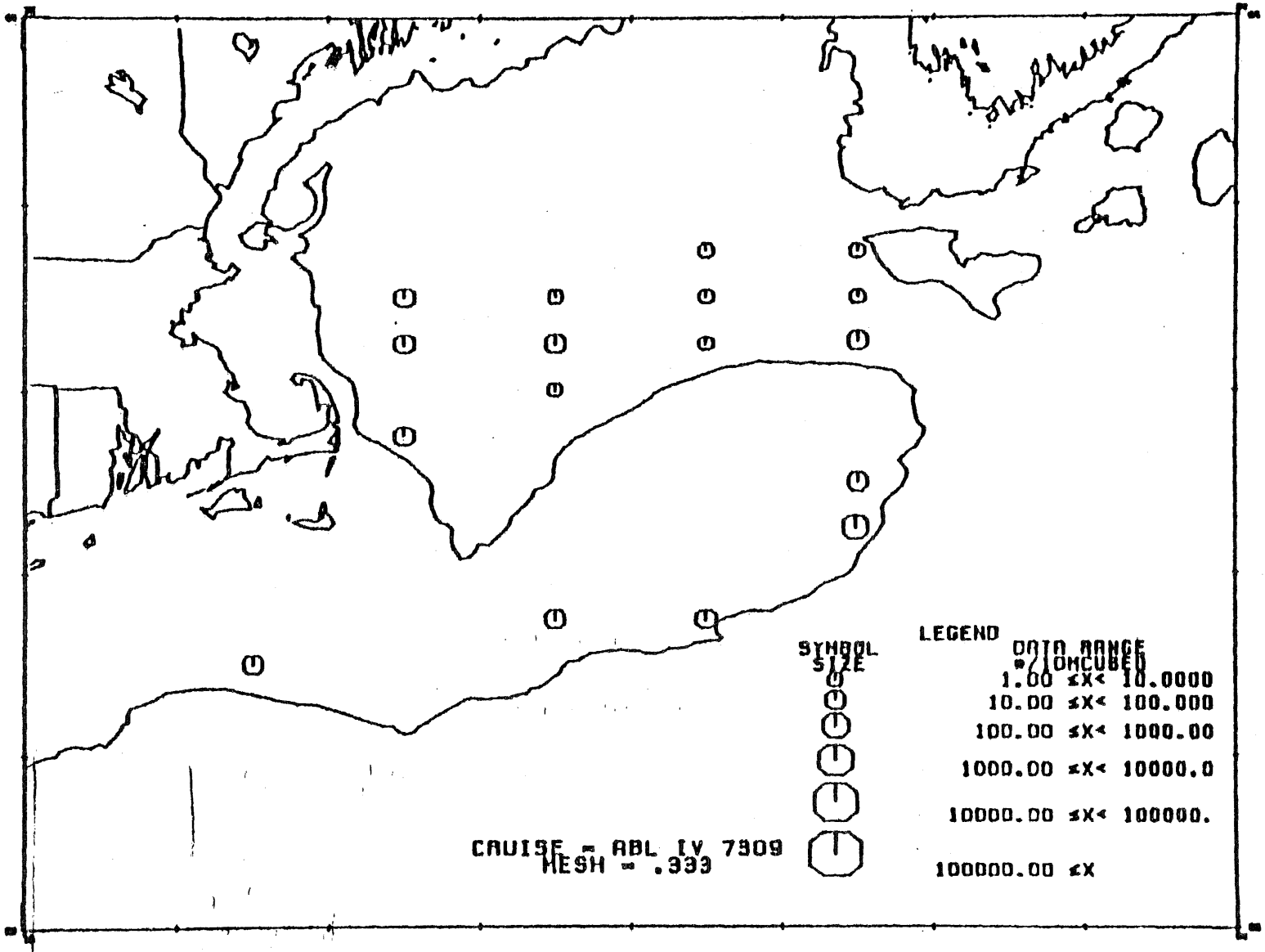

Figure 23

Calanus finmarchicus

Copepodite Stage 5

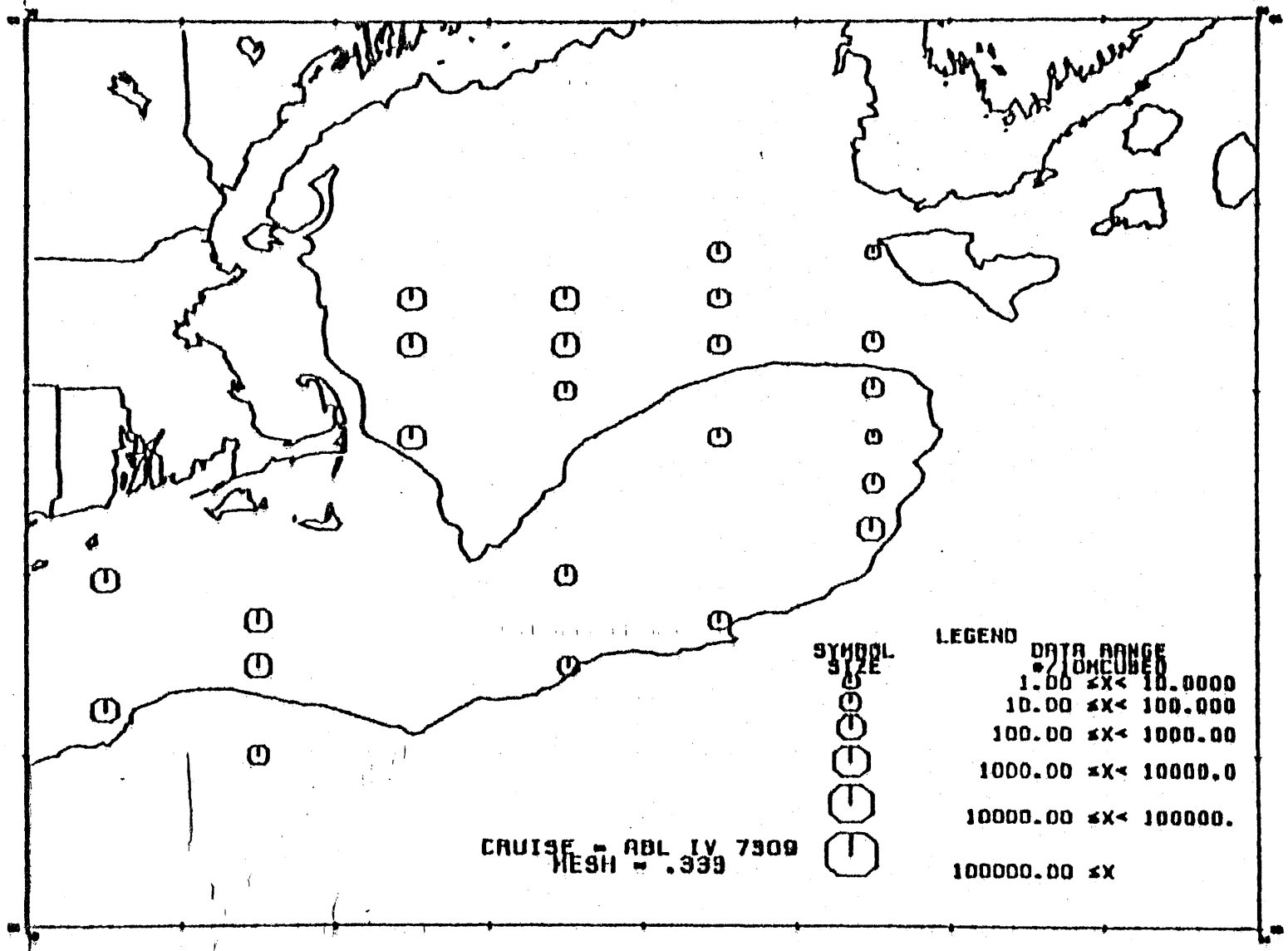

Figure 24

Calanus finmarchicus

Copepodite

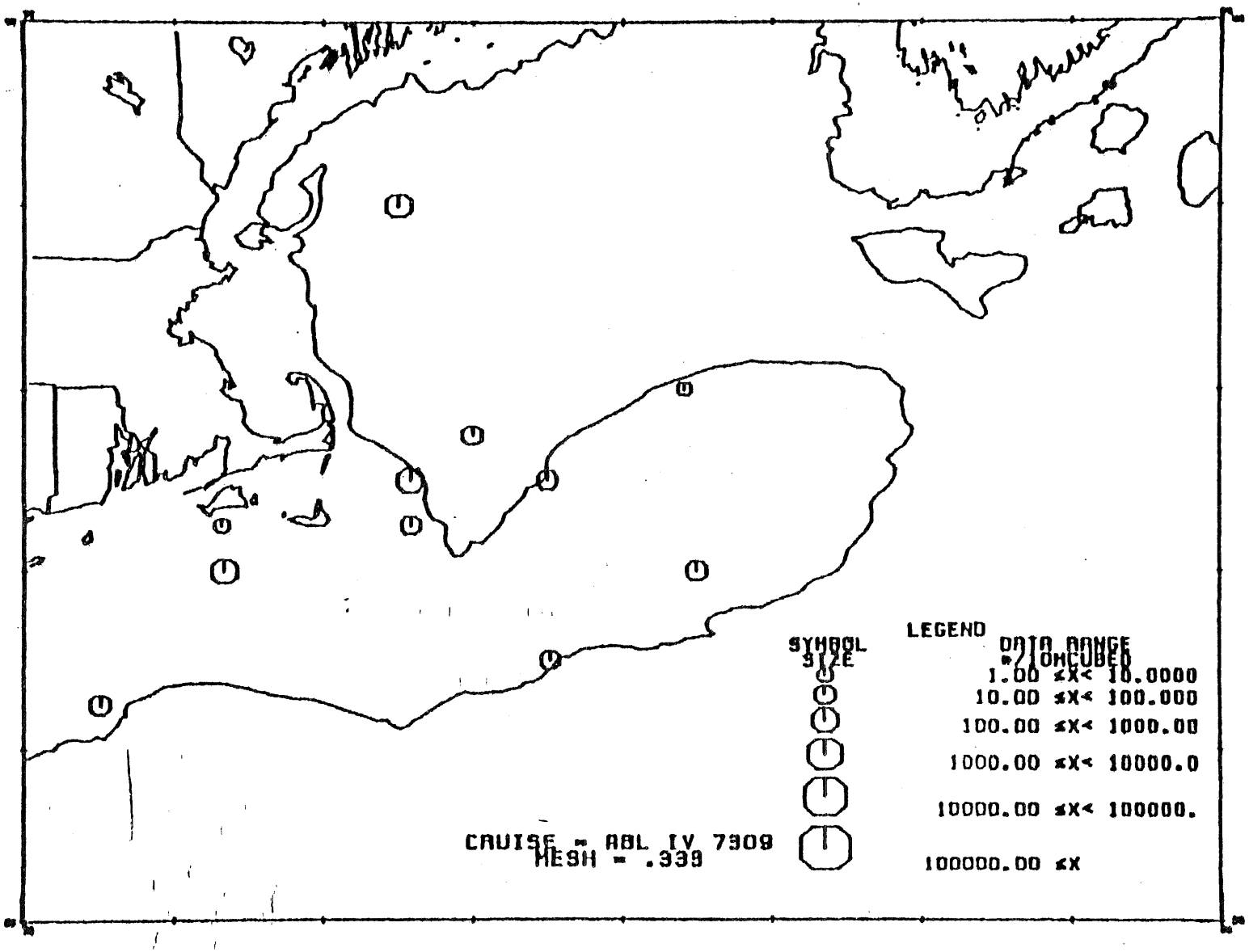

Figure 25

Calanus finmarchicus

Adult

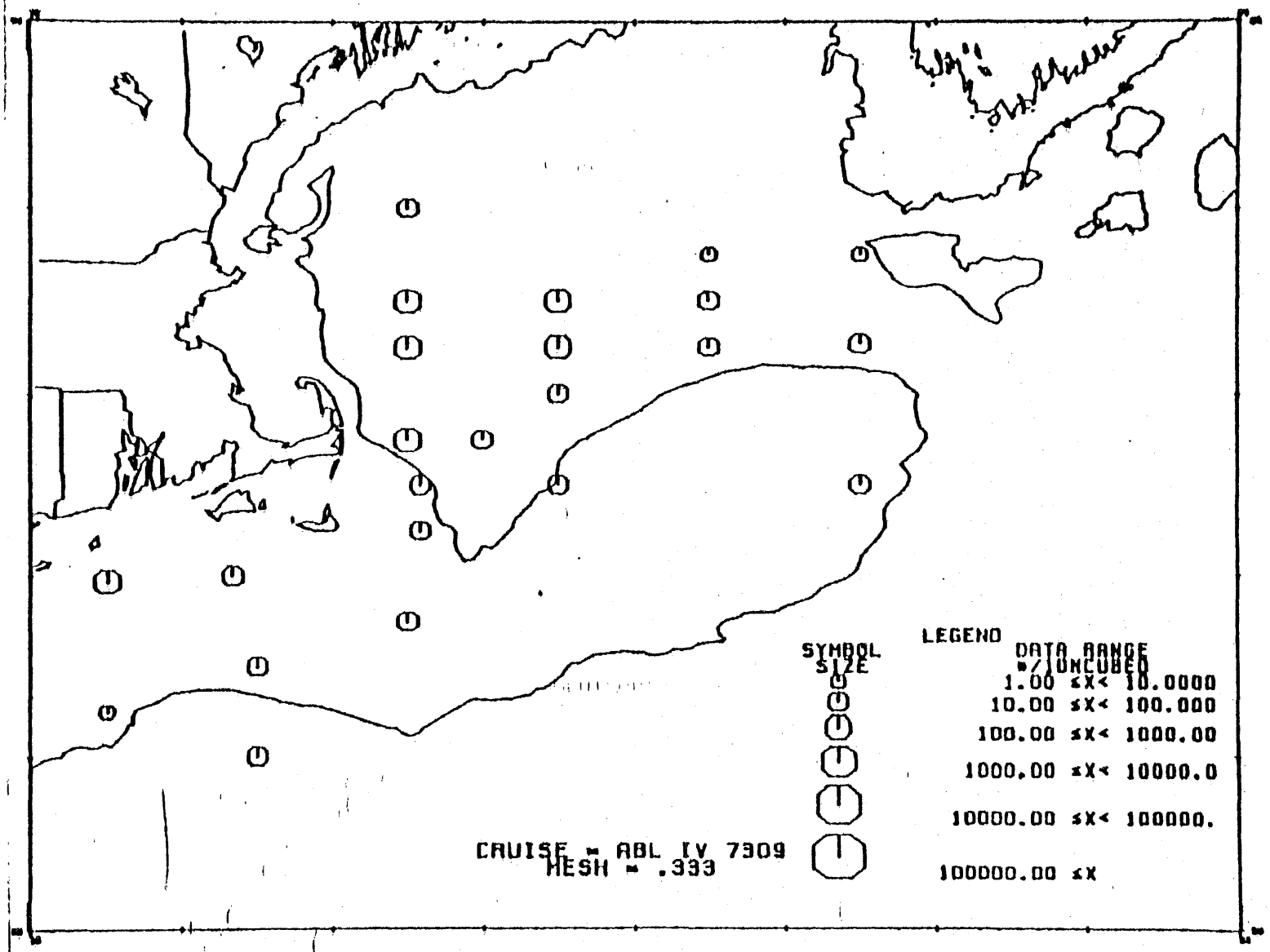

Figure 26

CHAETOGNATHA

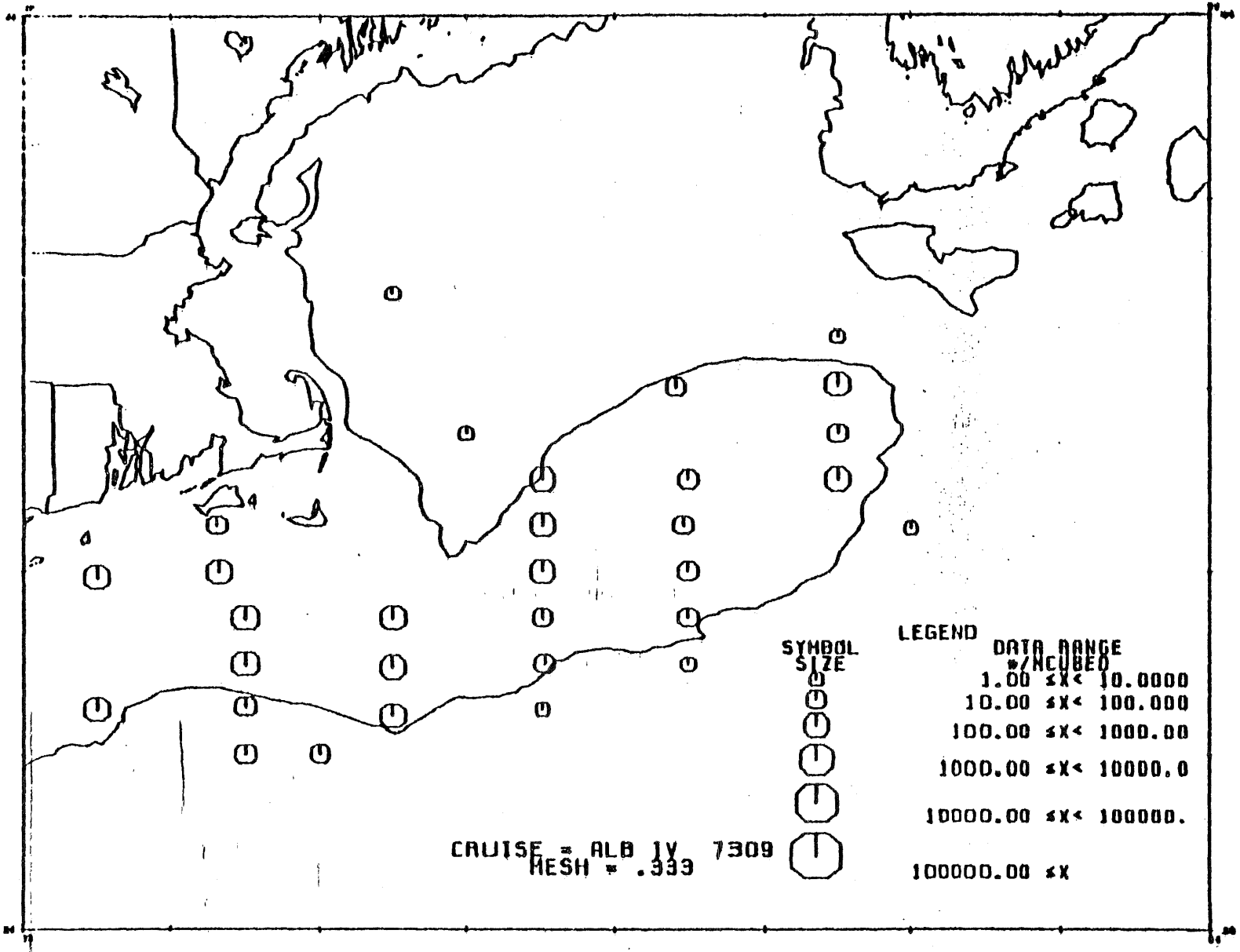

Figure 27

AMPHIPODA

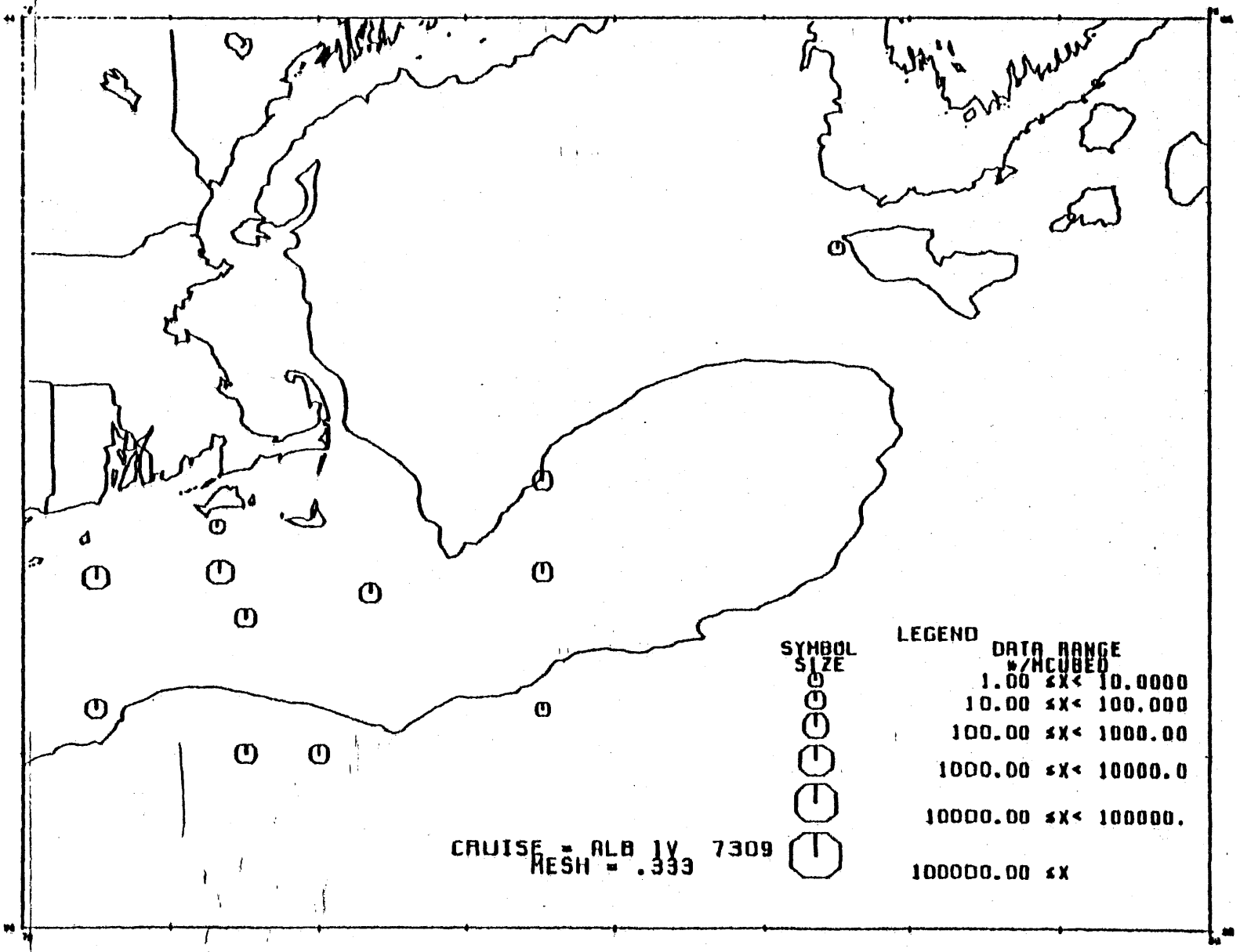

Figure 28

EUPHAUSIACEA

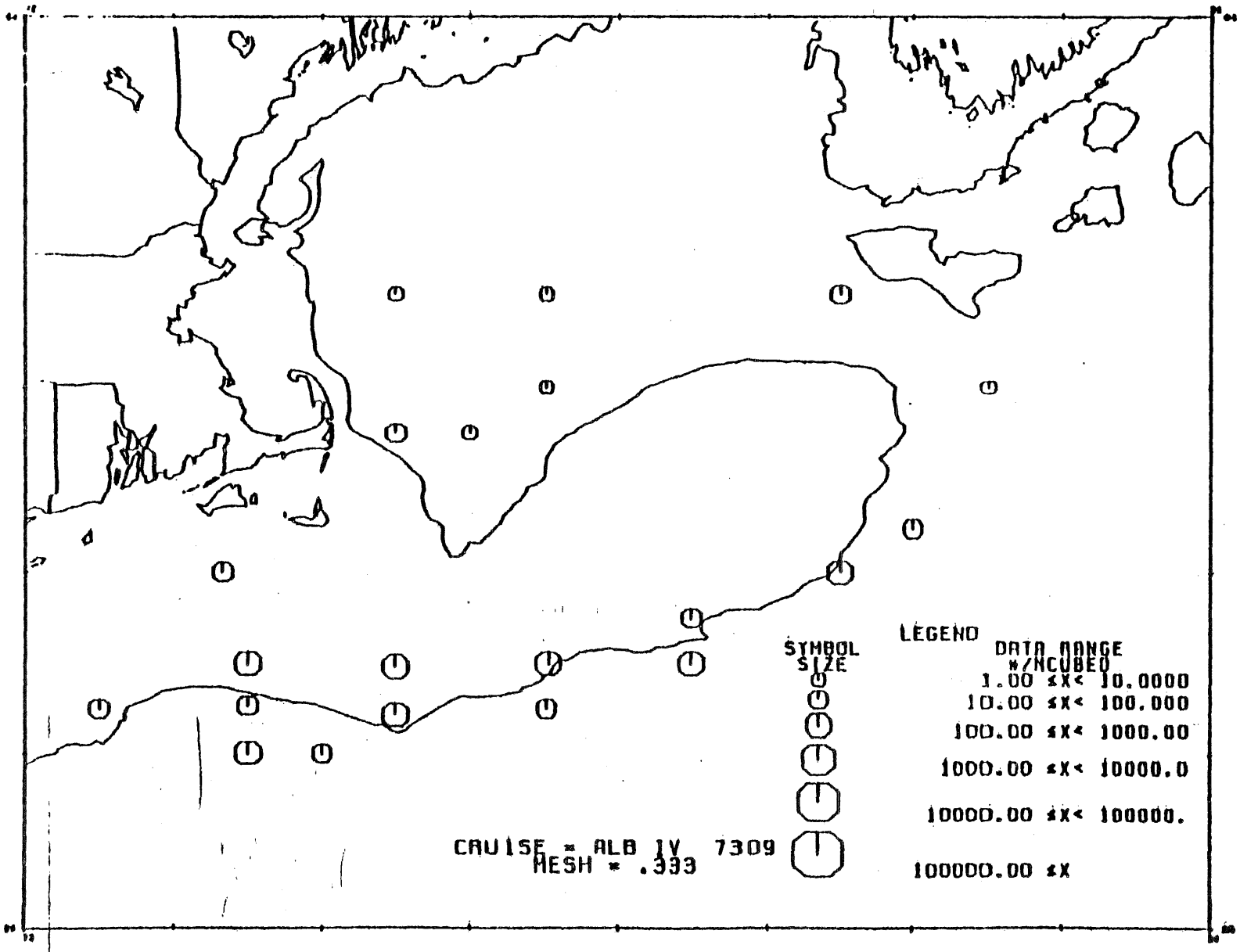

Figure 29

MYSIDACEA

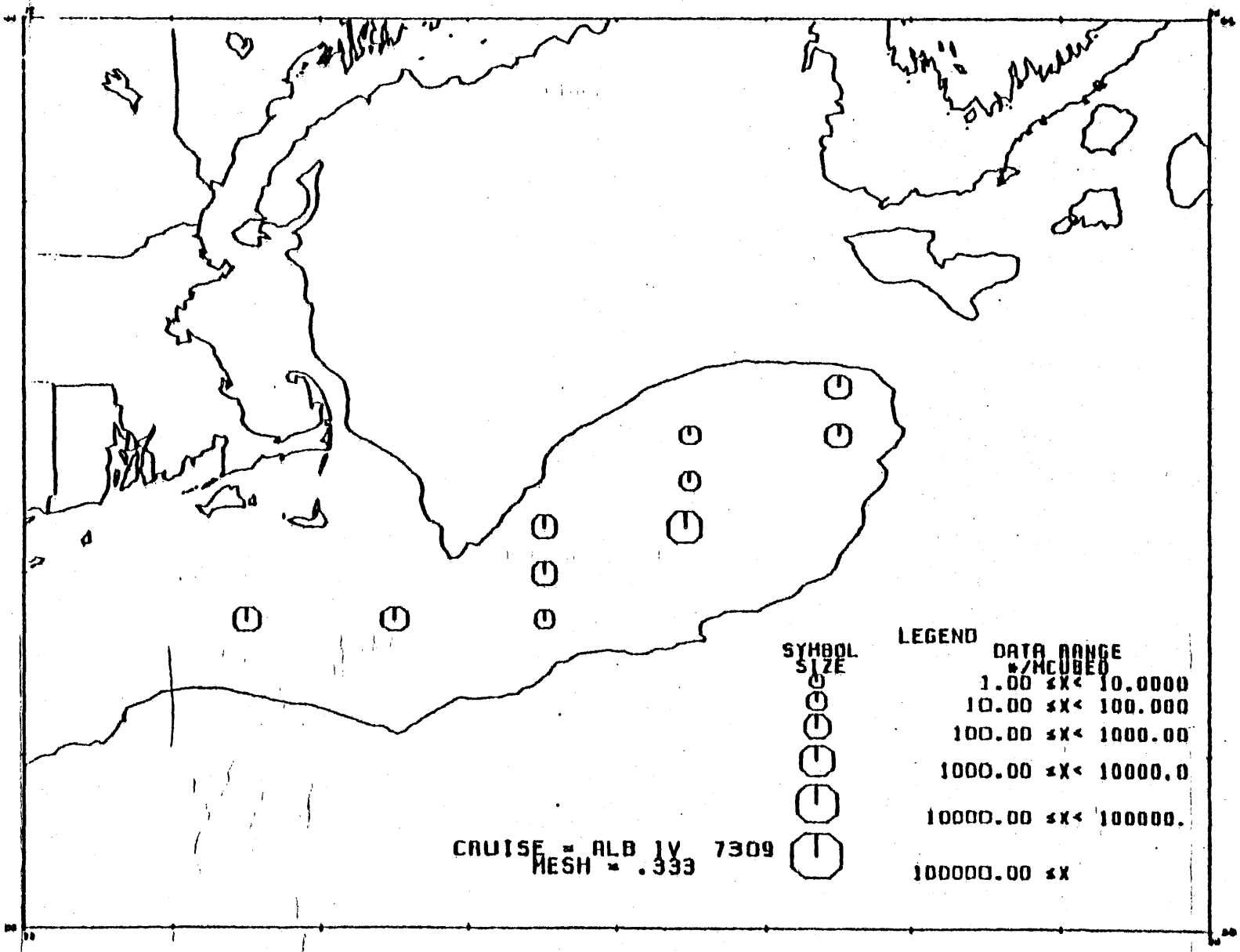

Figure 30

SALPA

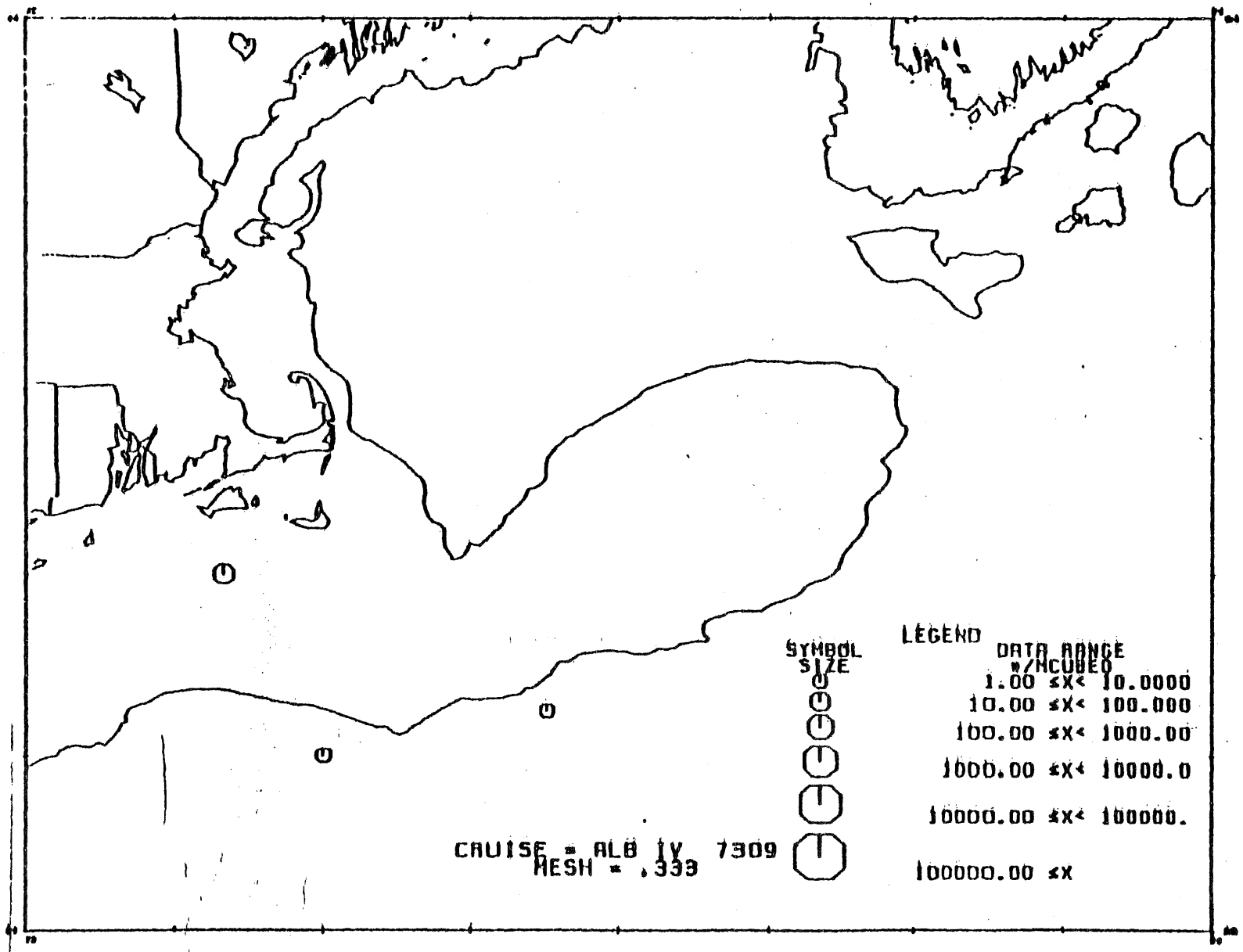

Figure 31

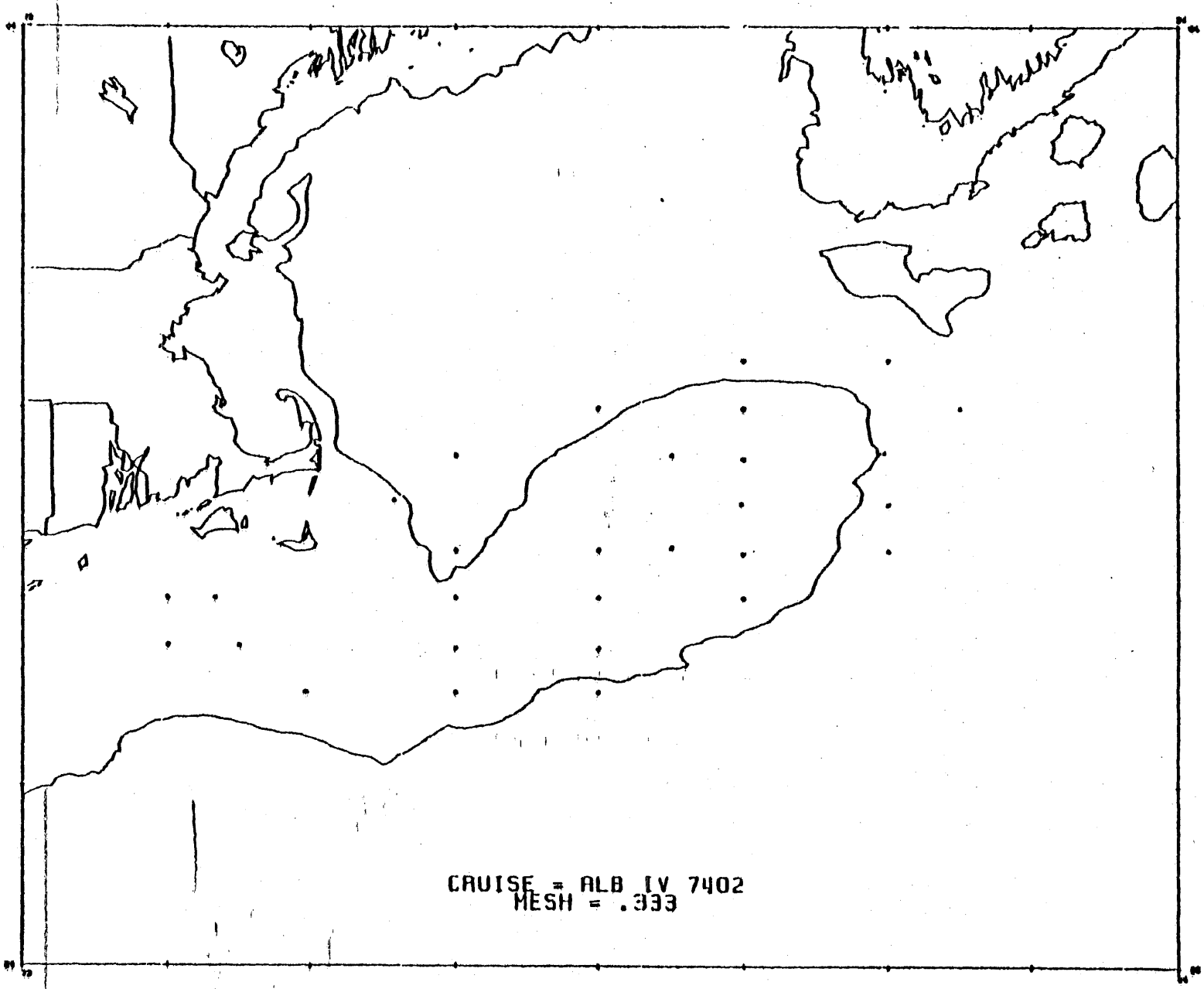

Figure 32

DISPLACEMENT VOLUME

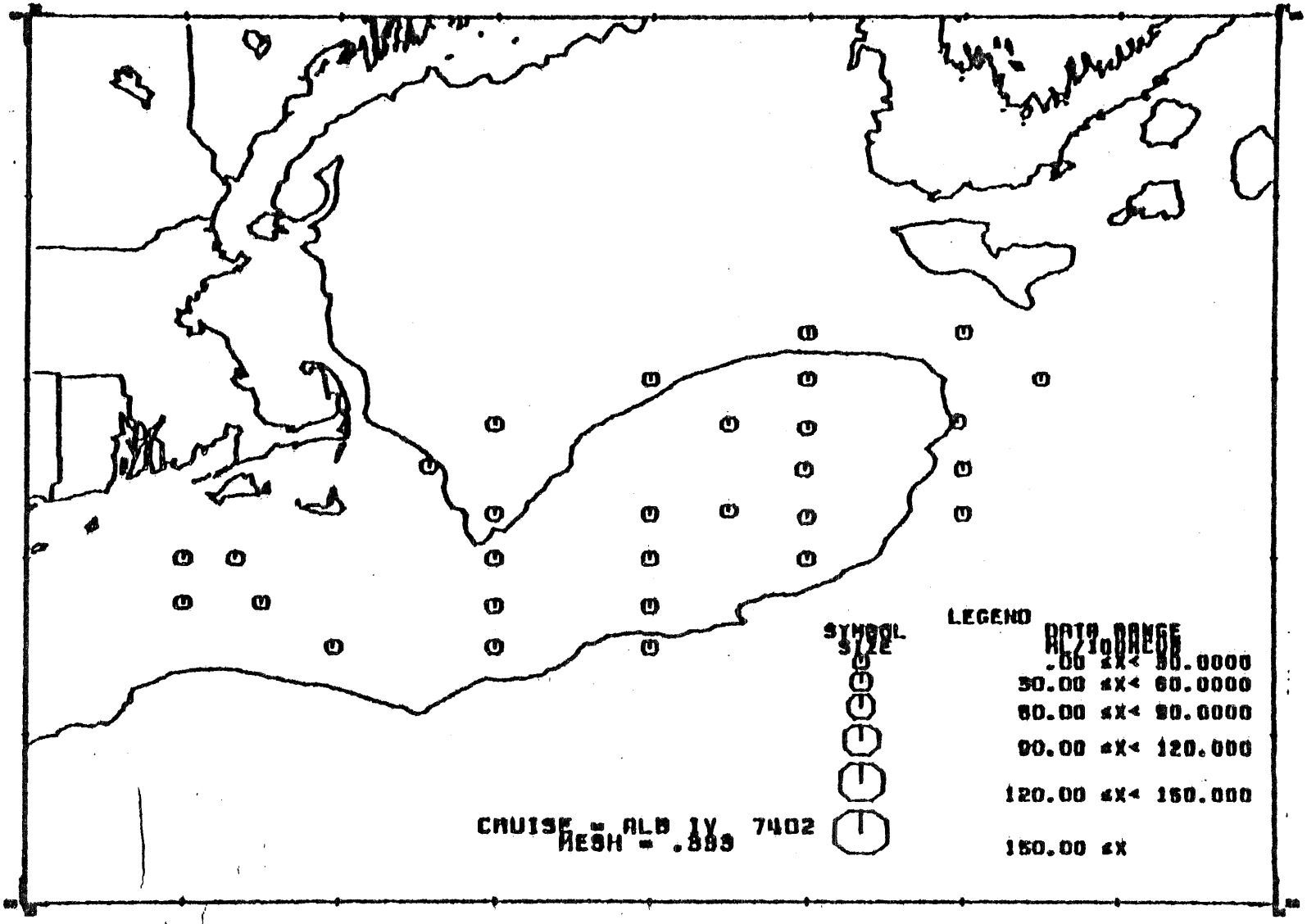

Figure 33

Pseudocalanus sp.

Copepodite Stage 2

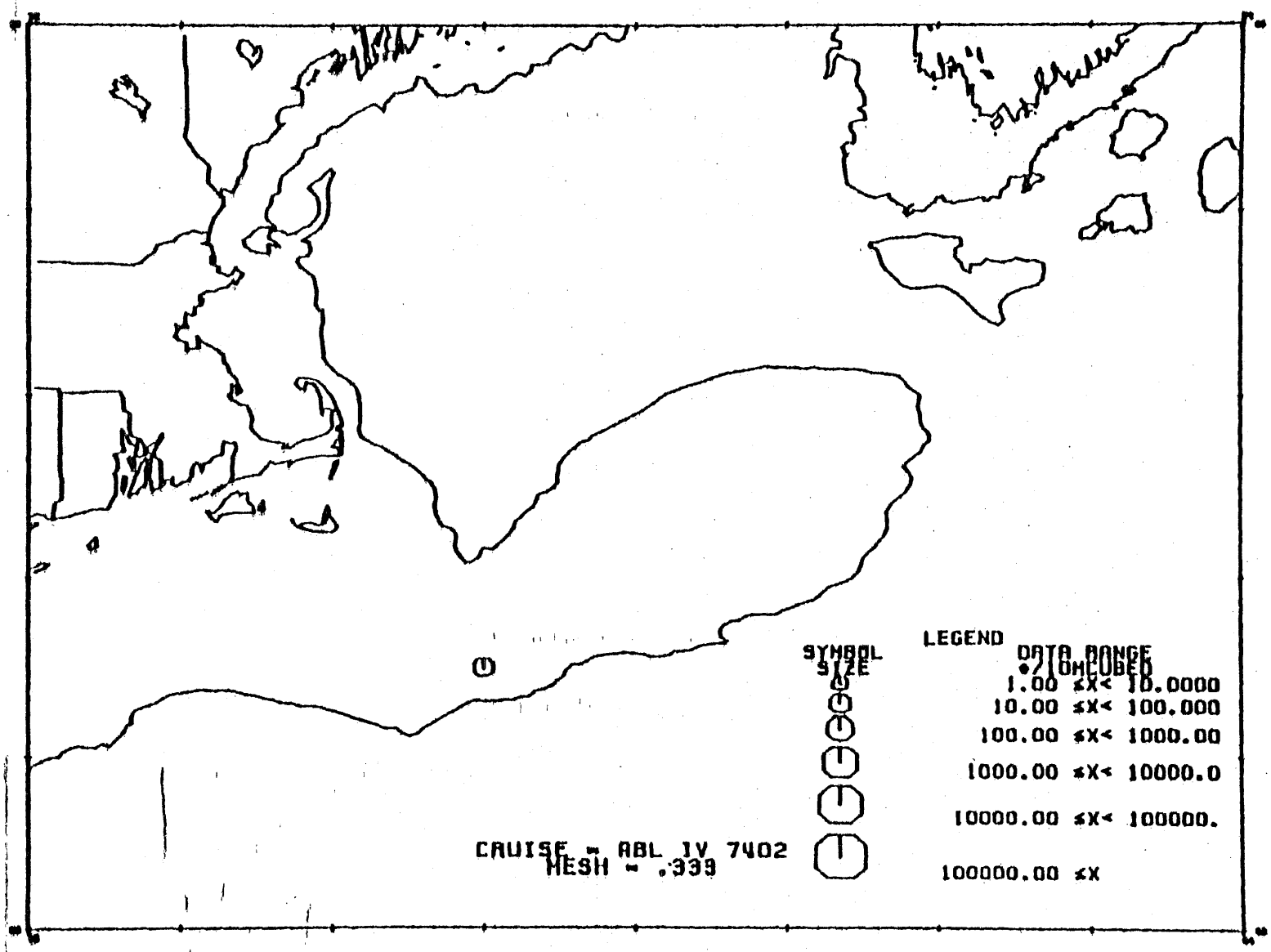

Figure 34

Pseudocalanus sp.

Copepodite Stage 3

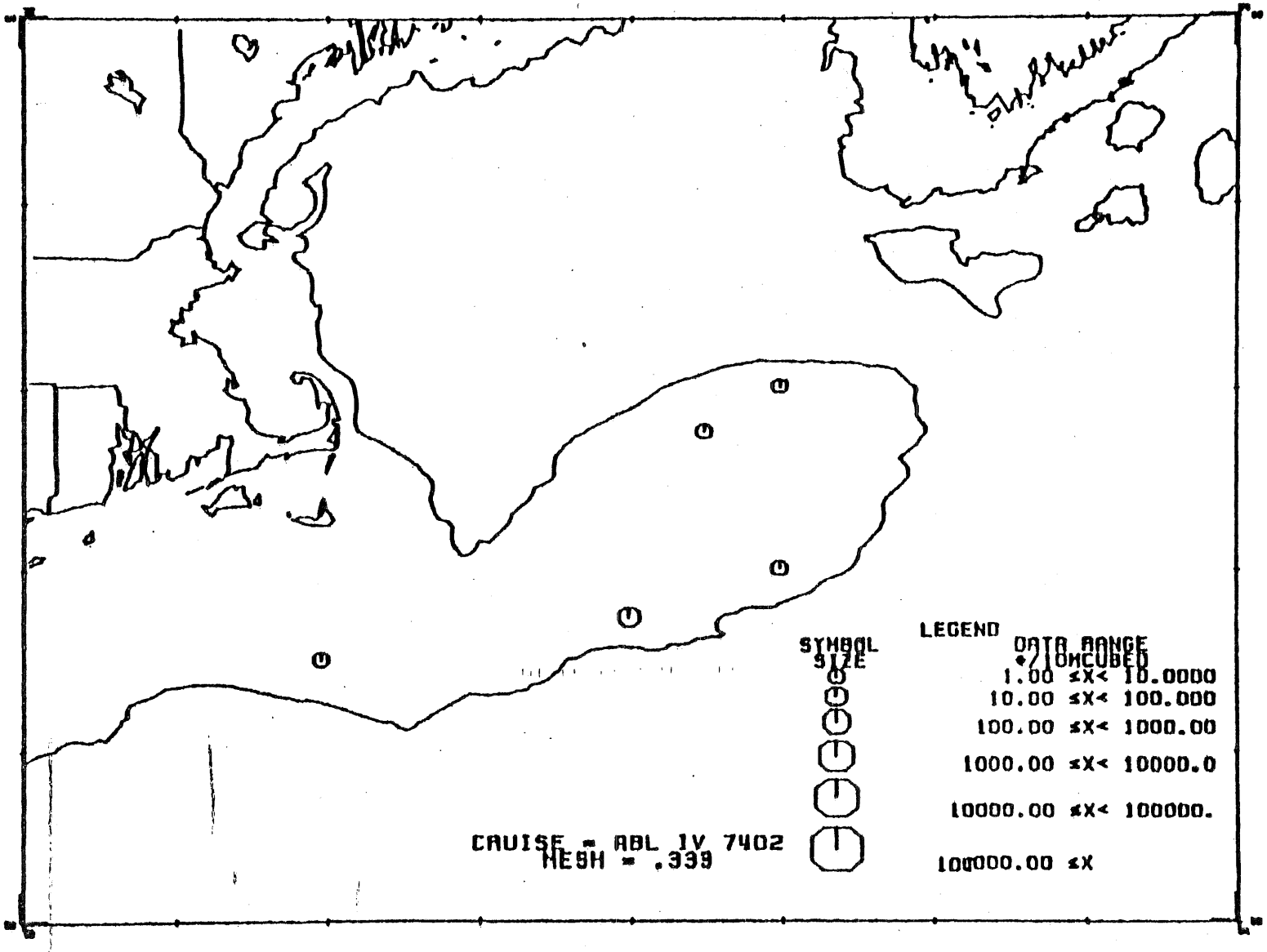

Figure 35

Pseudocalanus sp.

Copepodite Stage 4

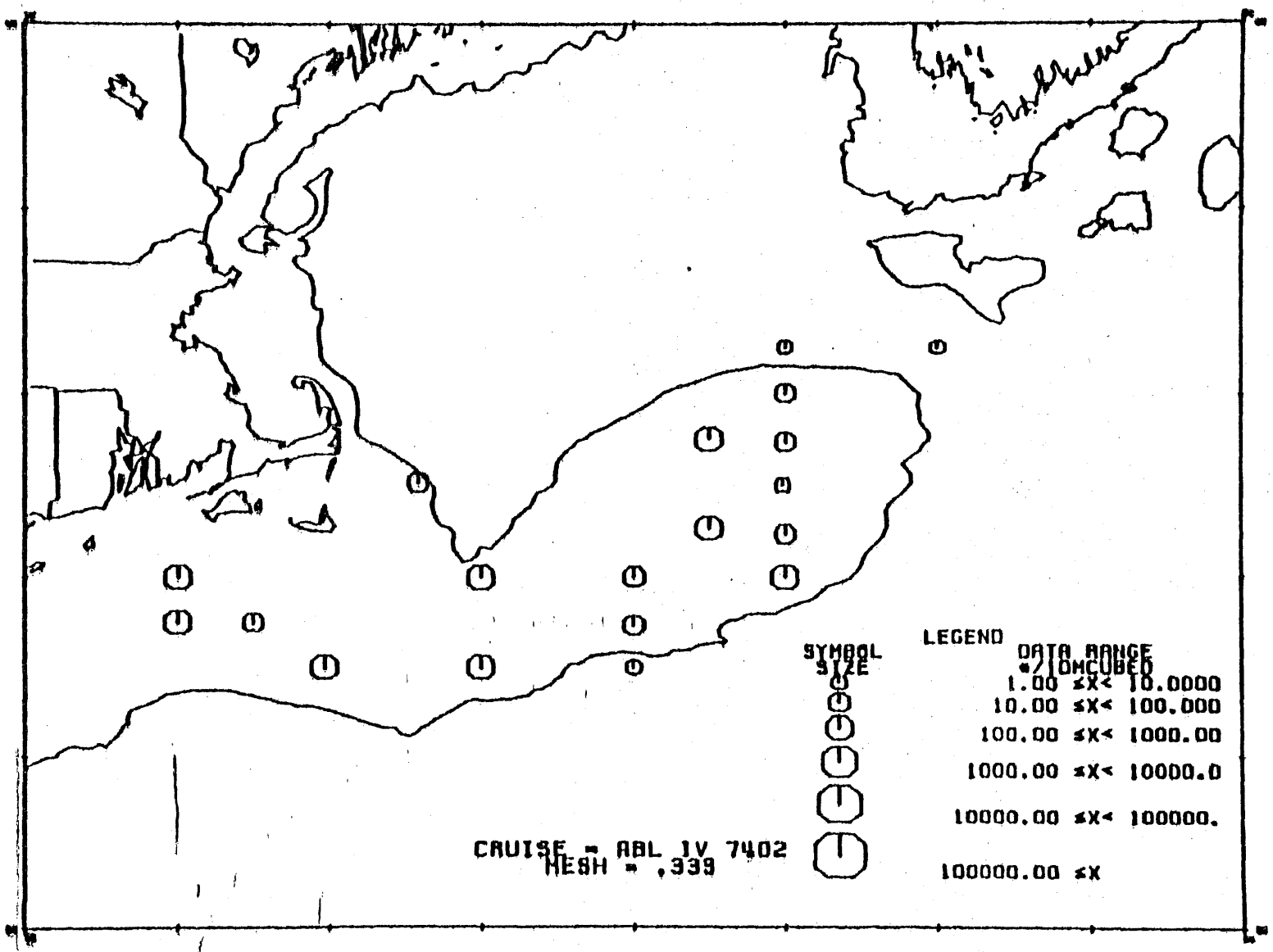

Figure 36

Pseudocalanus sp.

Copepodite Stage 5

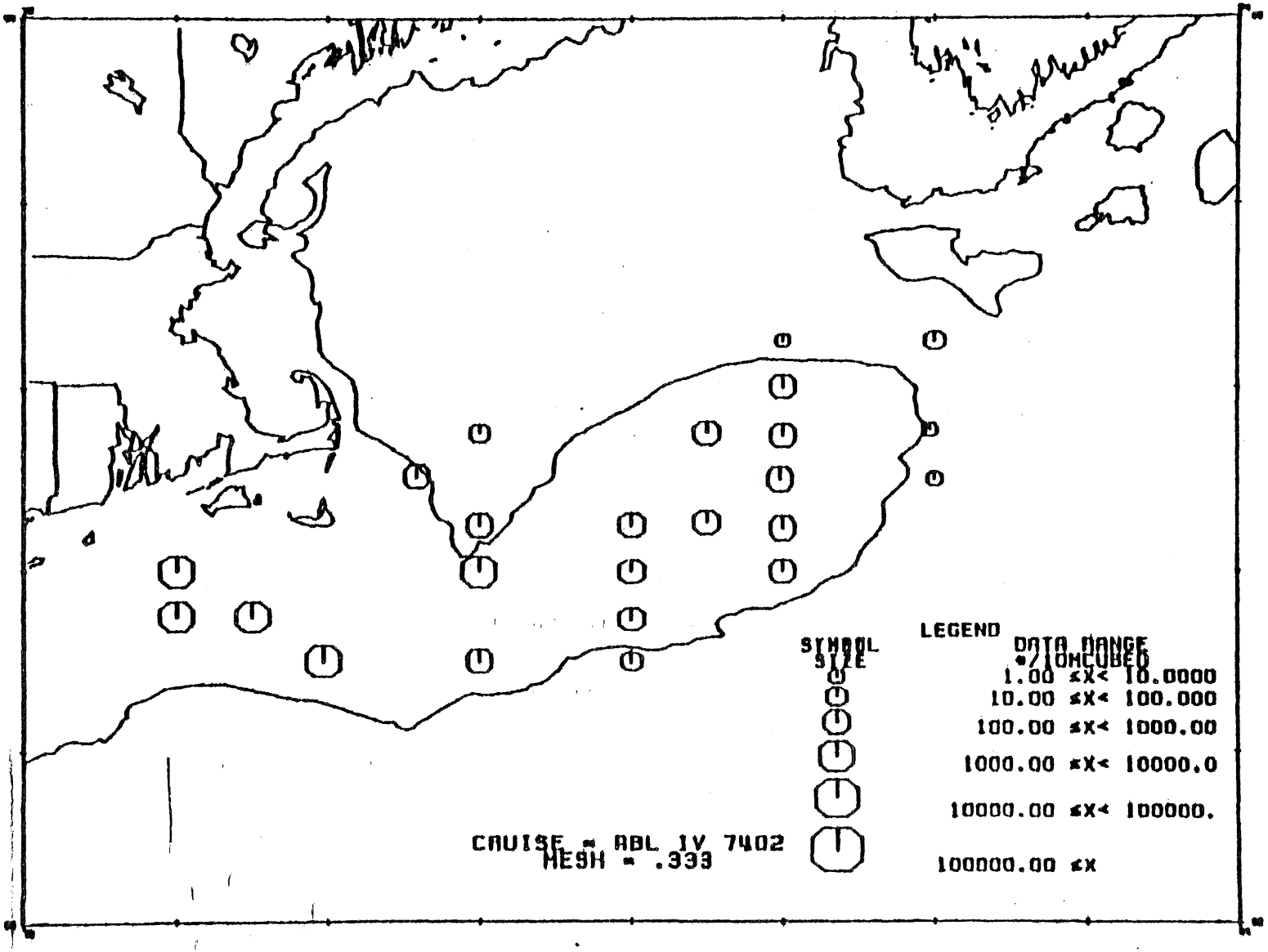

Figure 37

Pseudocalanus sp.

Copepodite

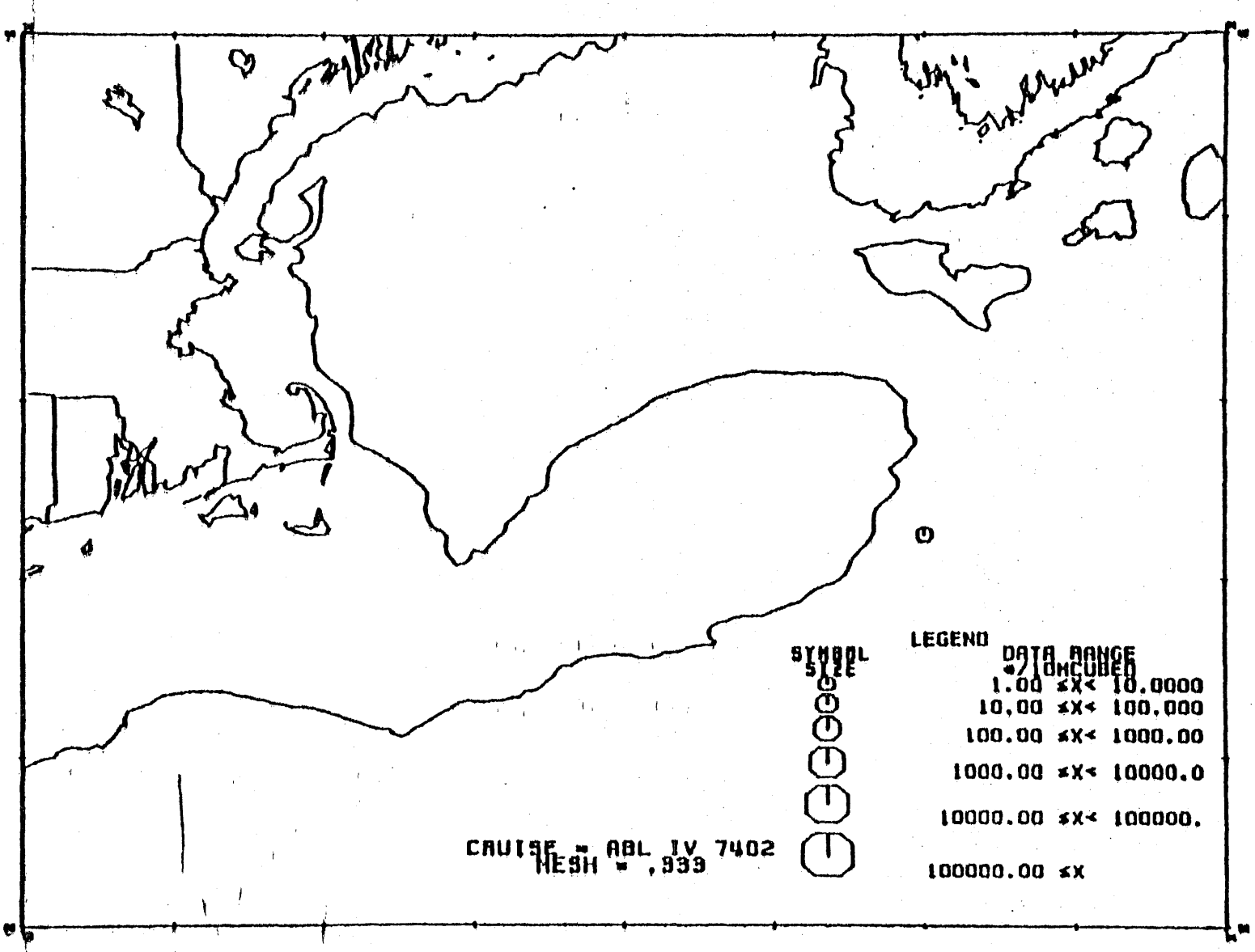

Figure 38

Pseudocalanus sp.

Adult

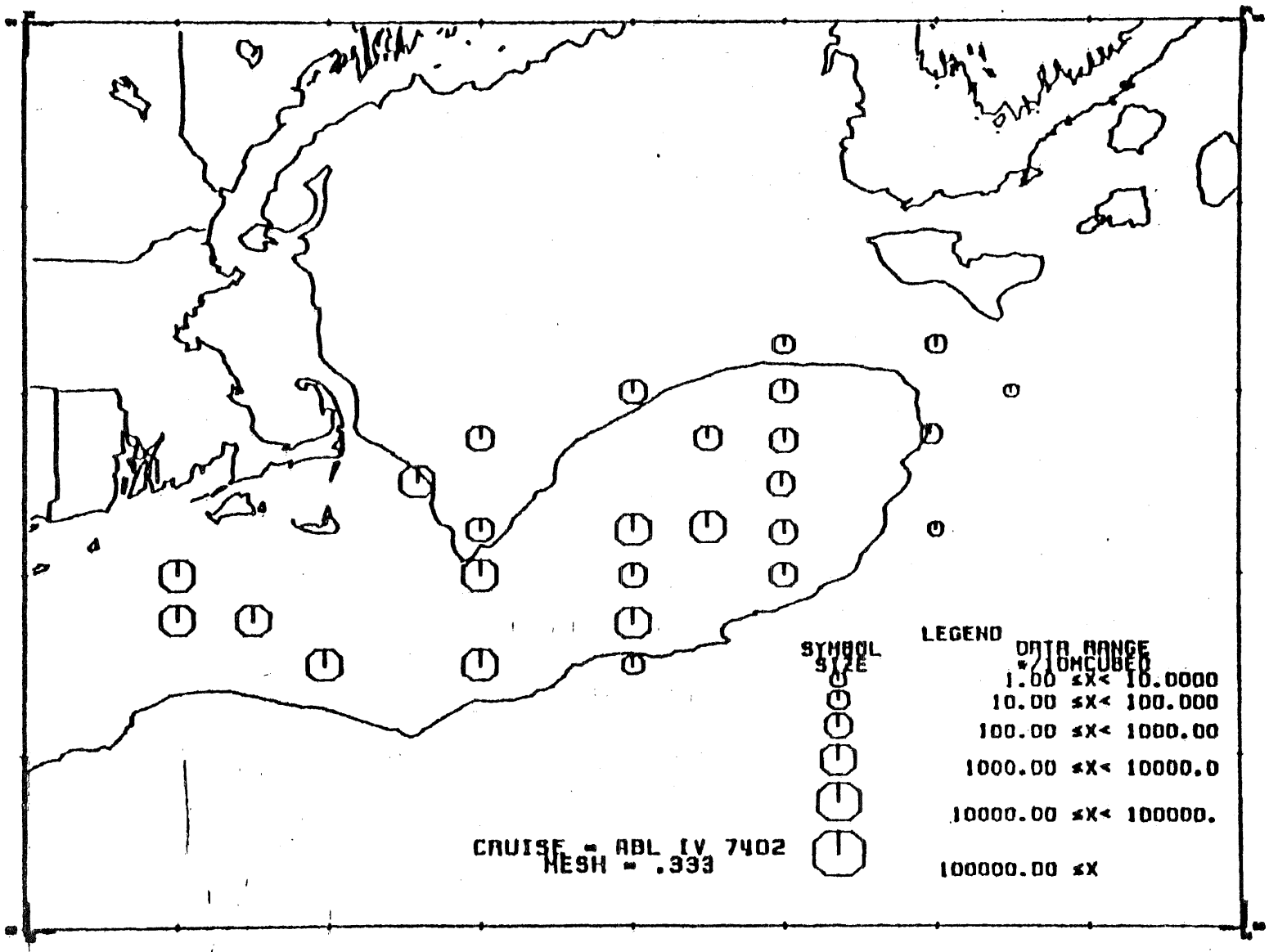

Figure 39

Paracalanus parvus

Copepodite Stage 5

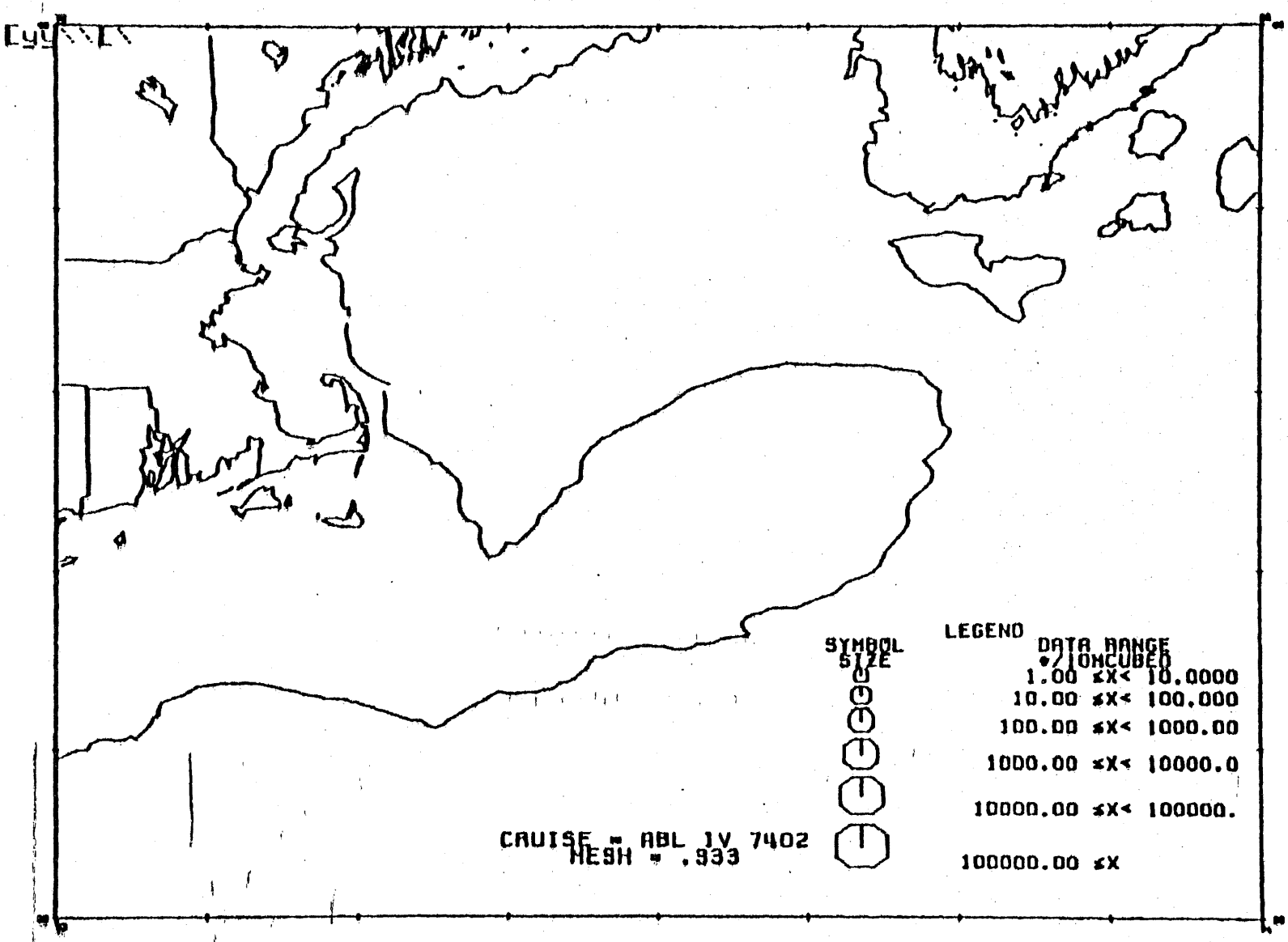

Figure 40

Paracalanus parvus

Adult

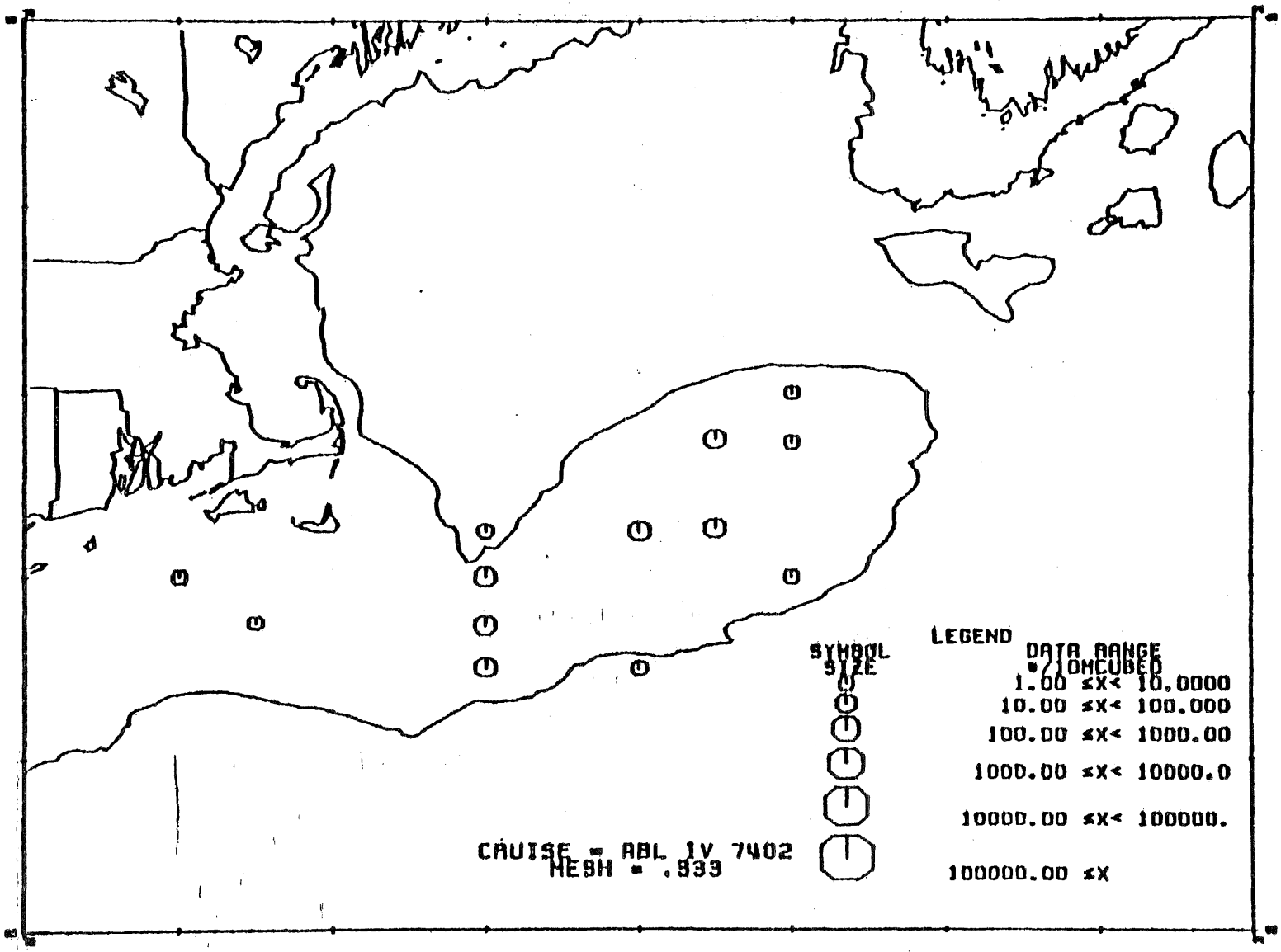

Figure 41

Centropages typicus

Copepodite Stage 1

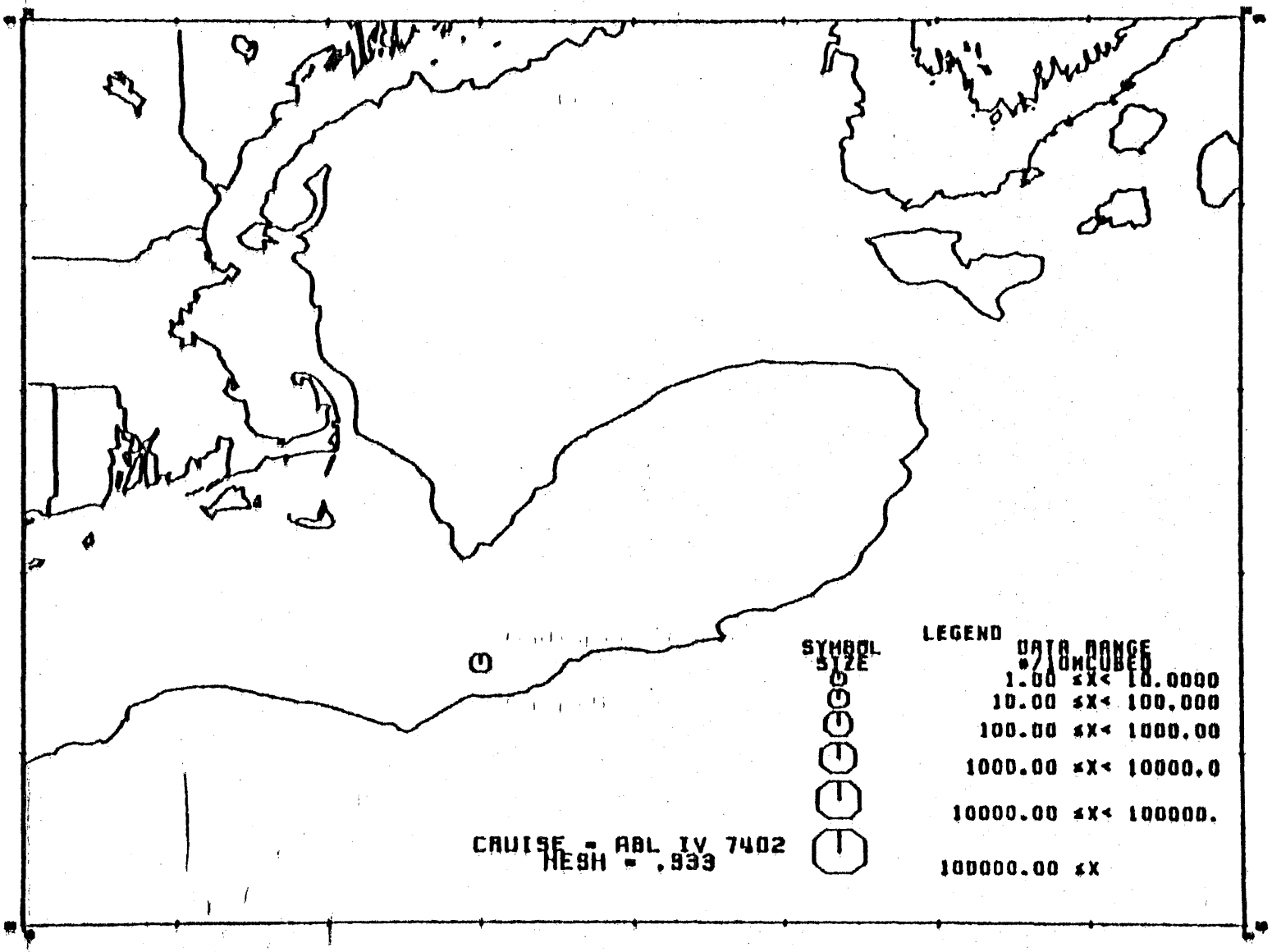

Figure 42

Centropages typicus

Copepodite Stage 2

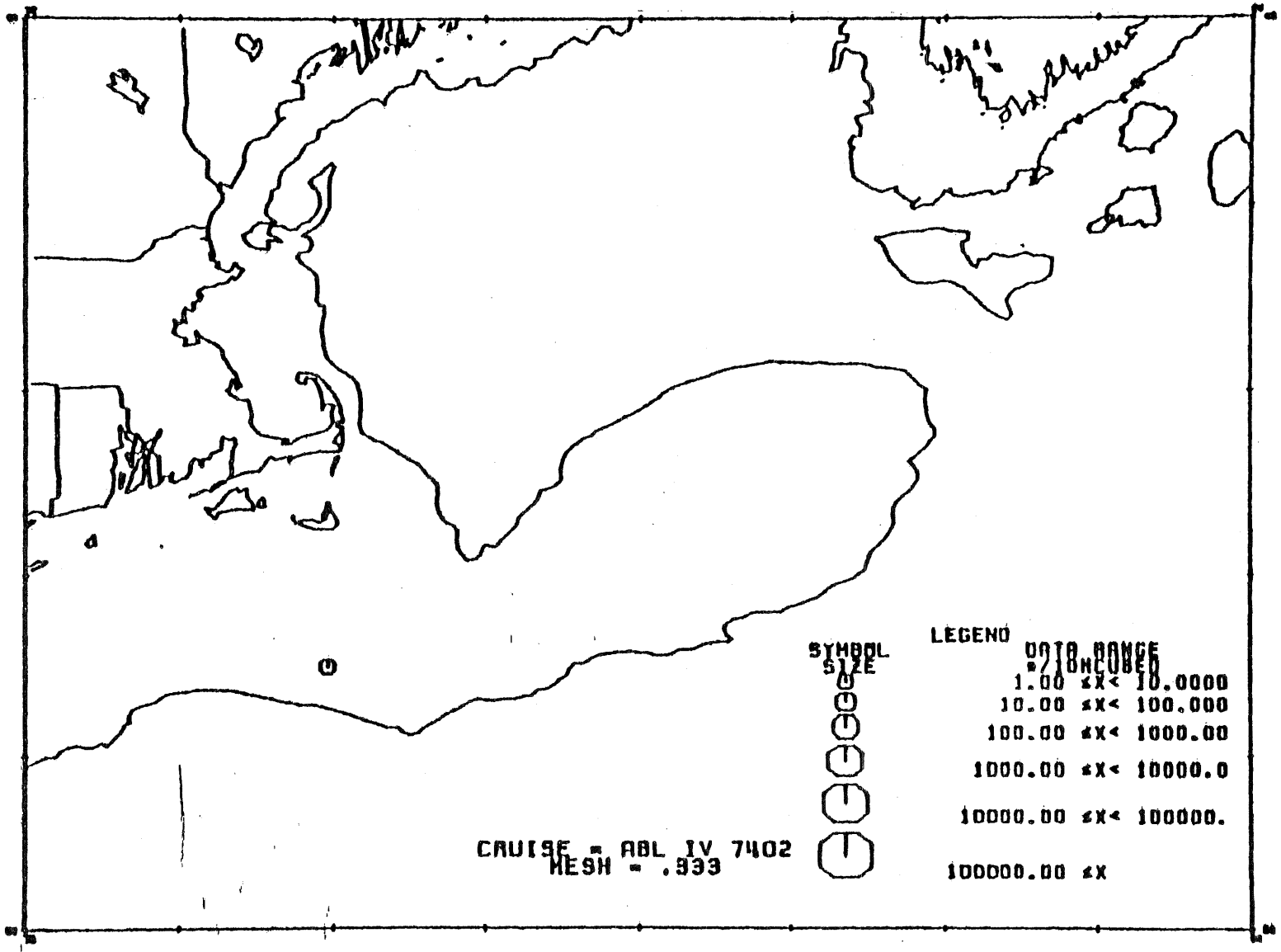

Figure 43

Centropages typicus

Copepodite Stage 3

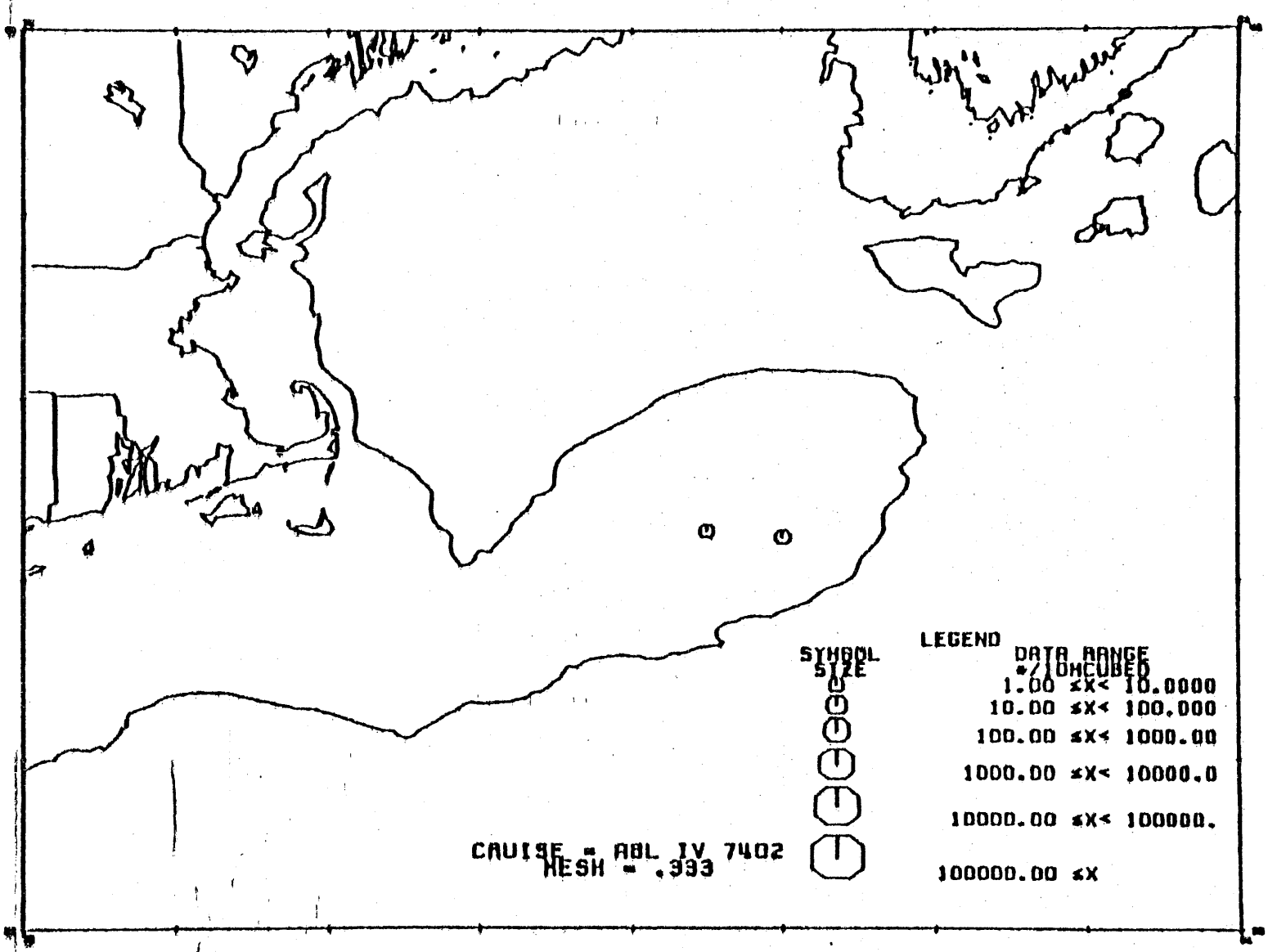

Figure 44

Centropages typicus

Copepodite Stage 4

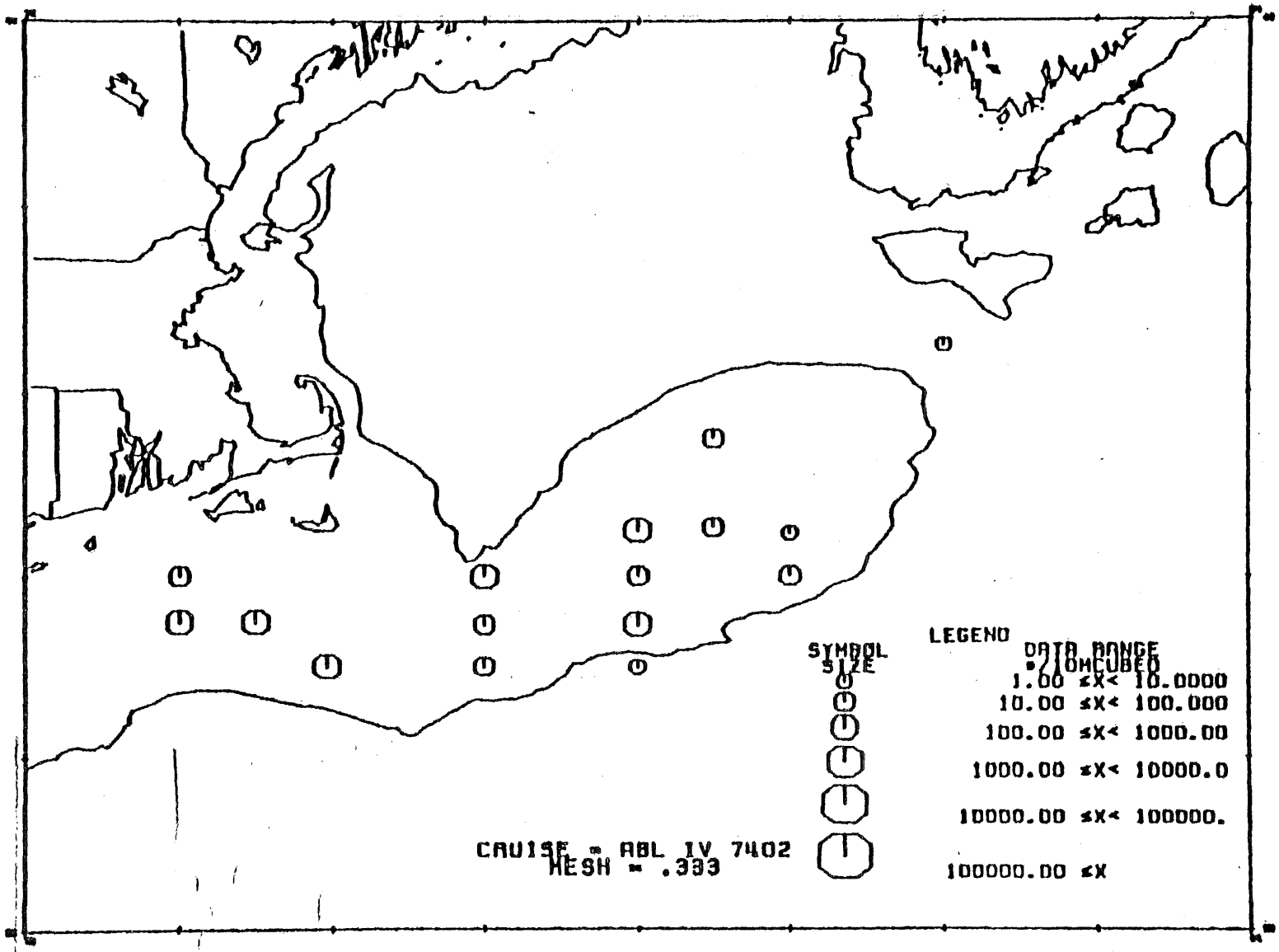

Figure 45

Centropages typicus

Copepodite Stage 5

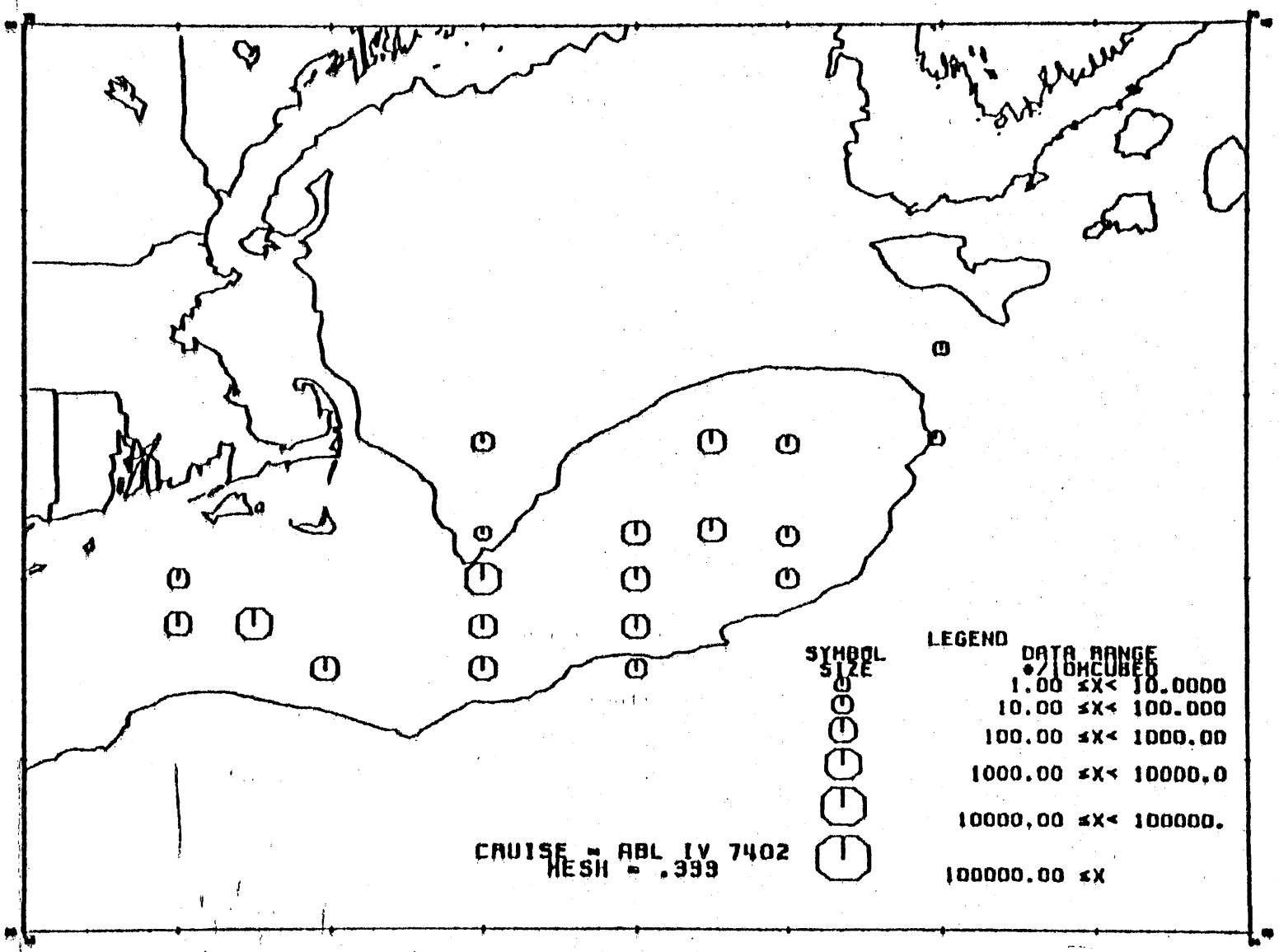

Figure 46

Centropages typicus

Copepodite

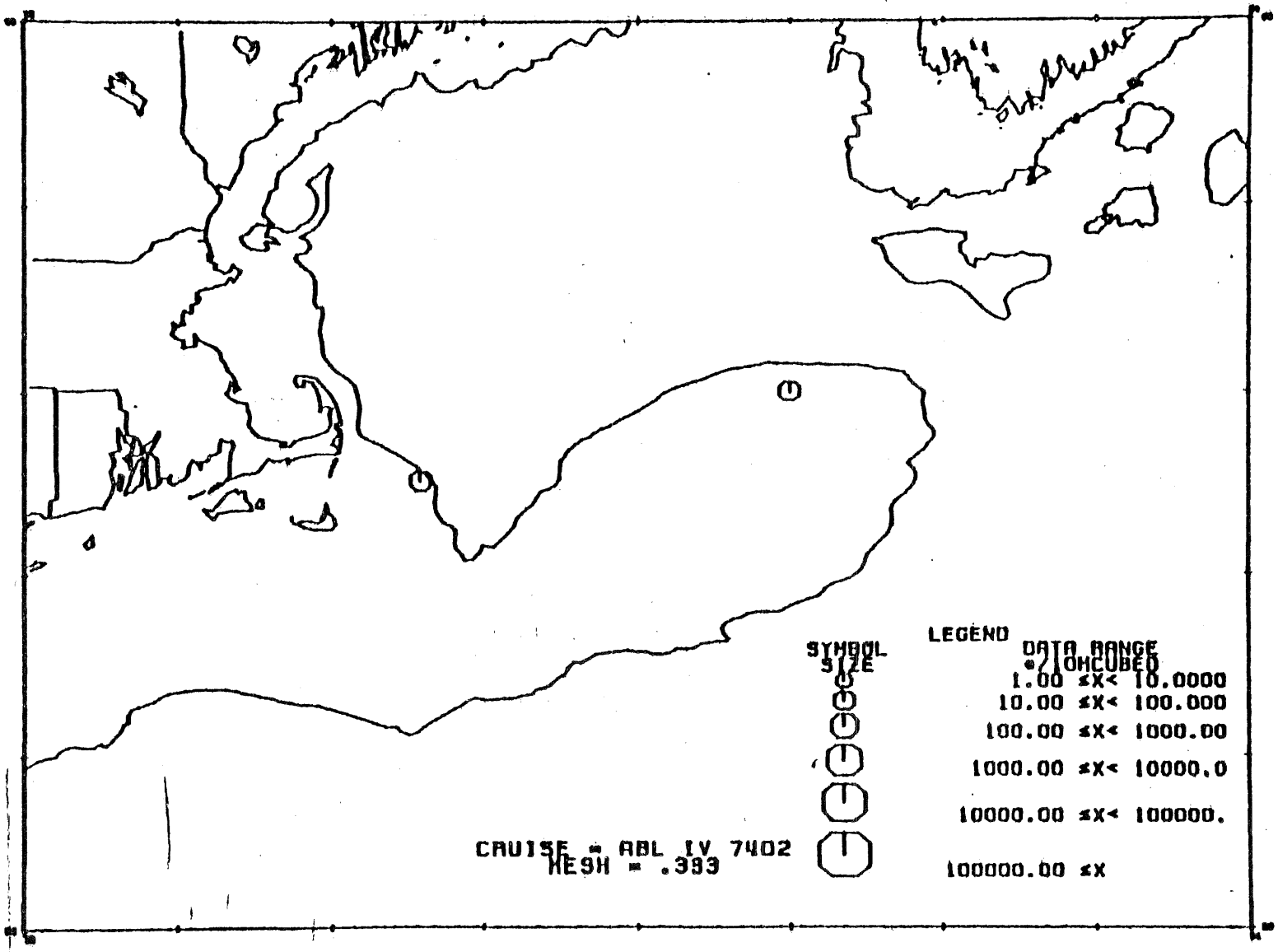

Figure 47

Centropages typicus

Adult

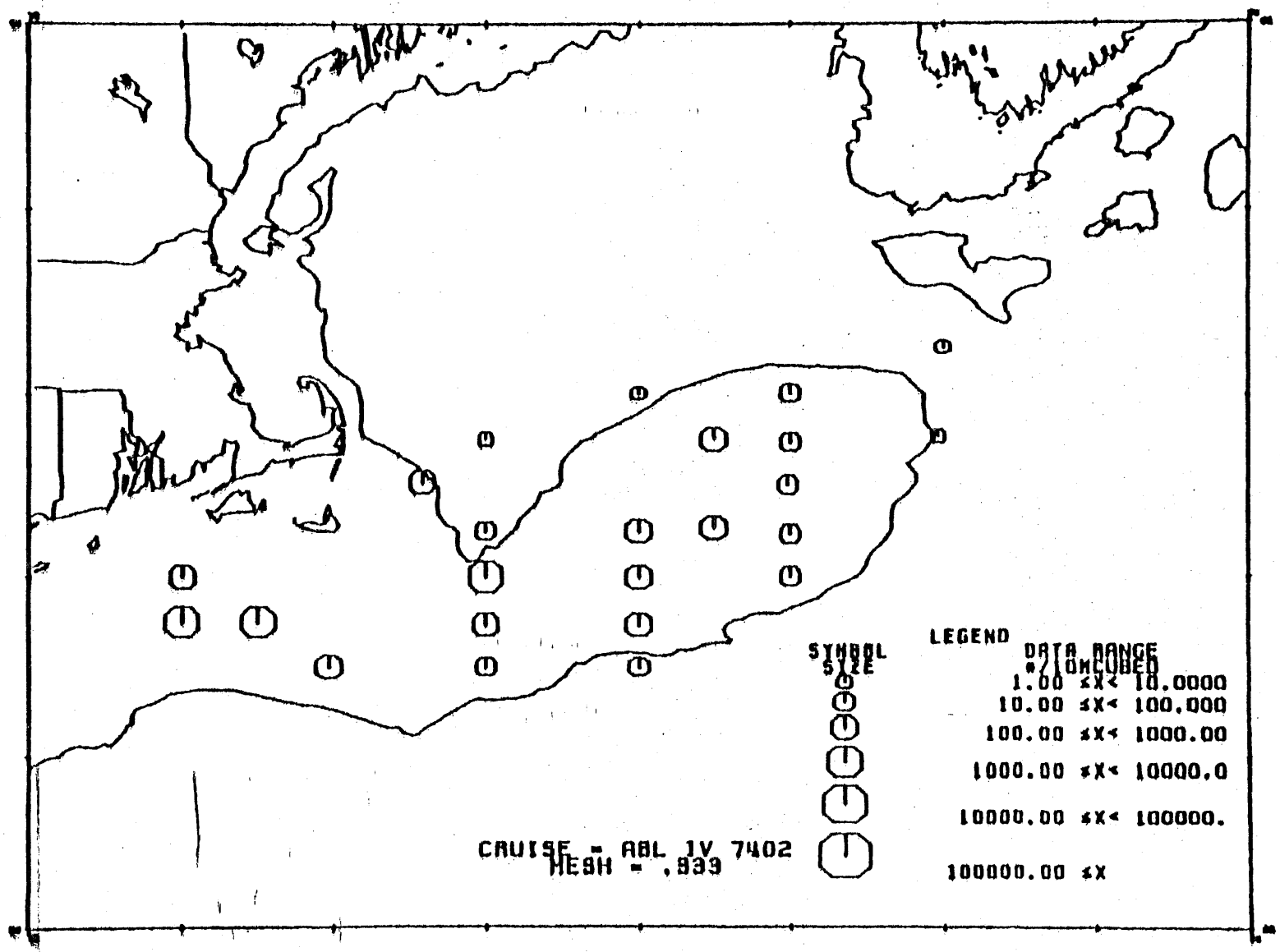

Figure 48

Centropages hamatus

Copepodite Stage 4

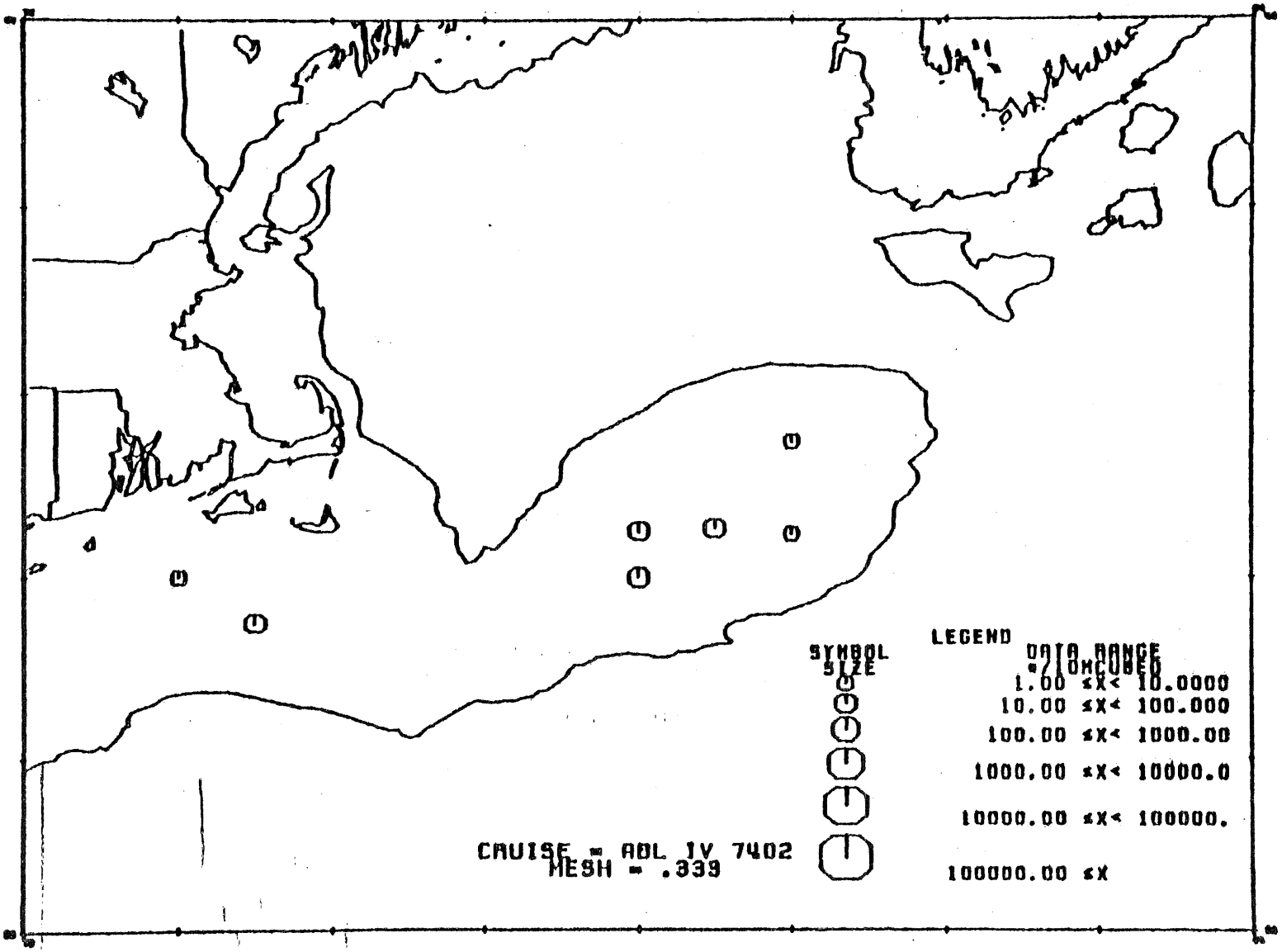

Figure 49

Centropages hamatus

Copepodite Stage 5

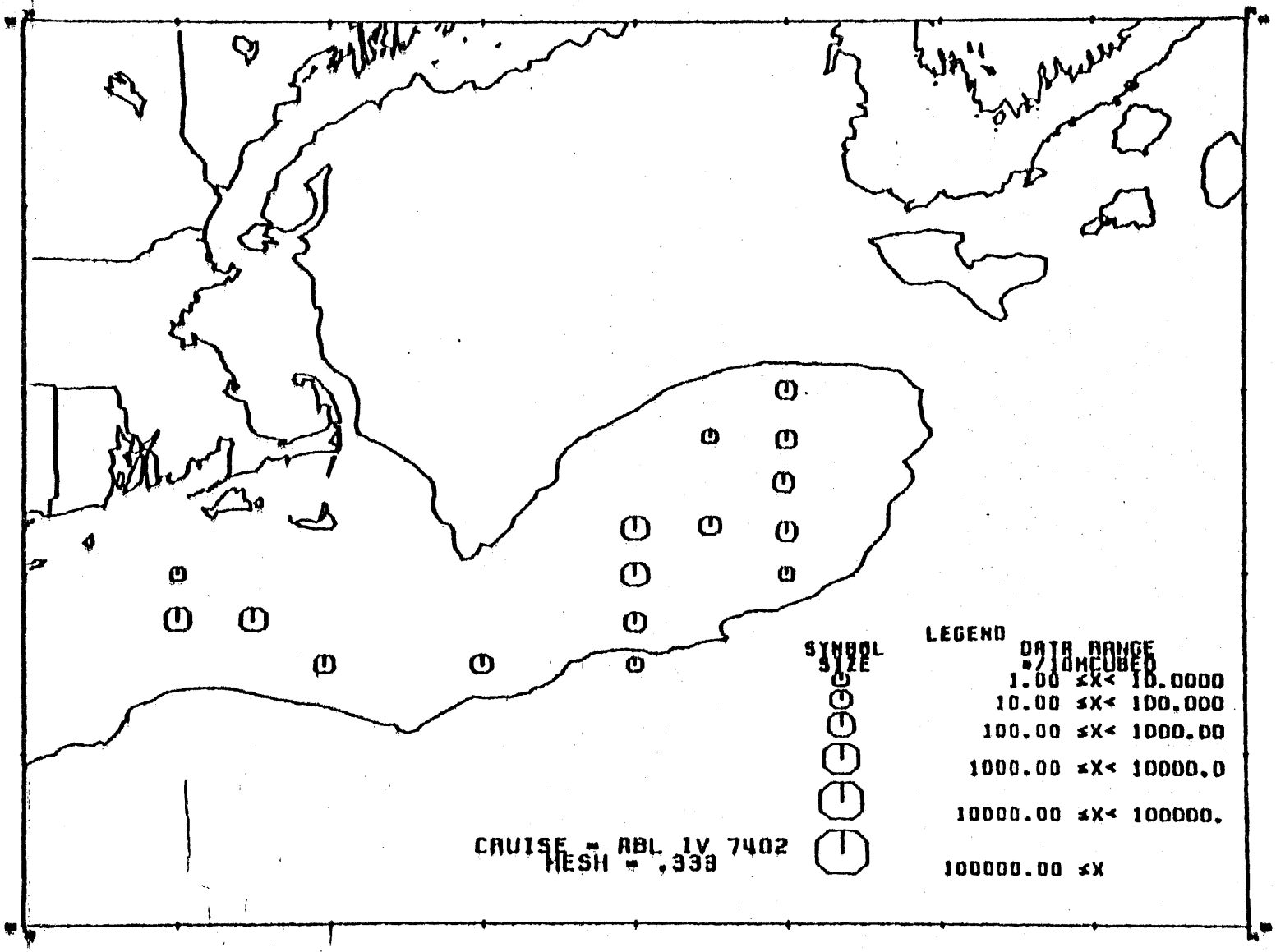

Figure 50

Centropages hamatus

Adult

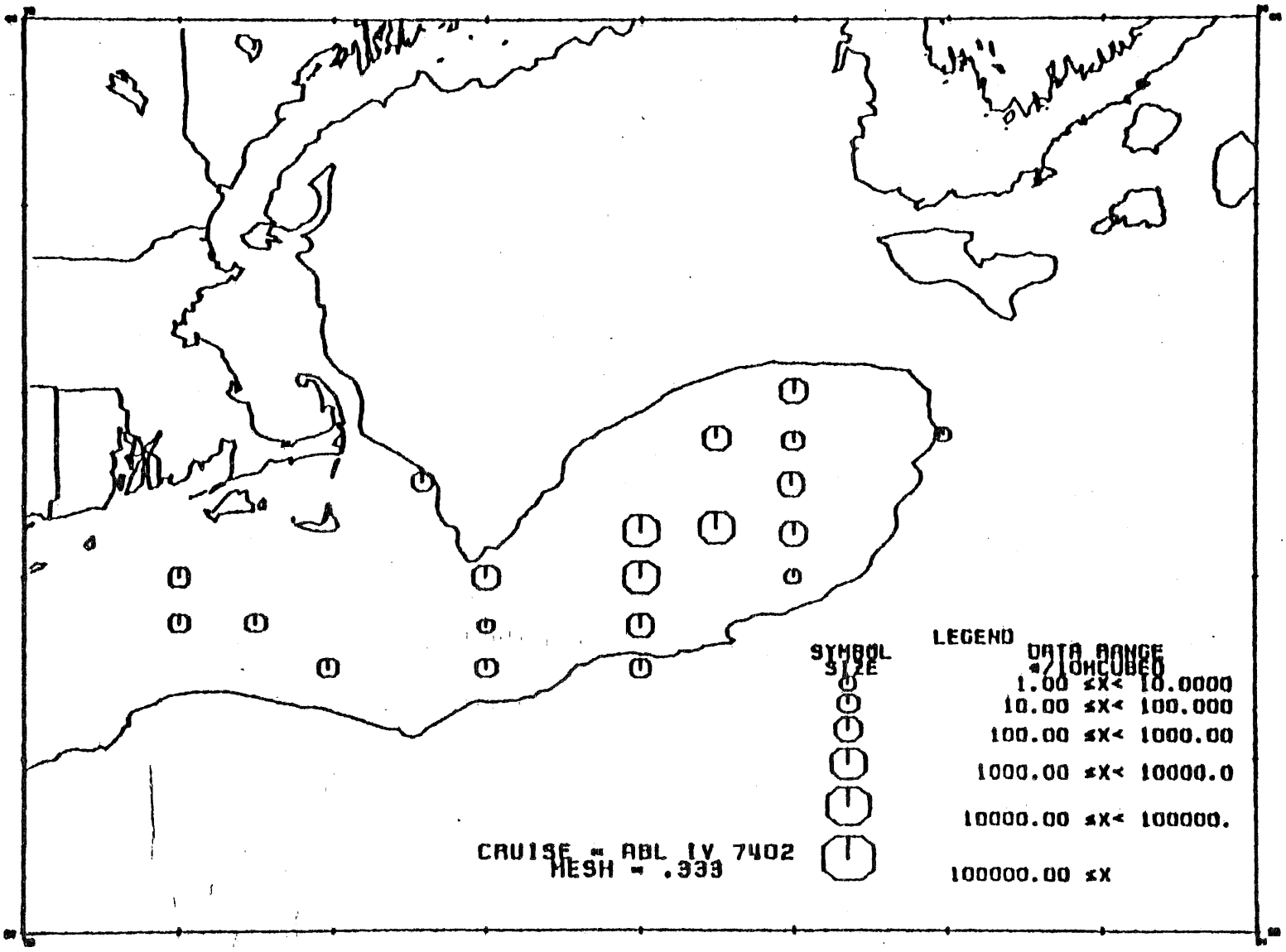

Figure 51

Oithona spp.

Copepodite

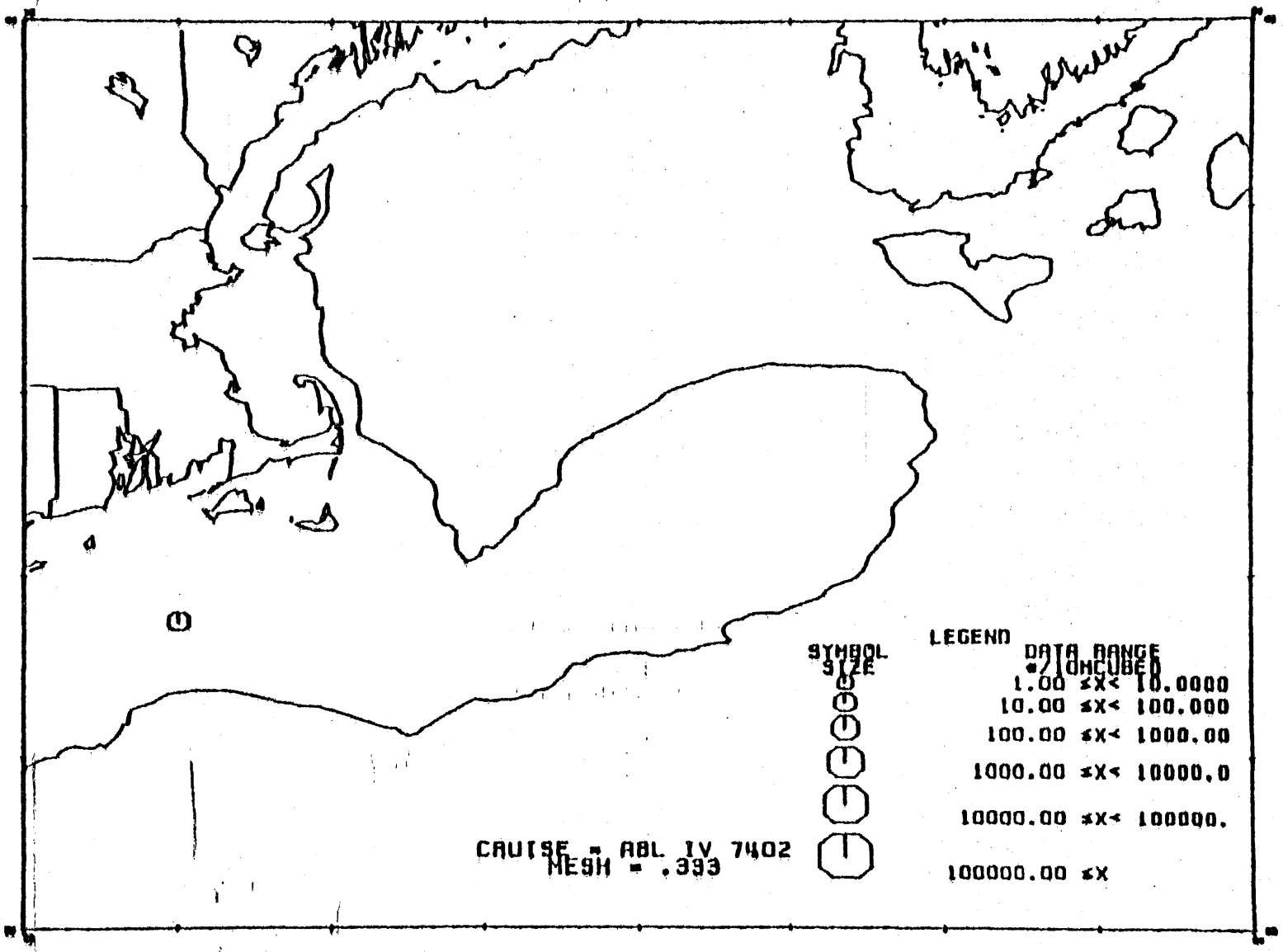

Figure 52

Oithona spp.

Adult

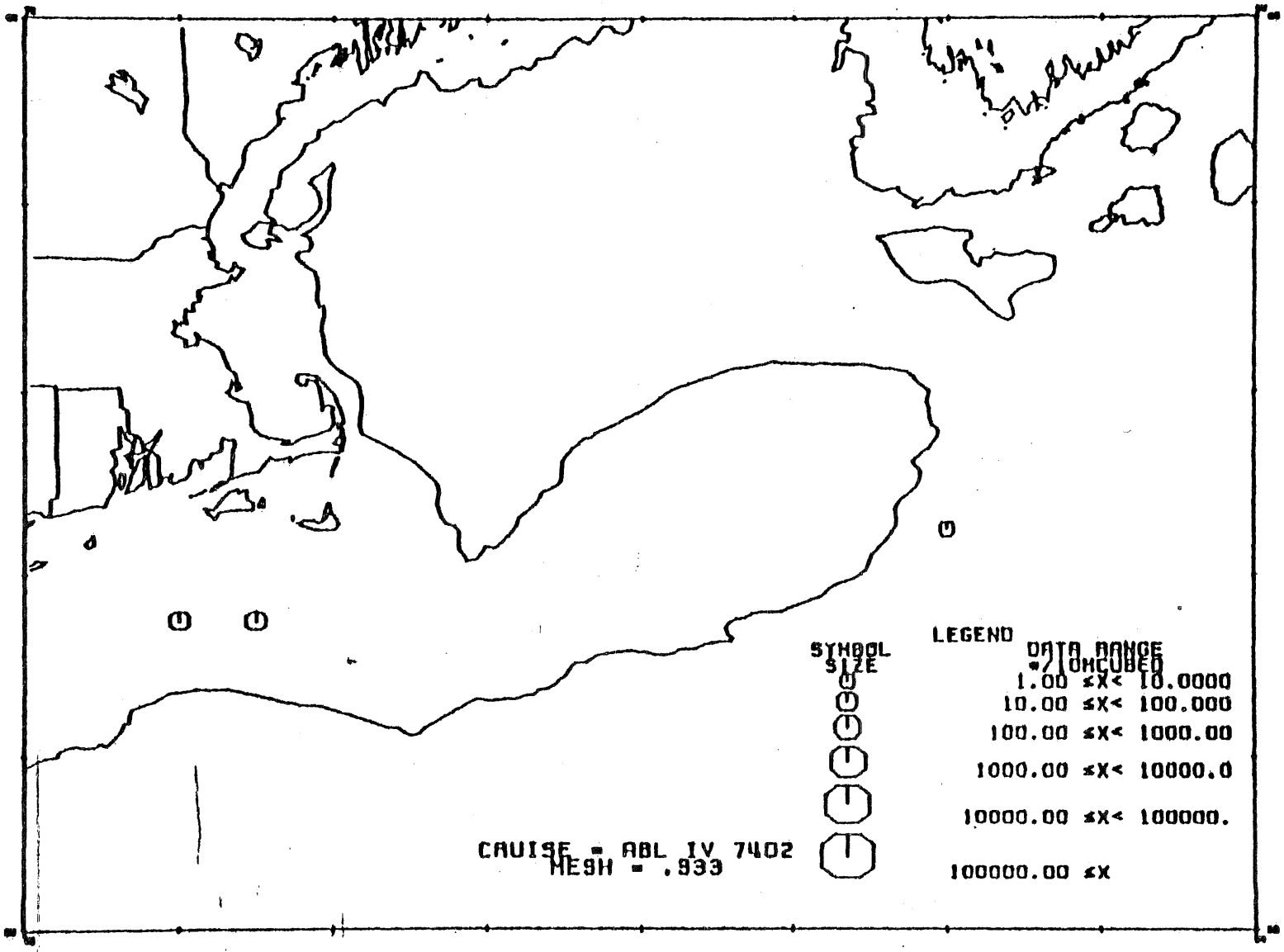

Figure 53

Calanus finmarchicus

Copepodite Stage 2

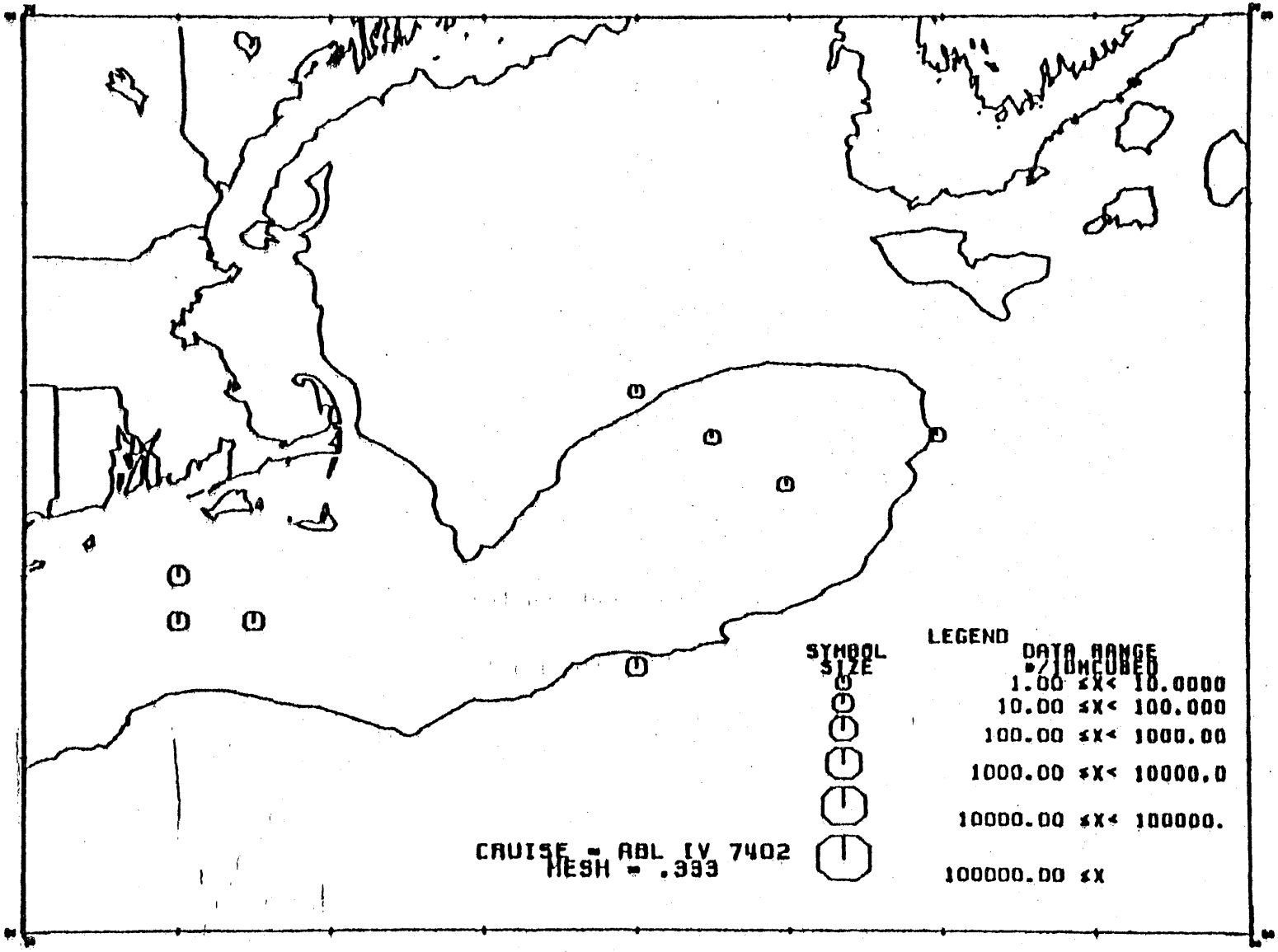

Figure 54

Calanus finmarchicus

Copepodite Stage 3

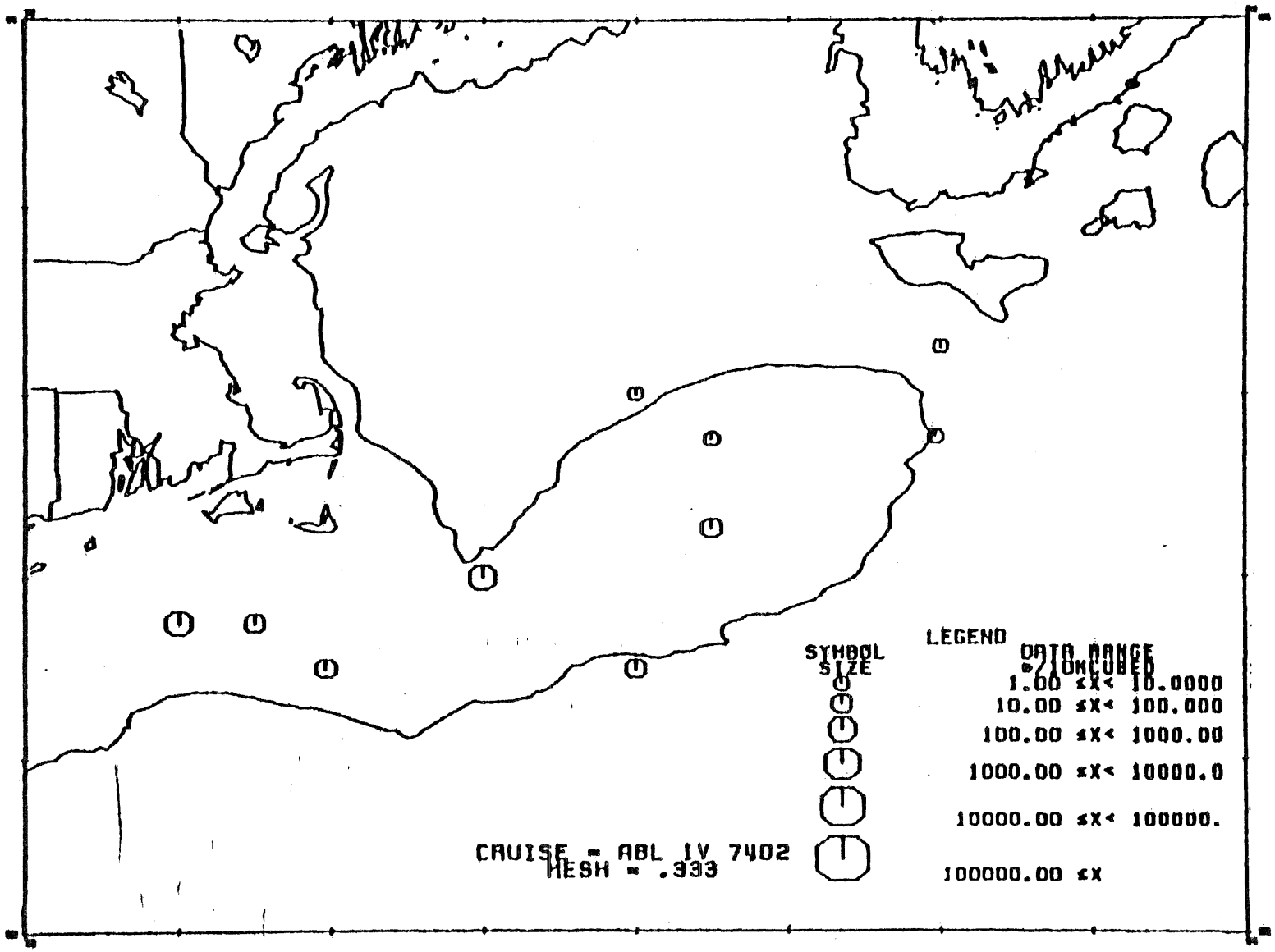

Figure 55

Copepodite Stage 4

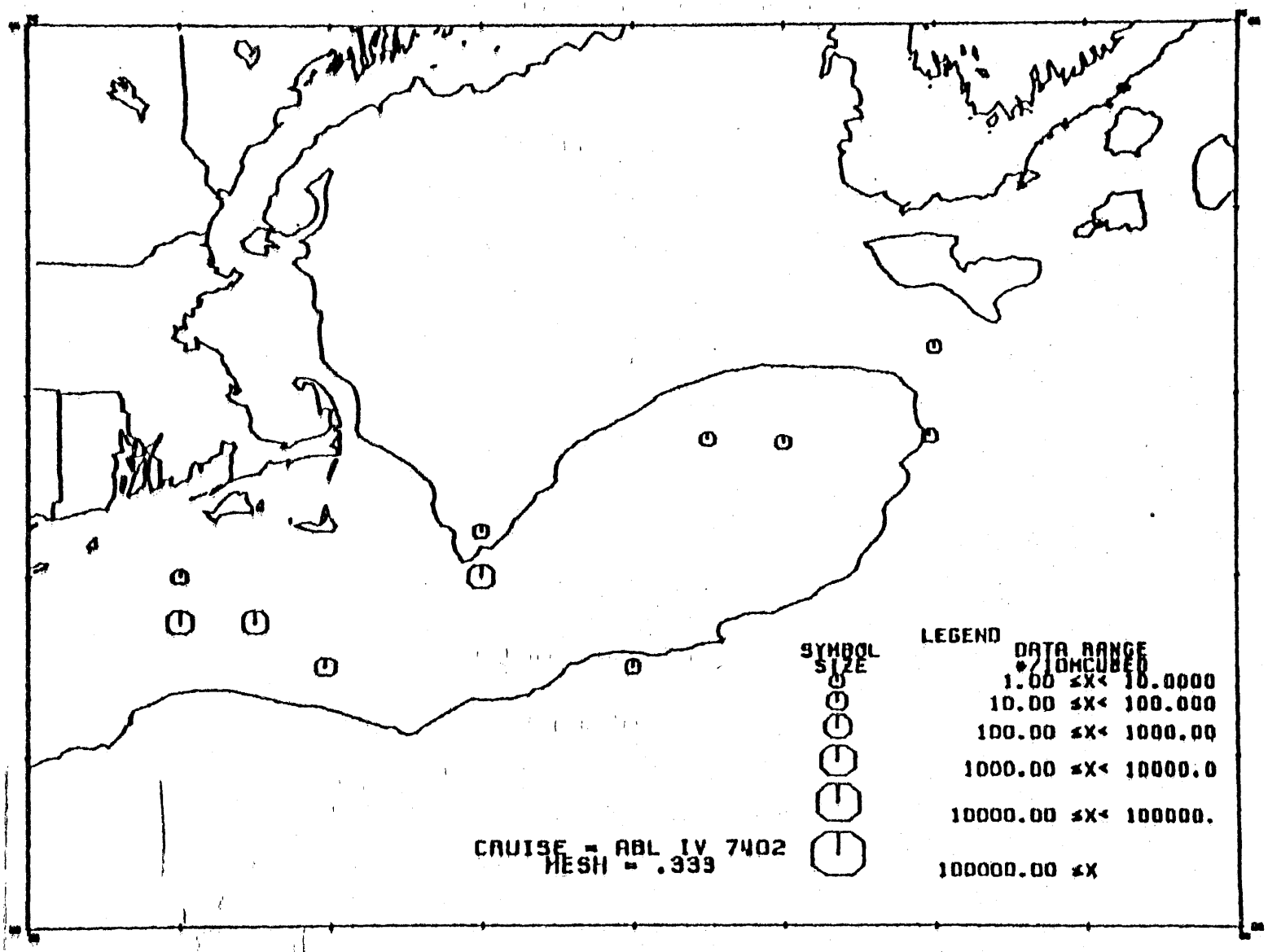

Figure 56

Calanus finmarchicus

Copepodite Stage 5

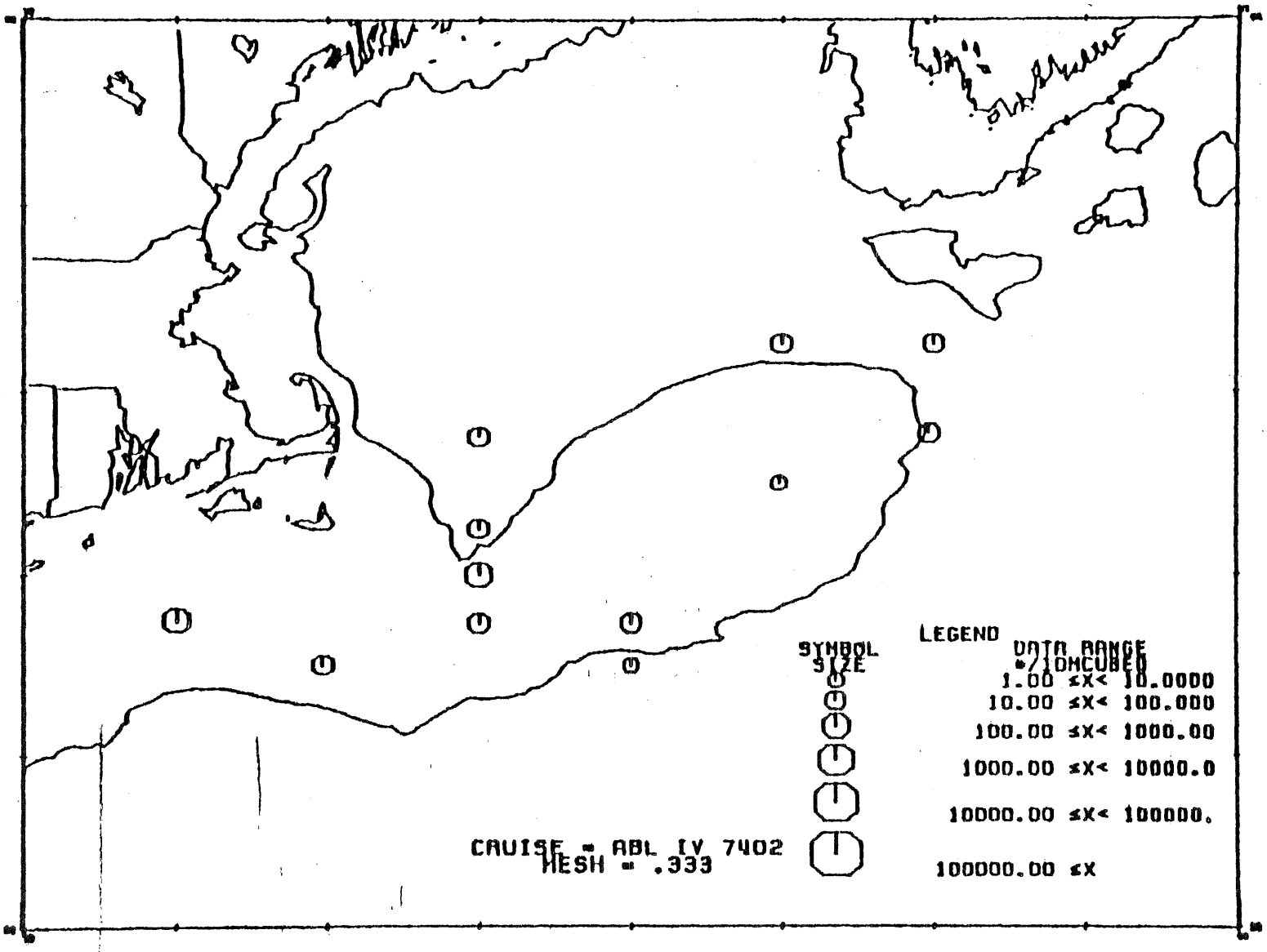

Figure 57

Calanus finmarchicus

Copepodite

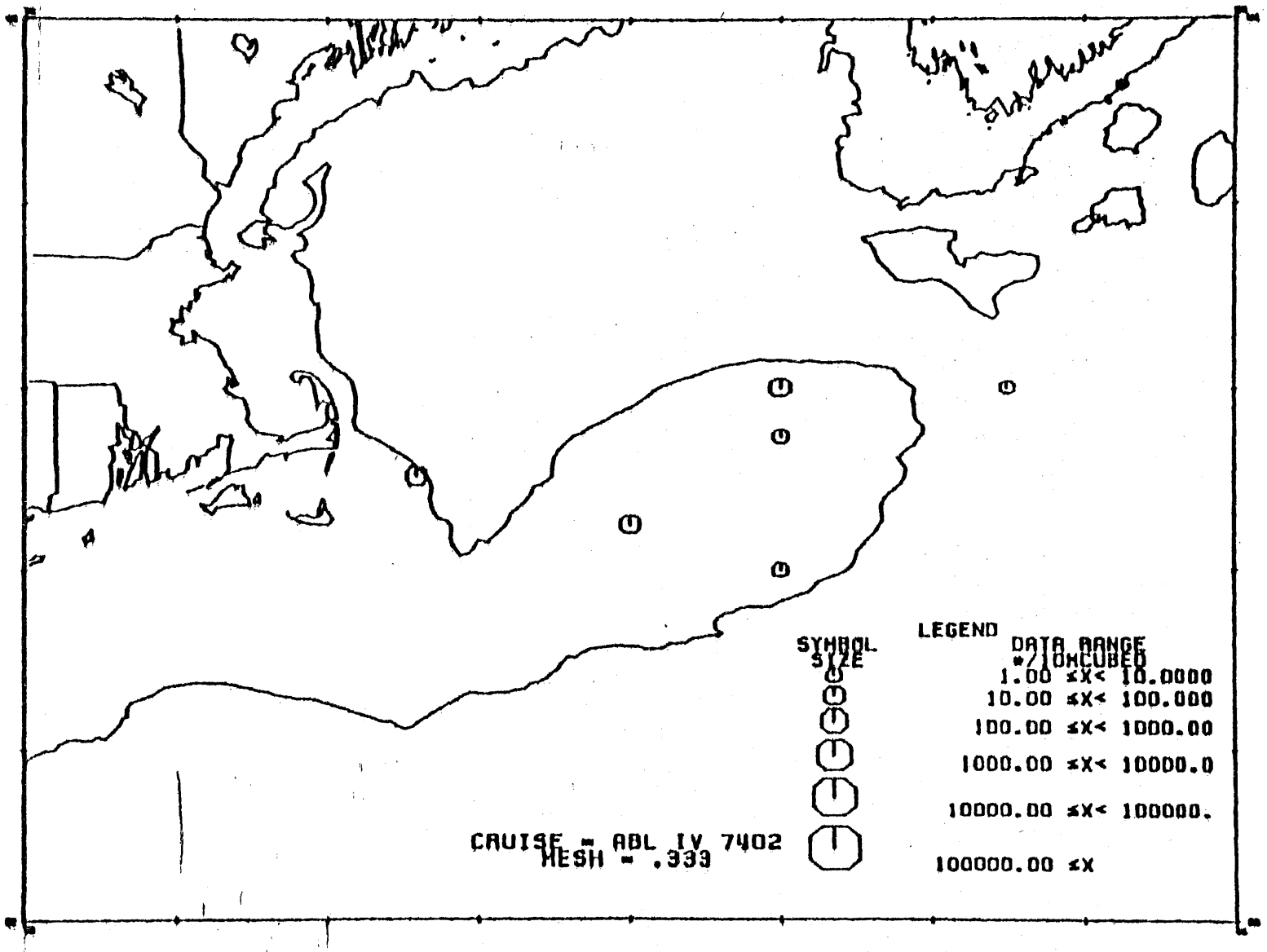

Figure 58

Calanus finmarchicus

Adult

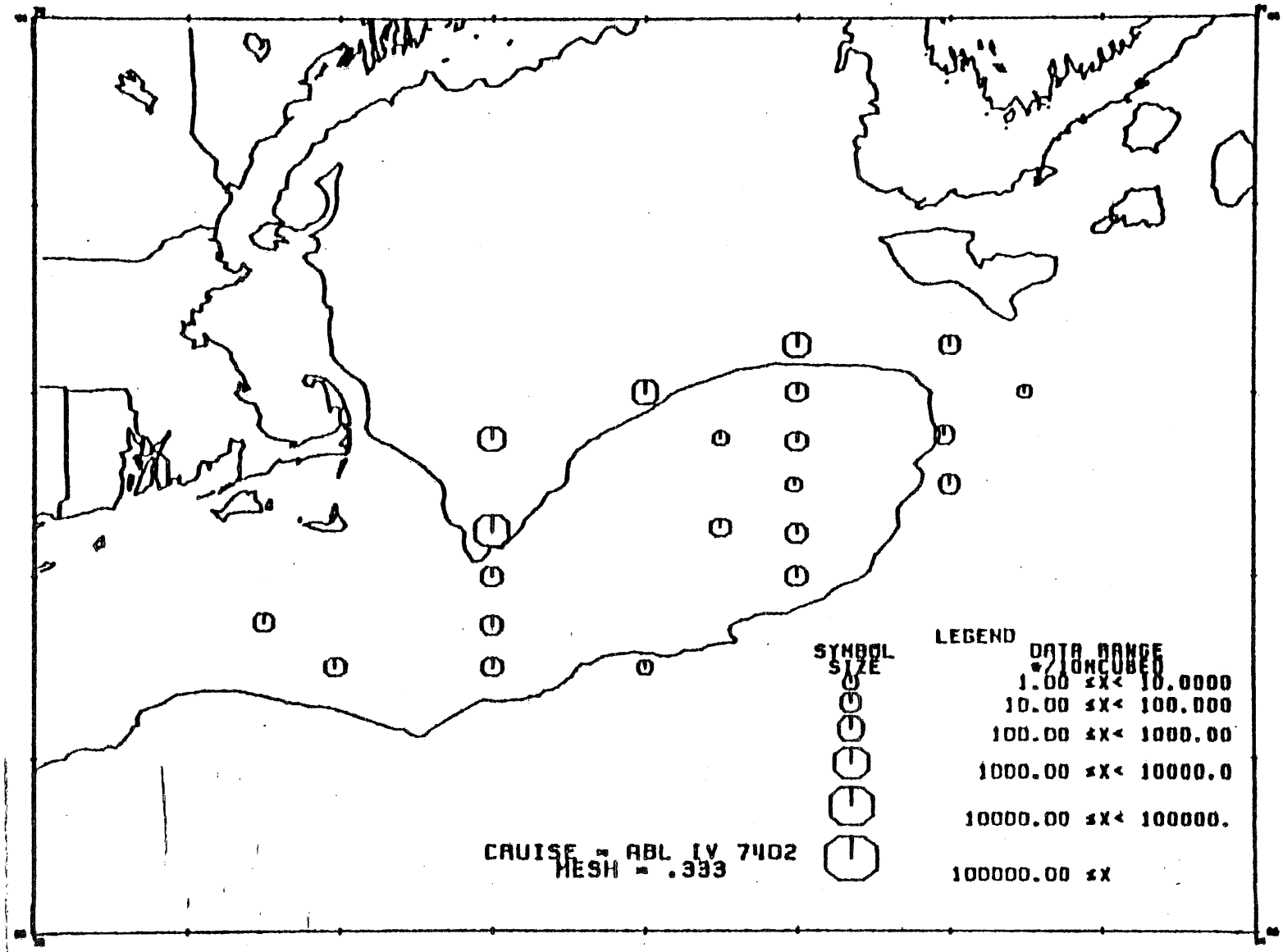

Figure 59

CHAETOGNATHA

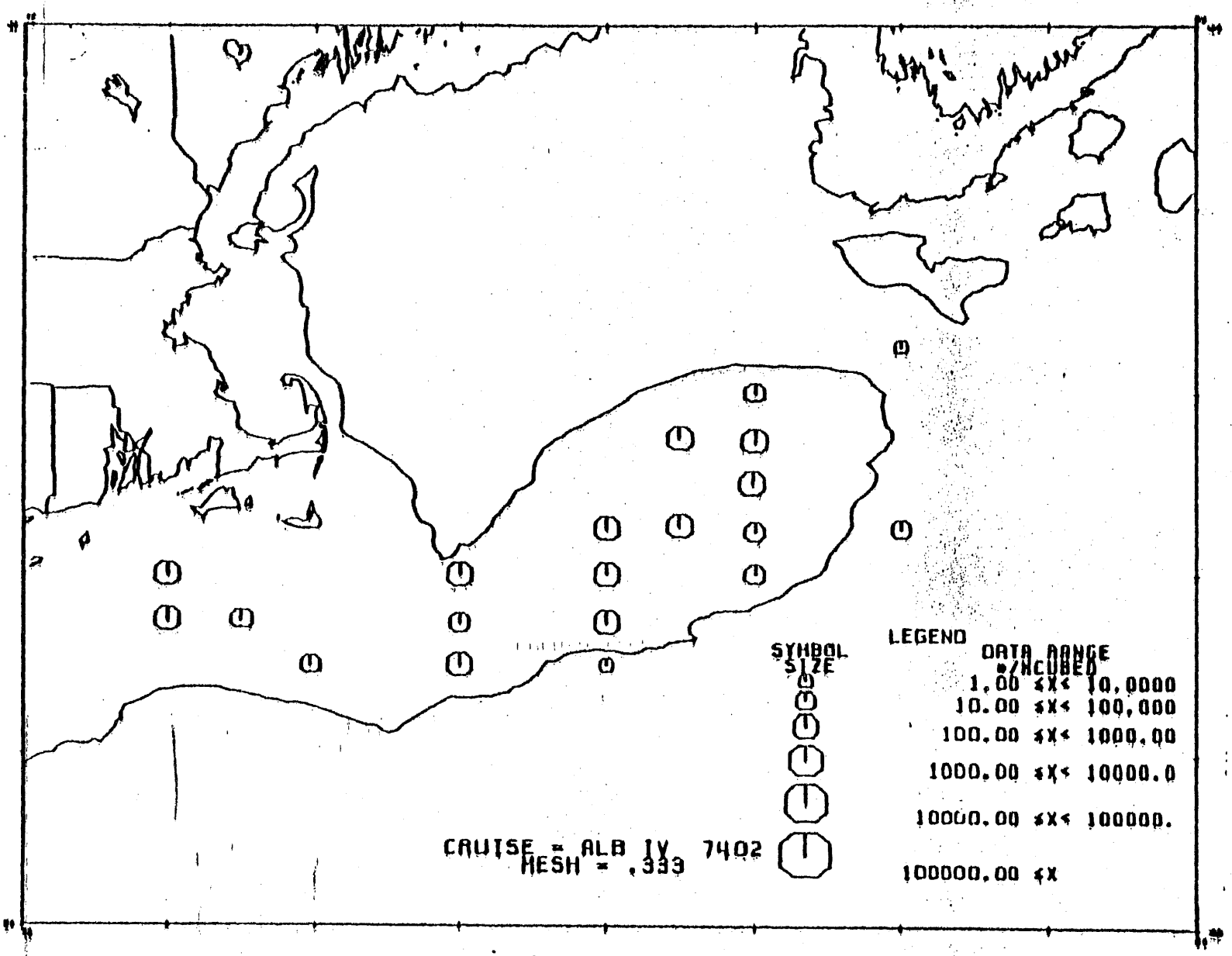

Figure 60

AMPHIPODA

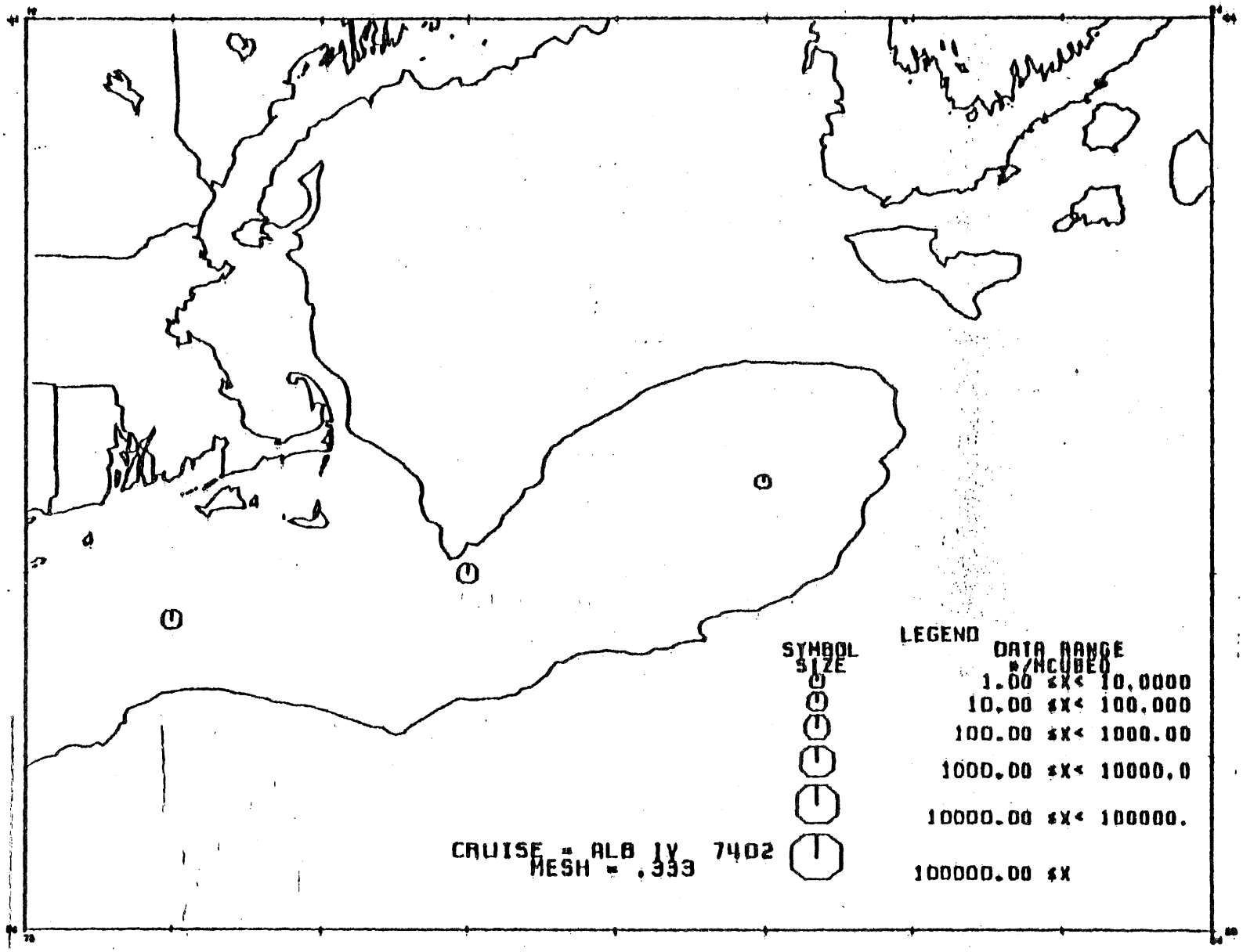

Figure 61

EUPHAUSIACEA

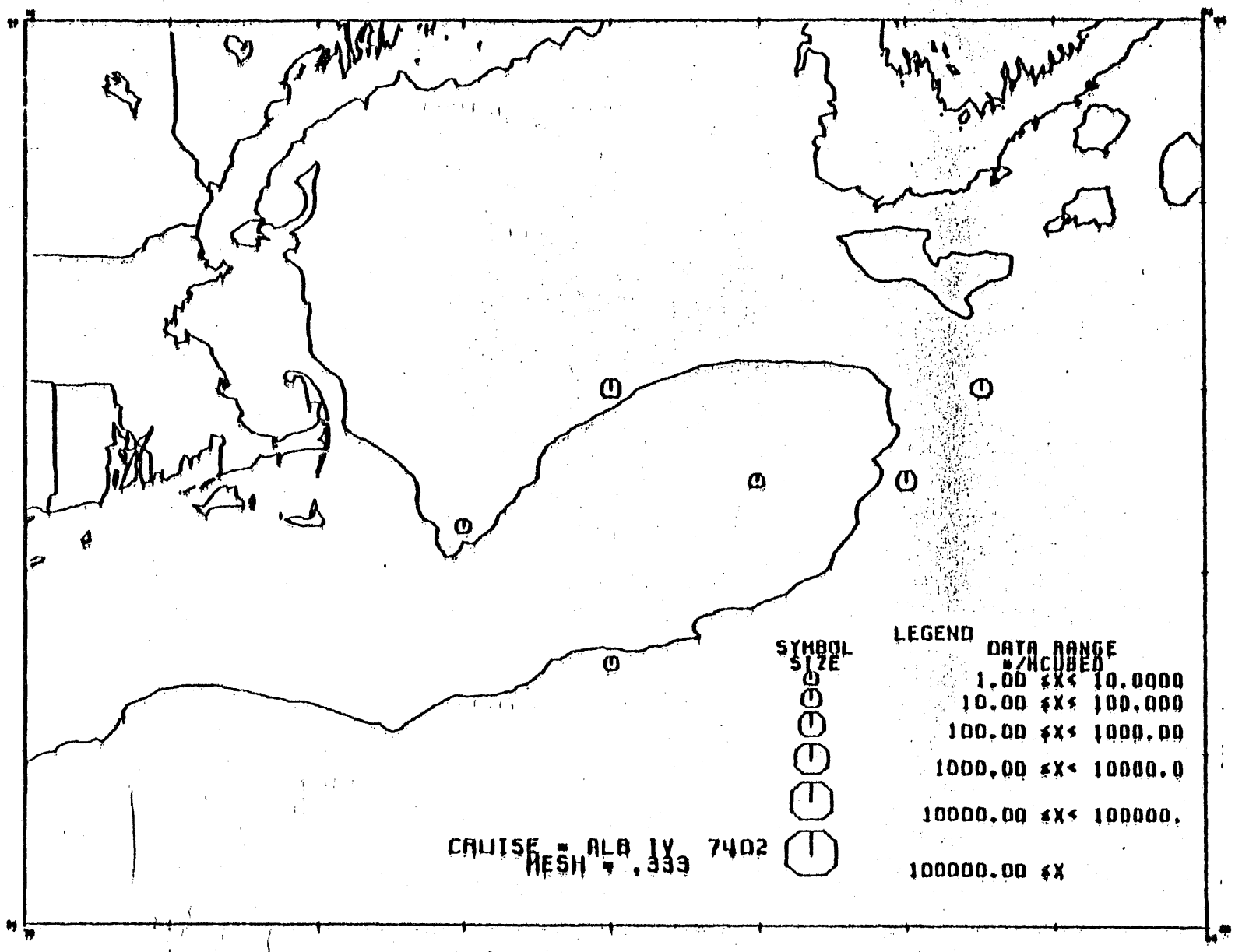

Figure 62

MYSIDACEA

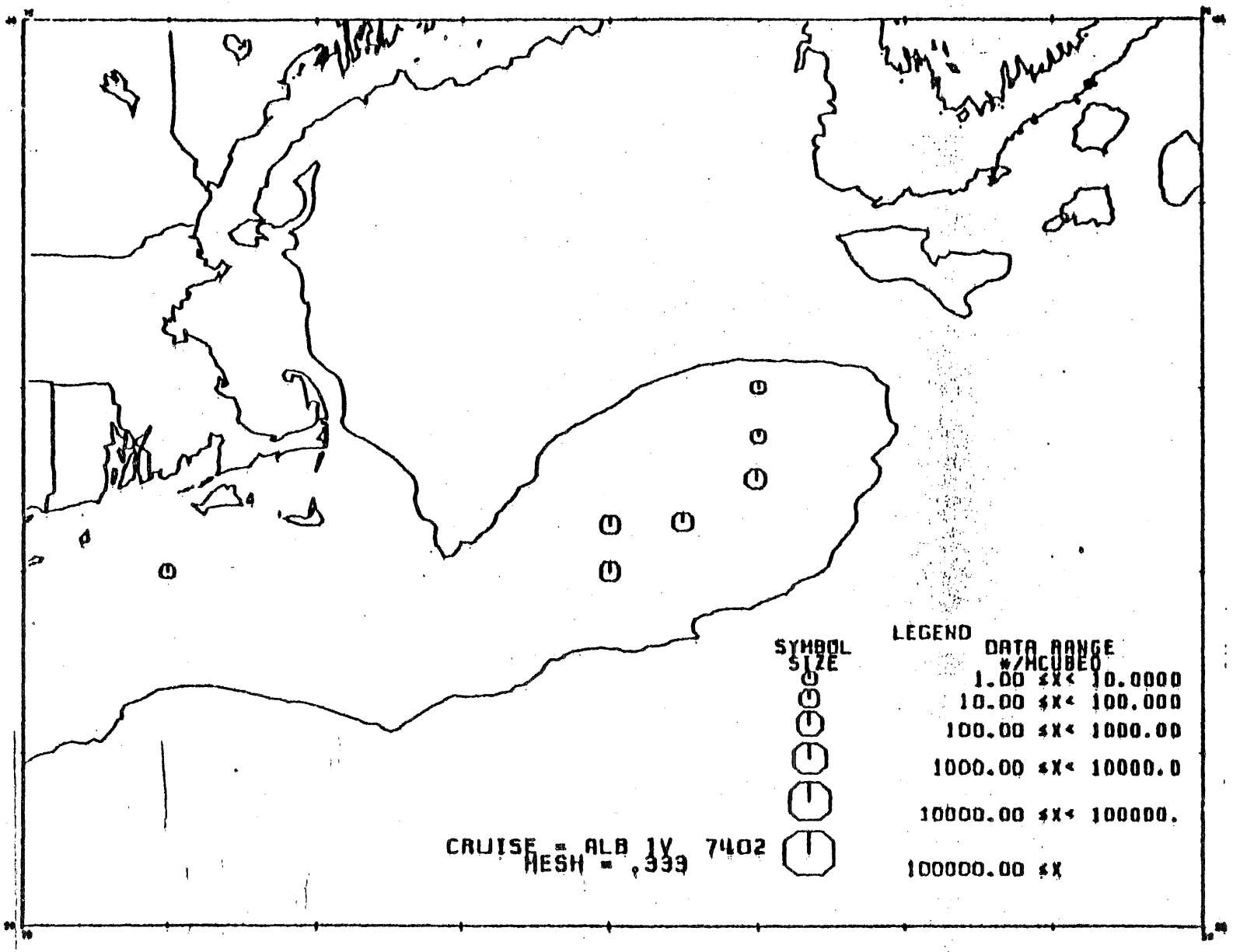

Figure 63

Stations Sampled

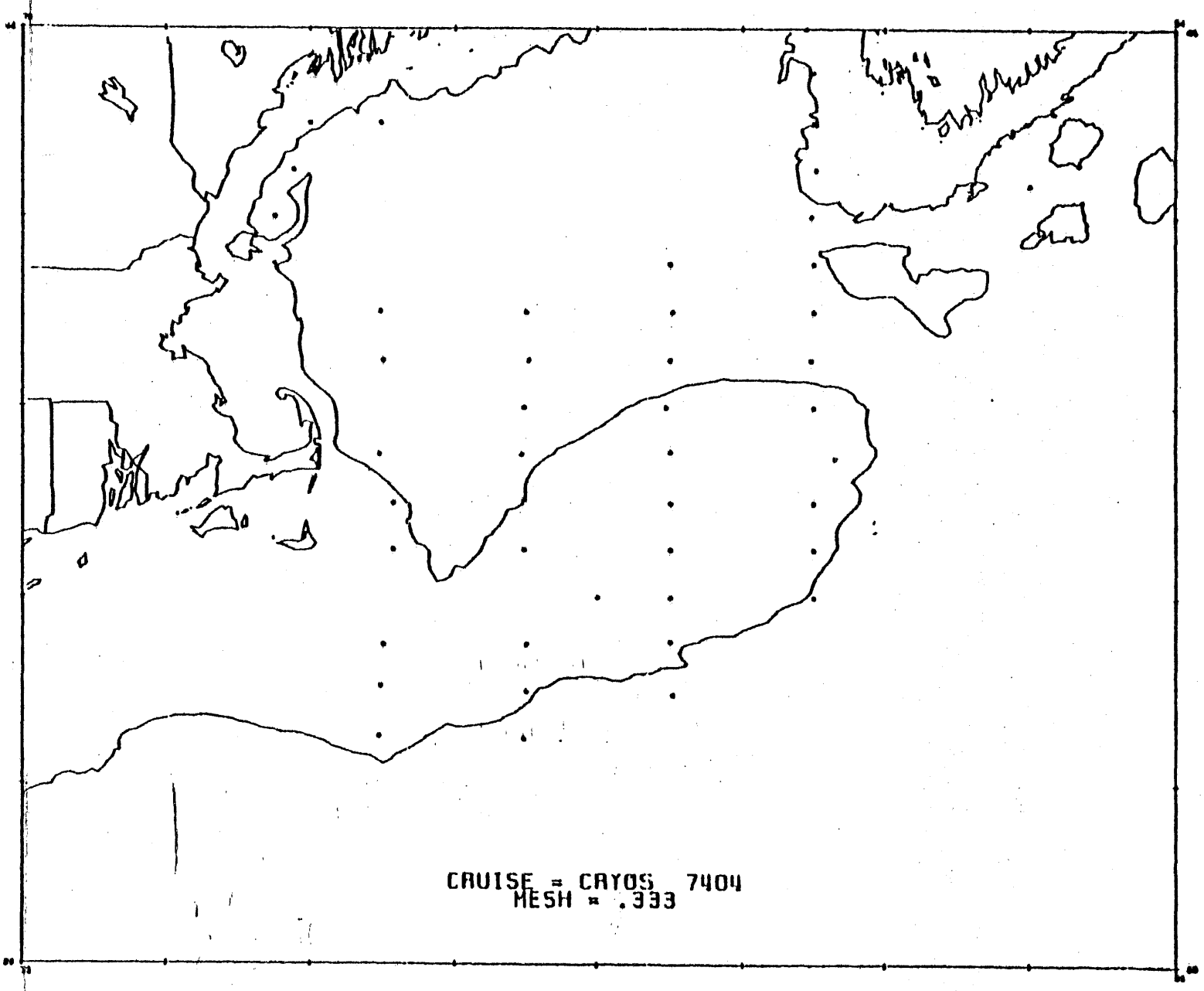

Figure 64

DISPLACEMENT VOLUME

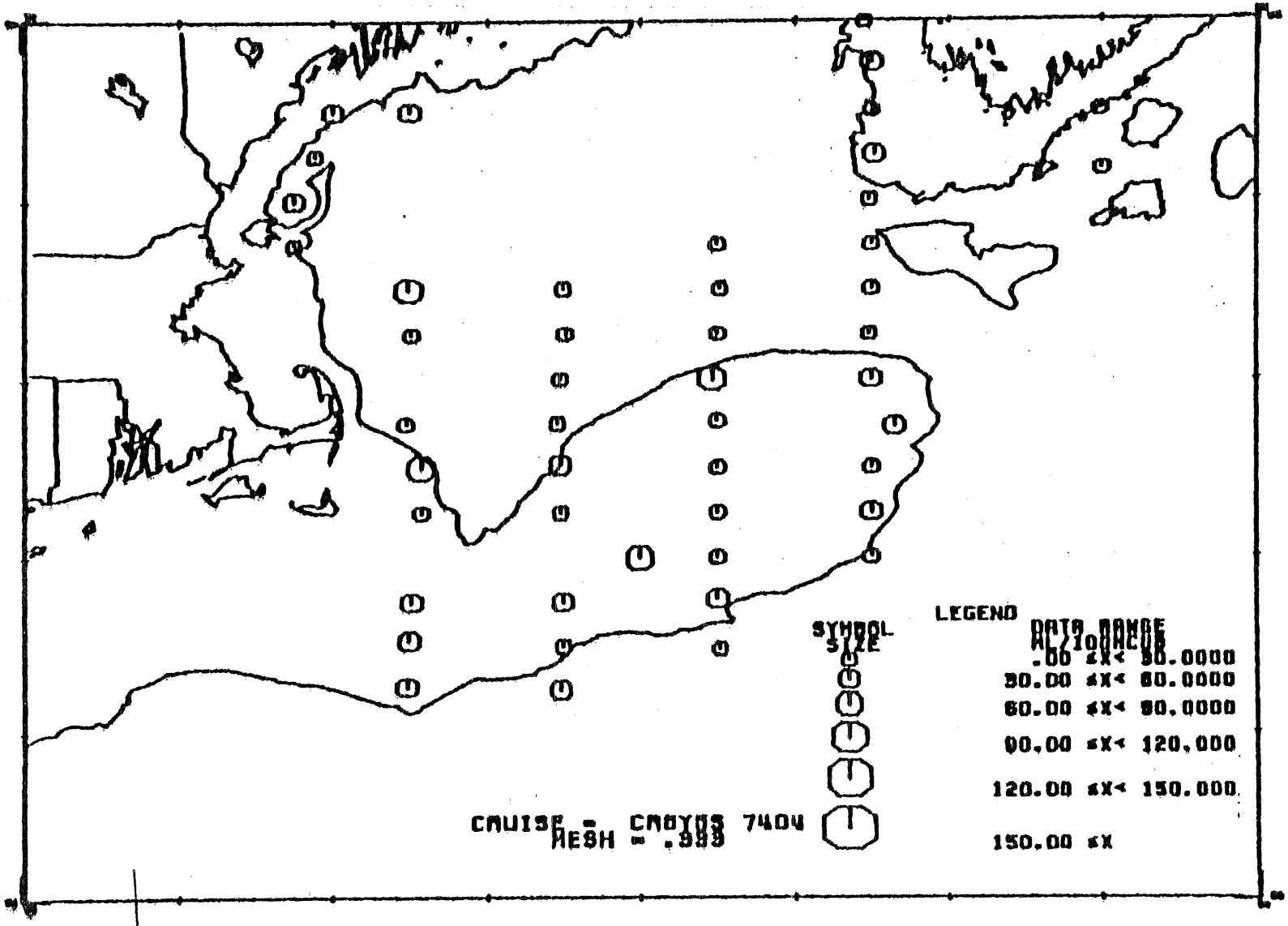

Figure 65

Pseudocalanus sp.

Copepodite Stage 1

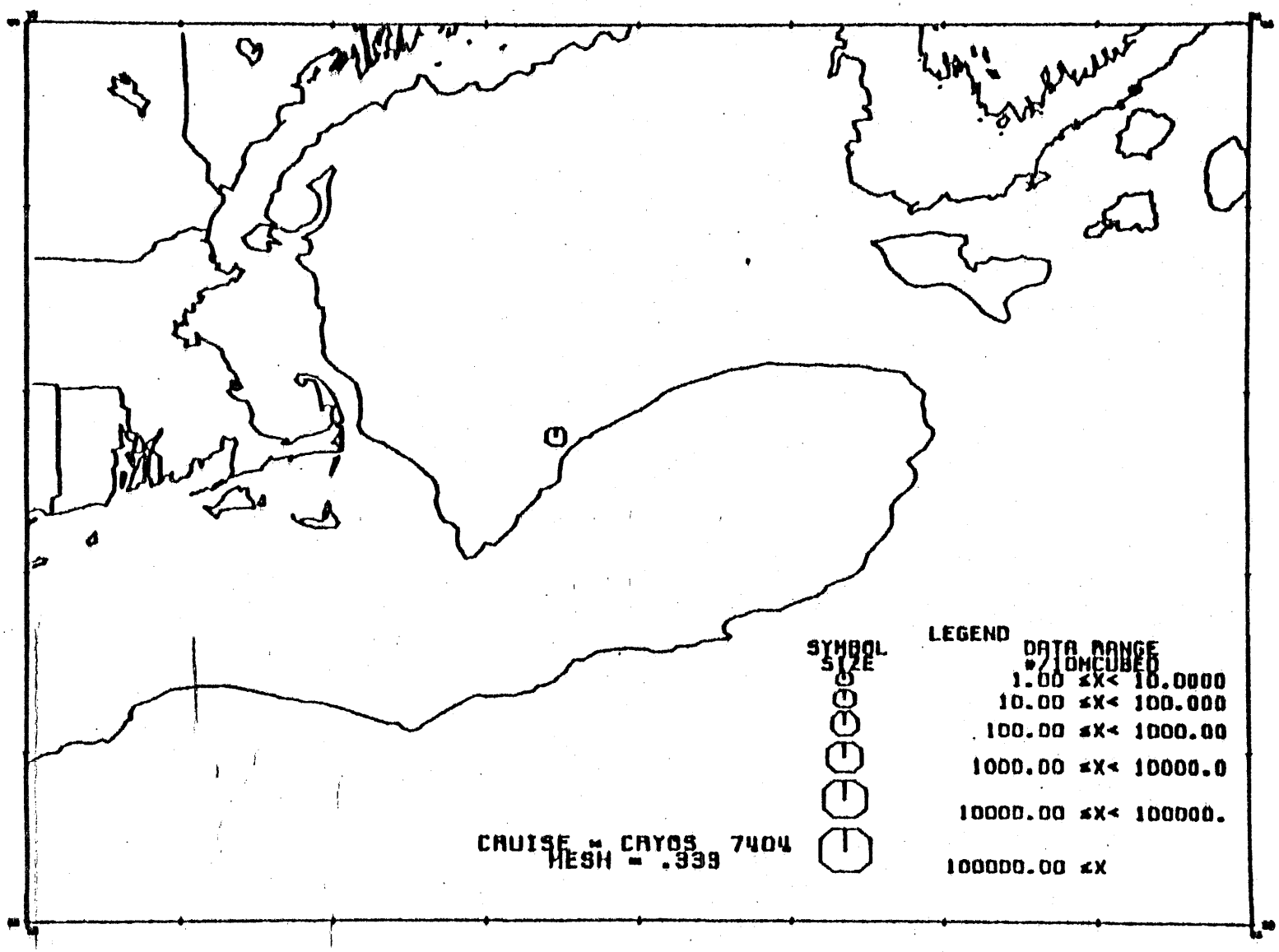

Figure 66

Pseudocalanus sp.

Copepodite Stage 2

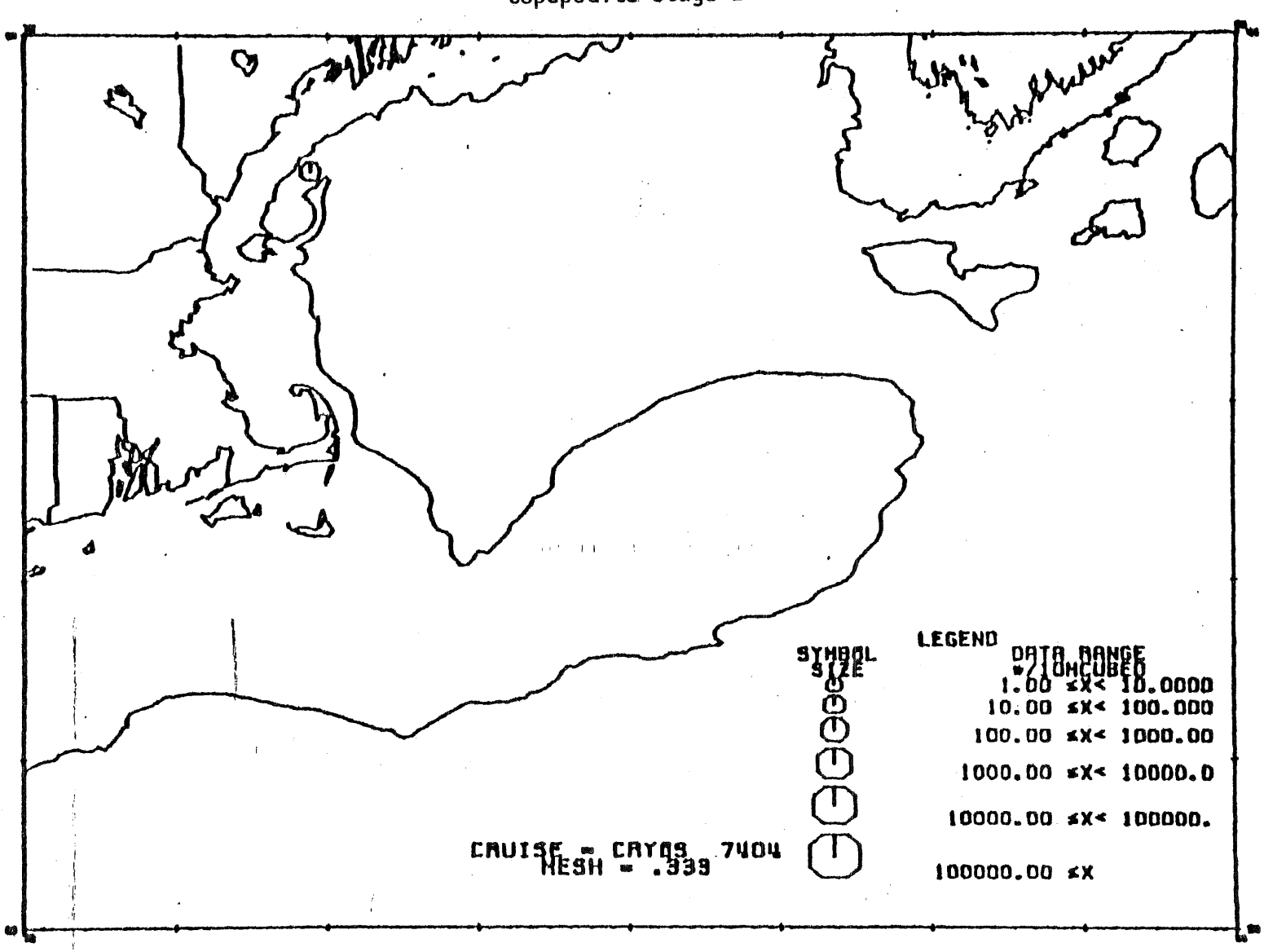

Figure 67

Pseudocalanus sp.

Copepodite Stage 3

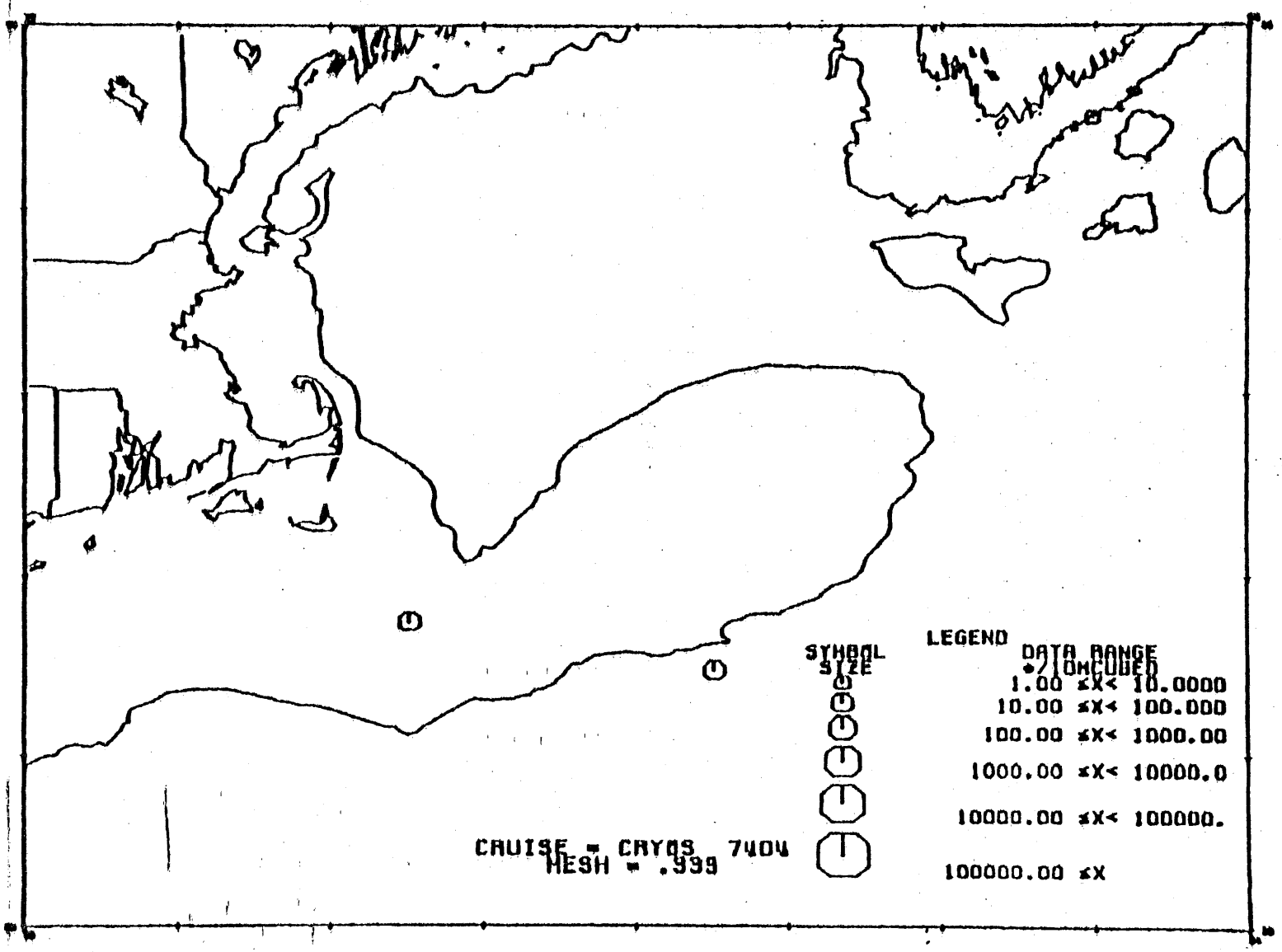

Figure 68

Pseudocalanus sp.

Copepodite Stage 4

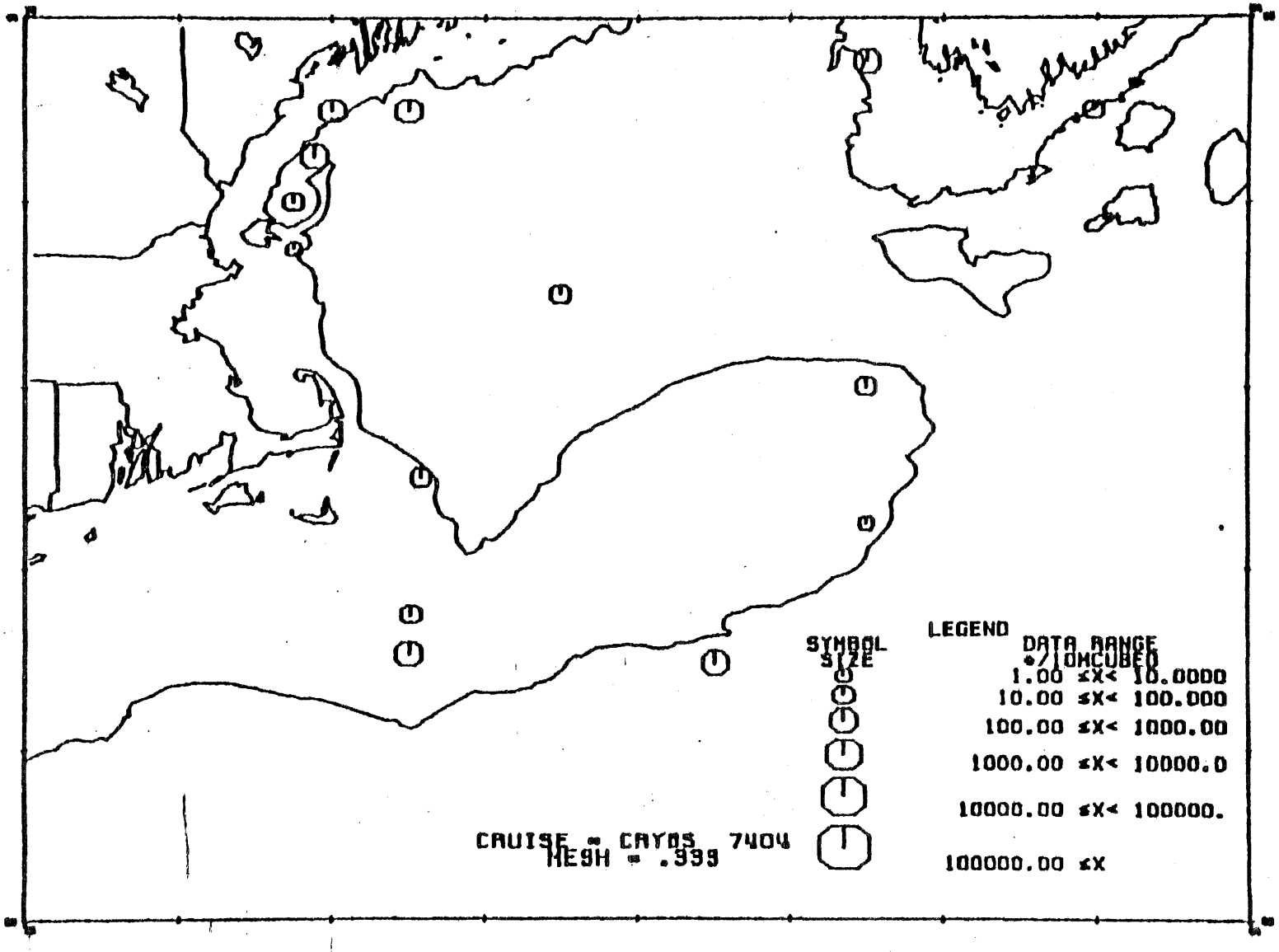

Figure 69

Pseudocalanus sp.

Copepodite Stage 5

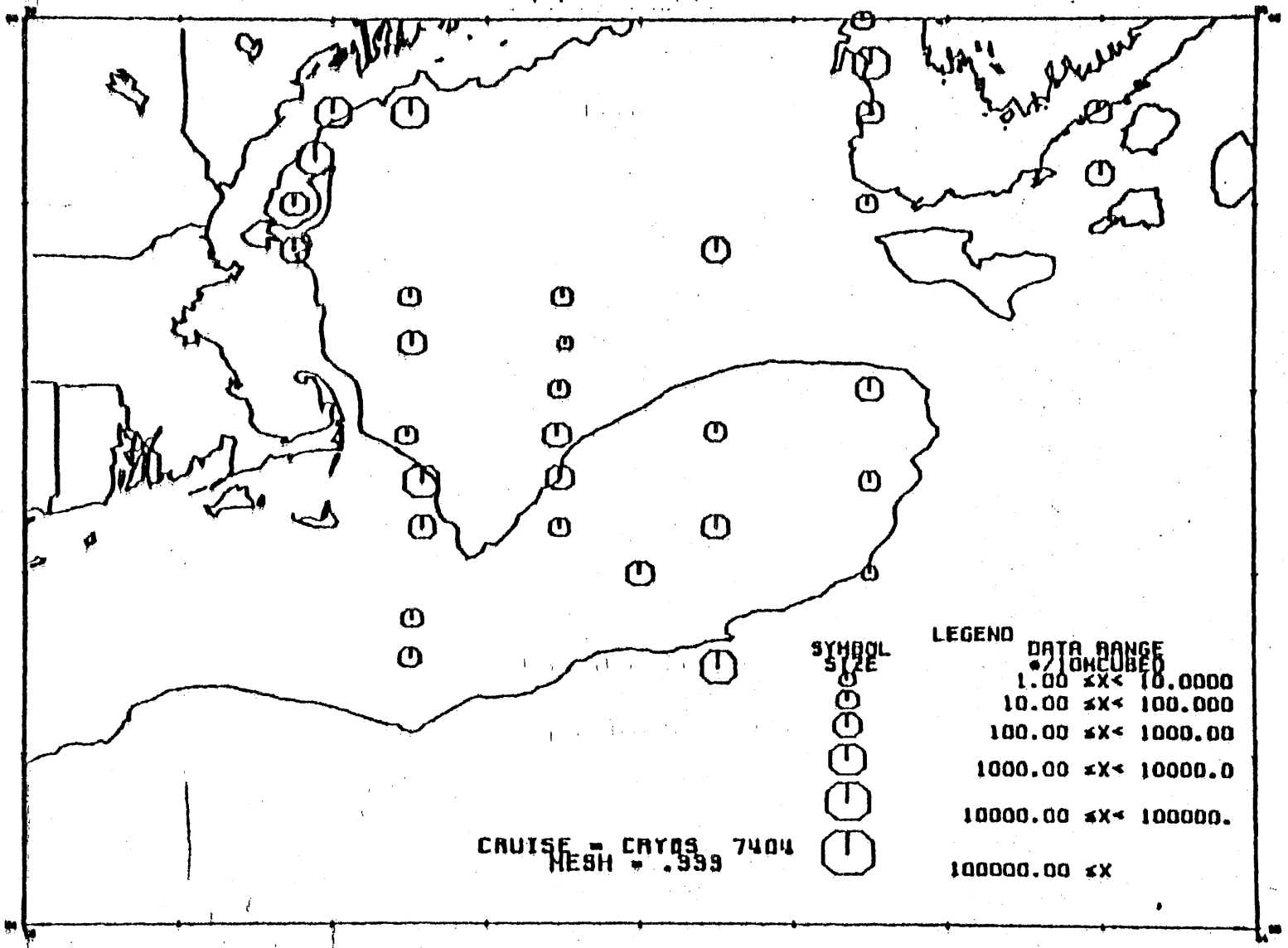

Figure 70

Pseudocalanus sp.

Adult

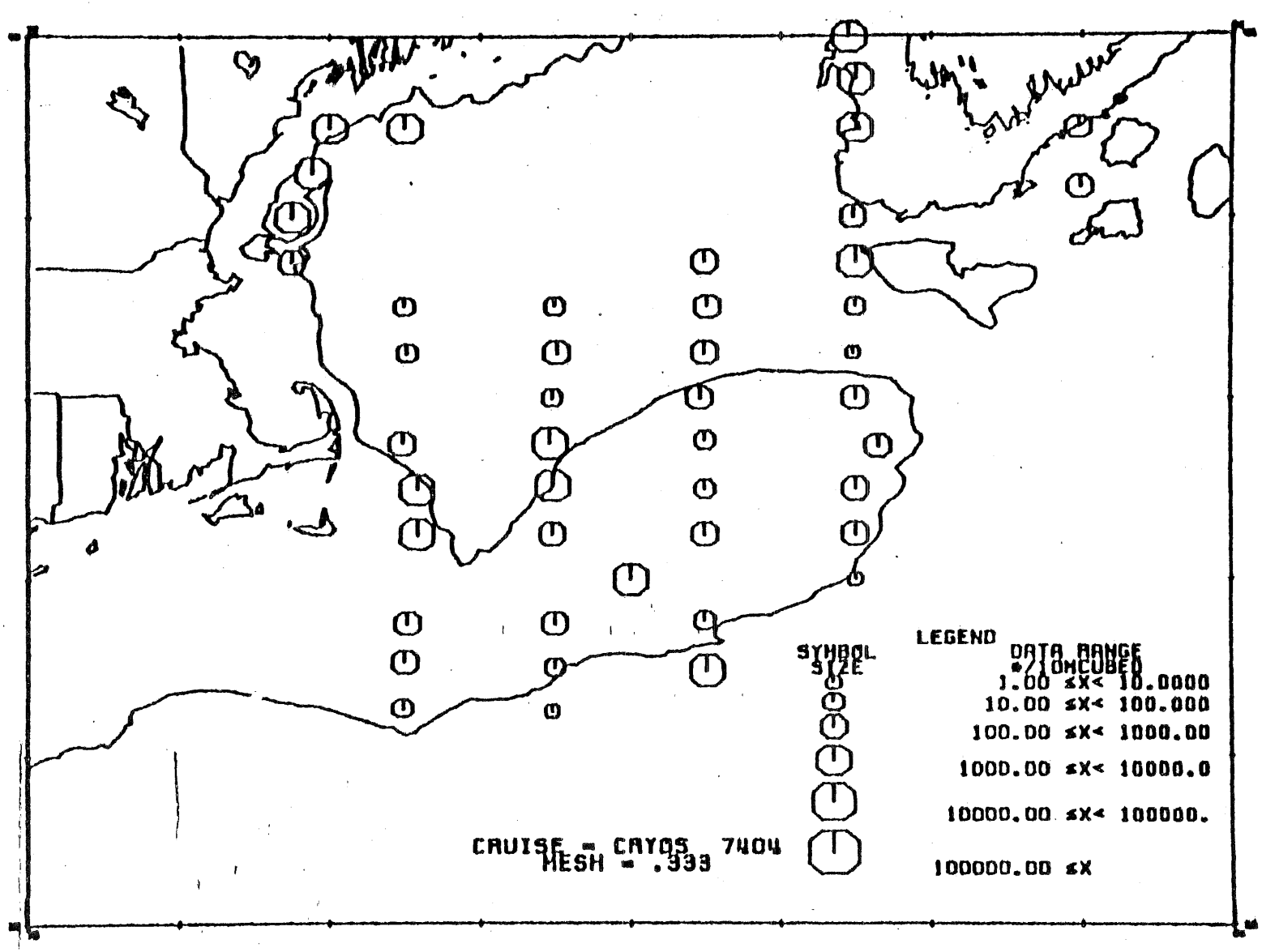

Figure 71

Paracalanus parvus

Copepodite Stage 4

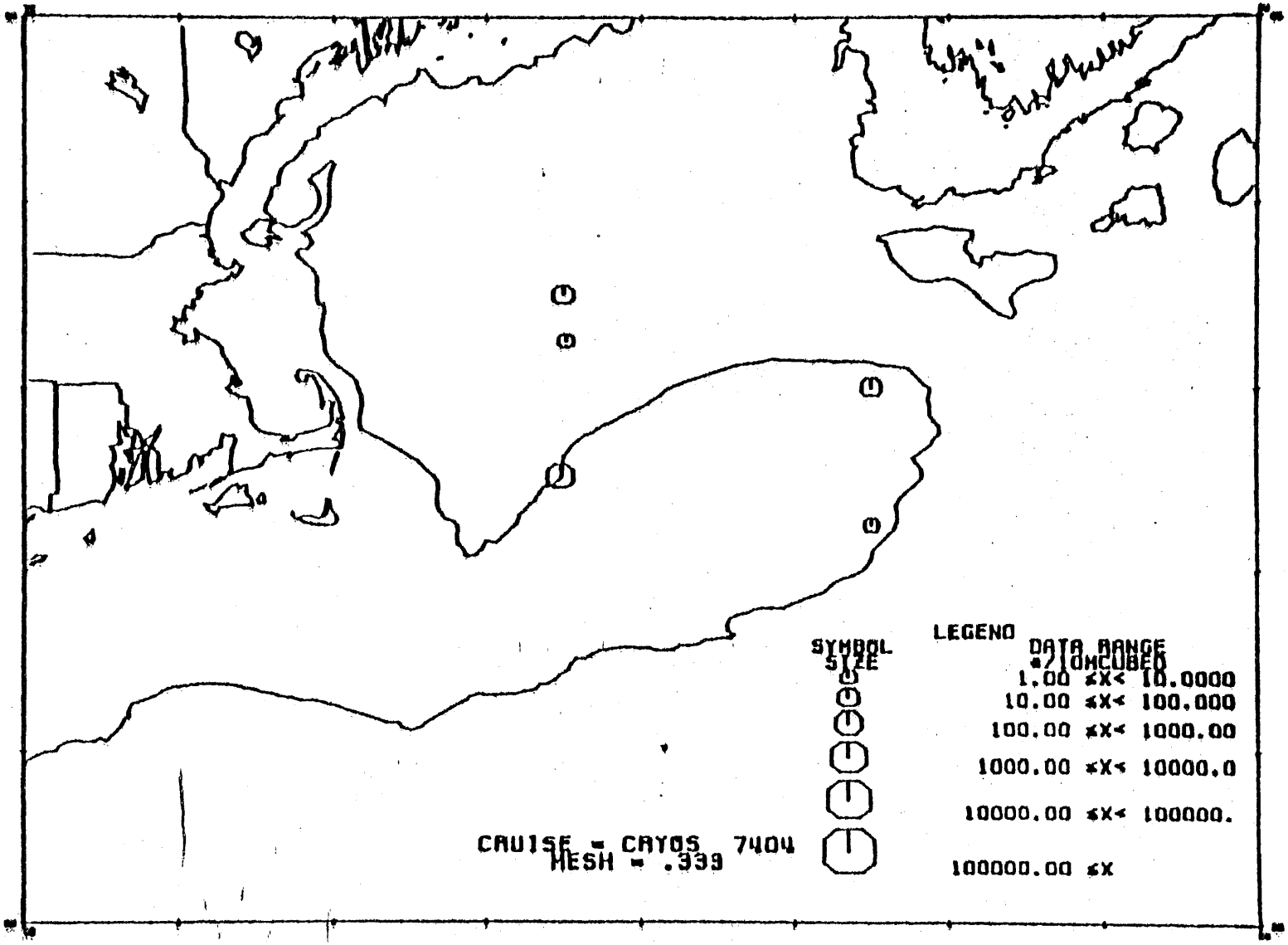

Figure 72

Paracalanus parvus

Copepodite Stage 5

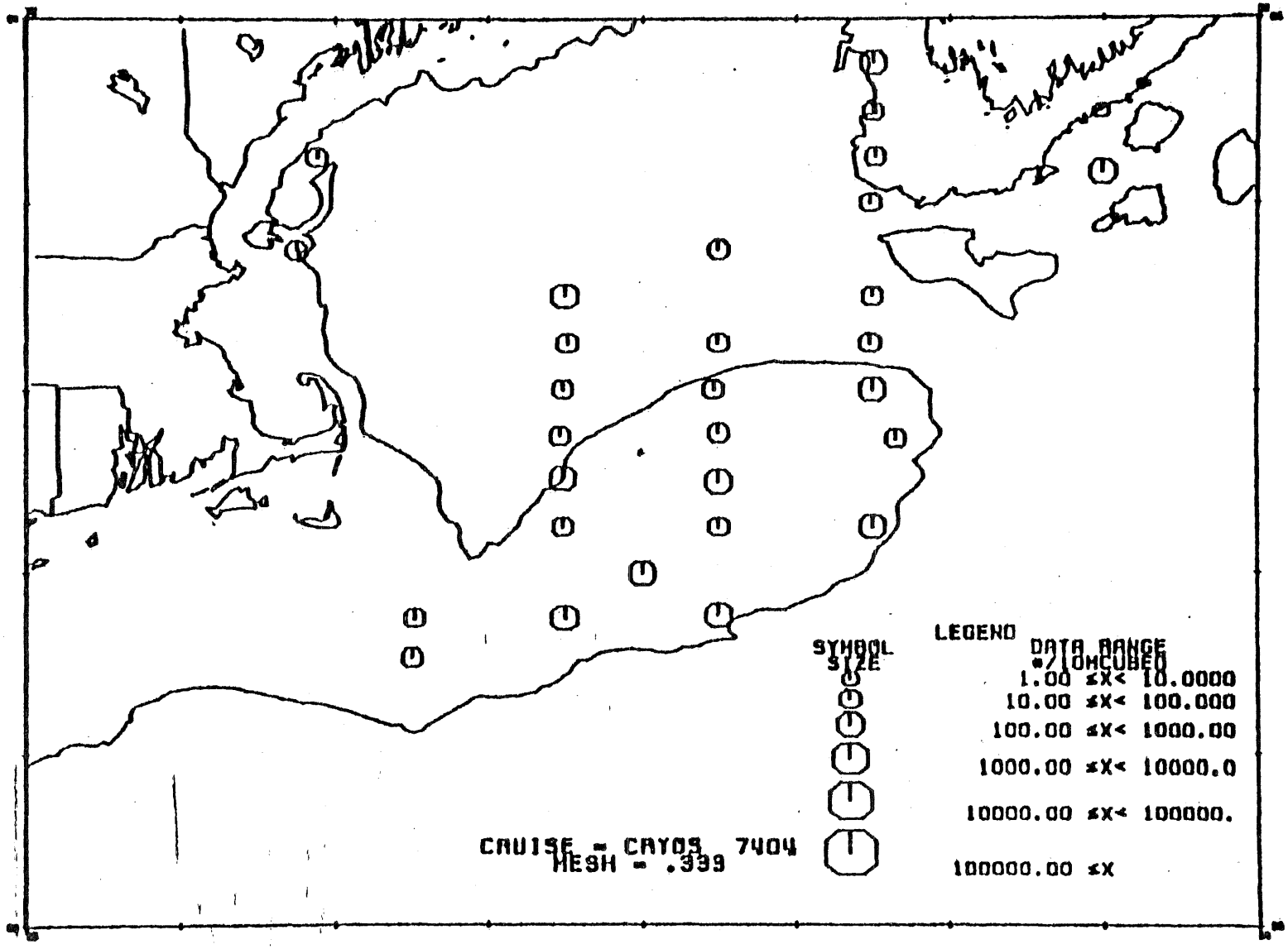

Figure 73

Paracalanus parvus

Copepodite

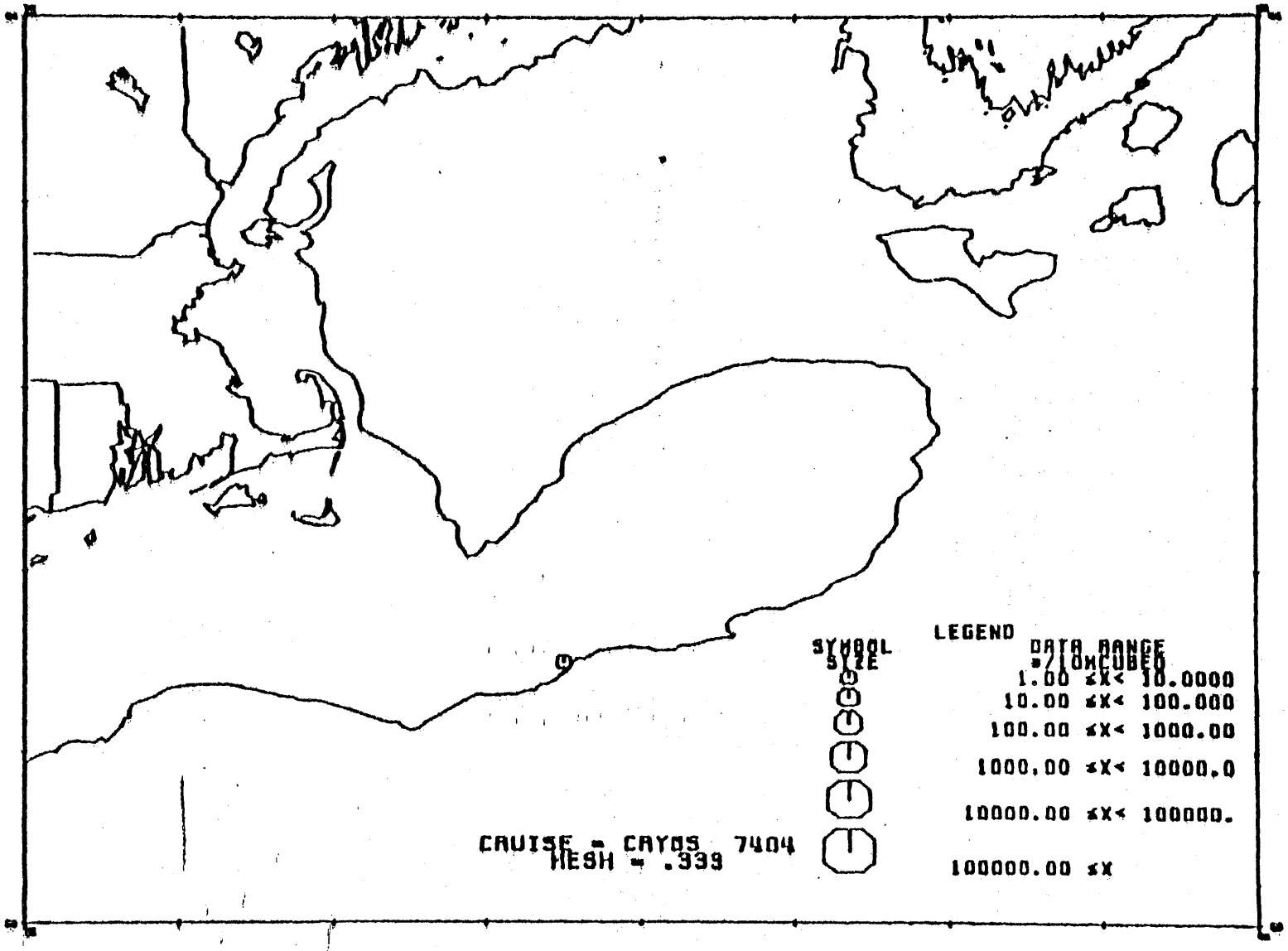

Figure 74

Paracalanus parvus

Adult

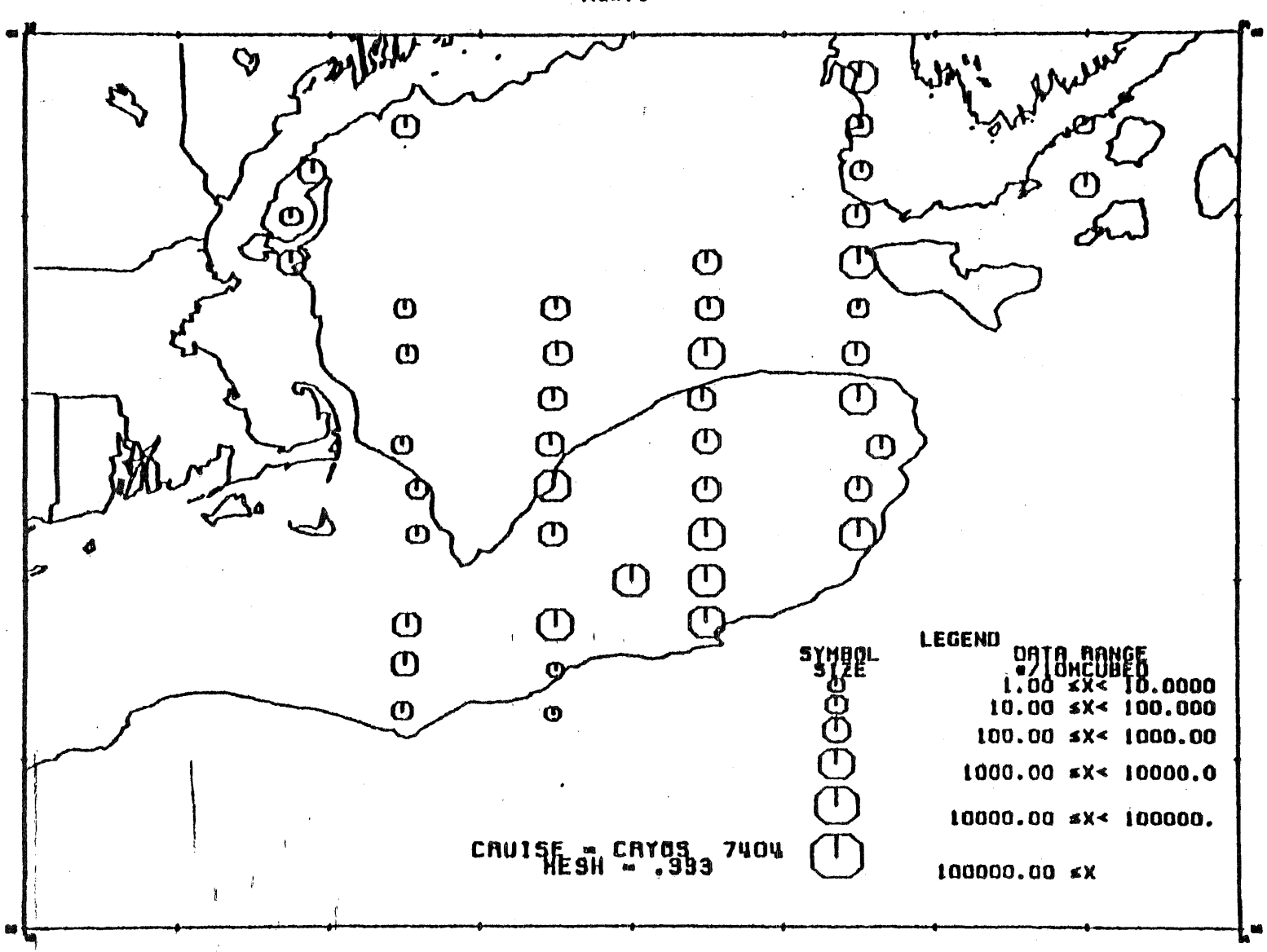

Figure 75

Centropages typicus

Copepodite Stage 1

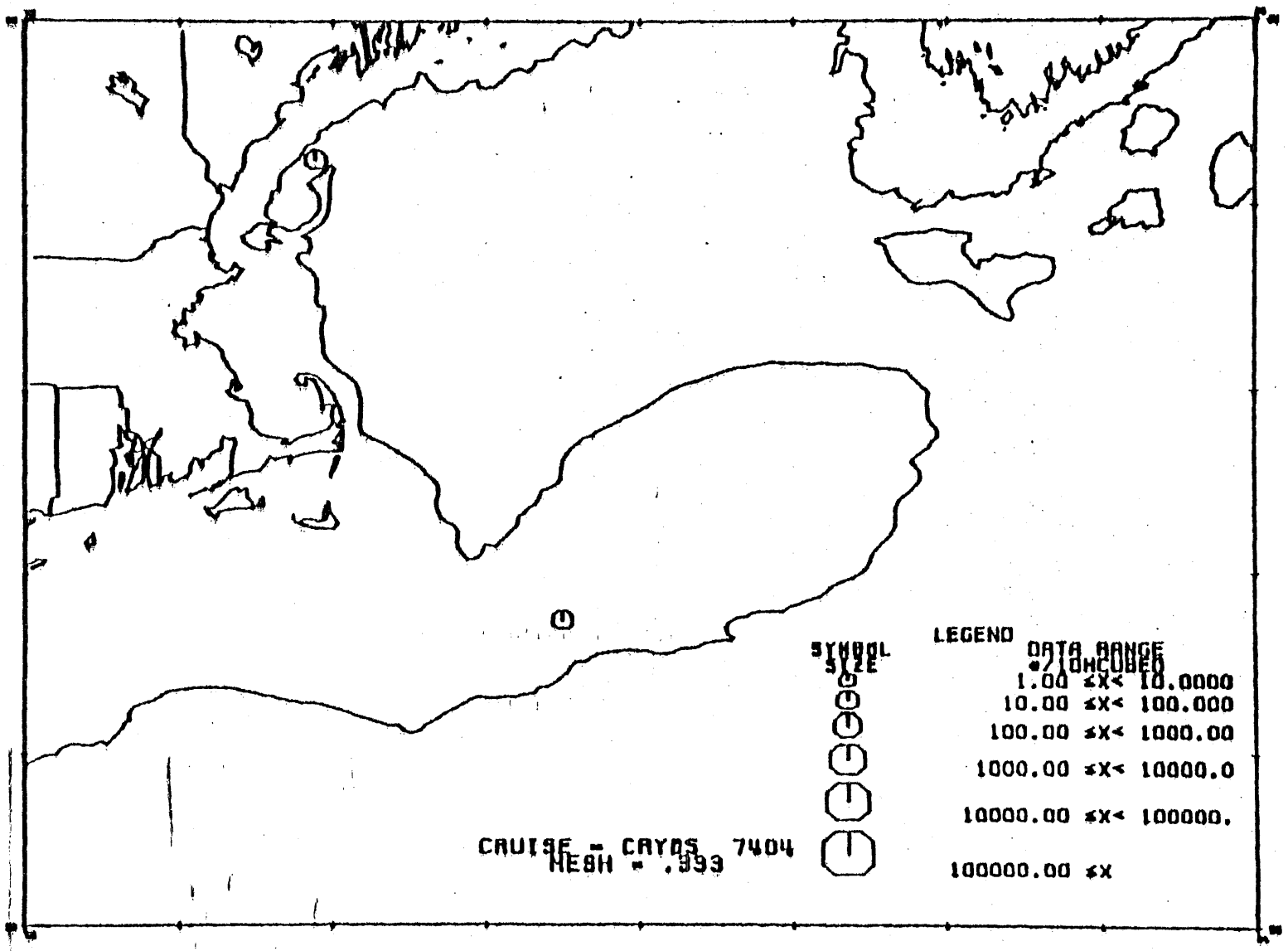

Figure 76

Centropages typicus

Copepodite Stage 2

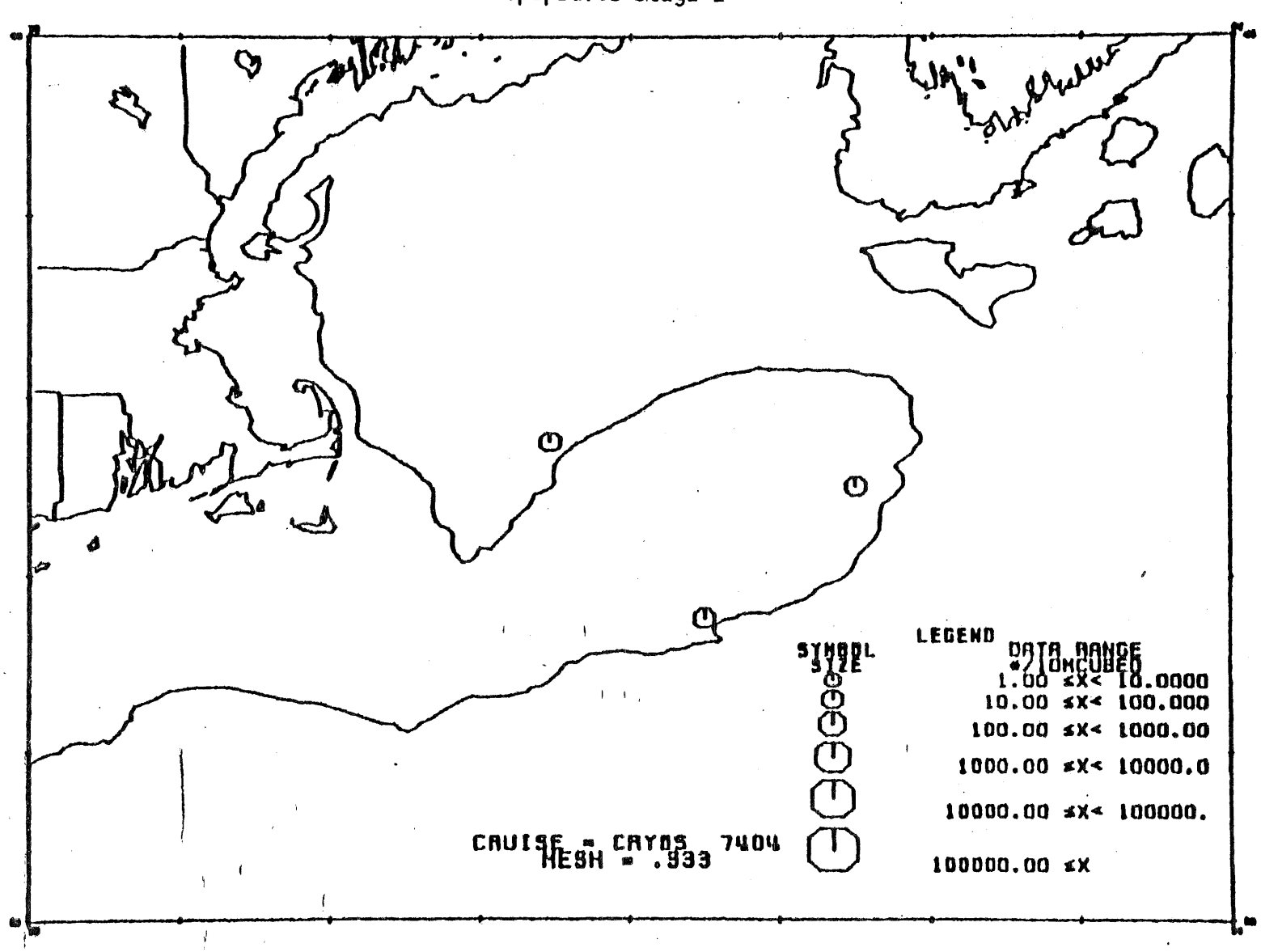

Figure 77

Centropages typicus

Copepodite Stage 3

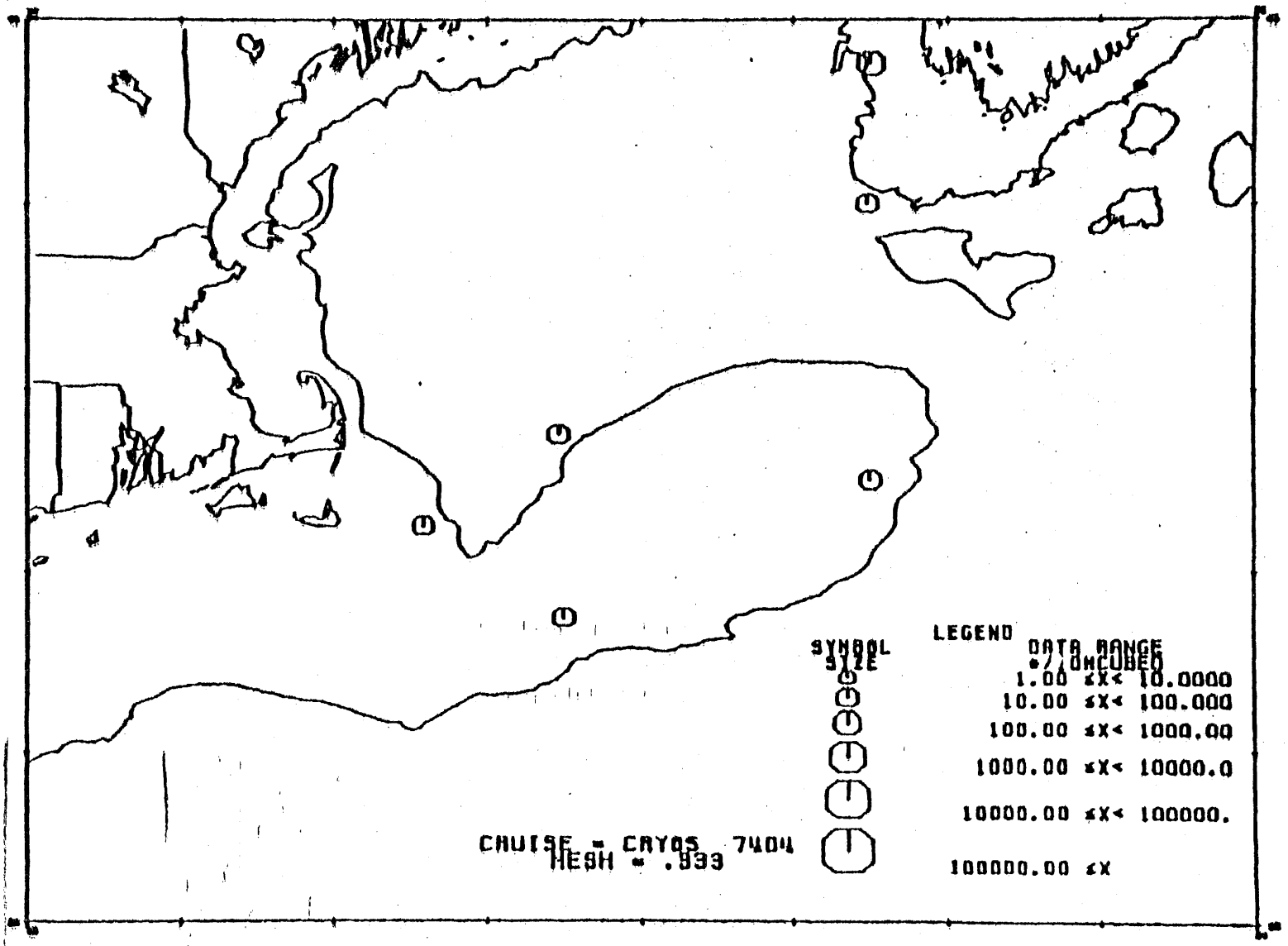

Figure 78

Centropages typicus

Copepodite Stage 4

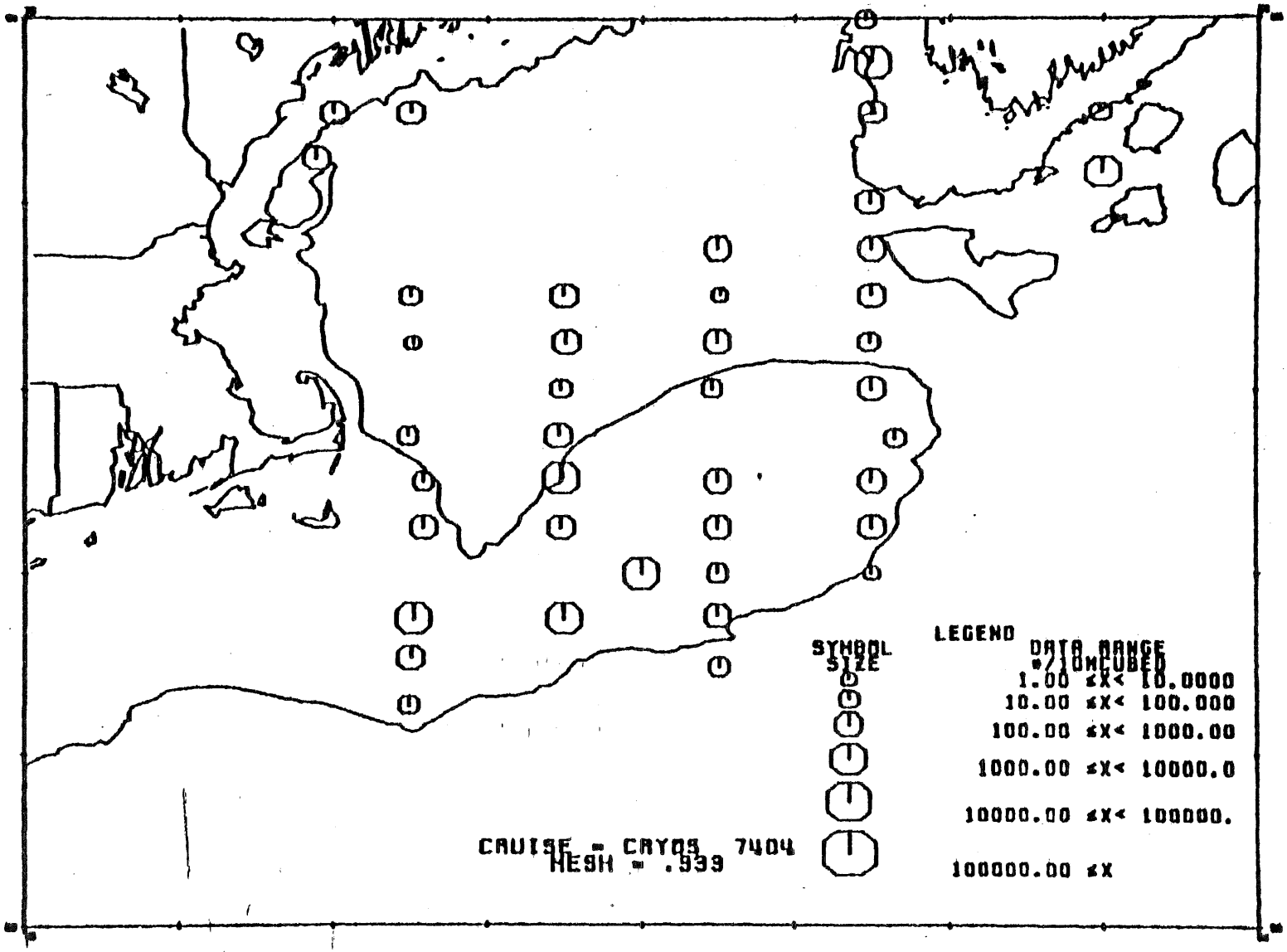

Figure 79

Centropages typicus

Copepodite Stage 5

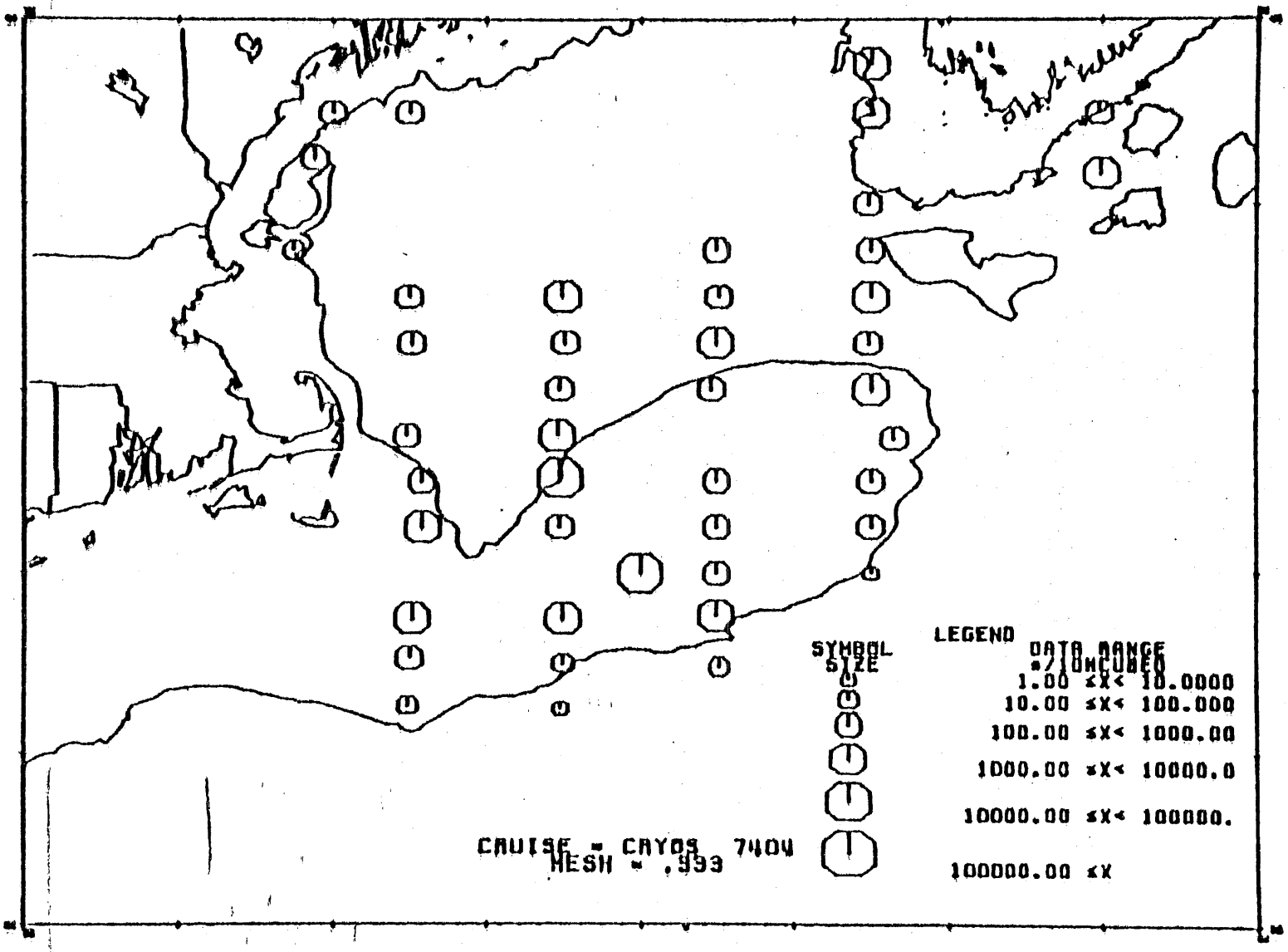

Figure 80

Centropages typicus

Adult

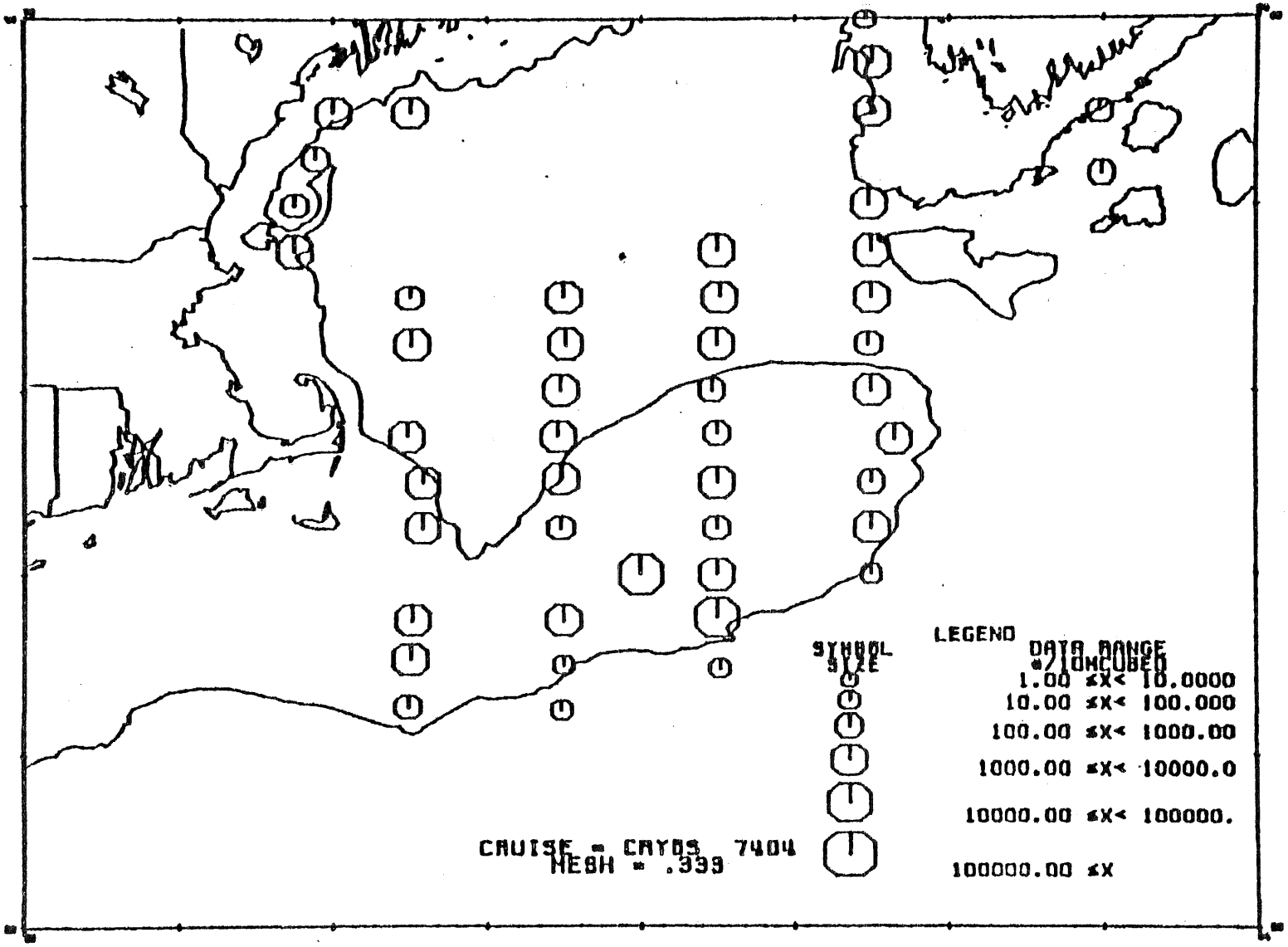

Figure 81

Centropages hamatus

Copepodite Stage 5

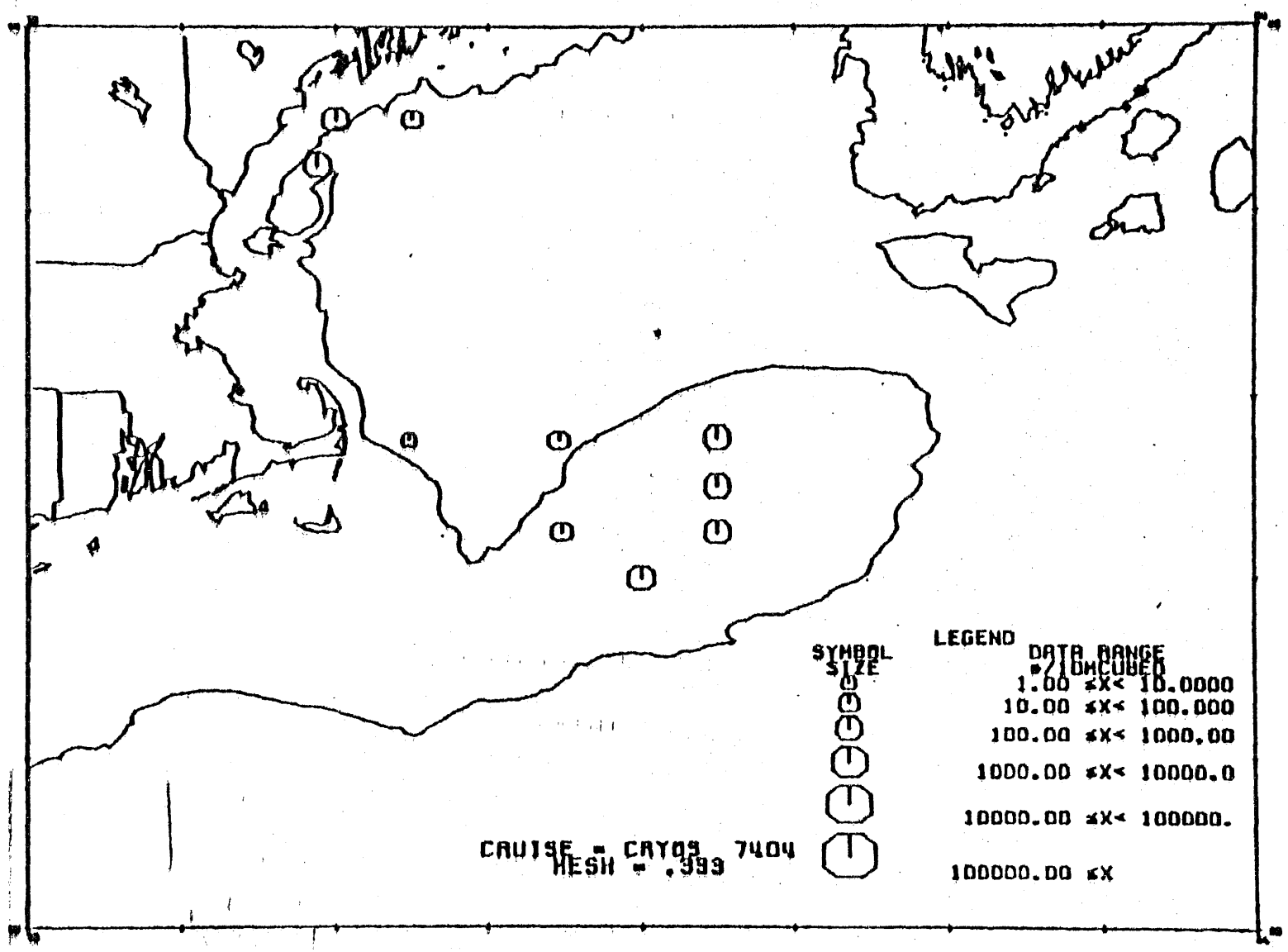

Figure 82

Centropages hamatus

Copepodite

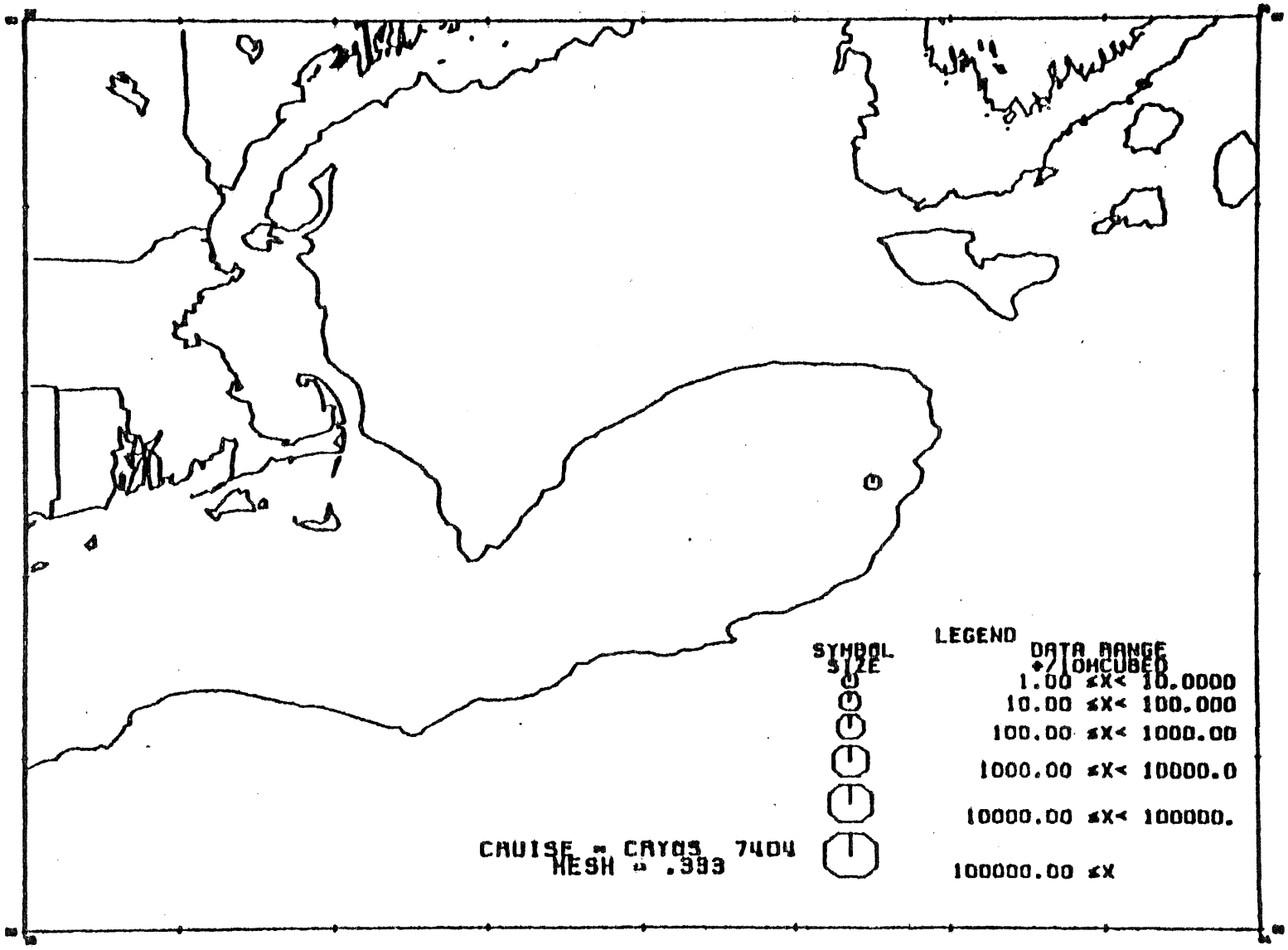

Figure 83

Centropages hamatus

Adult

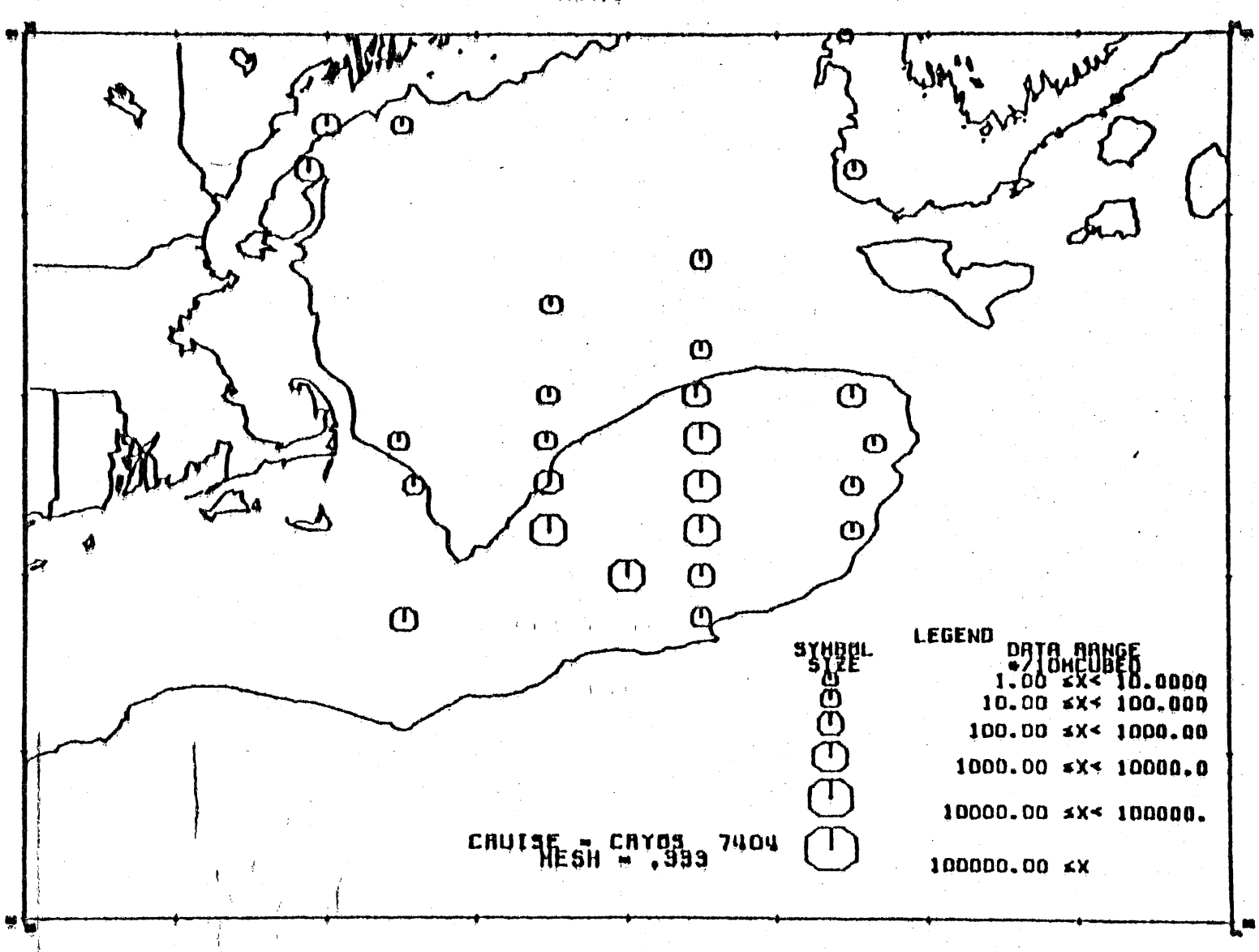

Figure 84

Oithona spp.

Copepodite

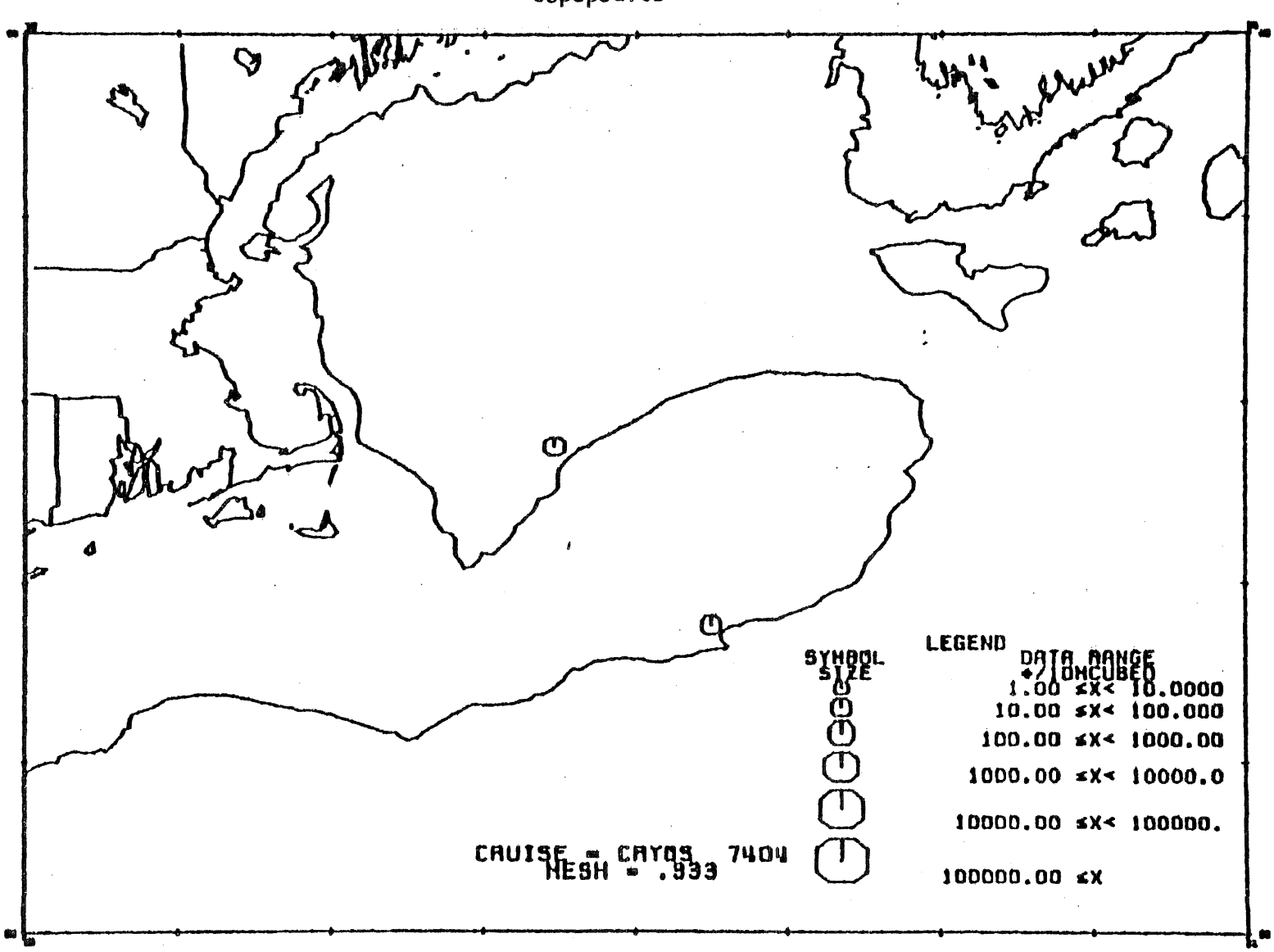

Figure 85

Oithona spp.

Adult

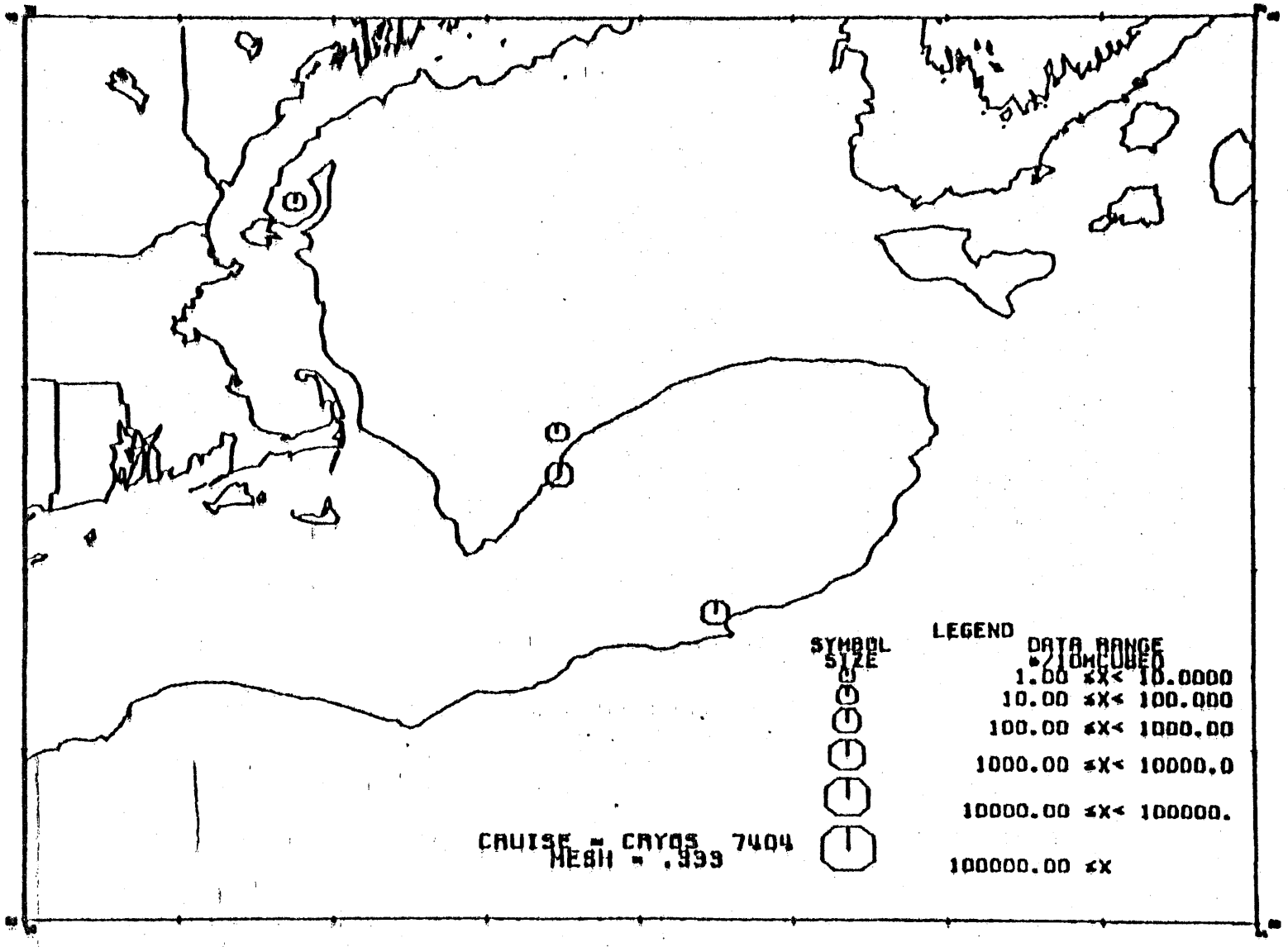

Figure 86

Calanus finmarchicus

Copepodite Stage 1

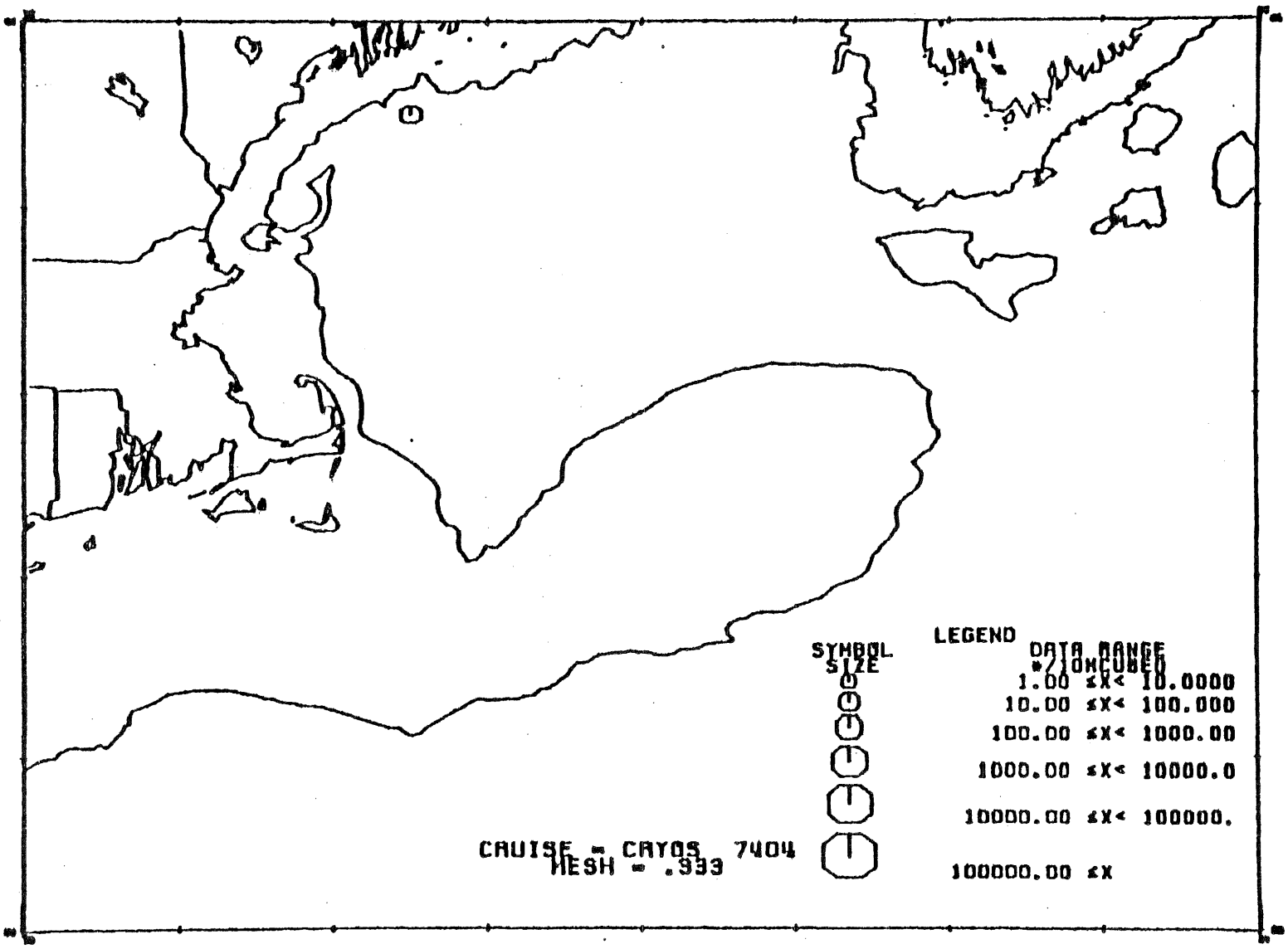

Figure 87

Calanus finmarchicus

Copepodite Stage 2

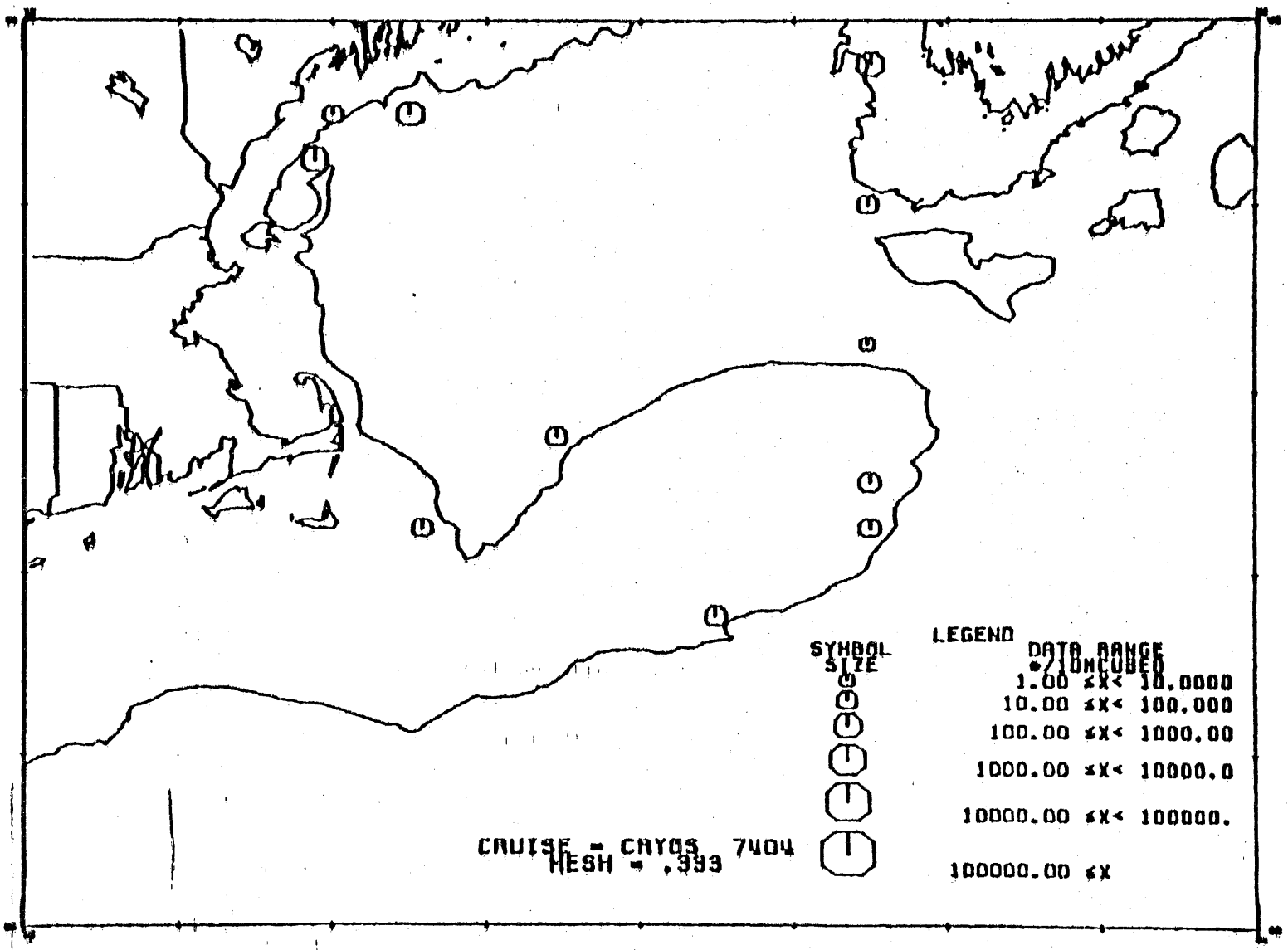

Figure 88

Calanus finmarchicus

Copepodite Stage 3

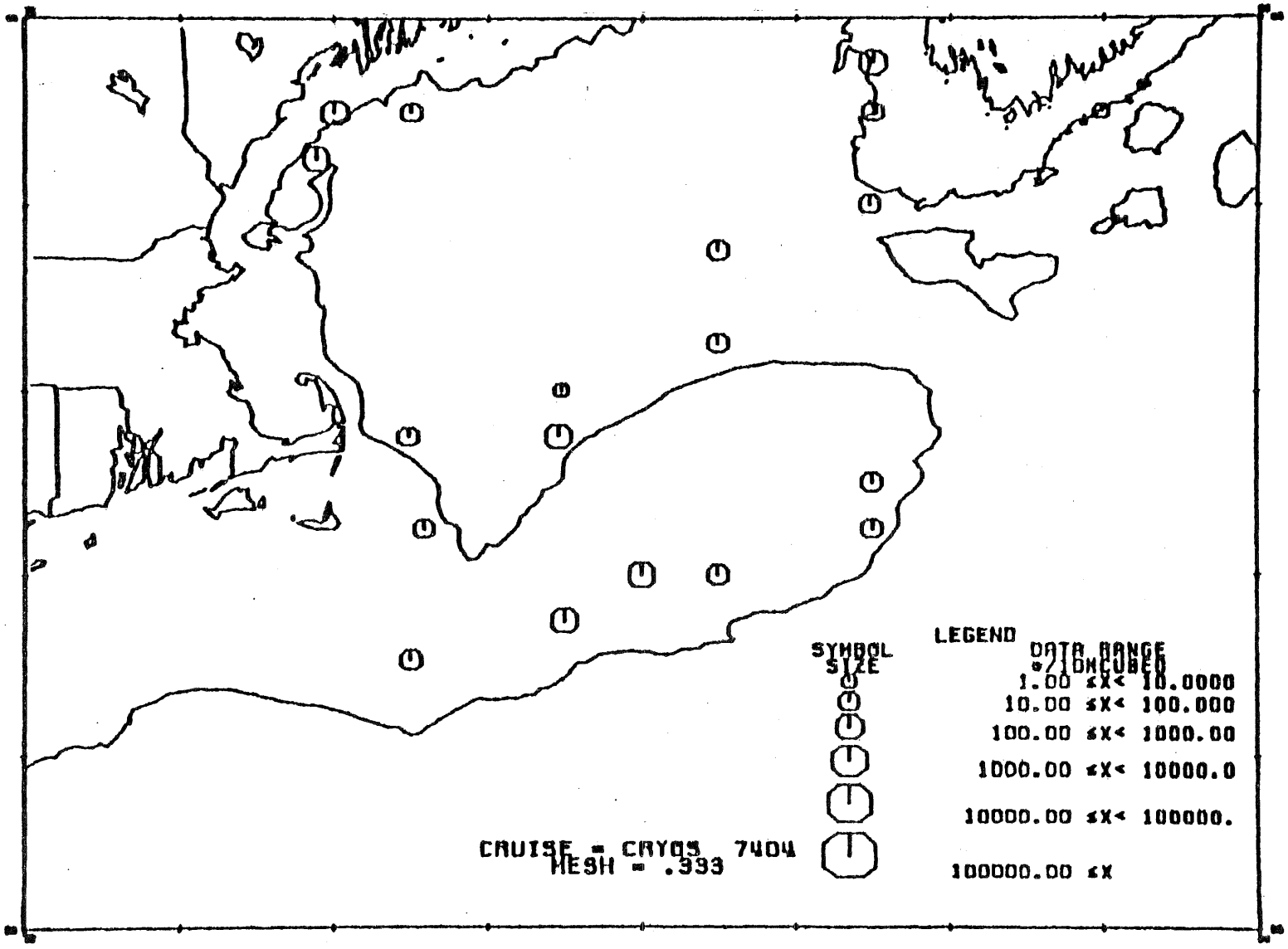

Figure 89

Calanus finmarchicus

Copepodite Stage 4

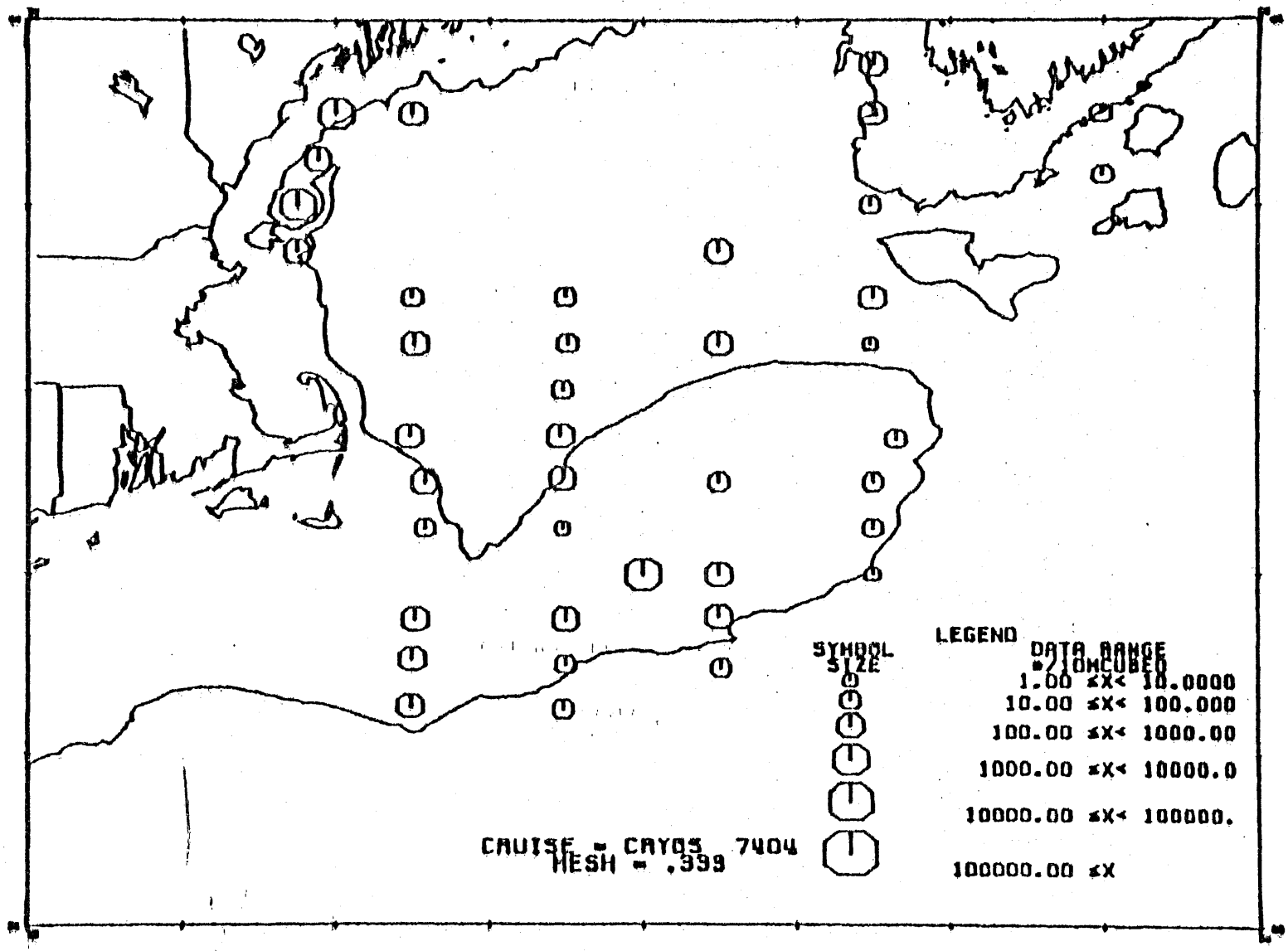

Figure 90

Calanus finmarchicus

Copepodite Stage 5

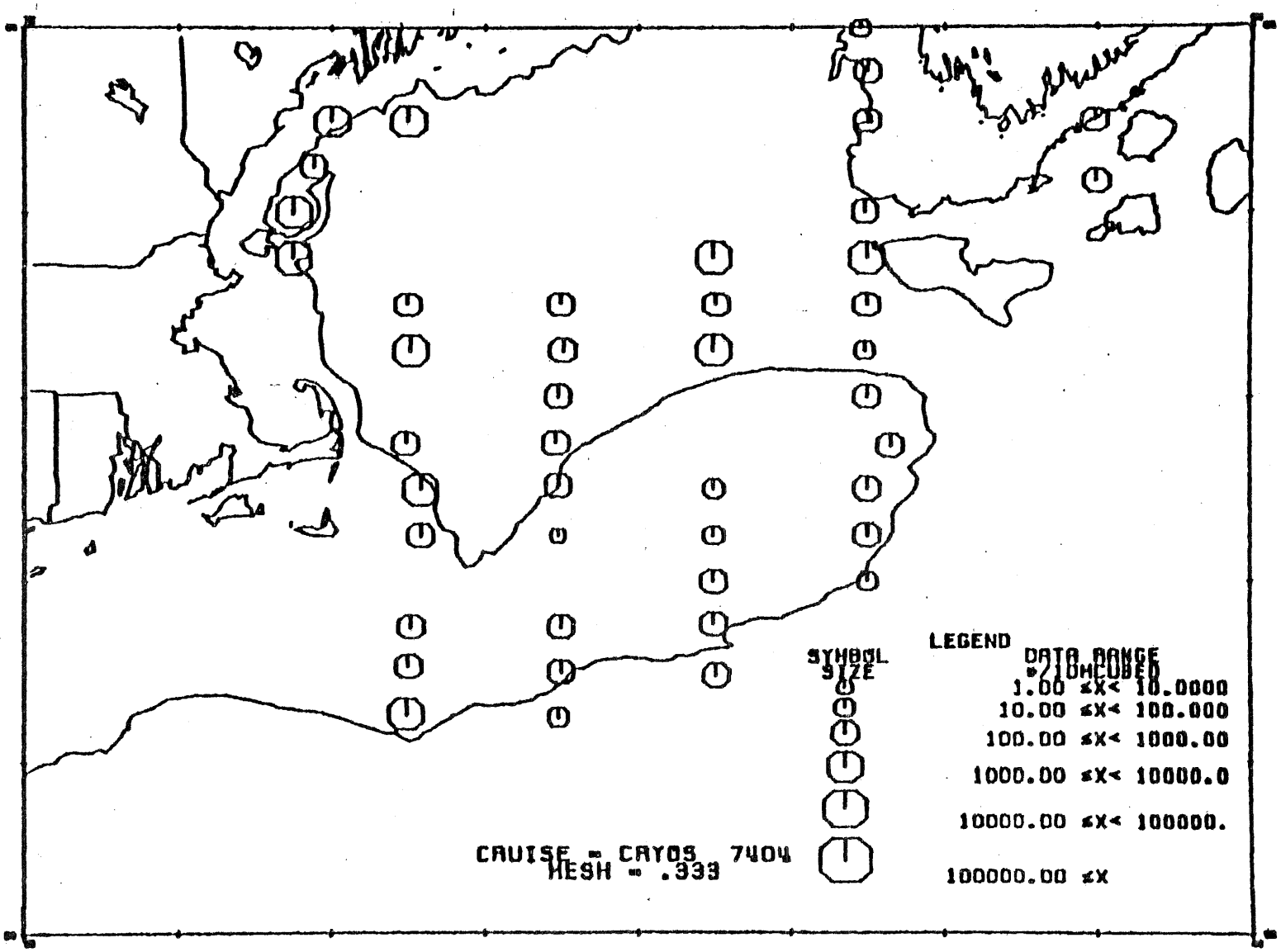

Figure 91

Calanus finmarchicus

Adult

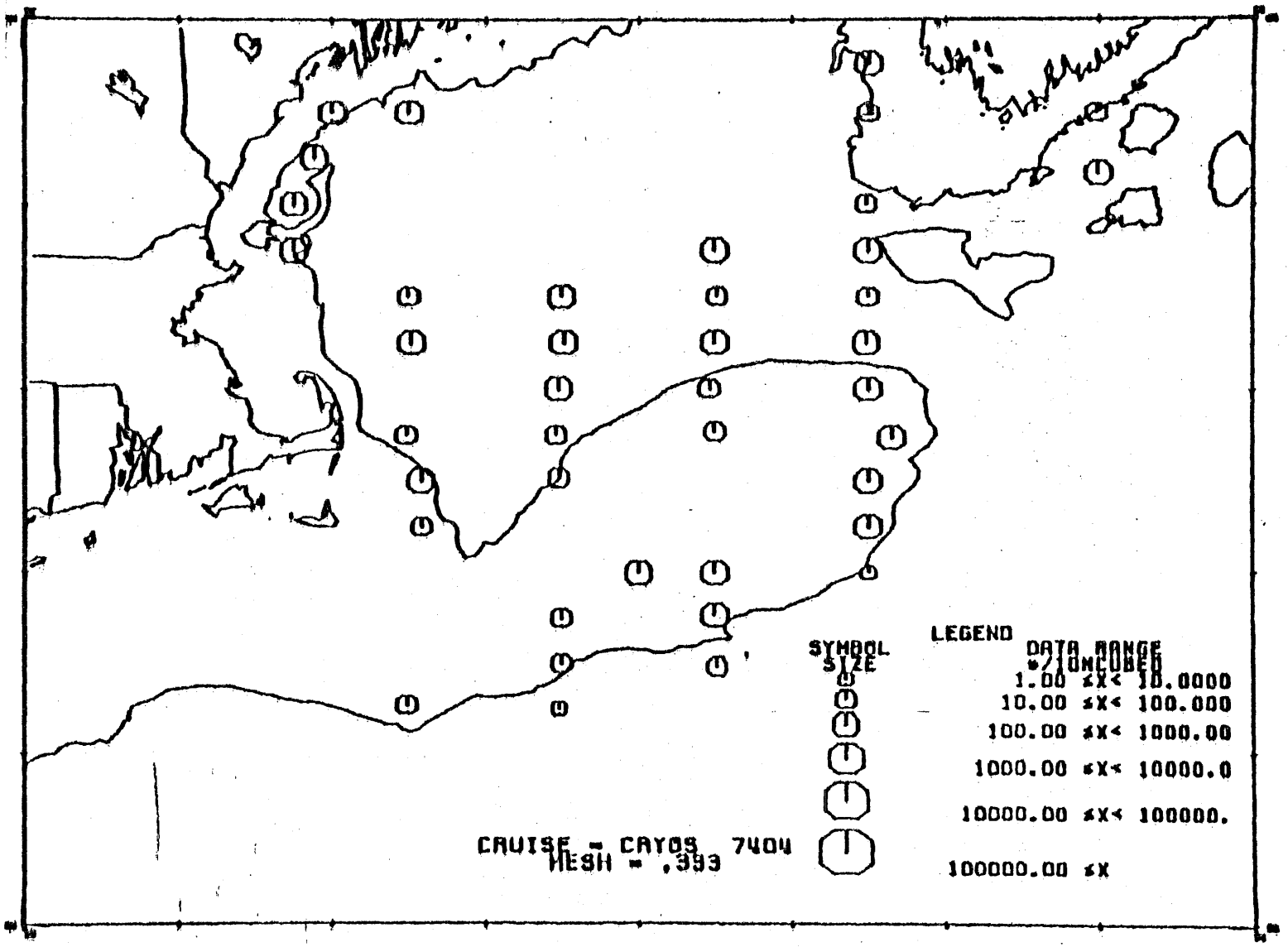

Figure 92

CHAETOGNATHA

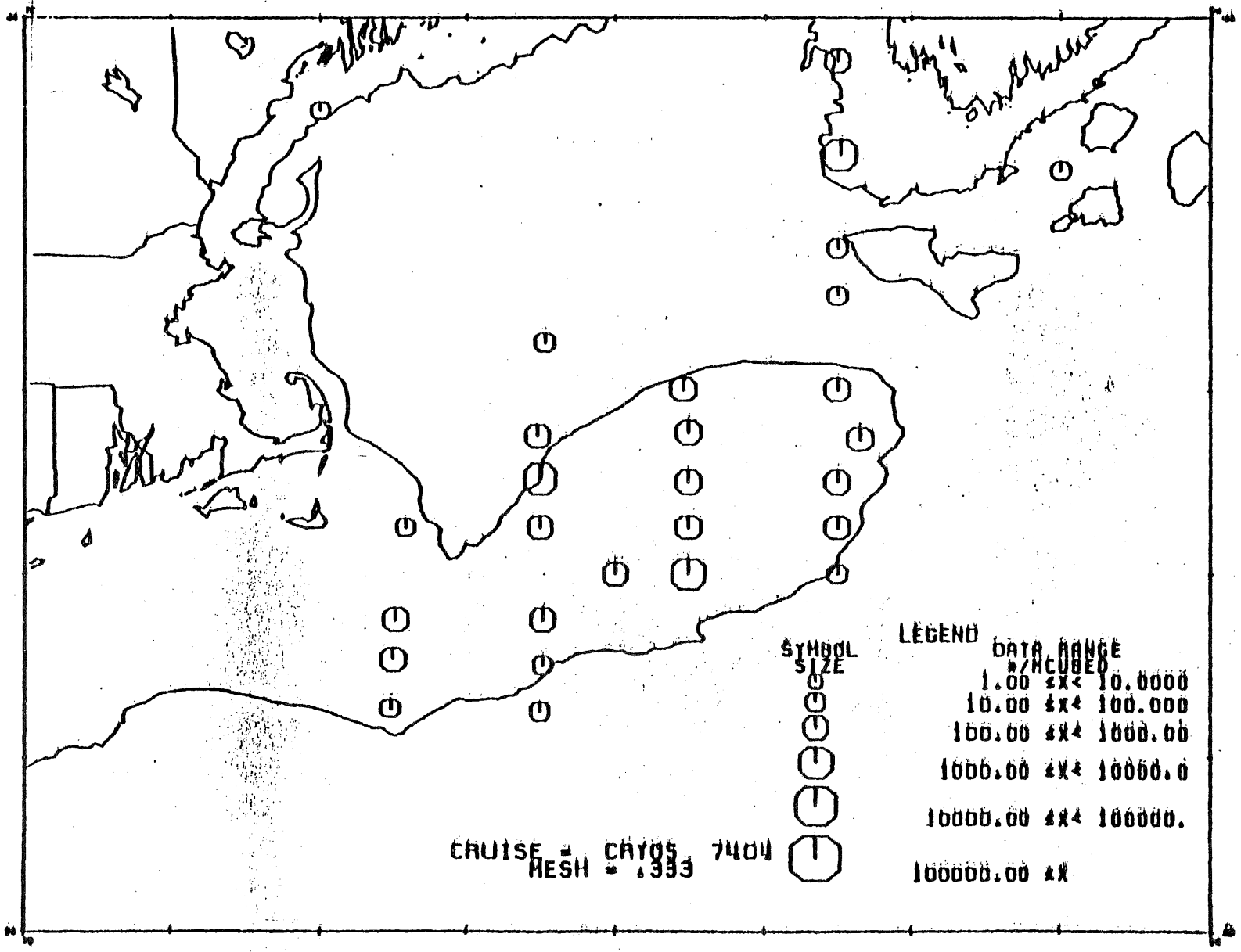

Figure 93

AMPHIPODA

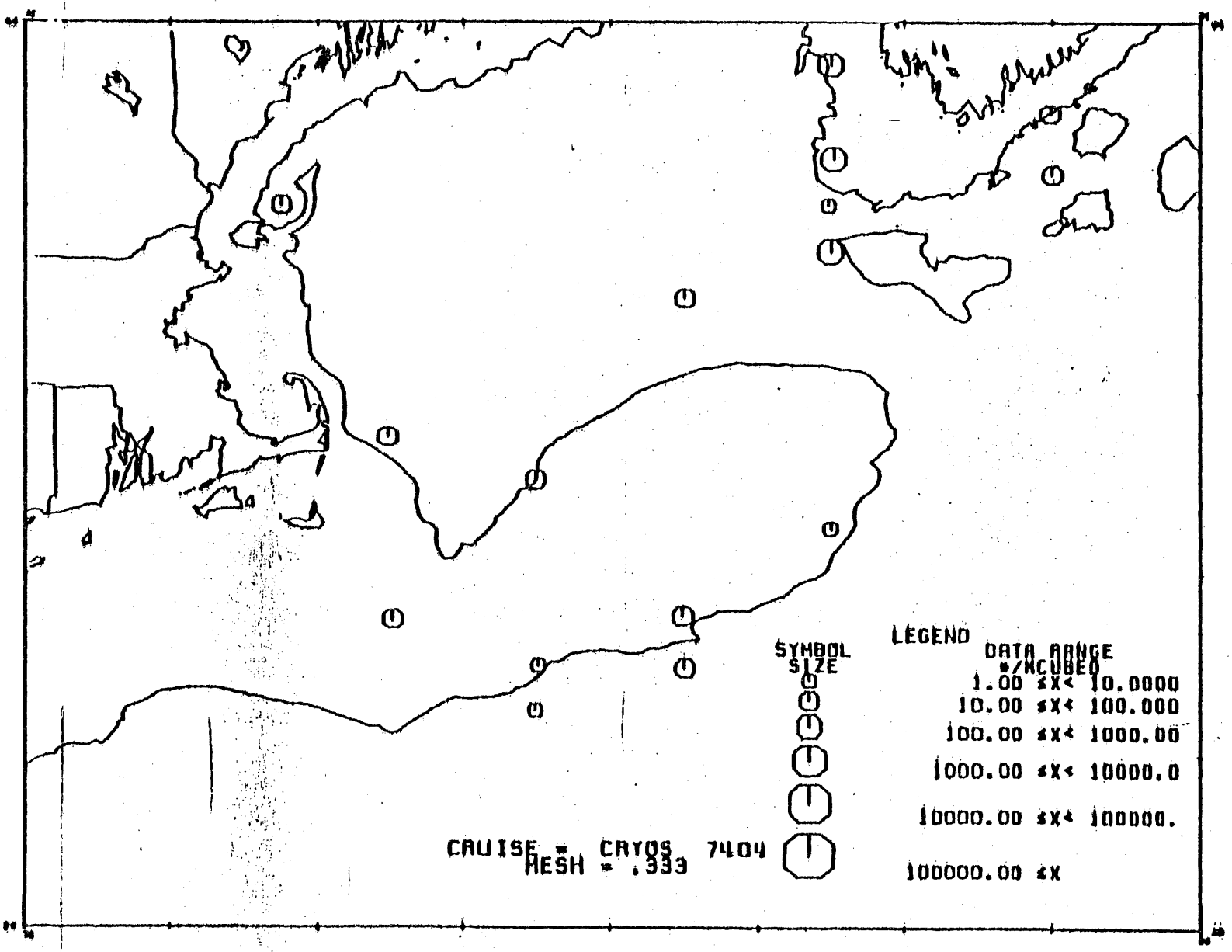

Figure 94

EUPHAUSIACEA

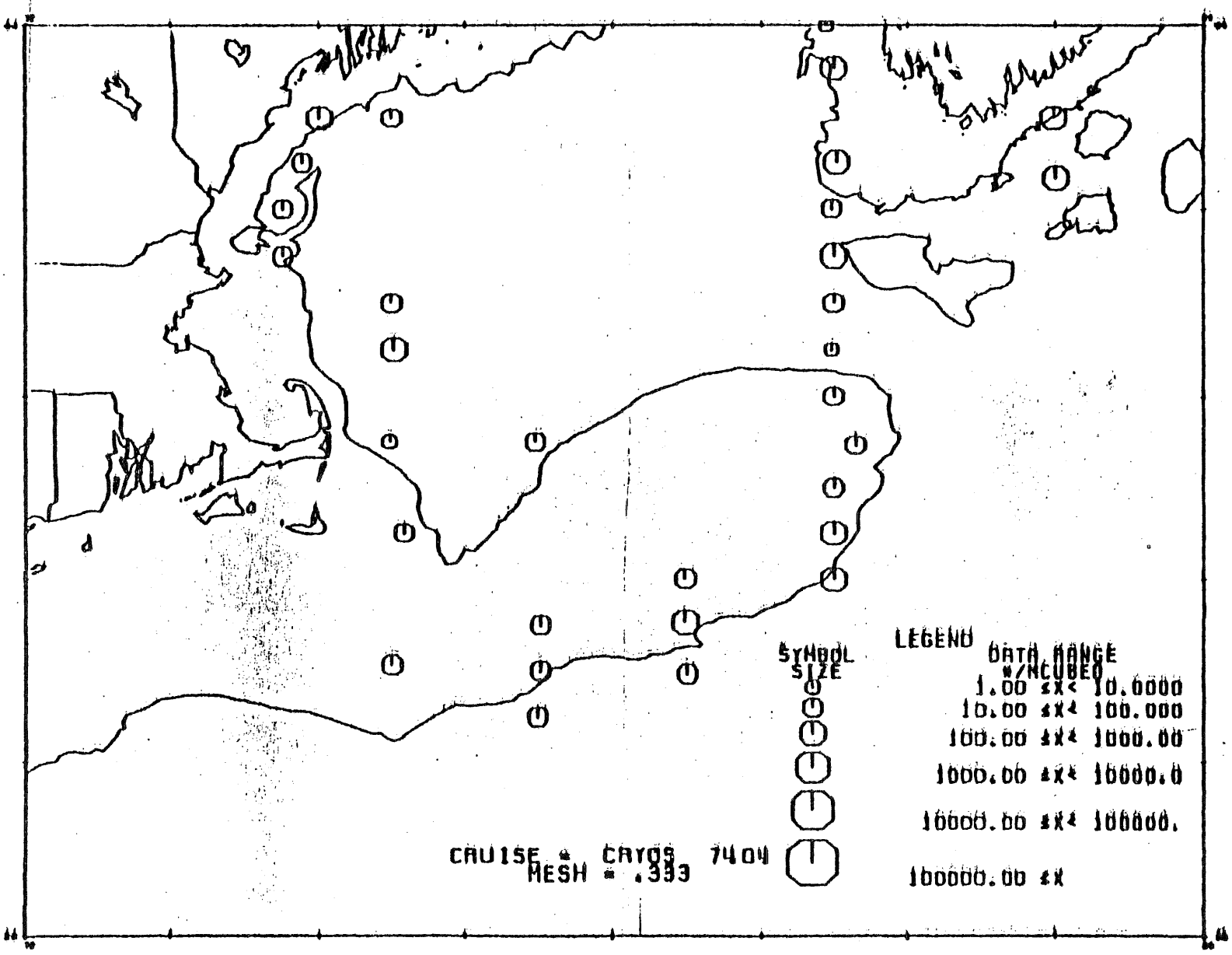

Figure 95

MYSIDACEA

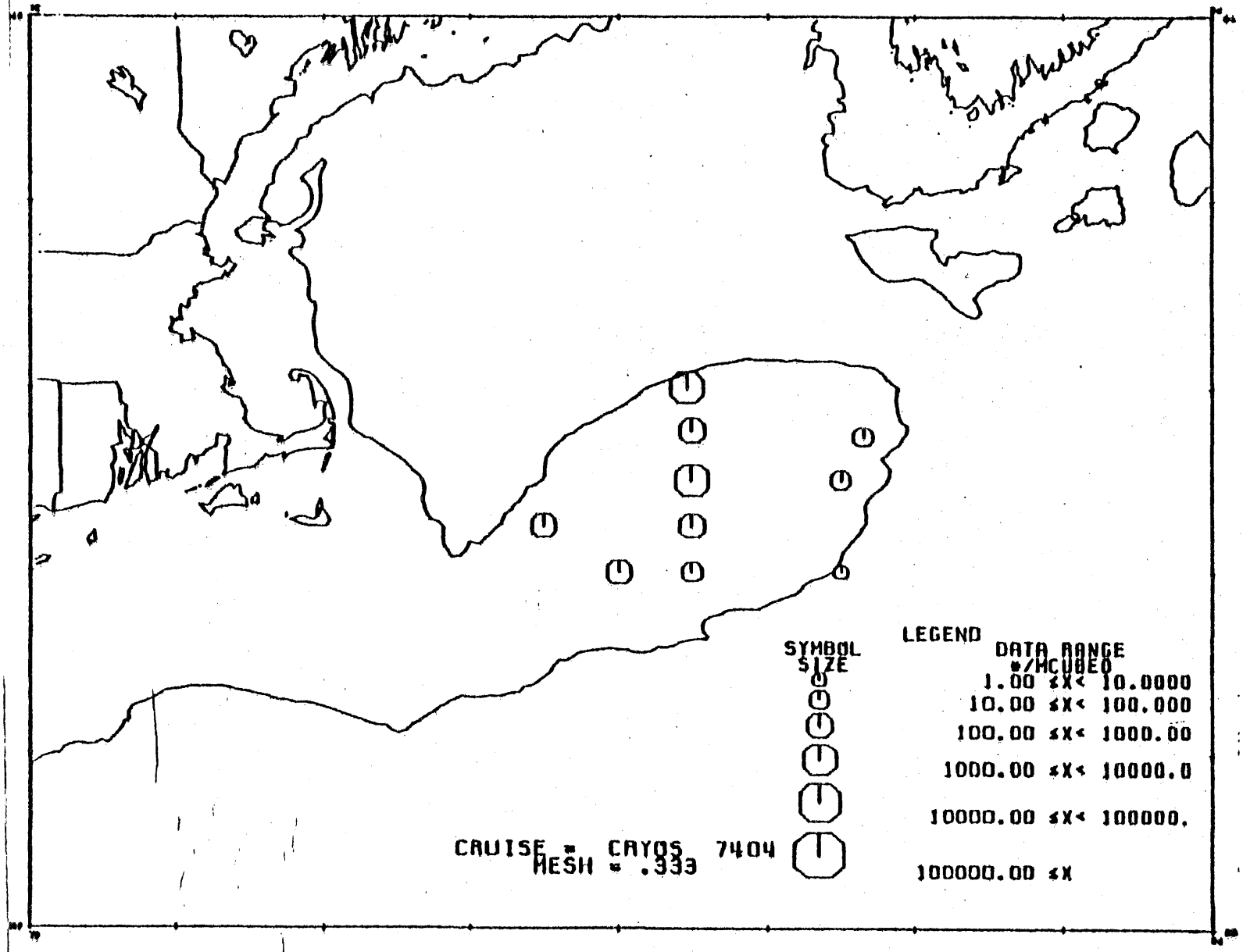

Figure 96

SALPA

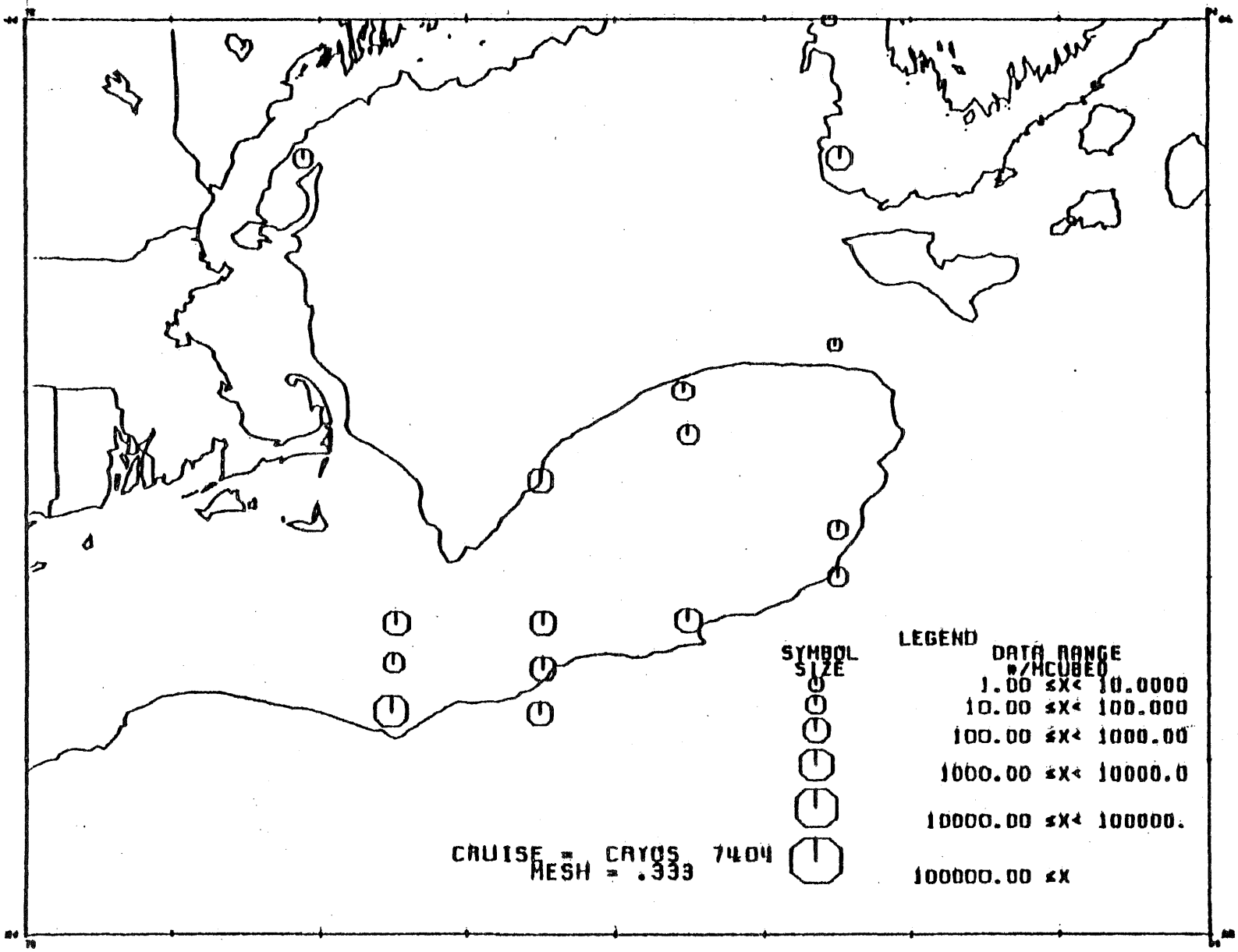

Figure 97

Stations Sampled

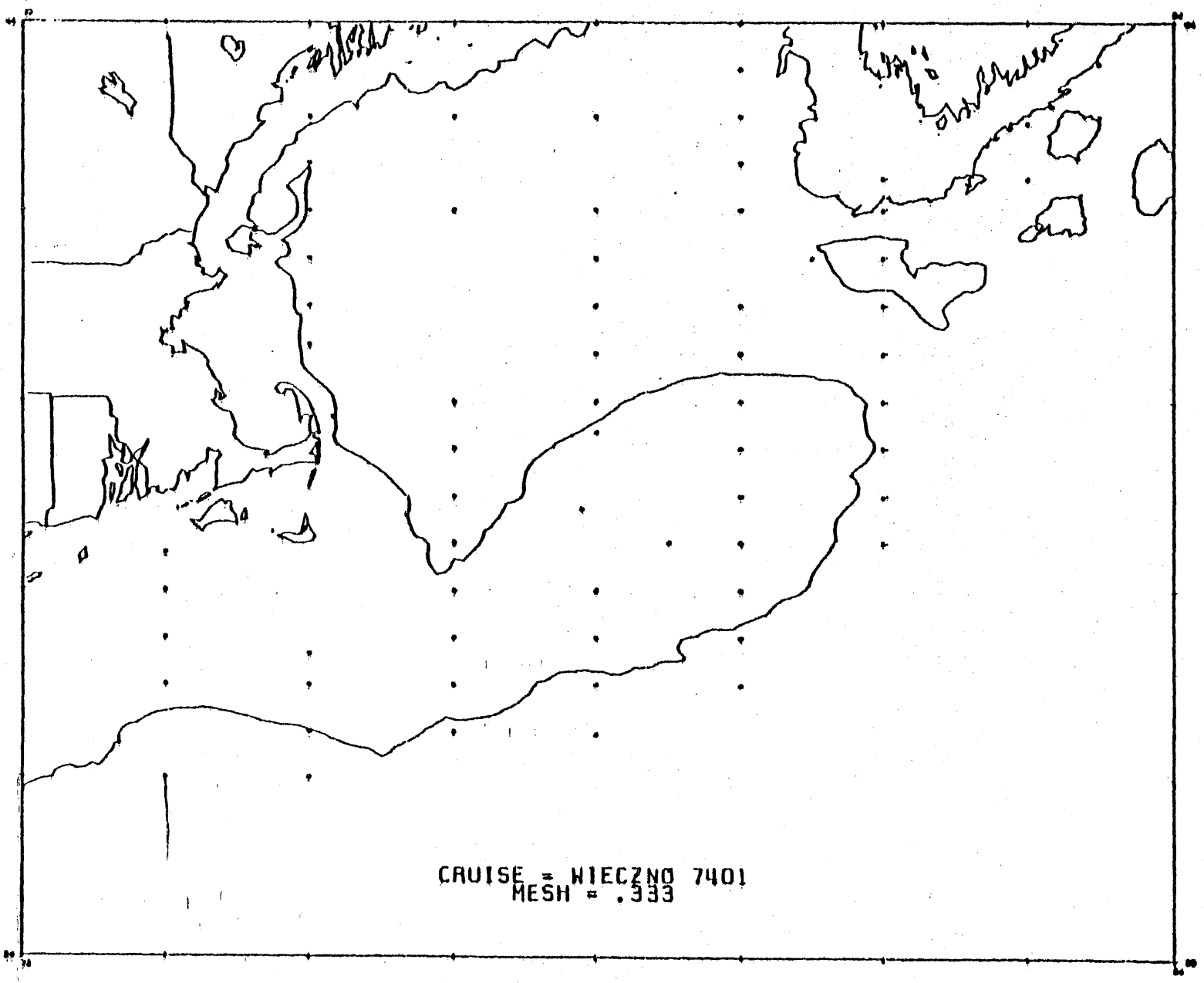

Figure 98

DISPLACEMENT VOLUME

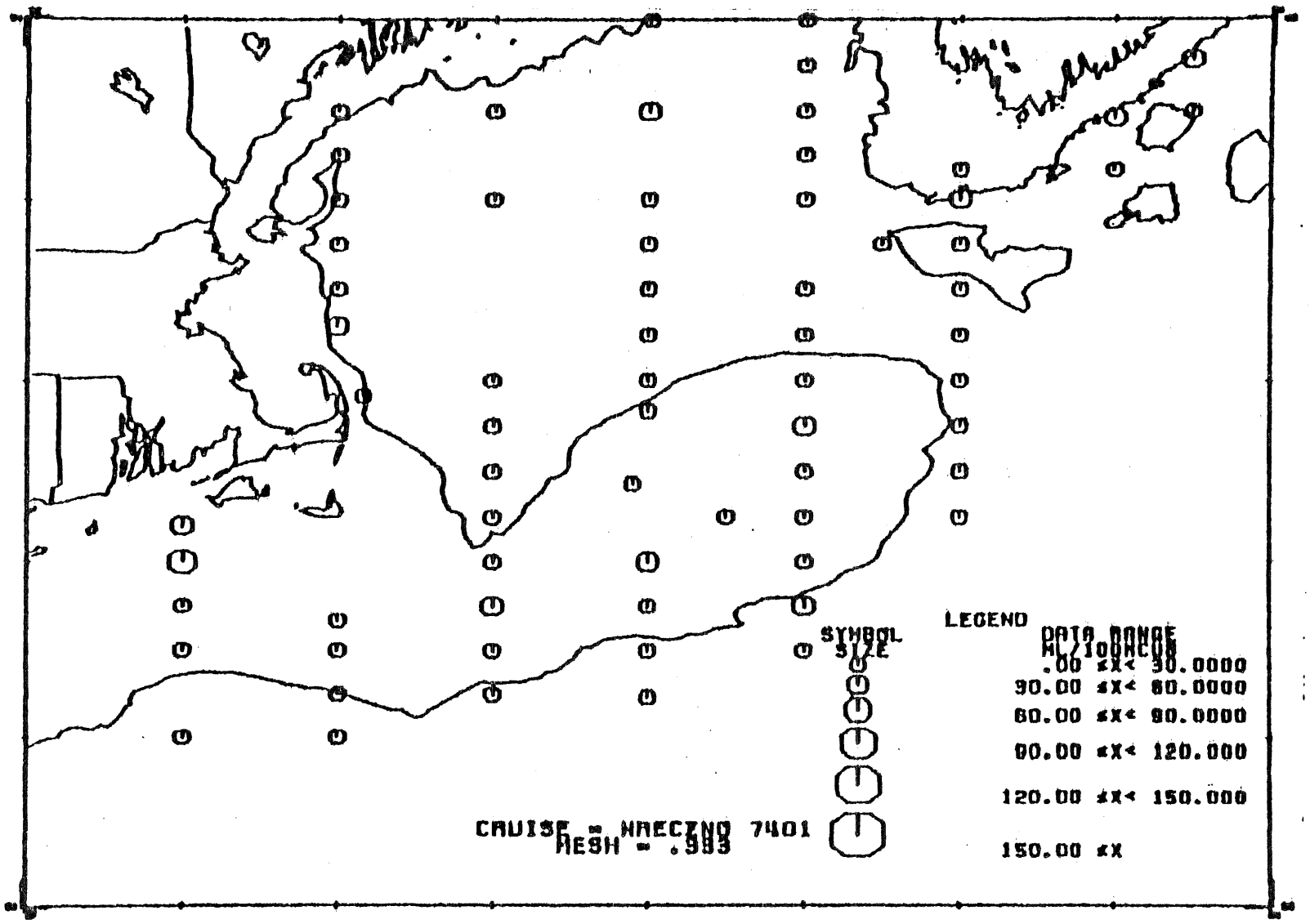

Figure 99

Pseudocalanus sp.

Copepodite Stage 4

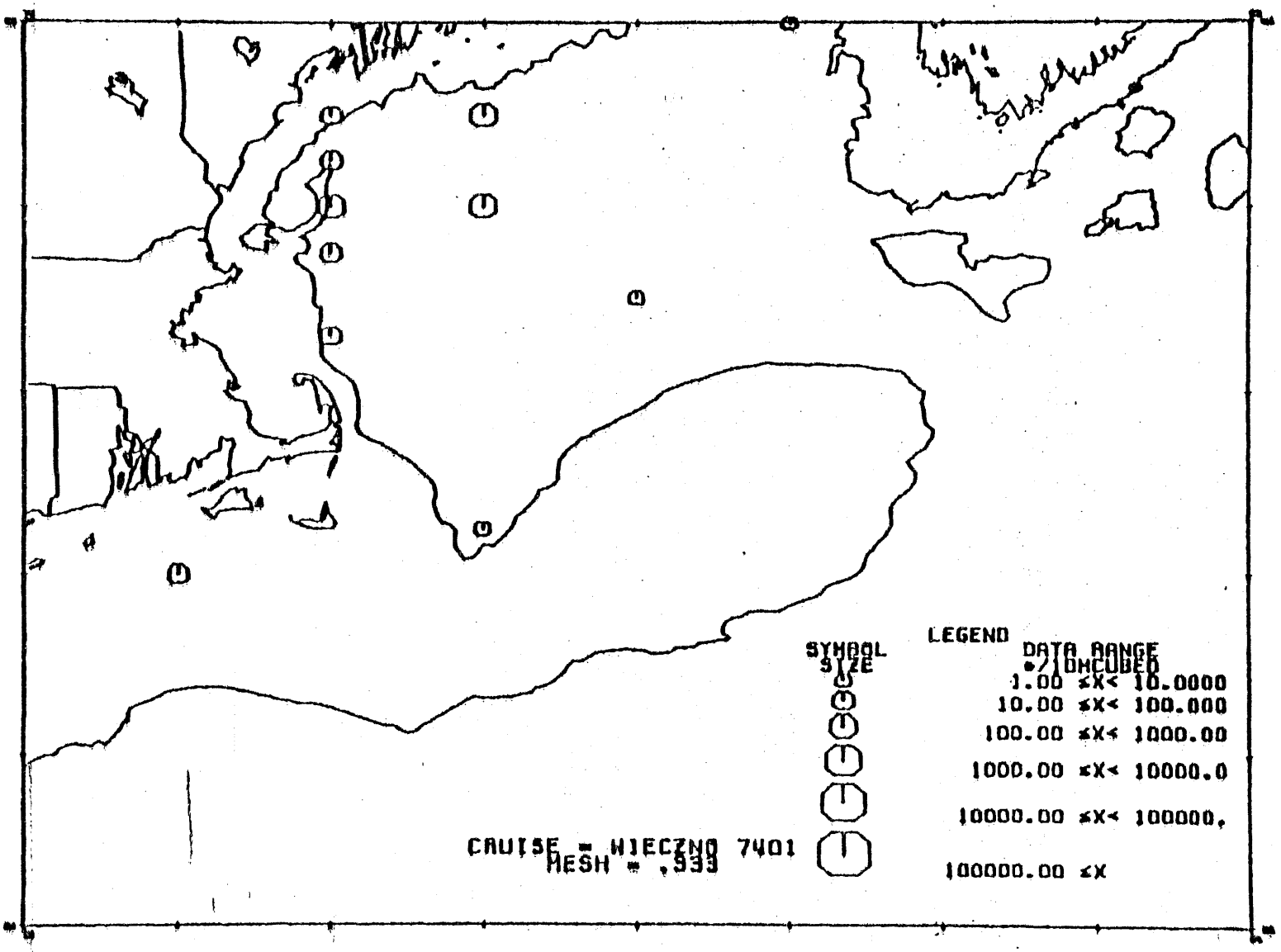

Figure 100

Pseudocalanus sp.

Copepodite Stage 5

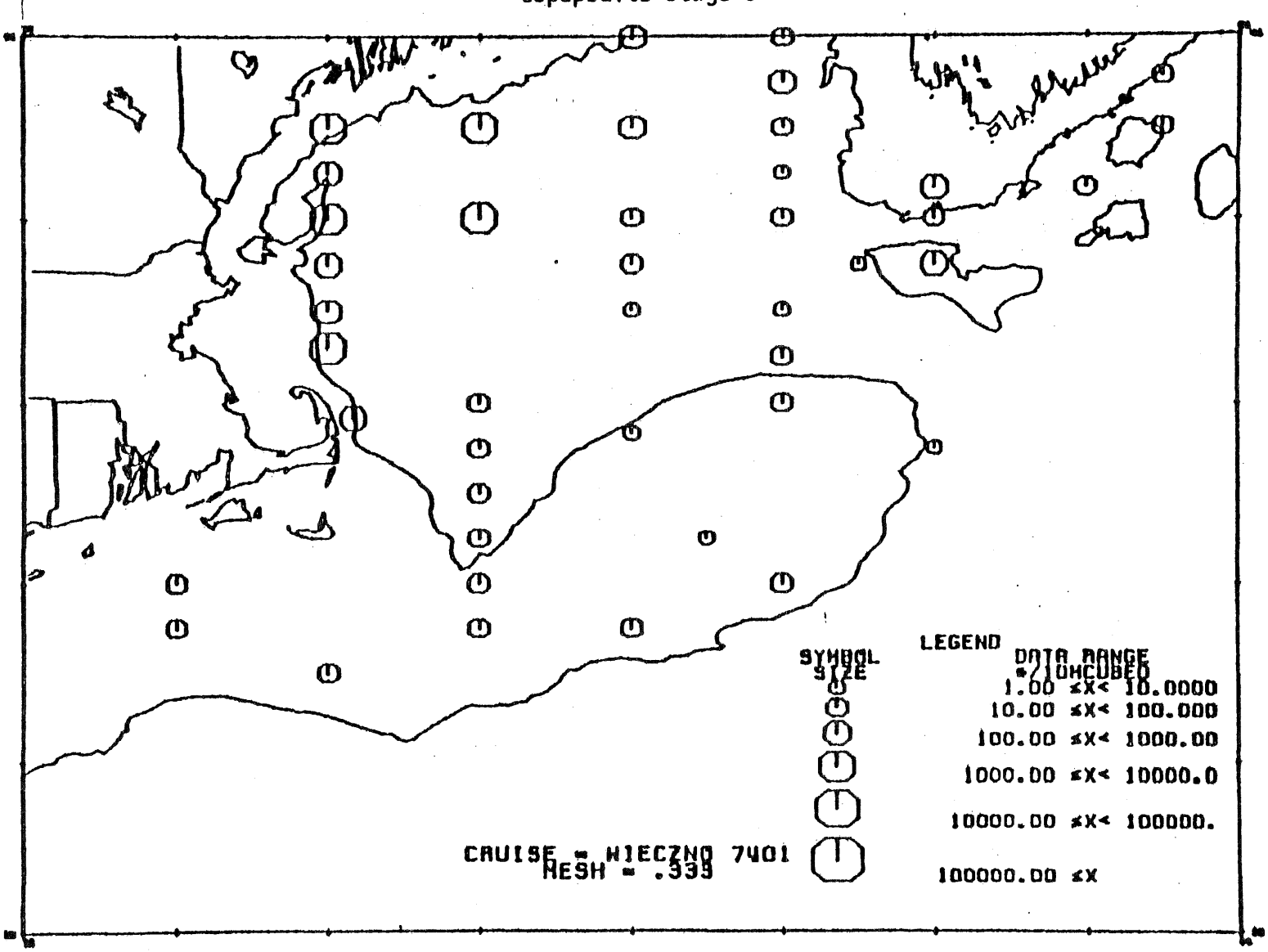

Figure 101

Pseudocalanus sp.

Copepodite

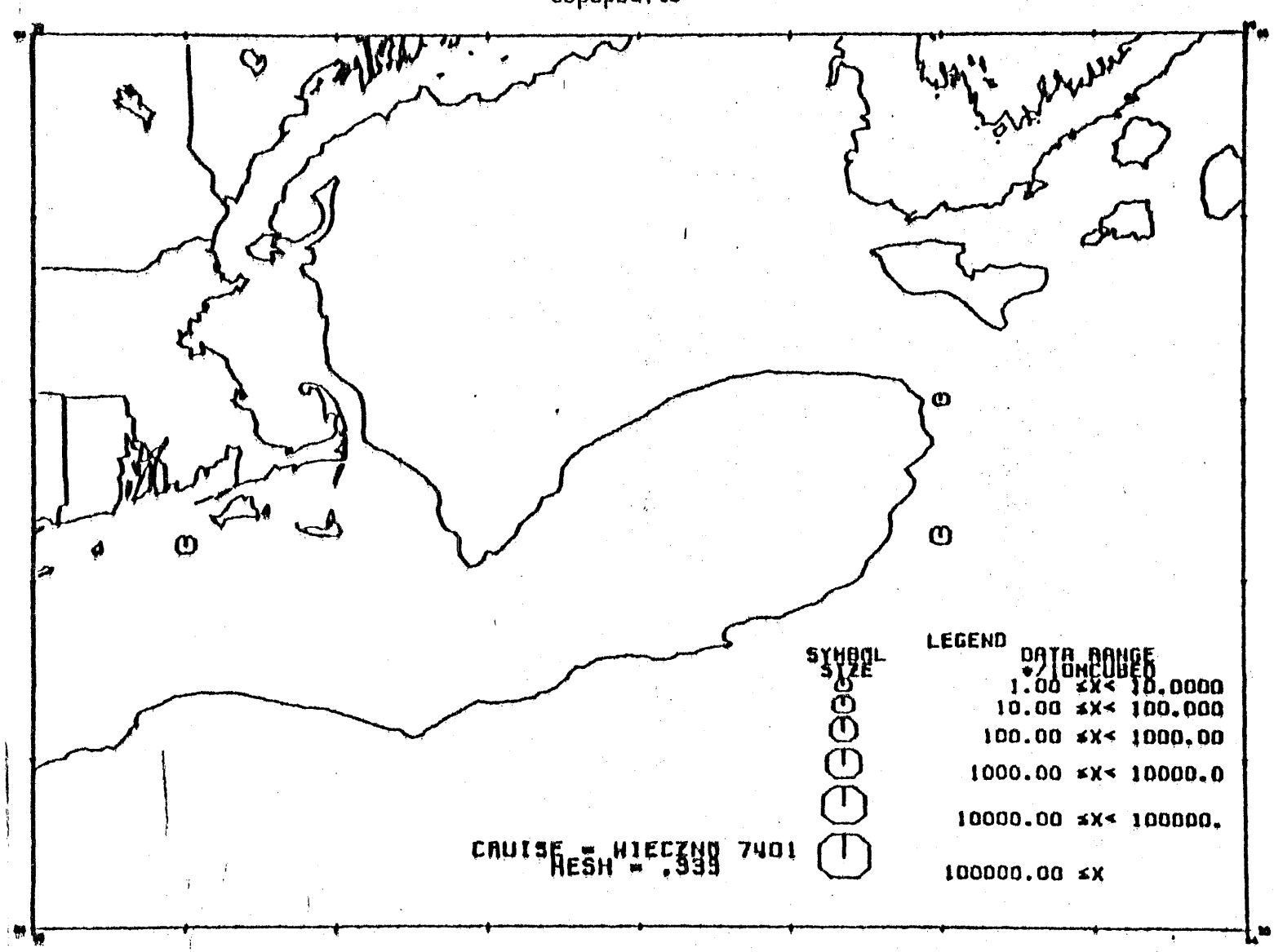

Figure 102

Pseudocalanus sp.

Adult

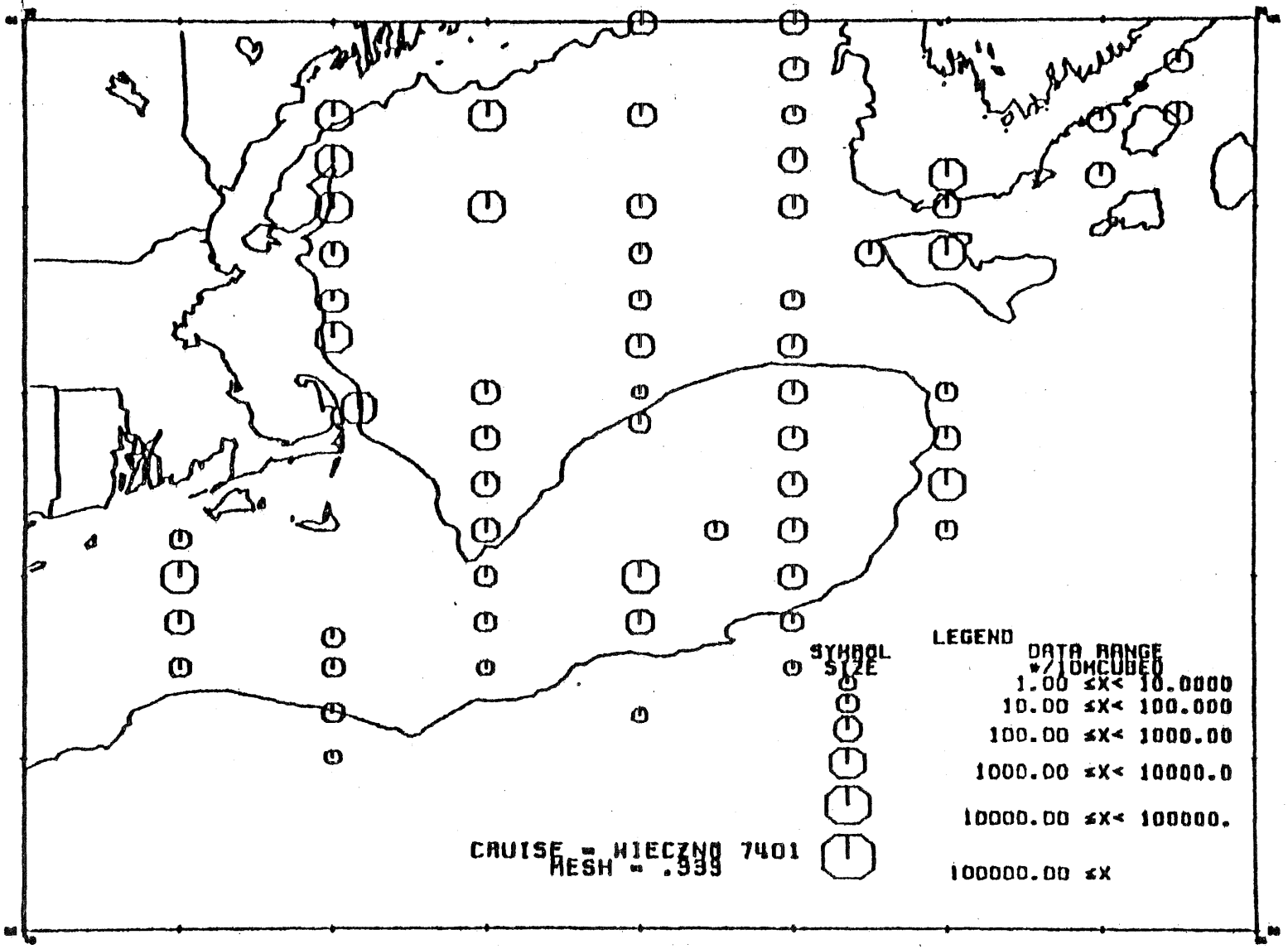

Figure 103

Paracalanus parvus

Copepodite Stage 4

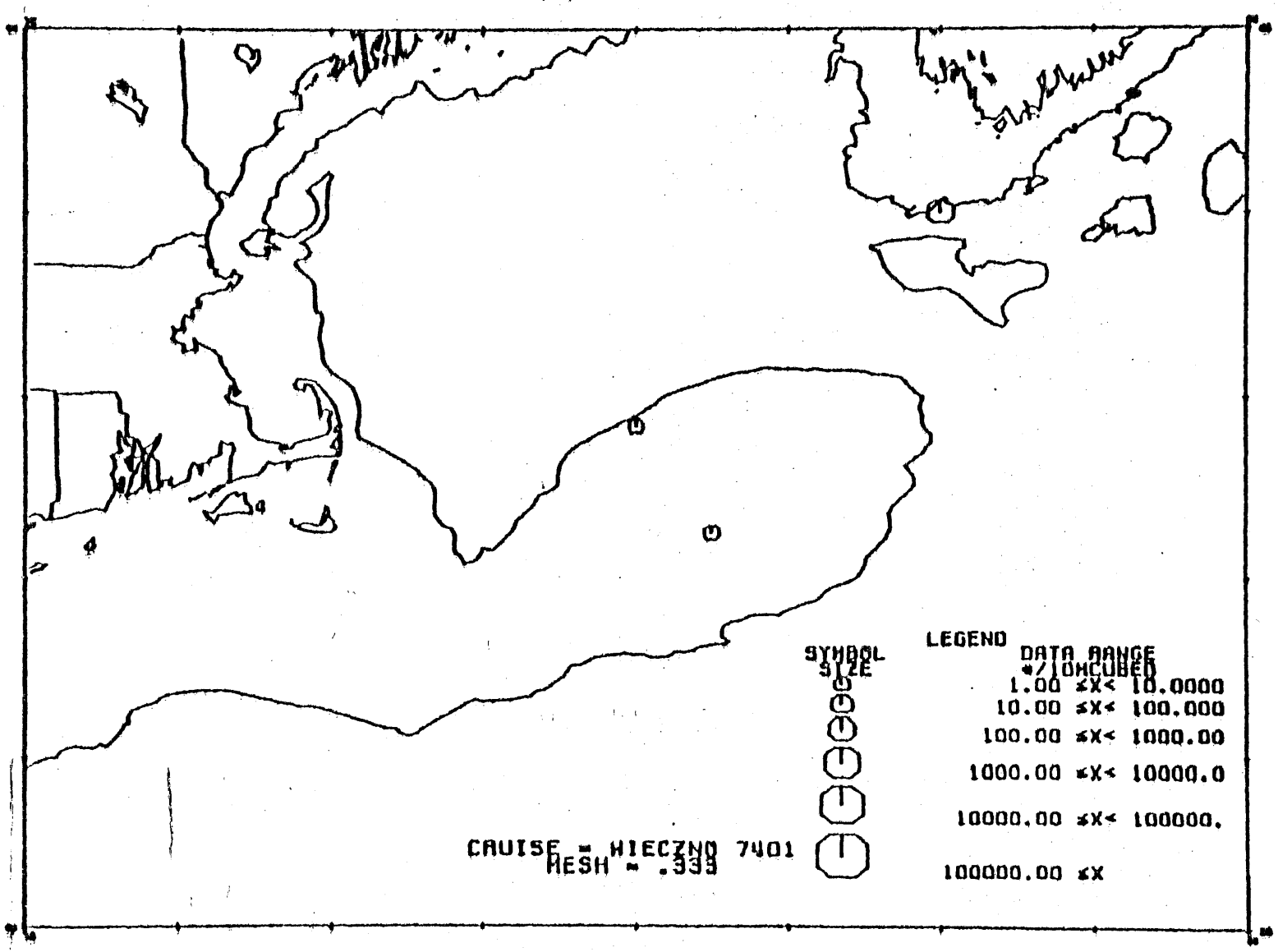

Figure 104

Paracalanus parvus

Copepodite Stage 5

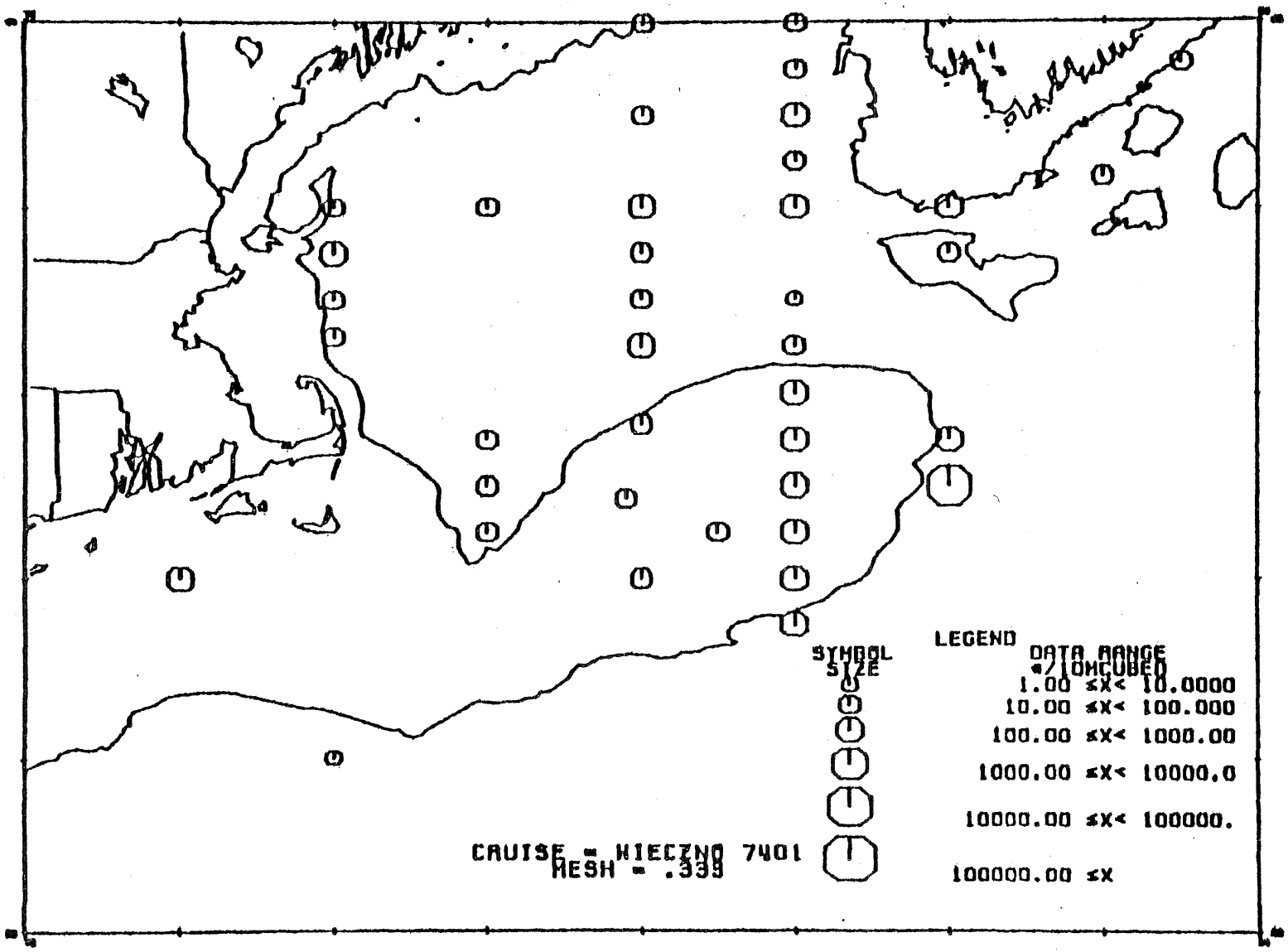

Figure 105

Paracalanus parvus

Copepodite

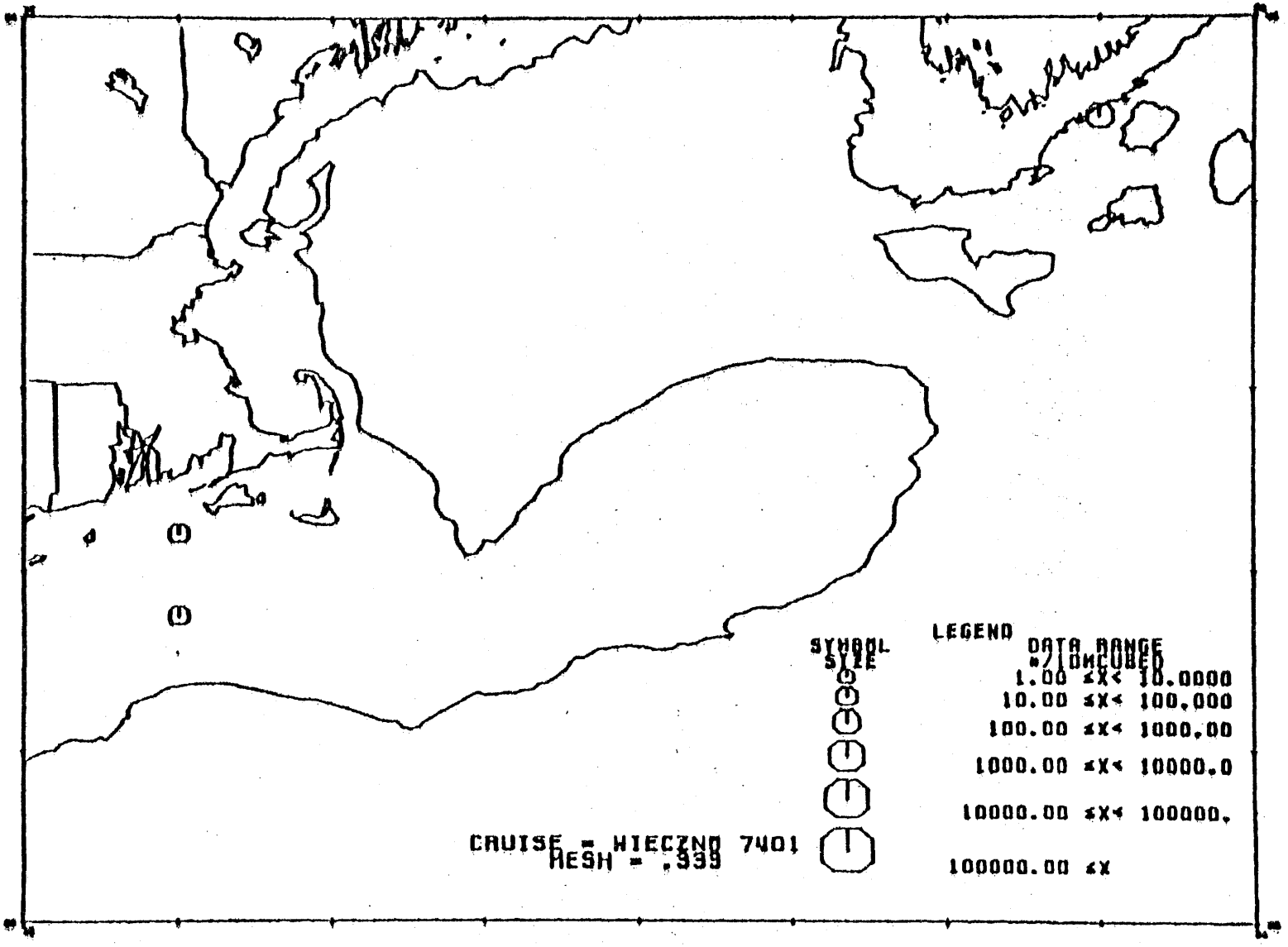

Figure 106

Paracalanus parvus

Adult

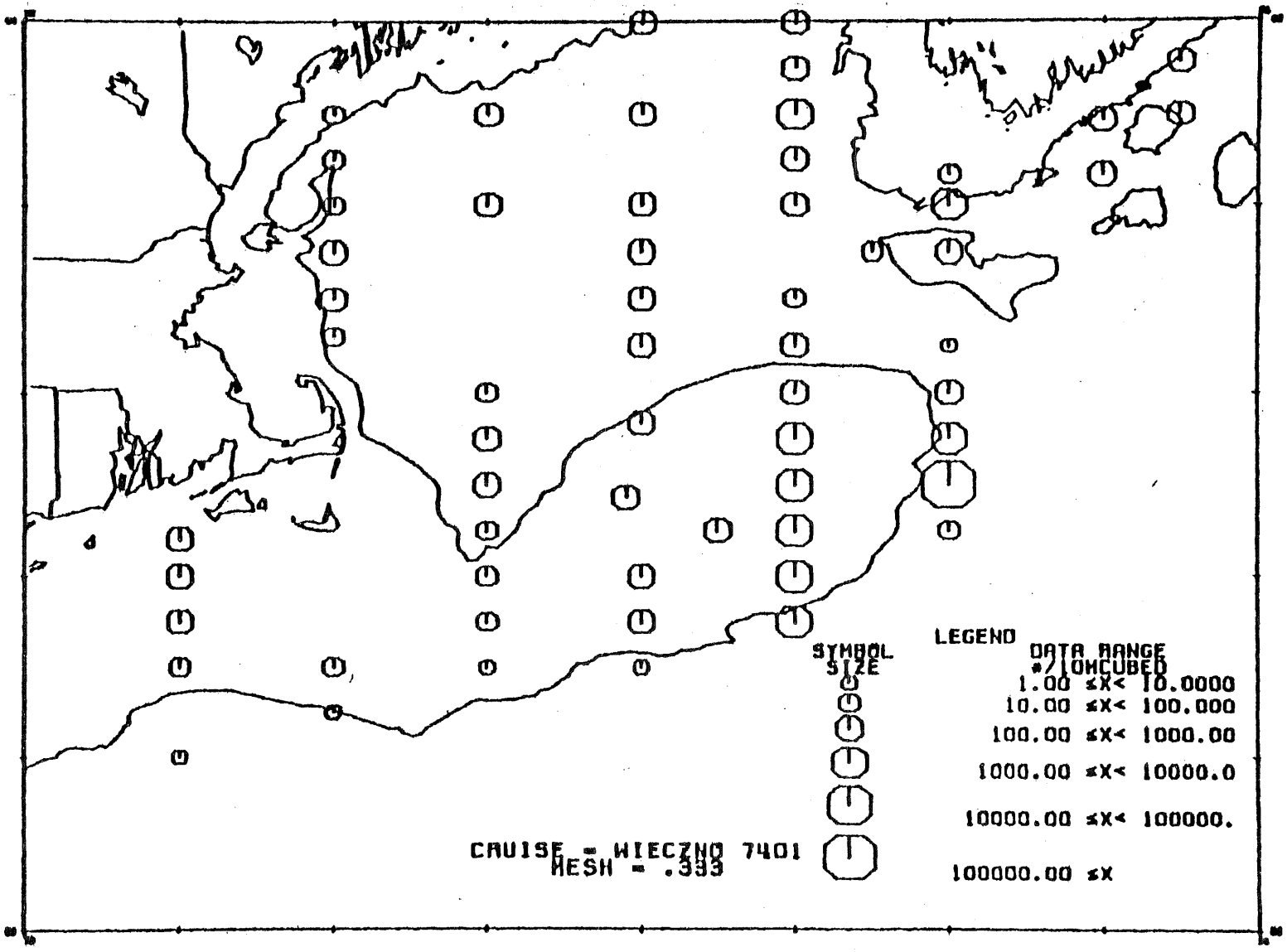

Figure 107

Centropages typicus

Copepodite Stage 1

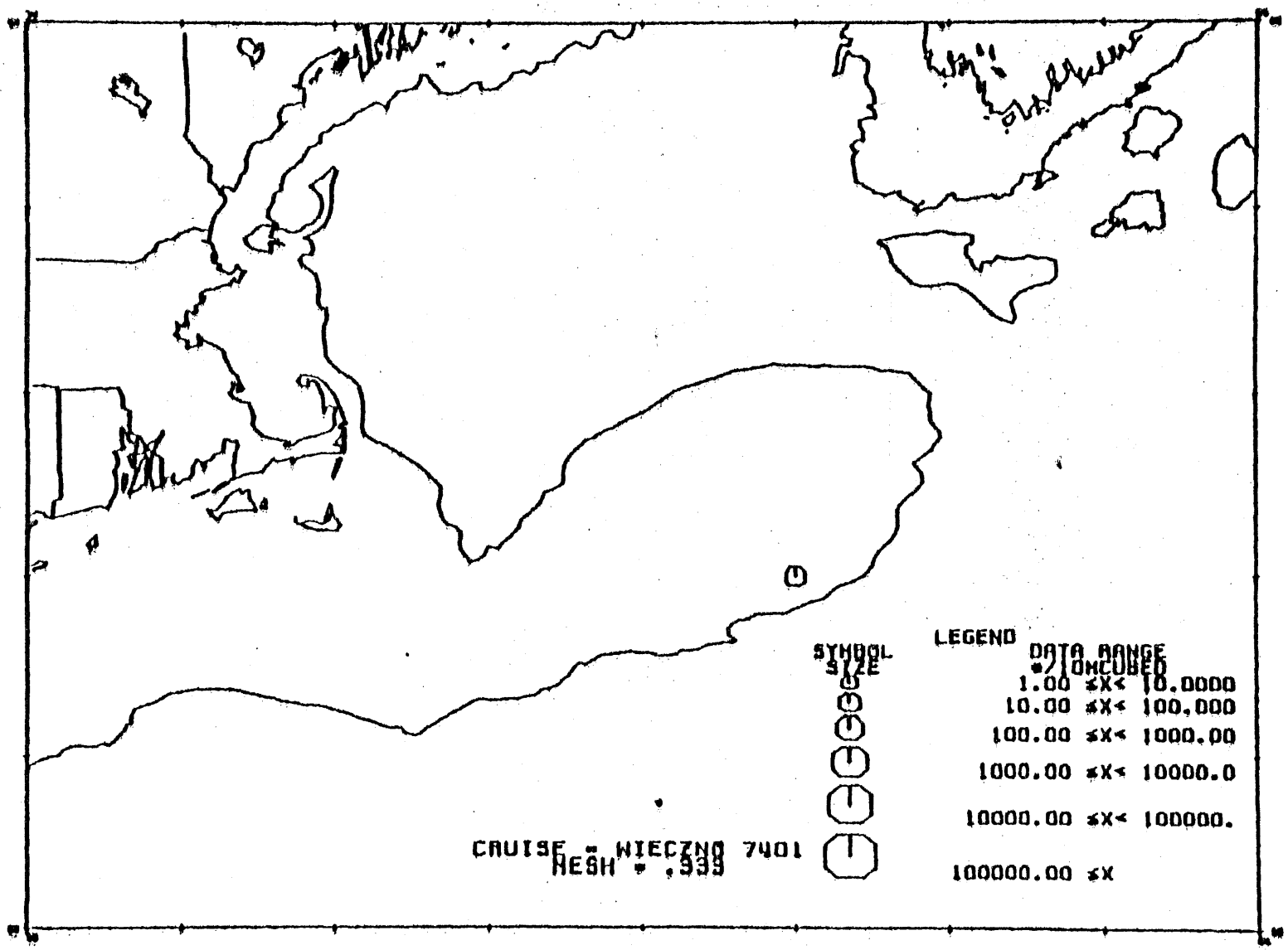

Figure 108

Centropages typicus

Copepodite Stage 2

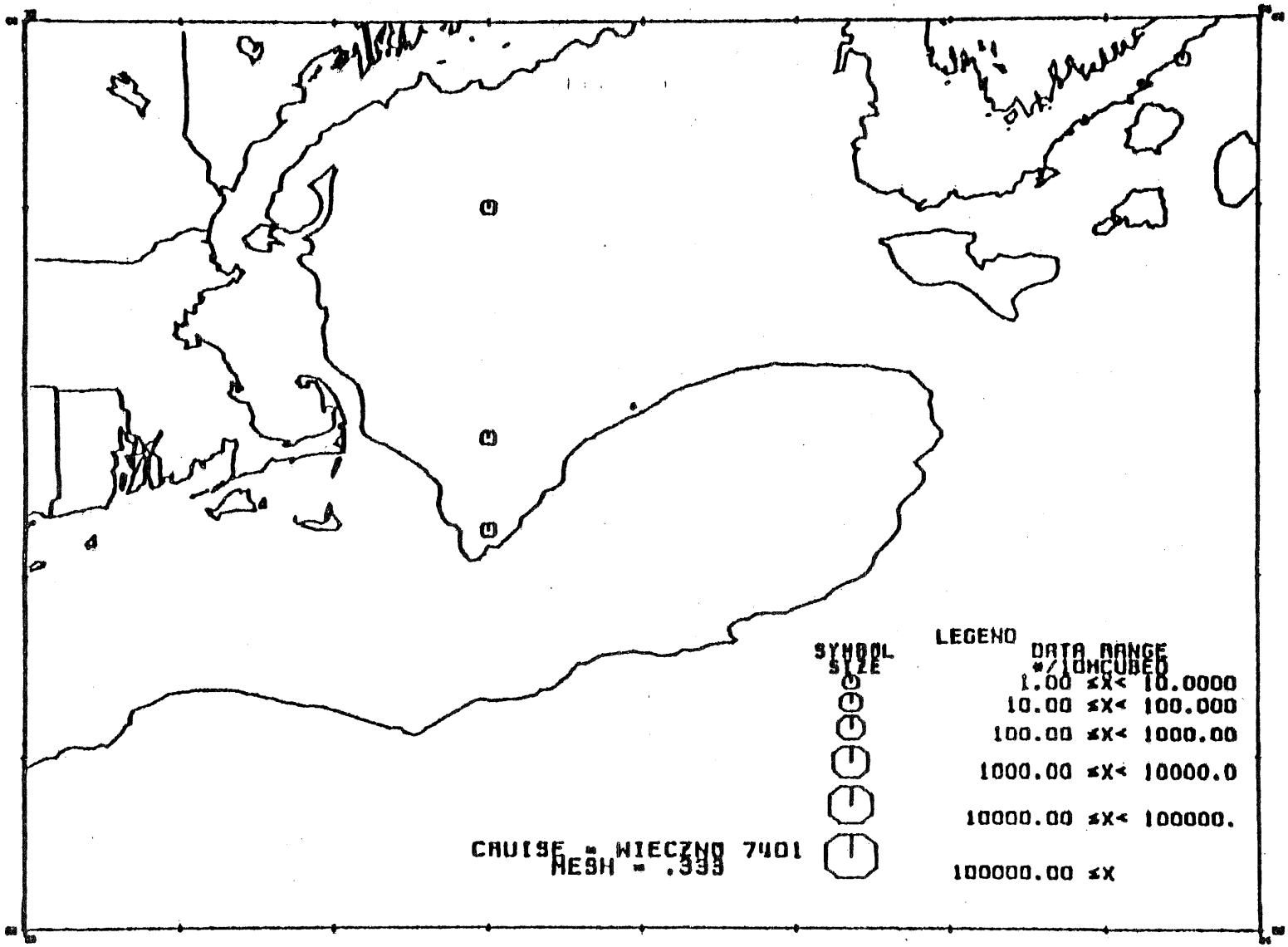

Figure 109

Centropages typicus

Copepodite Stage 3

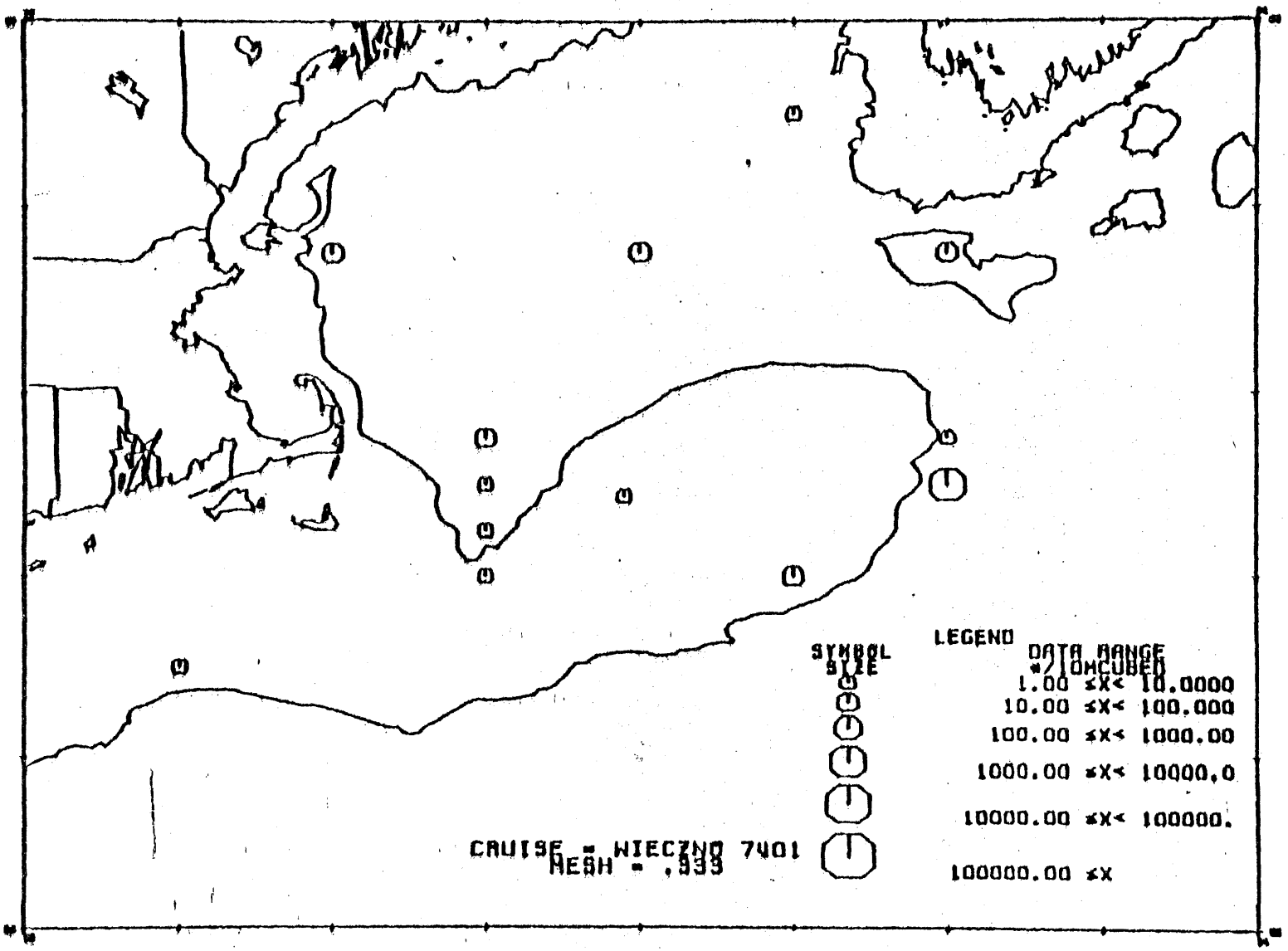

Figure 110

Centropages typicus

Copepodite Stage 4

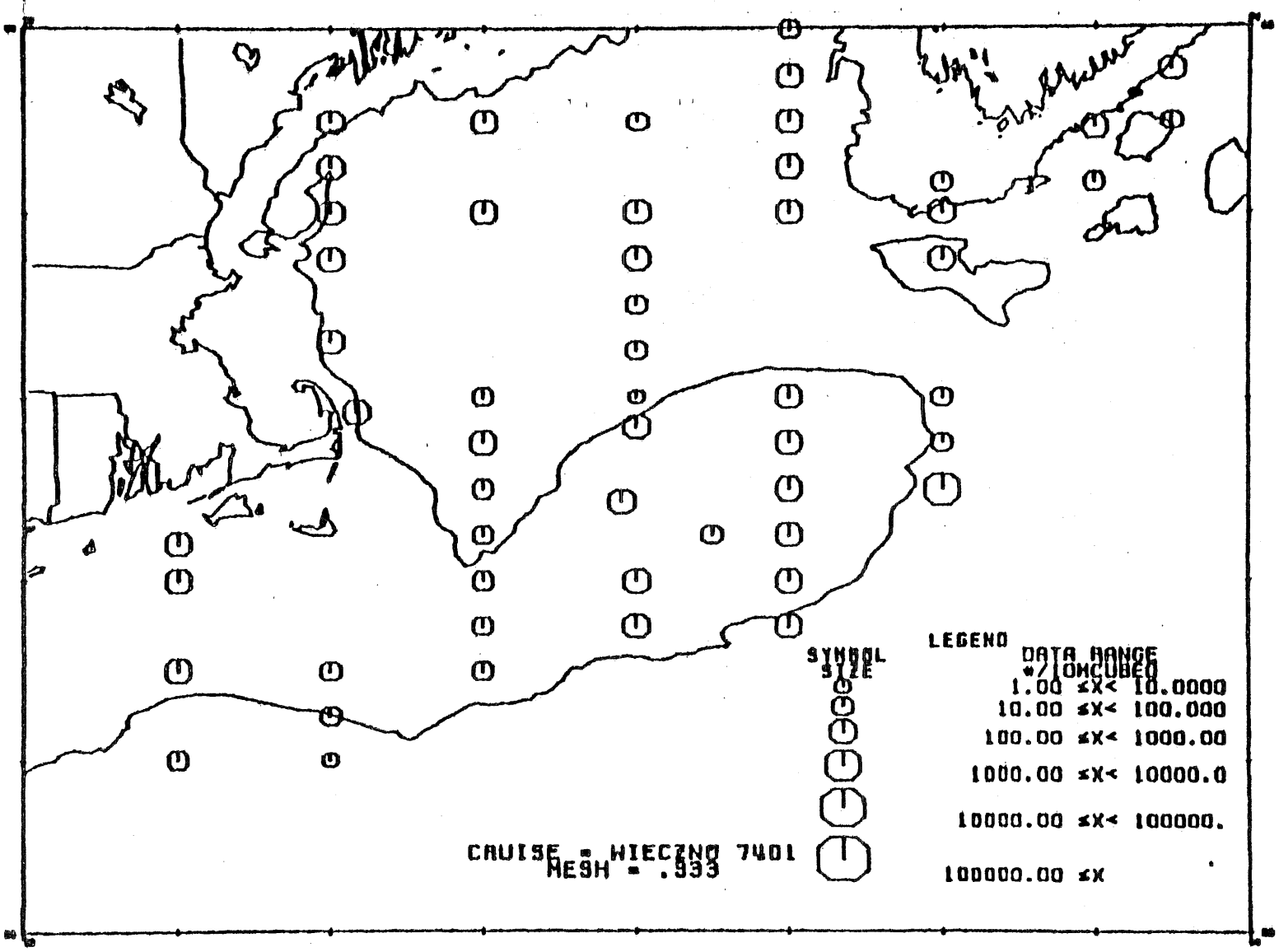

Figure 111

Centropages typicus

Copepodite Stage 5

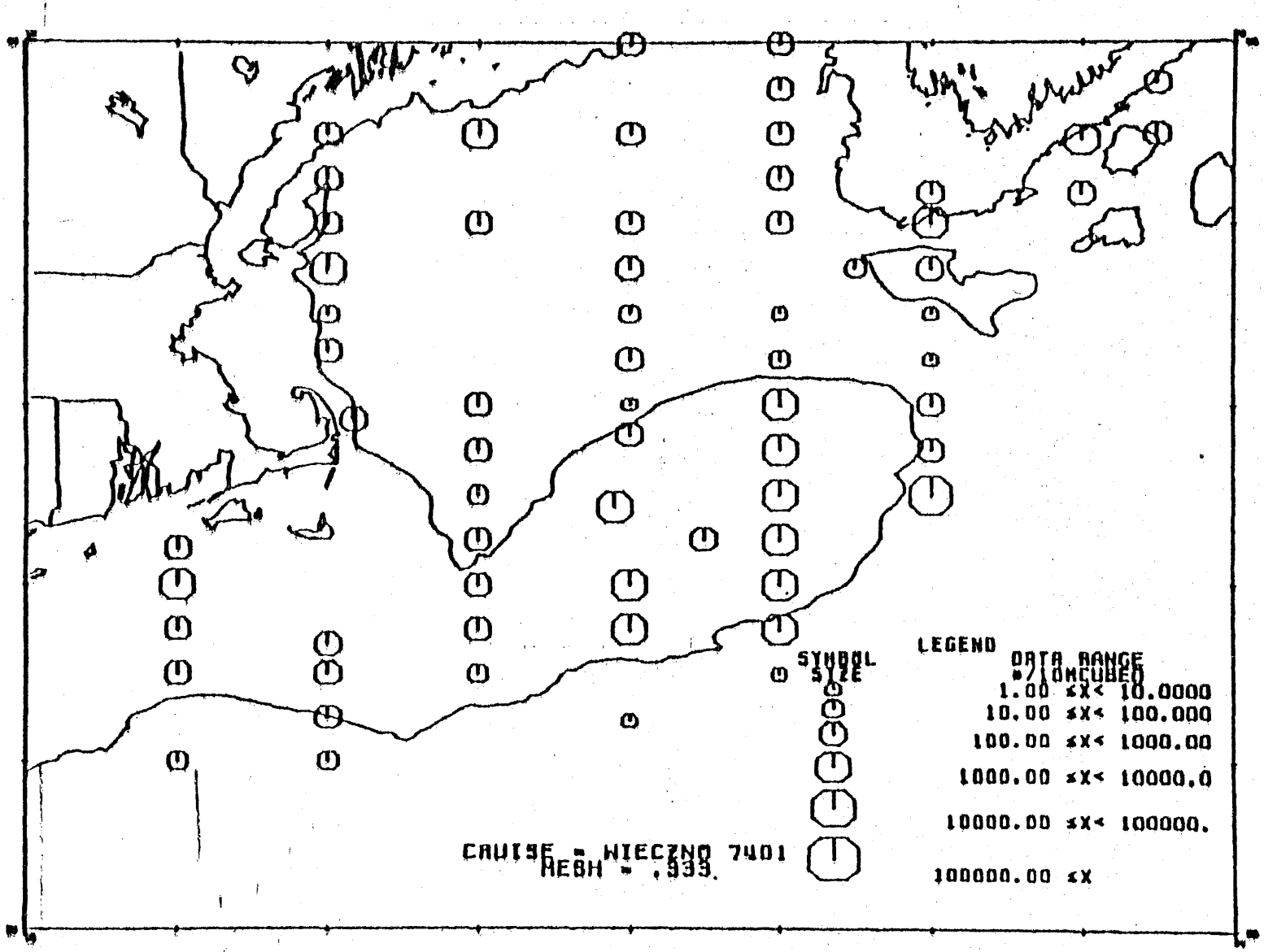

Figure 112

Centropages typicus

Copepodite

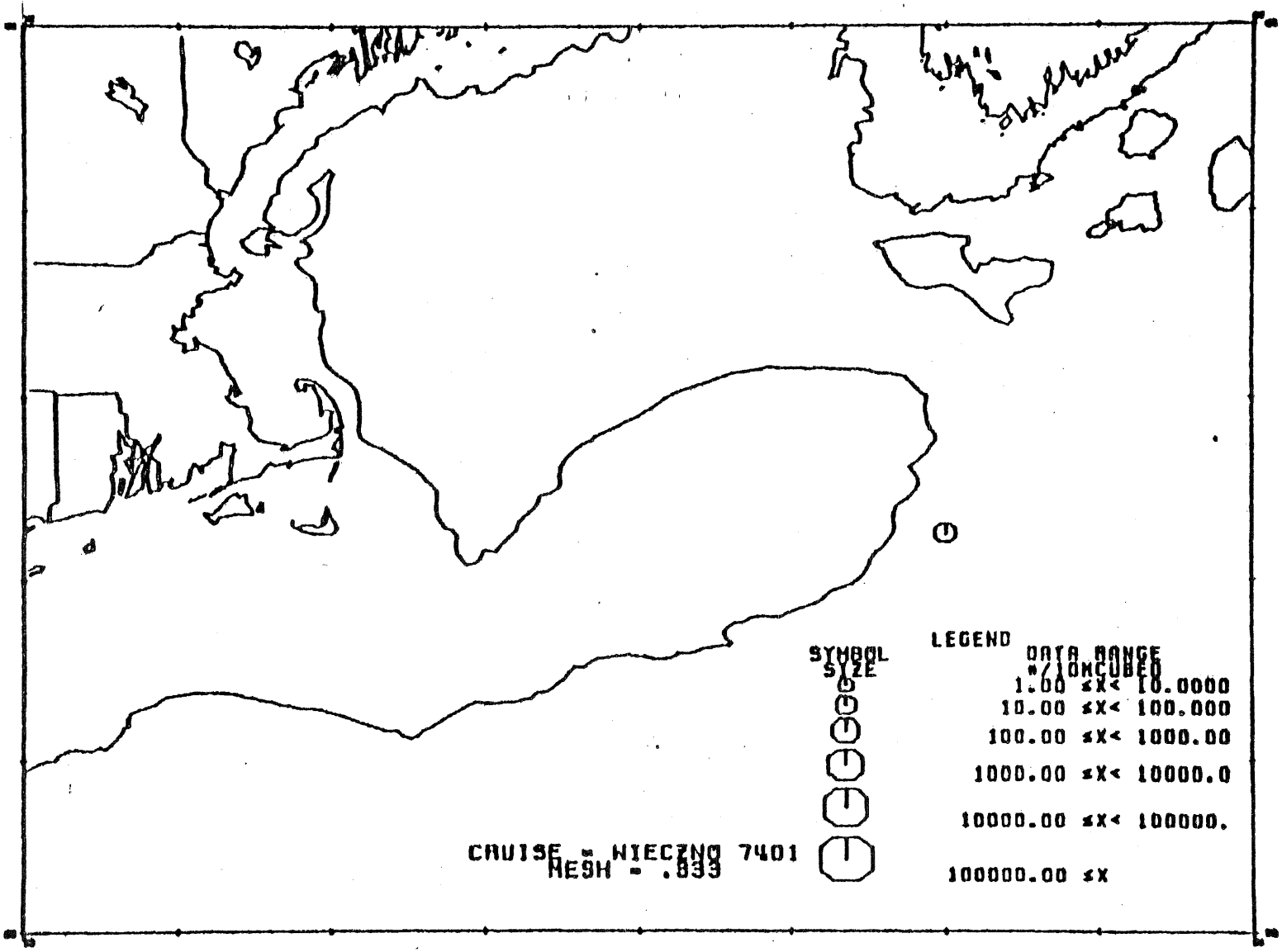

Figure 113

Centropages typicus

Adult

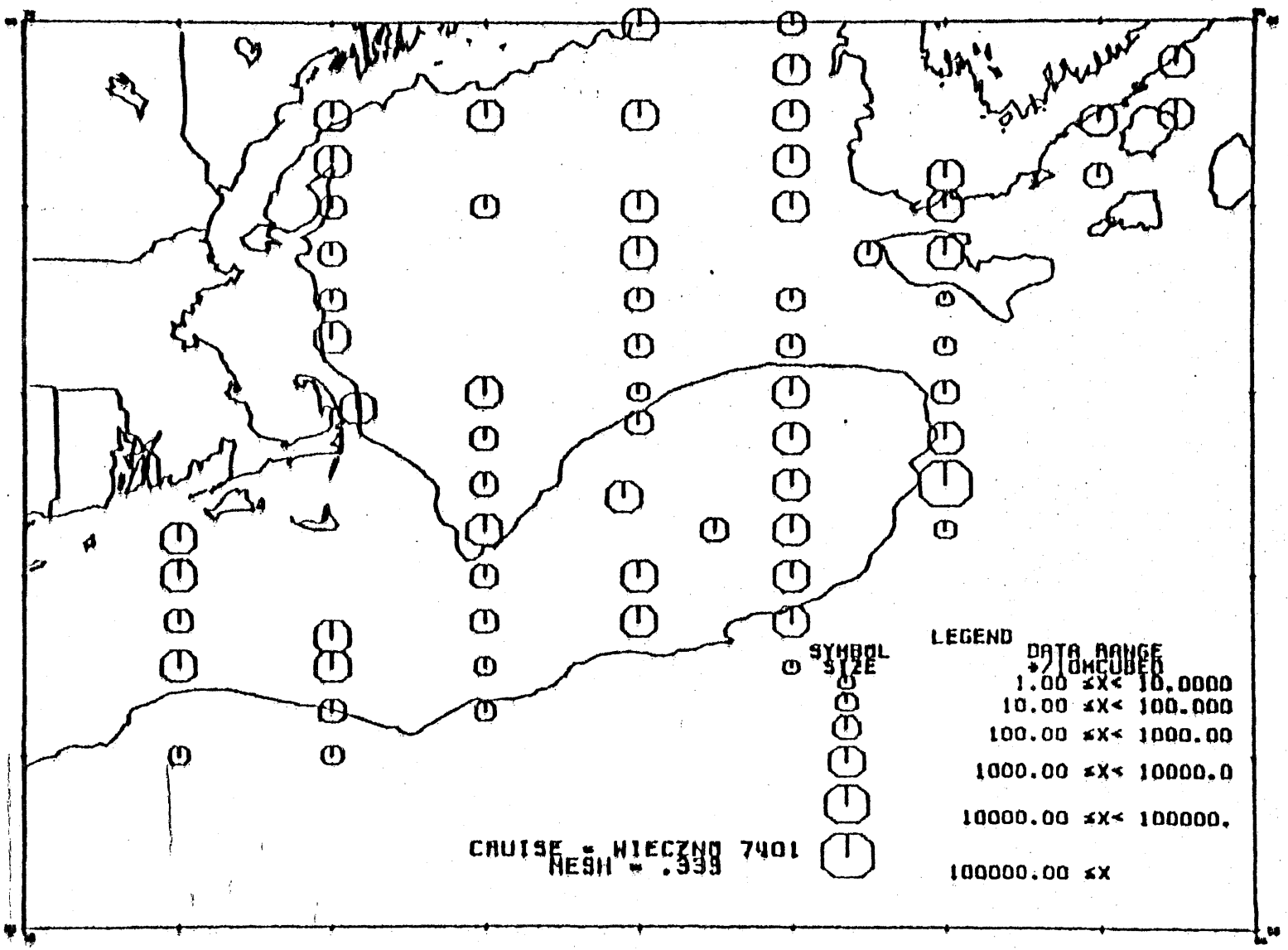

Figure 114

Centropages hamatus

Copepodite Stage 4

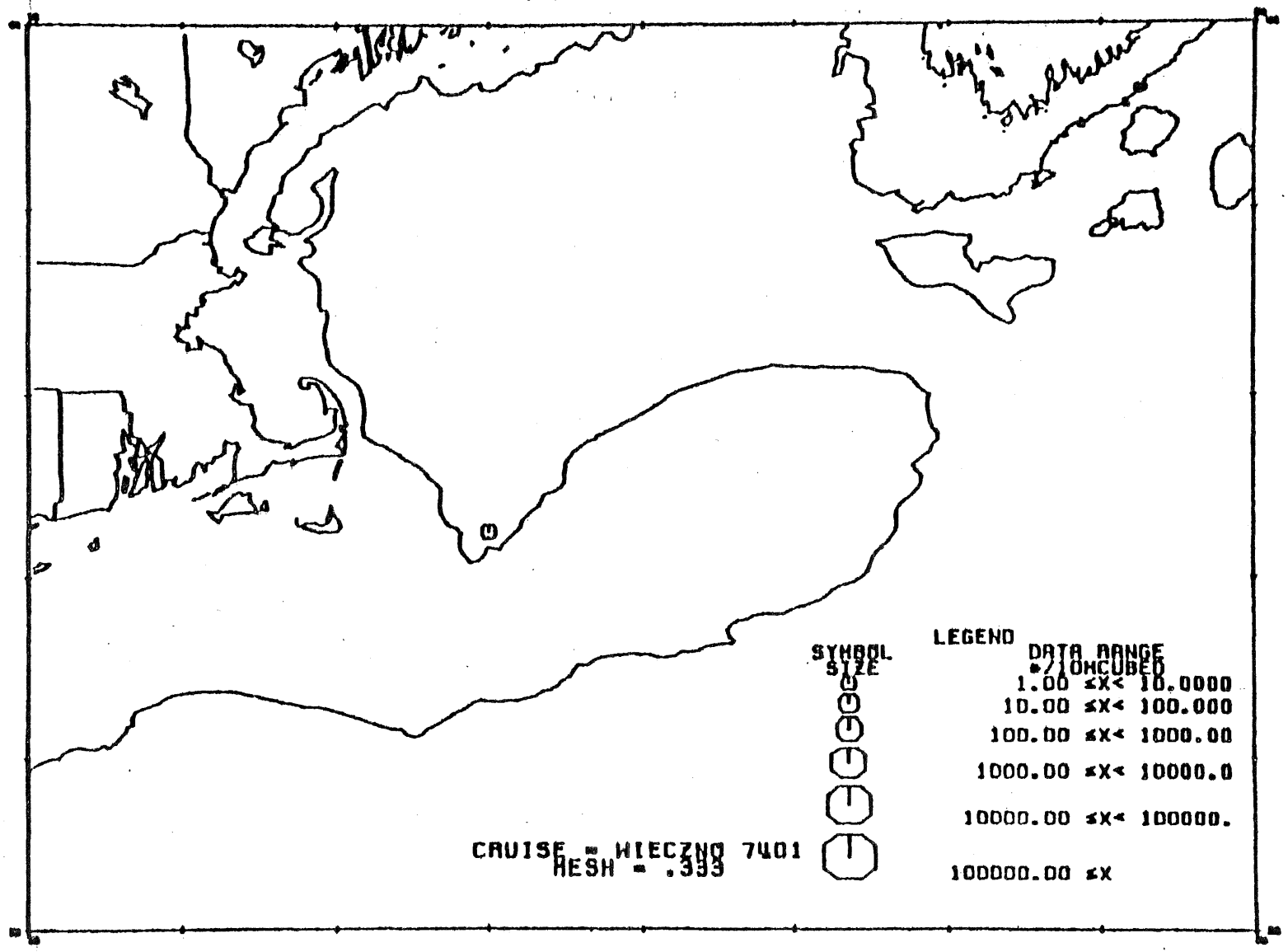

Figure 115

Centropages hamatus

Copepodite Stage 5

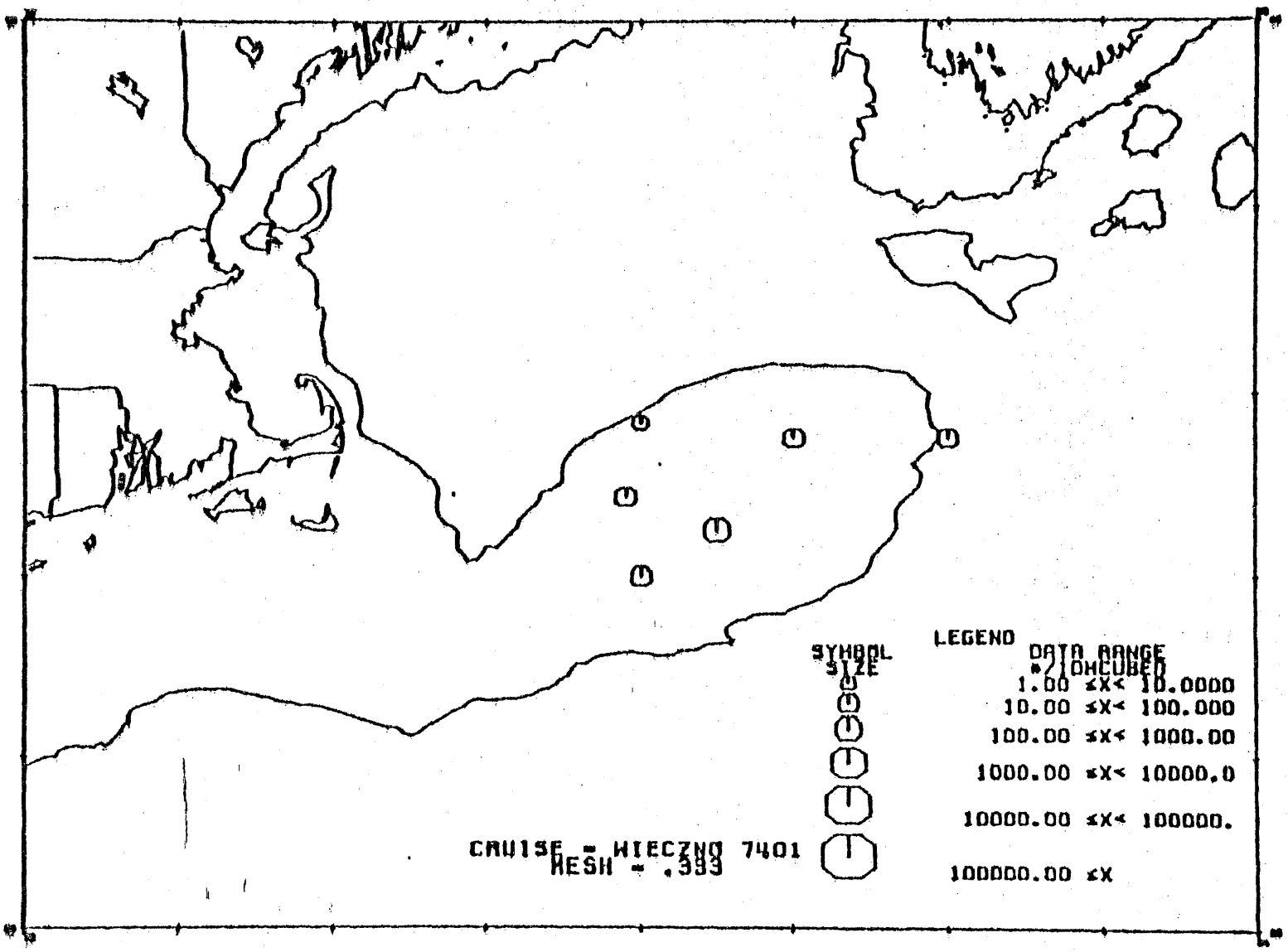

Figure 116

Centropages hamatus

Copepodite

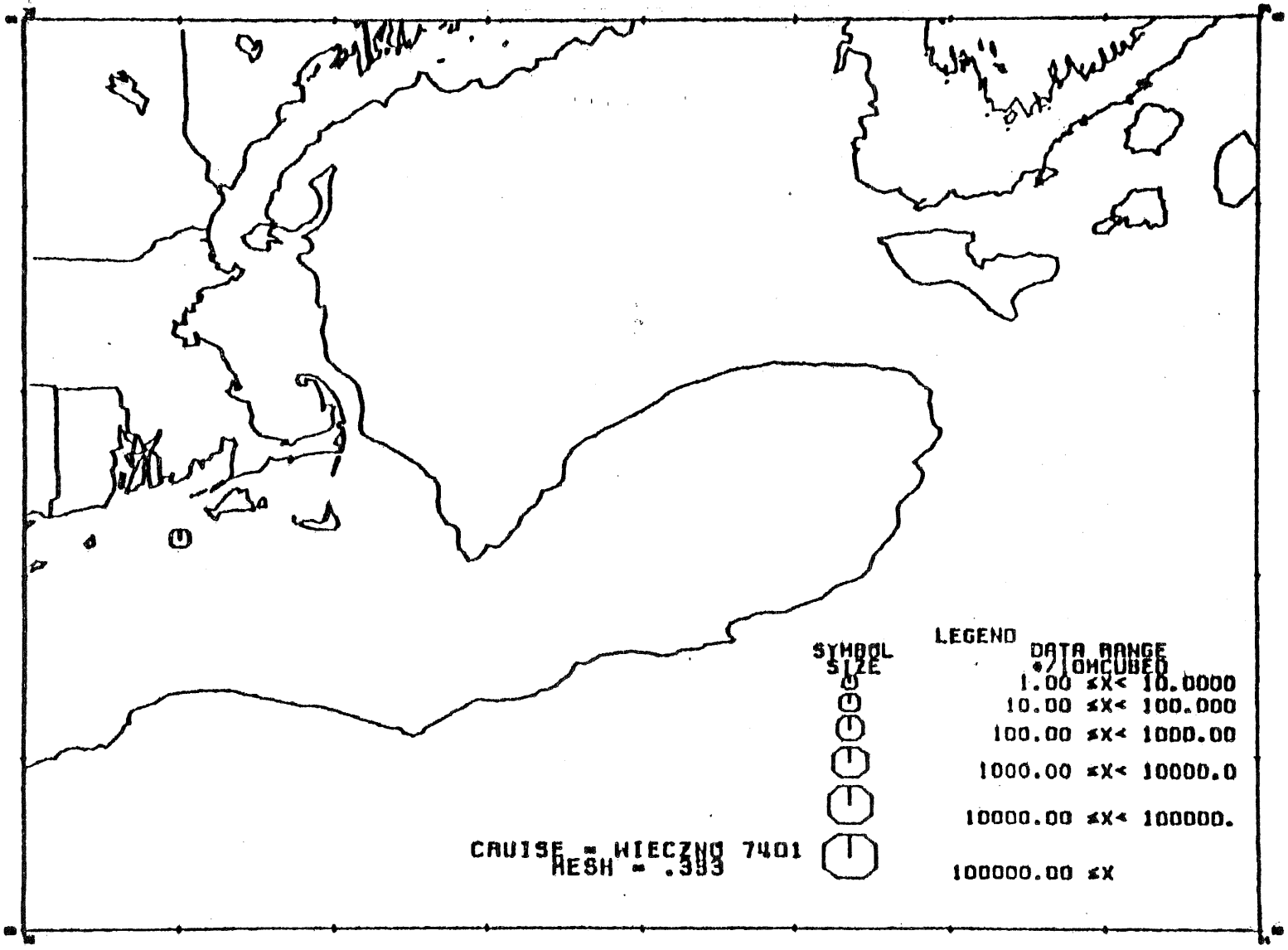

Figure 117

Centropages hamatus

Adult

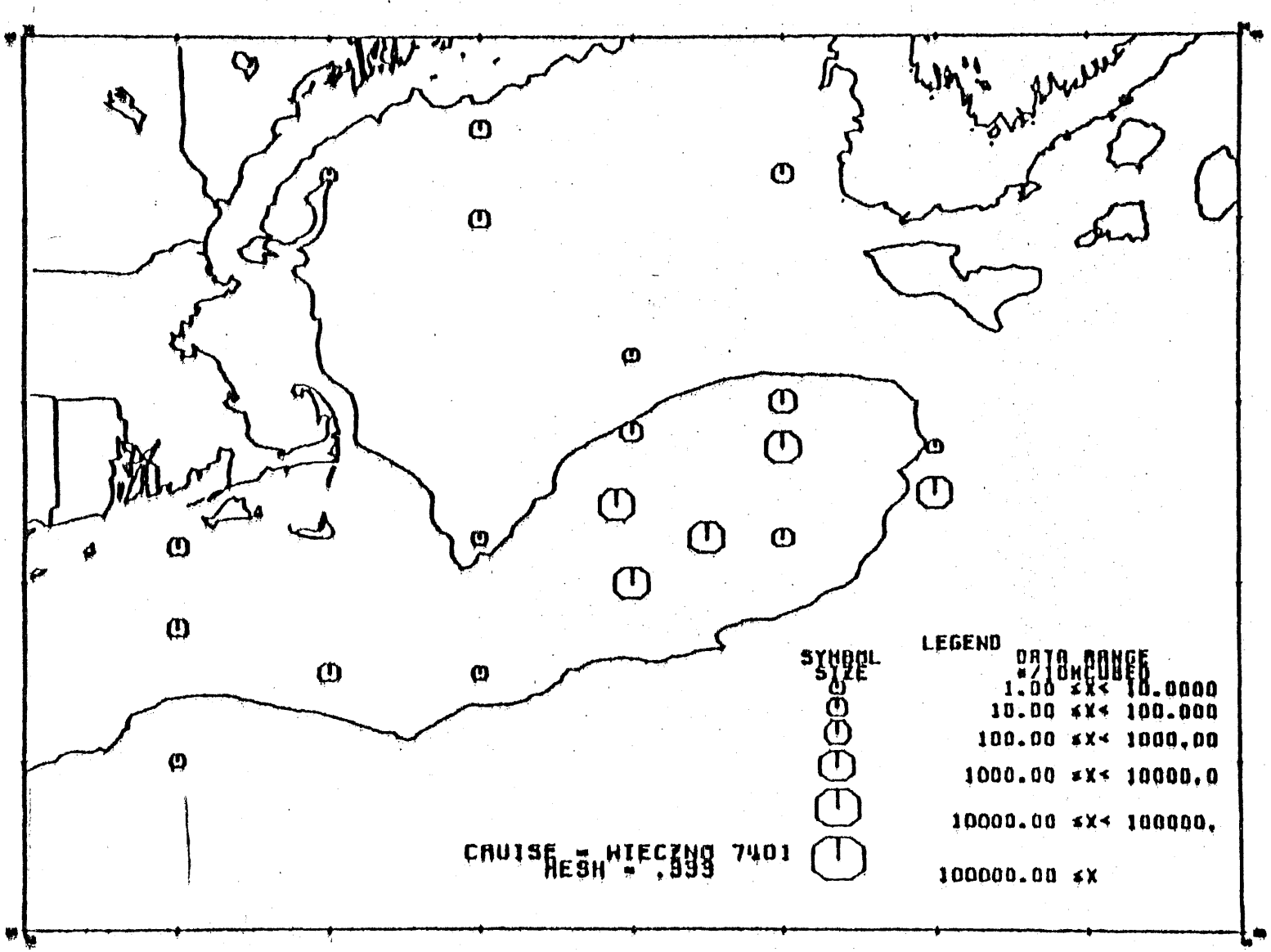

Figure 118

Oithona spp.

Copepodite

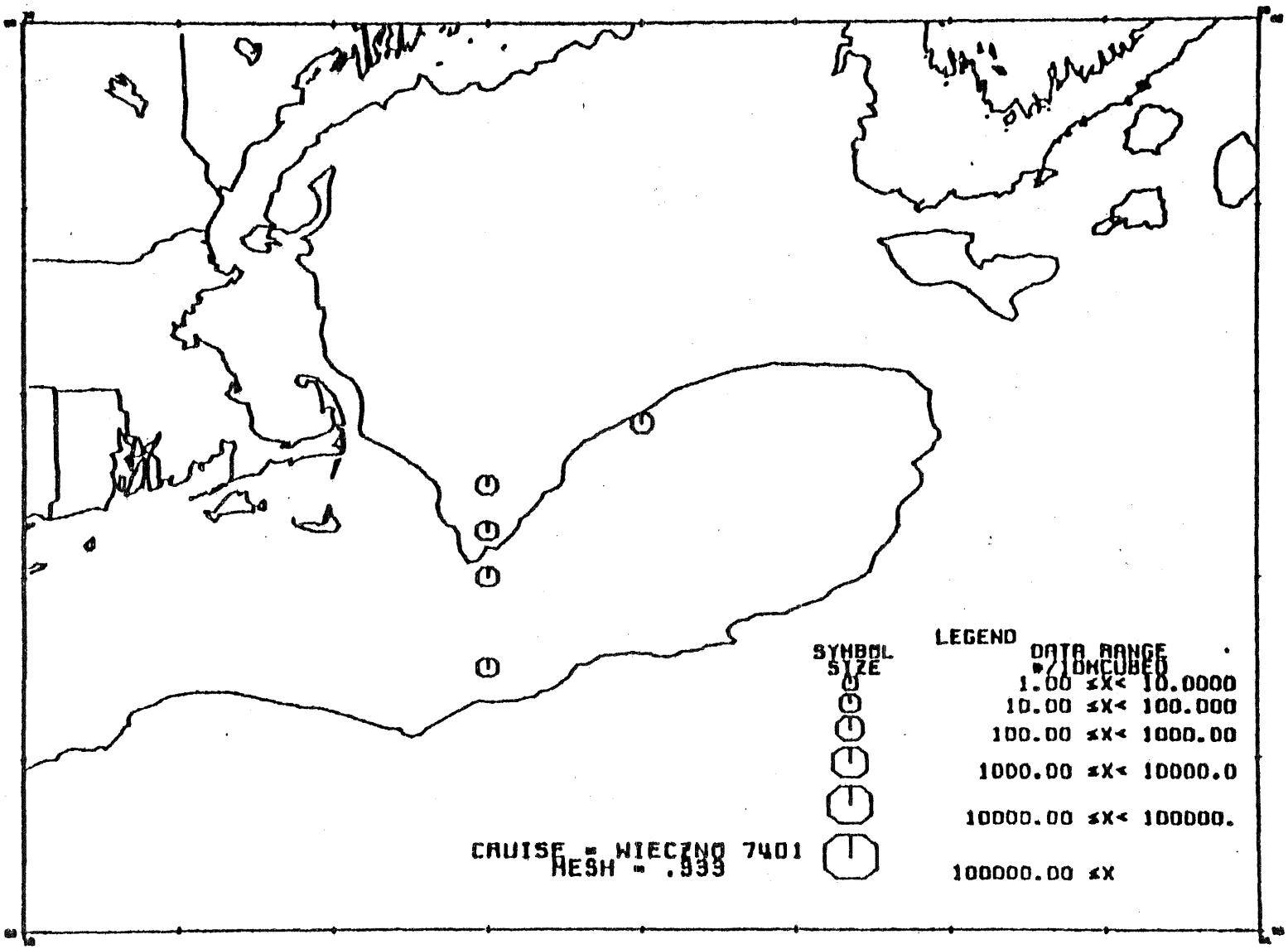

Figure 119

Oithona spp.

Adult

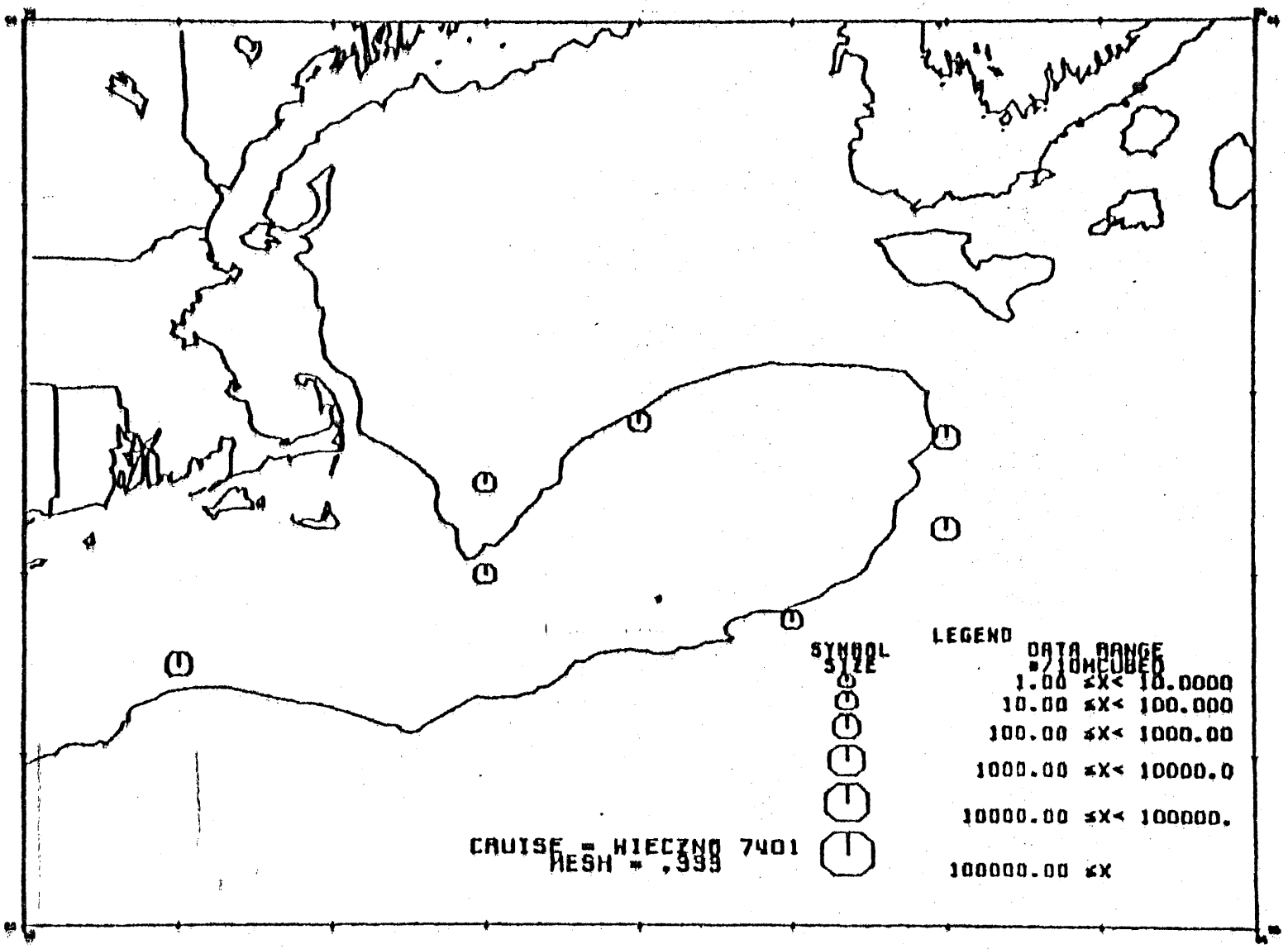

Figure 120

Calanus finmarchicus

Copepodite Stage 2

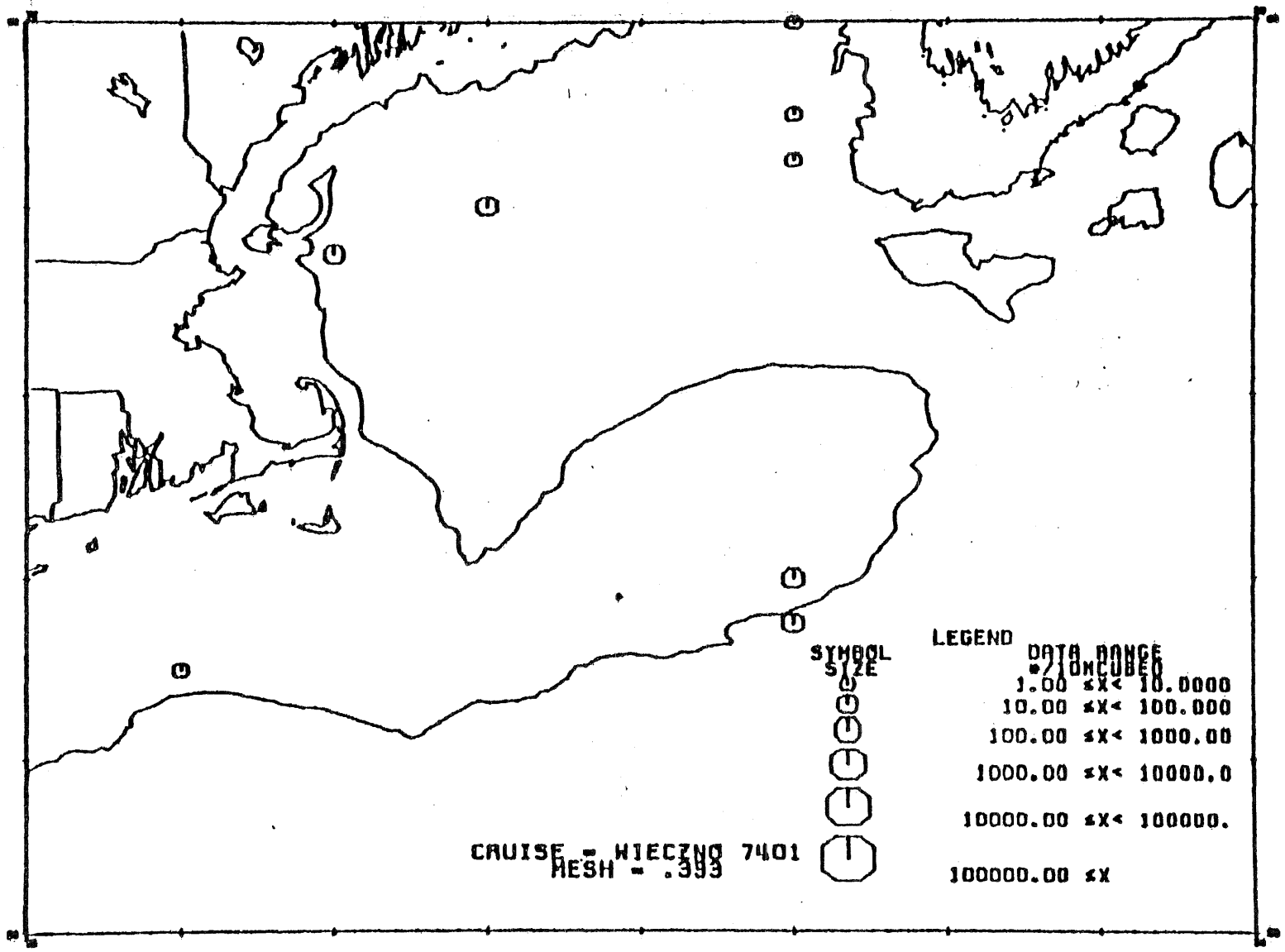

Figure 121

Calanus finmarchicus

Copepodite Stage 3

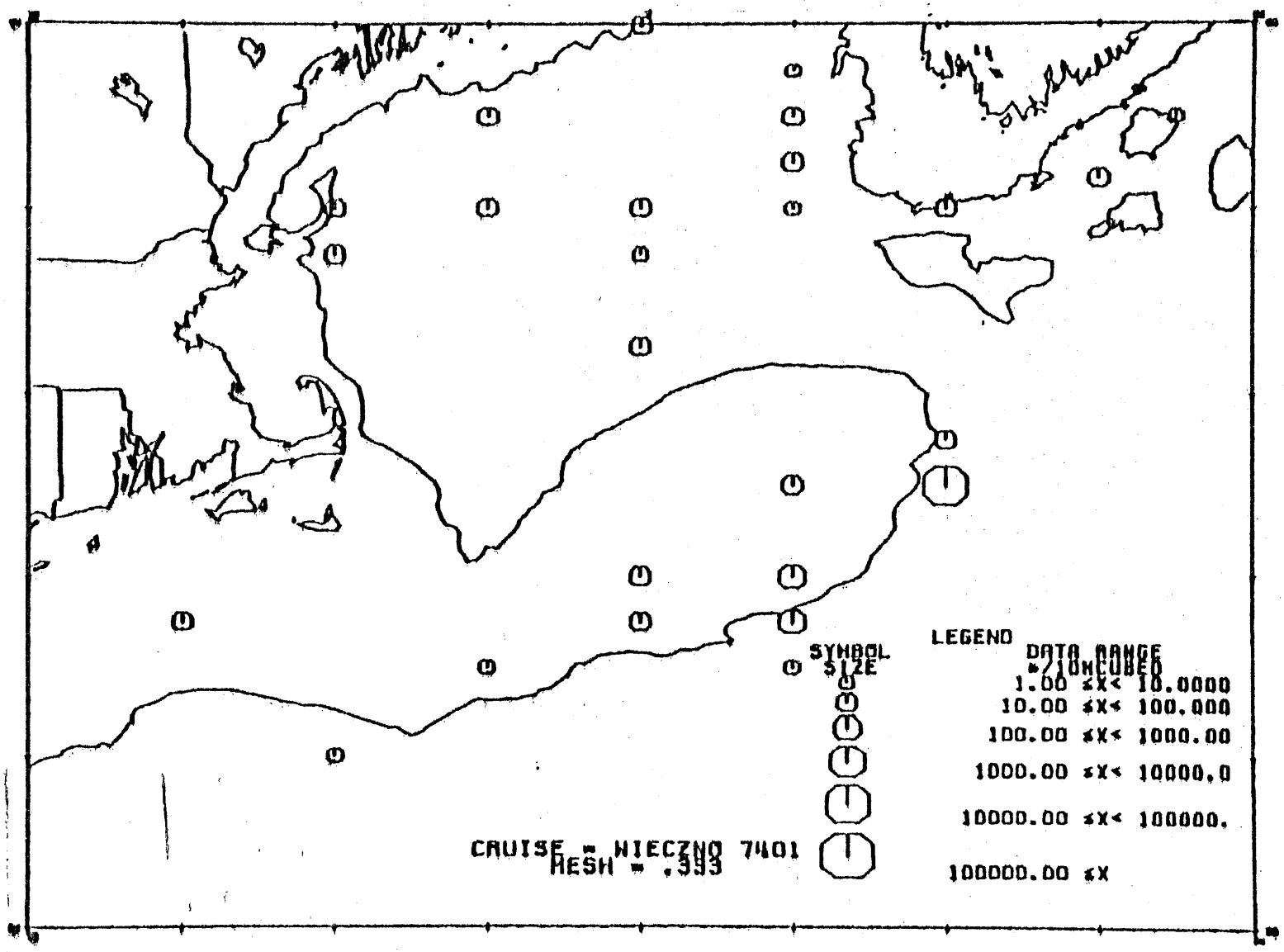

Figure 122

Calanus finmarchicus

Copepodite Stage 4

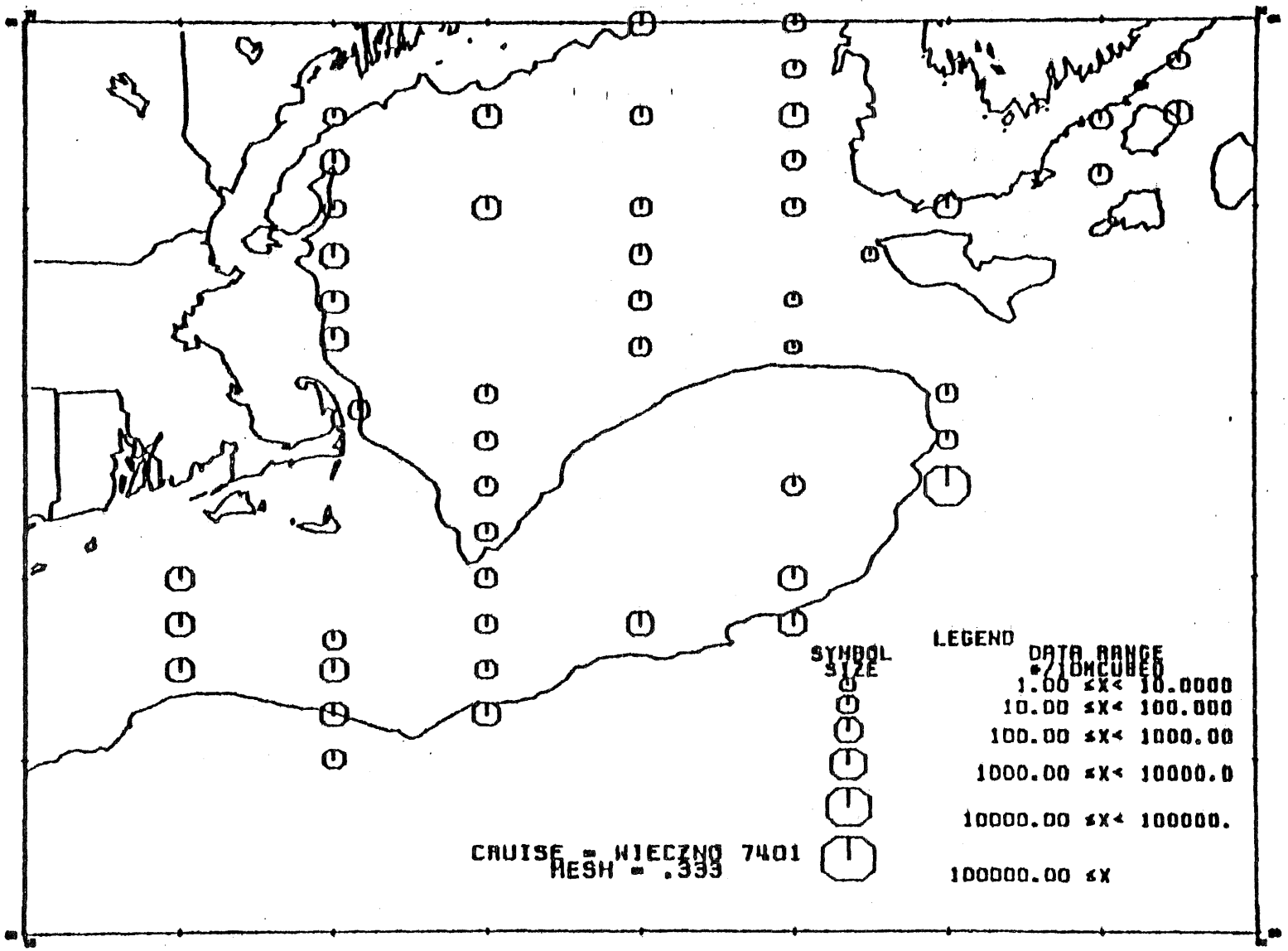

Figure 123

Calanus finmarchicus

Copepodite Stage 5

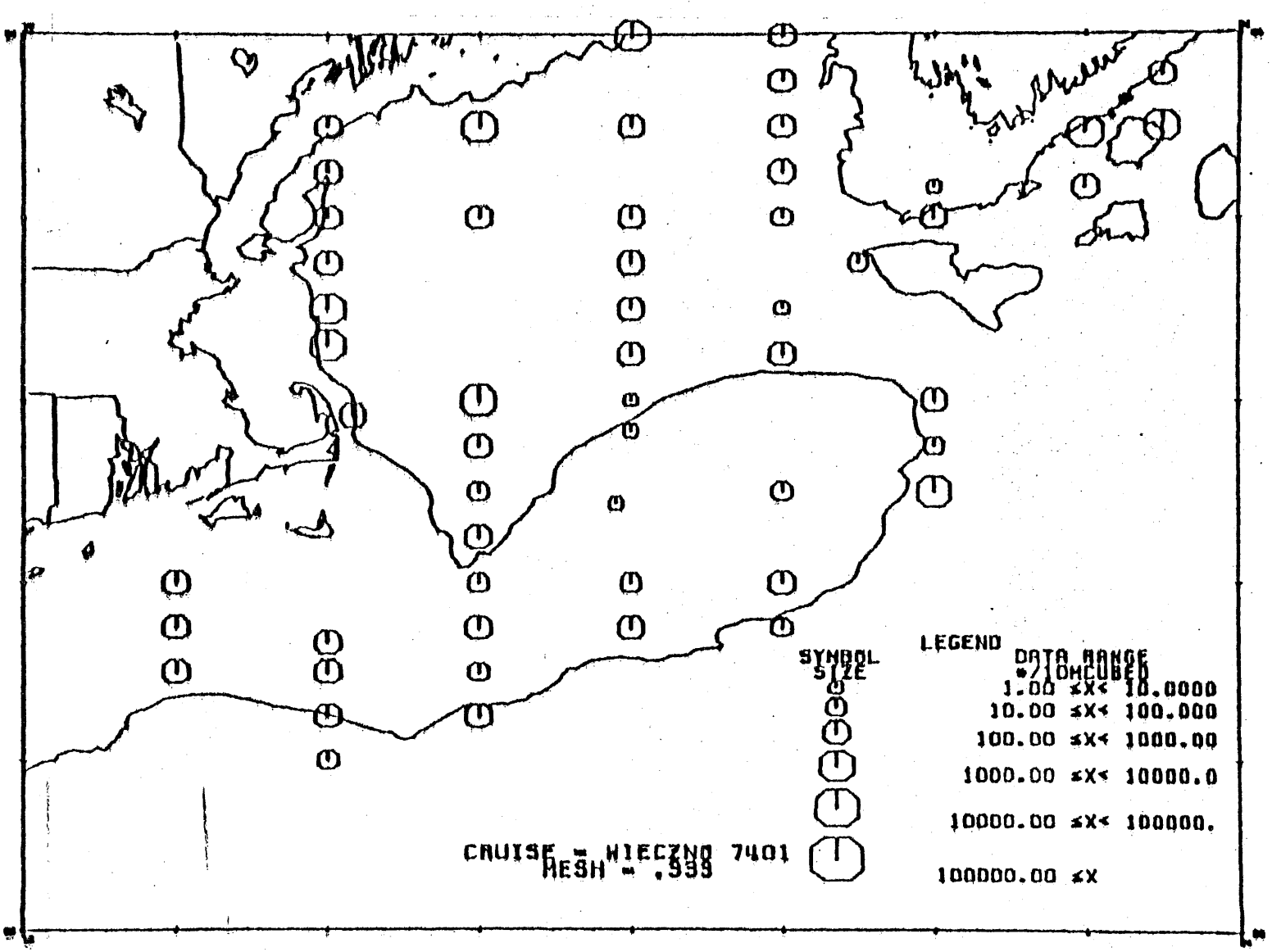

Figure 124

Calanus finmarchicus

Copepodite

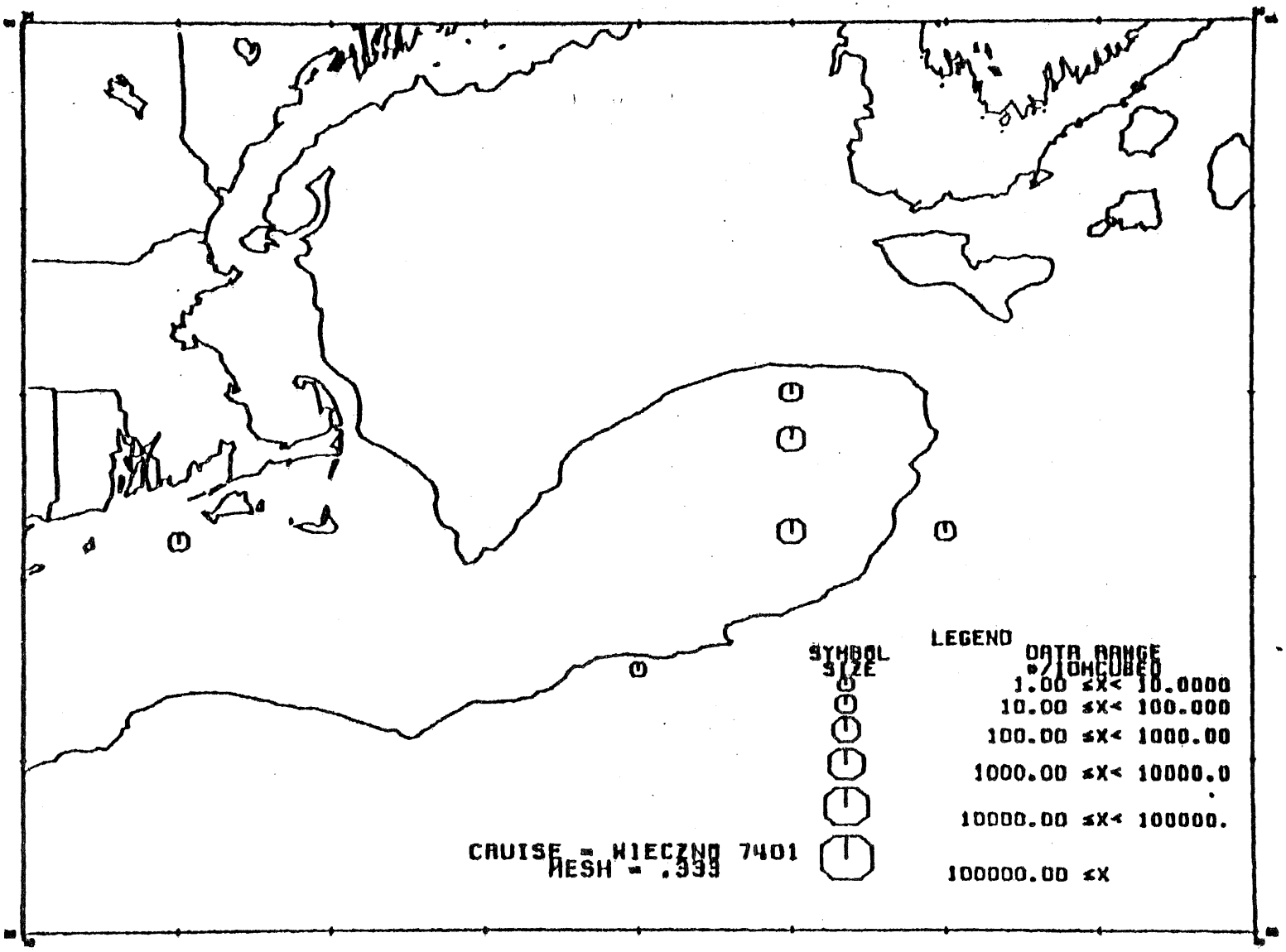

Figure 125

Calanus finmarchicus

Adult

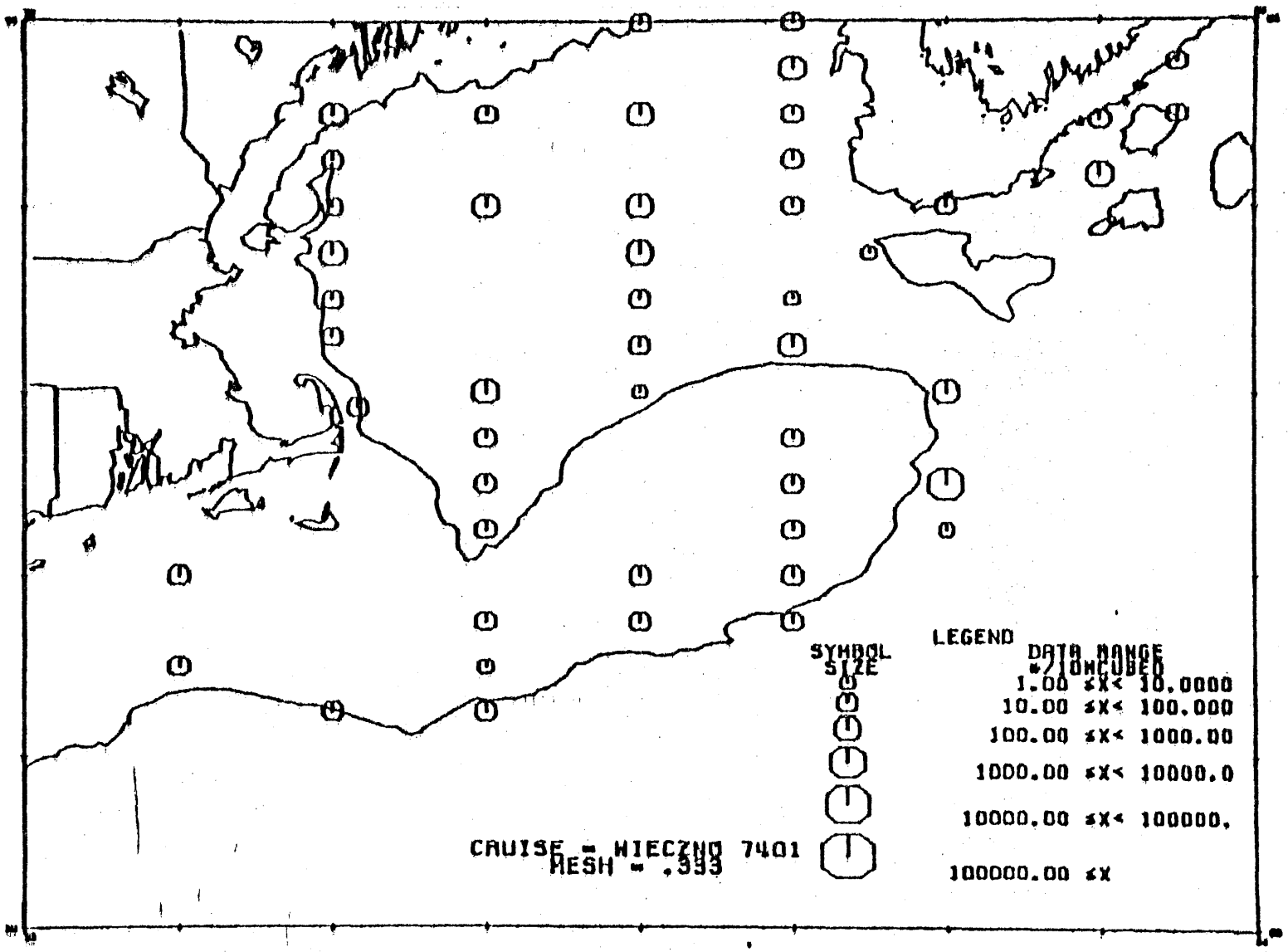

Figure 126

CHAETOGNATHA

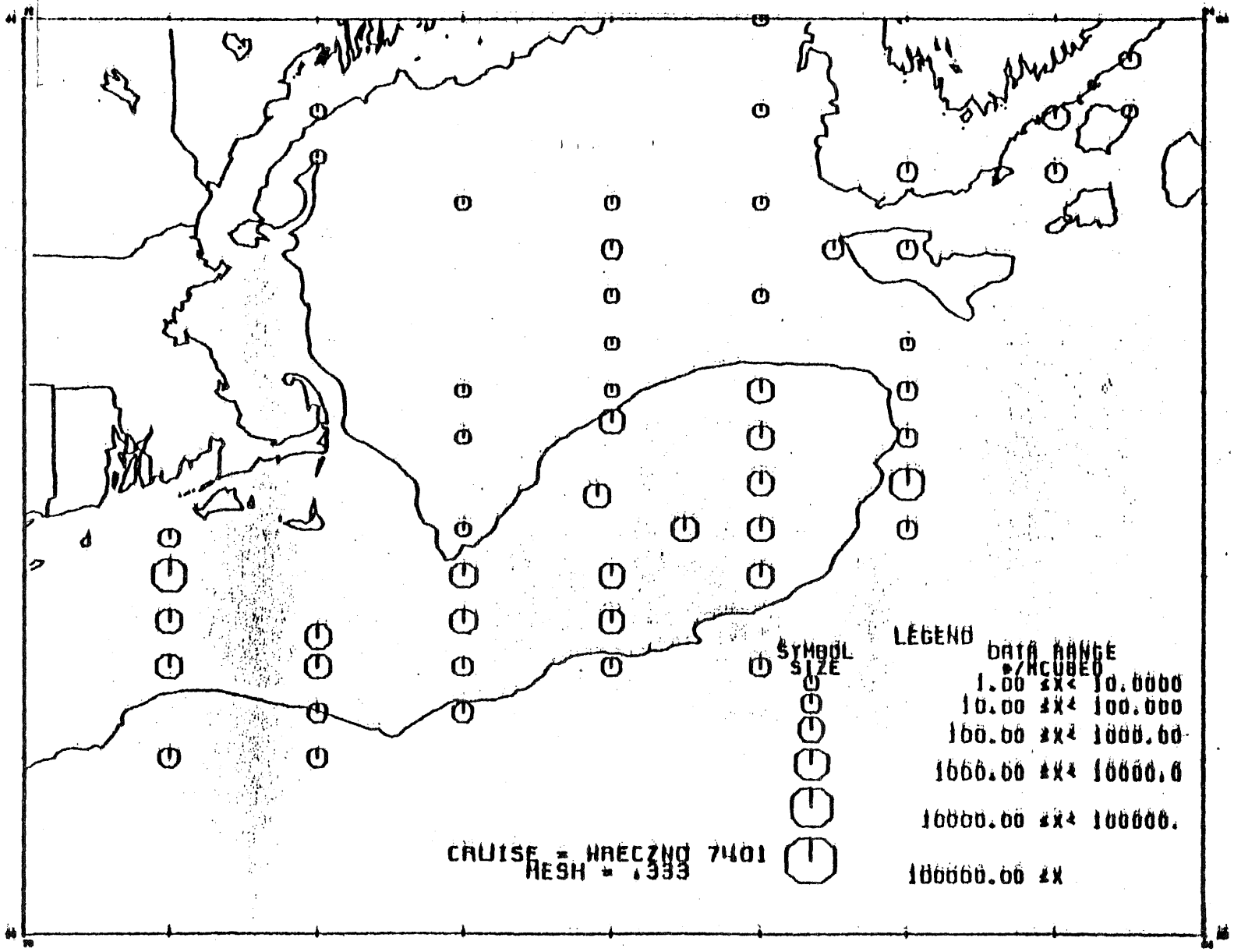

Figure 127

AMPHIPODA

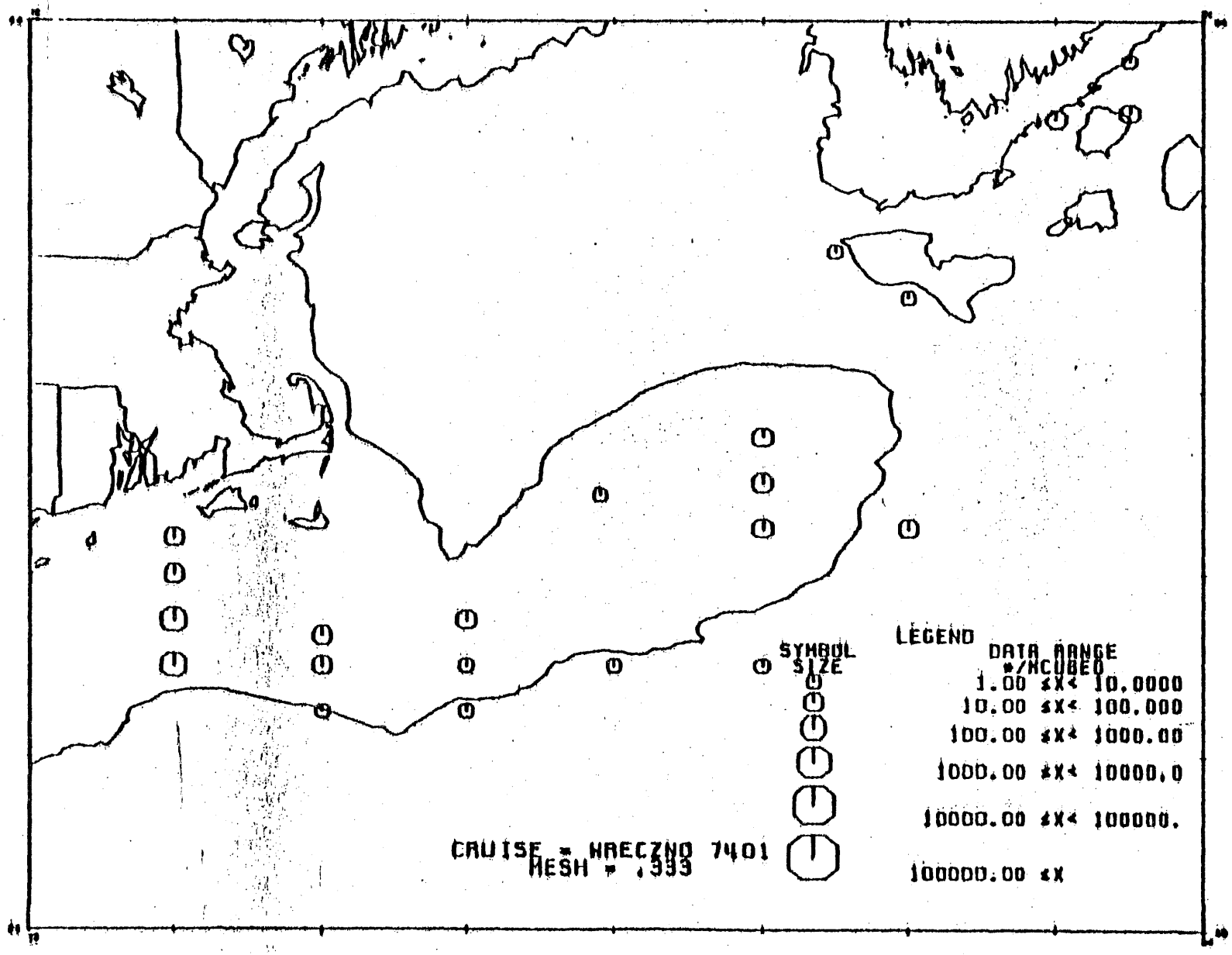

Figure 128

EUPHAUSIACEA

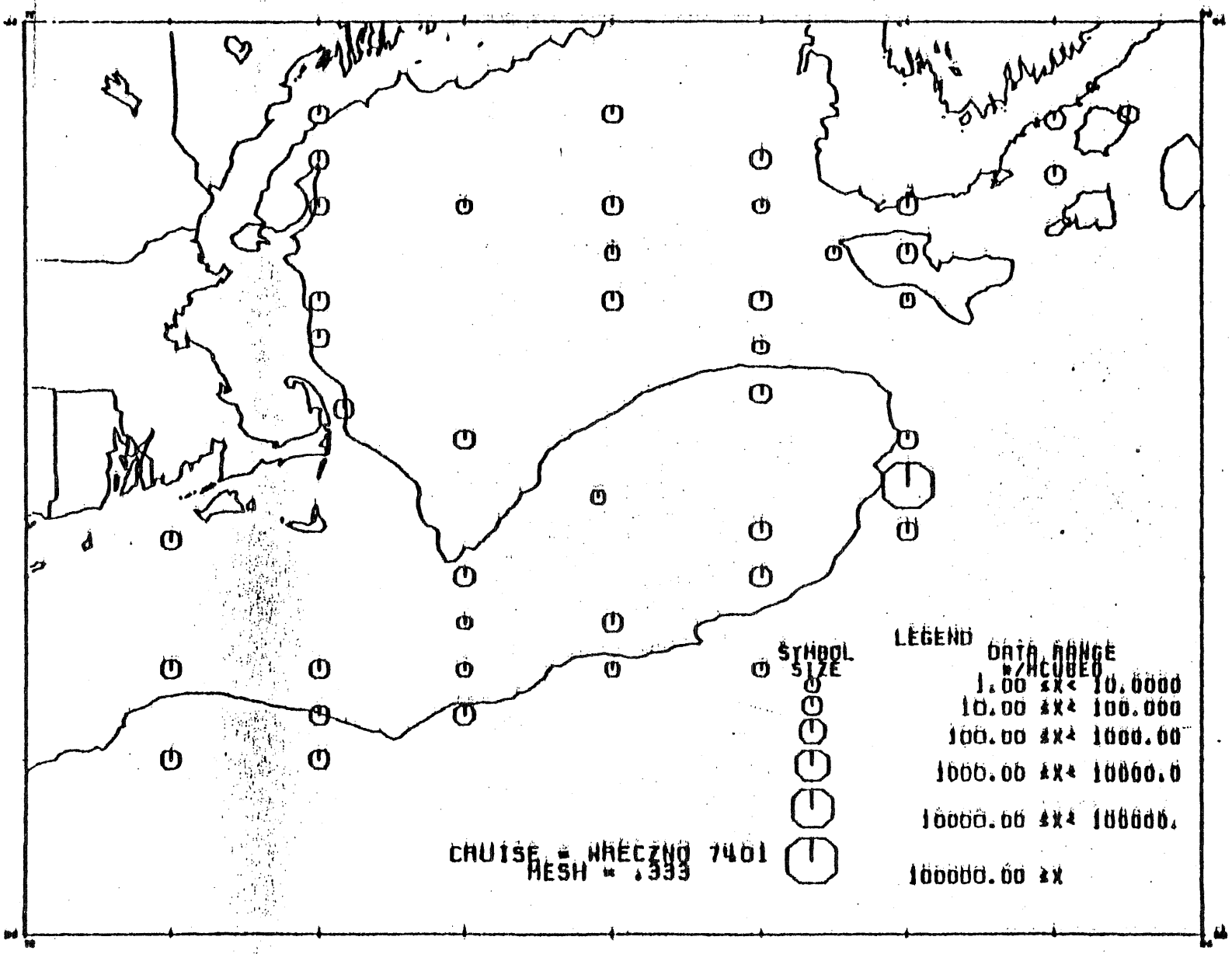

Figure 129

MYSIDACEA

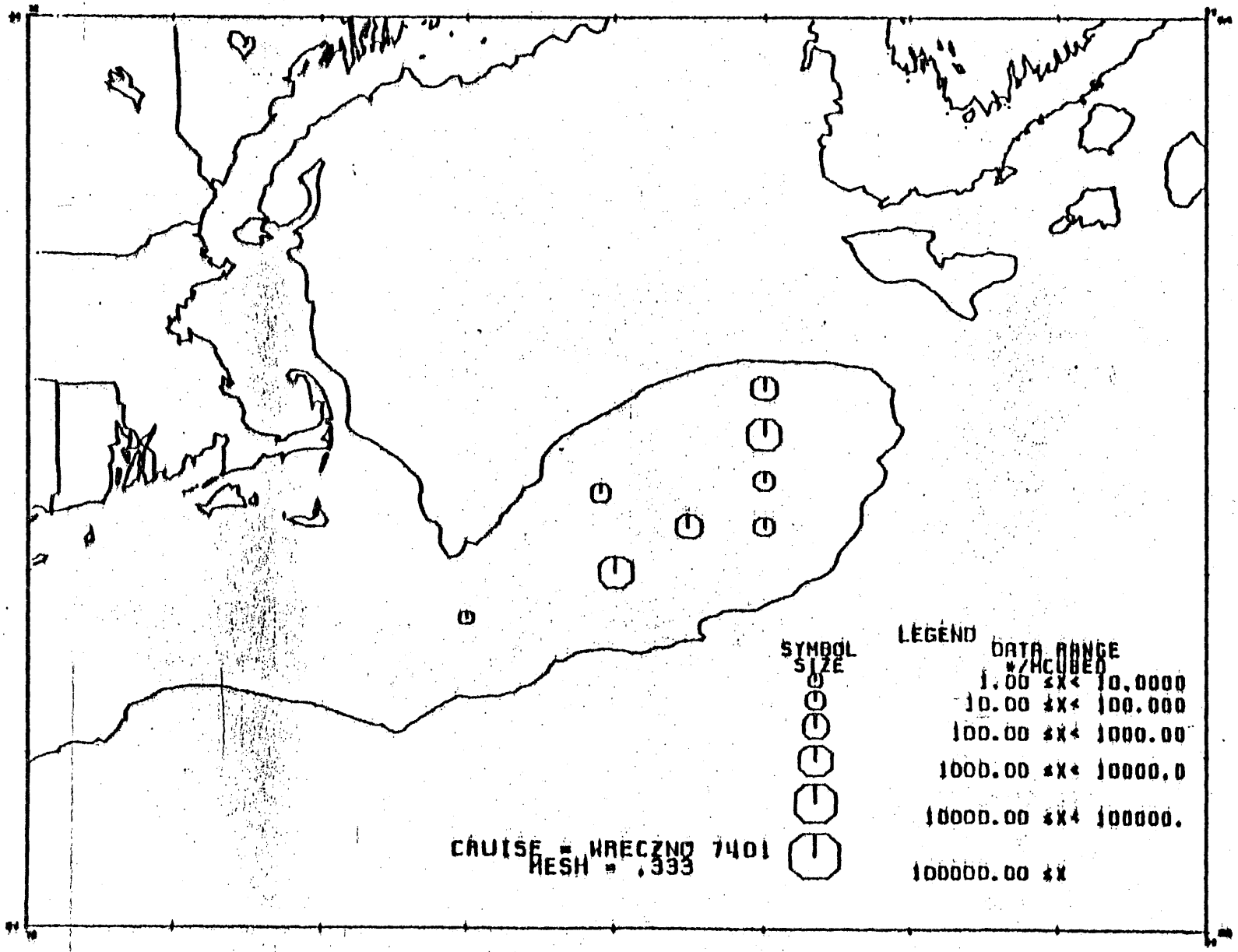

Figure 130

SALPA

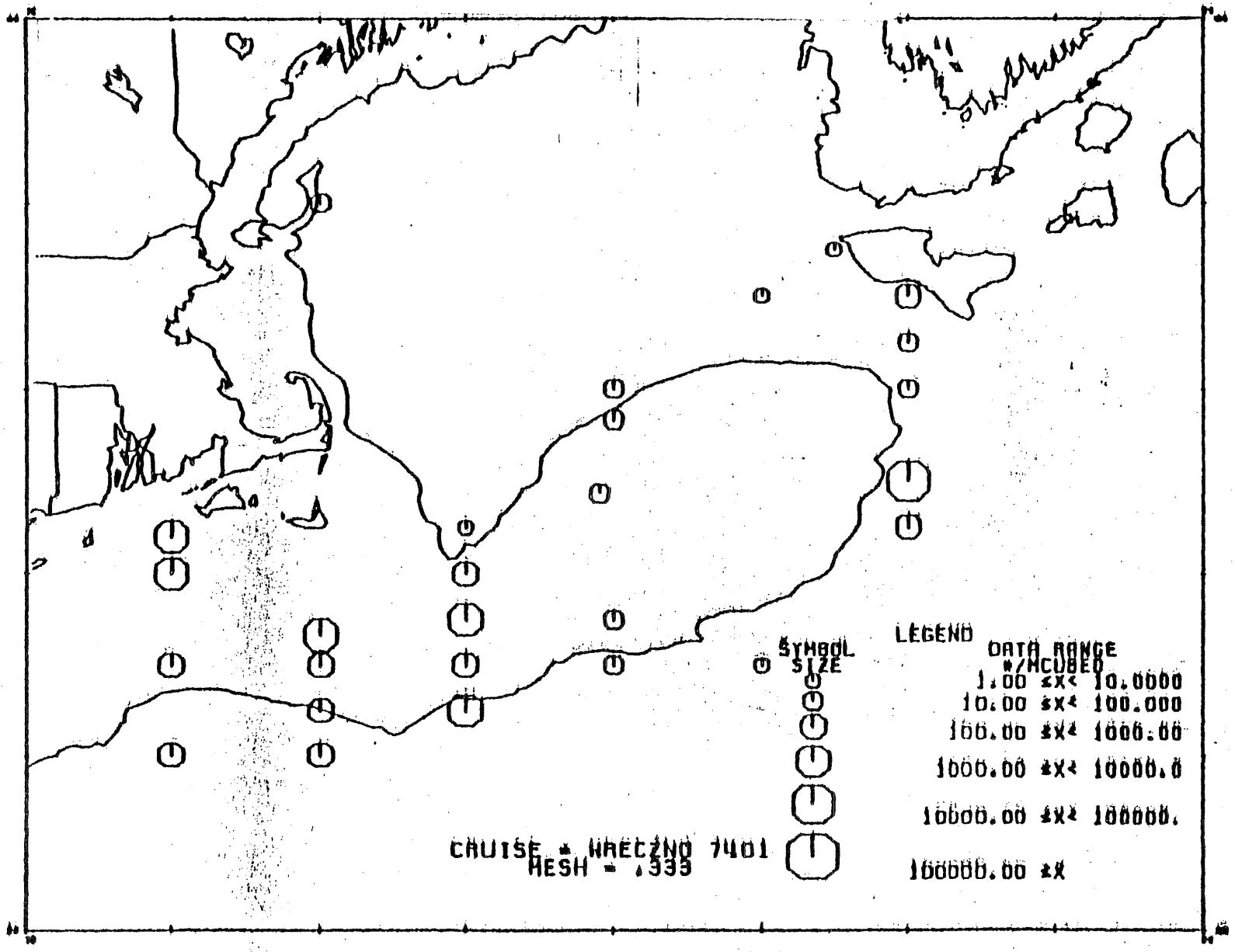

Figure 131

Stations Sampled

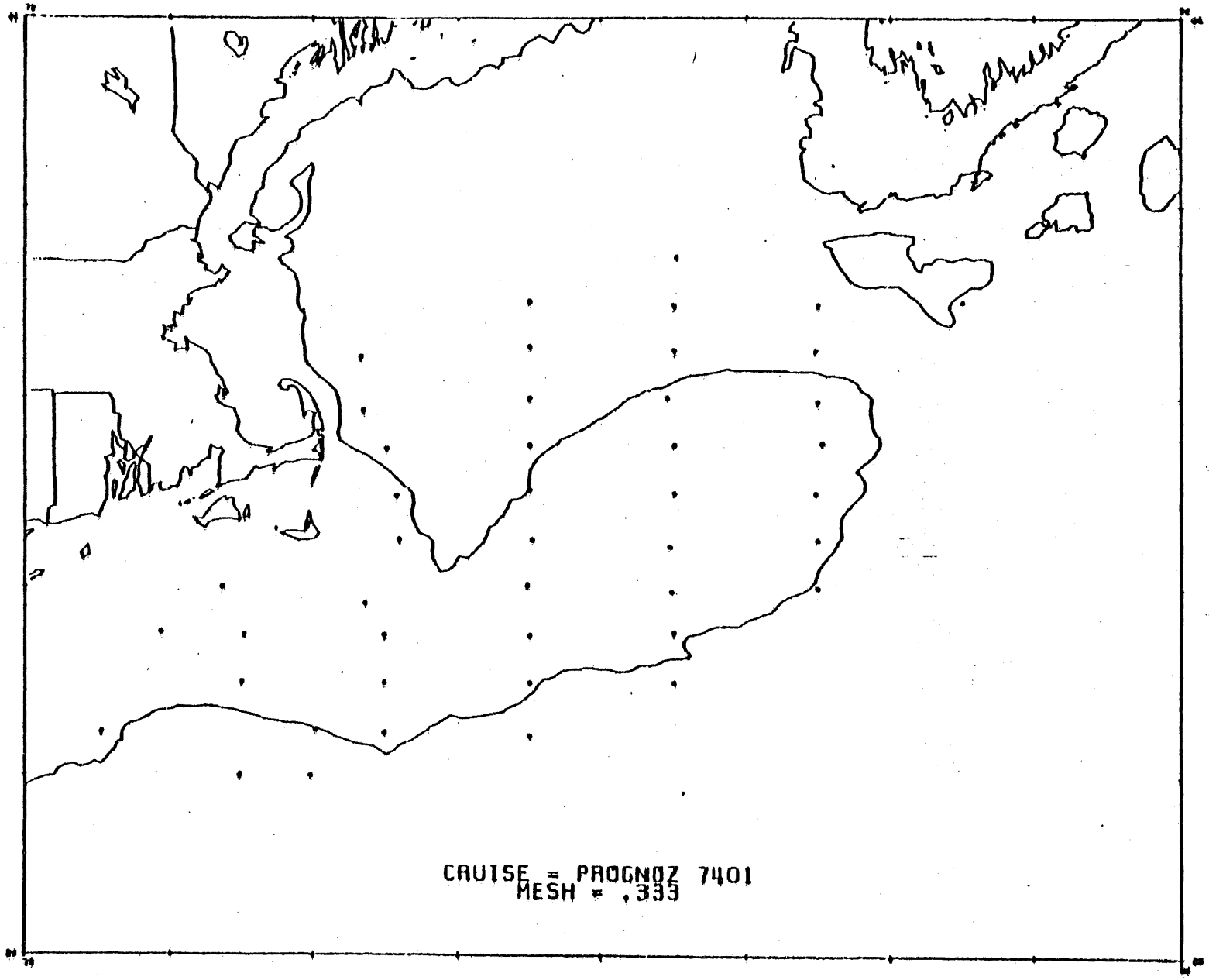

Figure 132

DISPLACEMENT VOLUME

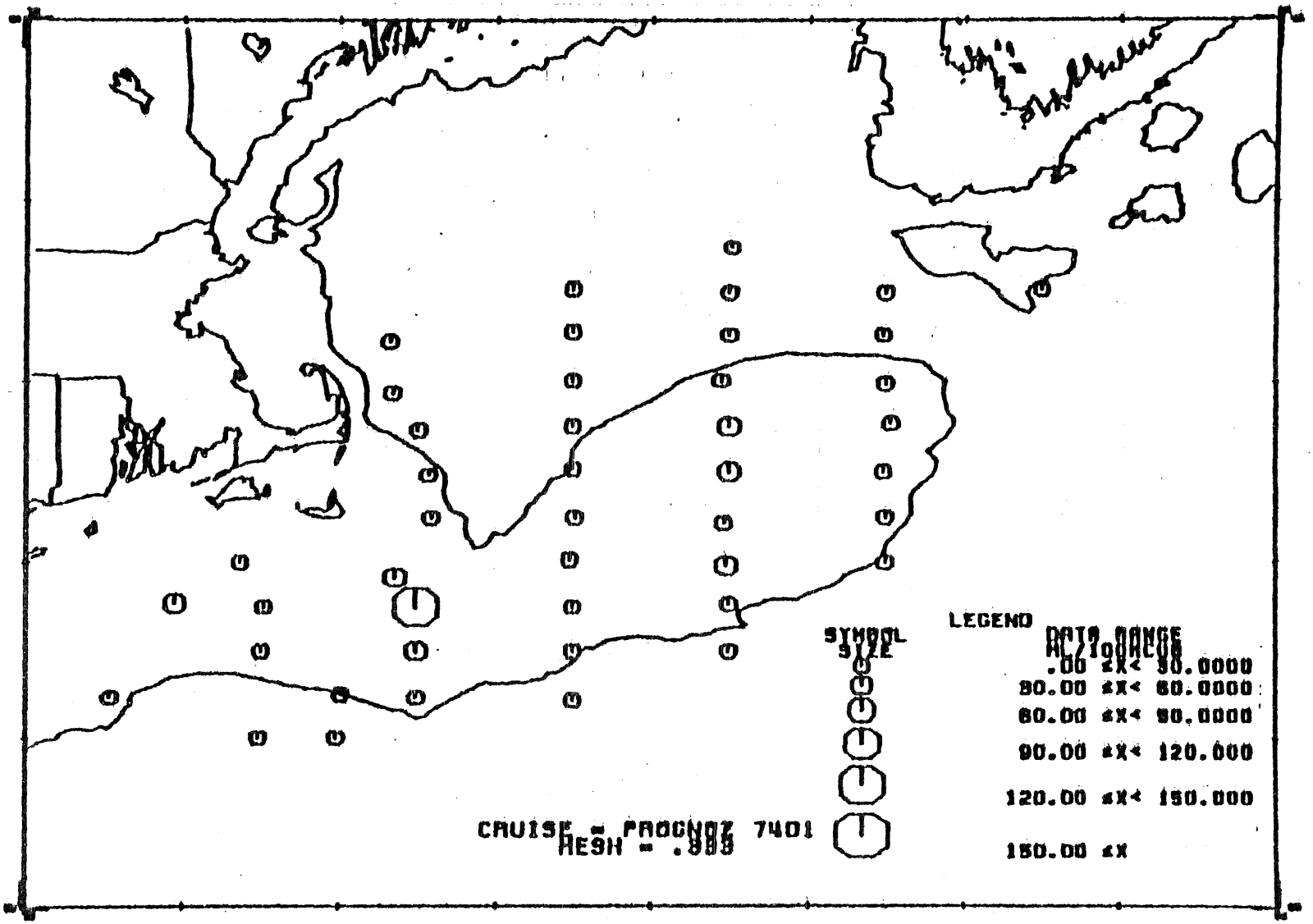

Figure 133

Pseudocalanus sp.

Copepodite Stage 4

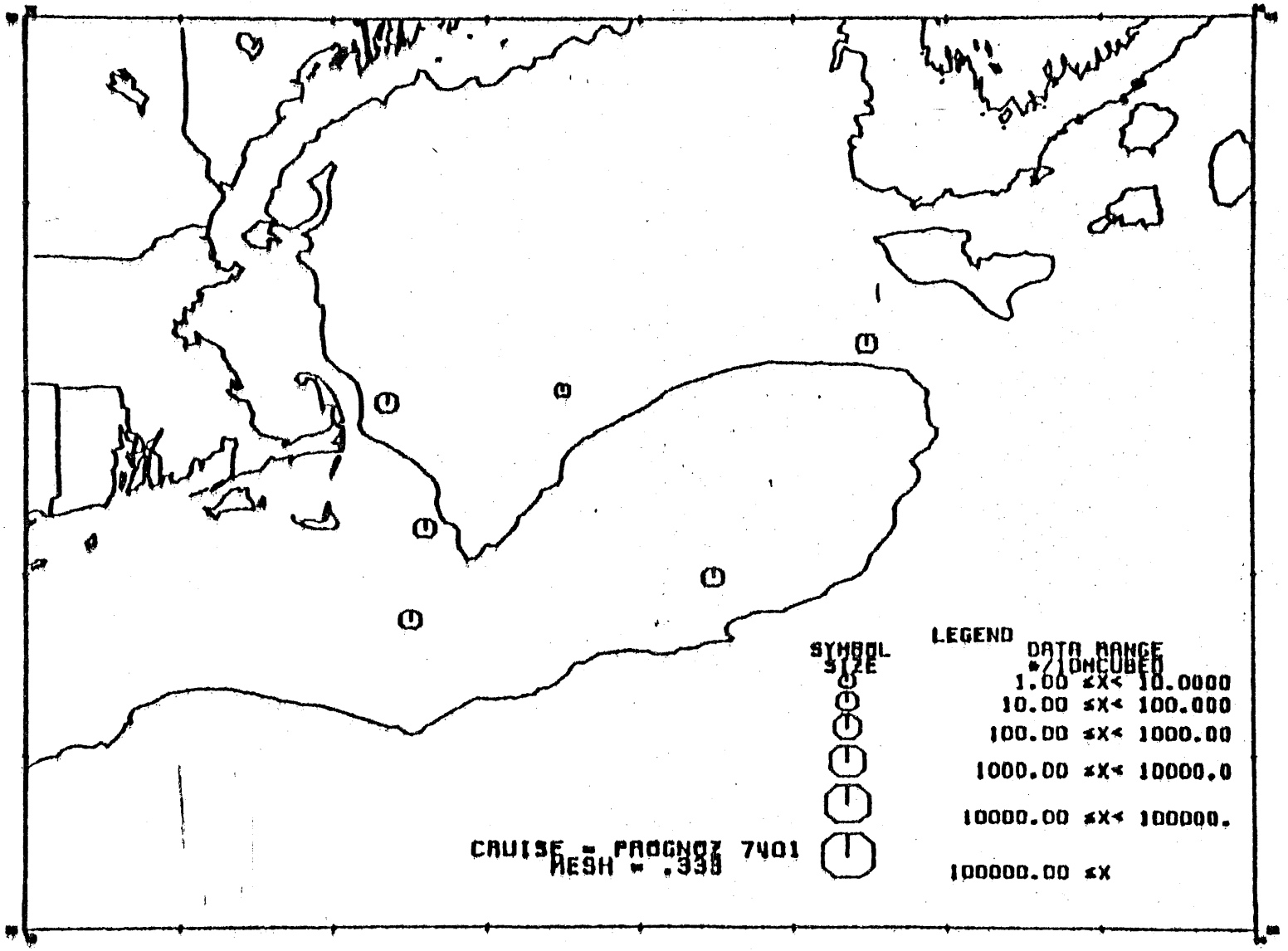

Figure 134

Pseudocalanus sp.

Copepodite Stage 5

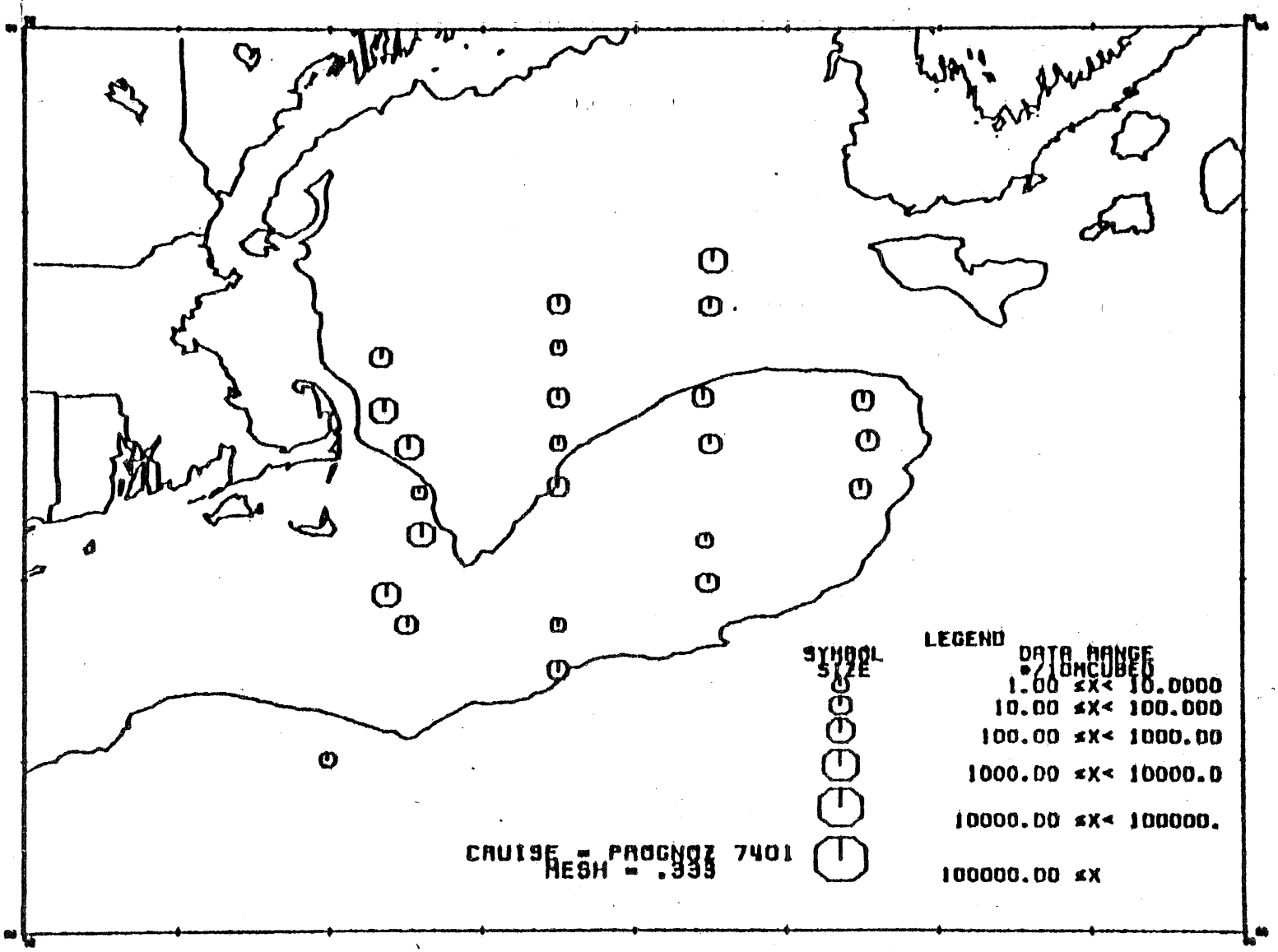

Figure 135

Pseudocalanus sp.

Adult

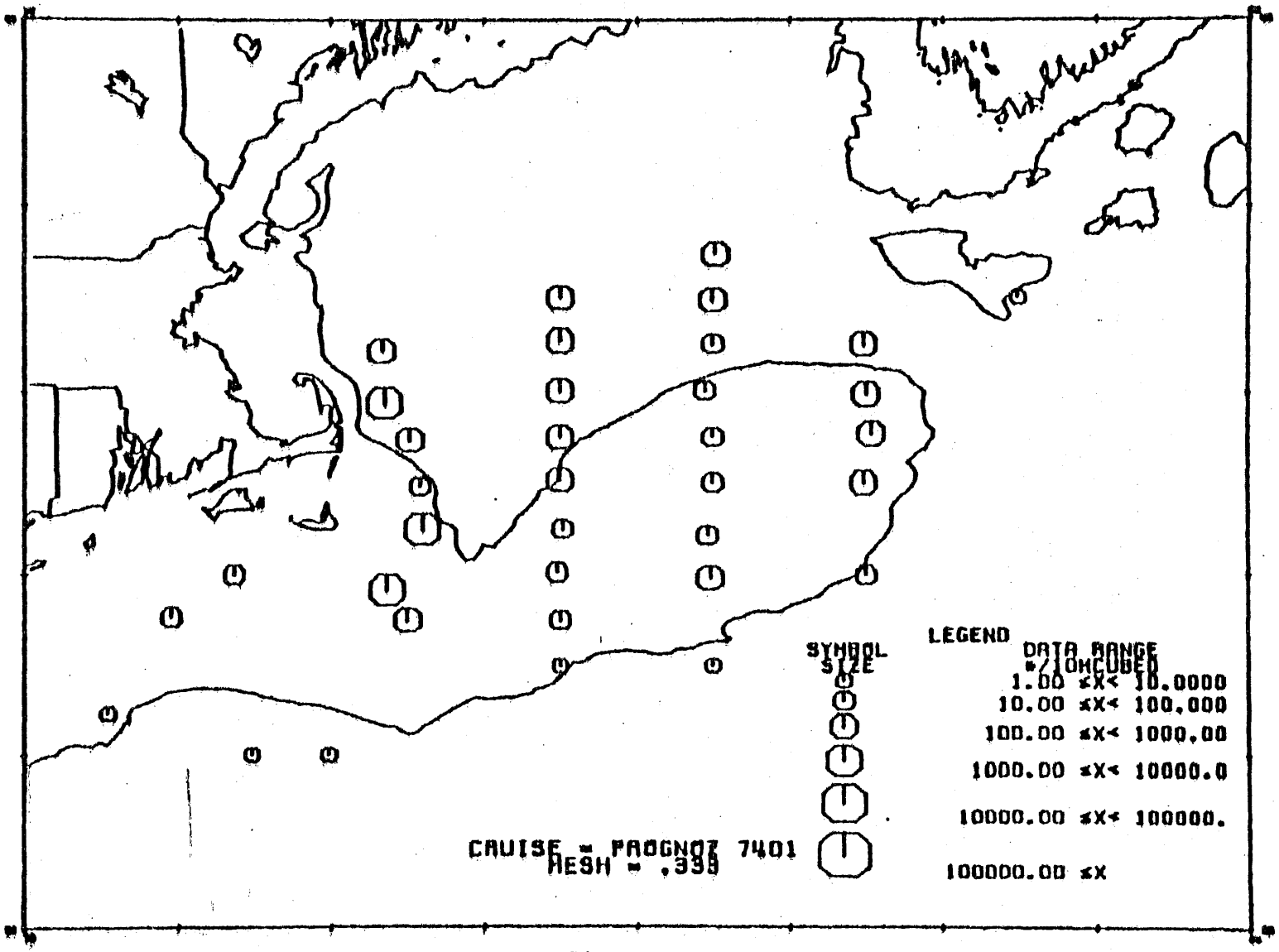

Figure 136

Paracalanus parvus

Copepodite Stage 5

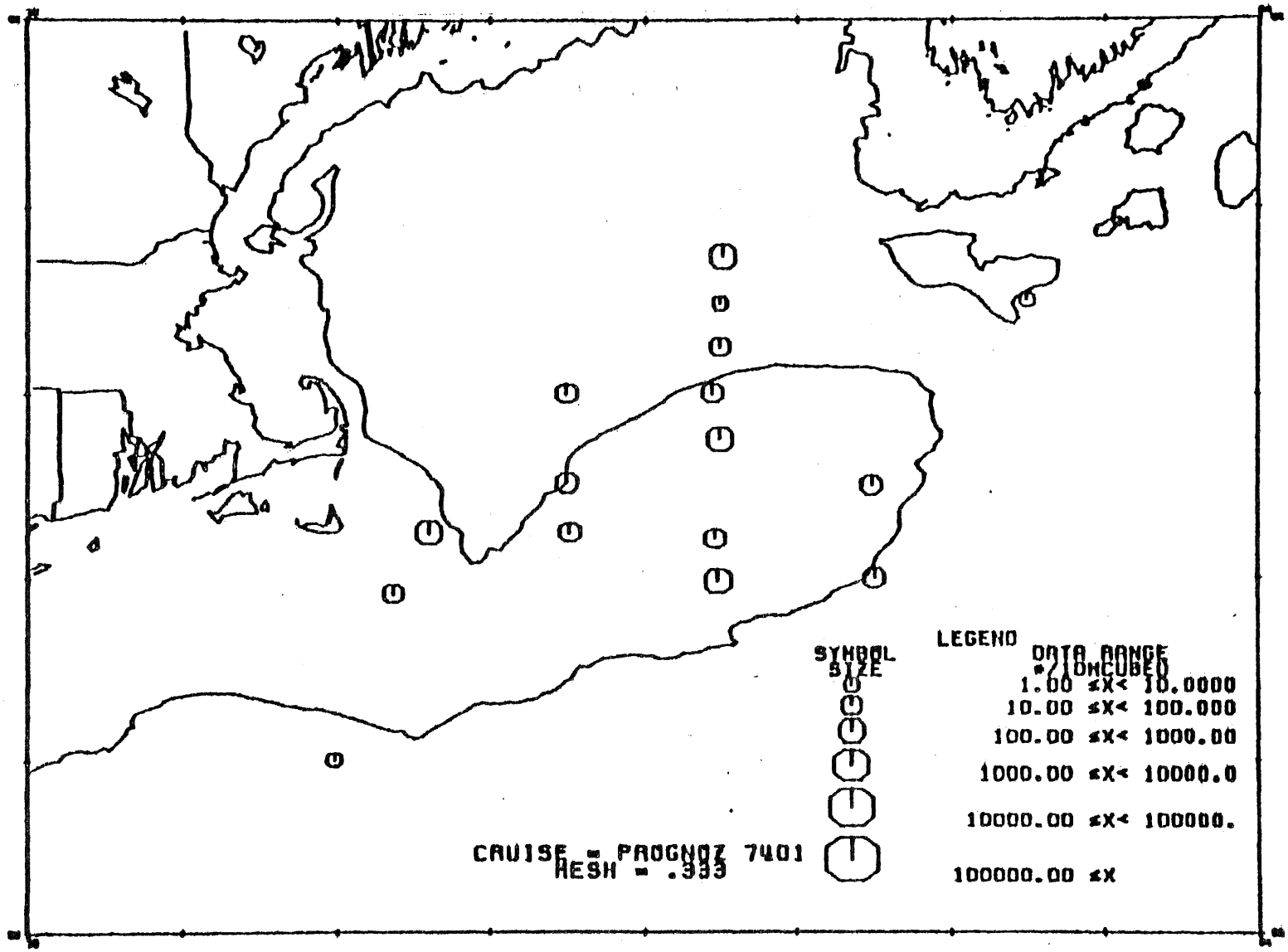

Figure 137

Paracalanus parvus

Copepodite

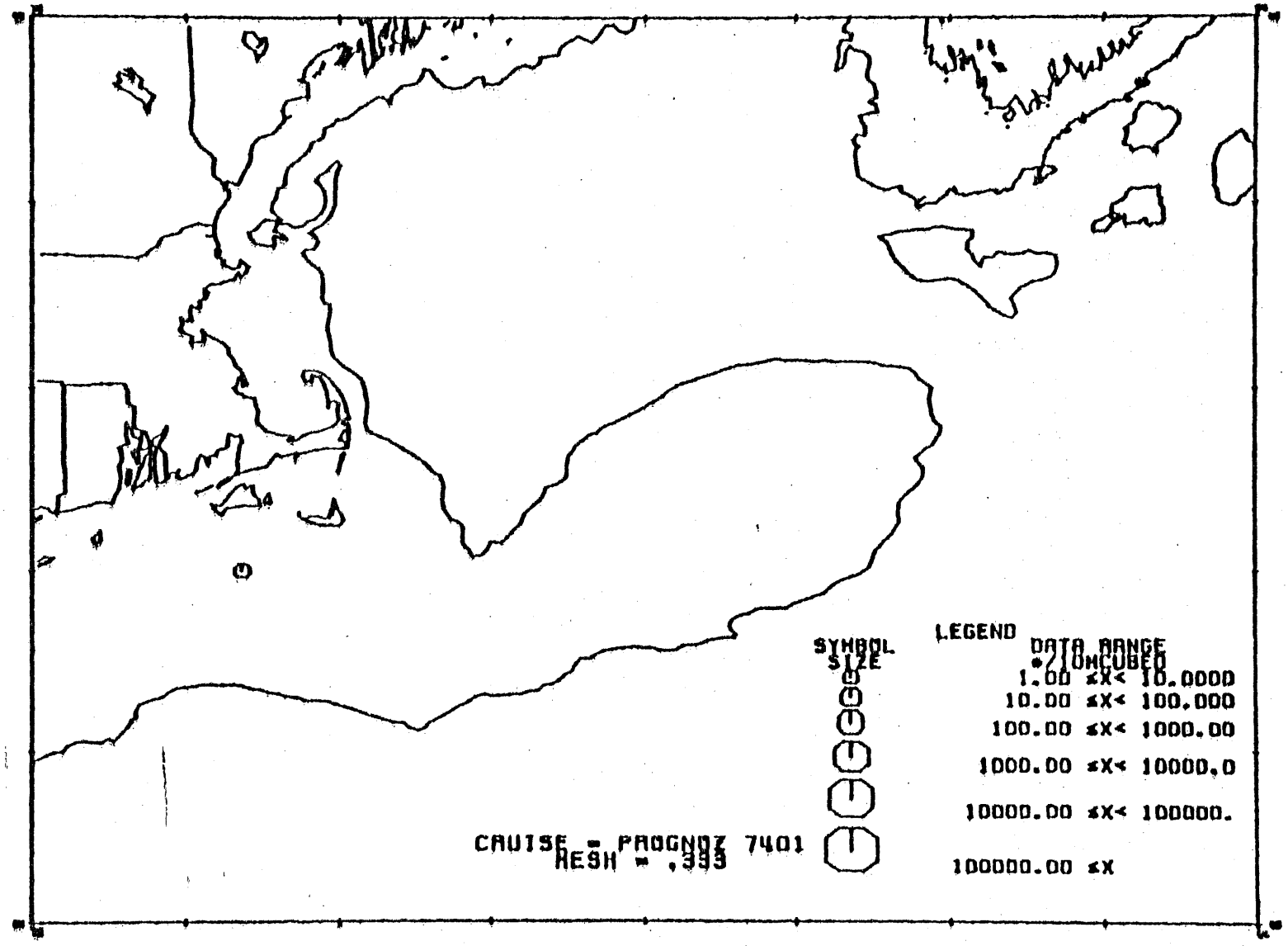

Figure 138

Paracalanus parvus

Adult

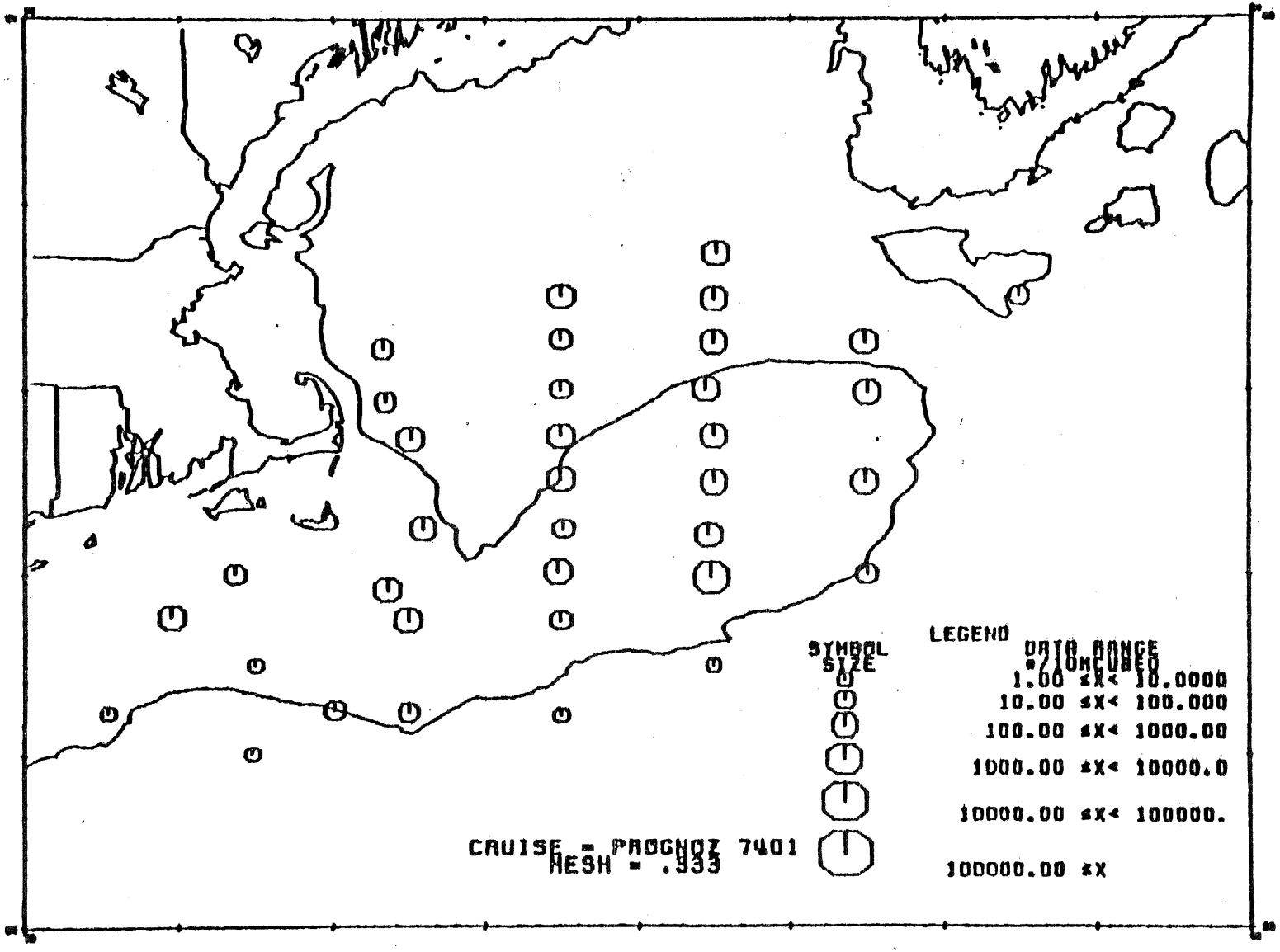

Figure 139

Centropages typicus

Copepodite Stage 3

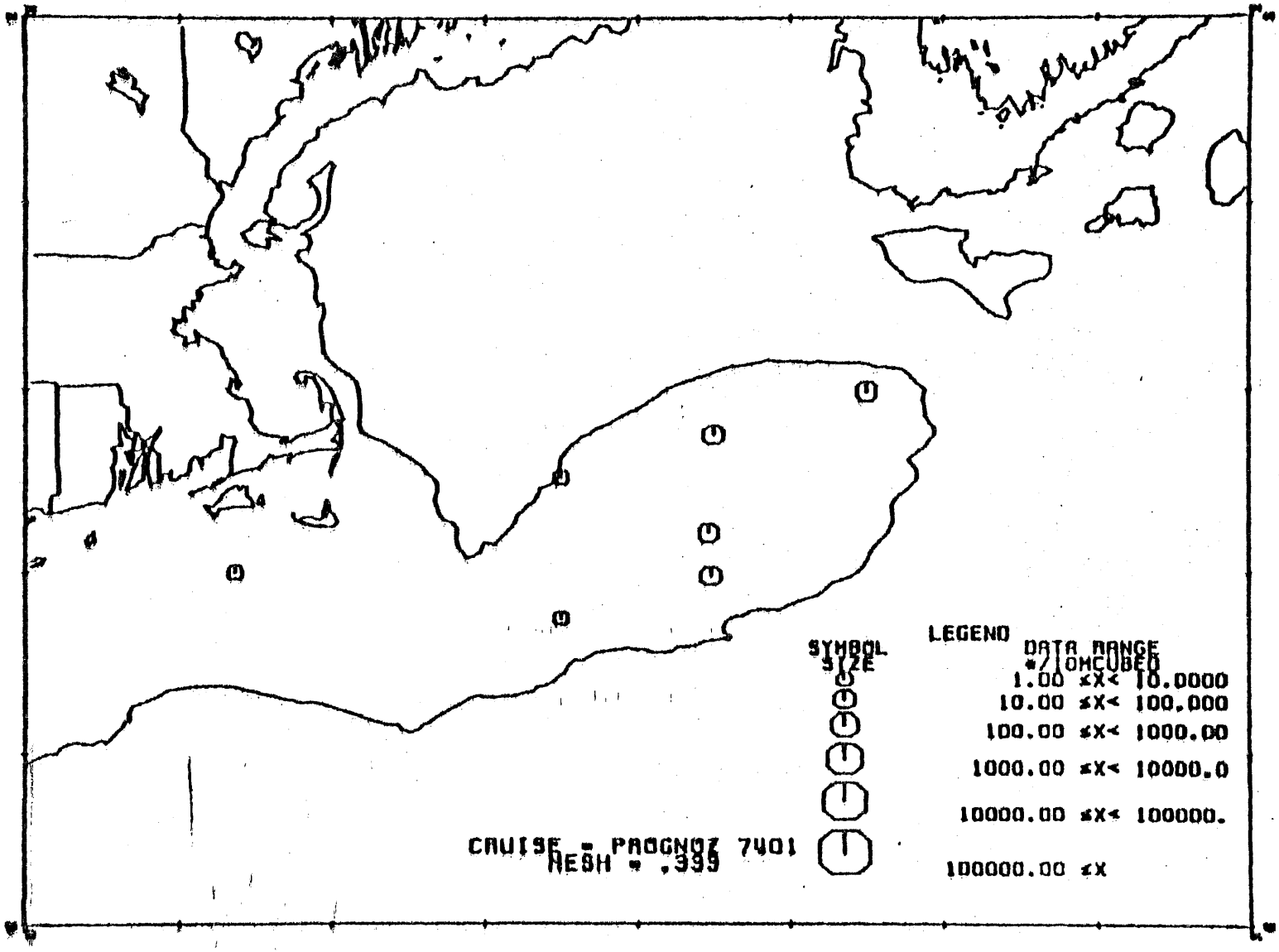

Figure 140

Centropages typicus

Copepodite Stage 4

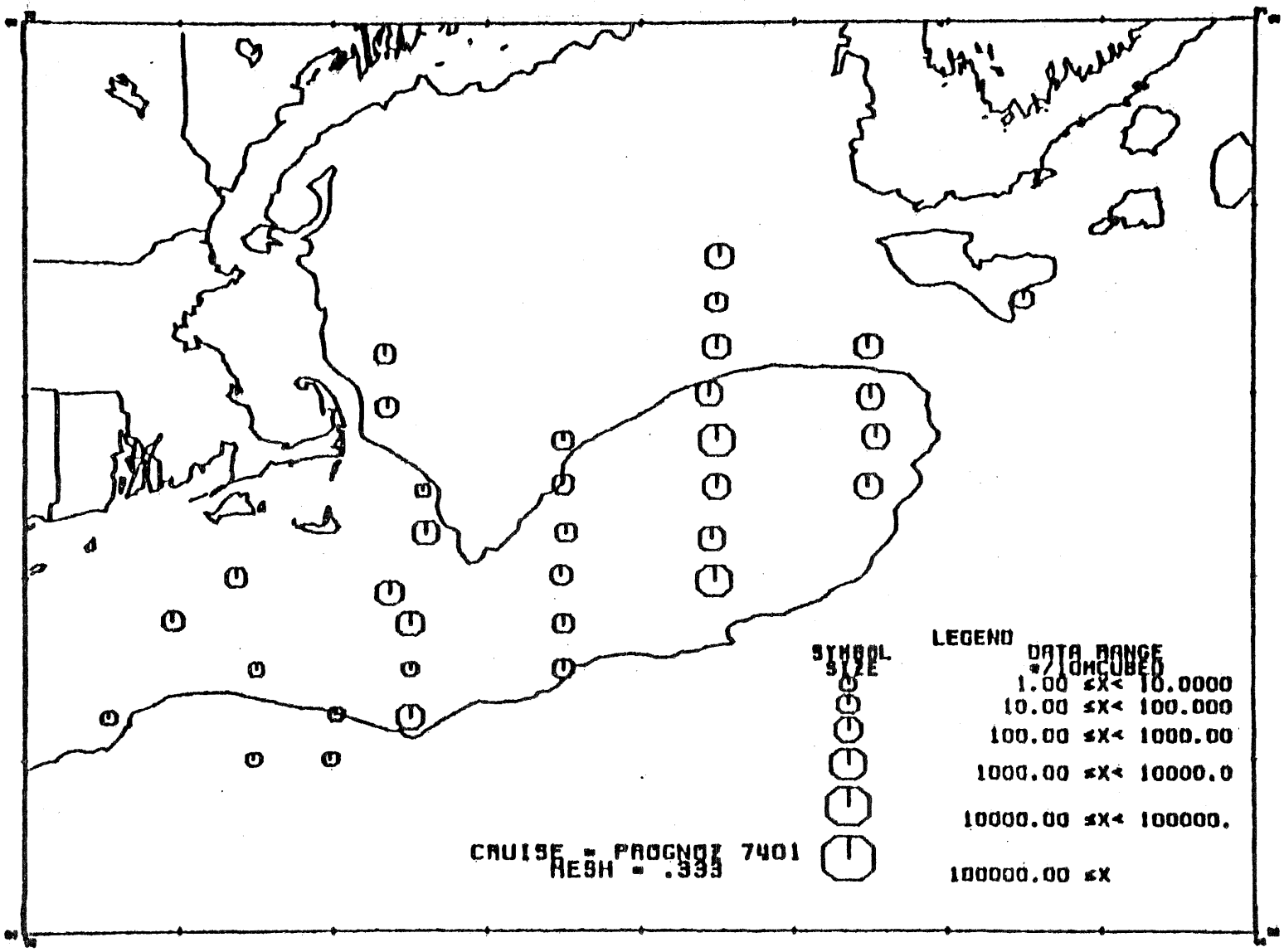

Figure 141

Centropages typicus

Copepodite Stage 5

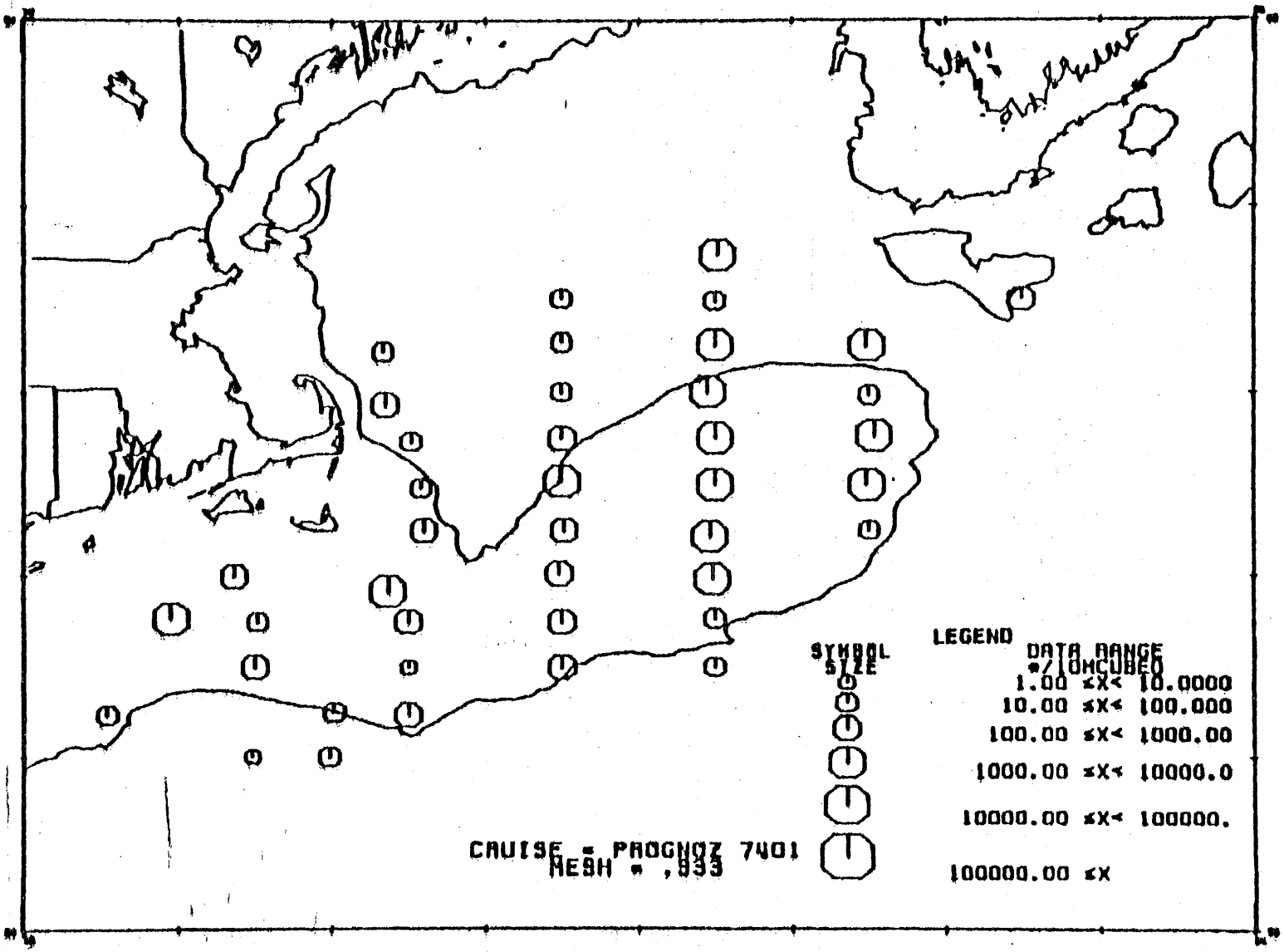

Figure 142

Centropages typicus

Adult

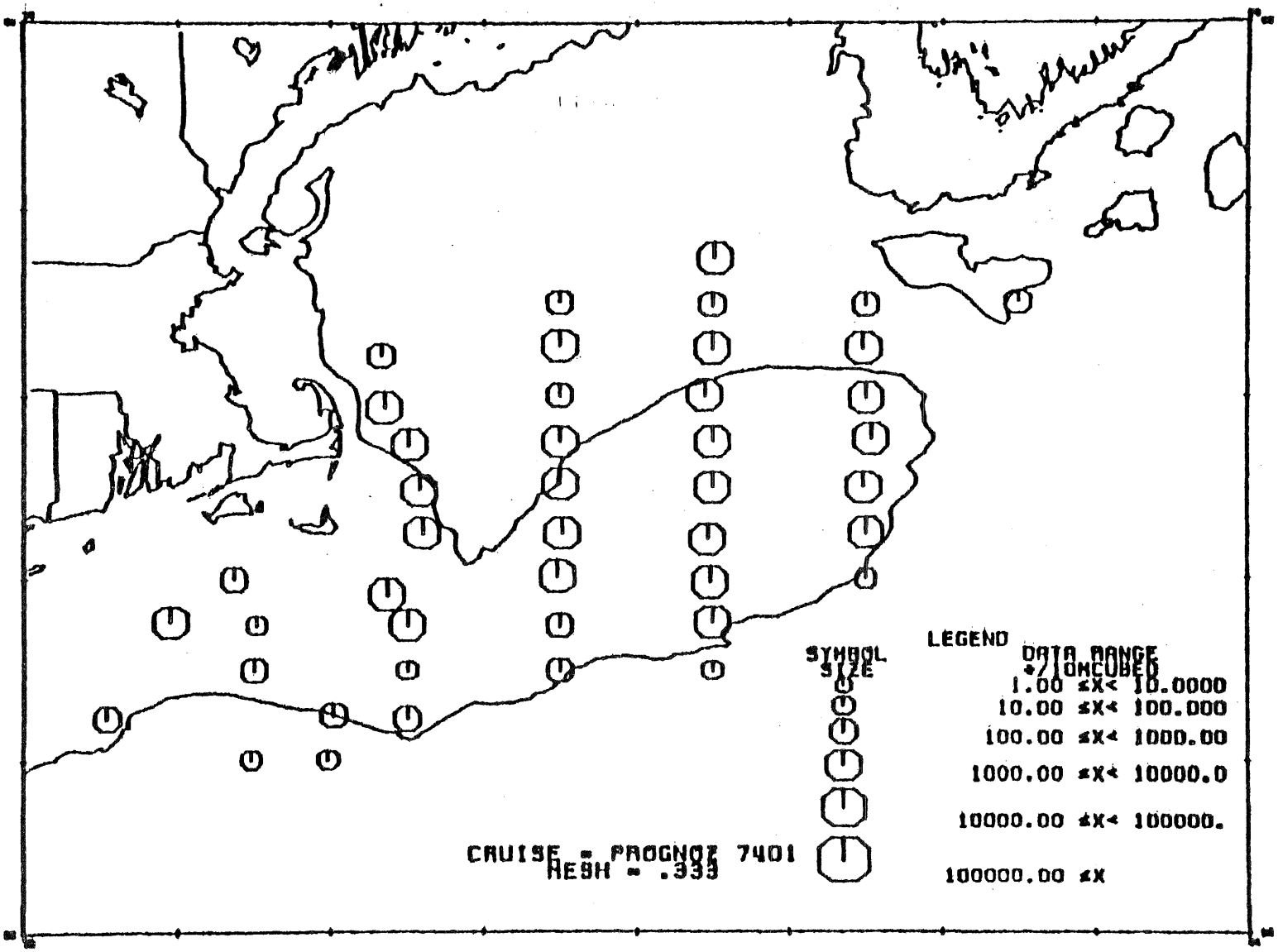

Figure 143

Centropages hamatus

Copepodite Stage 4

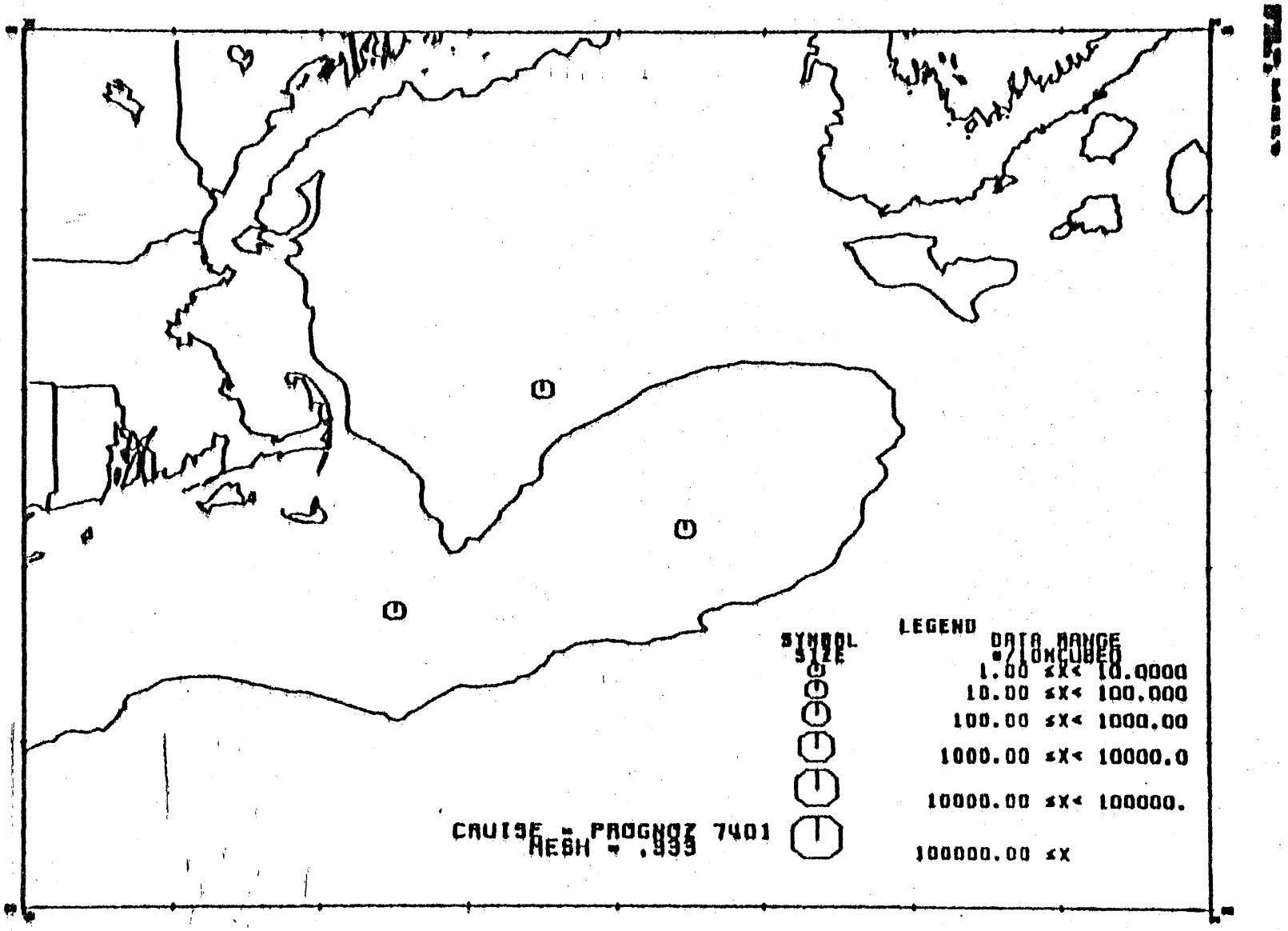

Figure 144

Centropages hamatus

Copepodites Stage 5

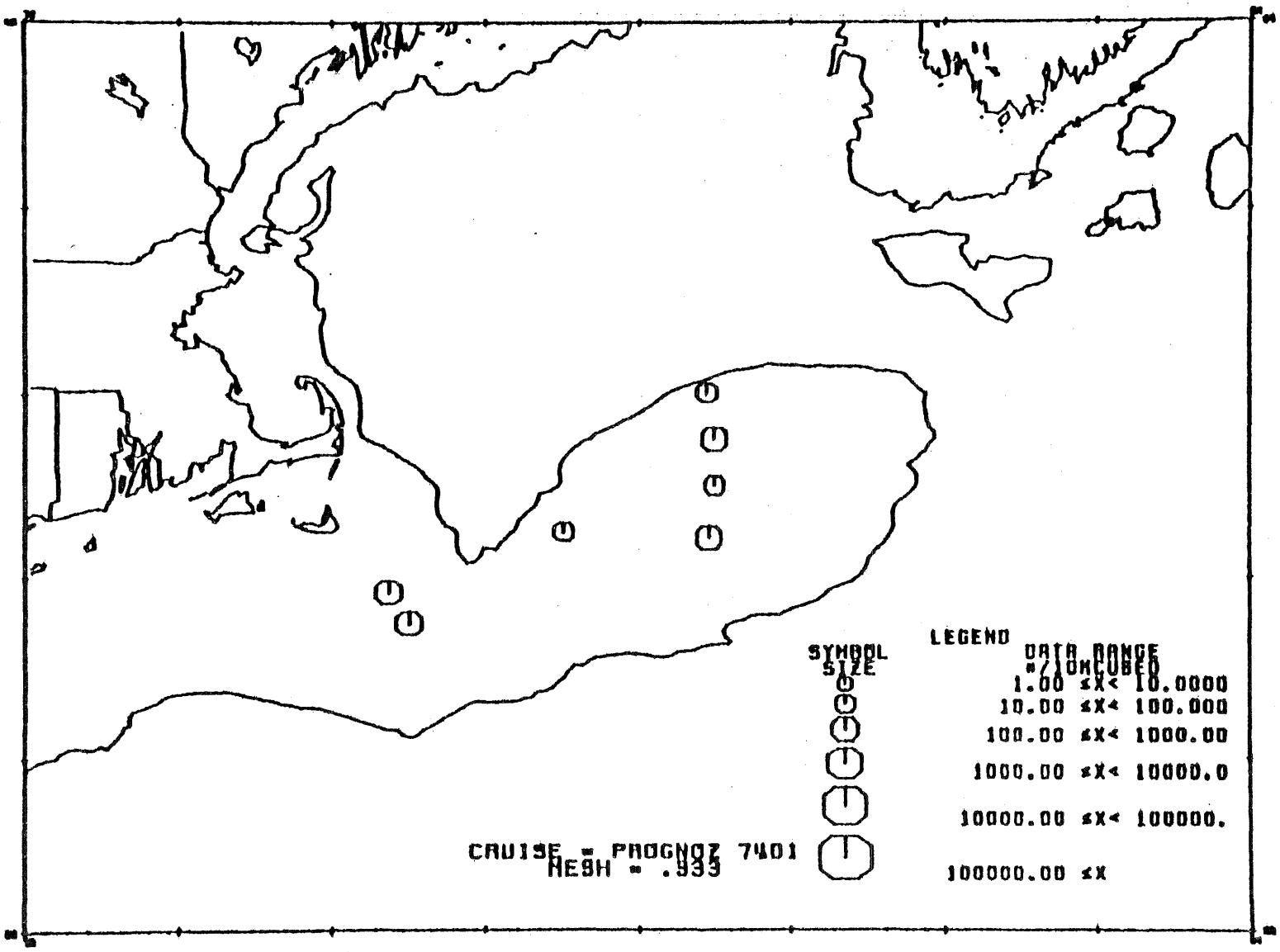

Figure 145

Centropages hamatus

Adult

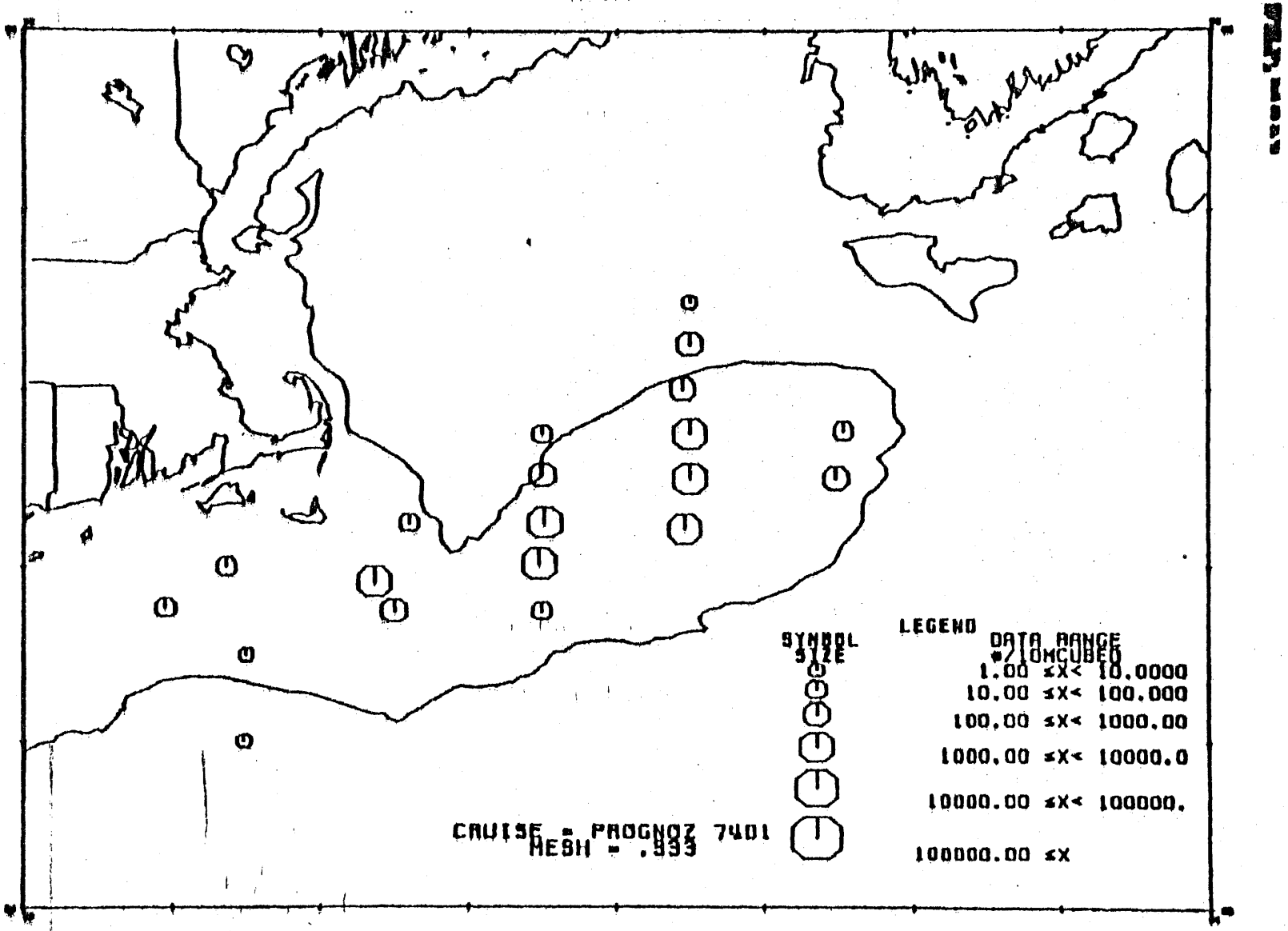

Figure 146

Oithona spp.

Copepodite

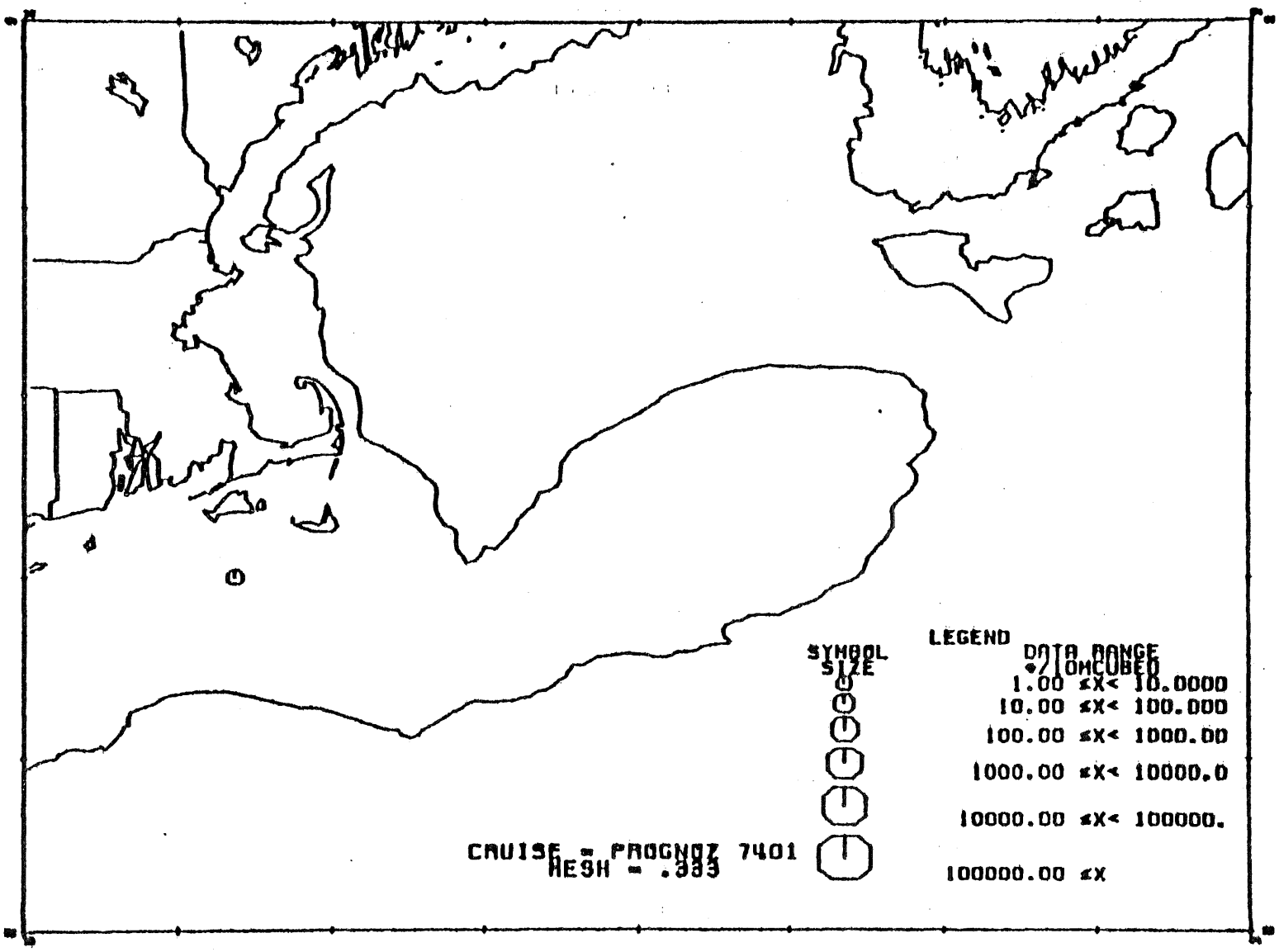

Figure 147

Calanus finmarchicus

Copepodite Stage 2

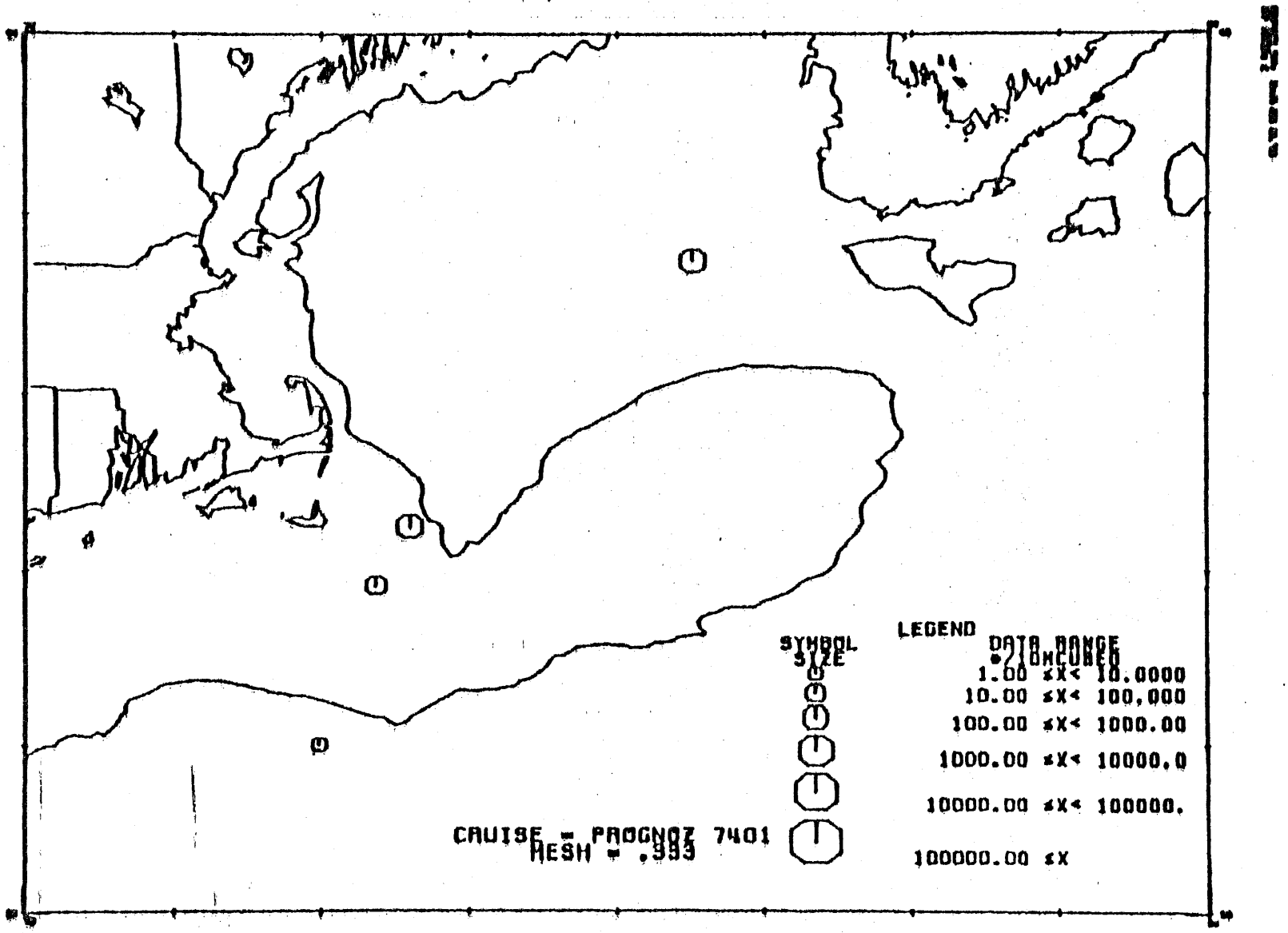

Figure 148

Calanus finmarchicus

Copepodite Stage 3

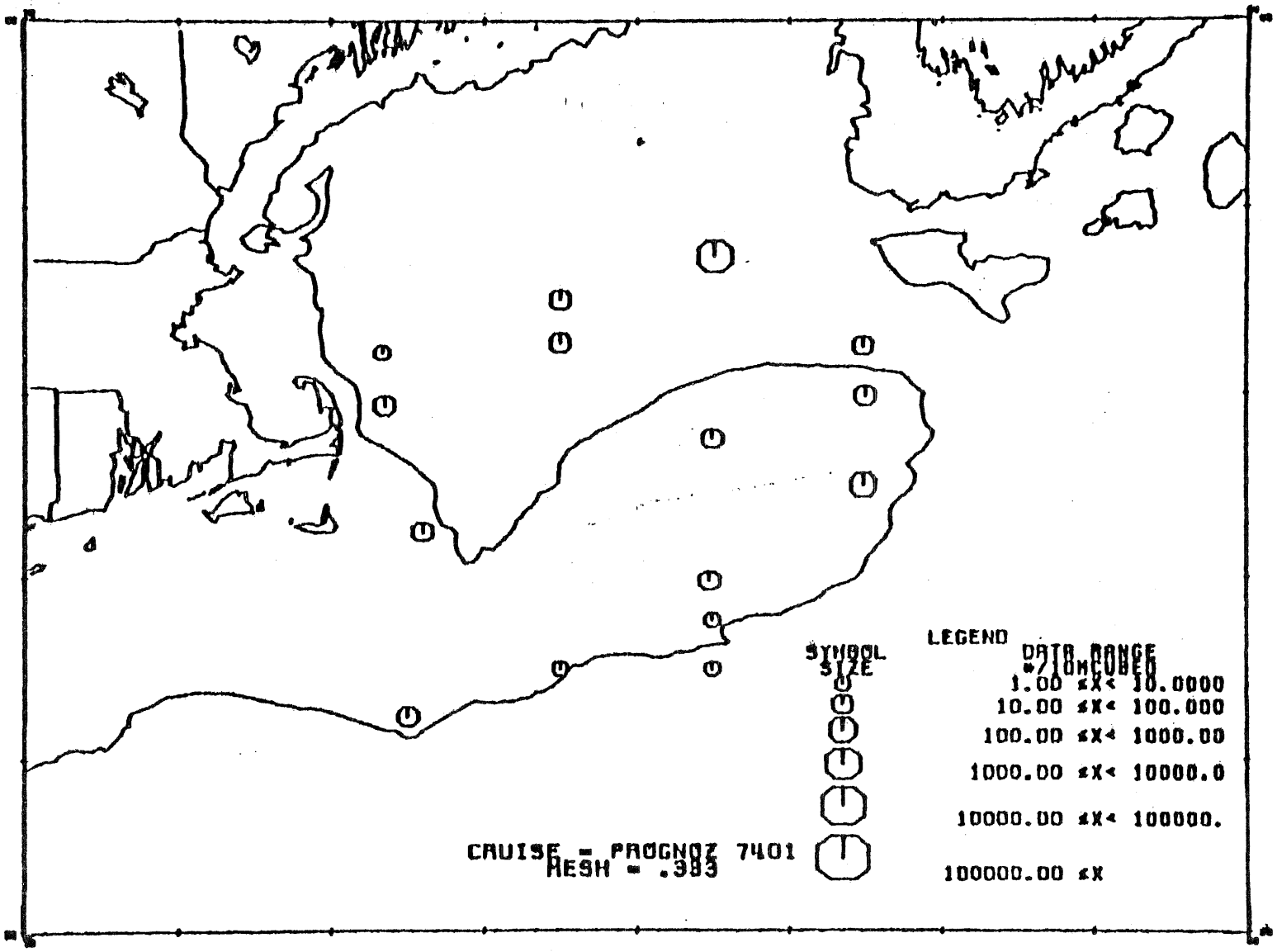

Figure 149

Calanus finmarchicus

Copepodite Stage 4

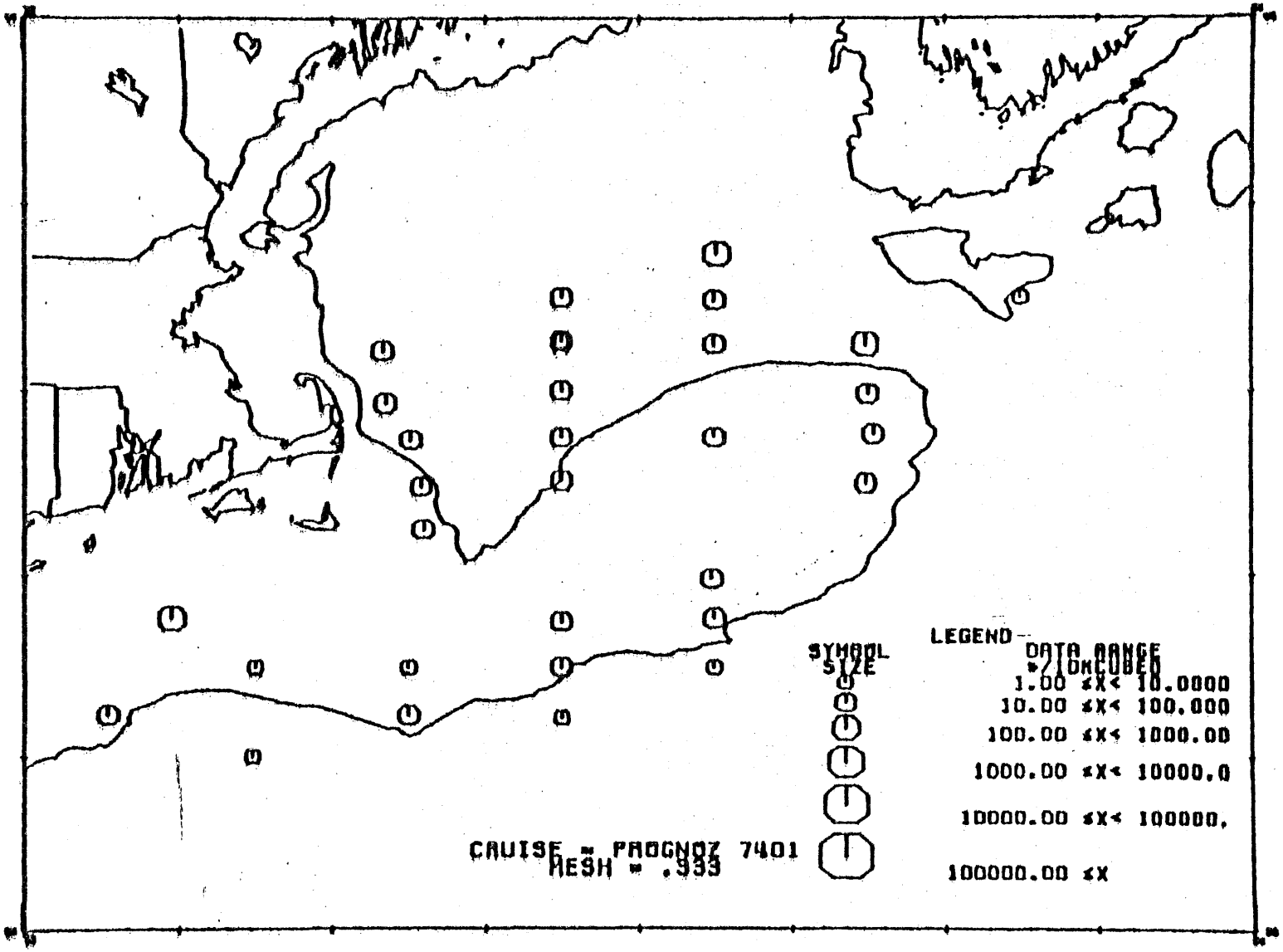

Figure 150

Calanus finmarchicus

Copepodite Stage 5

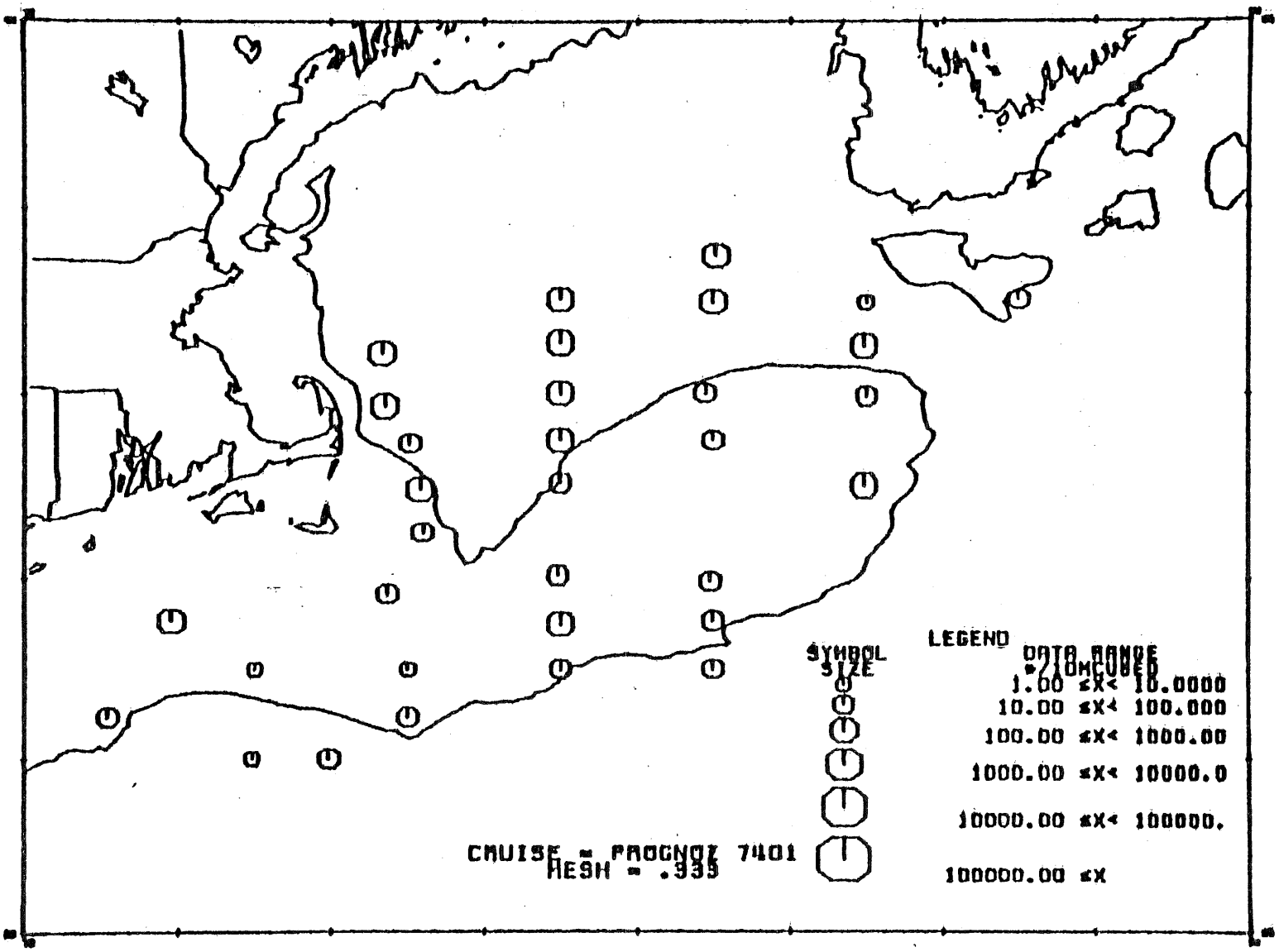

Figure 151

Calanus finmarchicus

Copepodite

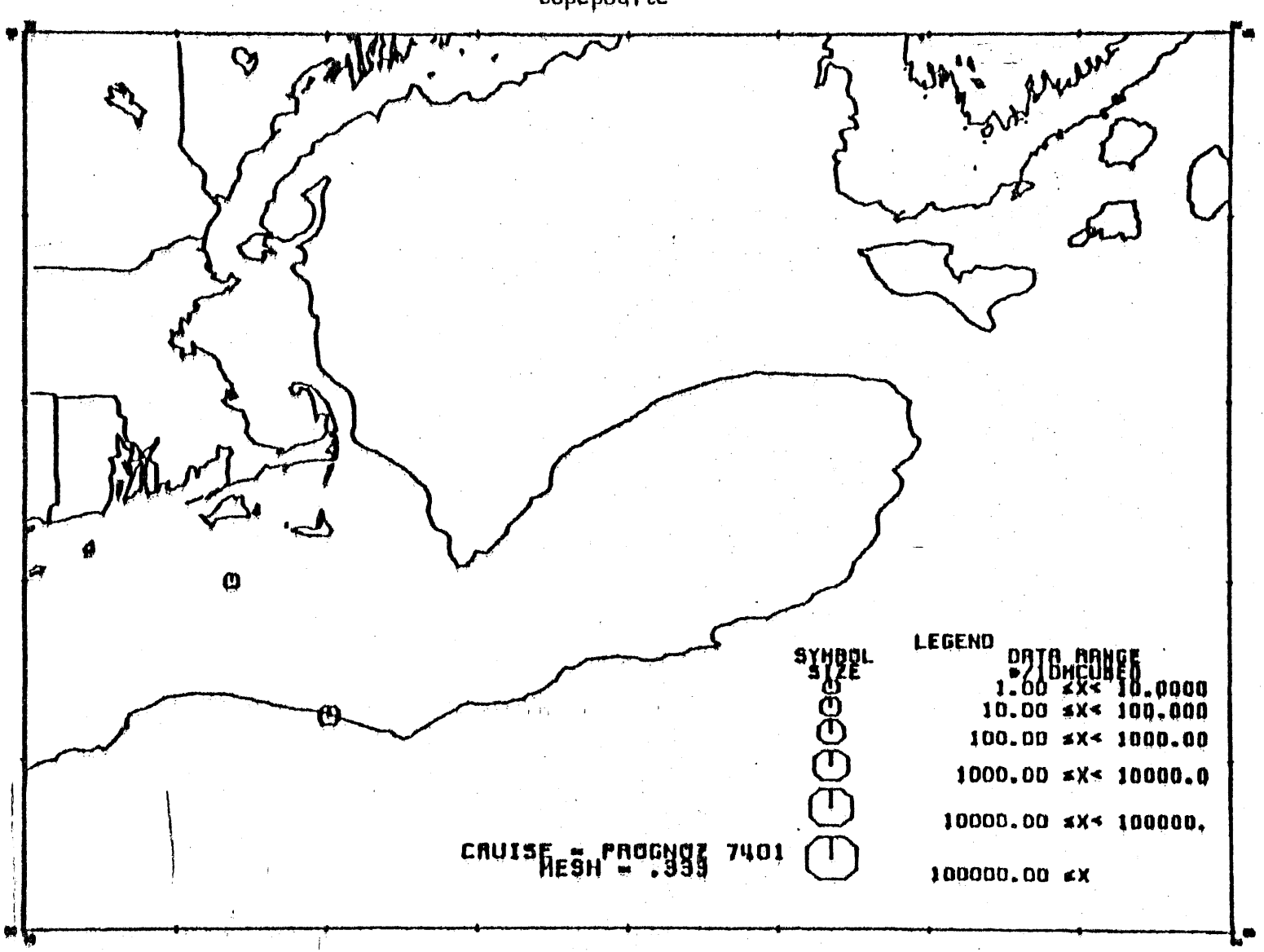

Figure 152

Calanus finmarchicus

Adult

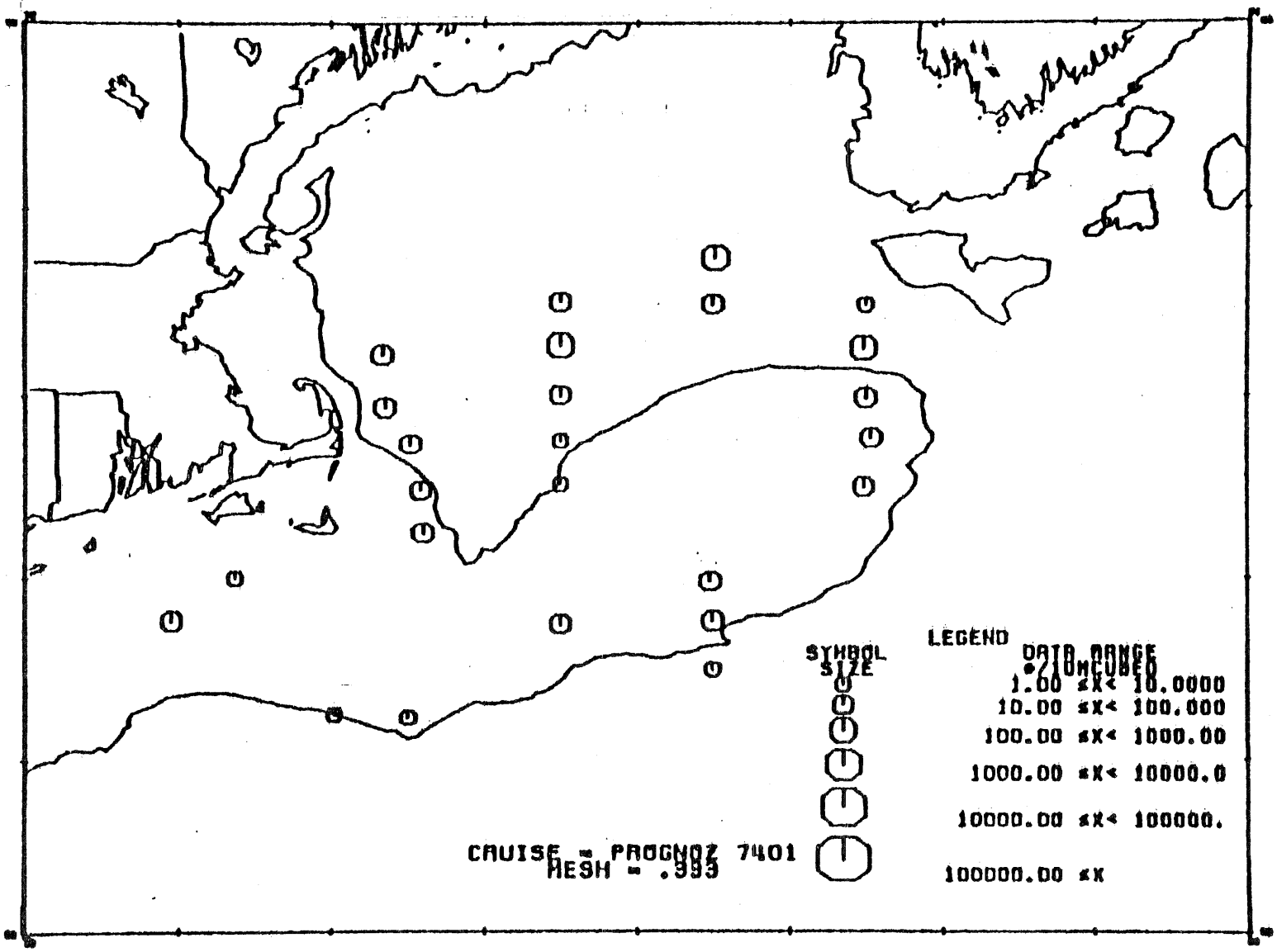

Figure 153

CHAETOGNATHA

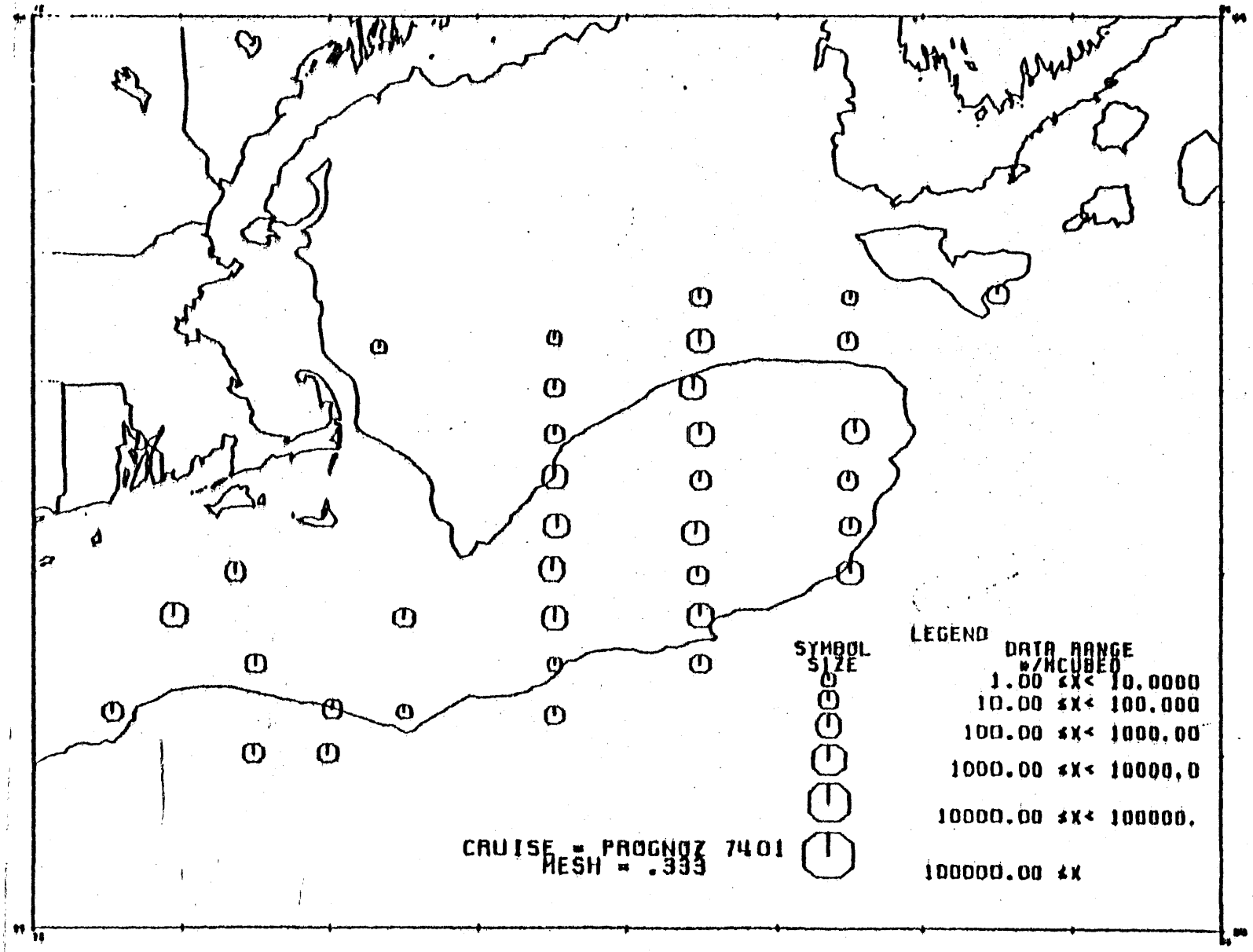

Figure 154

AMPHIPODA

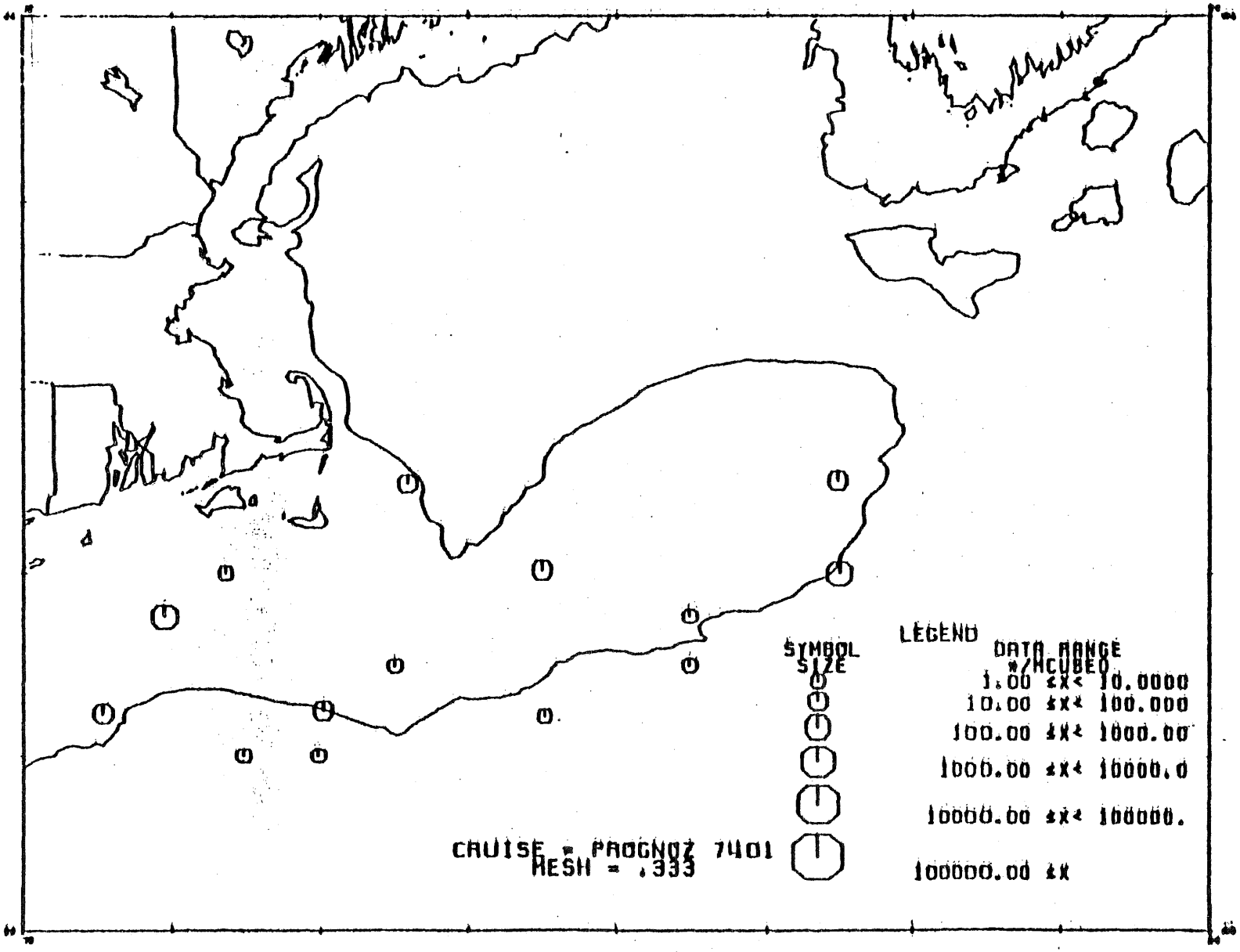

Figure 155

EUPHAUSIACEA

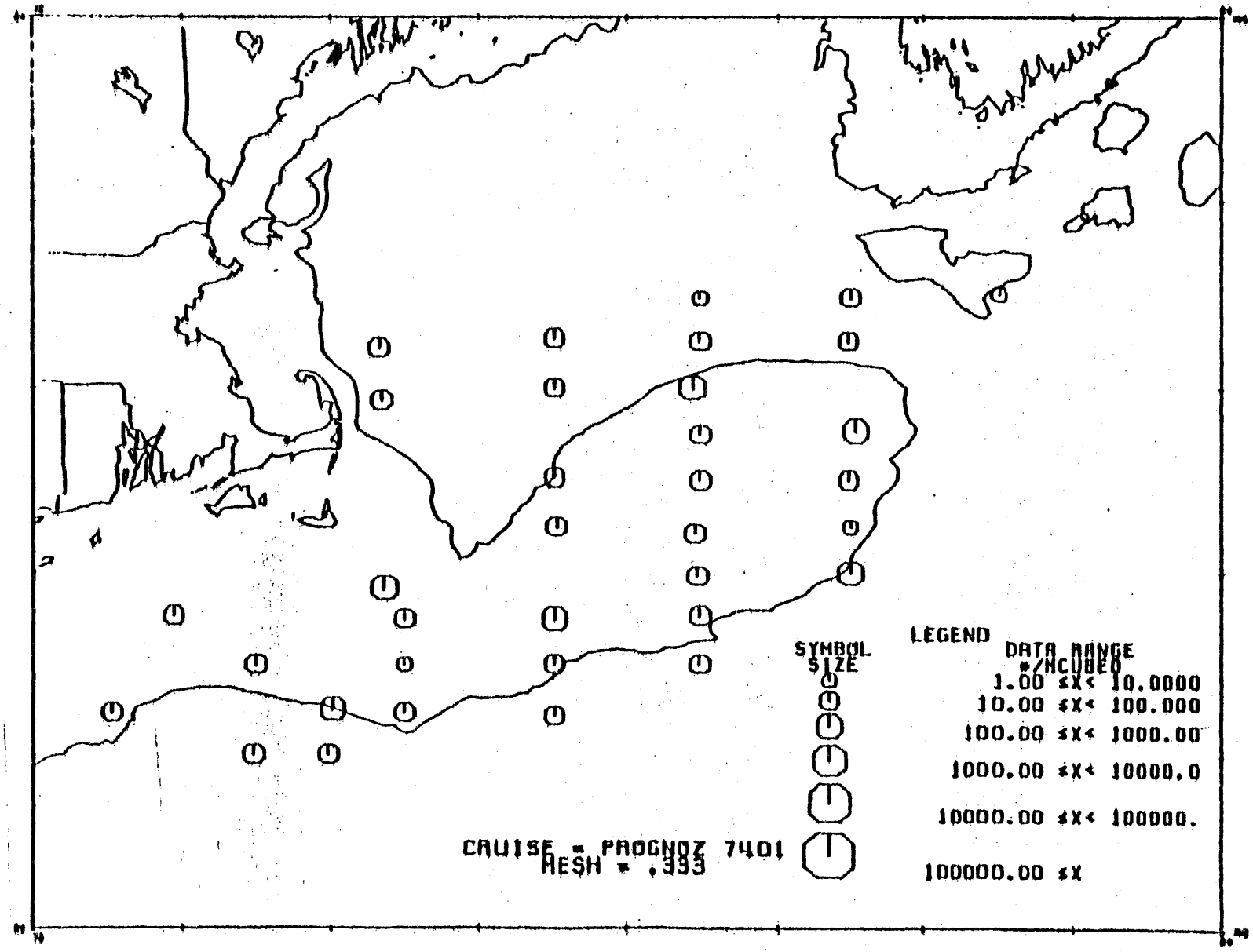

Figure 156

MYSIDACEA

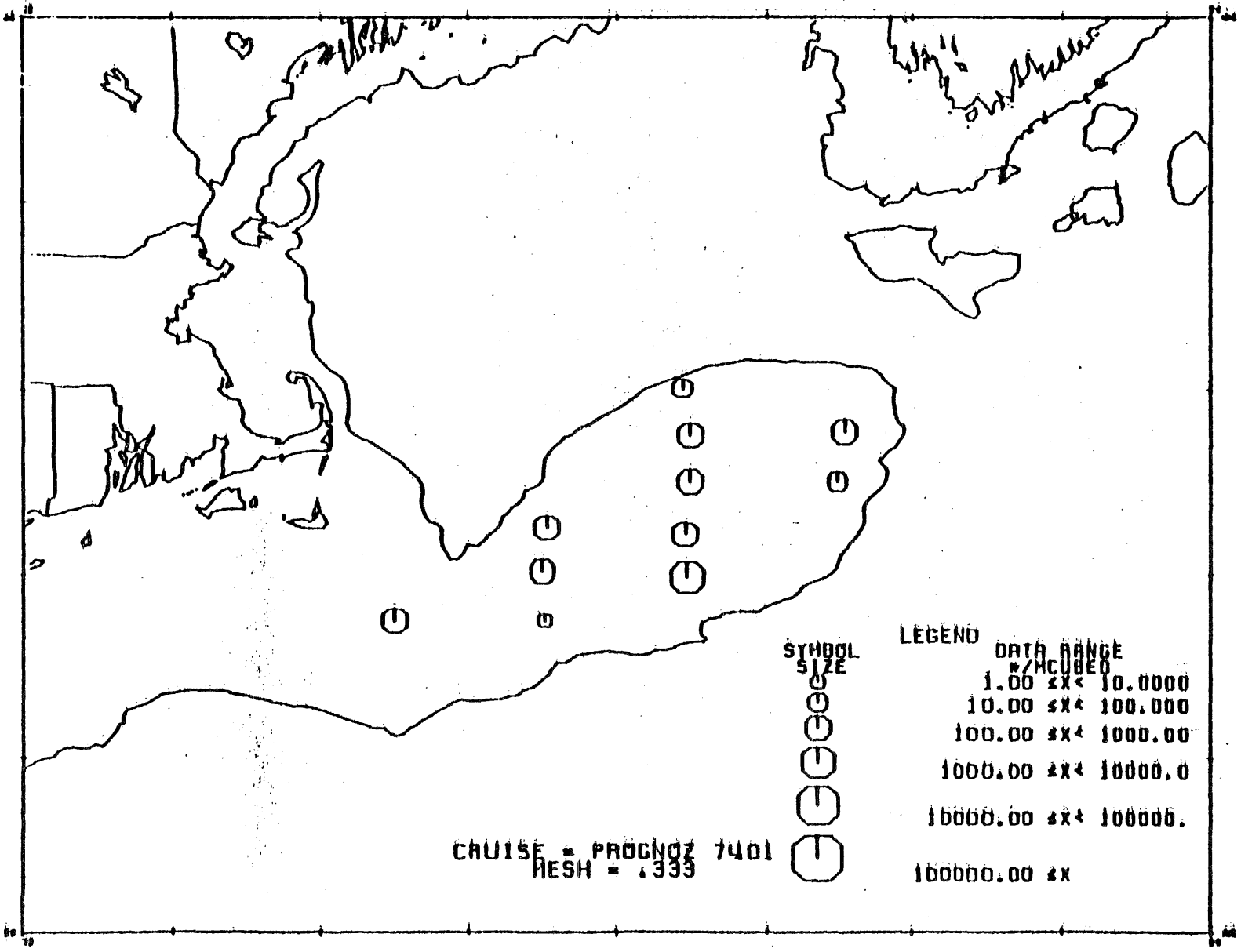

Figure 157

SALPA

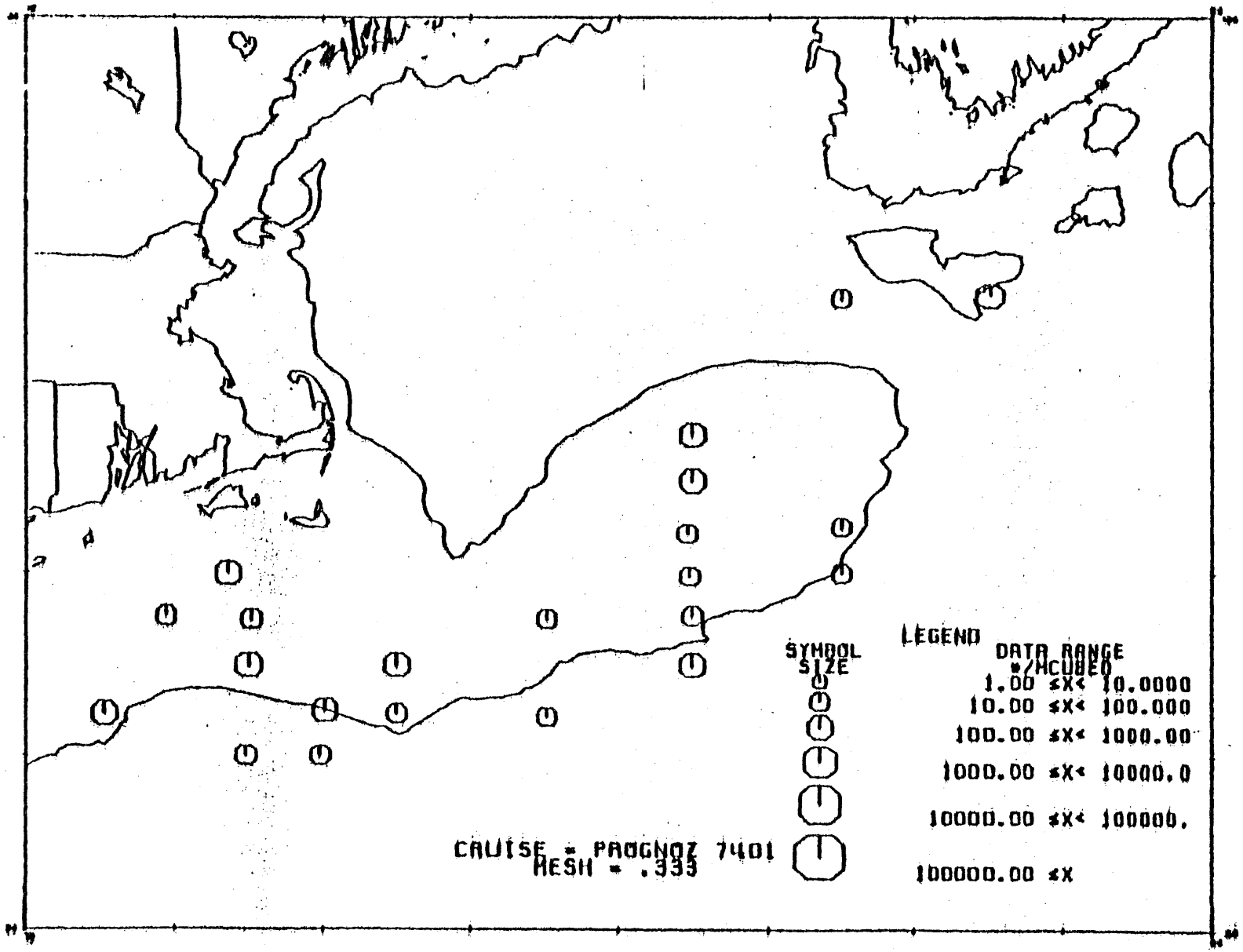

Figure 158

Stations Sampled

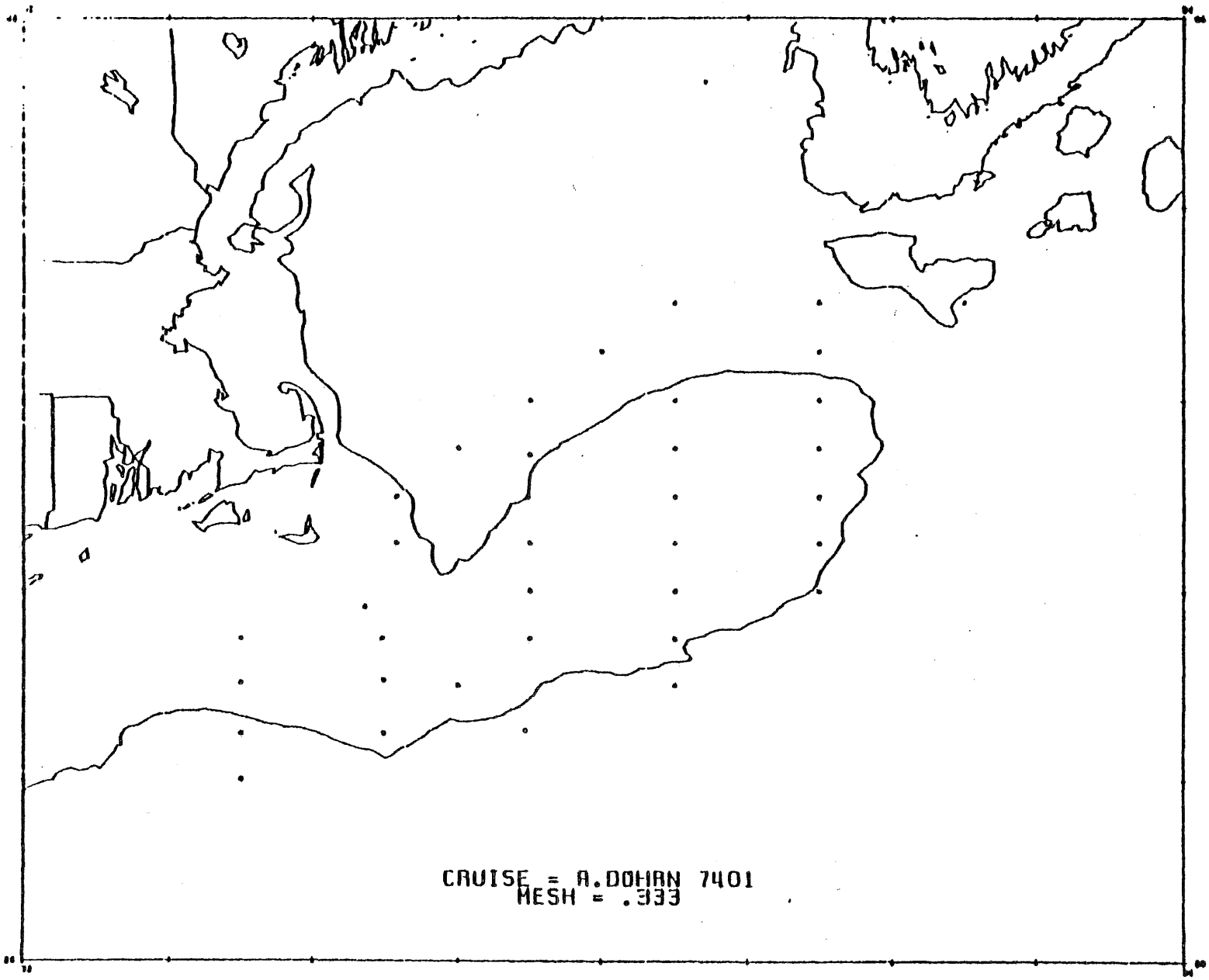

Figure 159

DISPLACEMENT VOLUME

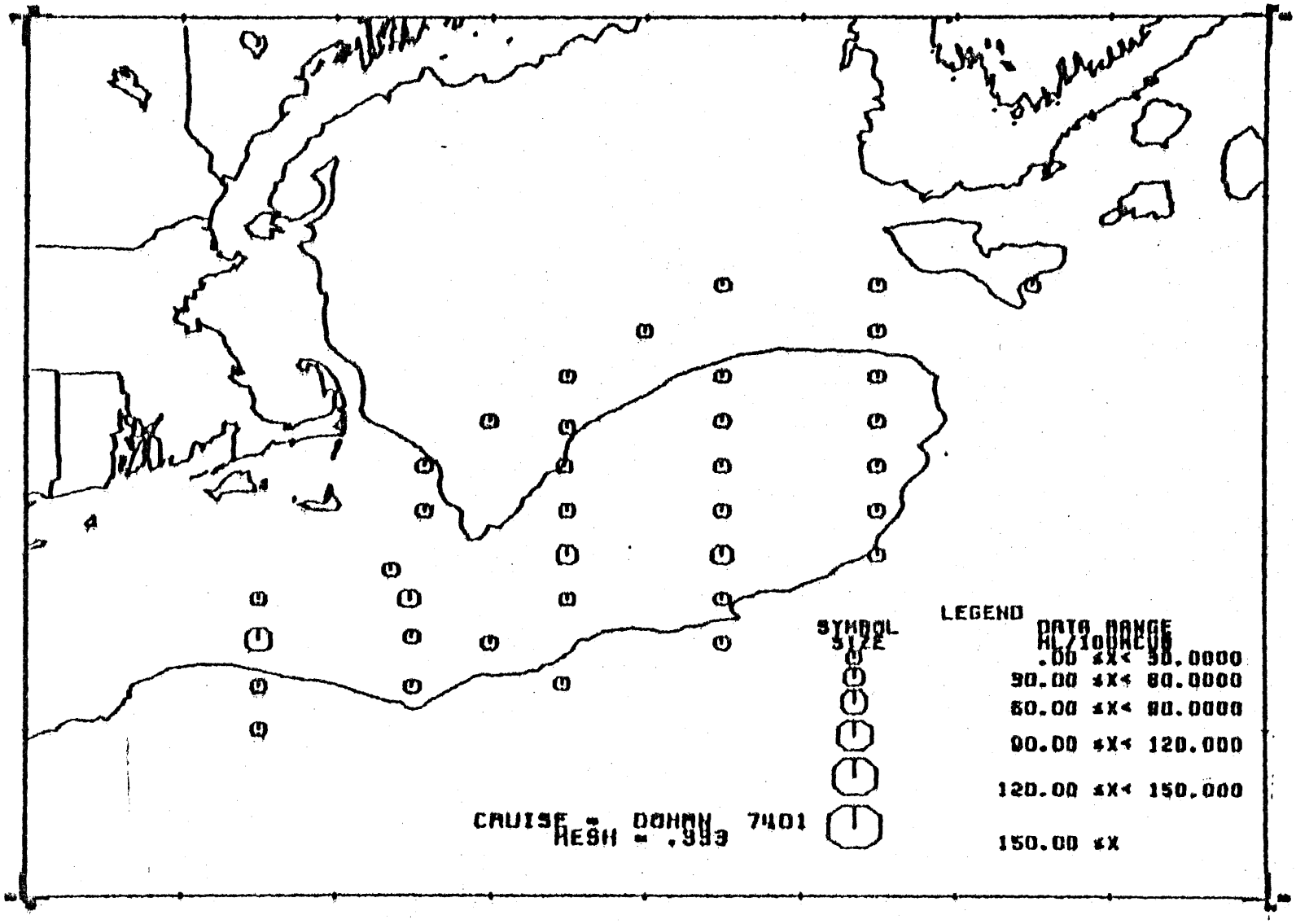

Figure 160

Pseudocalanus sp.

Copepodite Stage 4

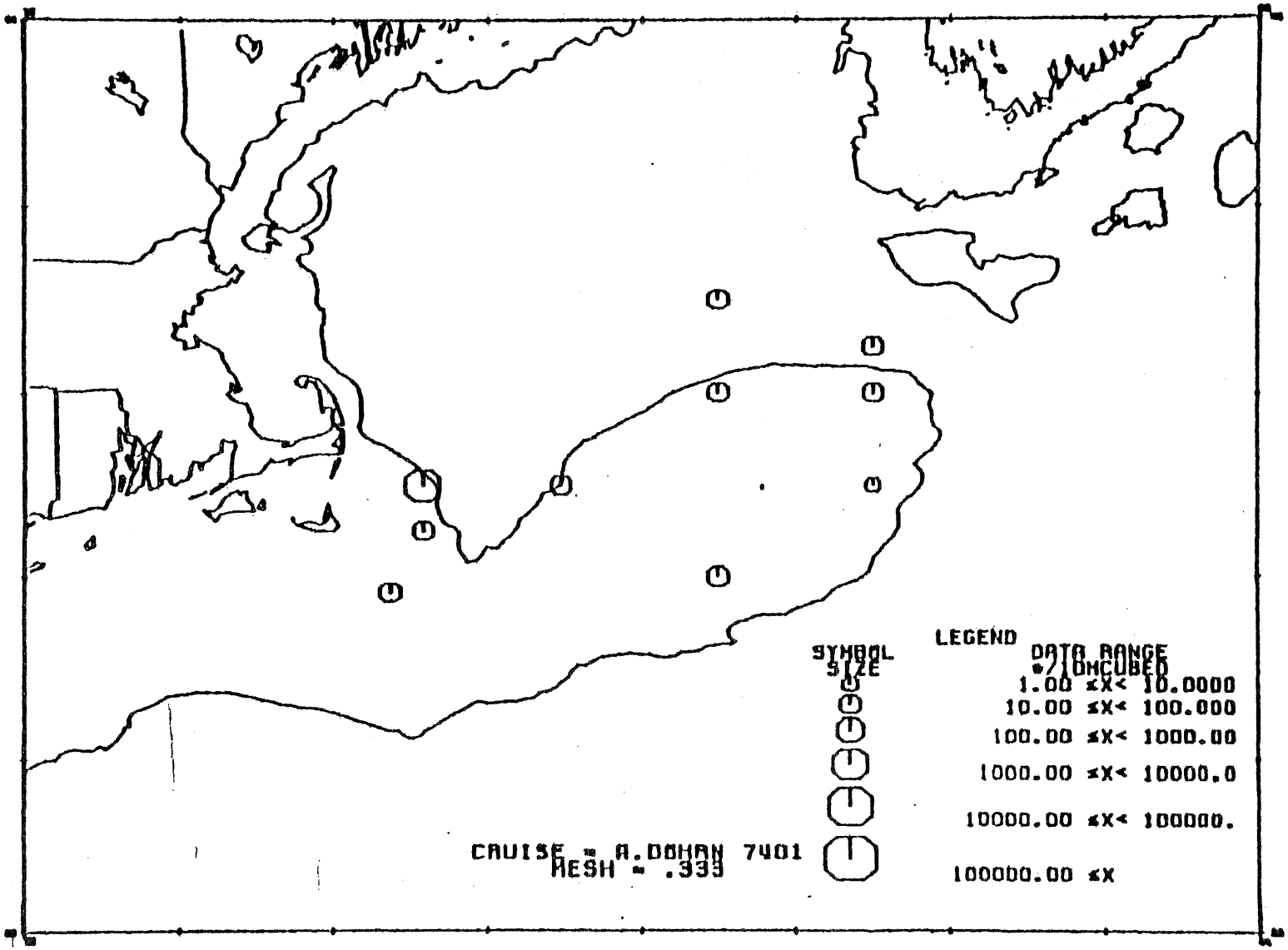

Figure 161

Pseudocalanus sp.

Copepodite Stage 5

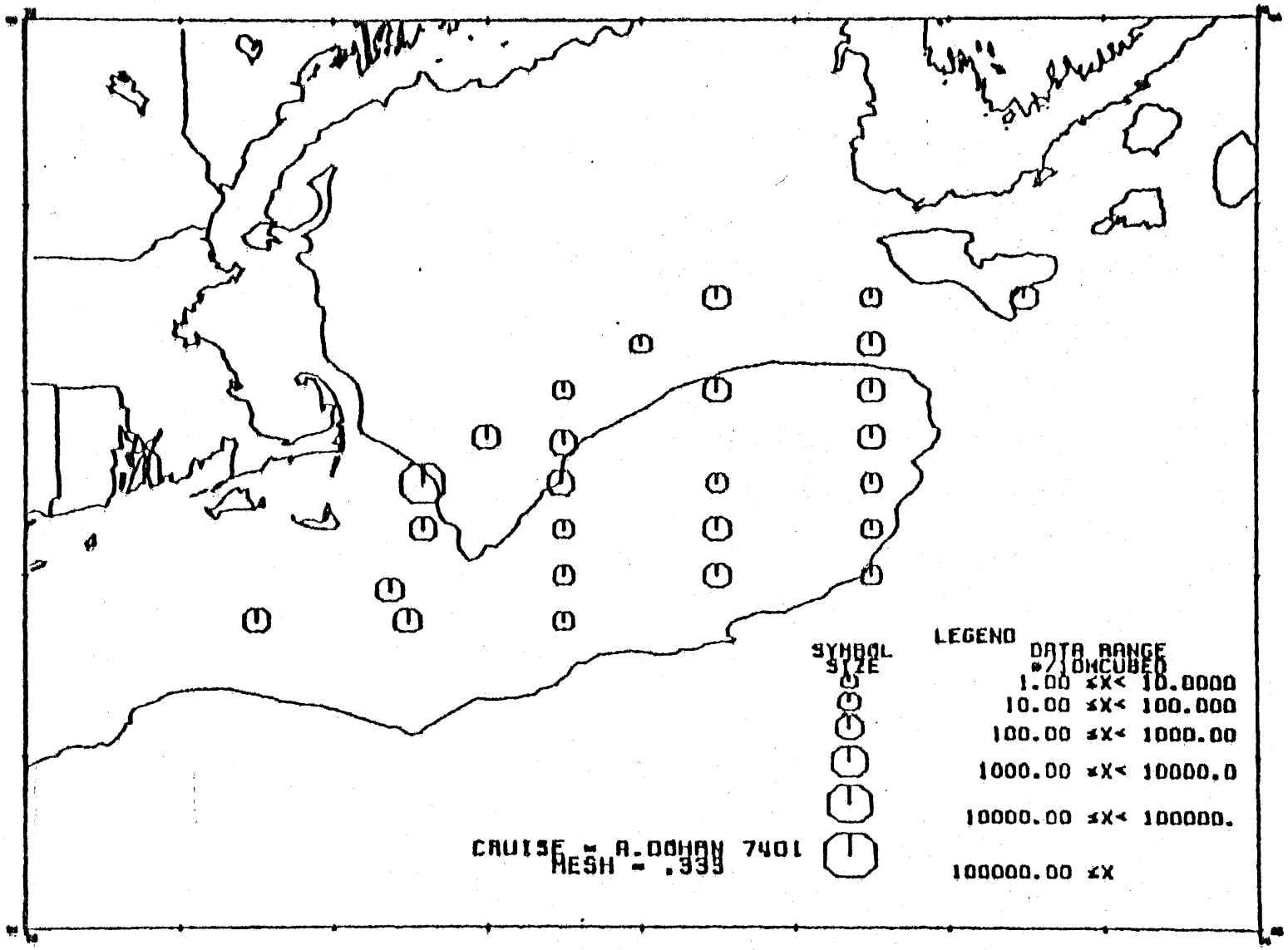

Figure 162

Pseudocalanus sp.

Copepodite

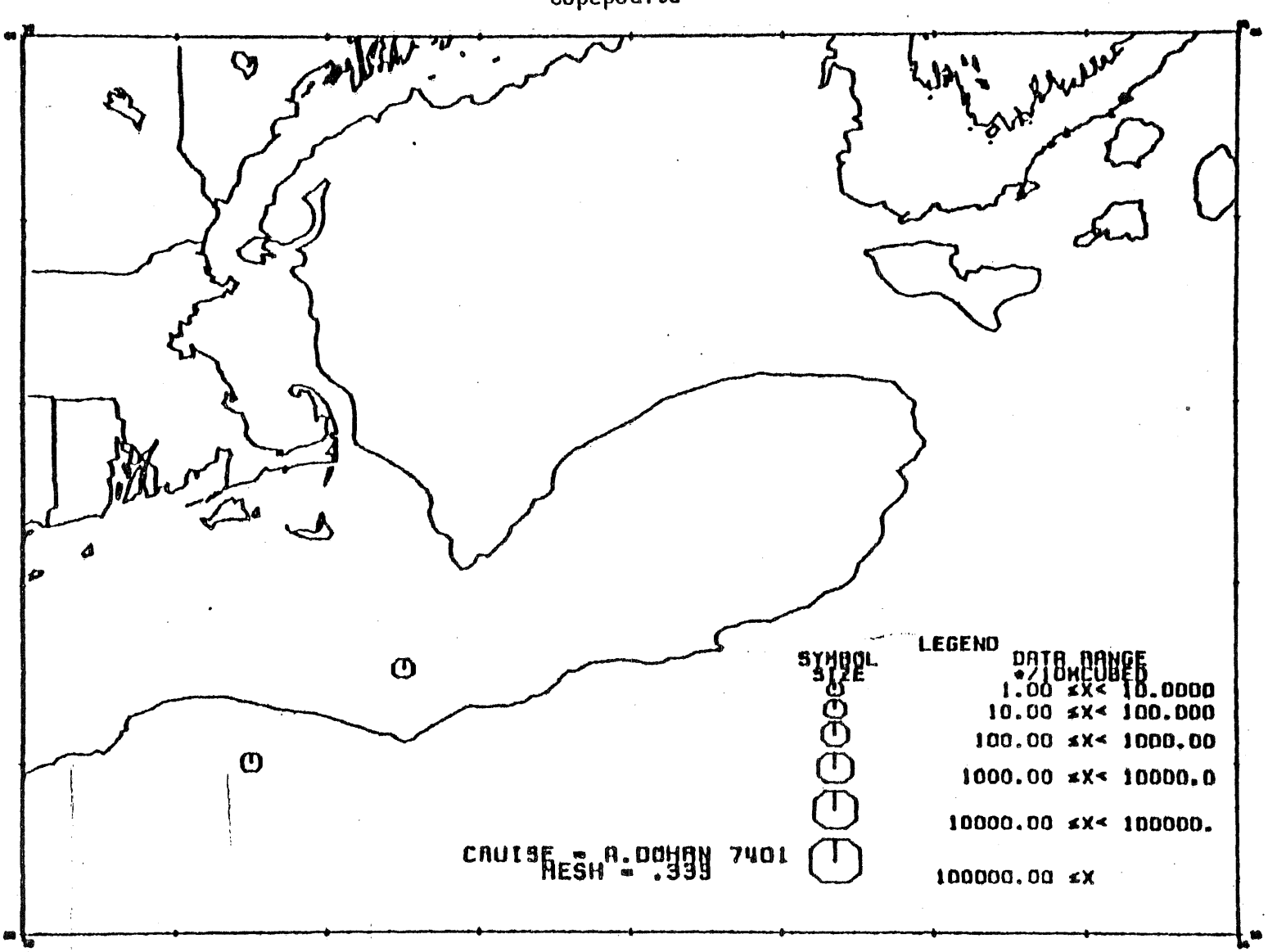

Figure 163

Pseudocalanus sp.

Adult

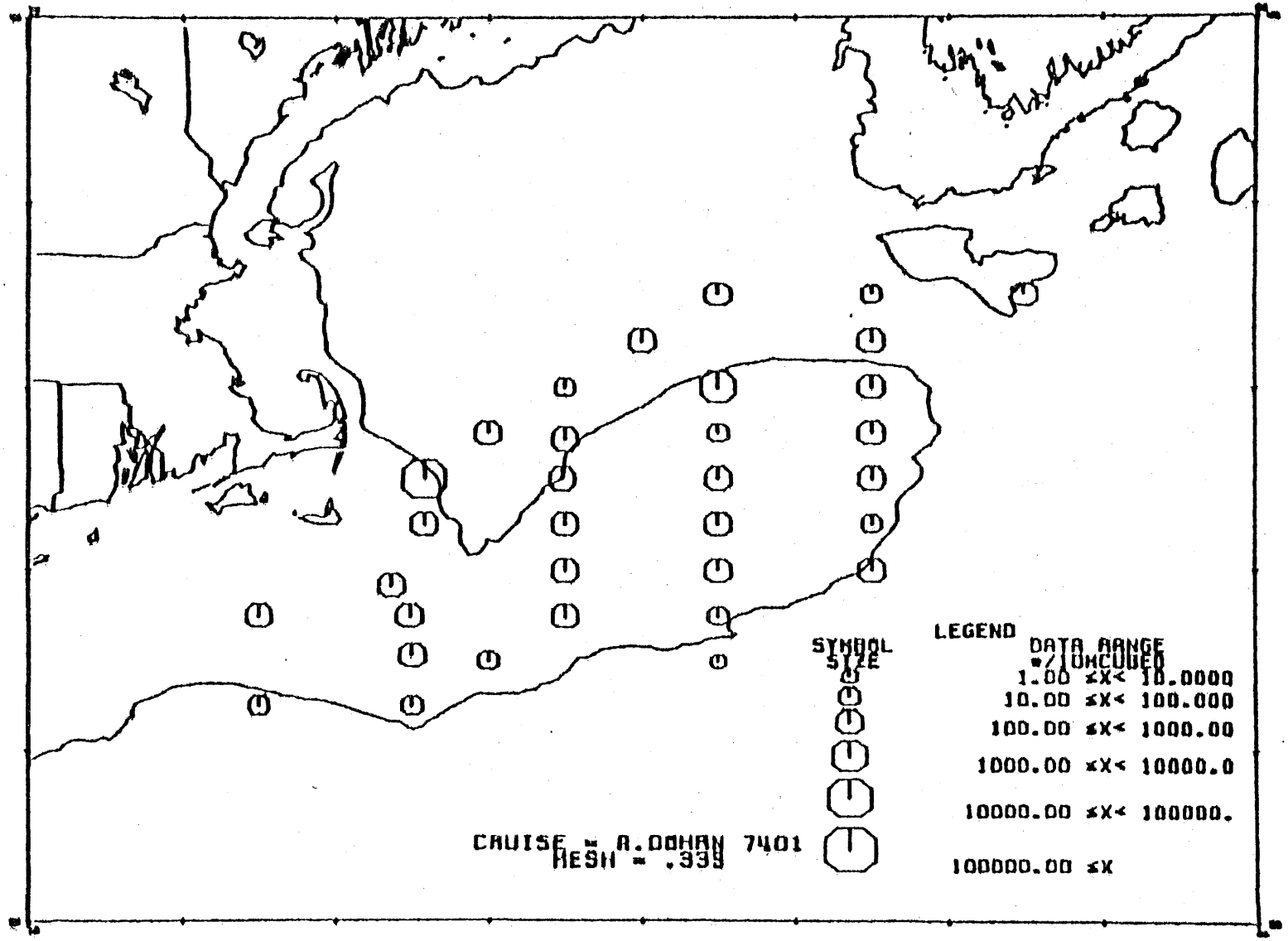

Figure 164

Paracalanus parvus

Copepodite Stage 4

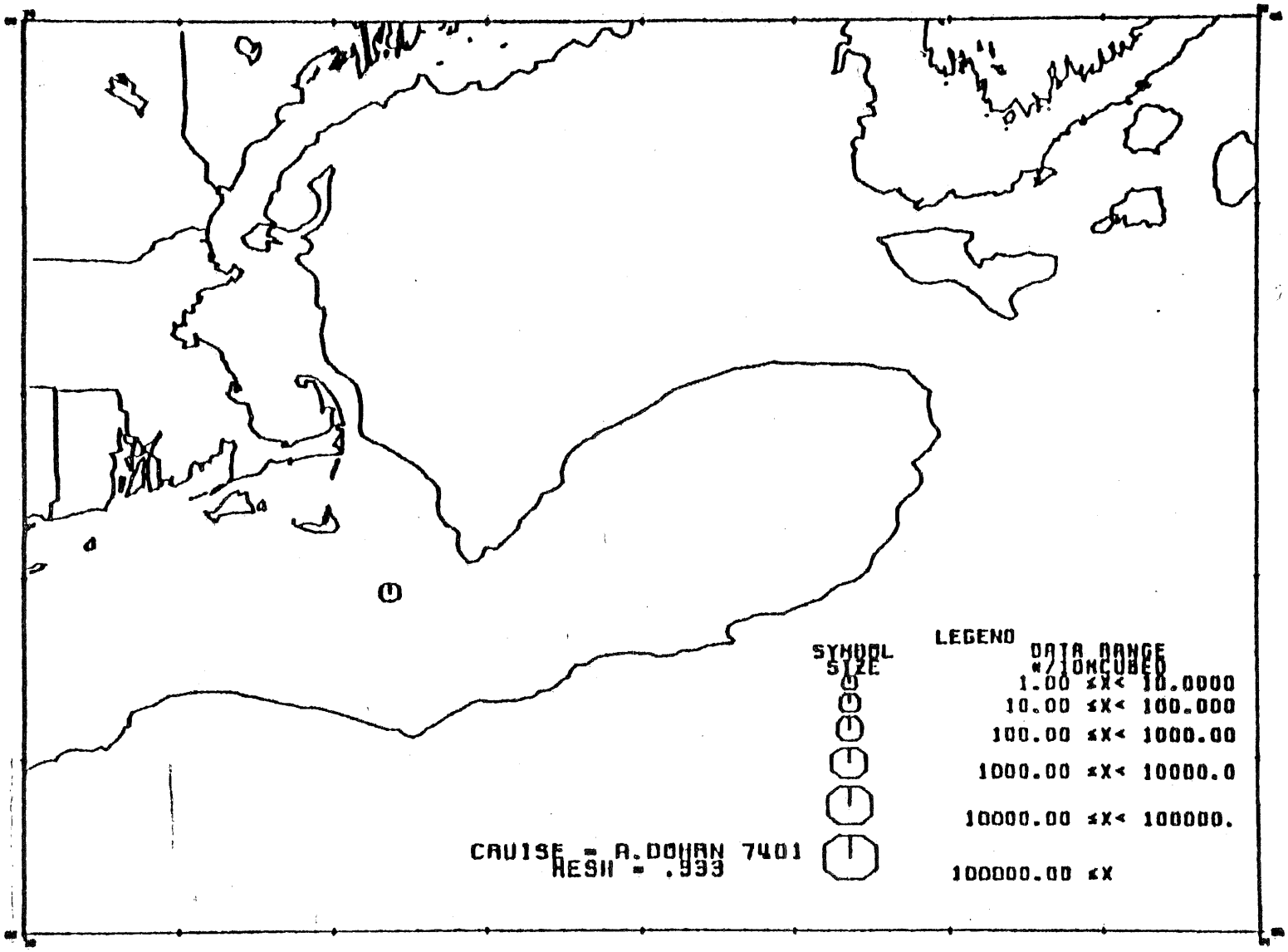

Figure 165

Paracalanus parvus

Copepodite Stage 5

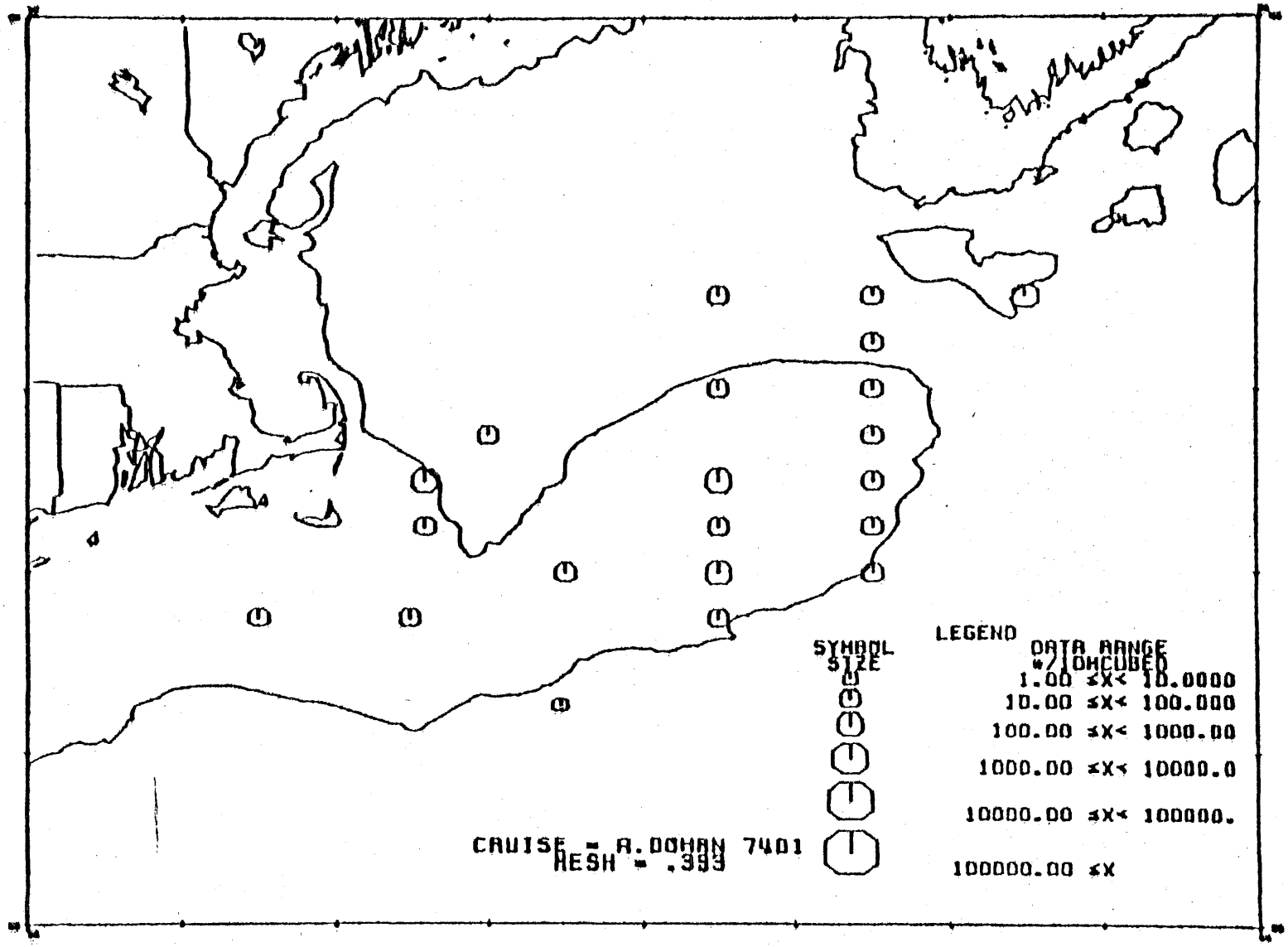

Figure 166

Paracalanus parvus

Copepodite

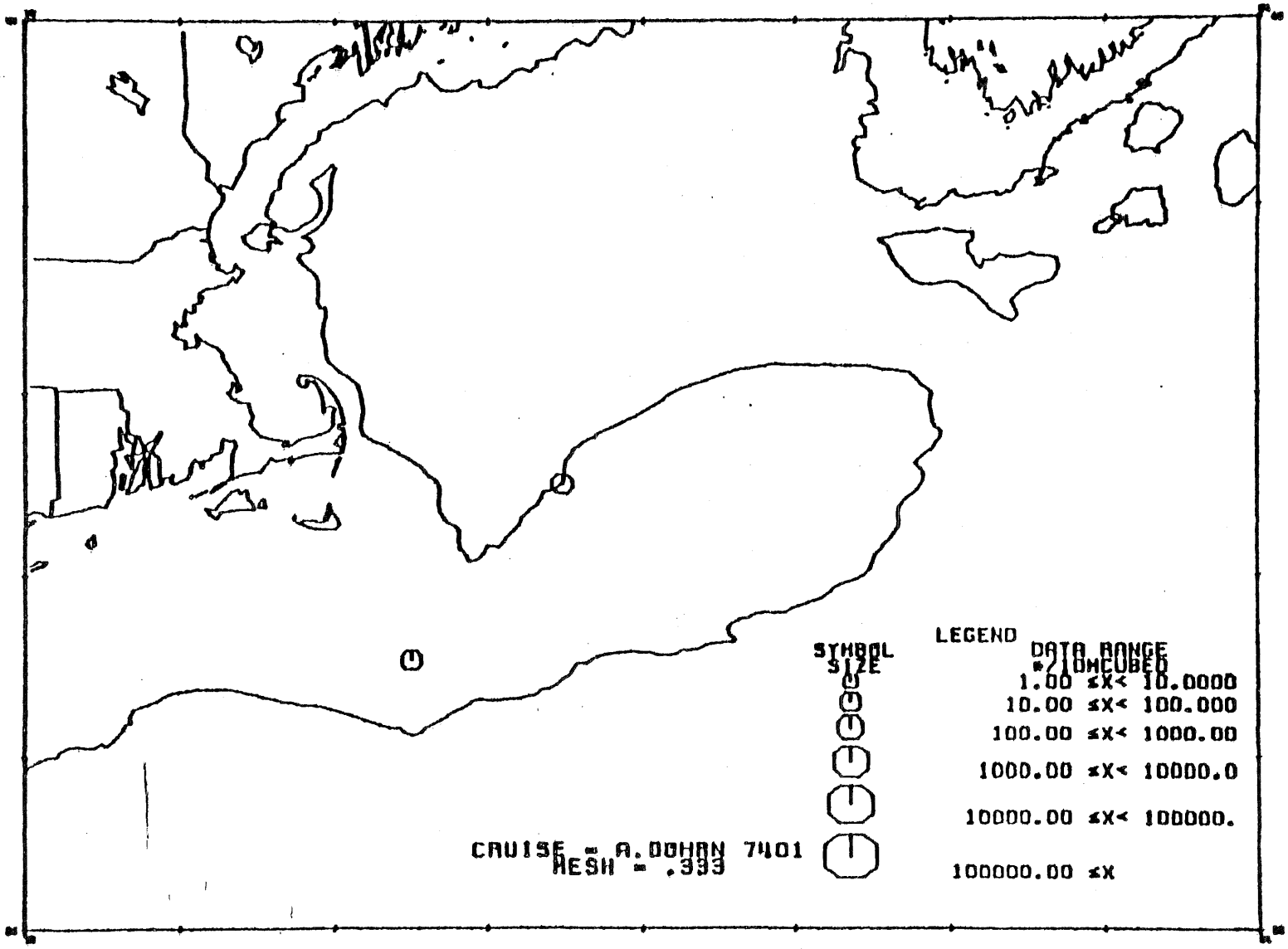

Figure 167

Paracalanus parvus

Adult

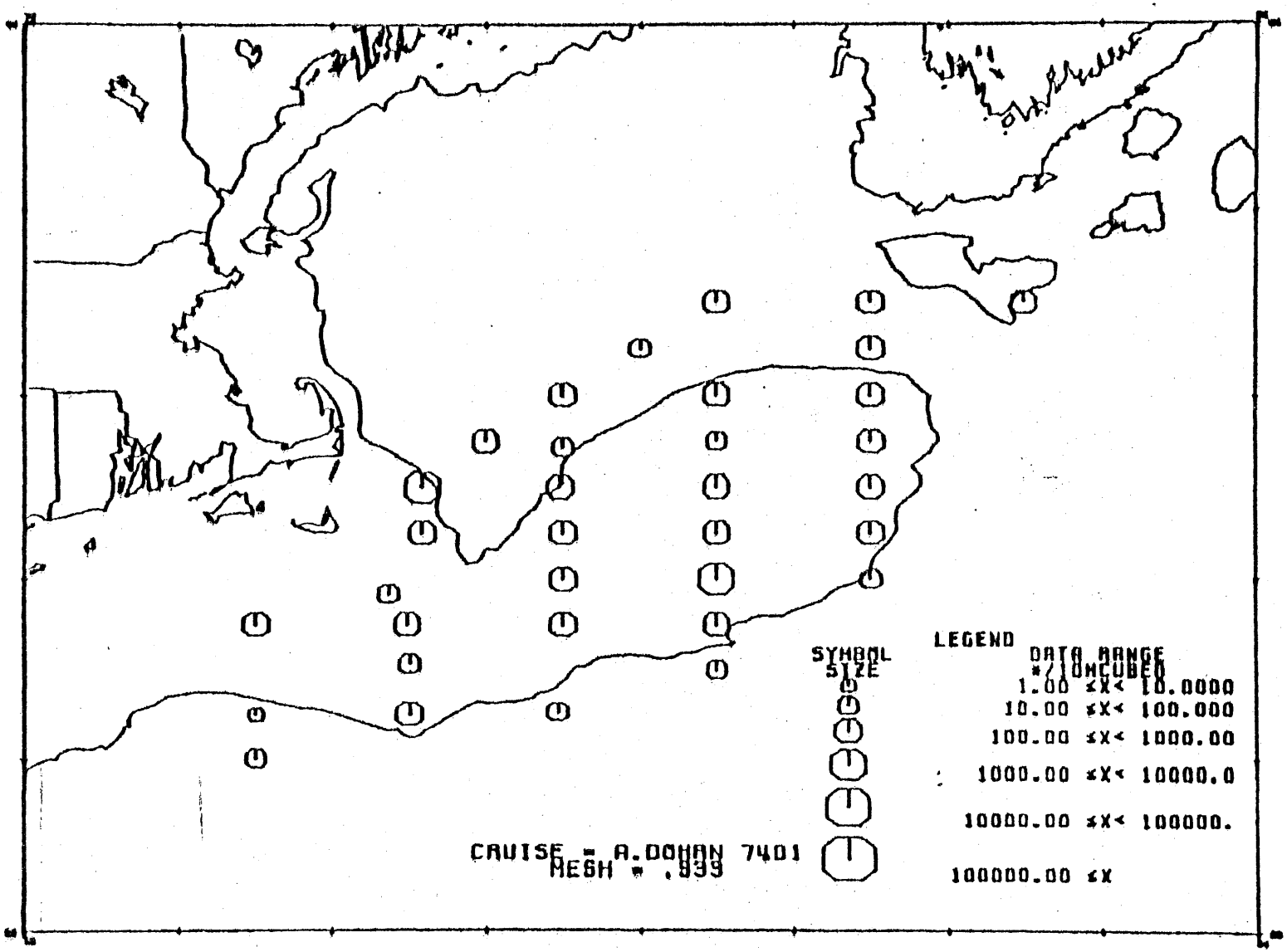

Figure 168

Centropages typicus

Copepodite Stage 3

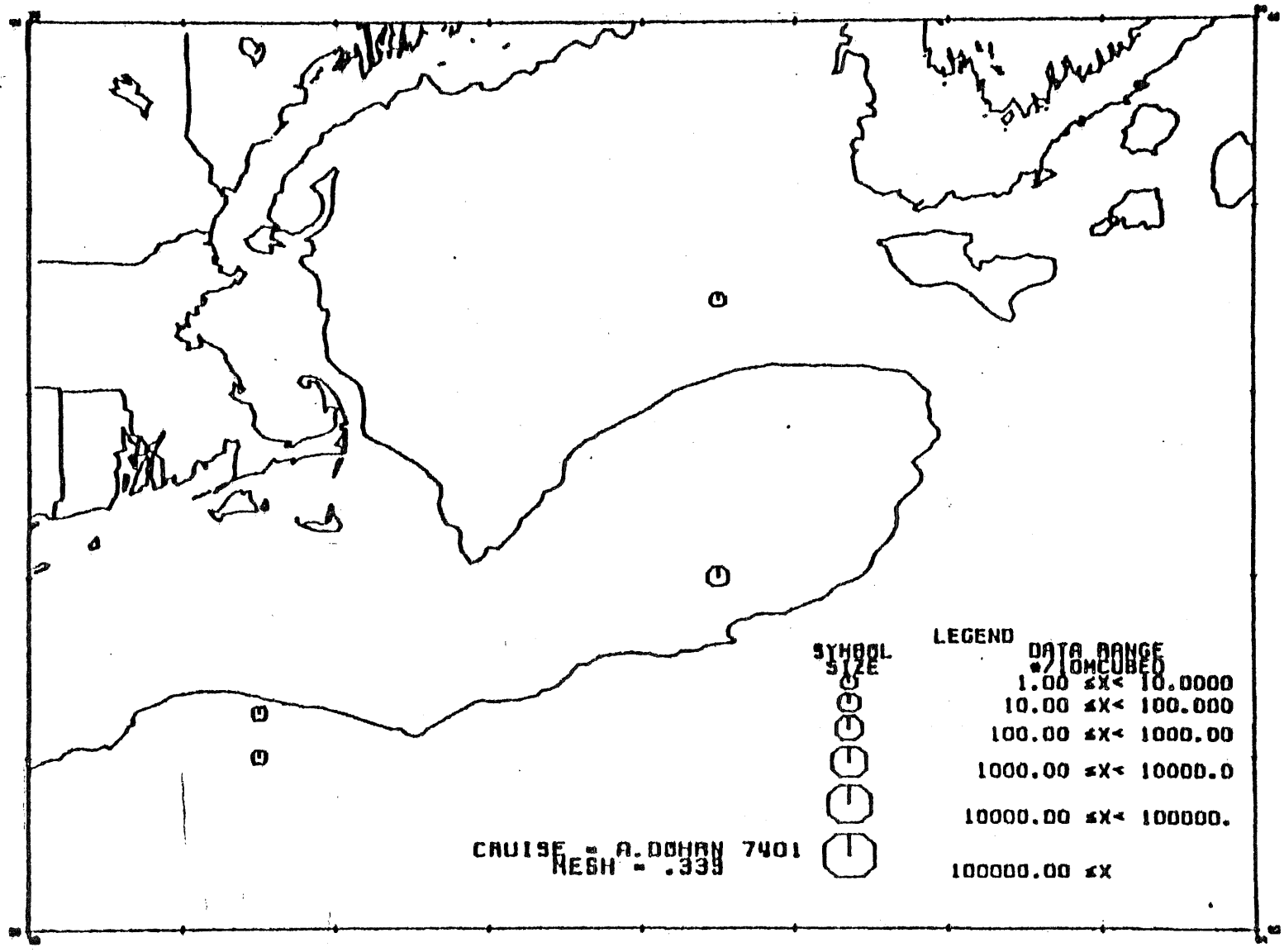

Figure 169

Centropages typicus

Copepodite Stage 4

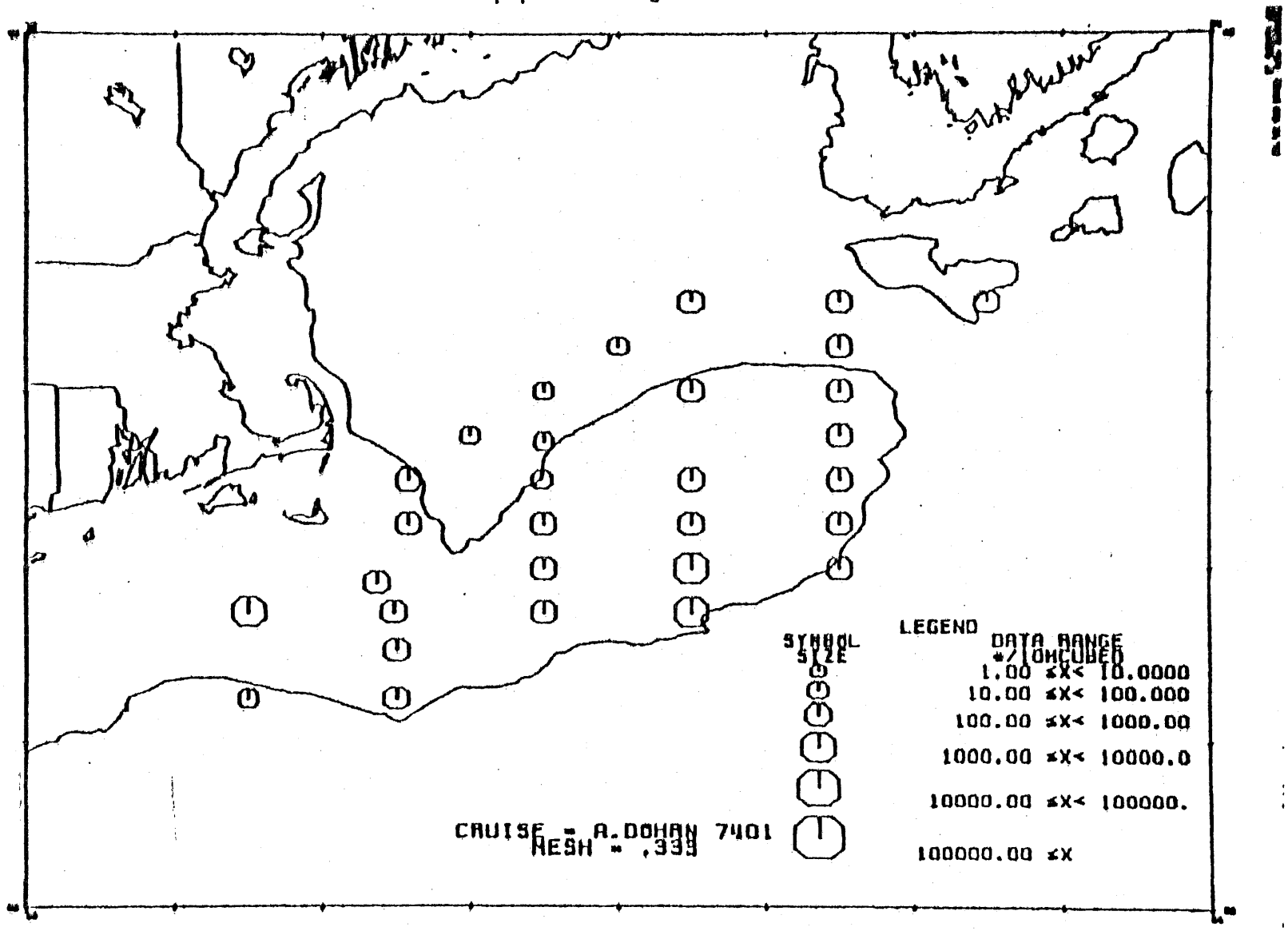

Figure 170

Centropages typicus

Copepodite Stage 5

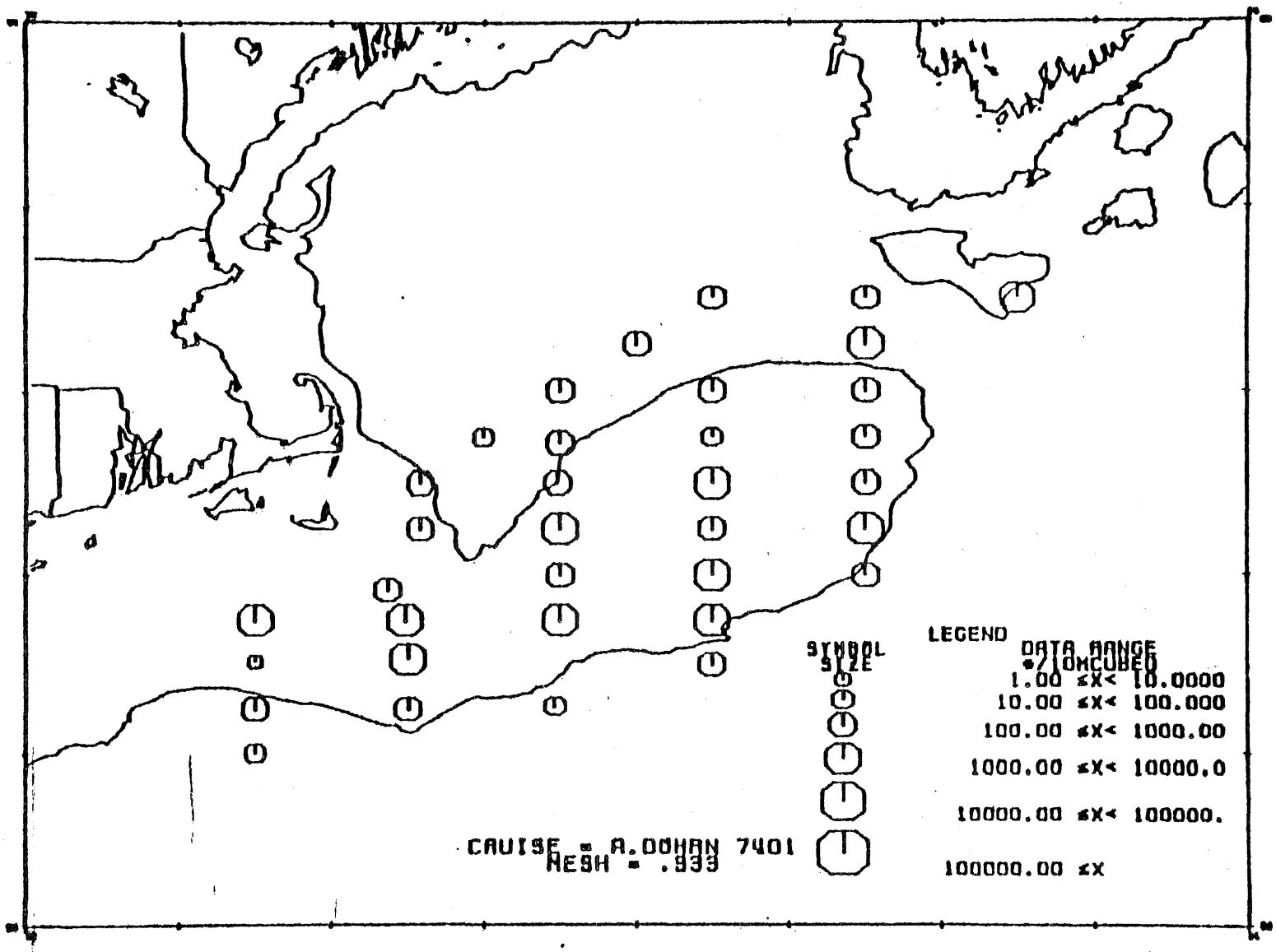

Figure 171

Centropages typicus

Adult

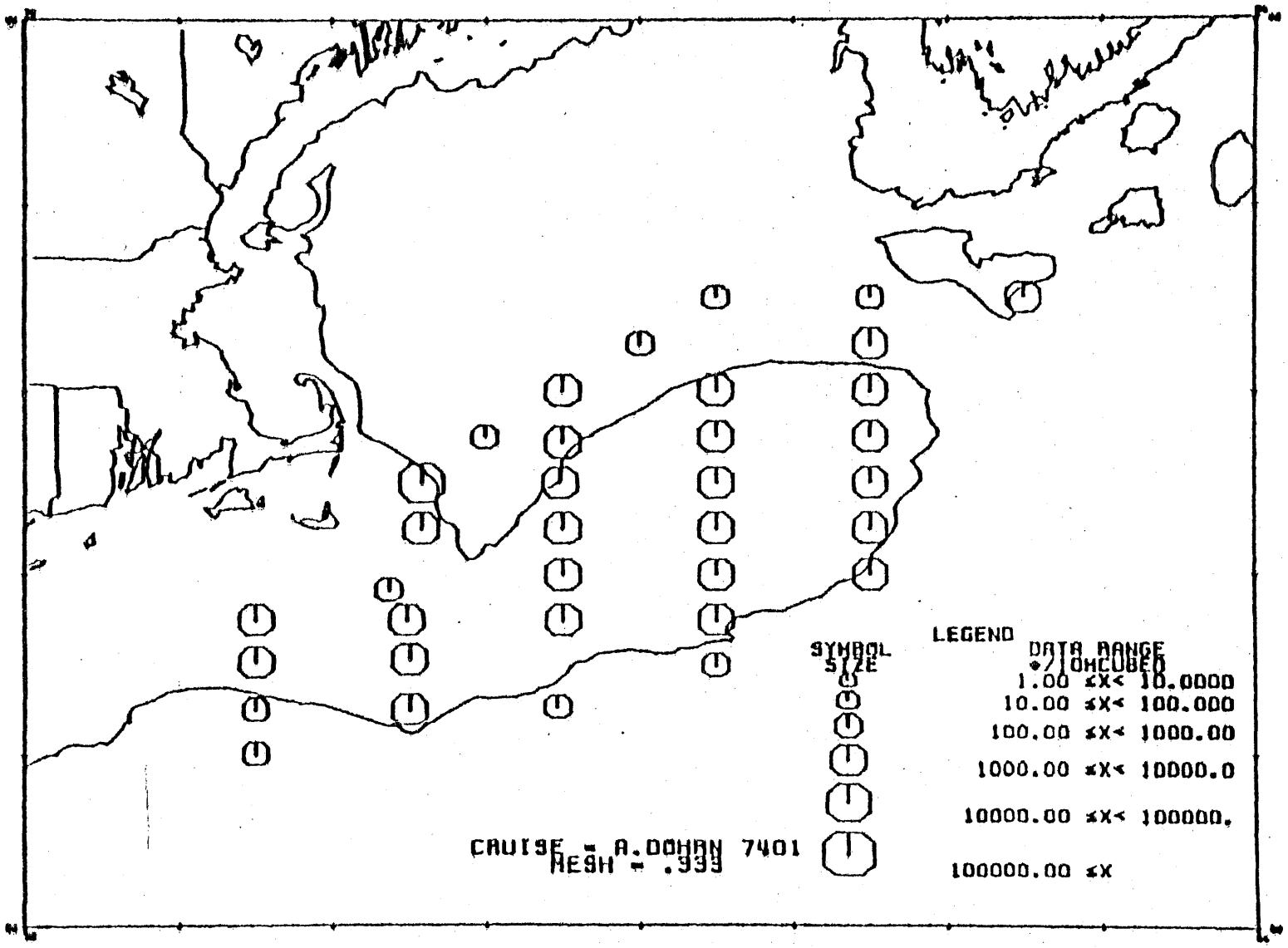

Figure 172

Centropages hamatus

Copepodite Stage 5

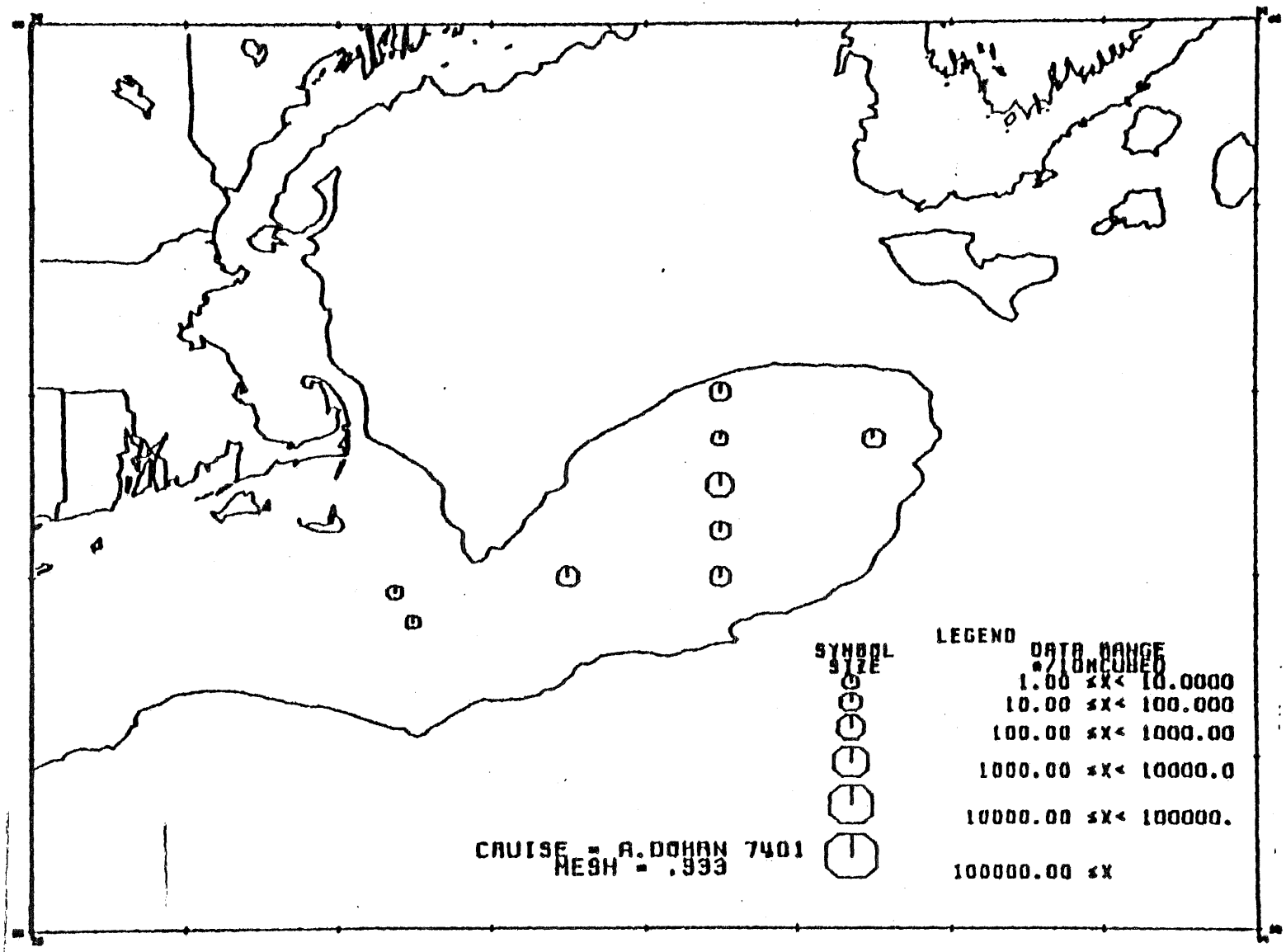

Figure 173

Centropages hamatus

Adult

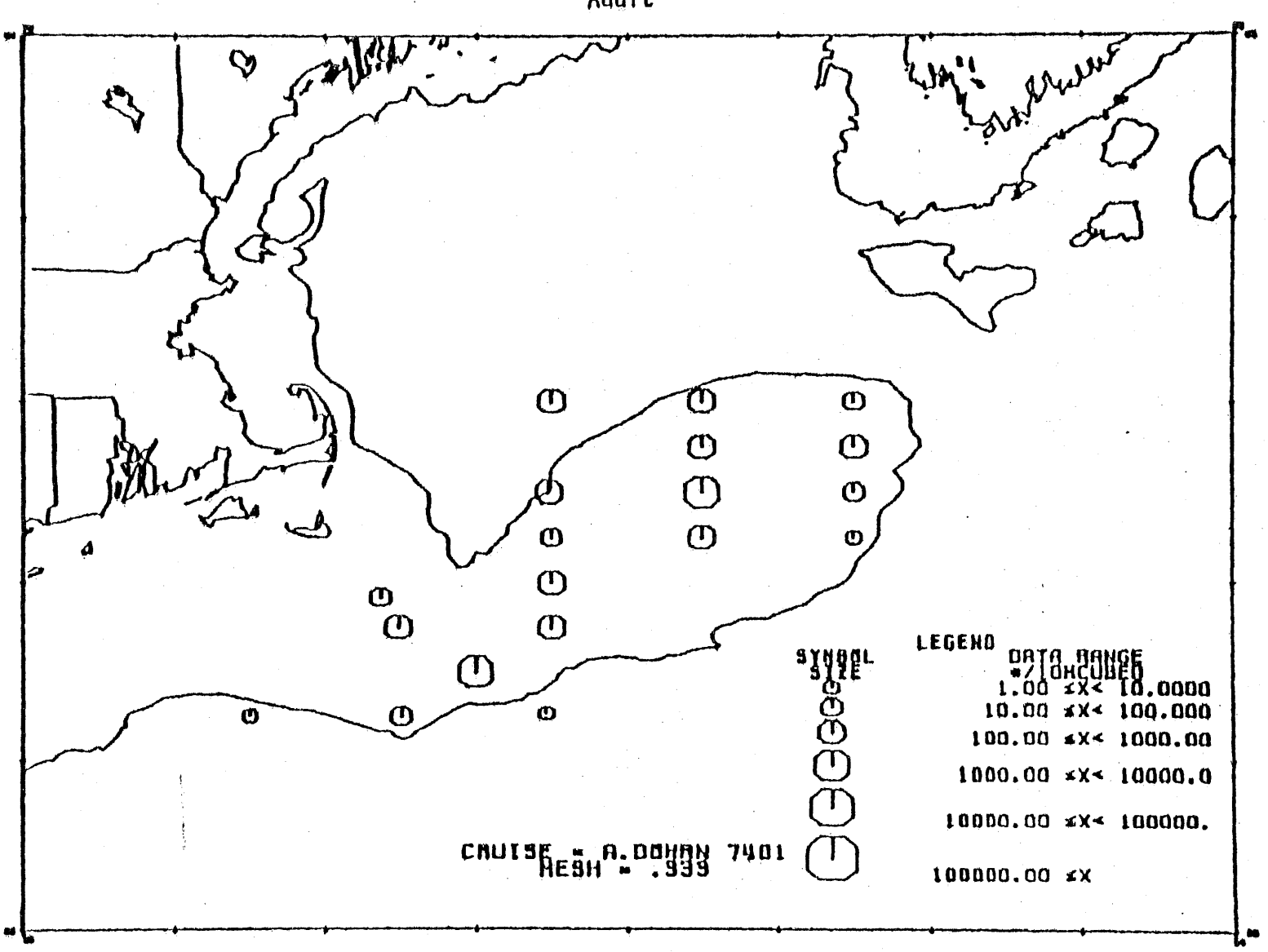

Figure 174

Calanus finmarchicus

Copepodite Stage 2

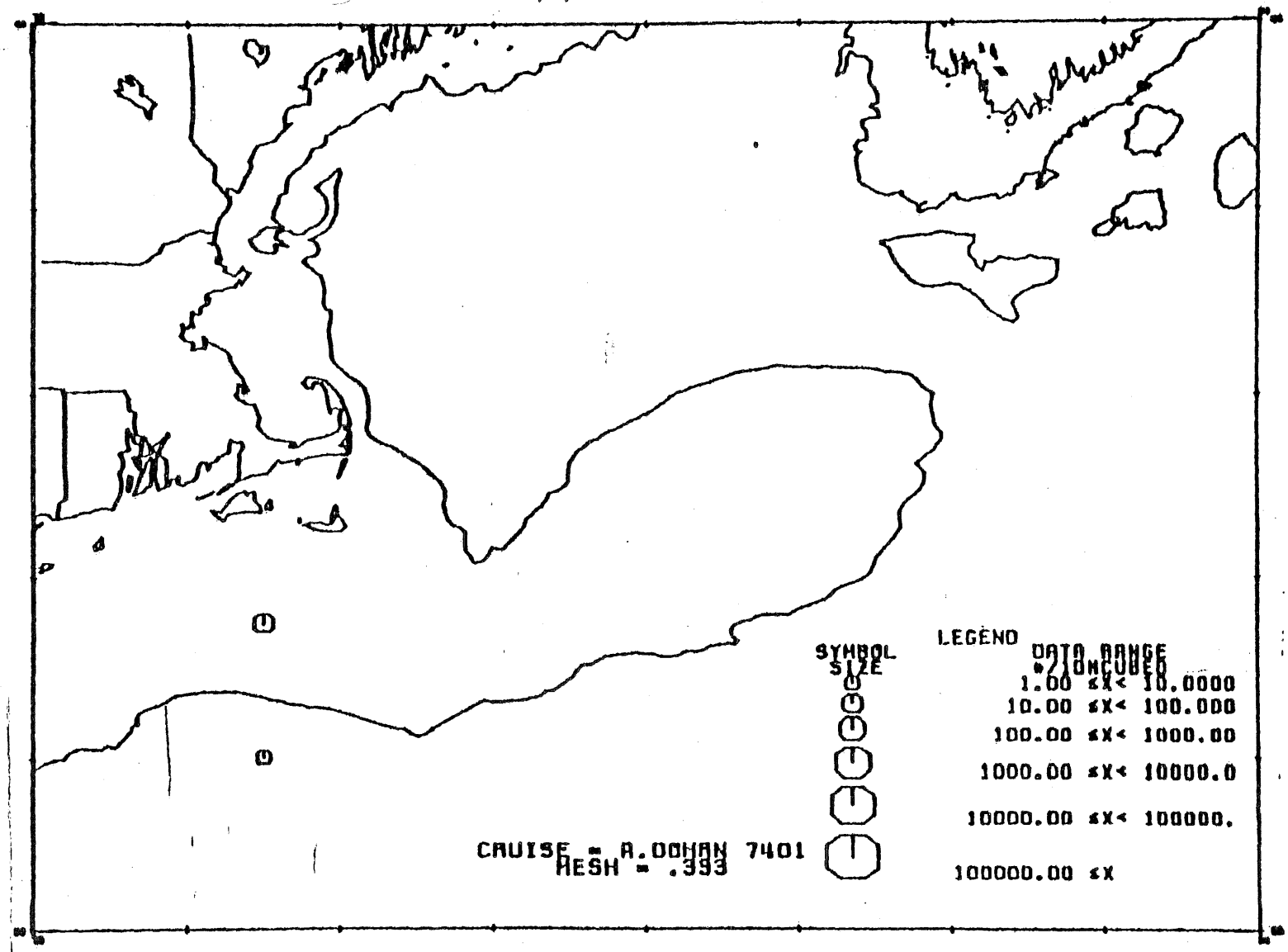

Figure 175

Calanus finmarchicus

Copepodite Stage 3

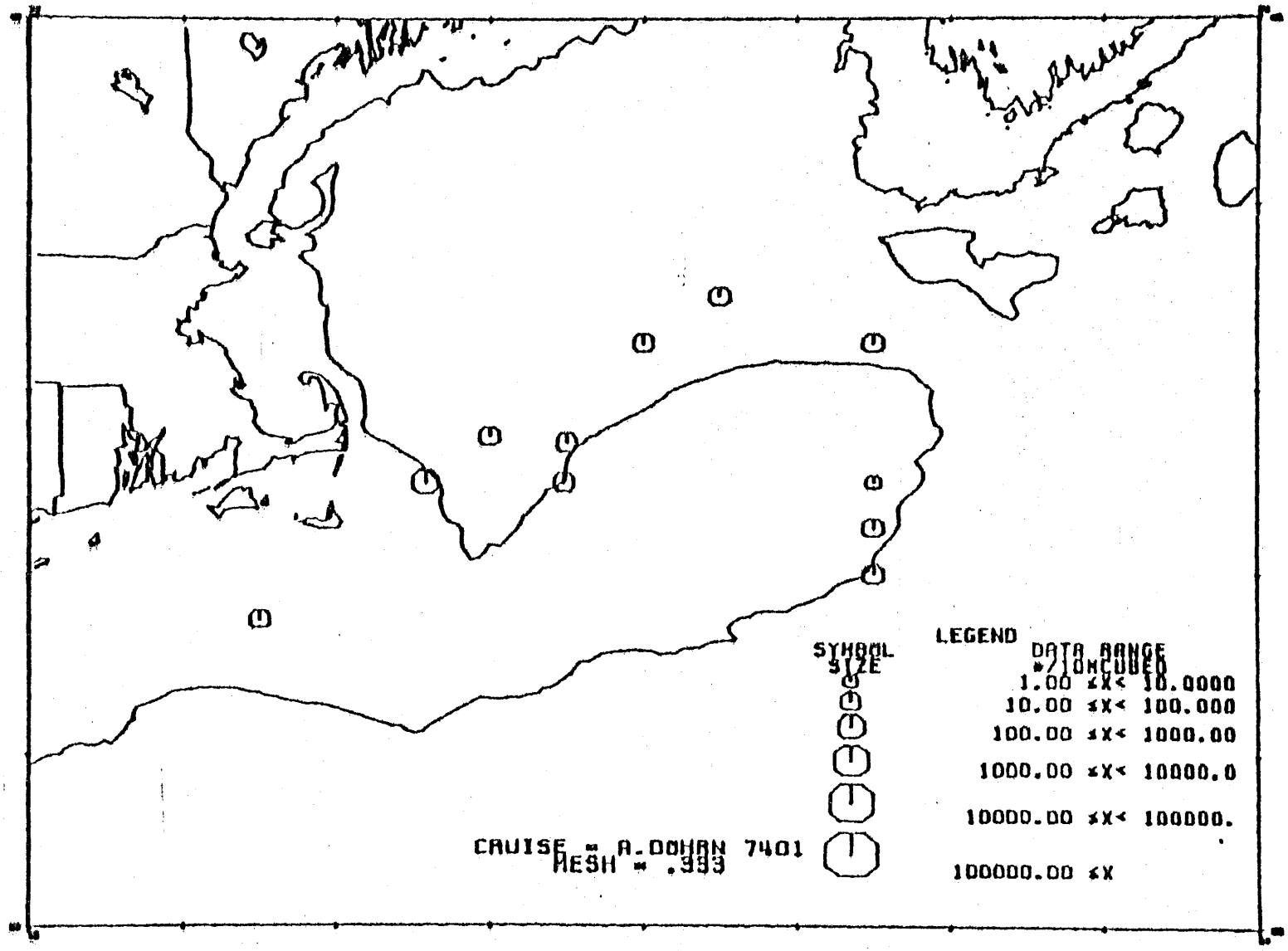

Figure 176

Calanus finmarchicus

Copepodite Stage 4

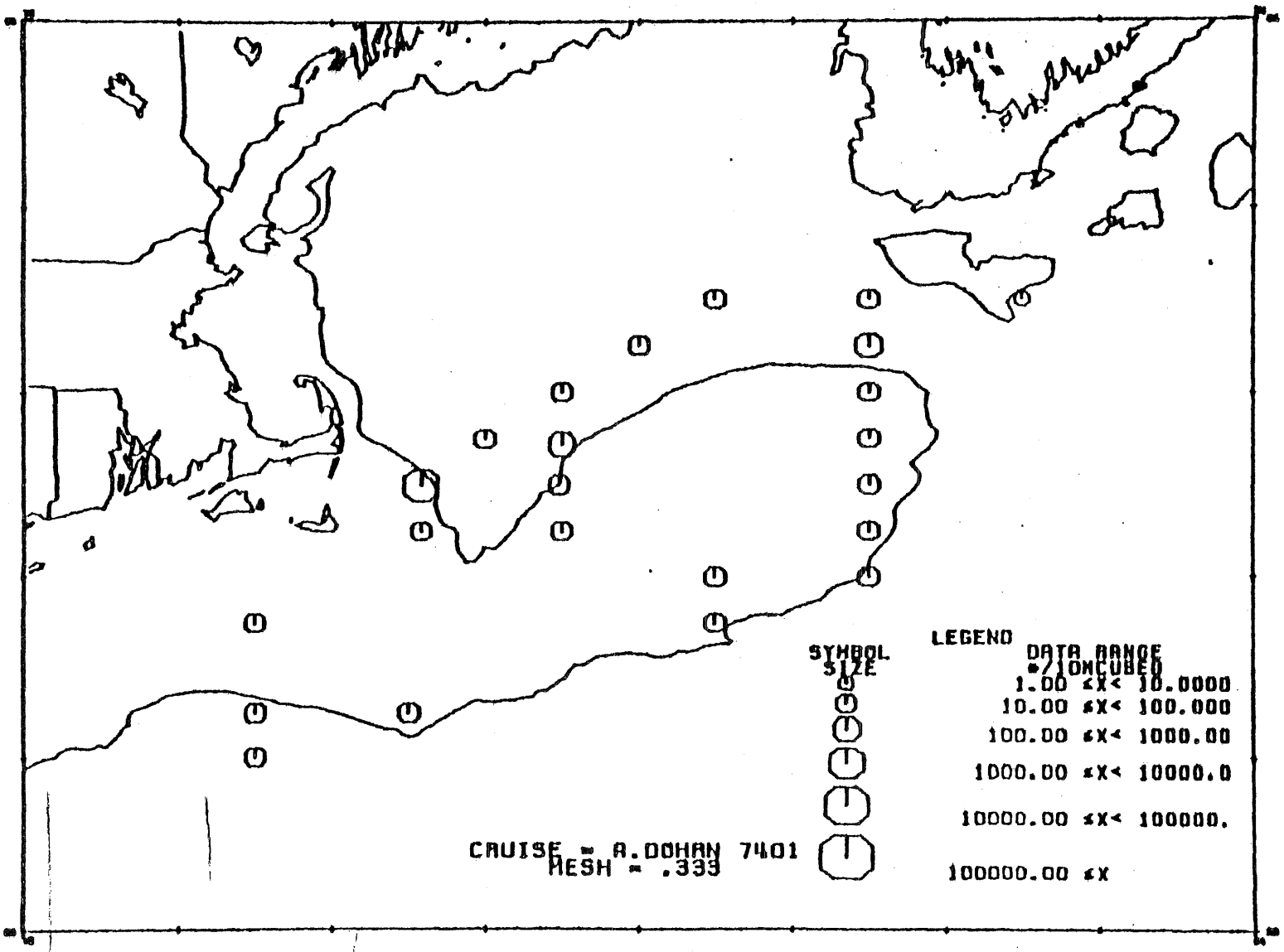

Figure 177

Calanus finmarchicus

Copepodite Stage 5

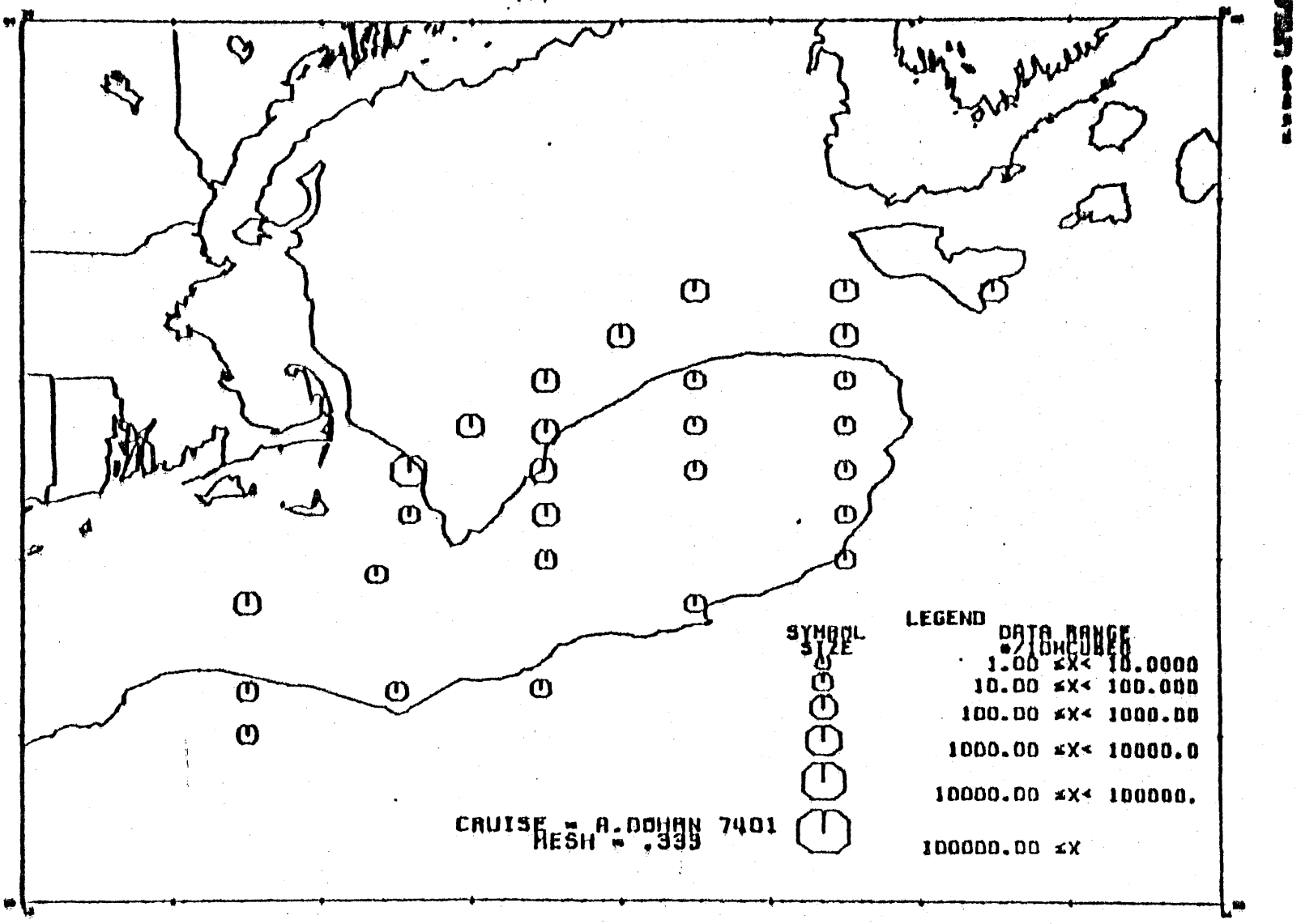

Figure 178

Calanus finmarchicus

Copepodite

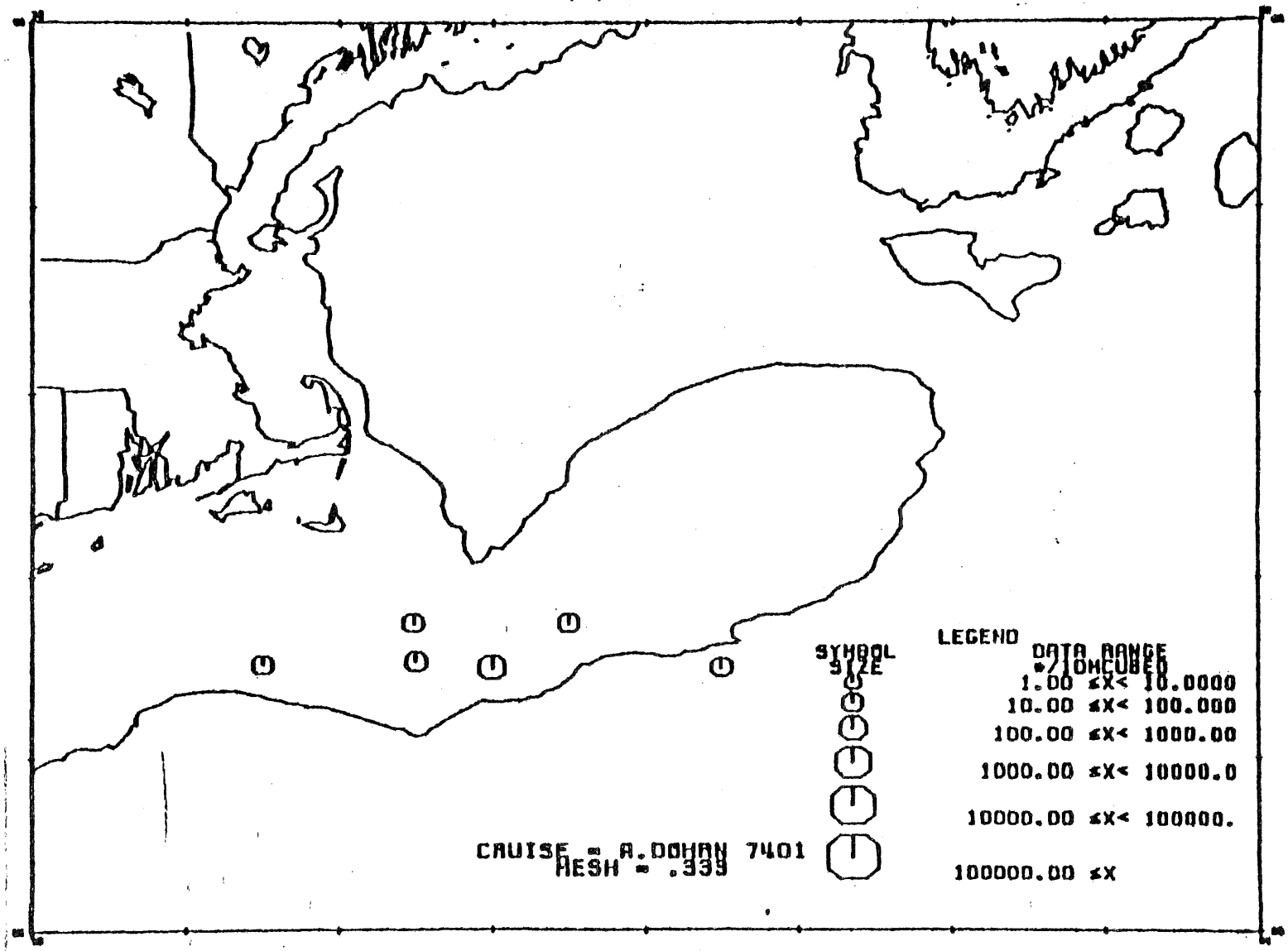

Figure 179

Calanus finmarchicus

Adult

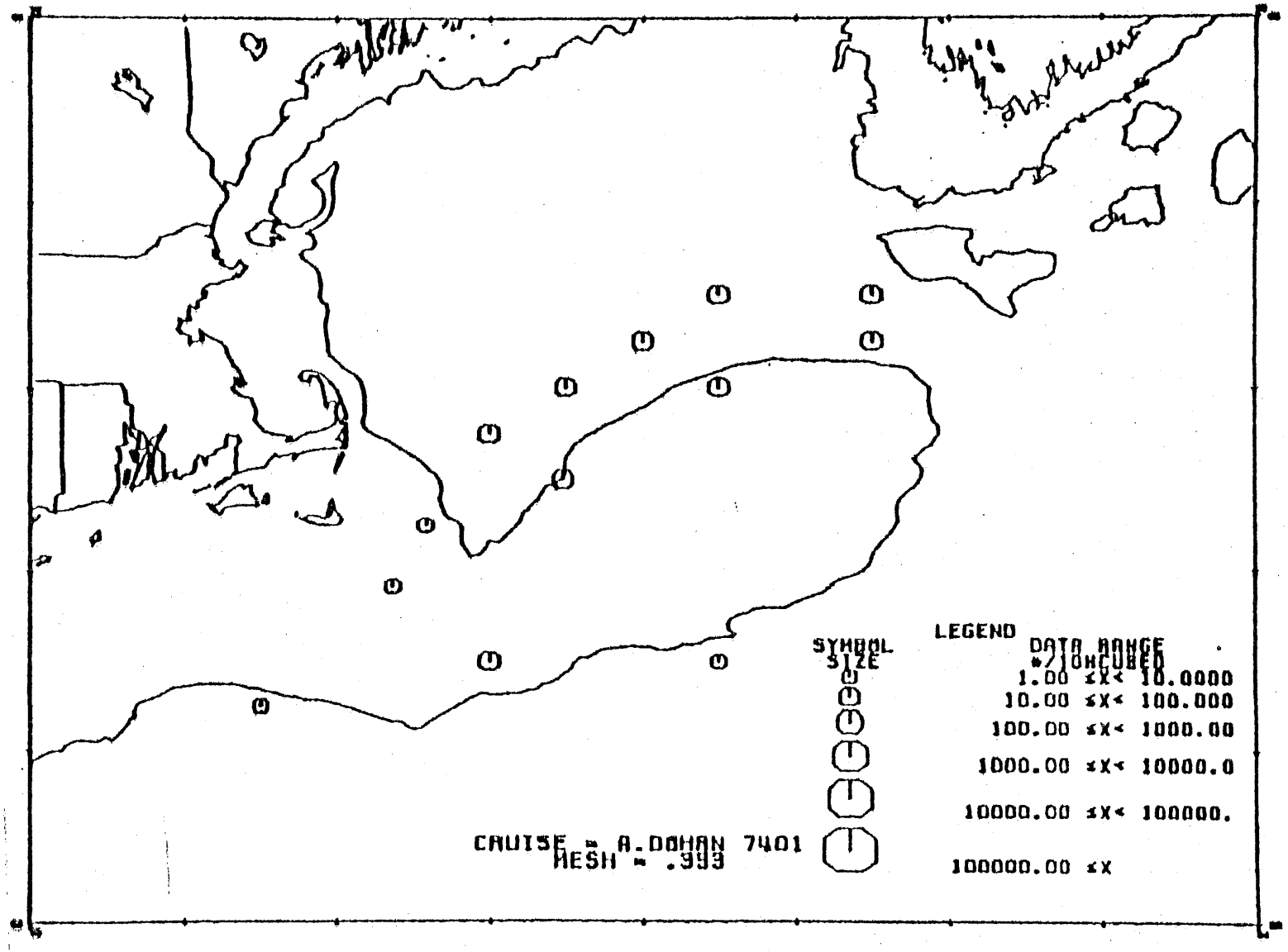

Figure 180

CHAETOGNATHA

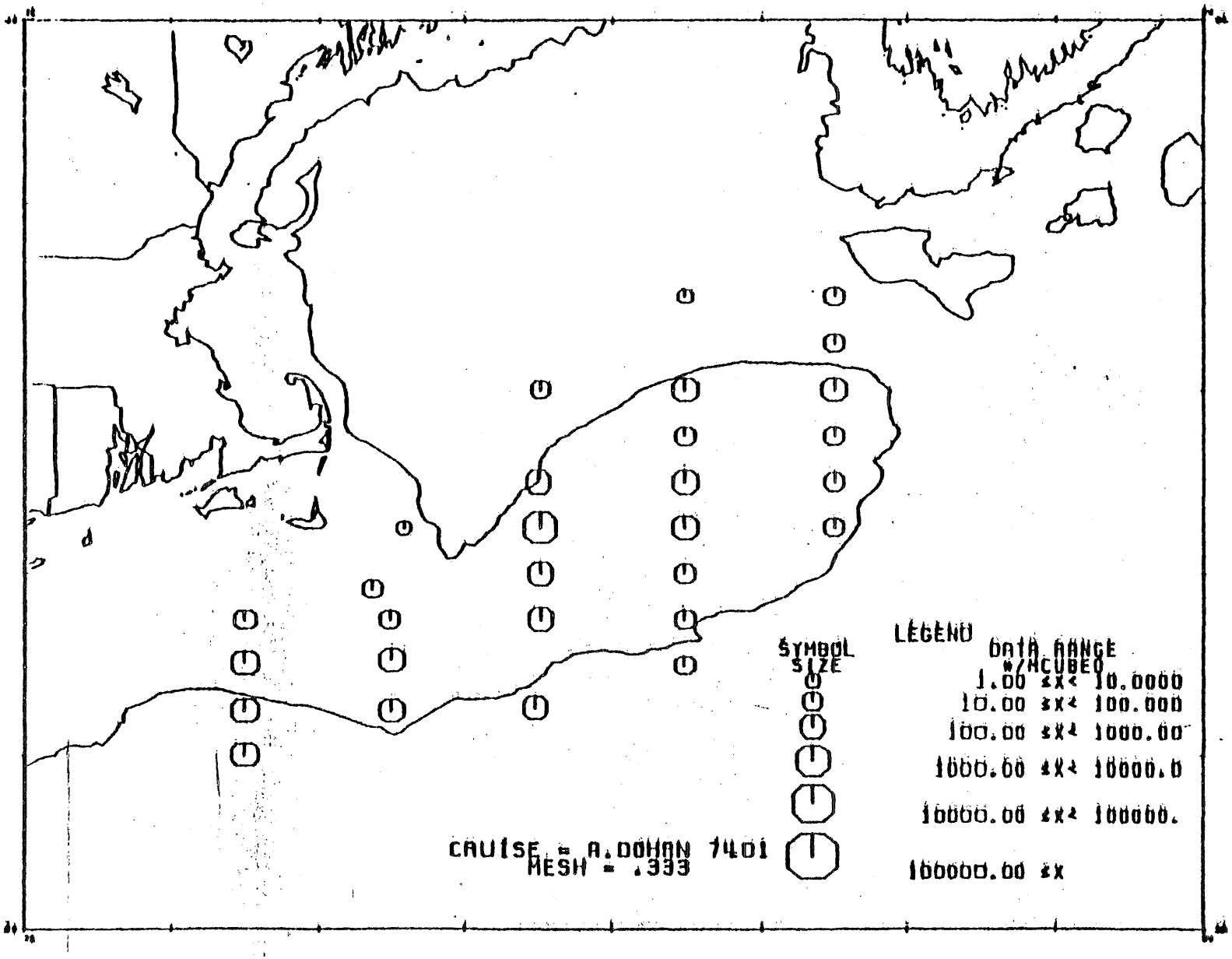

Figure 181

AMPHIPODA

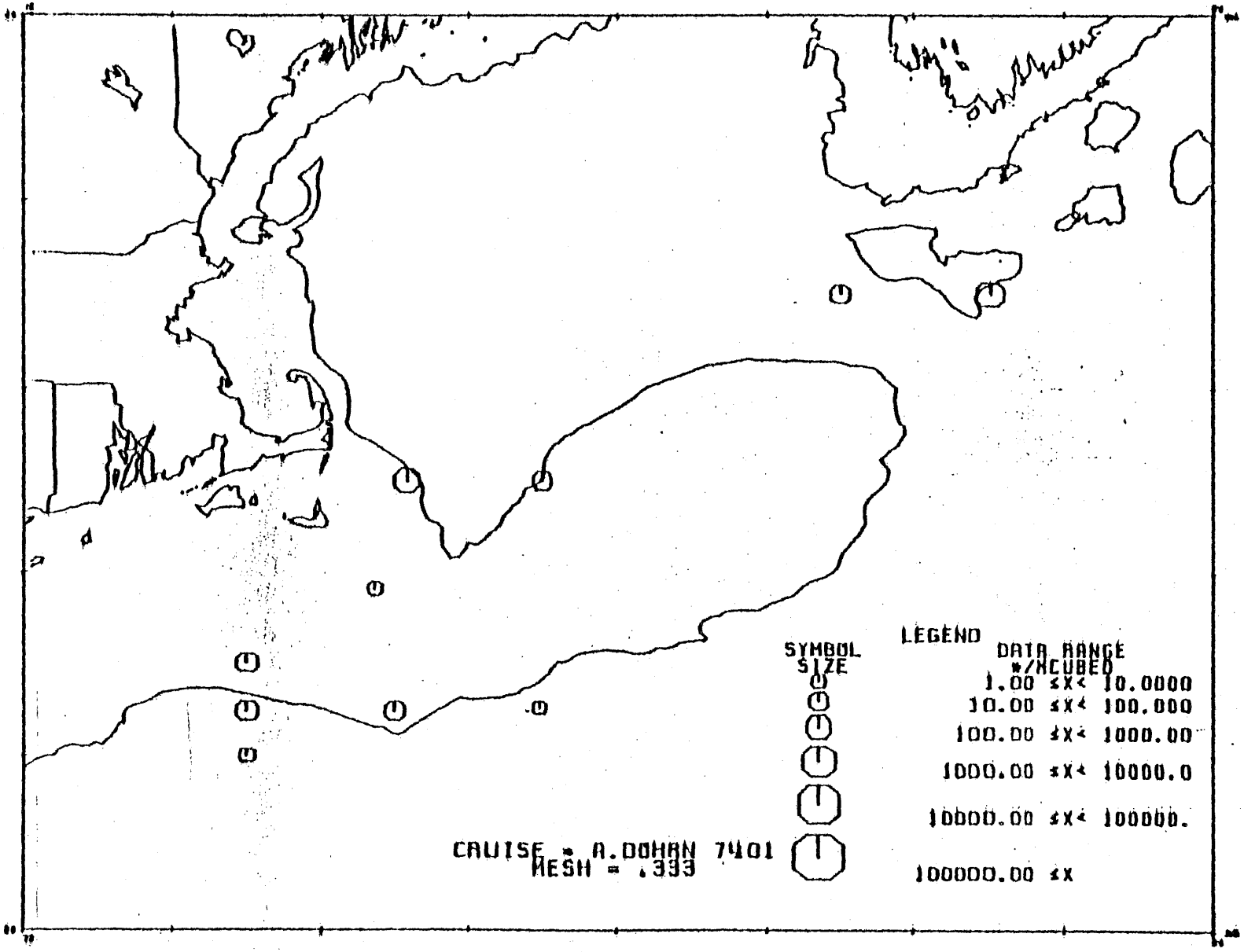

Figure 182

EUPHAUSIACEA

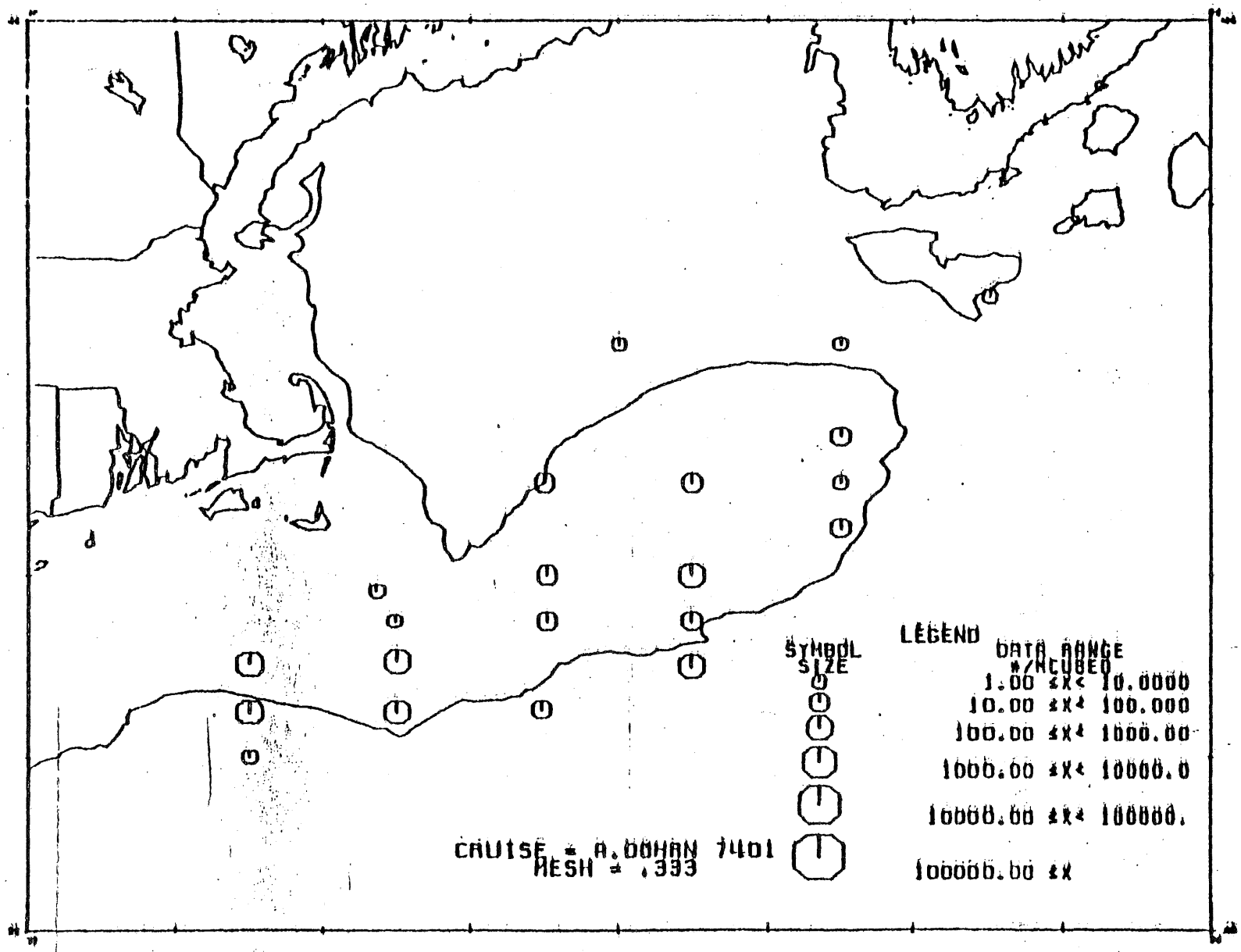

Figure 183

MYSIDACEA

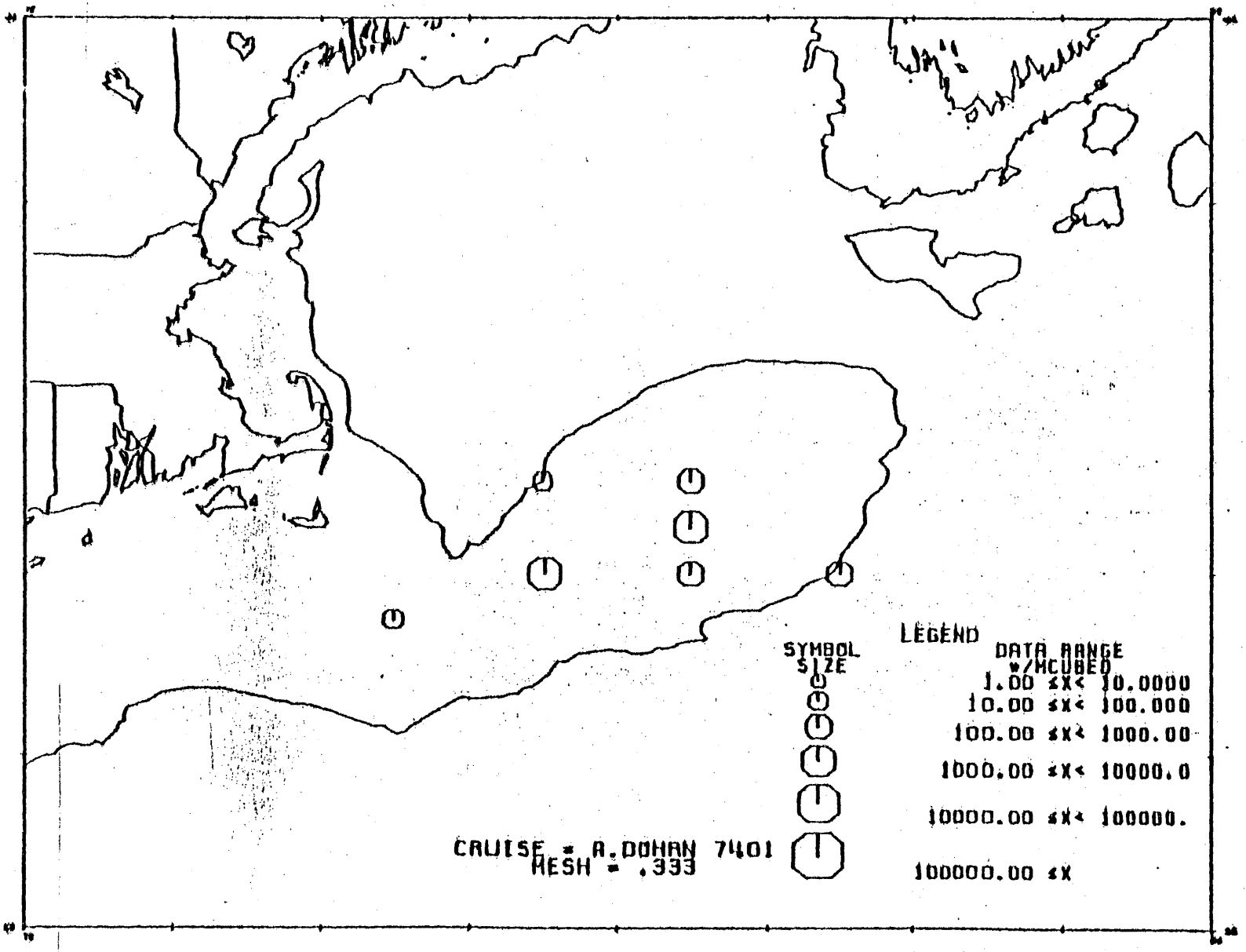

Figure 184

SALPA

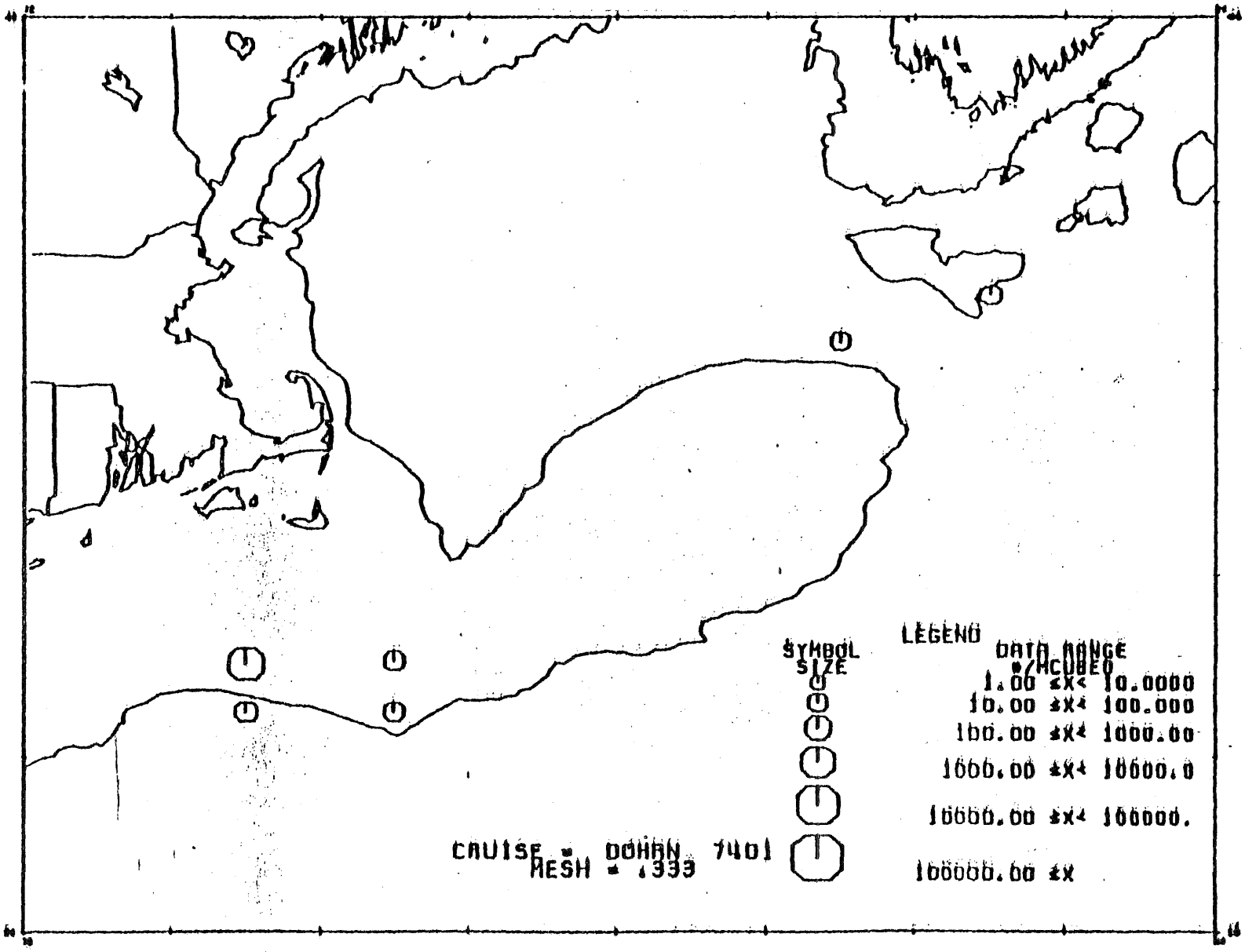

Figure 185

Stations Sampled

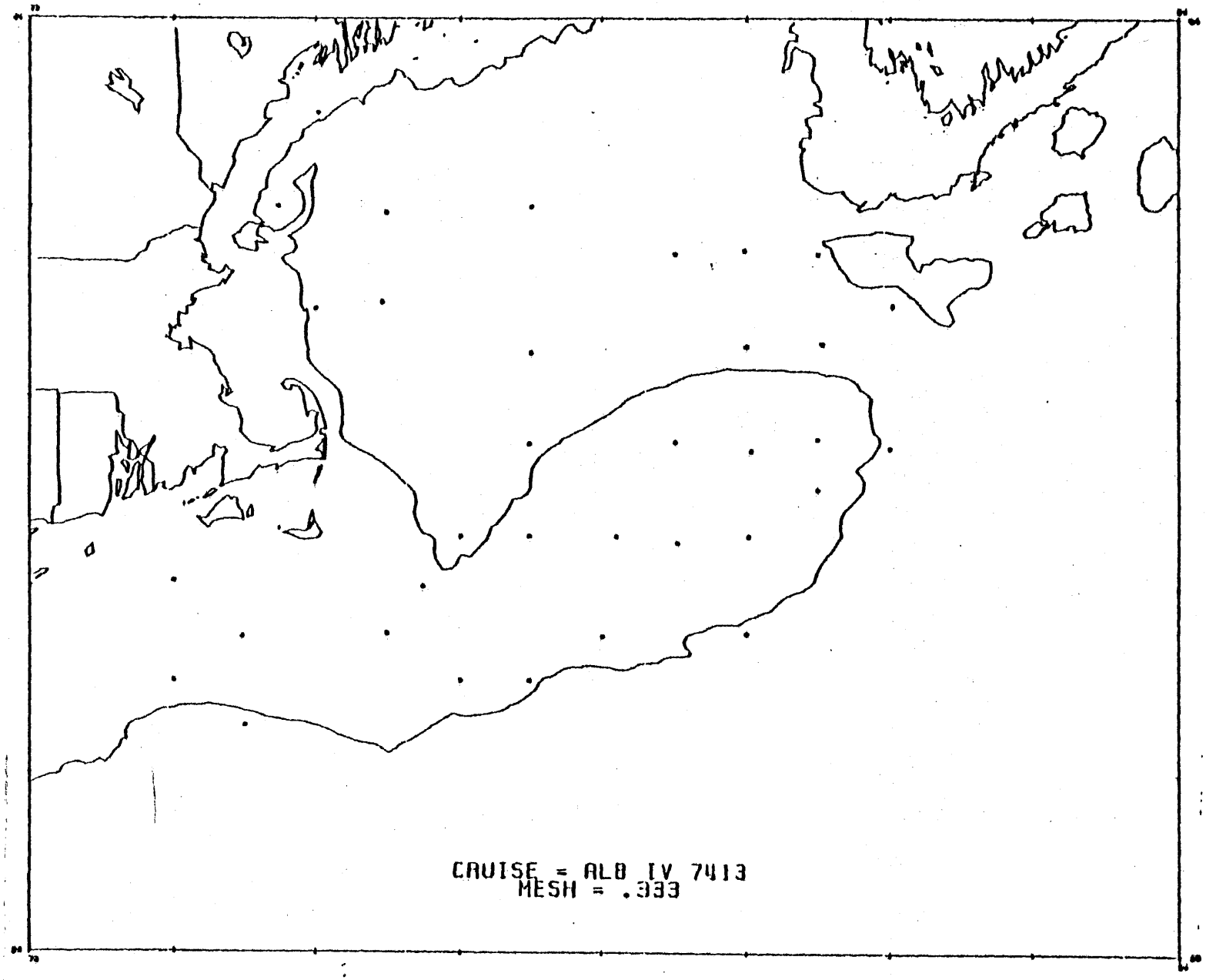

Figure 186

DISPLACEMENT VOLUME

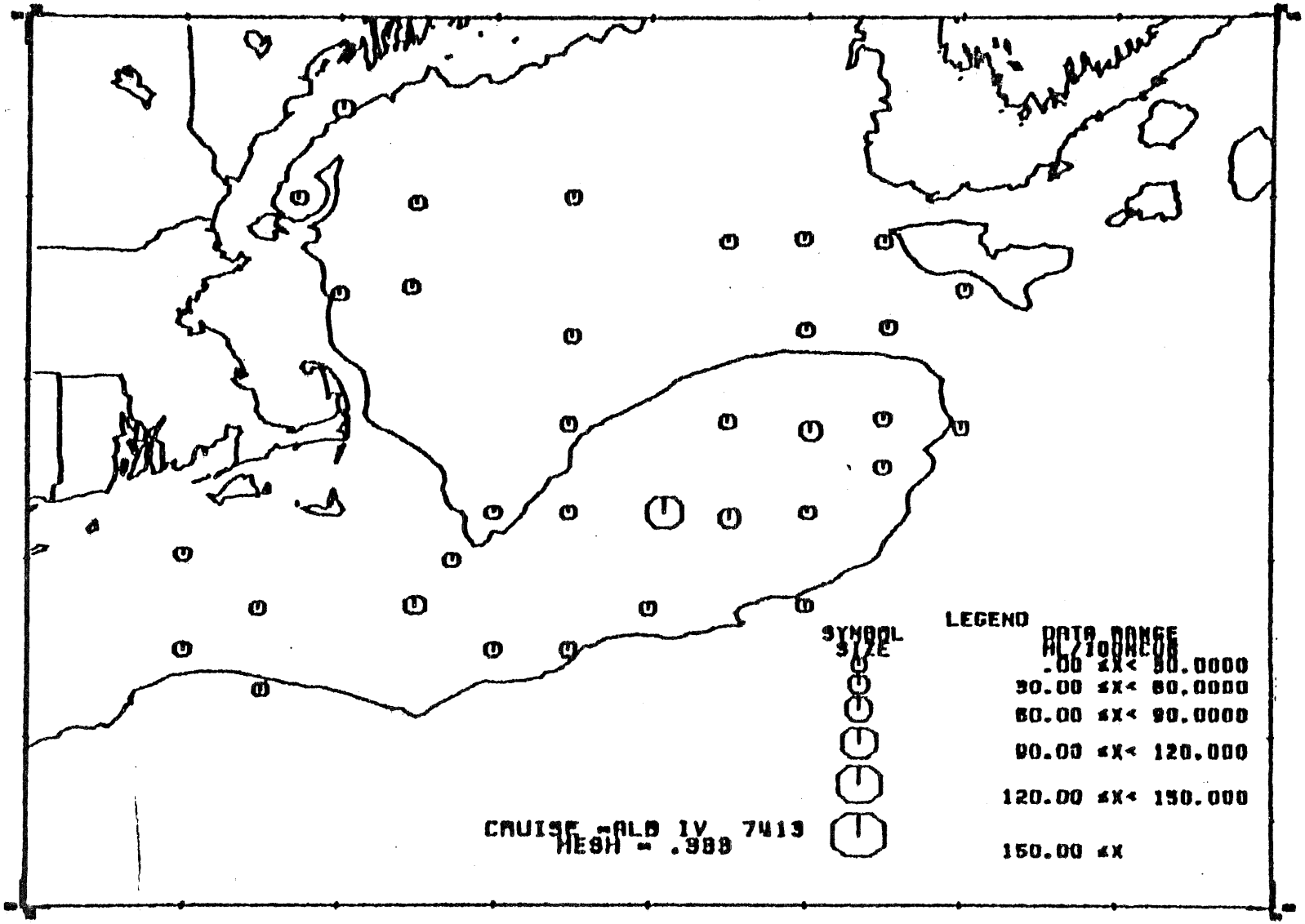

Figure 187

Pseudocalanus sp.

Copepodite Stage 3

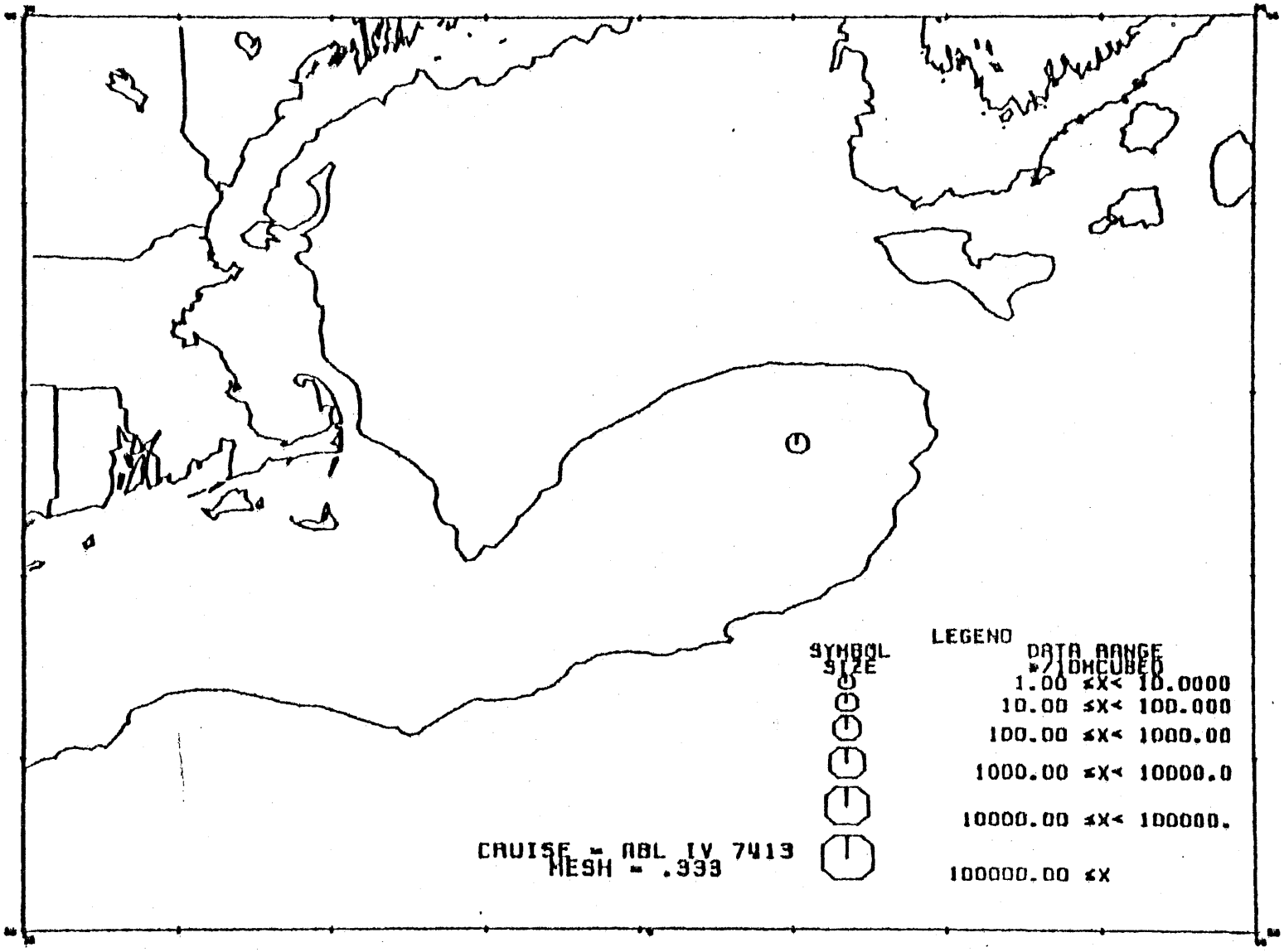

Figure 188

Pseudocalanus sp.

Copepodite Stage 4

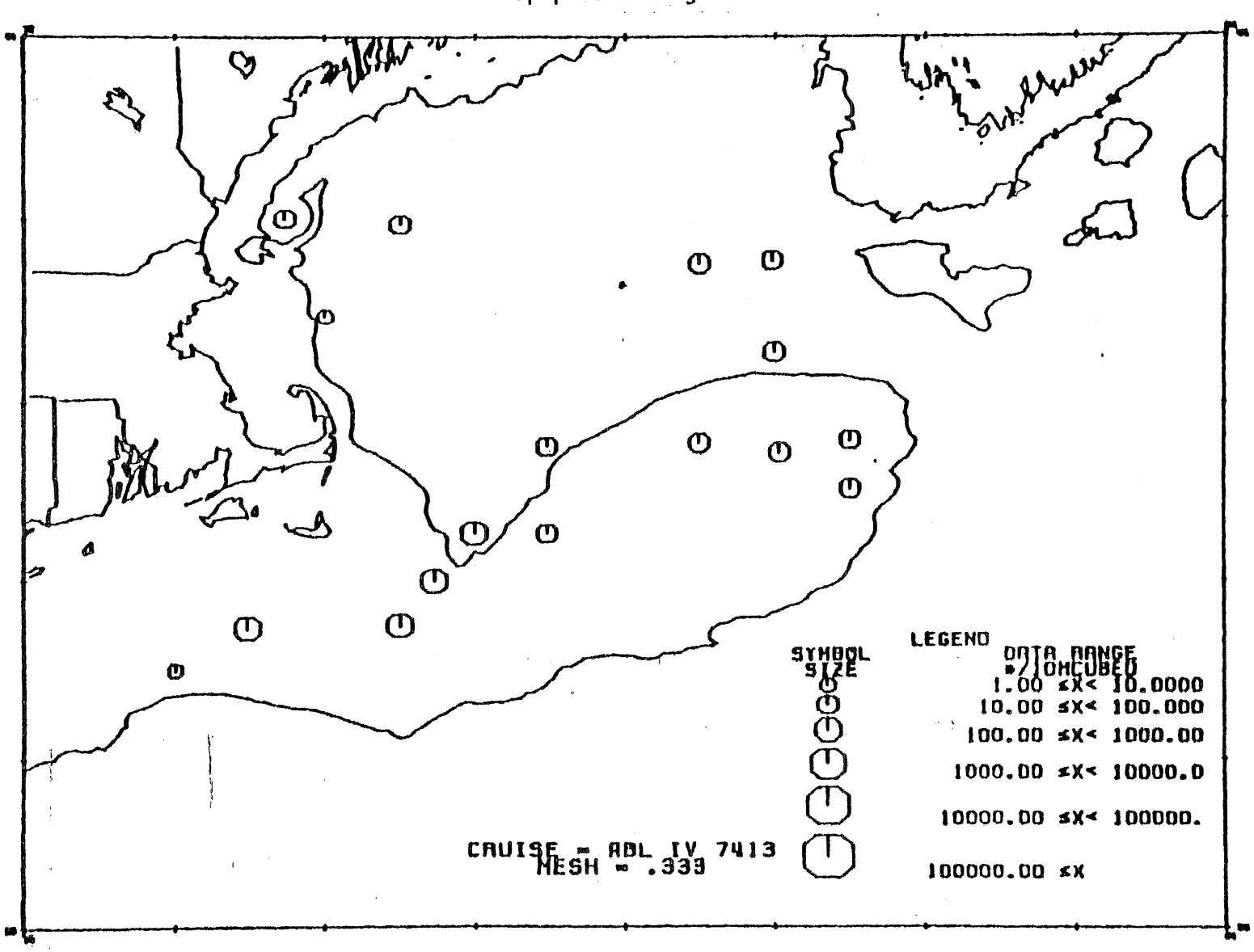

Figure 189

Pseudocalanus sp.

Copepodite Stage 5

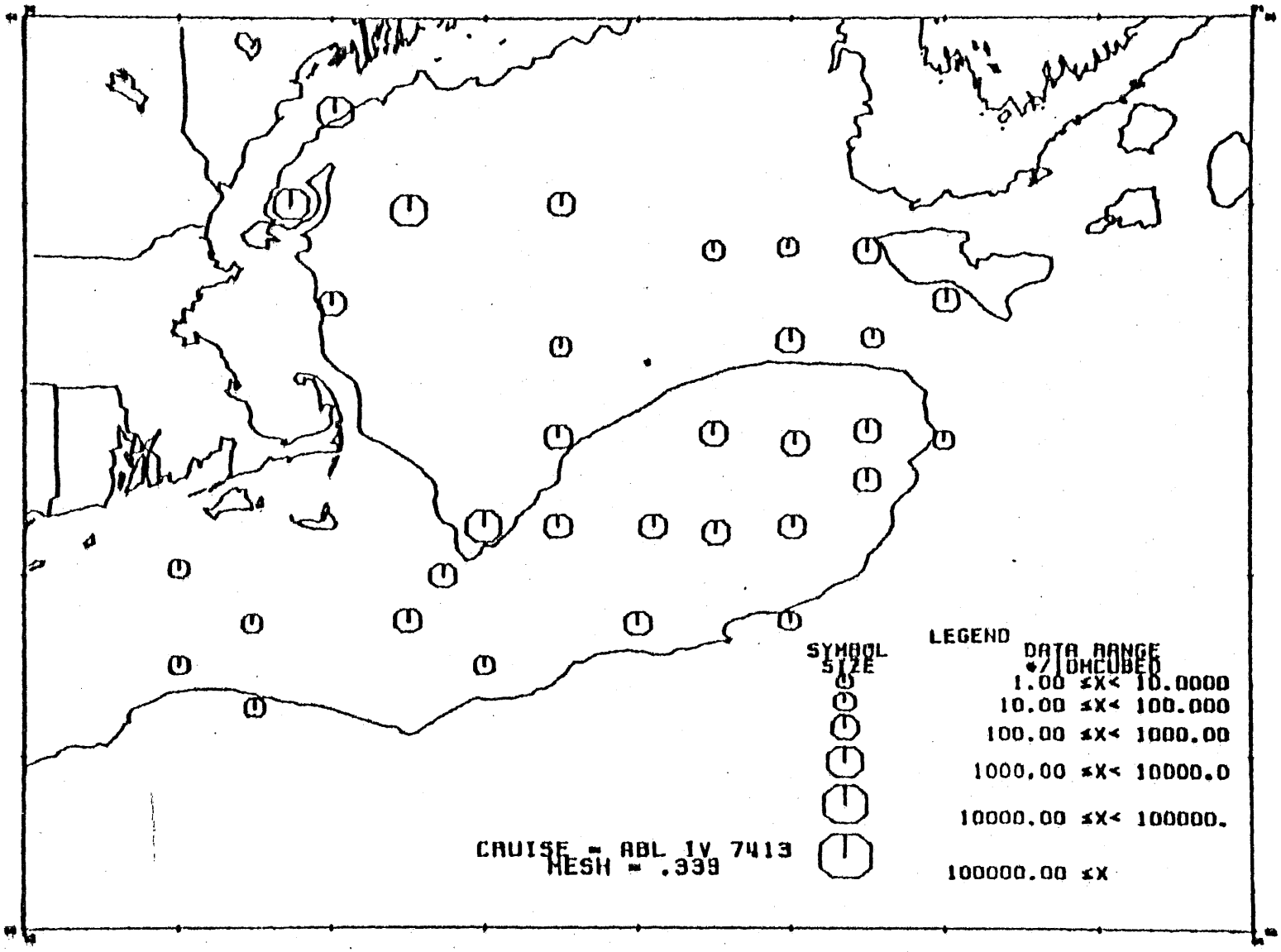

Figure 190

Pseudocalanus sp.

Adult

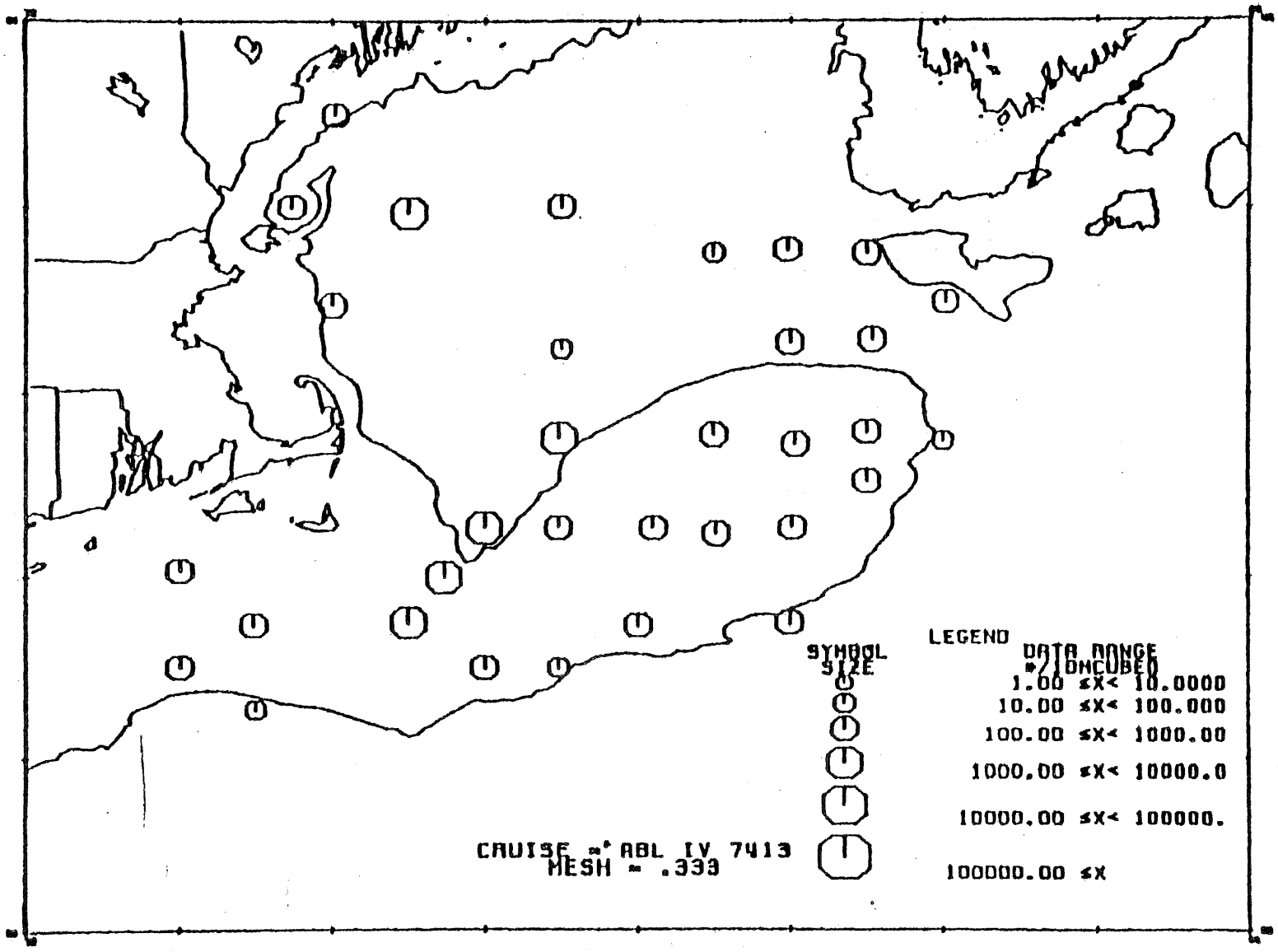

Figure 191

Paracalanus parvus

Copepodite Stage 5

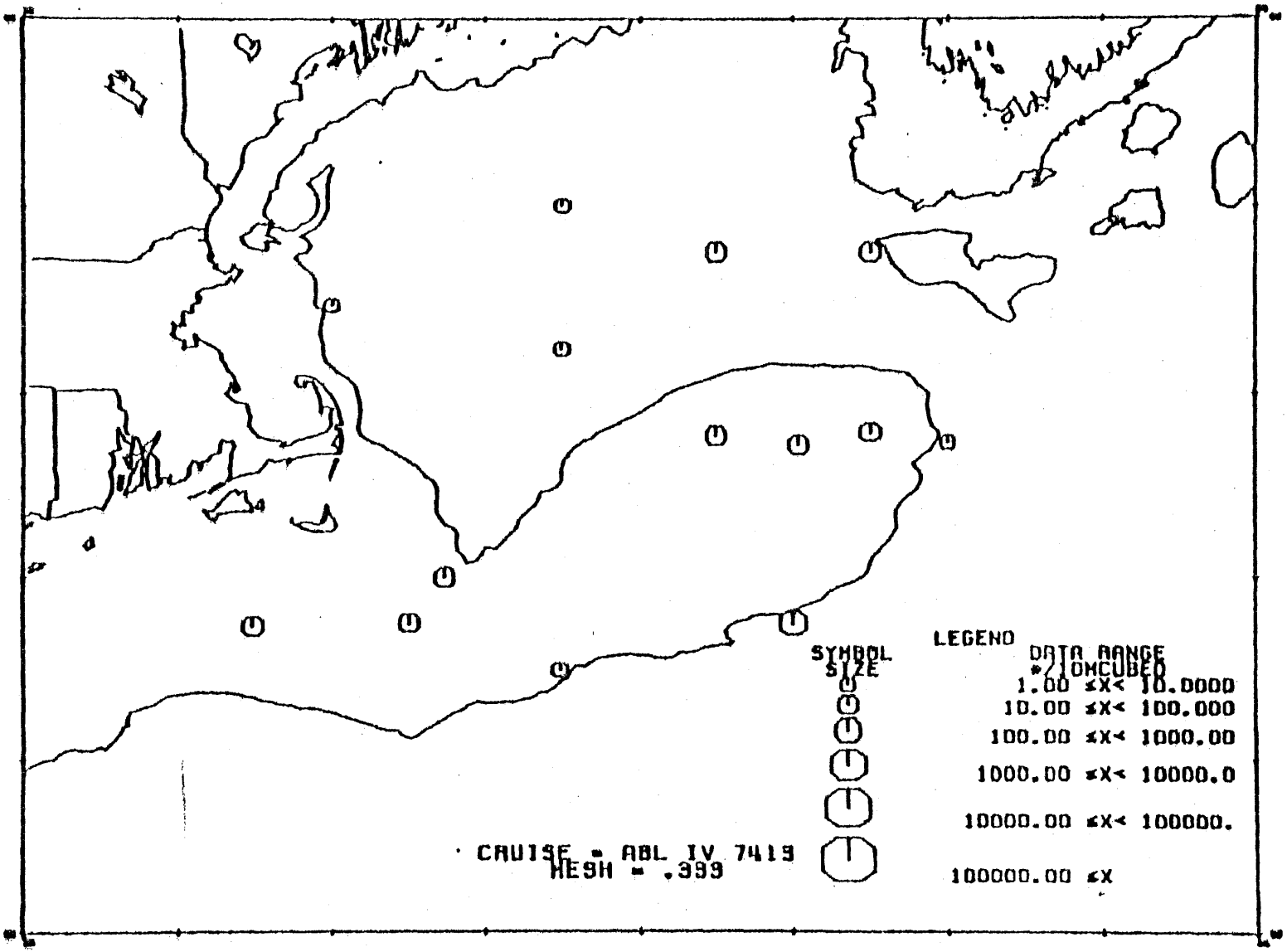

Figure 192

Paracalanus parvus

Copepodite

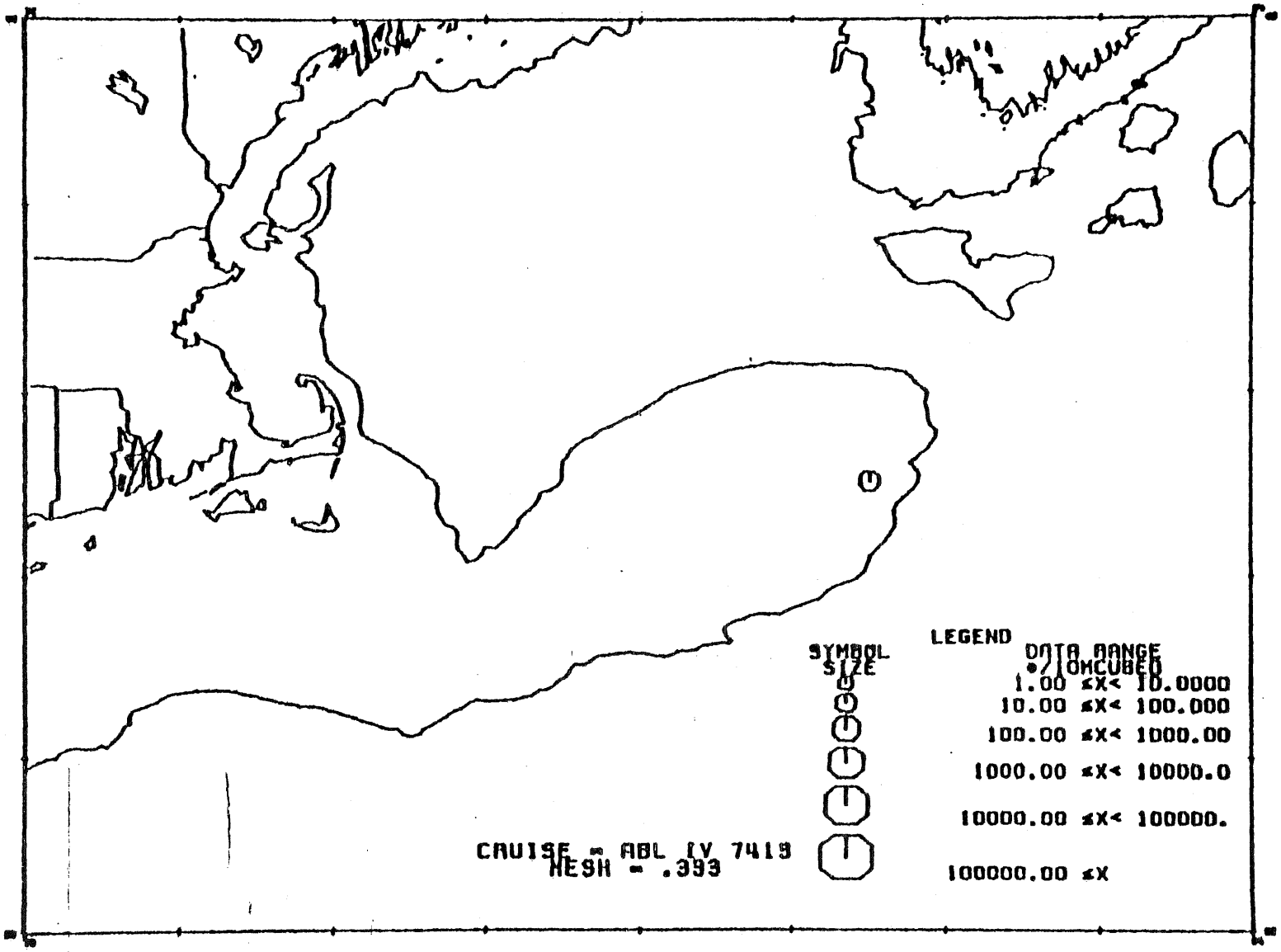

Figure 193

Paracalanus parvus

Adult

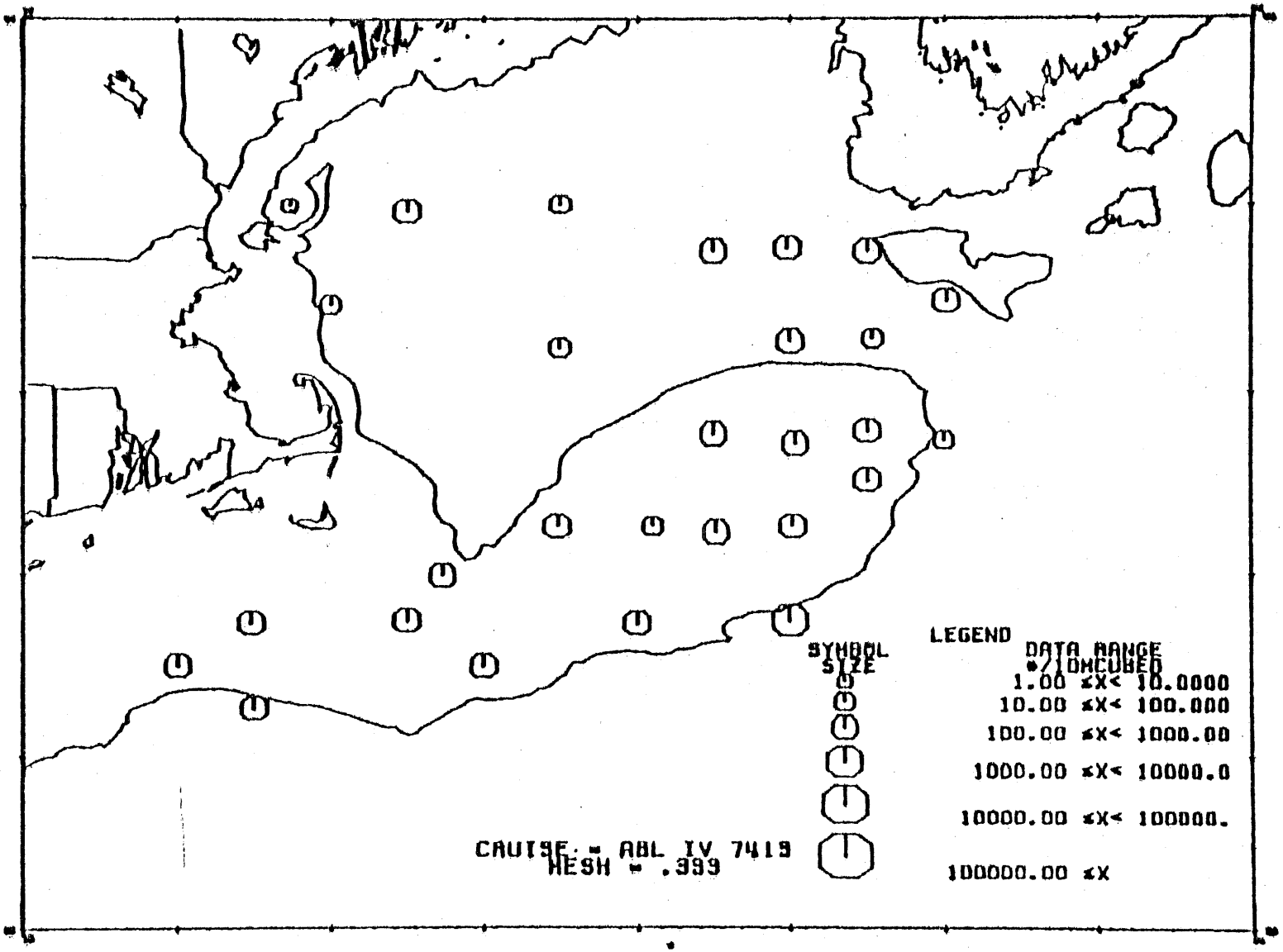

Figure 194

Centropages typicus

Copepodite Stage 2

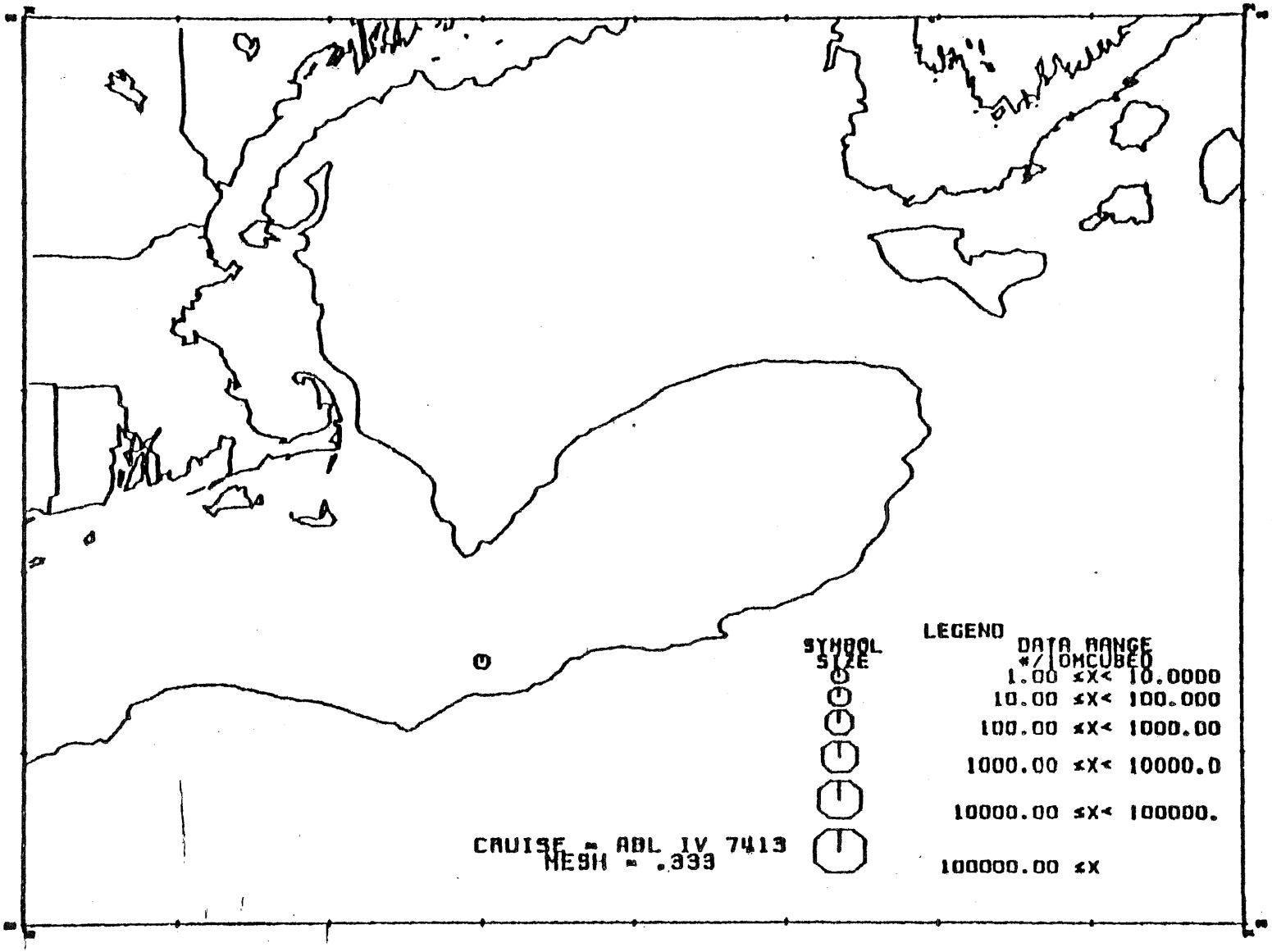

Figure 195

Centropages typicus

Copepodite Stage 3

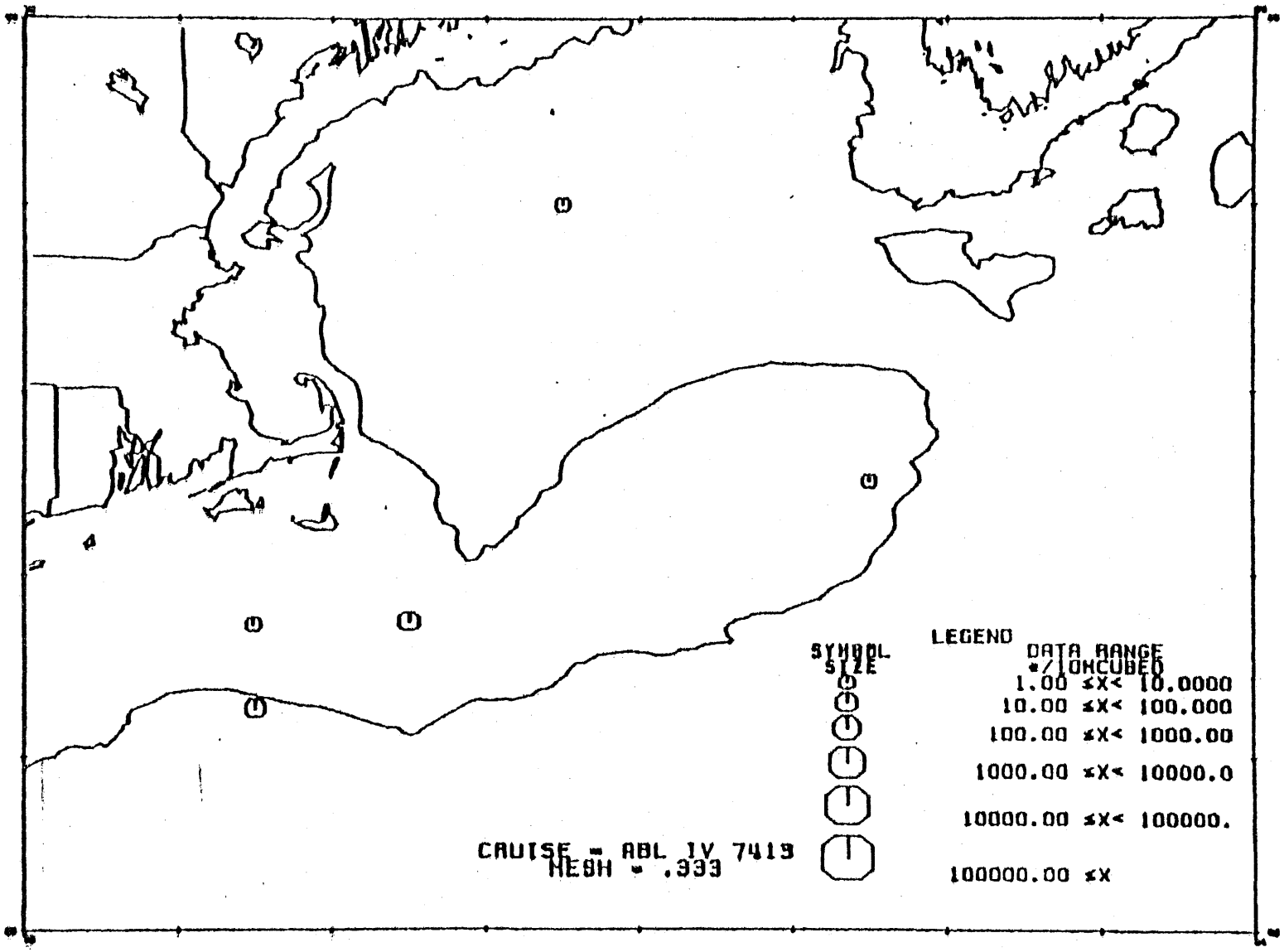

Figure 196

Centropages typicus

Copepodite Stage 4

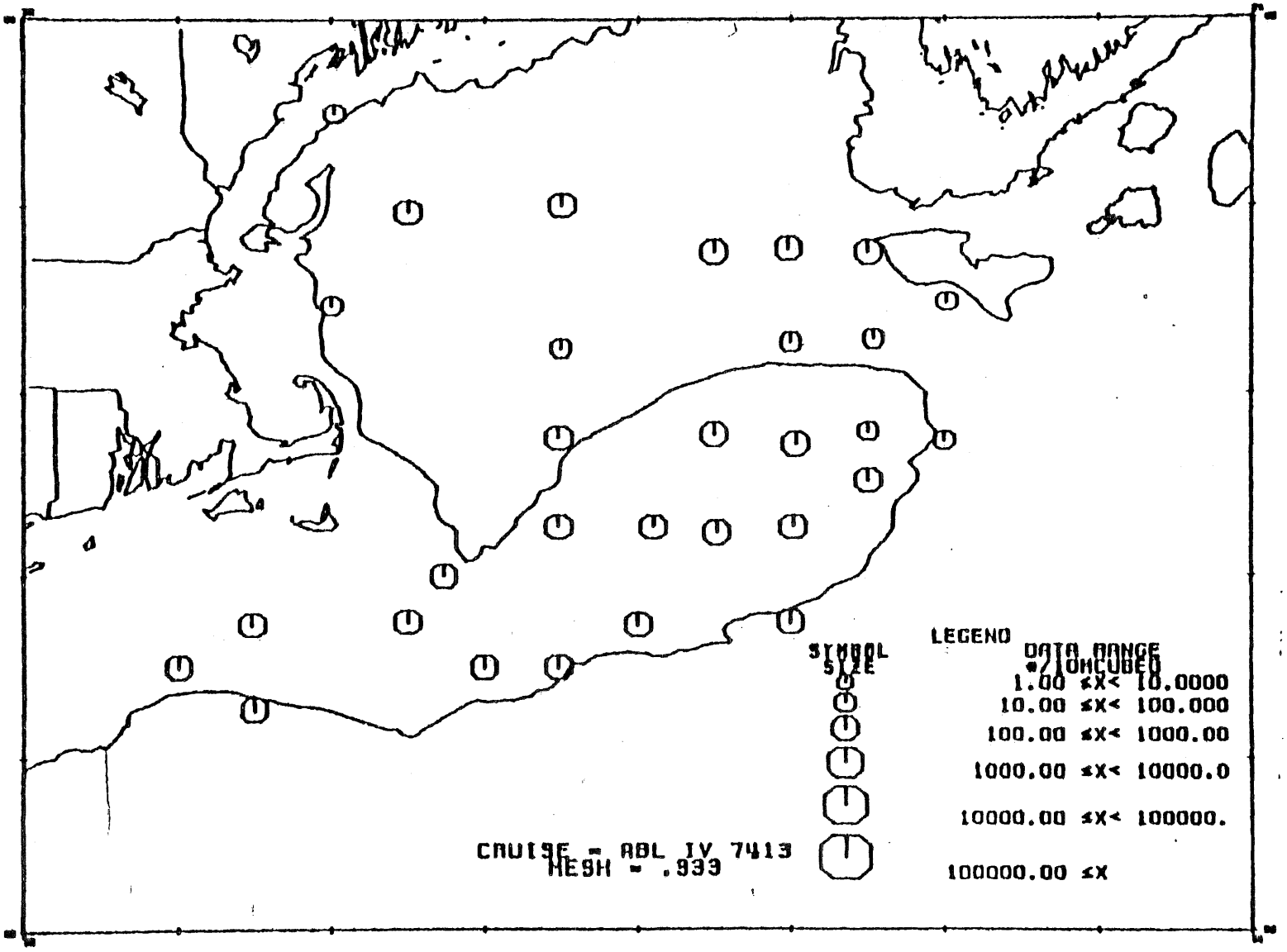

Figure 197

Centropages typicus

Copepodite Stage 5

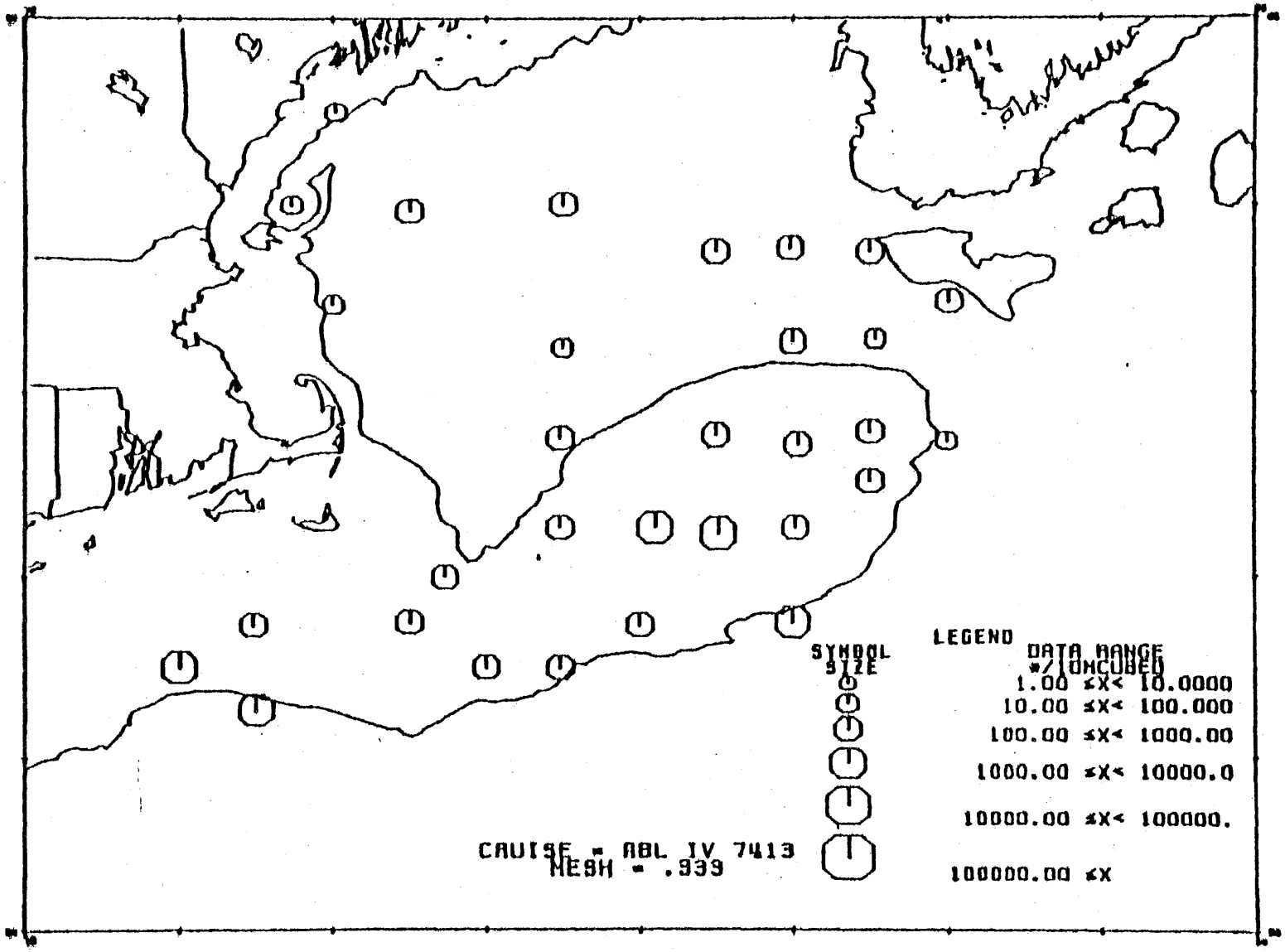

Figure 198

Centropages typicus

Adult

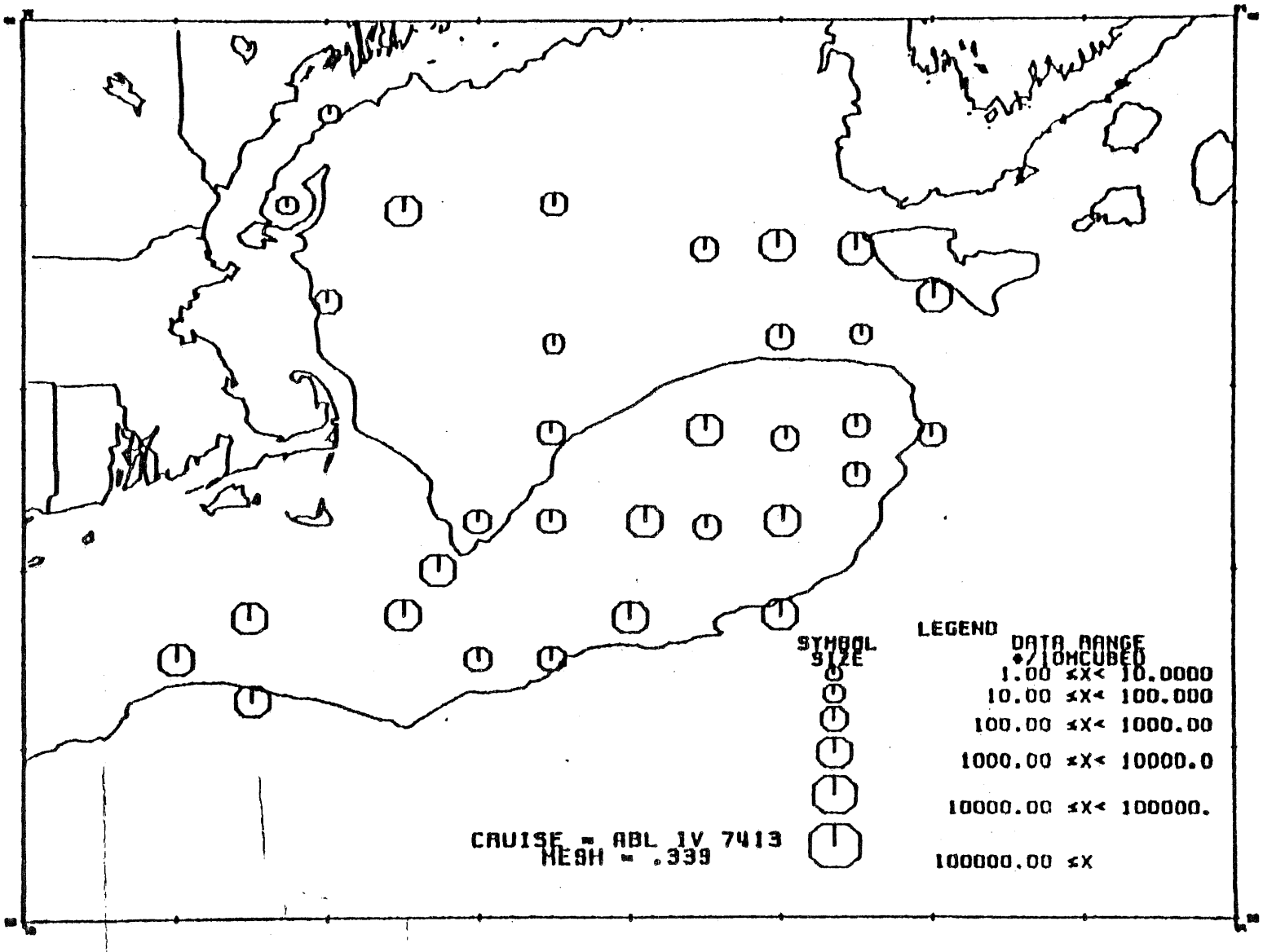

Figure 199

Centropages hamatus

Copepodite Stage 4

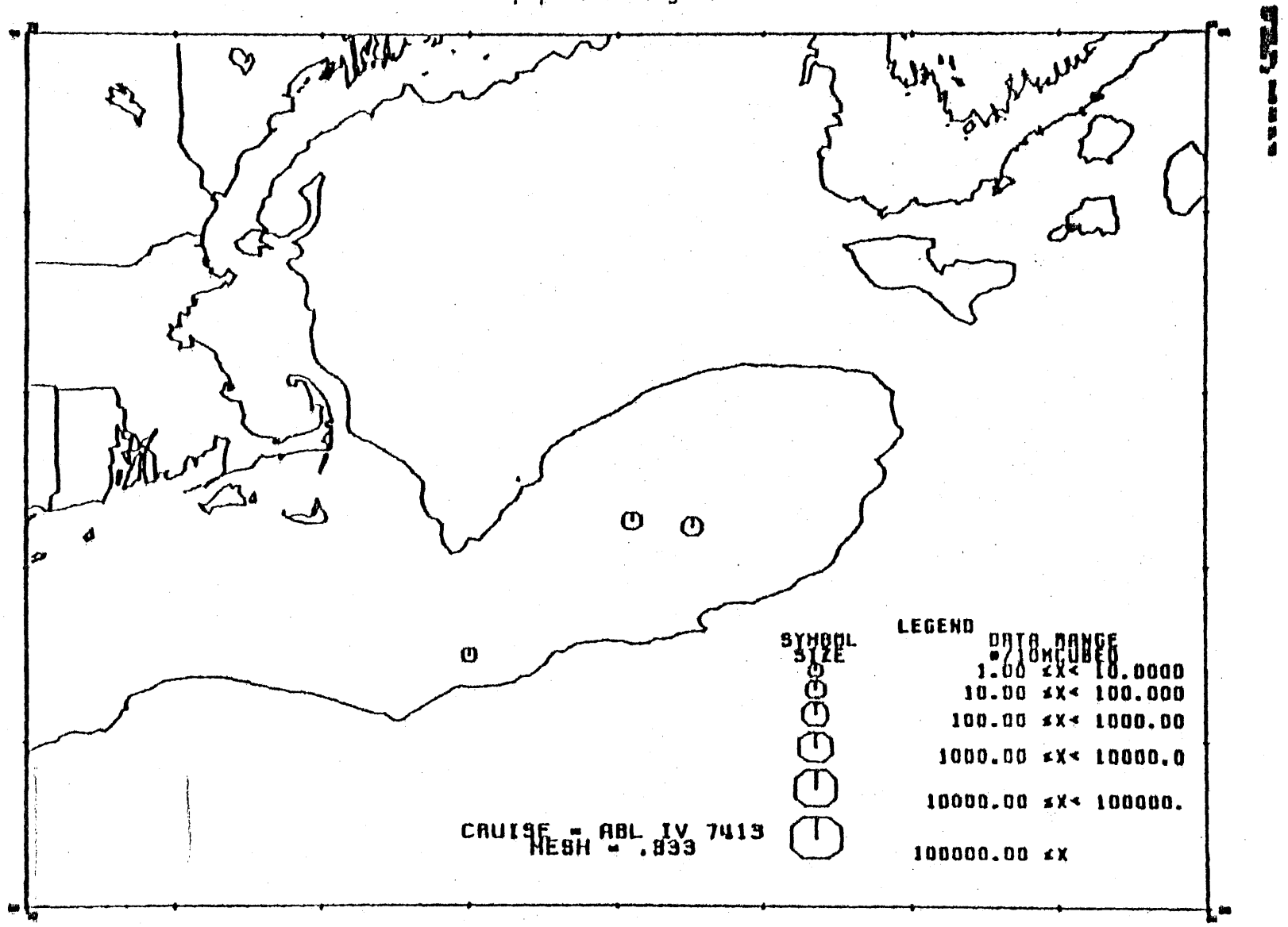

Figure 200

Centropages hamatus

Copepodite Stage 5

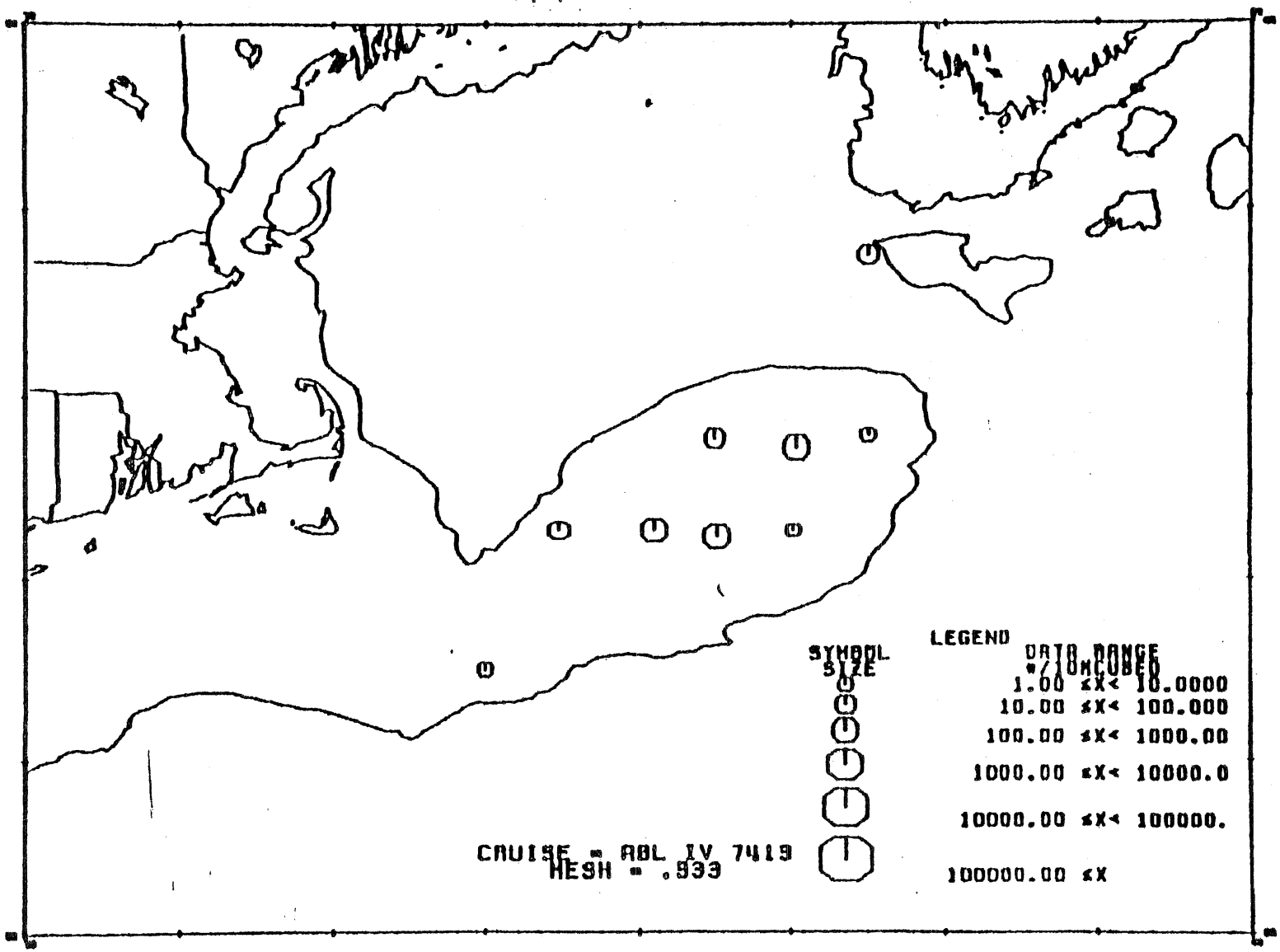

Figure 201

Centropages hamatus

Adult

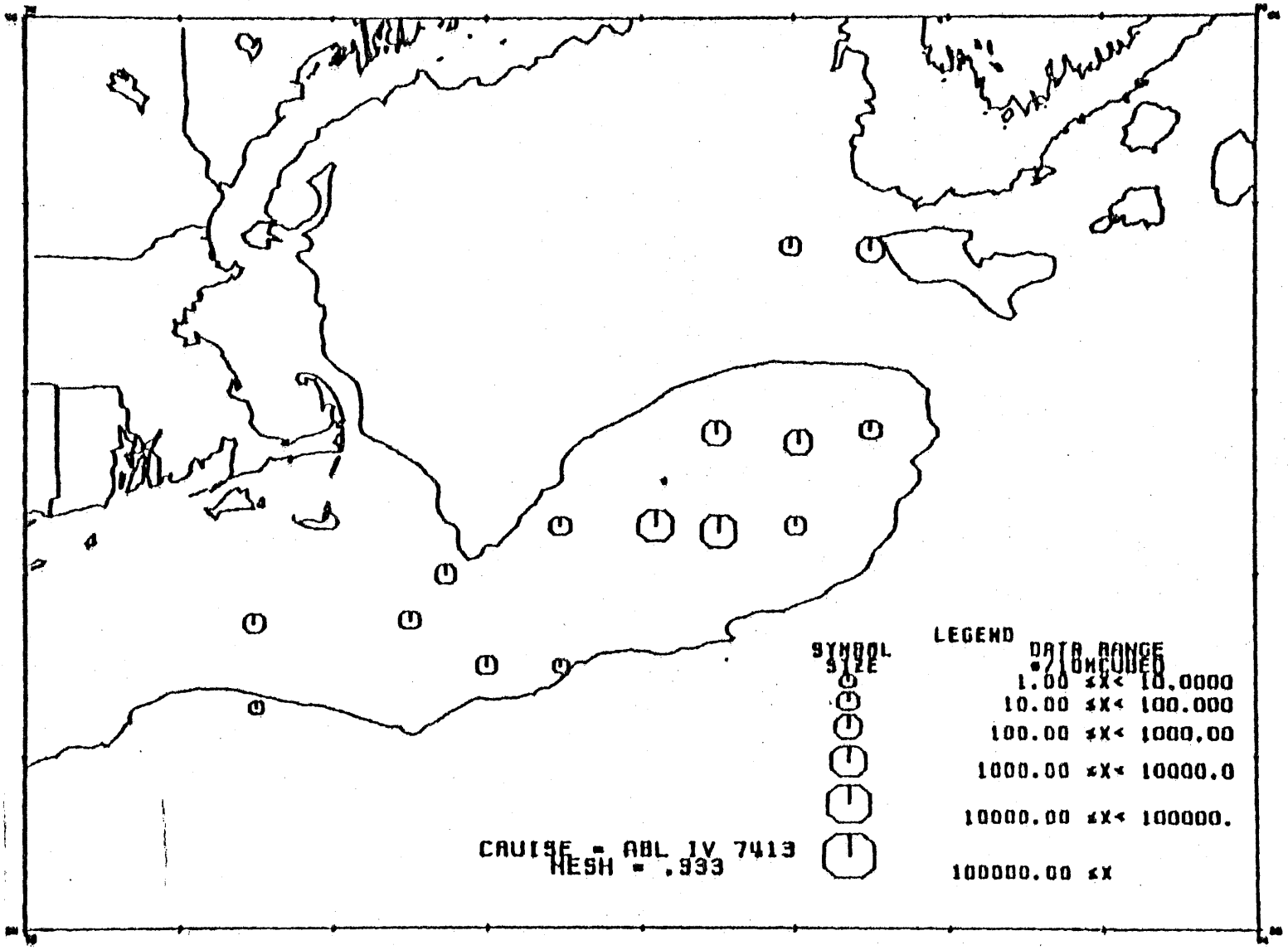

Figure 202

Oithona spp.

Adult

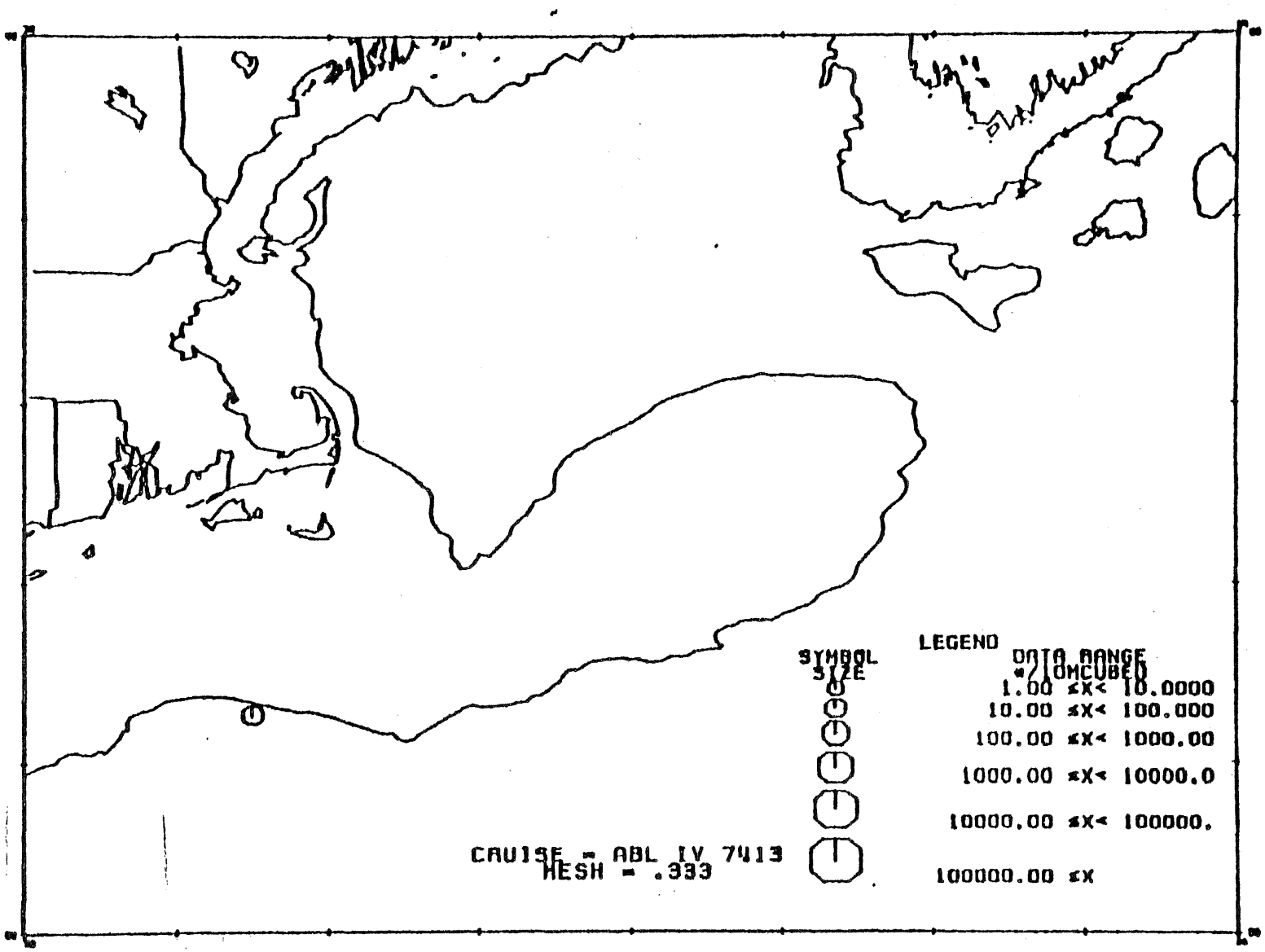

Figure 203

Calanus finmarchicus

Copepodite Stage 3

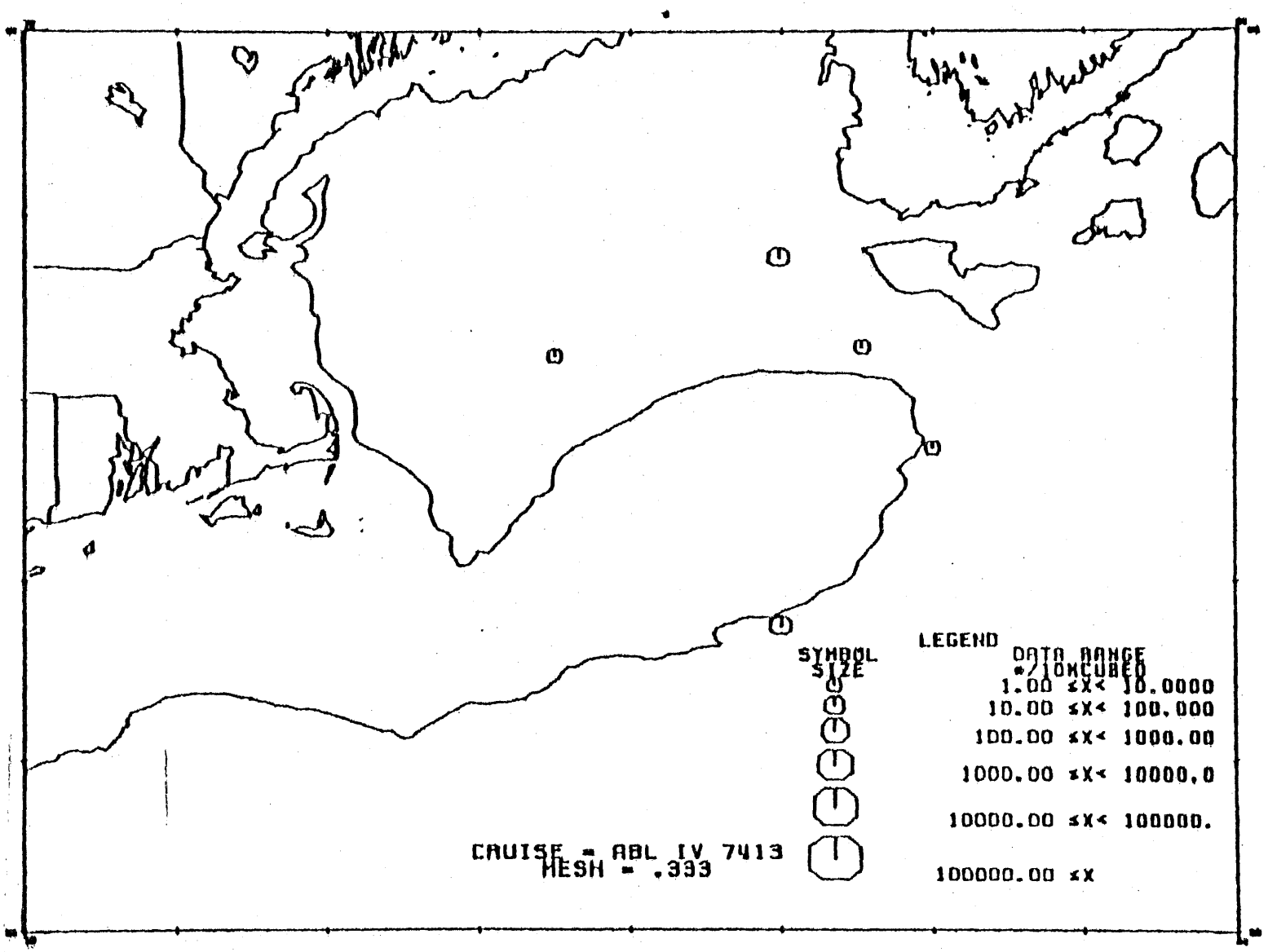

Figure 204

Calanus finmarchicus

Copepodite Stage 4

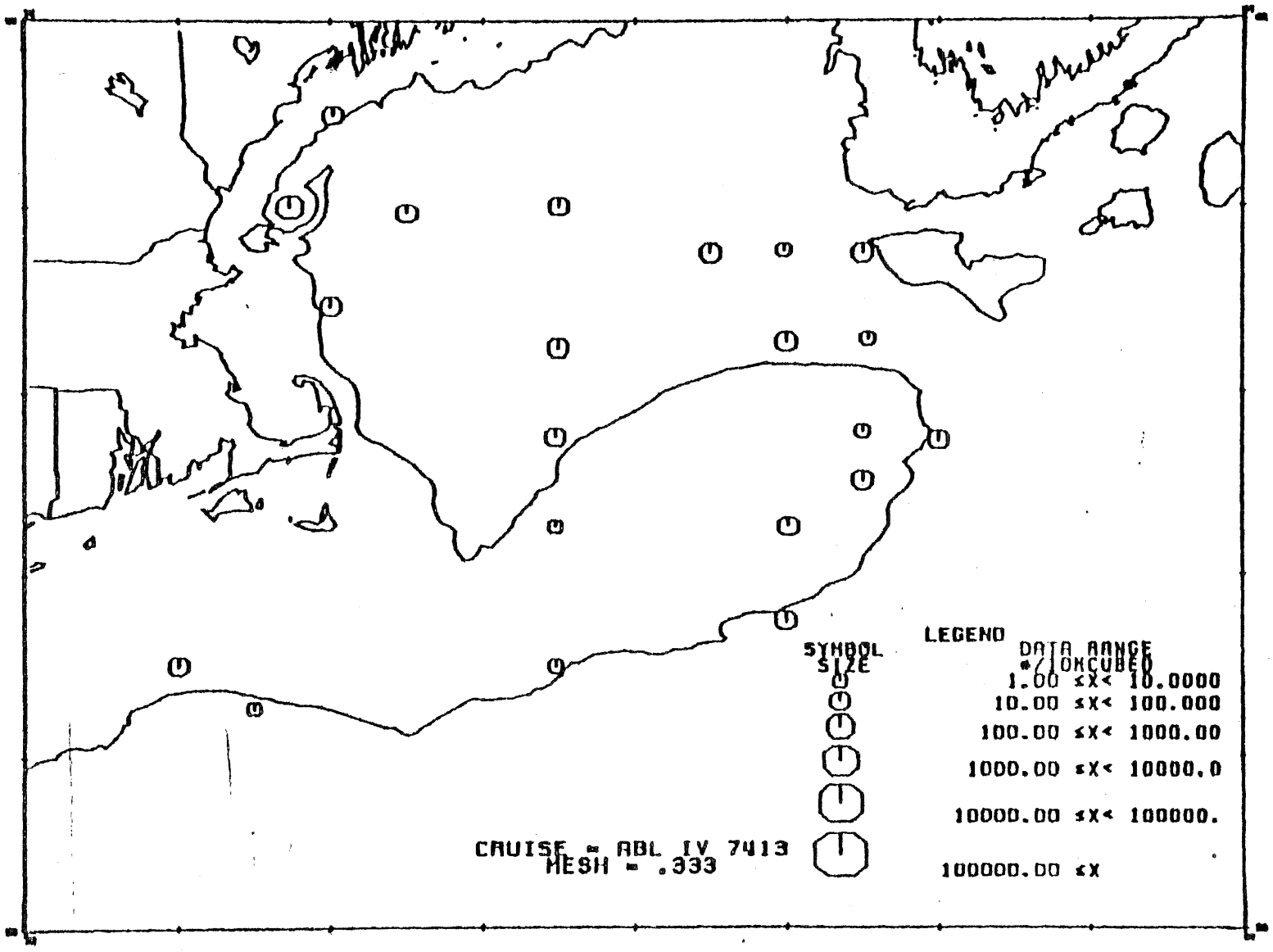

Figure 205

Calanus finmarchicus

Copepodite Stage 5

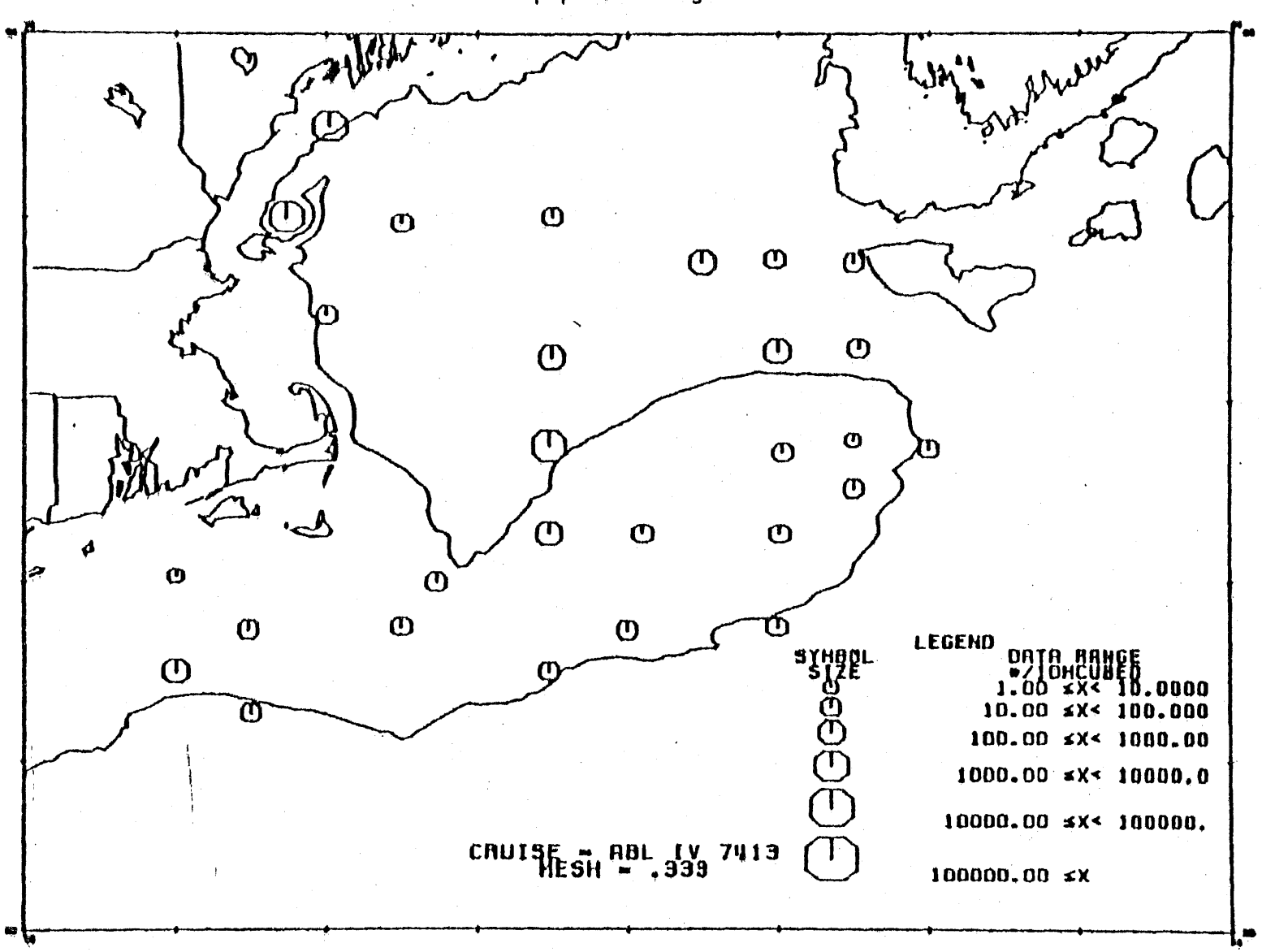

Figure 206

Calanus finmarchicus

Copepodite

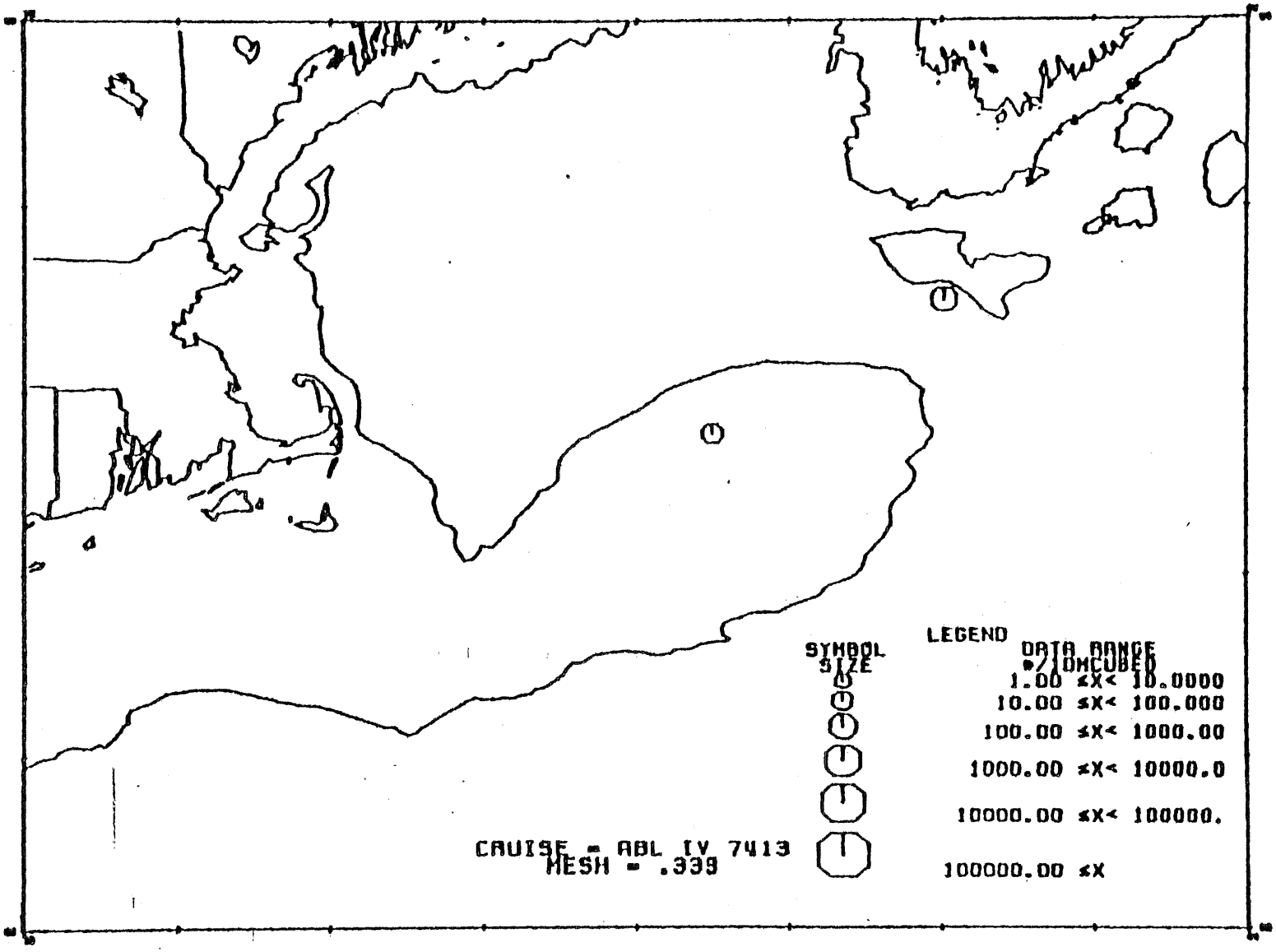

Figure 207

Calanus finmarchicus

Adult

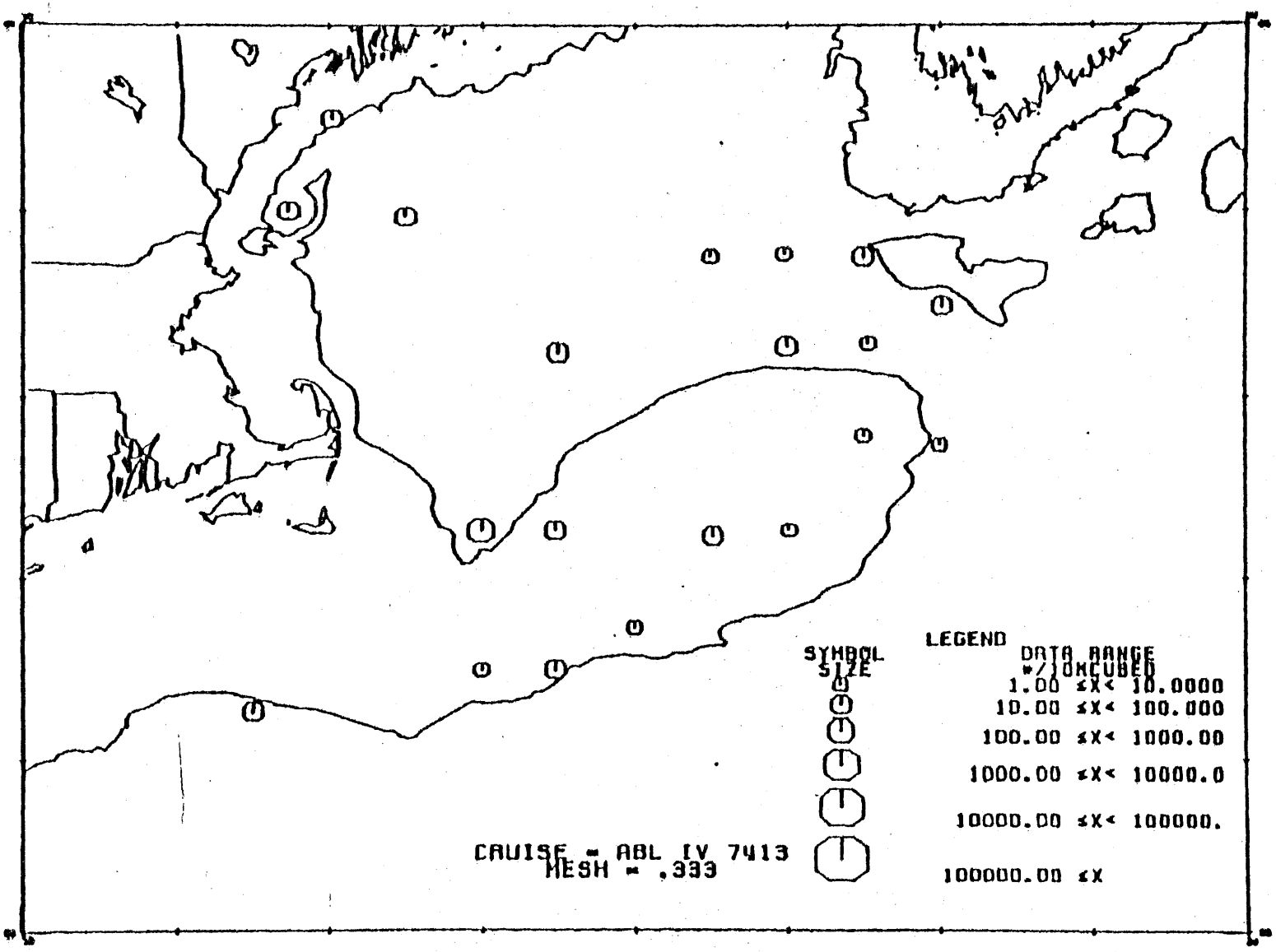

Figure 208

CHAETOGNATHA

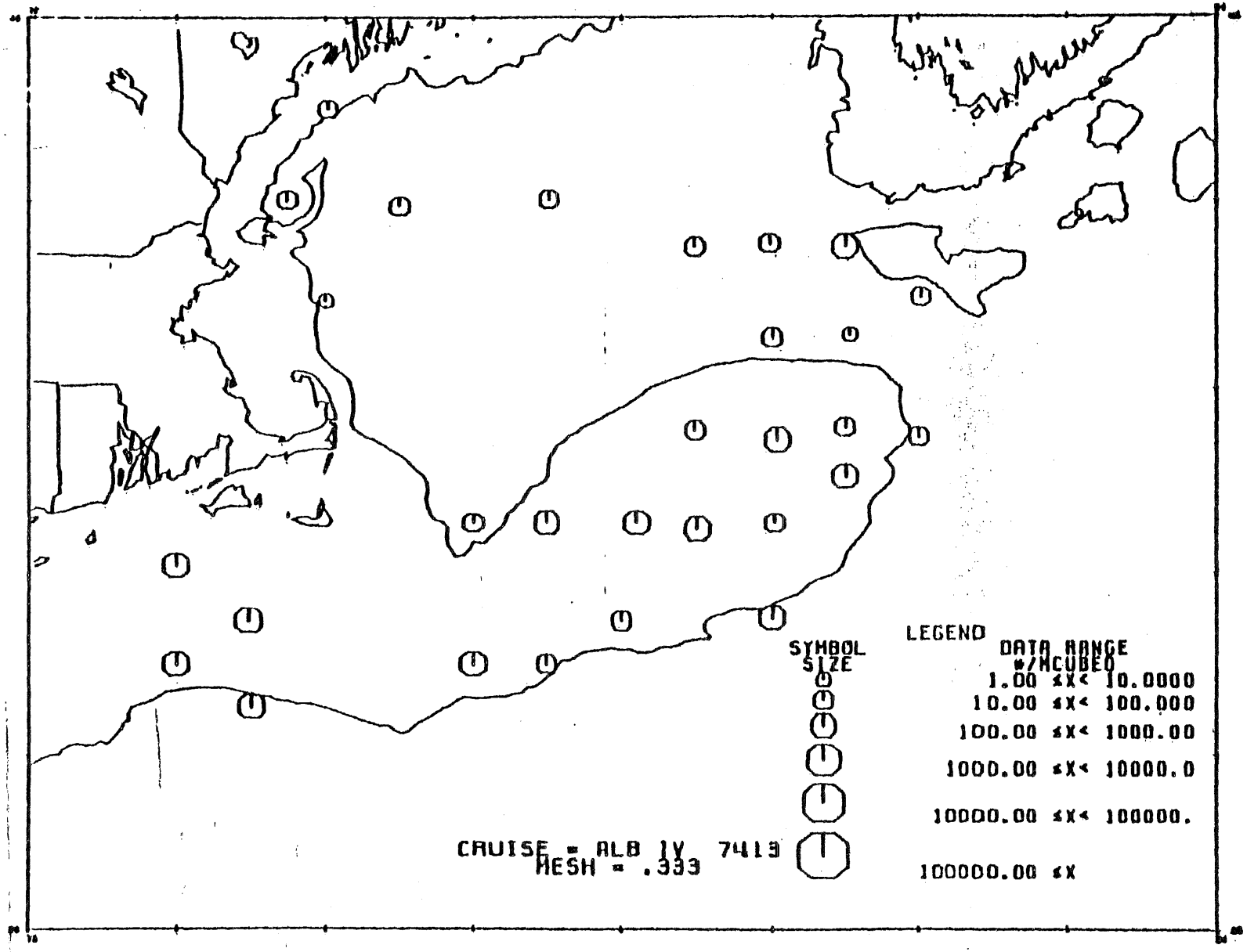

Figure 209

AMPHIPODA

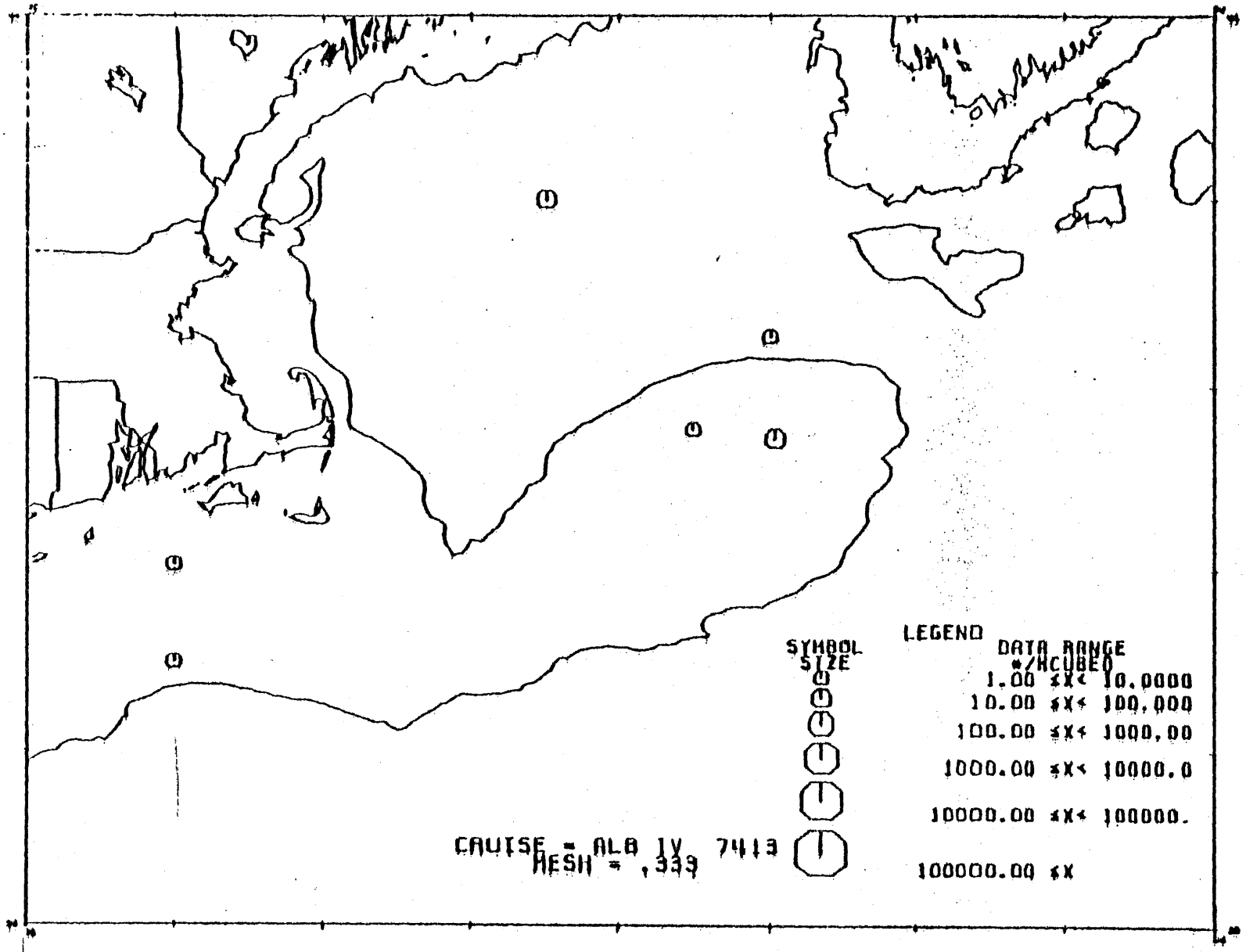

Figure 210

EUPHAUSIACEA

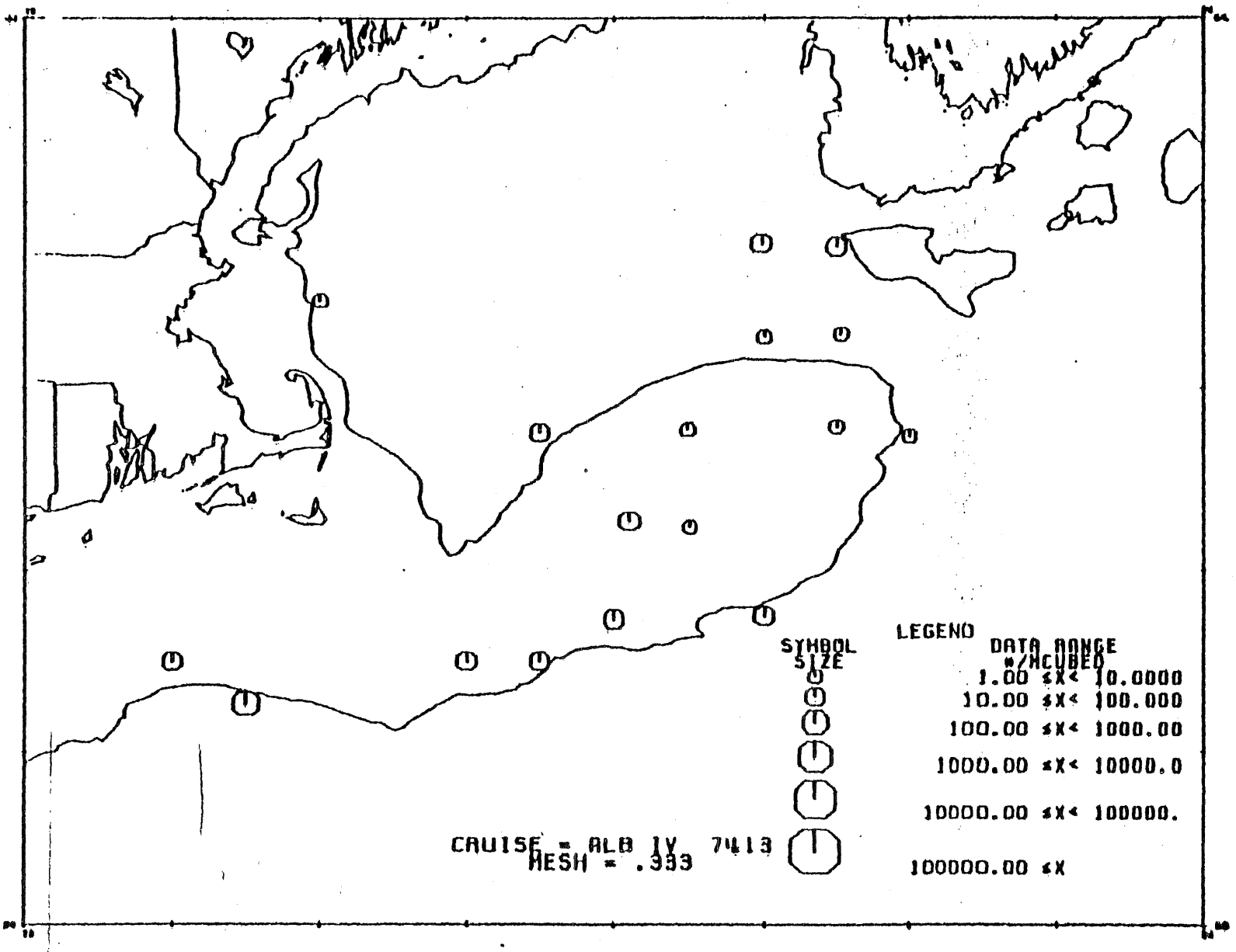

Figure 211

MYSIDACEA

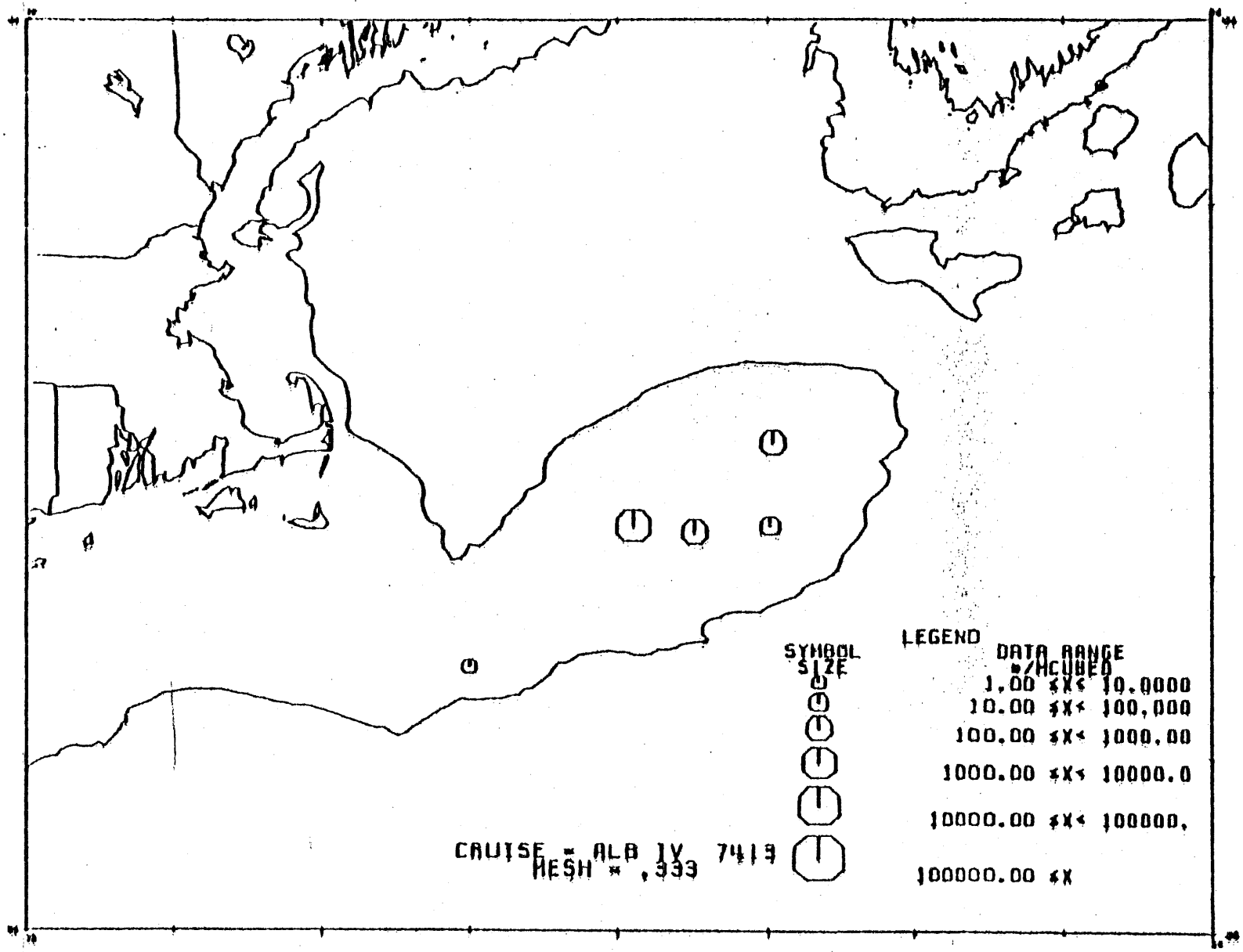

Figure 212

SALPA

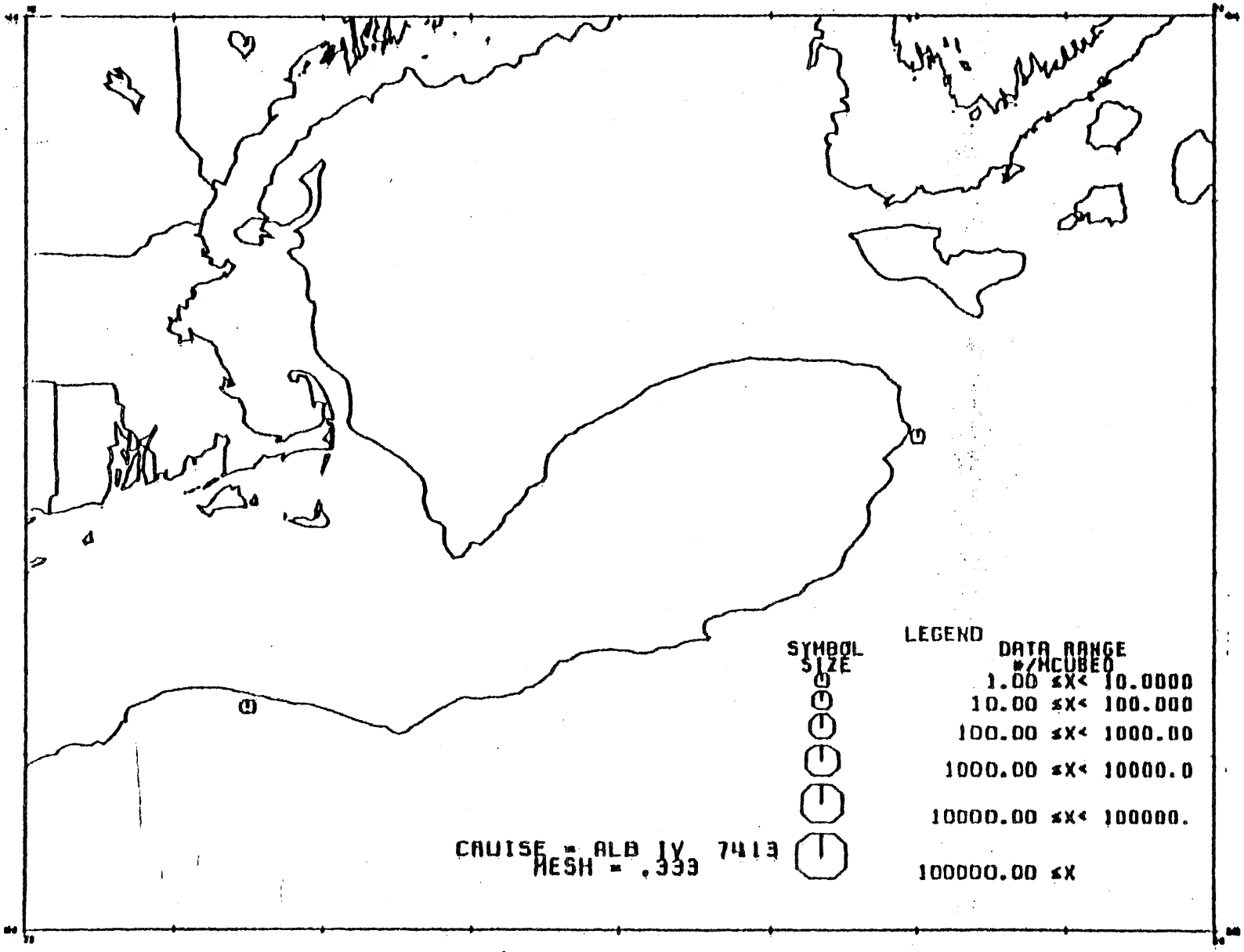

Figure 213

Stations Sampled

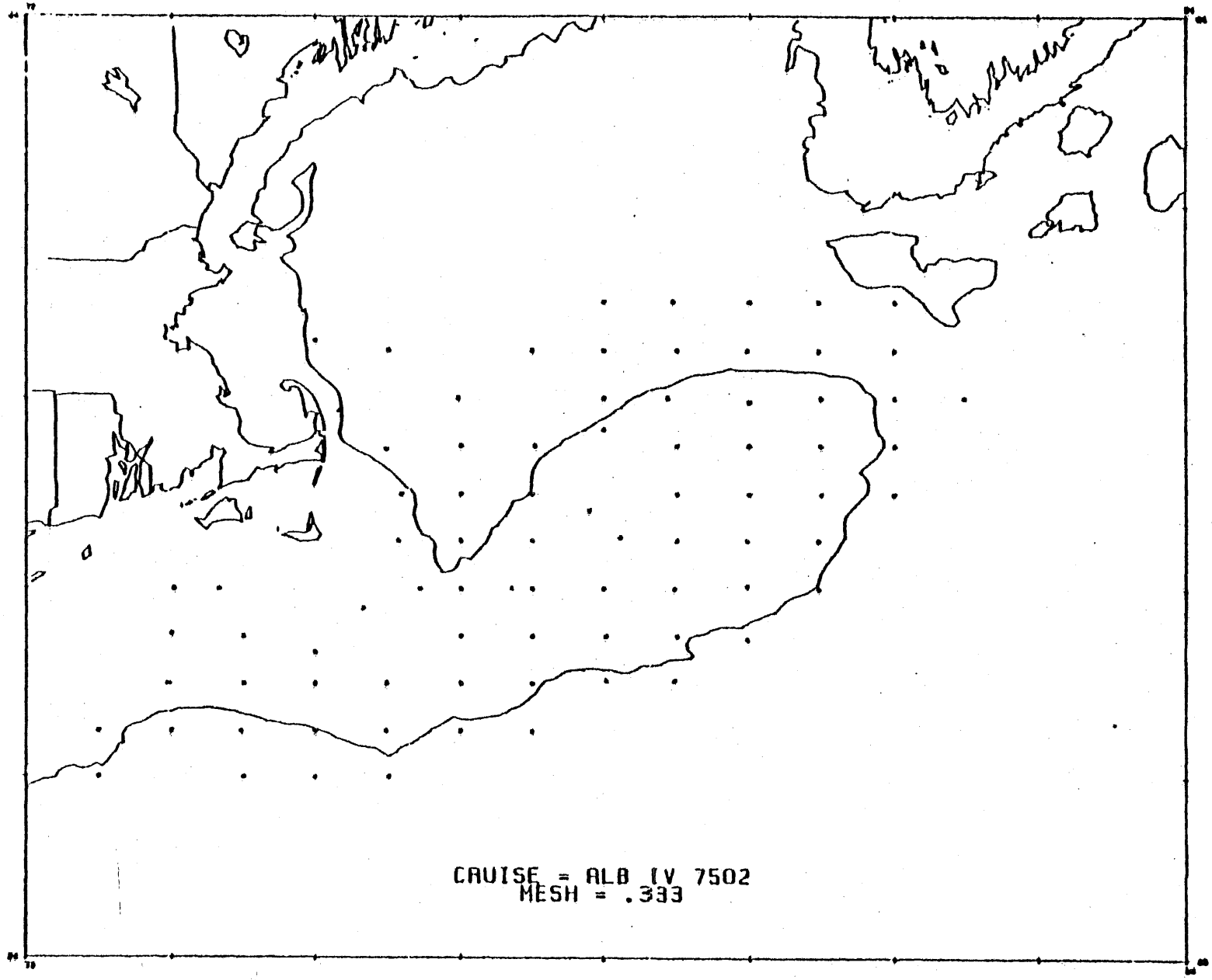

Figure 214

DISPLACEMENT VOLUME

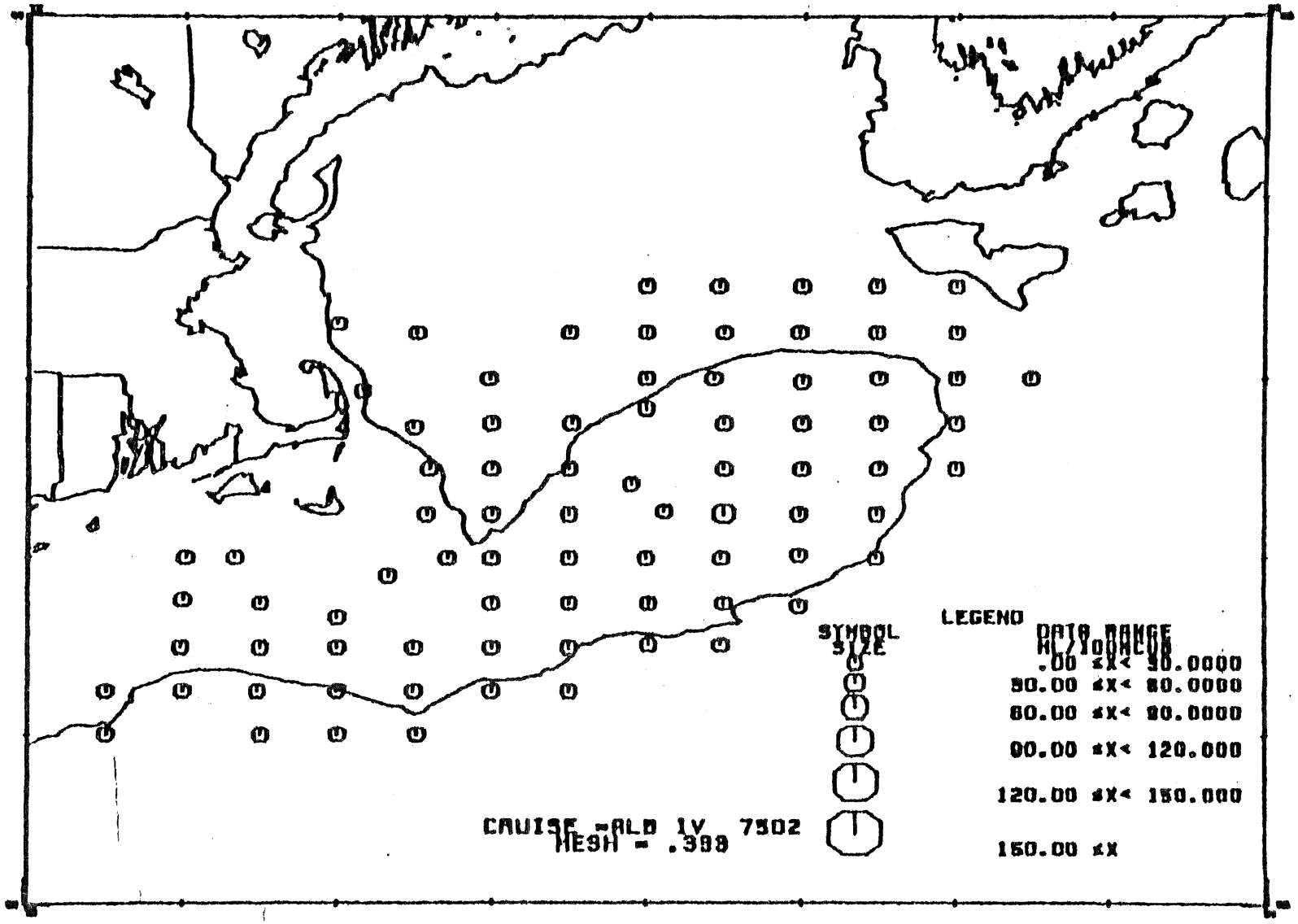

Figure 215

Pseudocalanus sp.

Adult

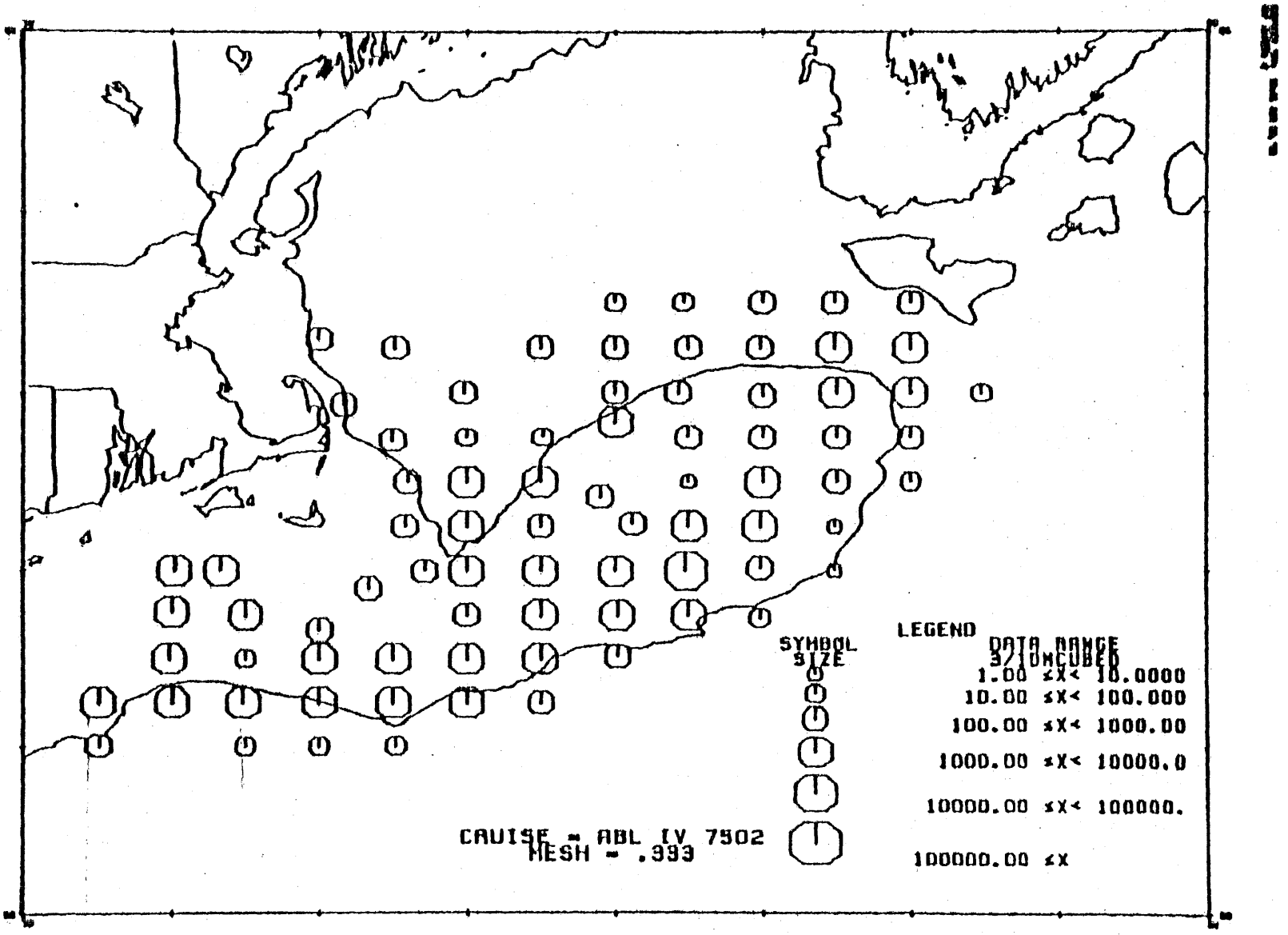

Figure 216

Paracalanus parvus

Adult

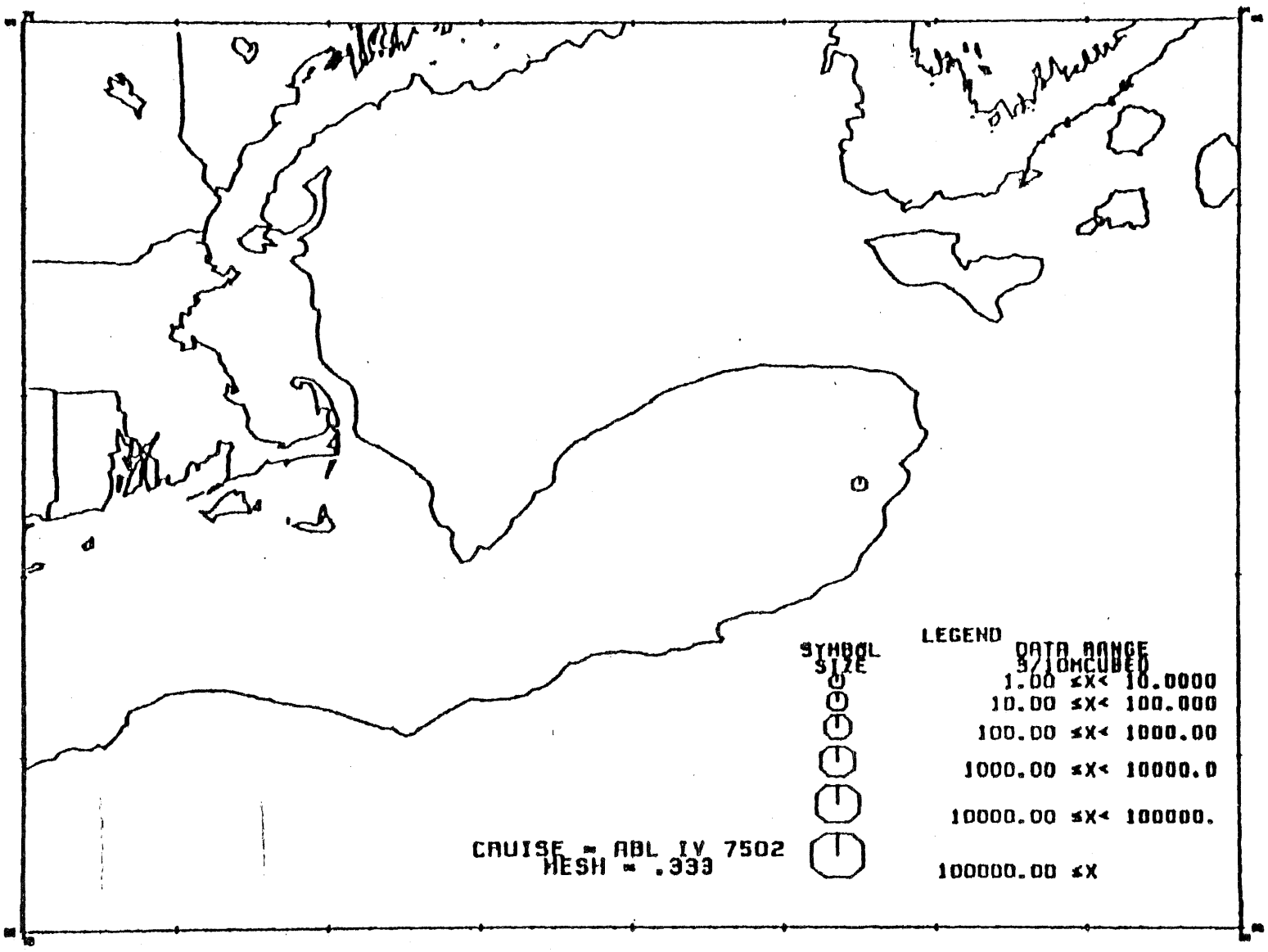

Figure 217

Centropages typicus

Adult

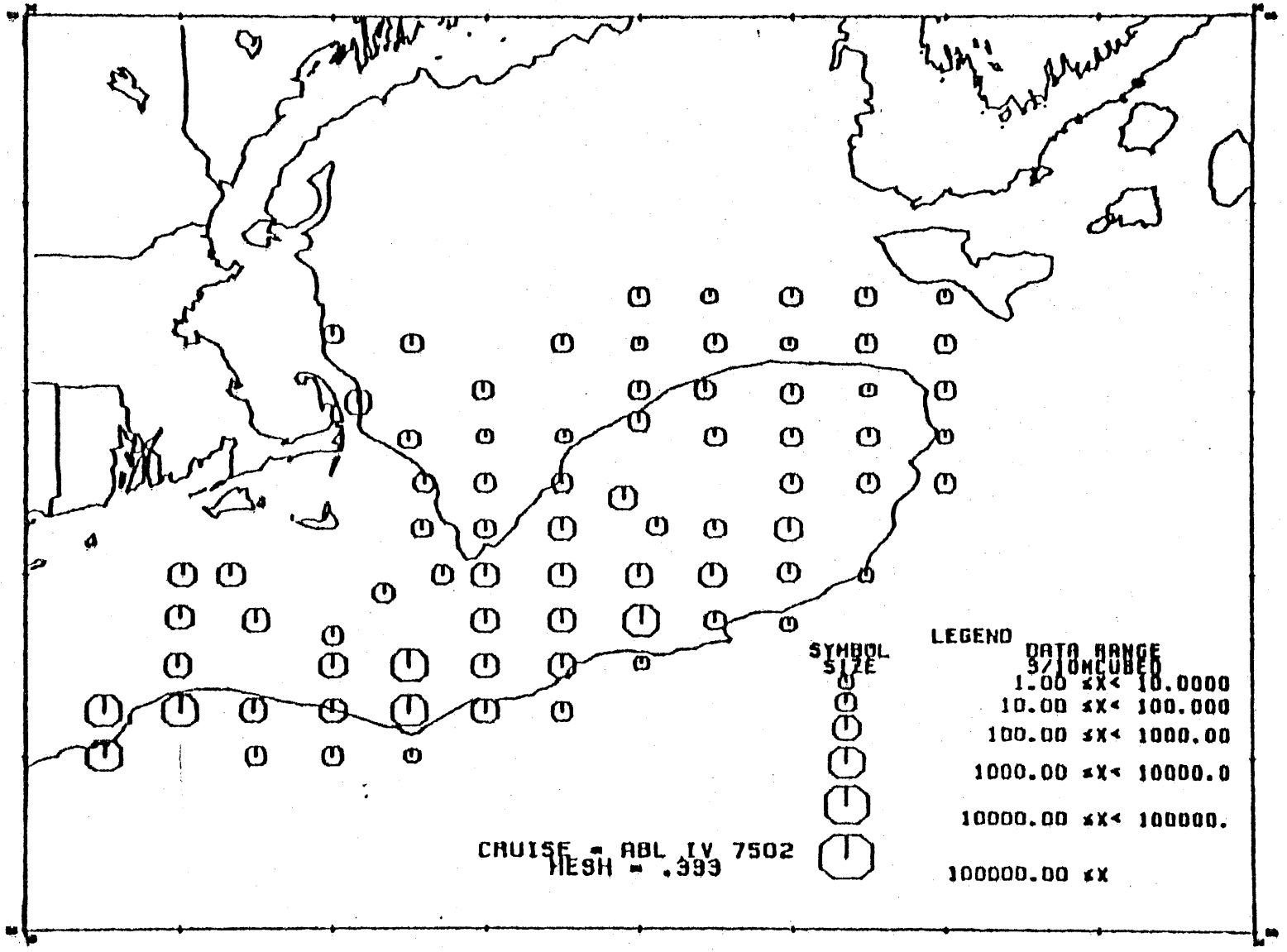

Figure 218

Centropages hamatus

Adult

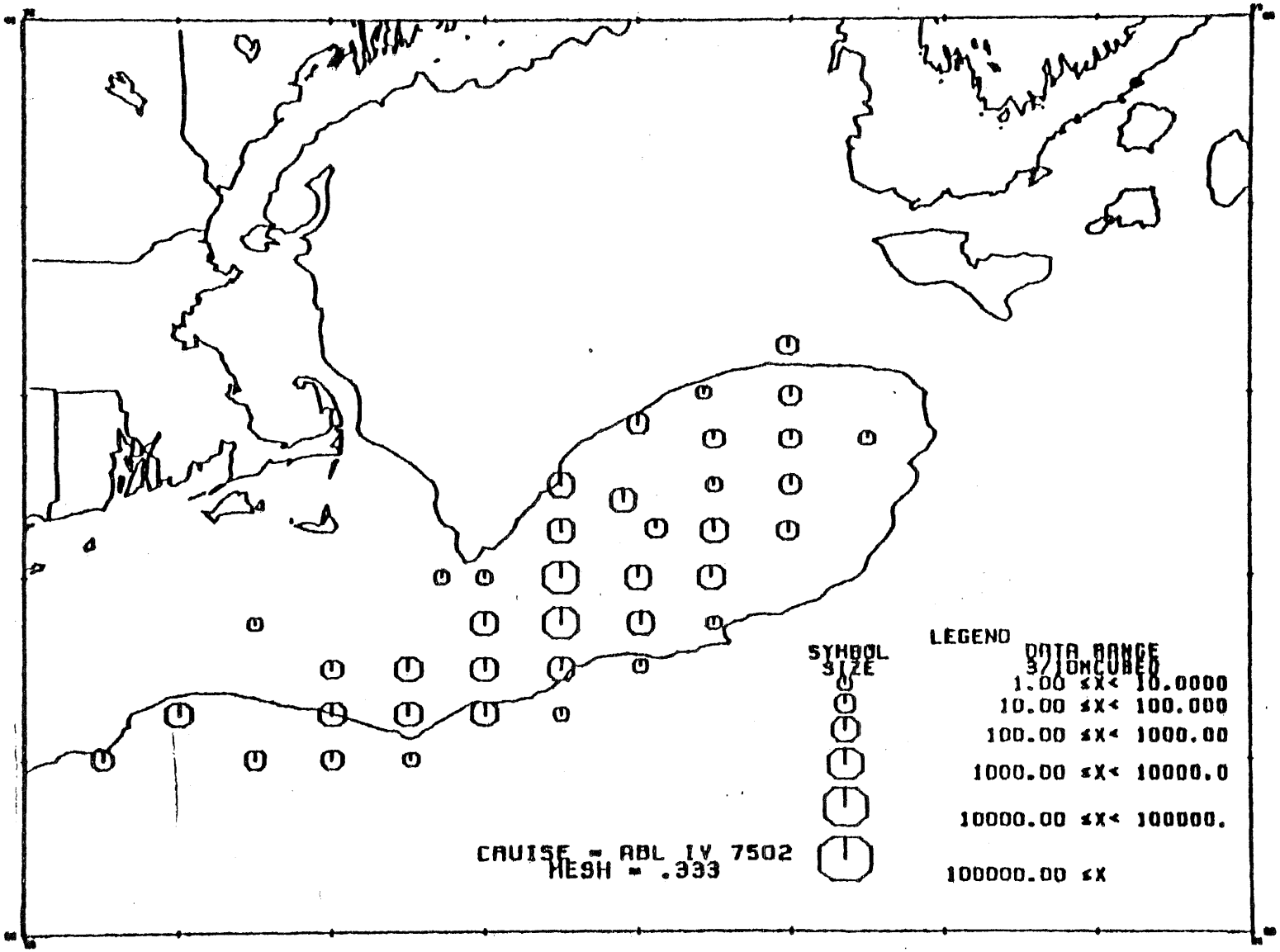

Figure 219

Oithona spp.

Adult

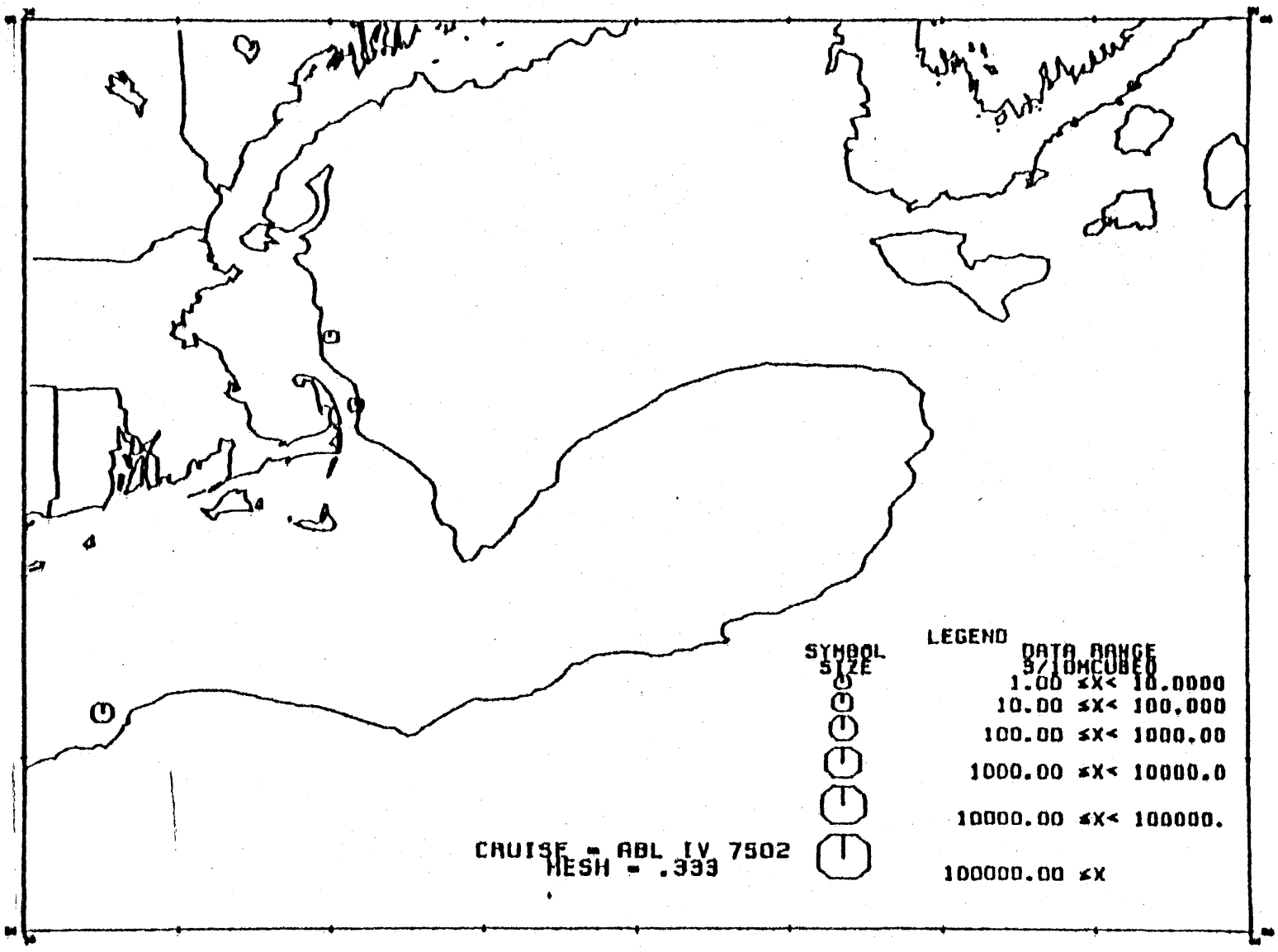

Figure 220

Calanus finmarchicus

Adult

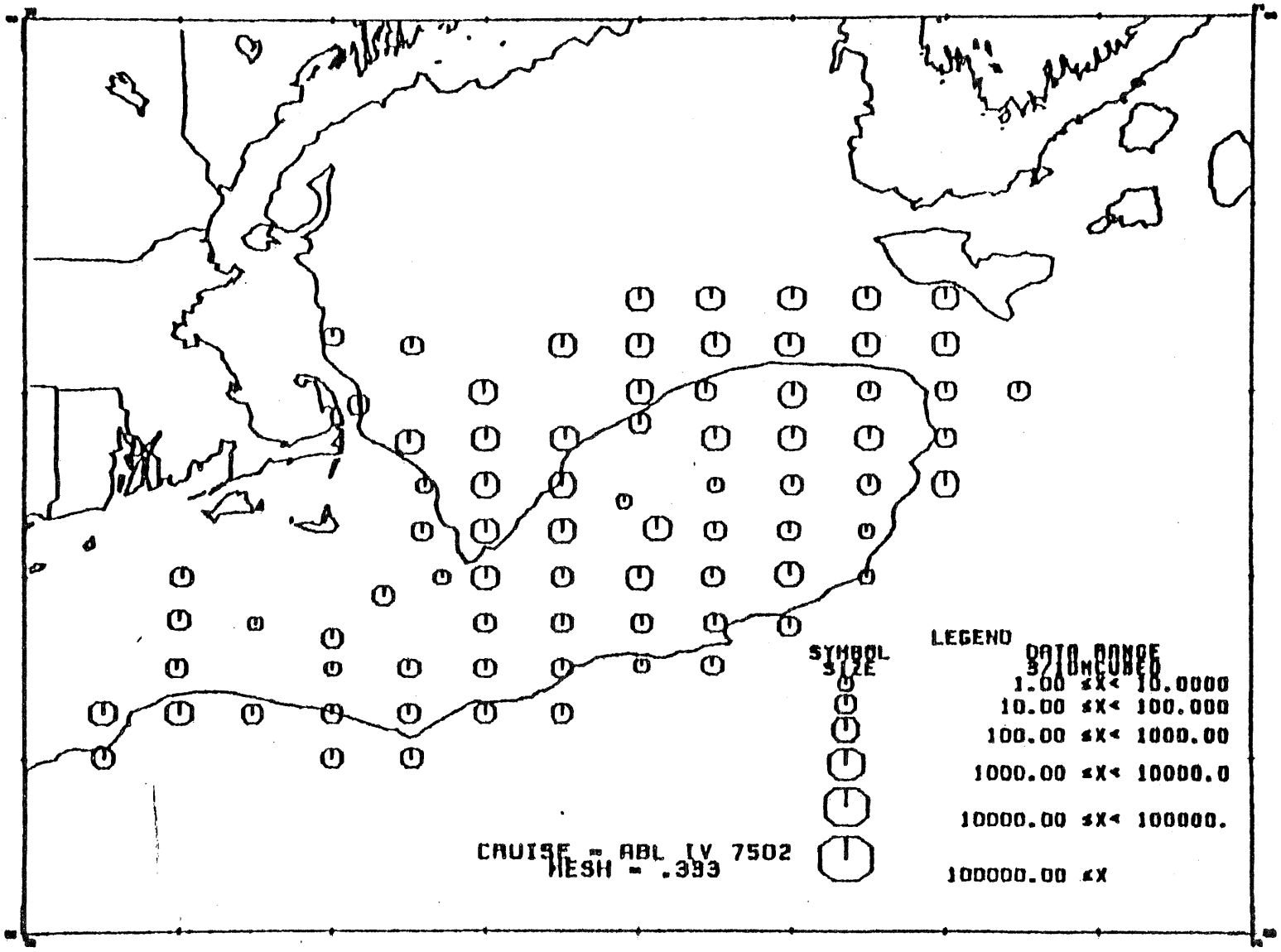

Figure 221

CHAETOGNATHA

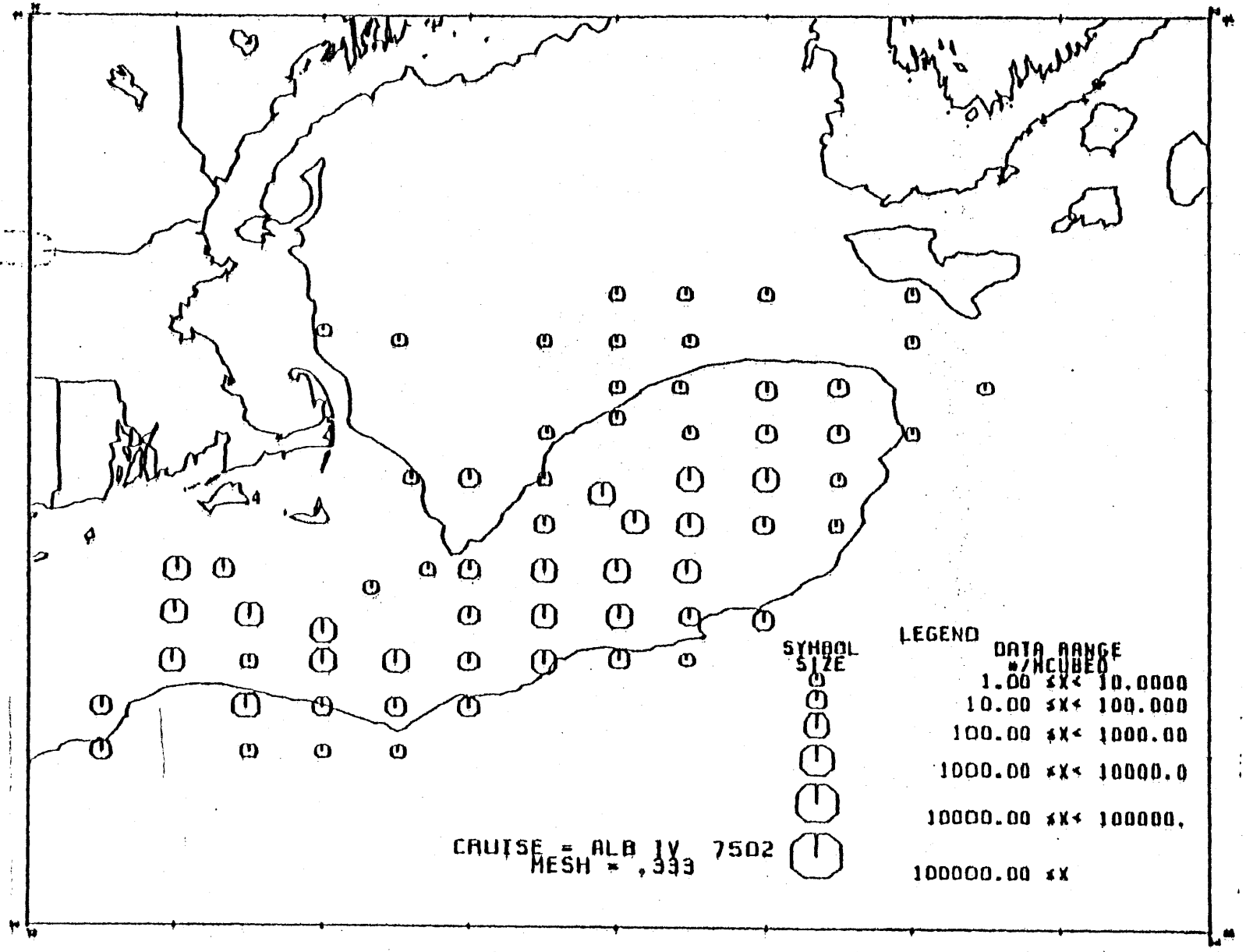

Figure 222

AMPHIPODA

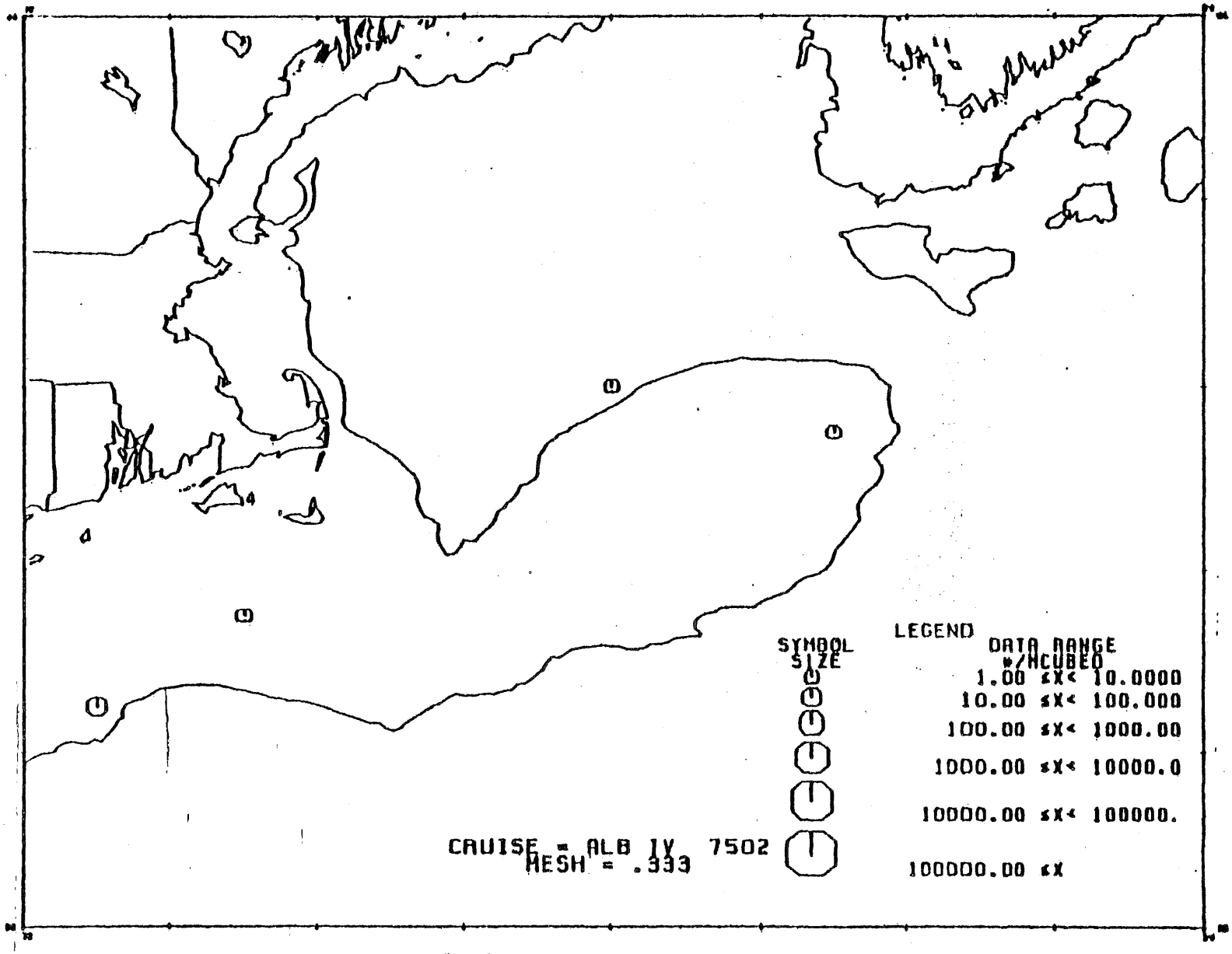

Figure 223

EUPHAUSIACEA

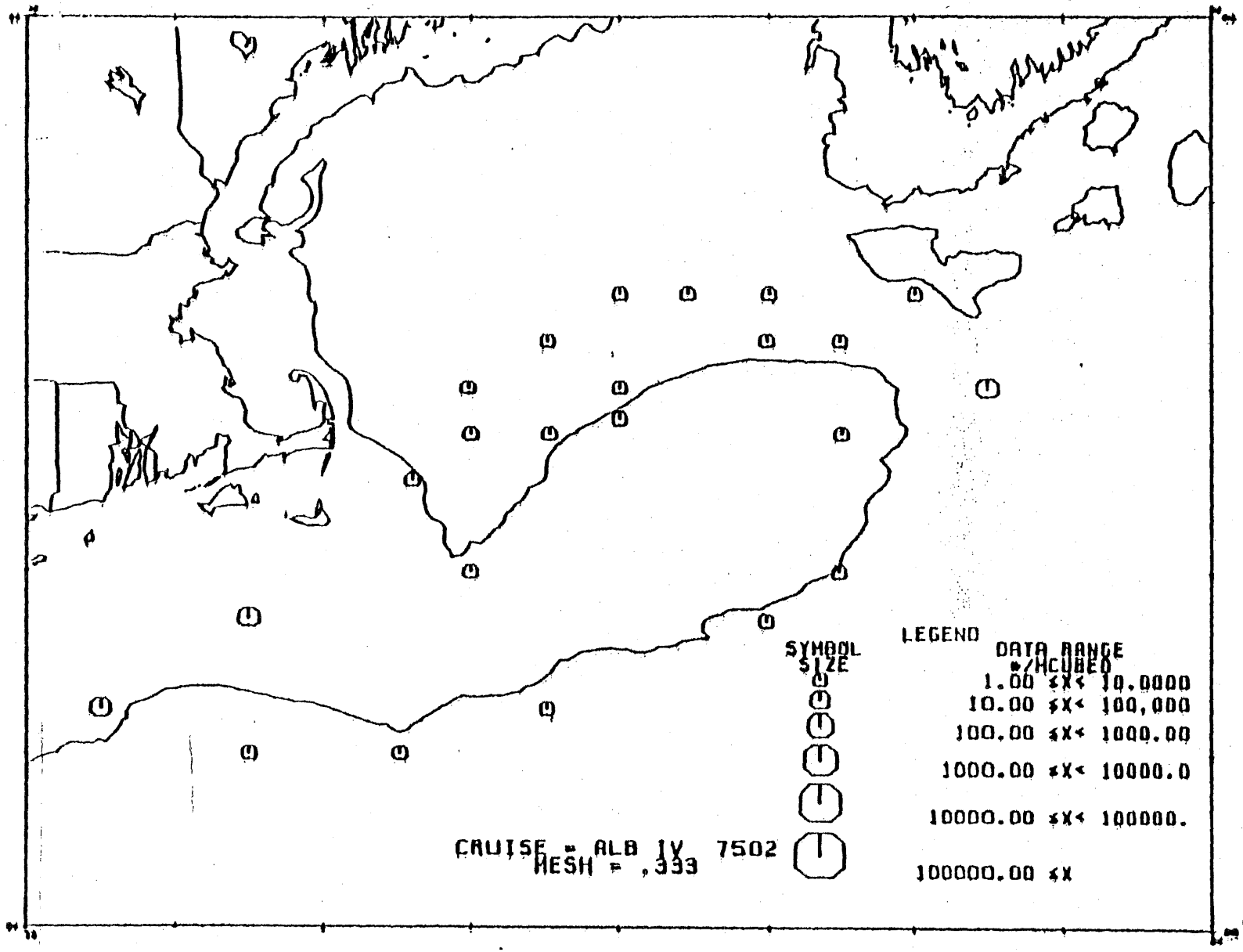

Figure 224

SALPA

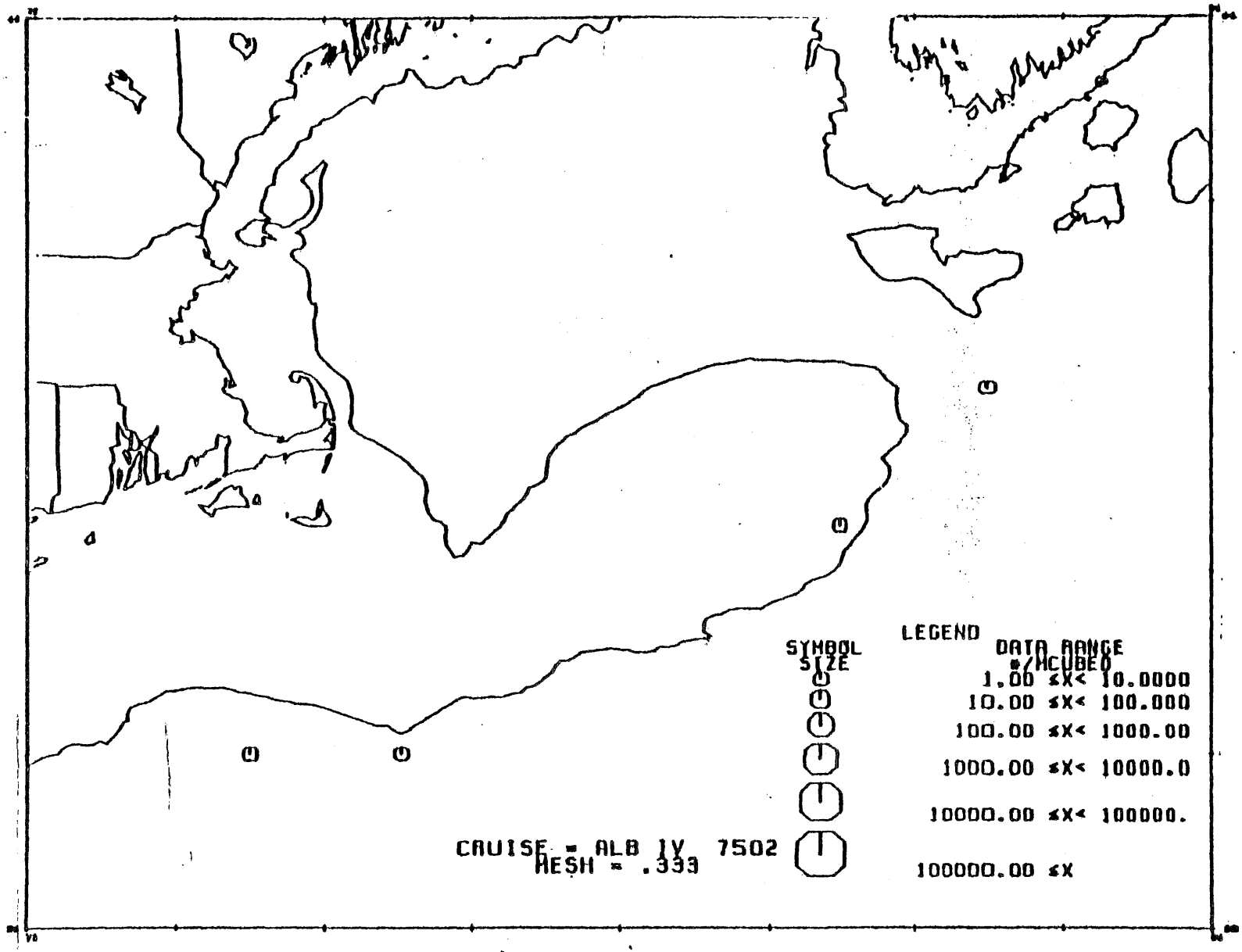

Figure 225

SCYPHOZOA

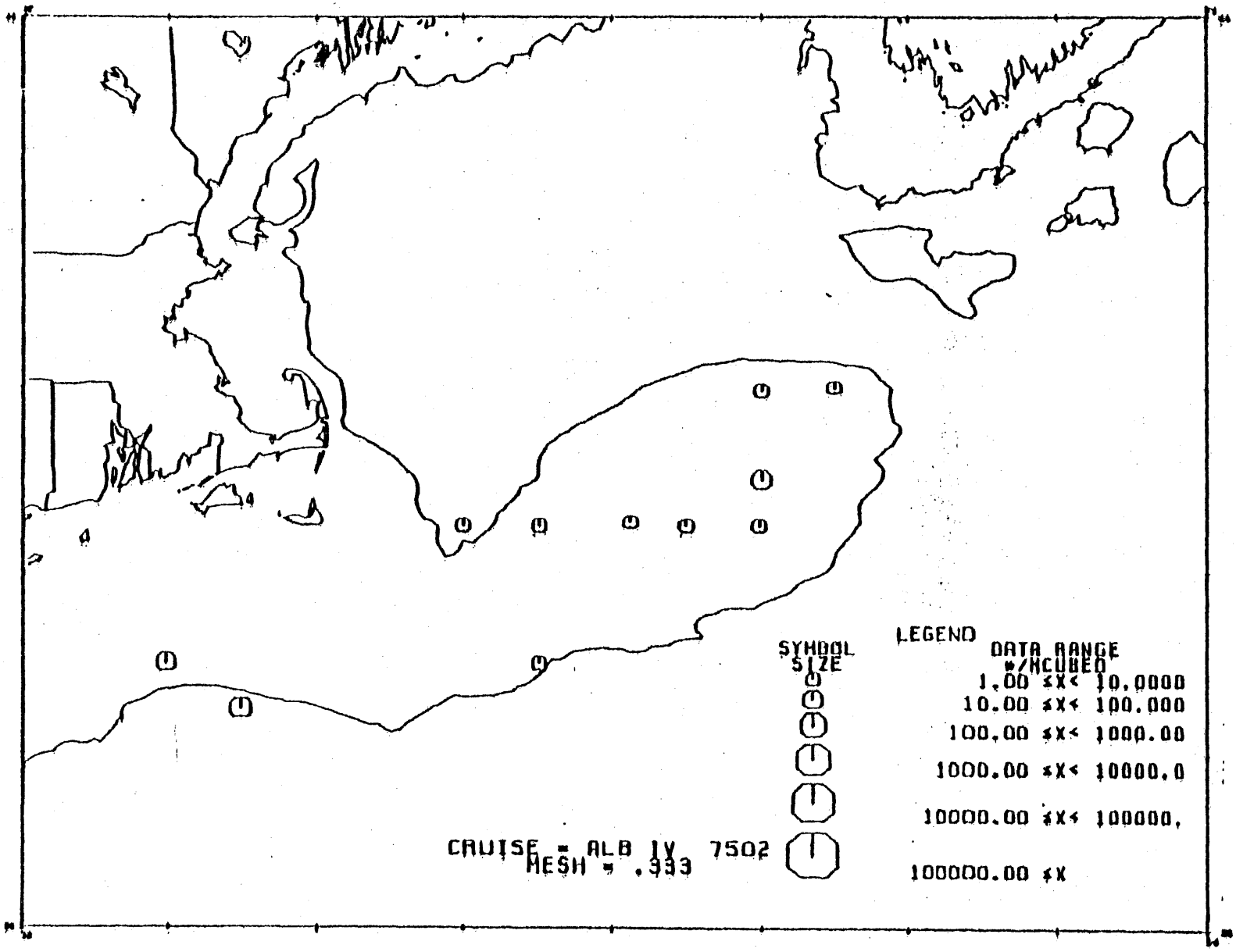

Figure 226

Stations Sampled

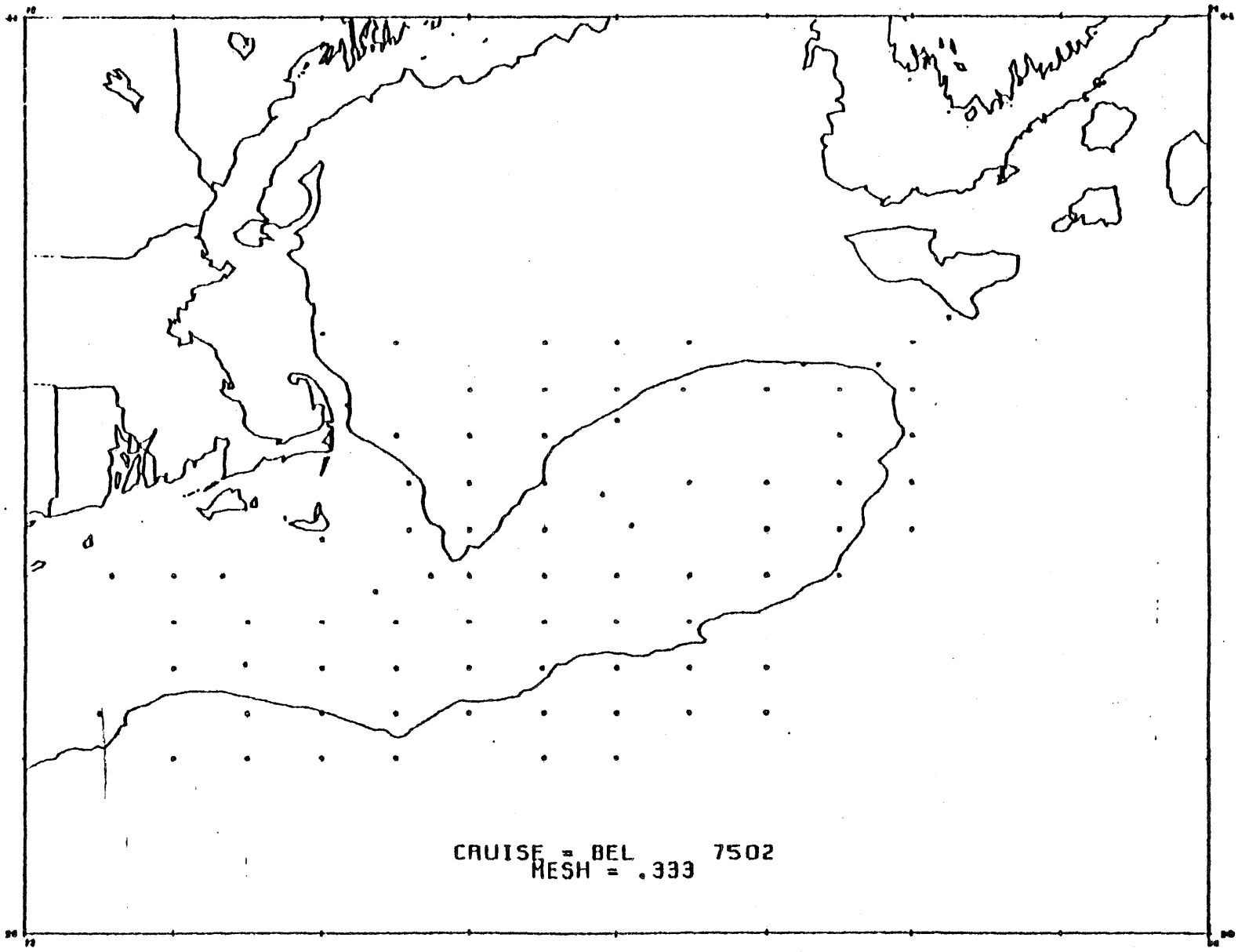

Figure 227

DISPLACEMENT VOLUME

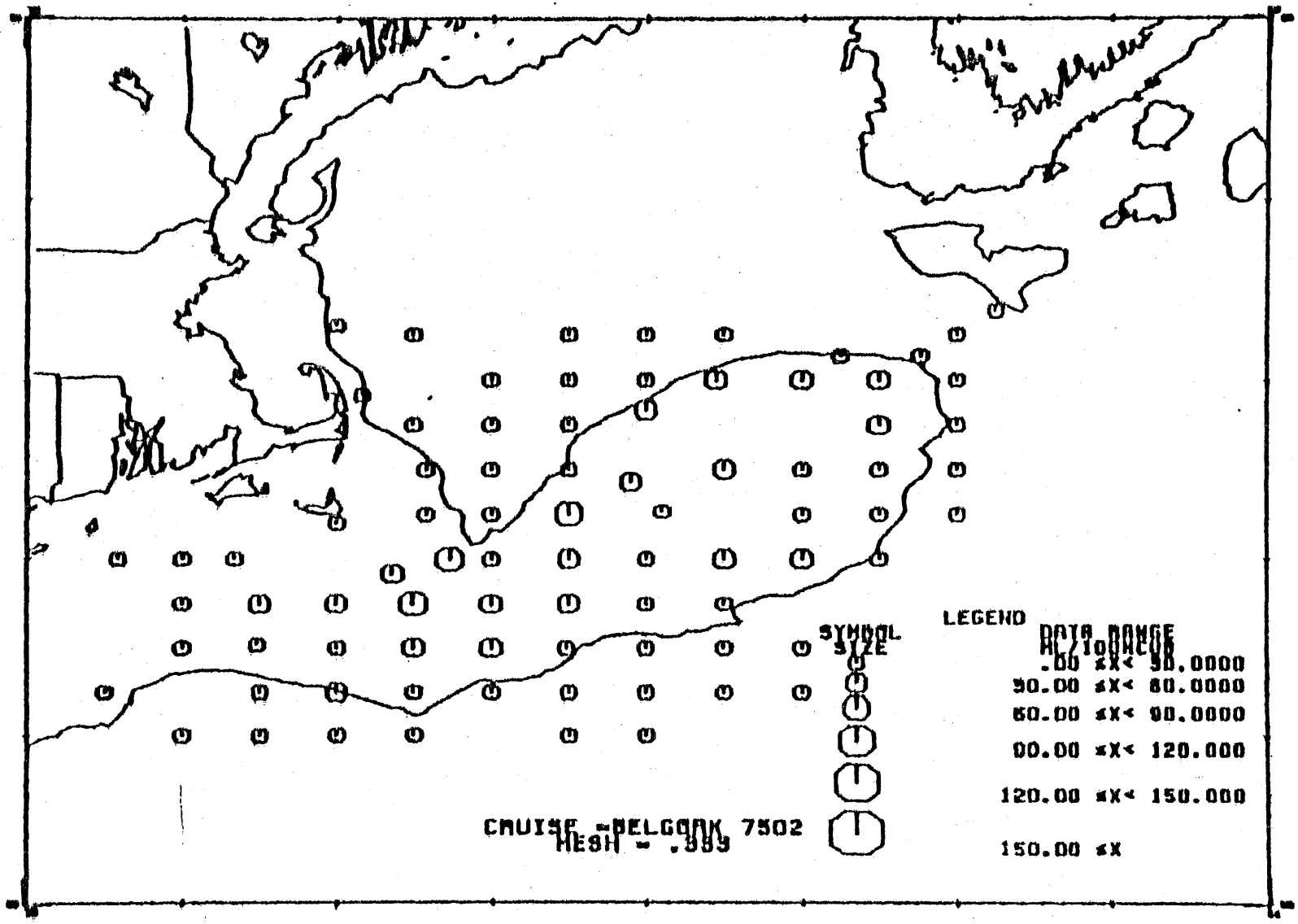

Figure 228

Pseudocalanus sp.

Copepodite Stage 5

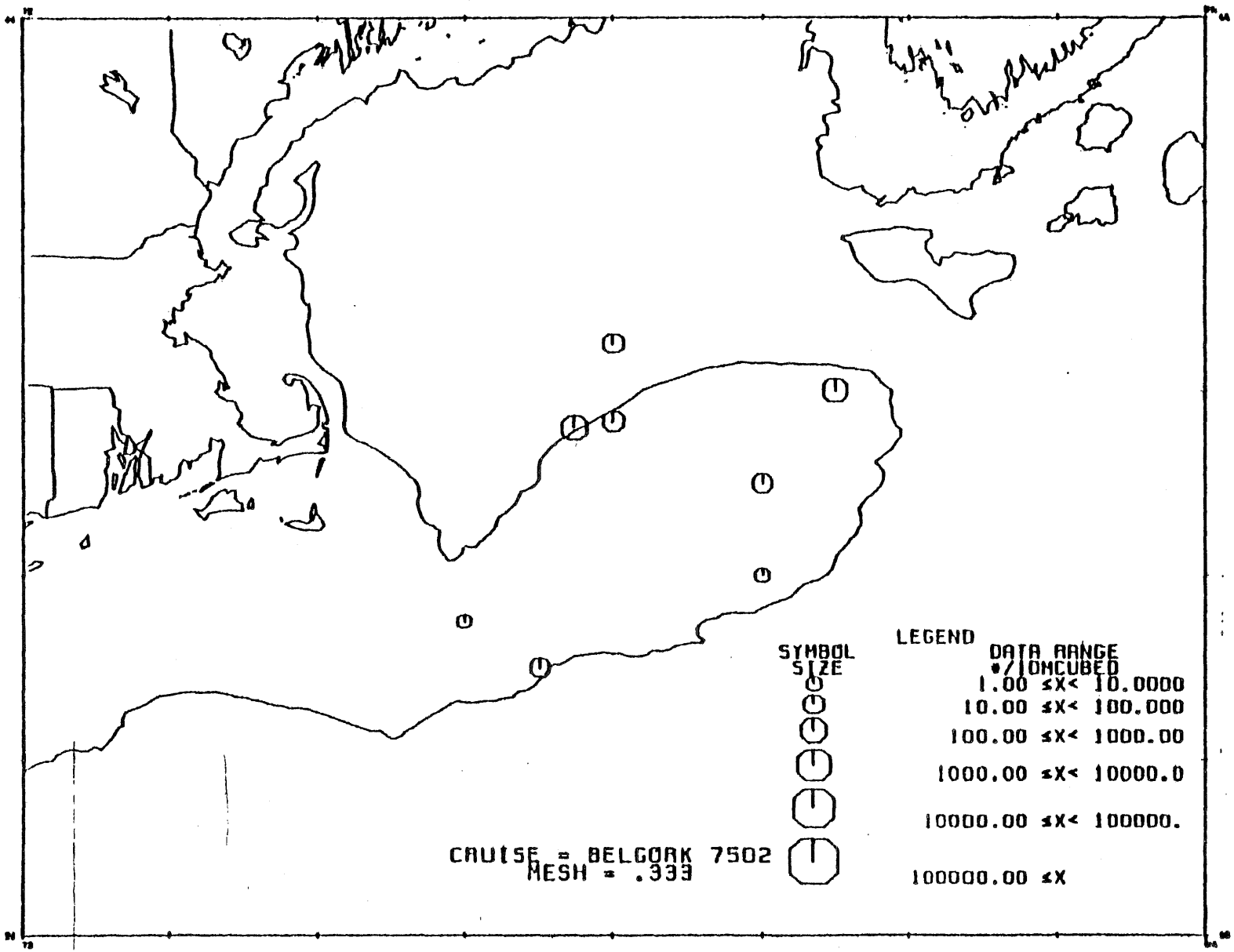

Figure 229

Pseudocalanus sp.

Copepodite

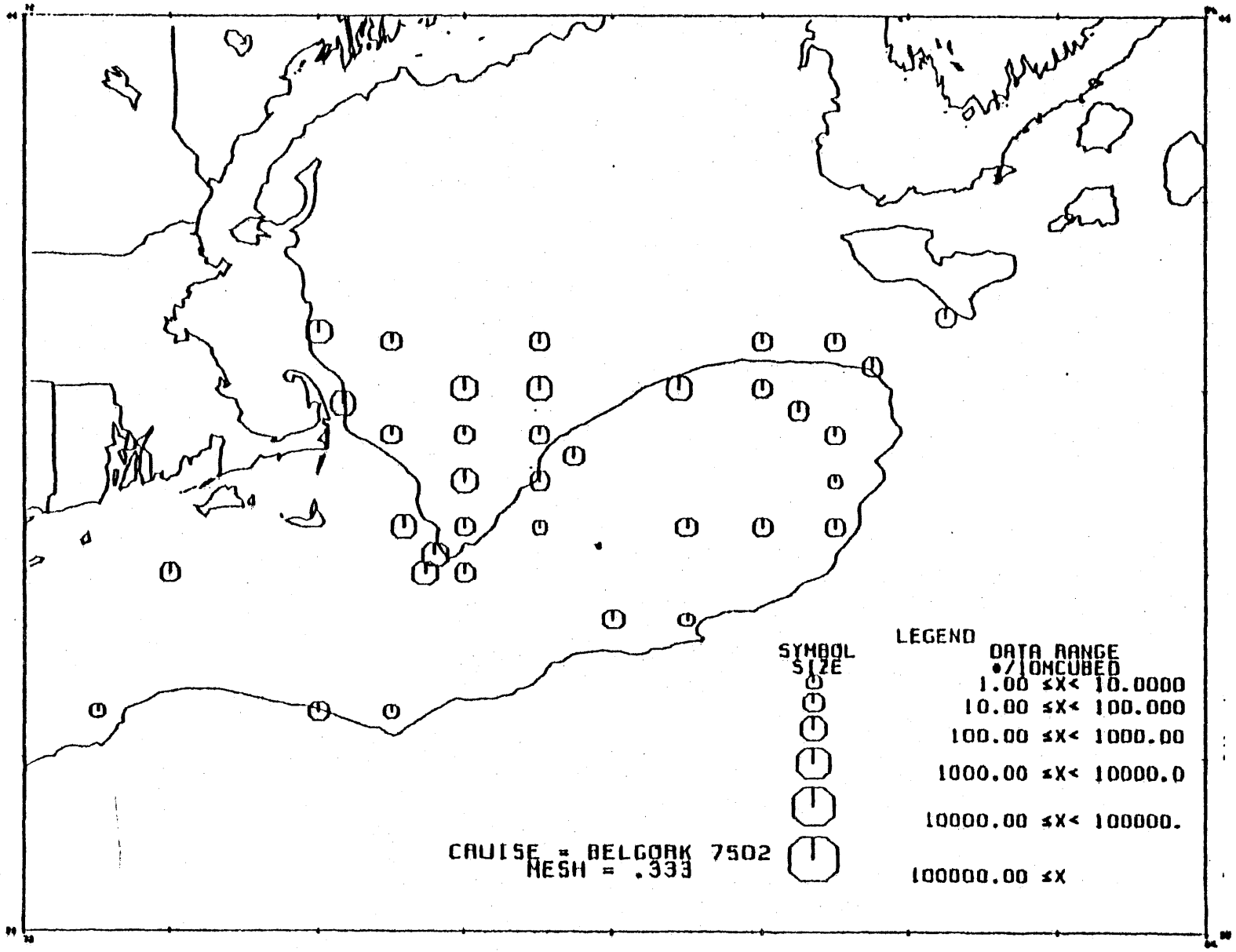

Figure 230

Pseudocalanus sp.

Adult

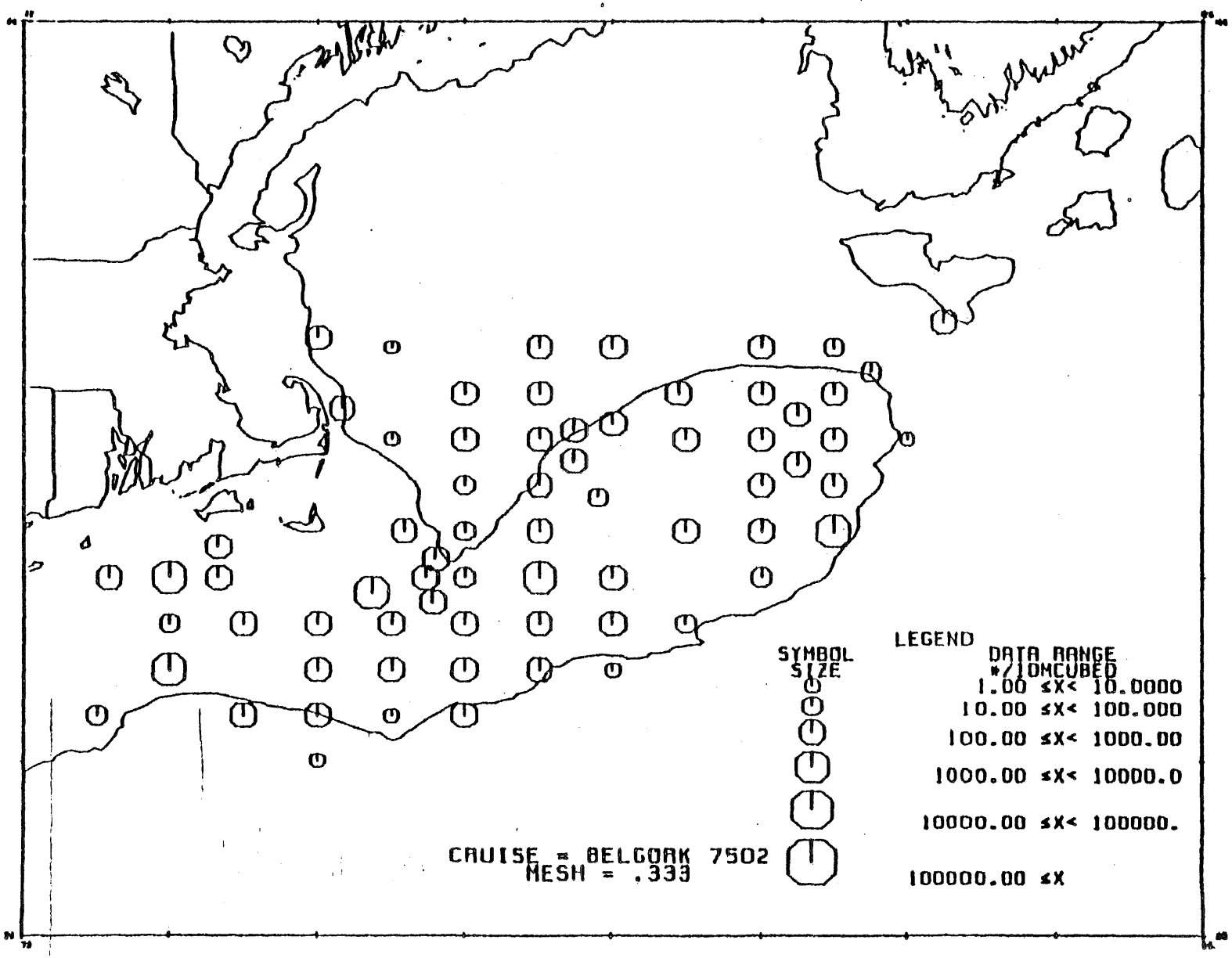

Figure 231

Paracalanus parvus

Copepodite Stage 5

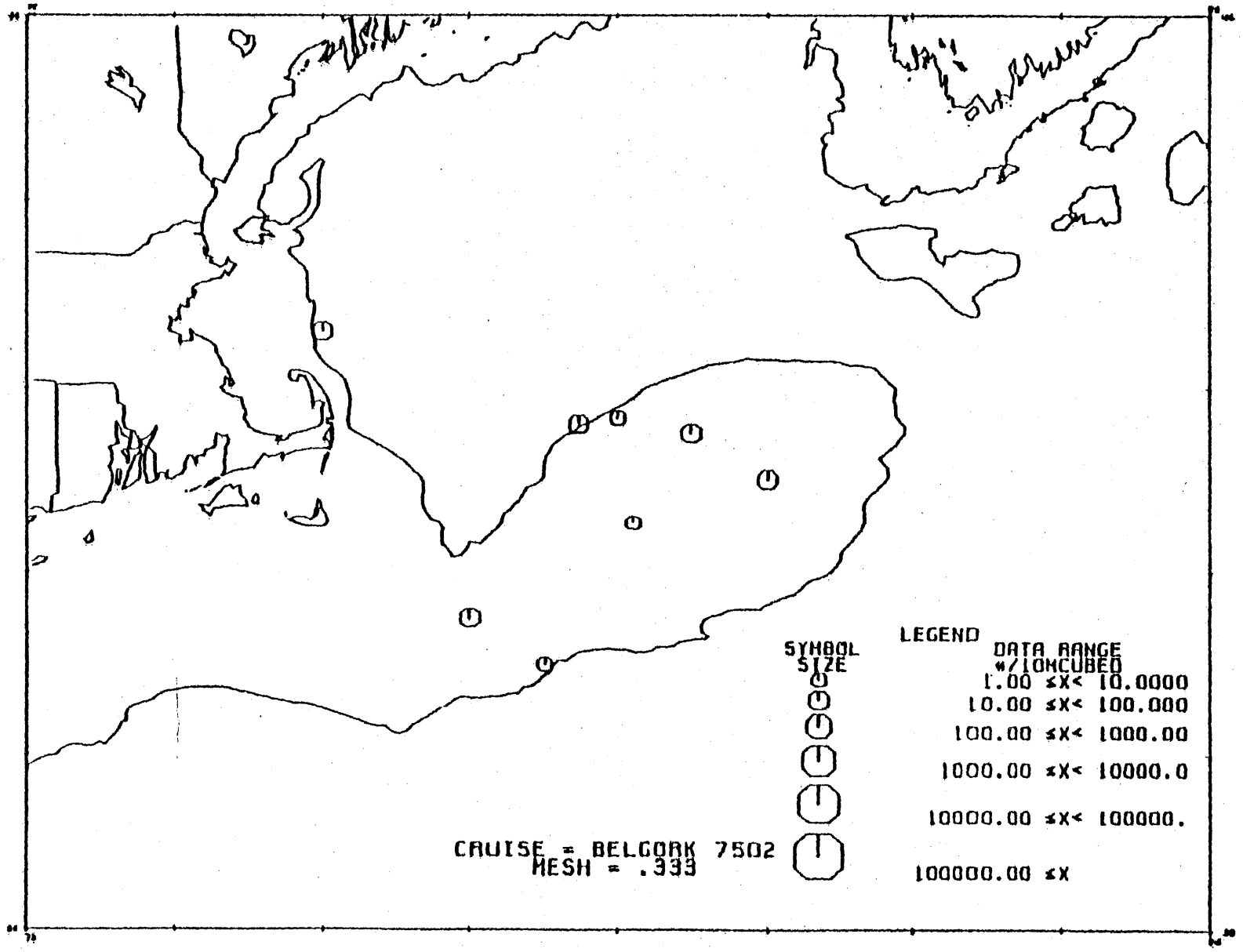

Figure 232

Paracalanus parvus

Copepodite

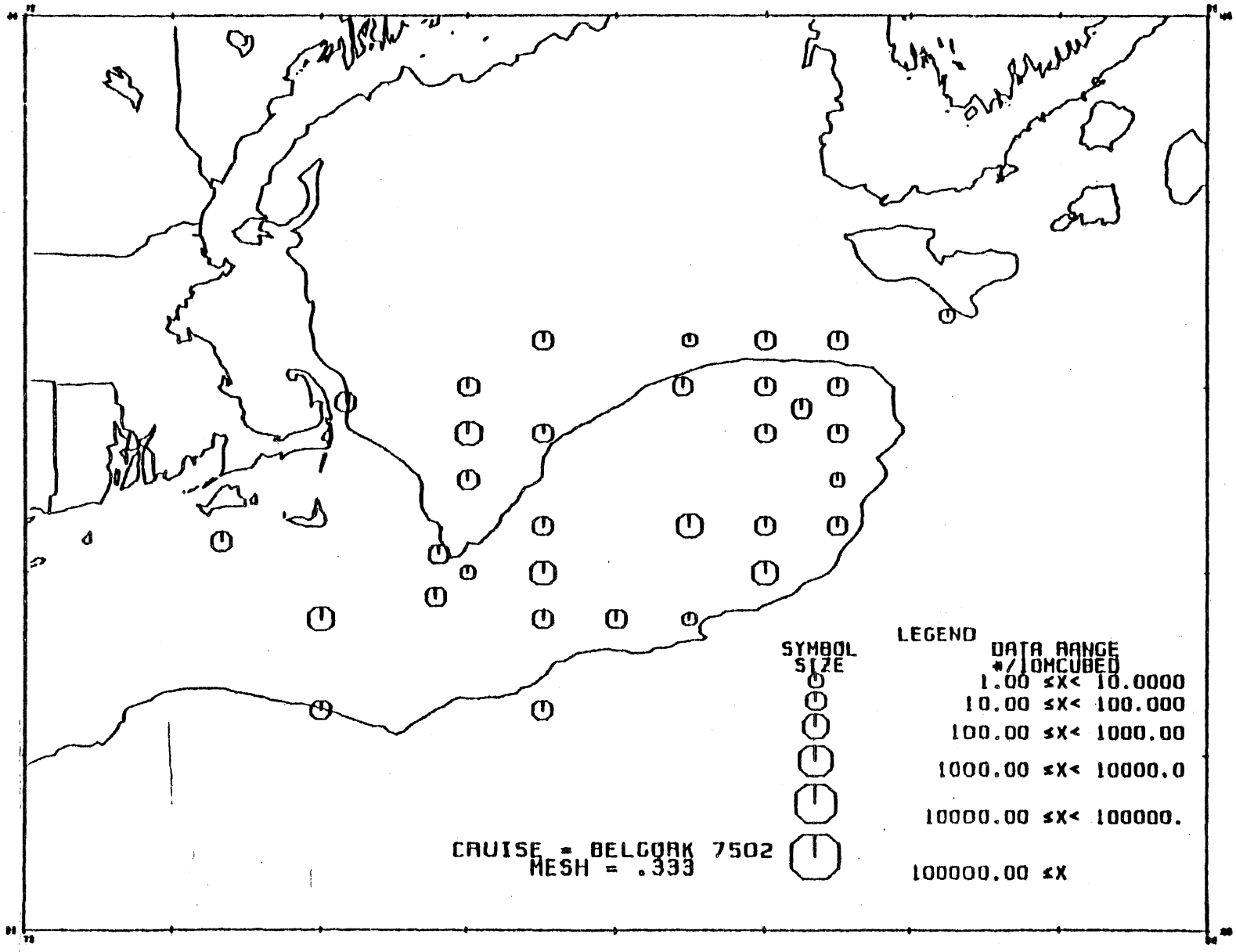

Figure 233

Paracalanus parvus

Adult

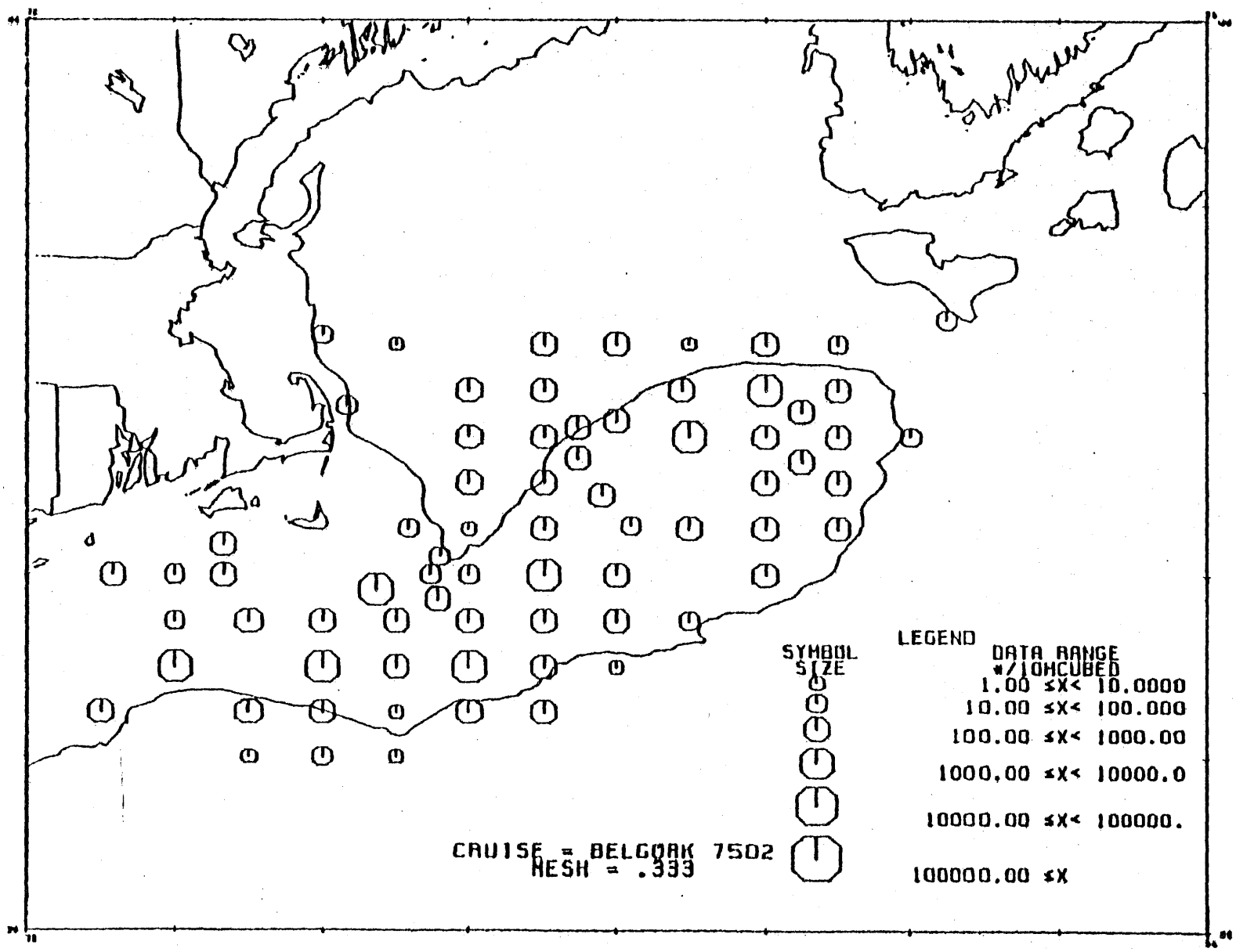

Figure 234

Centropages typicus

Copepodite Stage 2

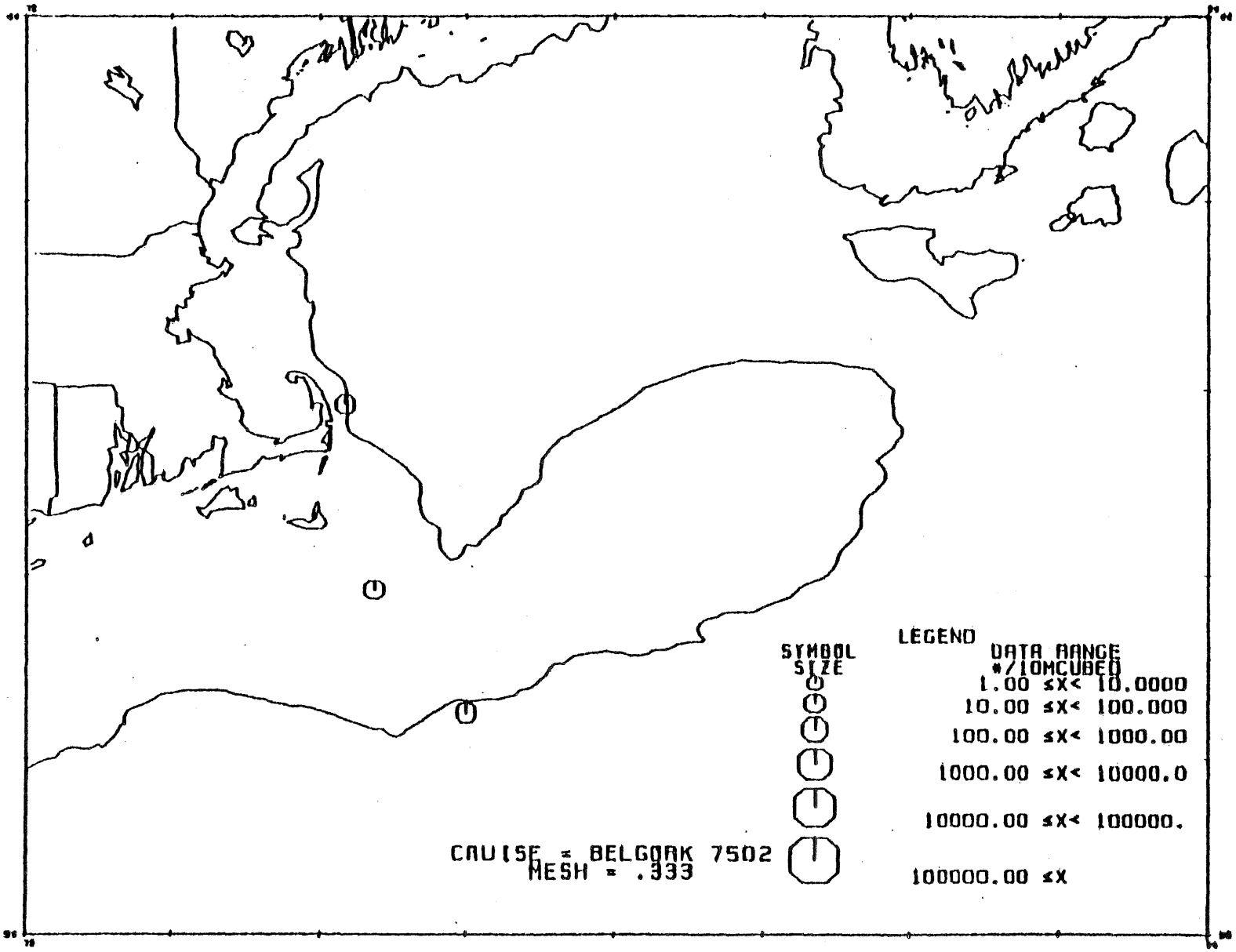

Figure 235

Centropages typicus

Copepodite Stage 3

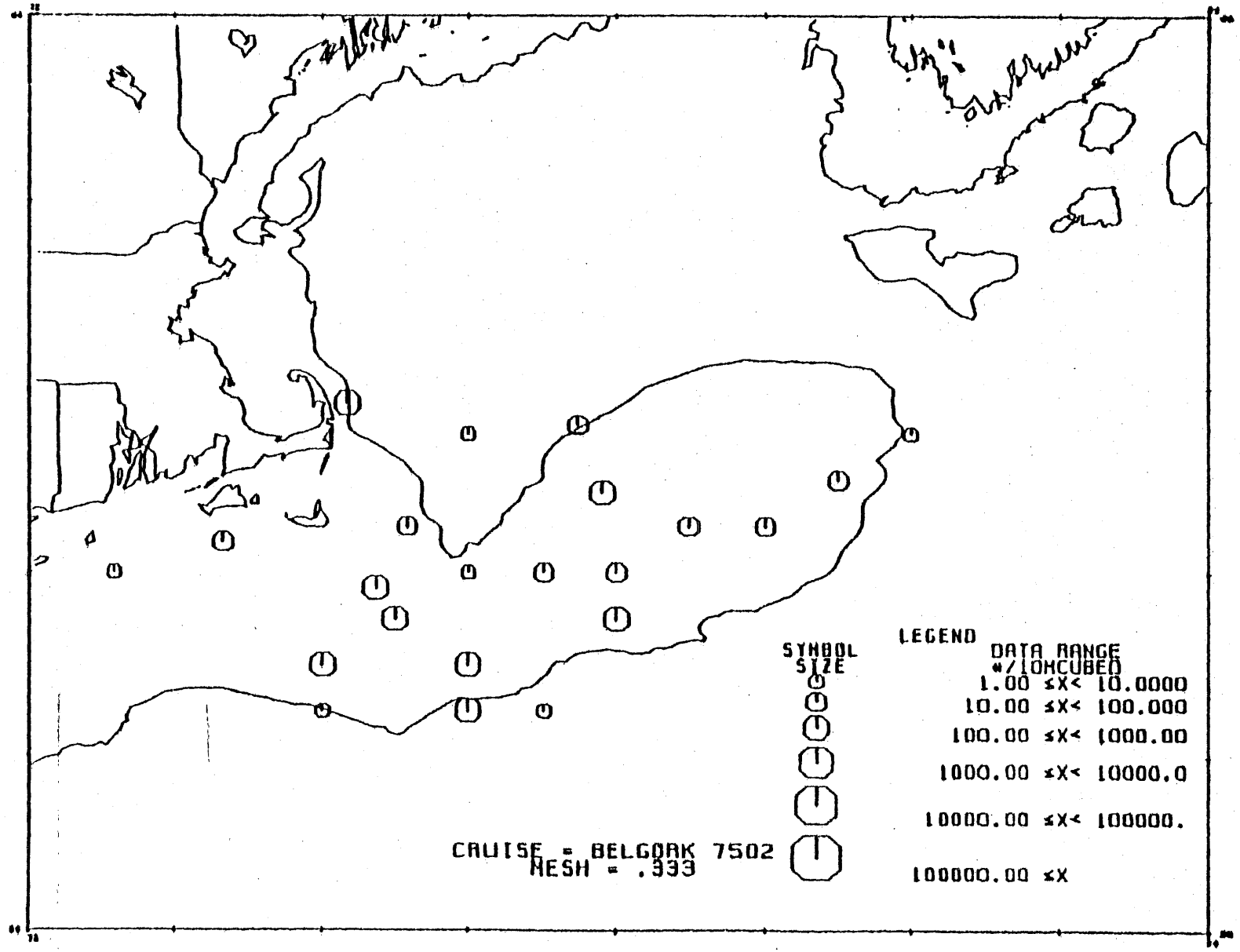

Figure 236

Centropages typicus

Copepodite Stage 4

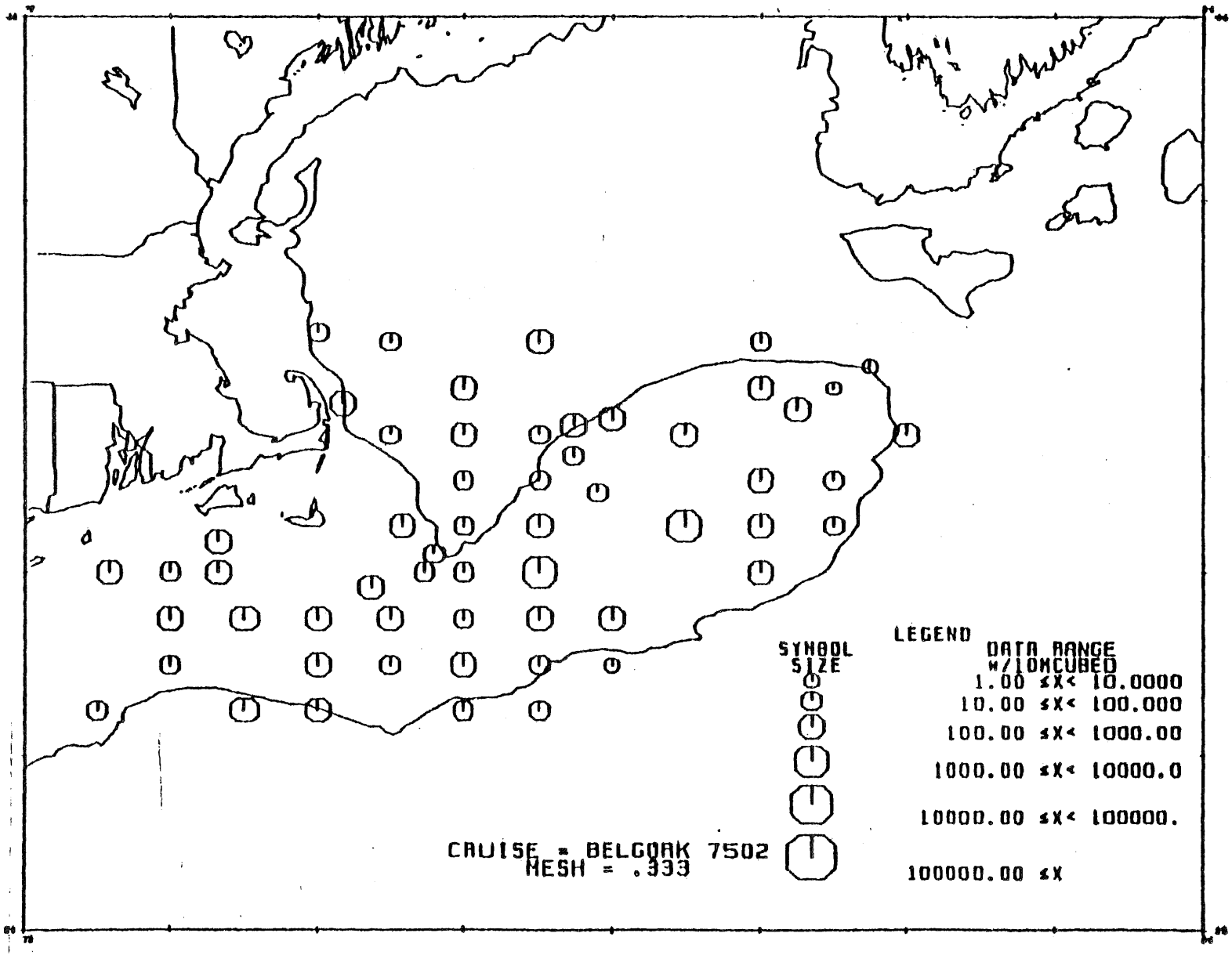

Figure 237

Centropages typicus

Copepodite Stage 5

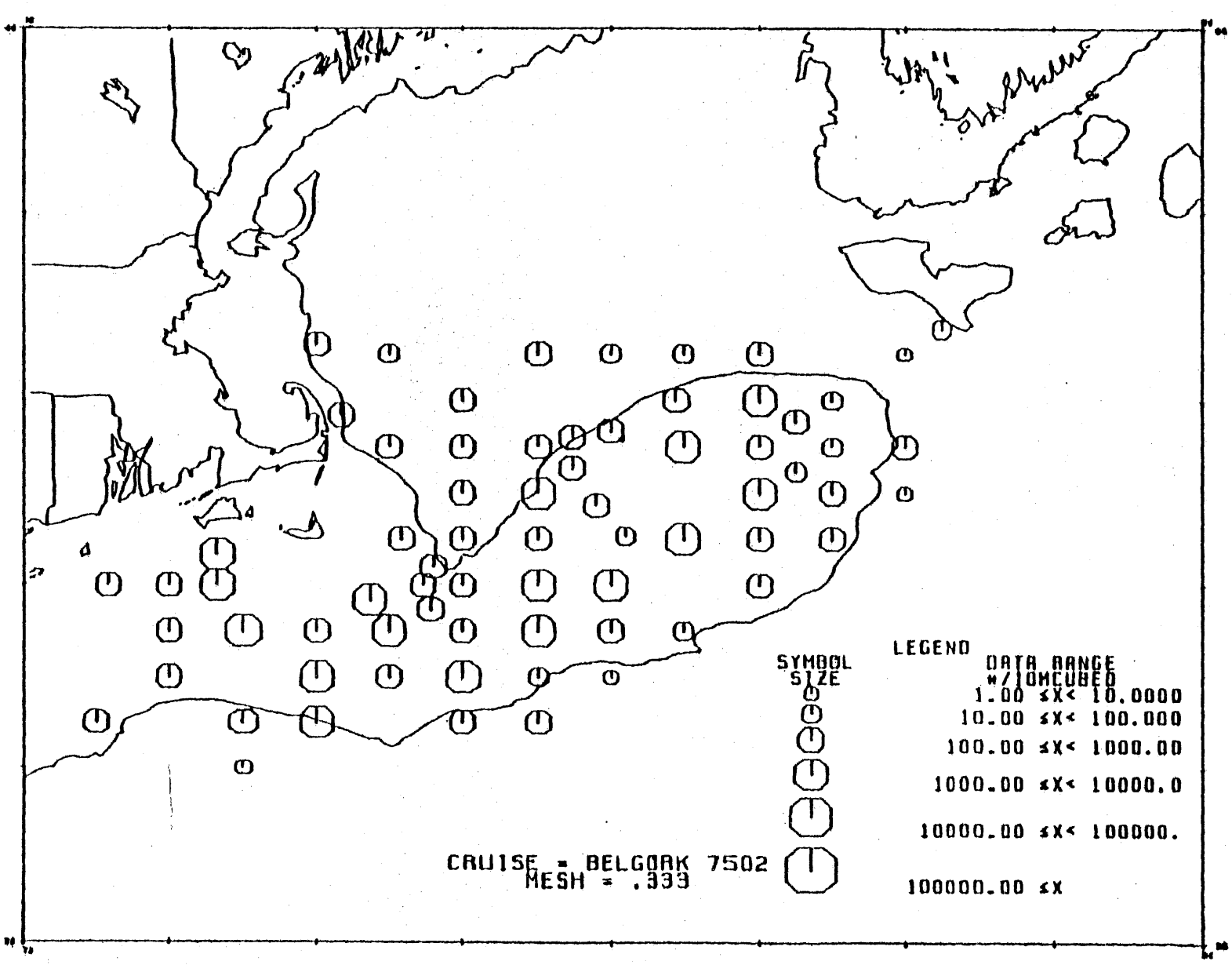

Figure 238

Centropages typicus

Copepodite

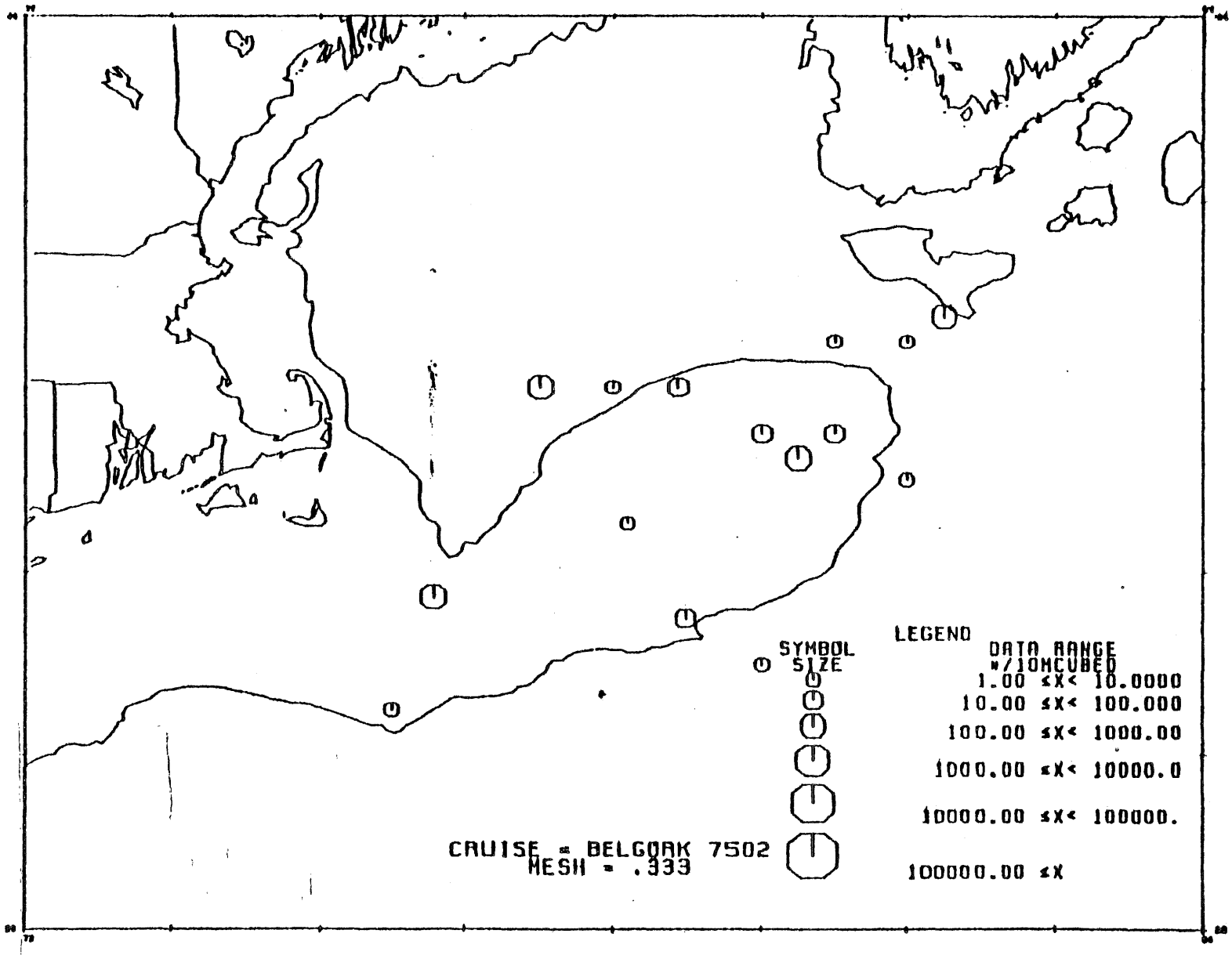

Figure 239

Centropages typicus

Adult

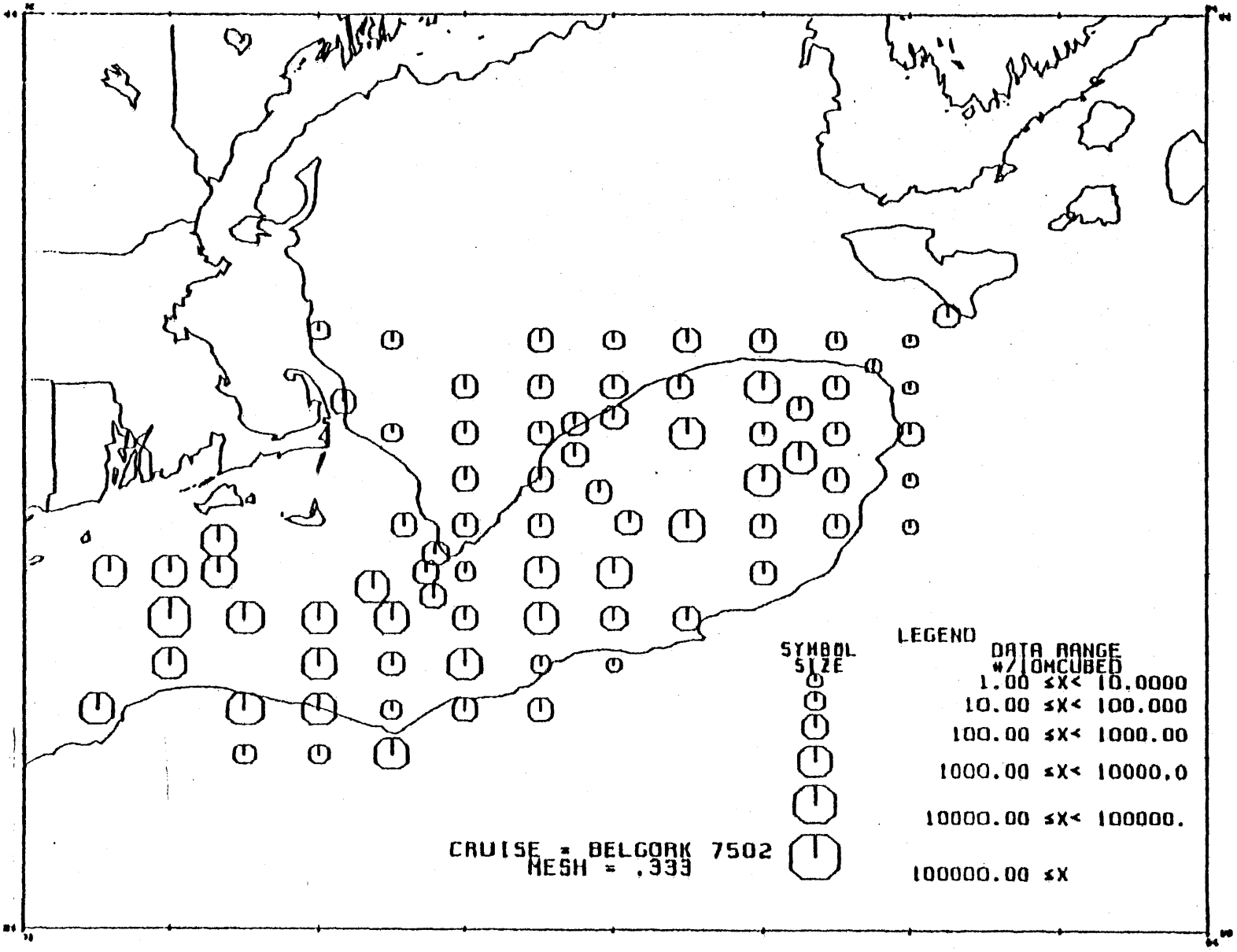

Figure 240

Centropages hamatus

Copepodite Stage 5

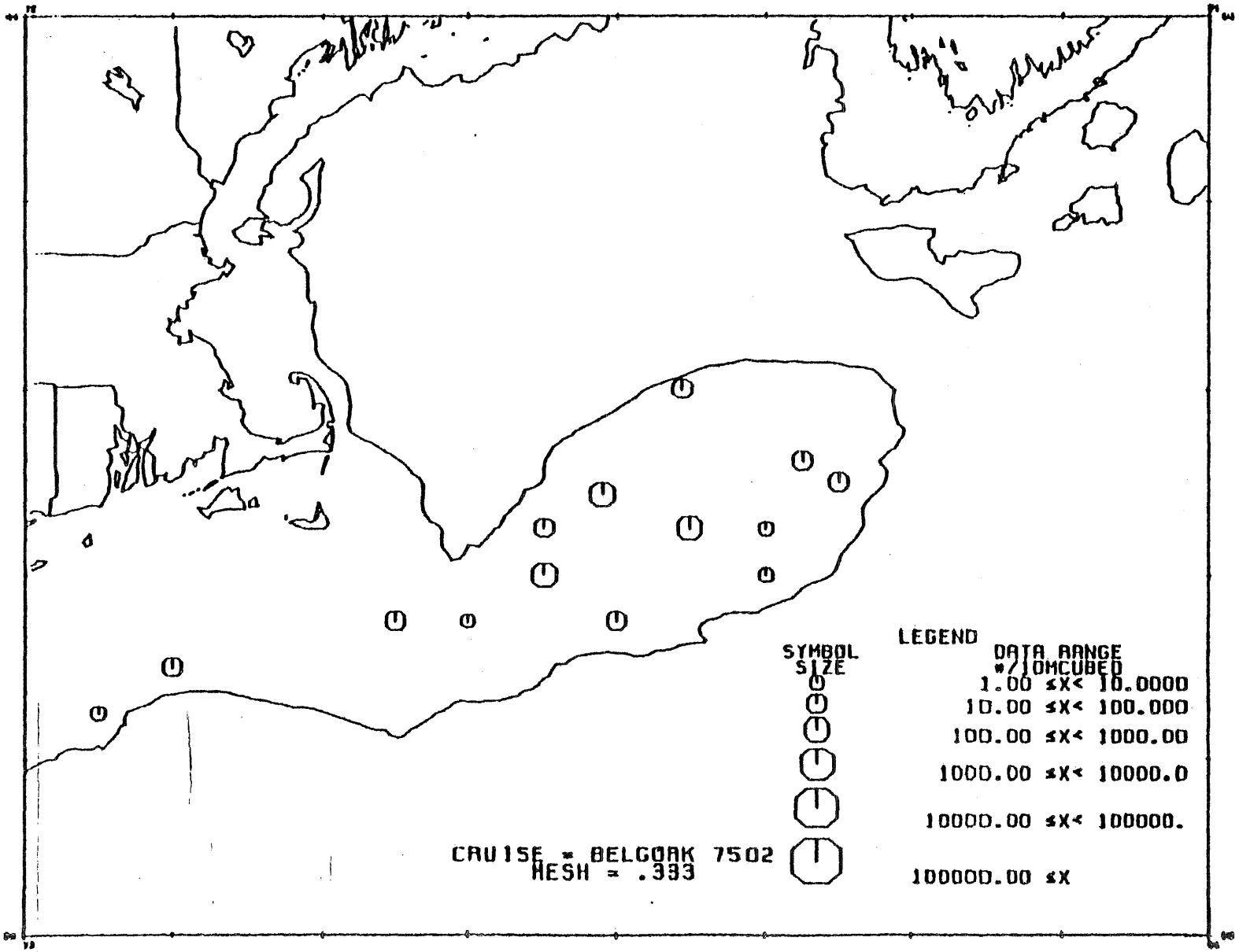

Figure 241

Centropages hamatus

Copepodite

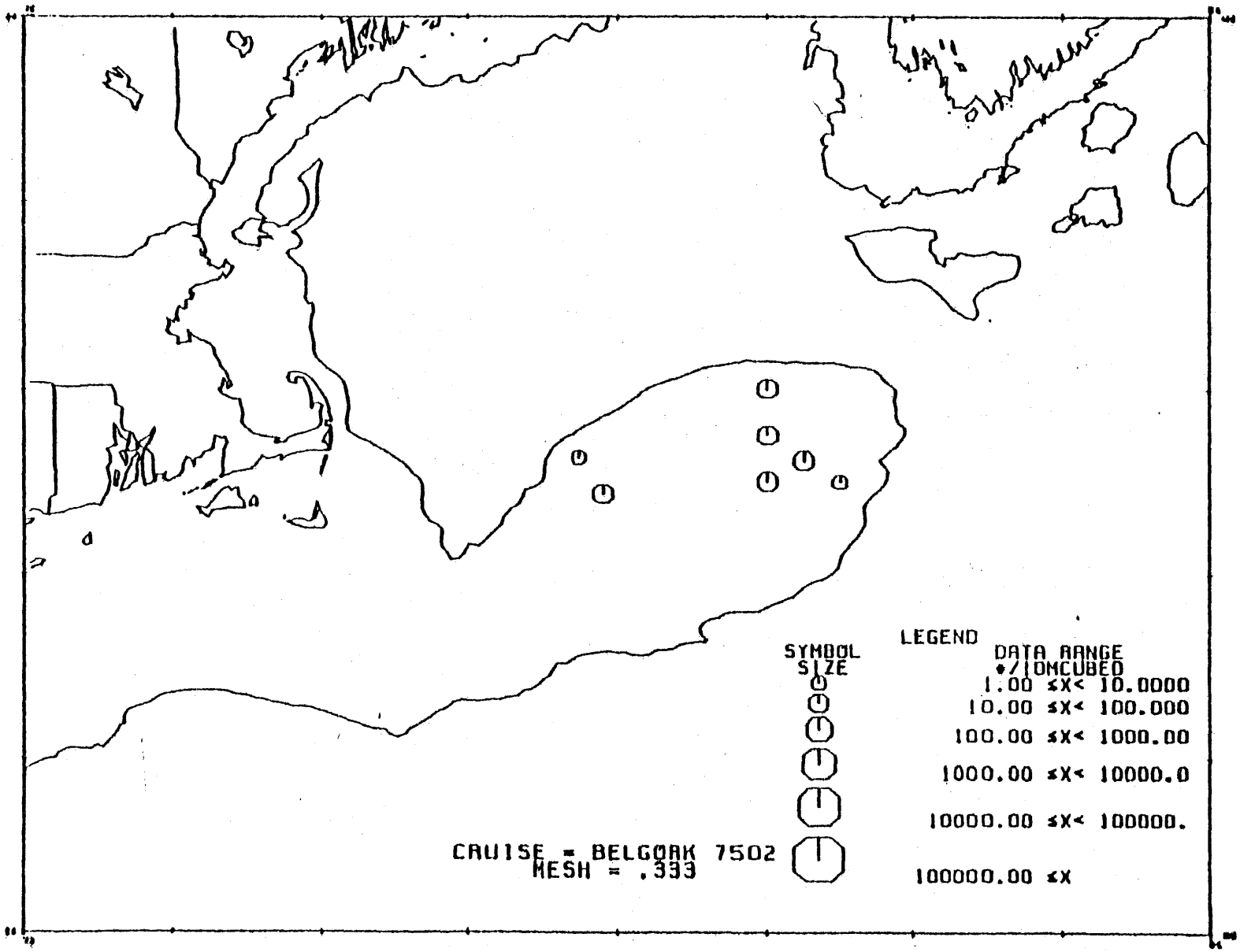

Figure 242

Centropages hamatus

Adult

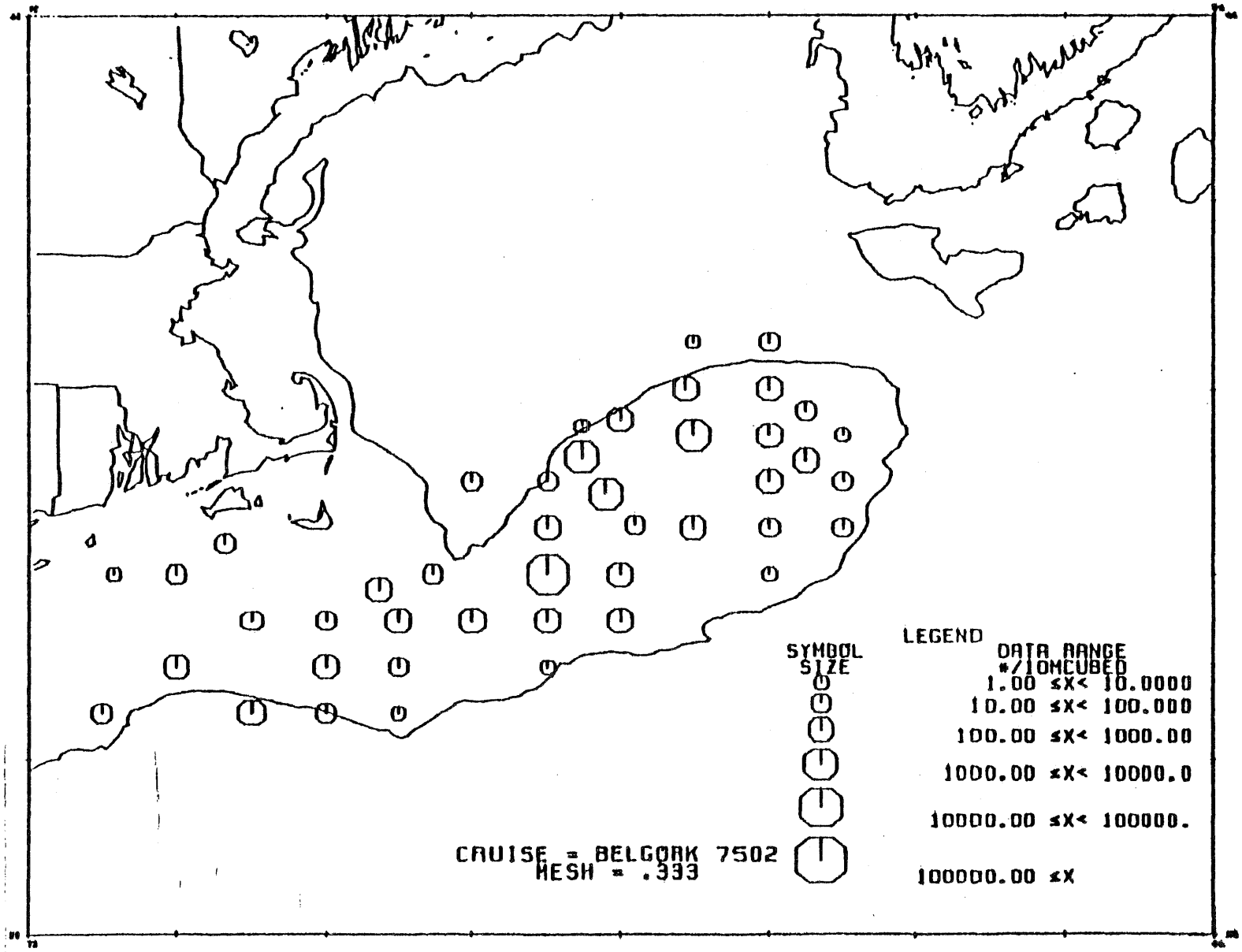

Figure 243

Oithona spp.

Copepodite

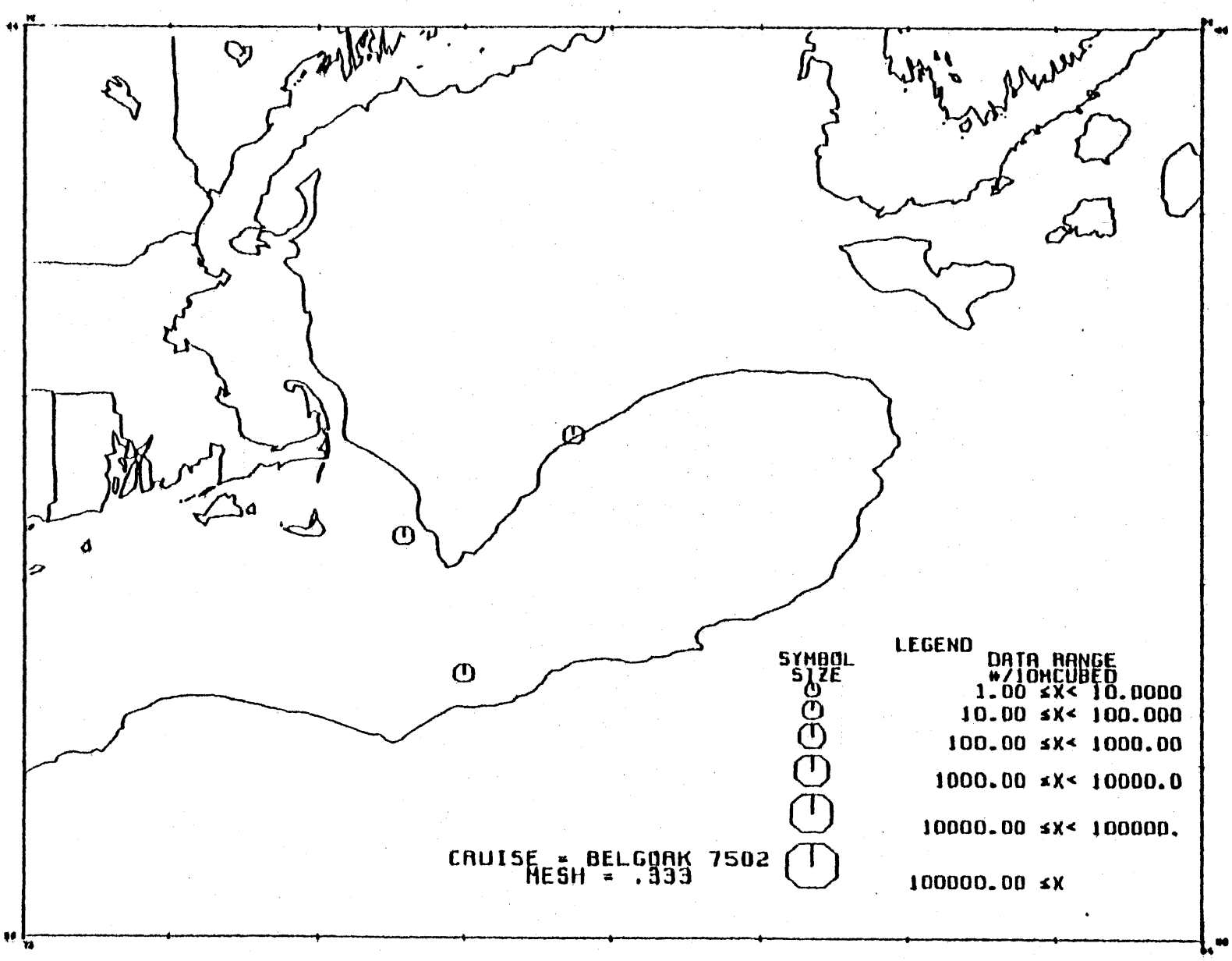

Figure 244

Oithona spp.

Adult

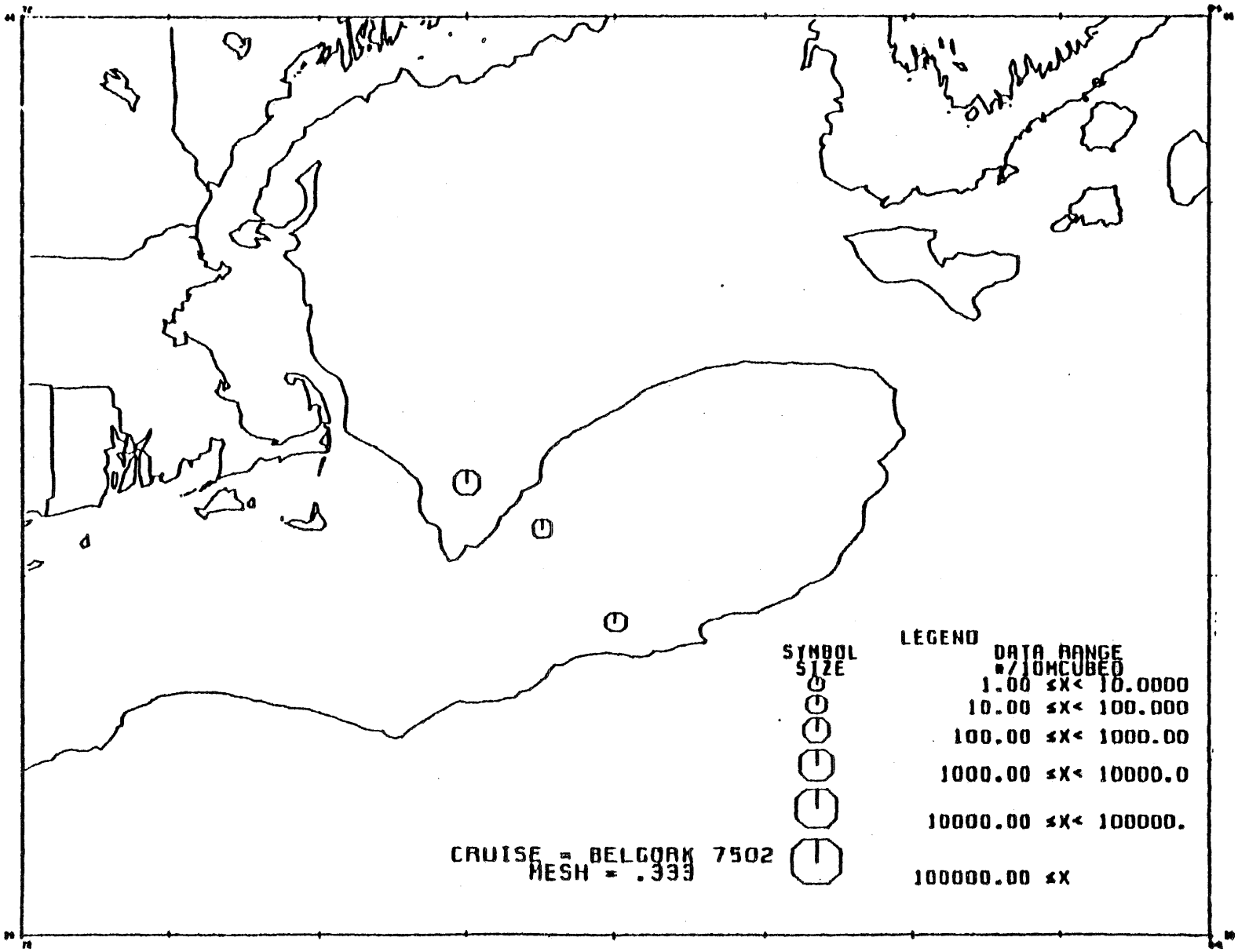

Figure 245

Calanus finmarchicus

Copepodite Stage 1

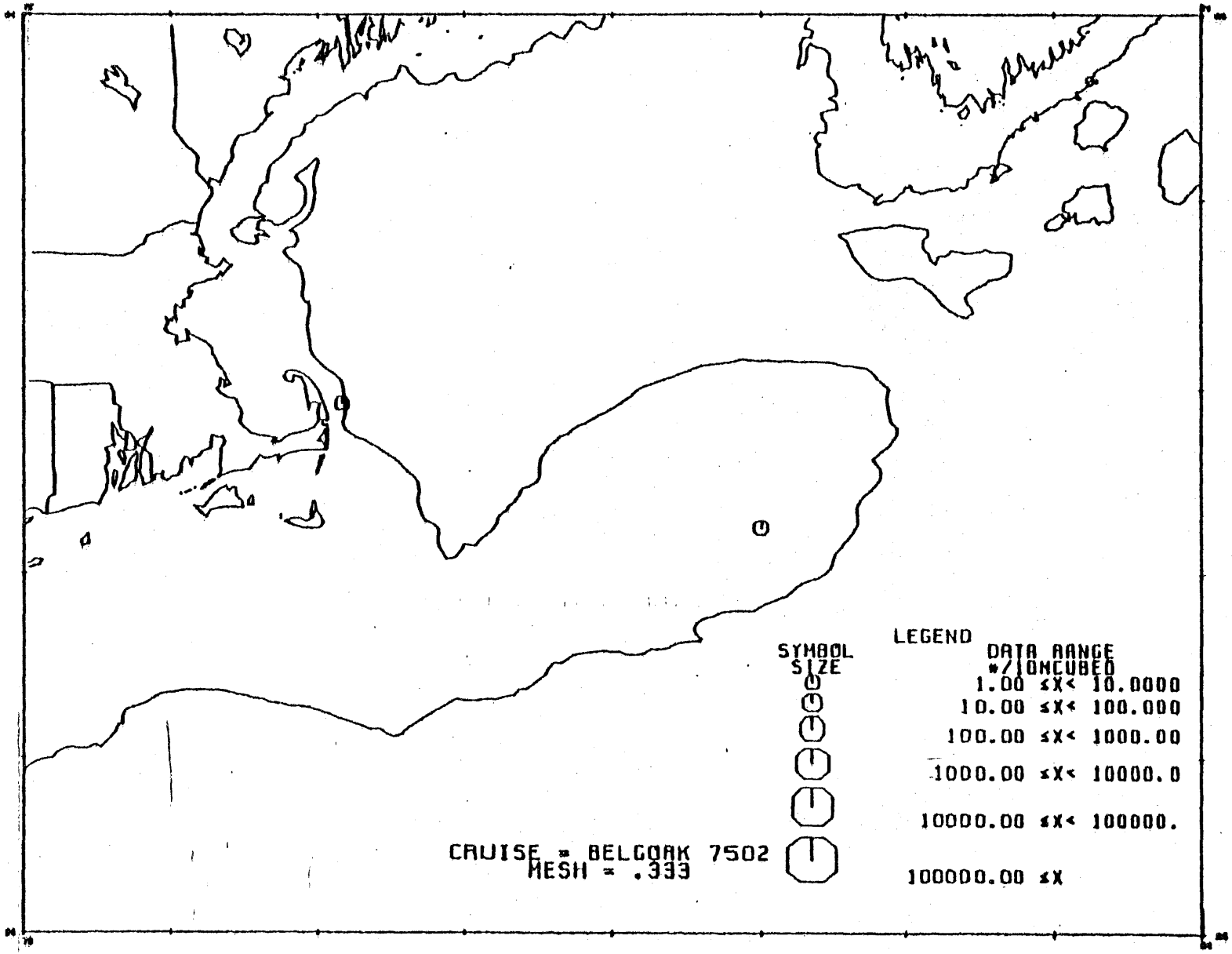

Figure 246

Calanus finmarchicus

Copepodite Stage 2

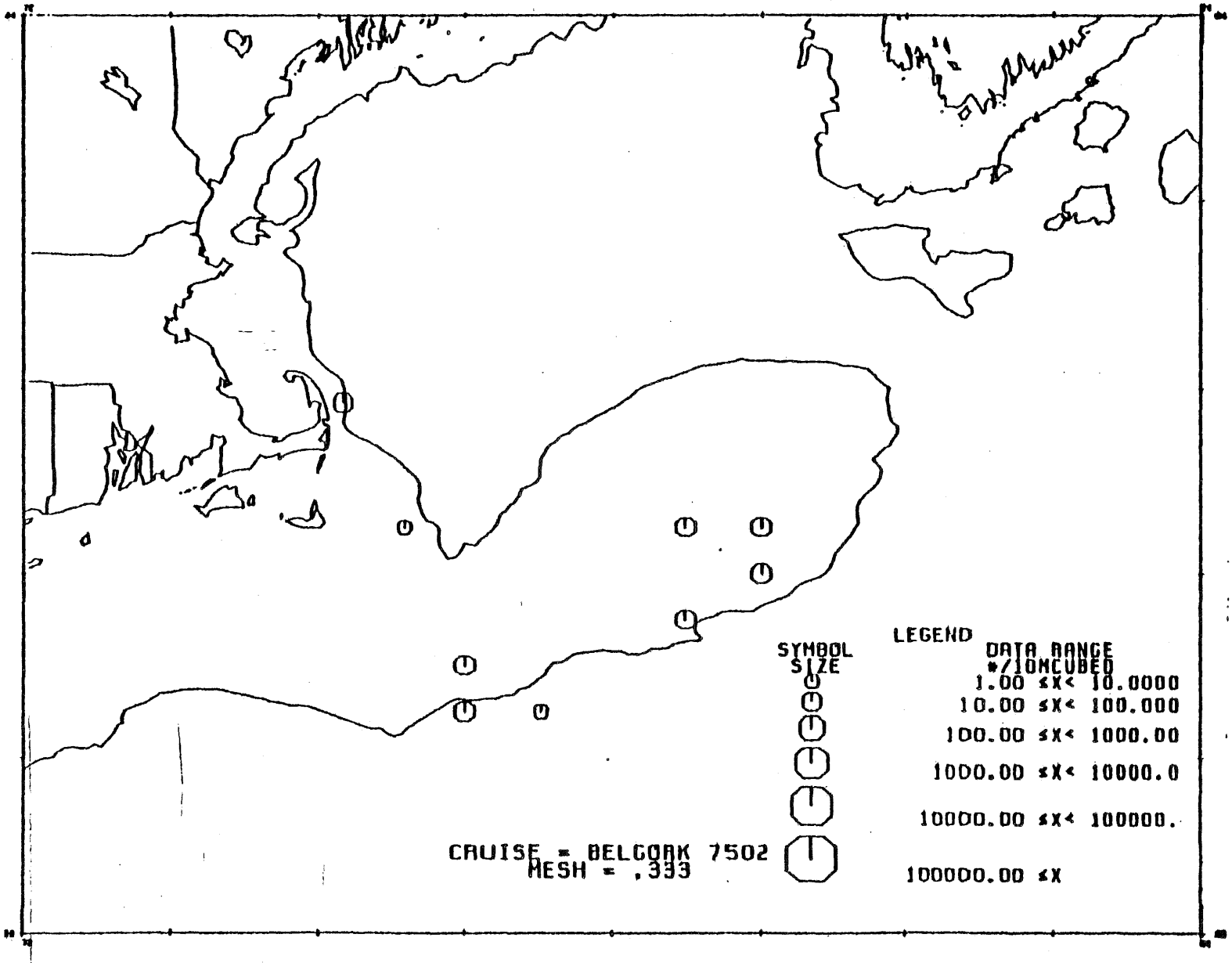

Figure 247

Calanus finmarchicus

Copepodite Stage 3

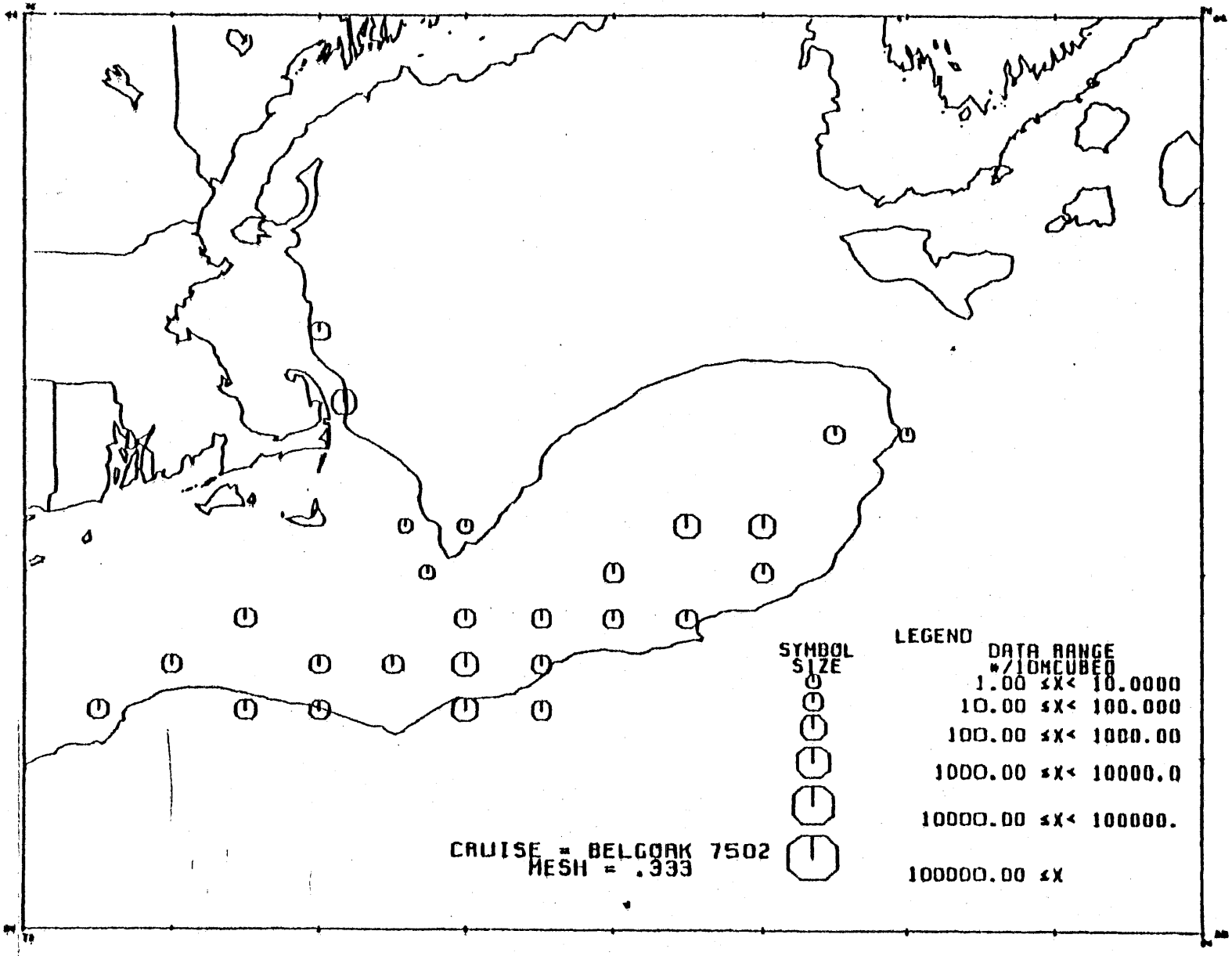

Figure 248

Calanus finmarchicus

Copepodite Stage 4

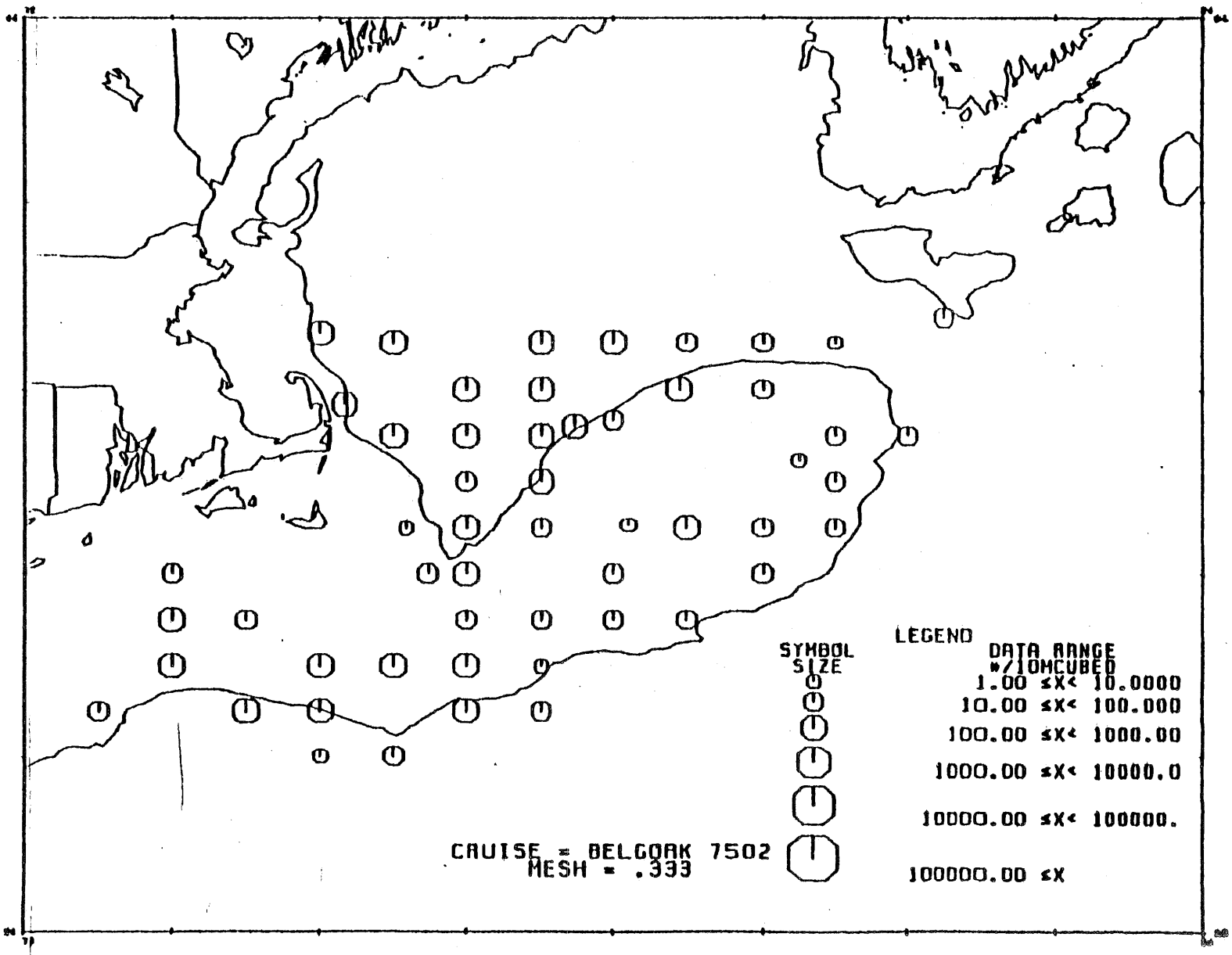

Figure 249

Calanus finmarchicus

Copepodite Stage 5

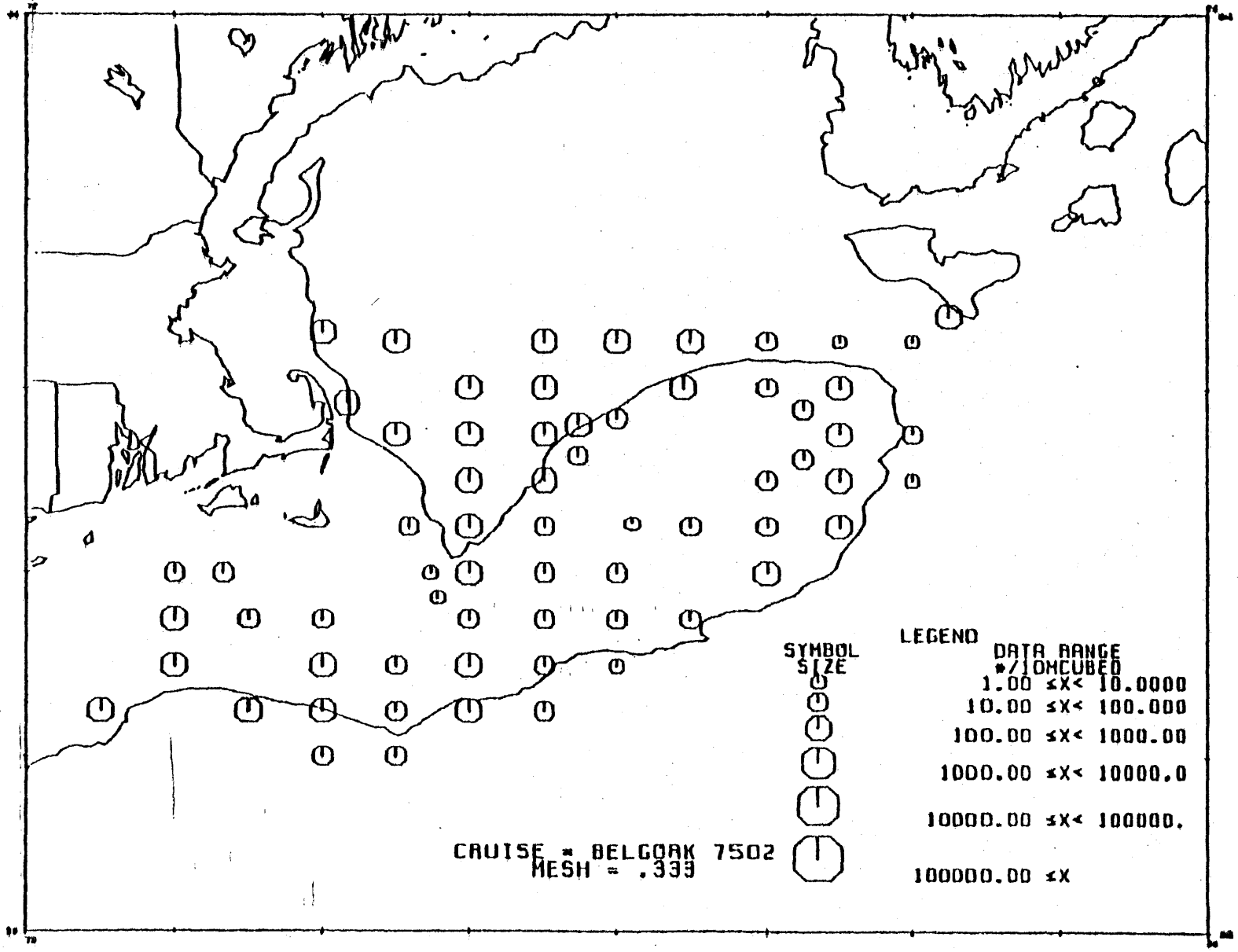

Figure 250

Calanus finmarchicus

Copepodite

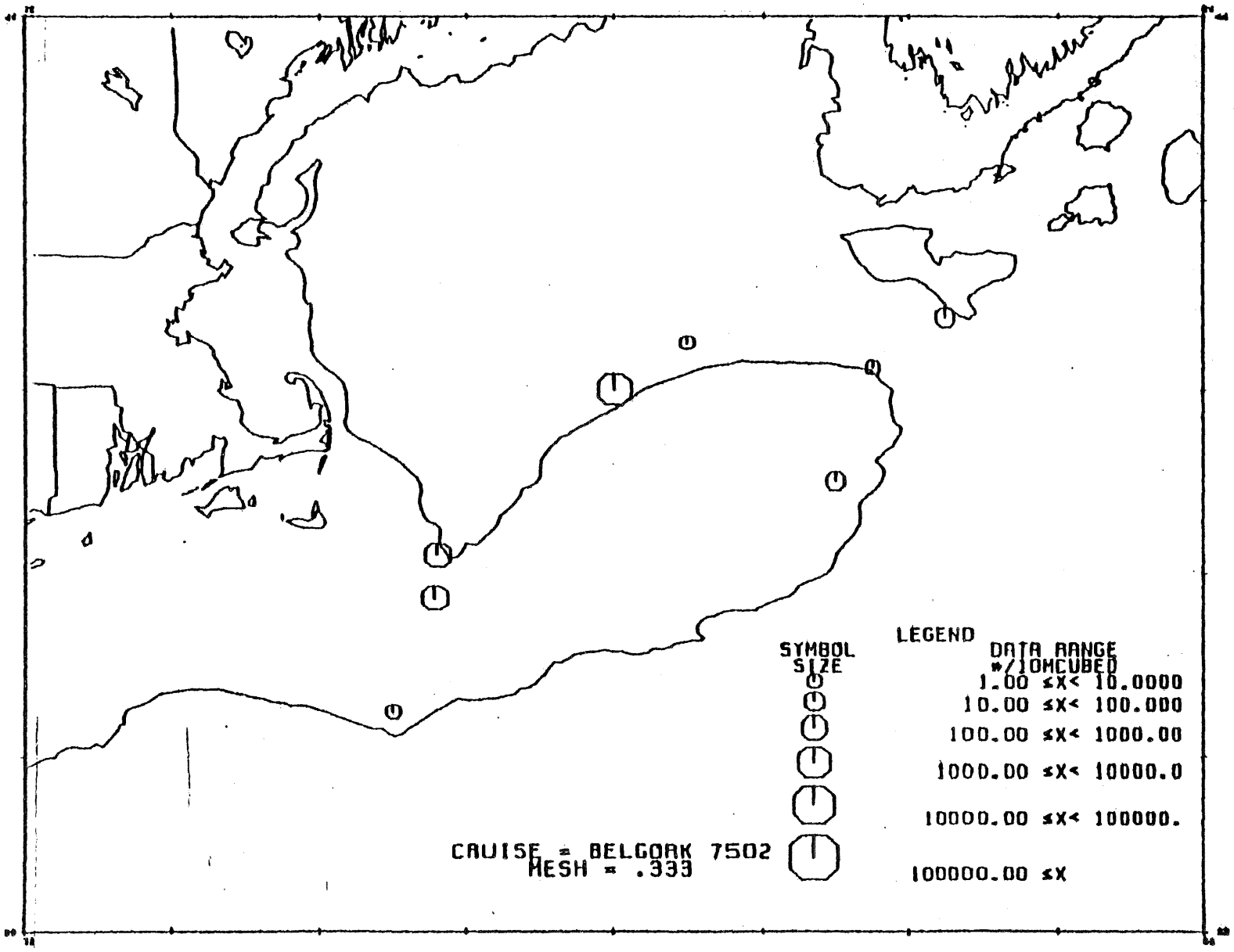

Figure 251

Calanus finmarchicus

Adult

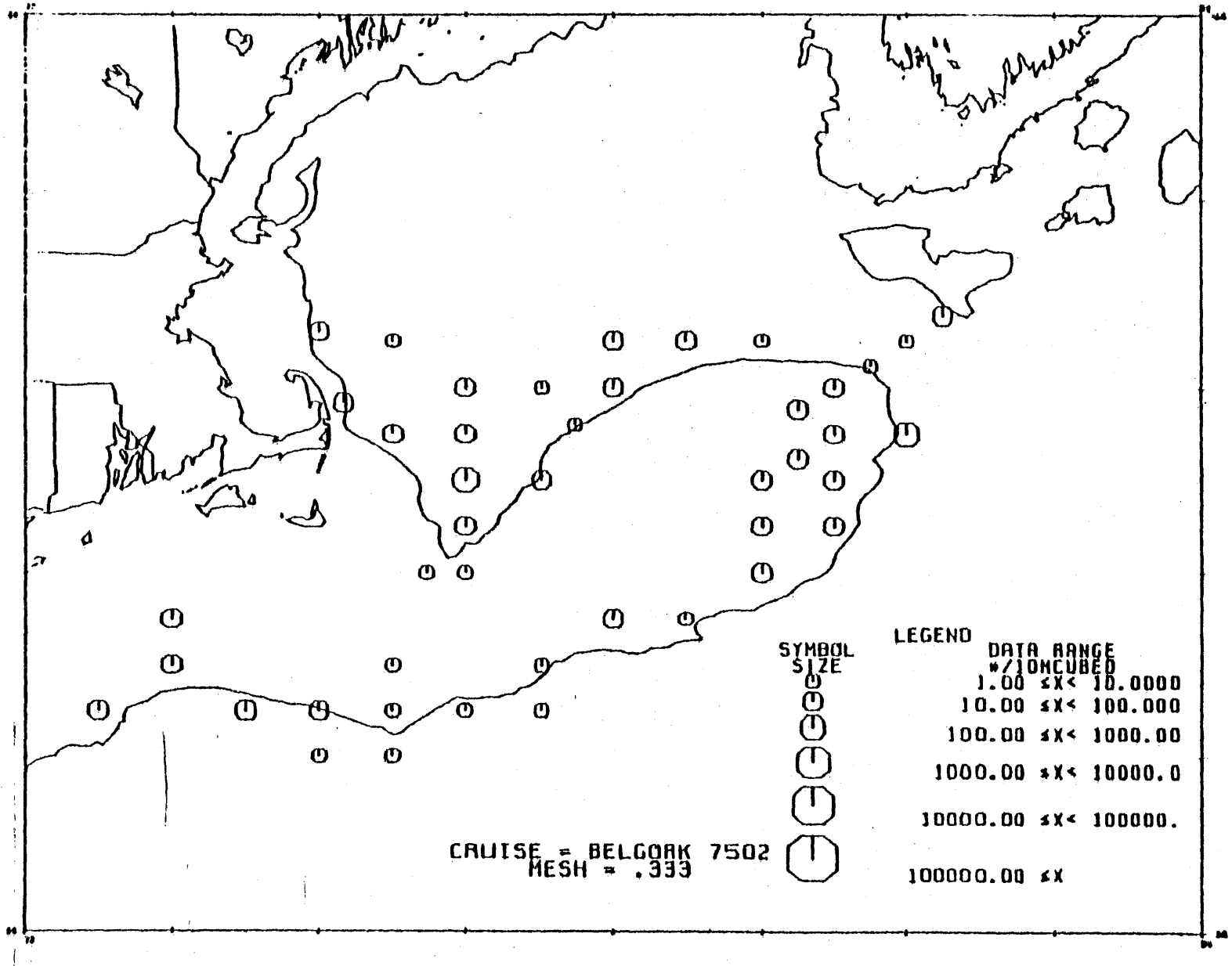

Figure 252

CHAETOGNATHA

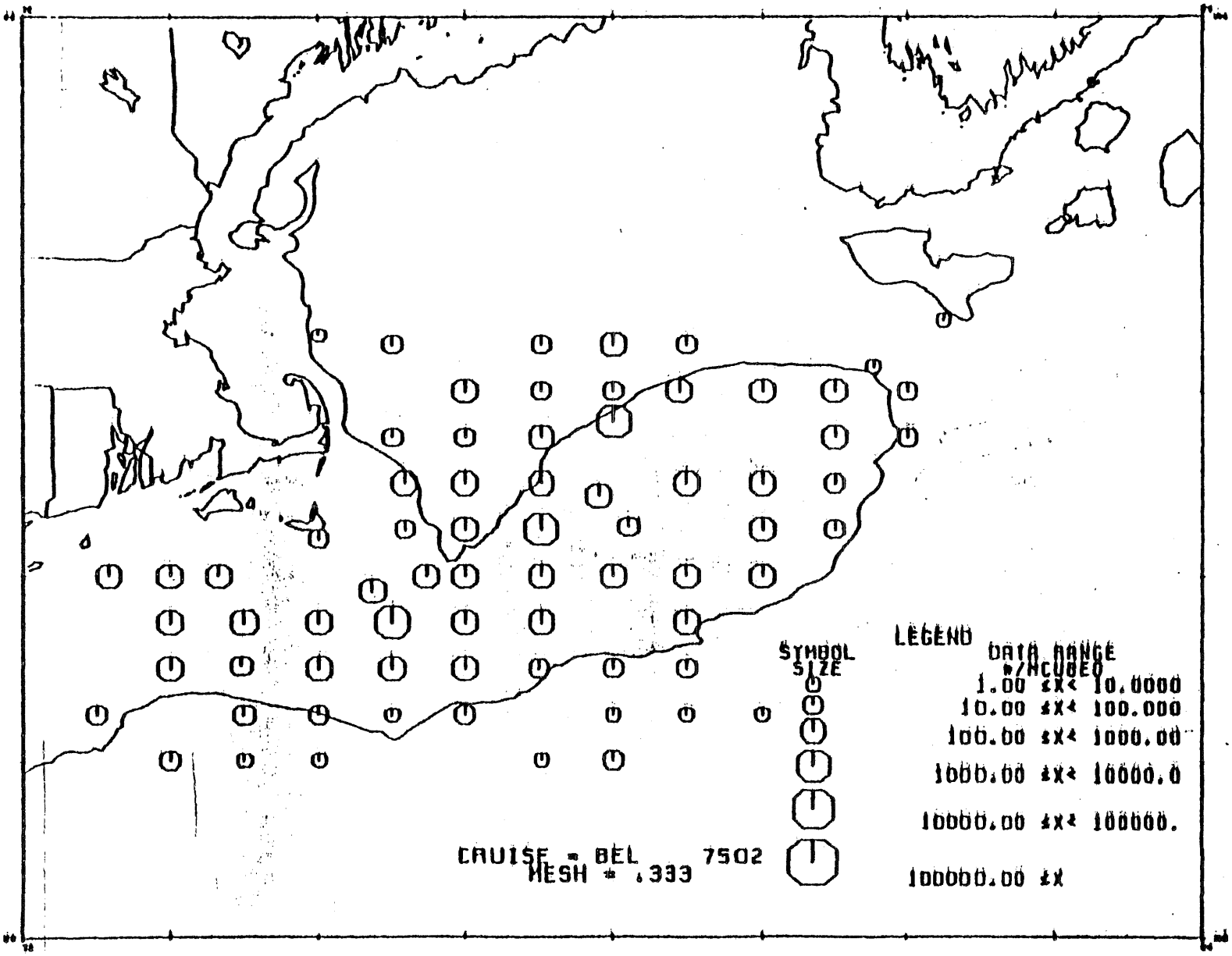

Figure 253

AMPHIPODA

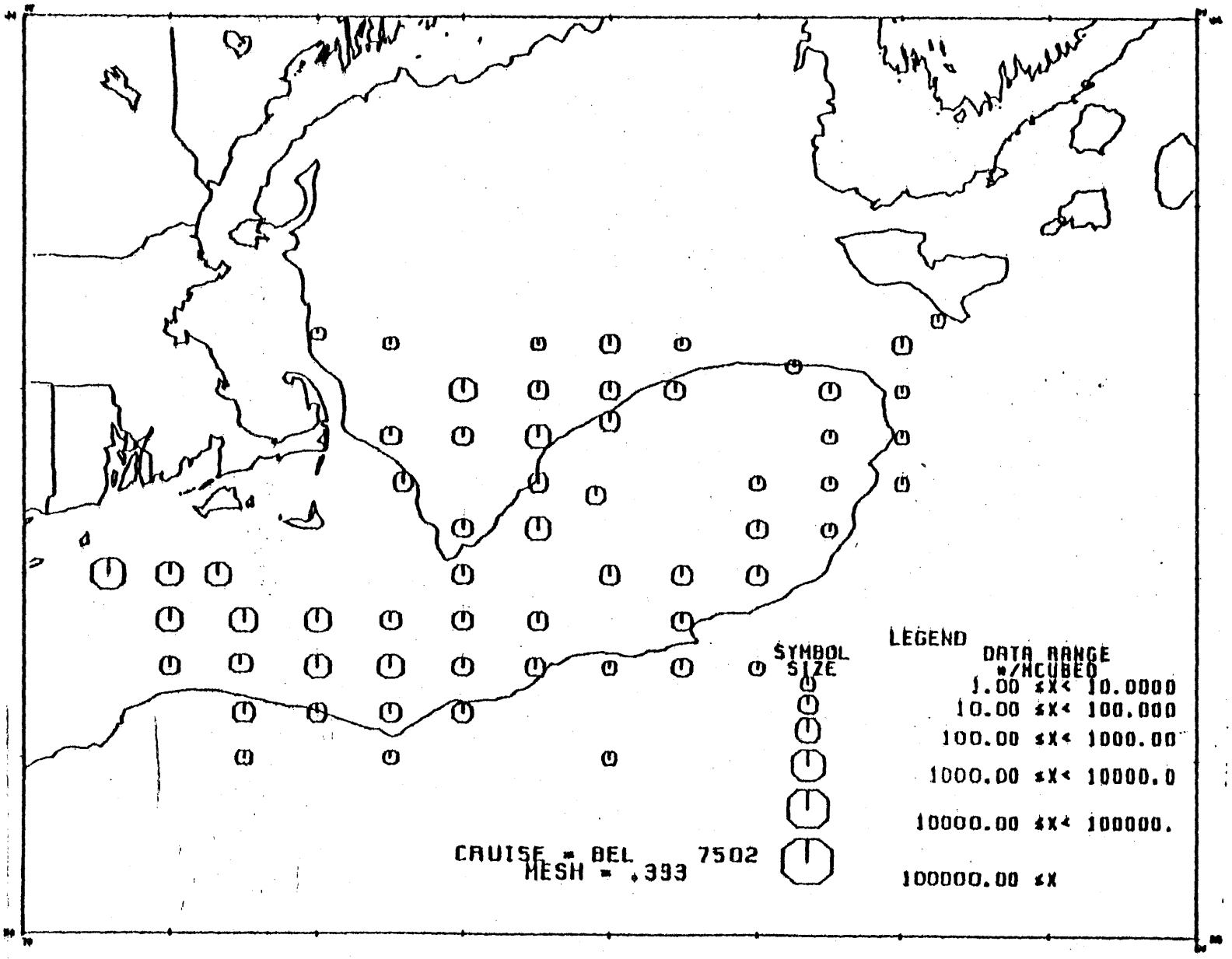

Figure 254

EUPHAUSIACEA

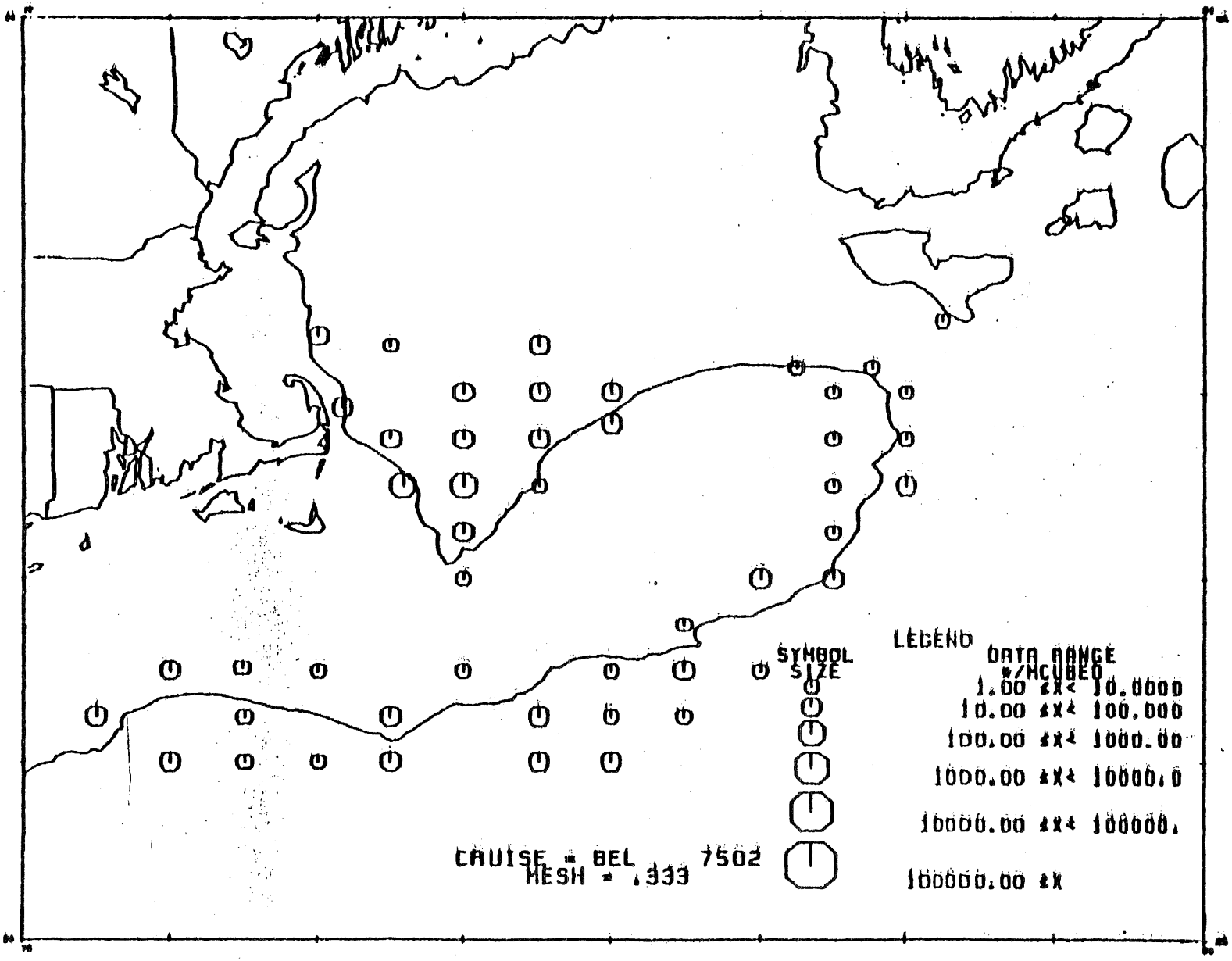

Figure 255

MYSIDACEA

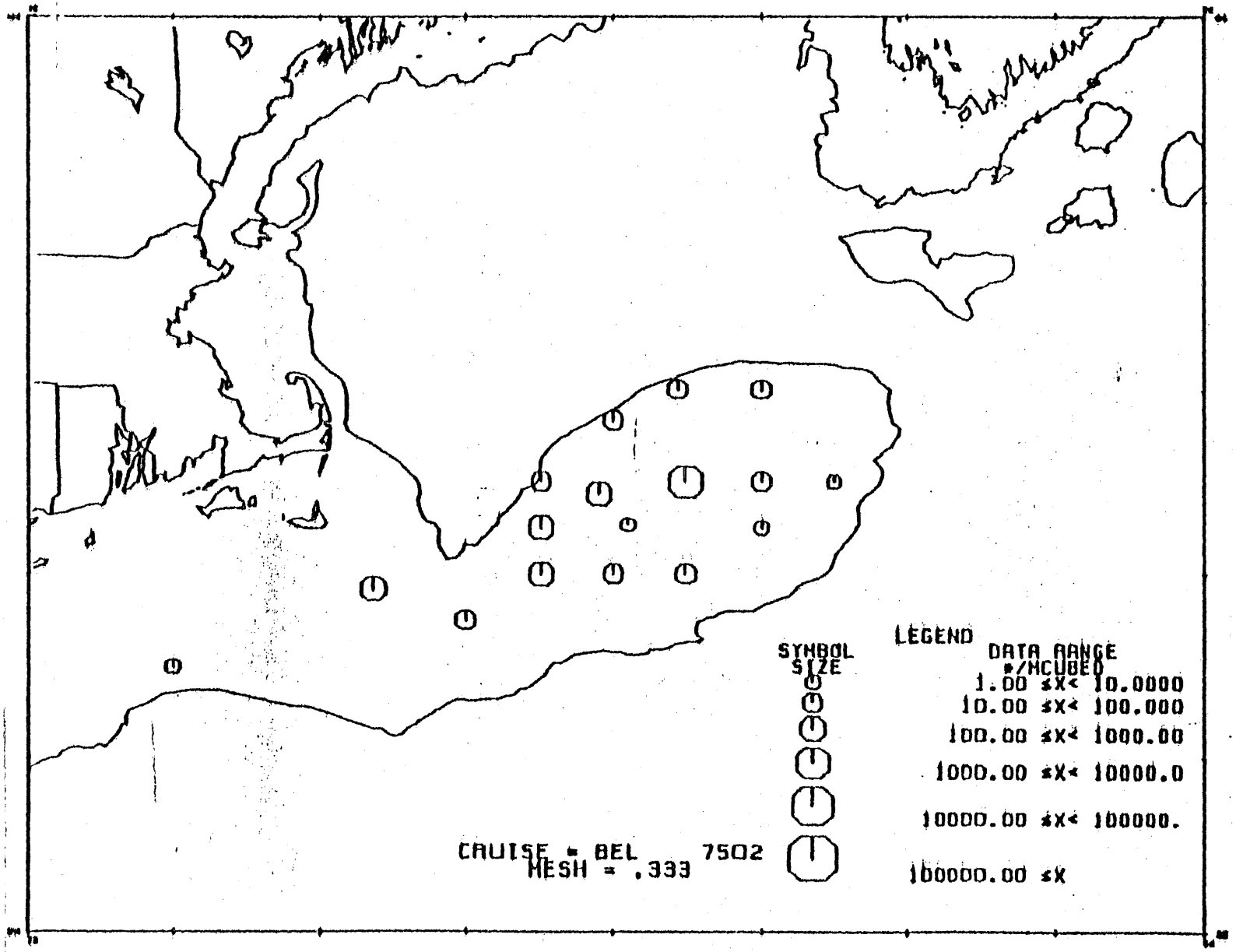

Figure 256

SALPA

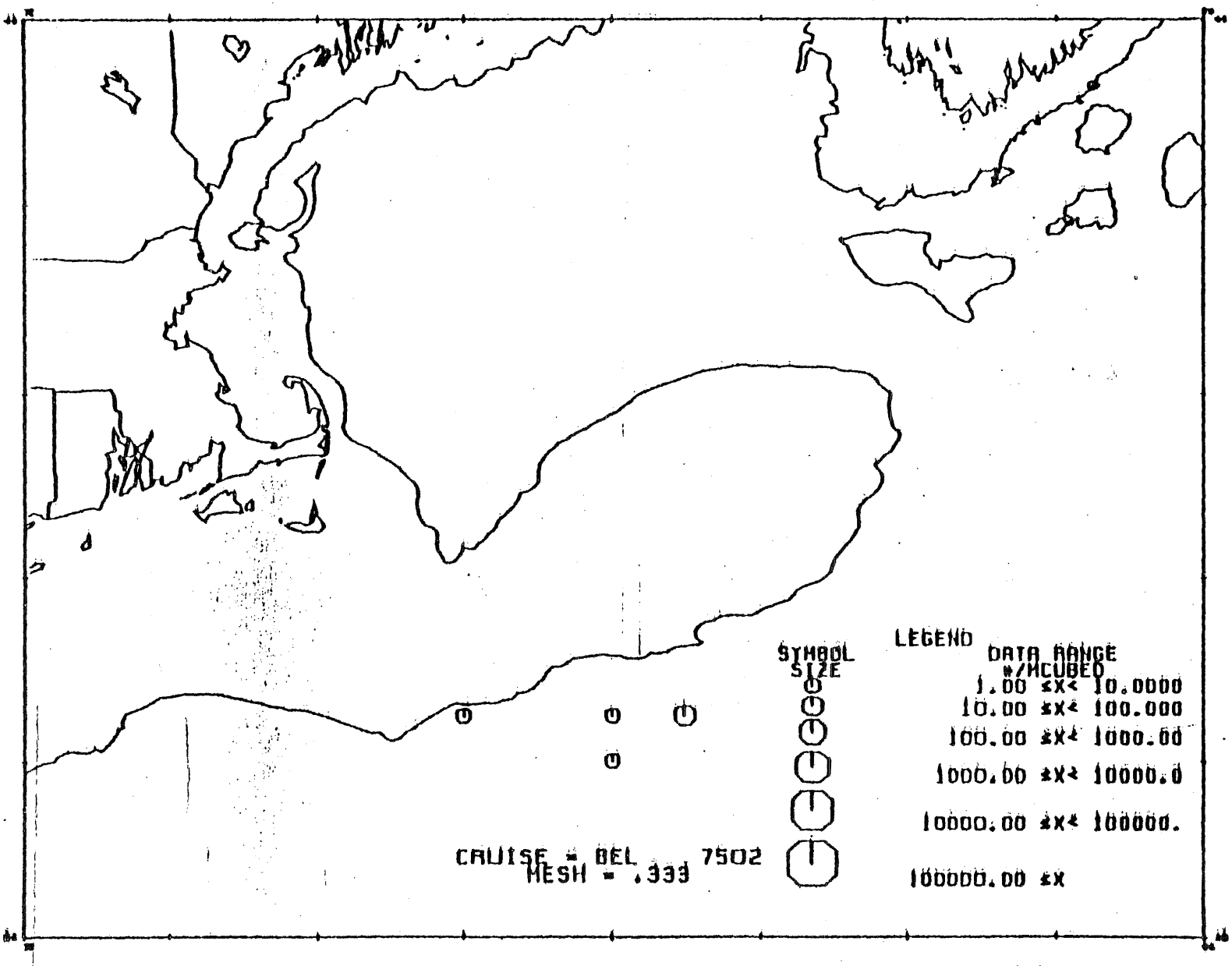

Figure 257

SCYPHOZOA

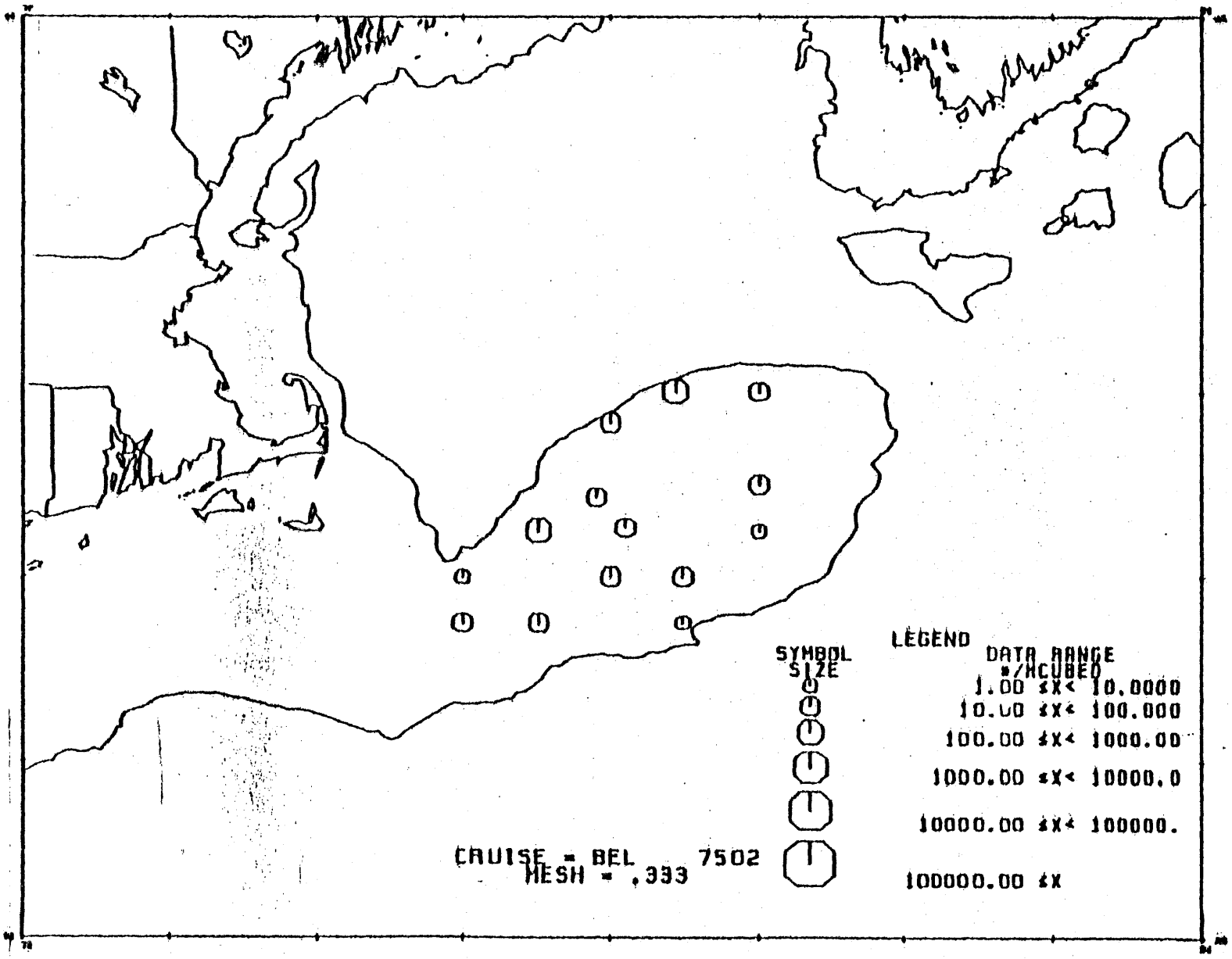

Figure 258

Stations Sampled

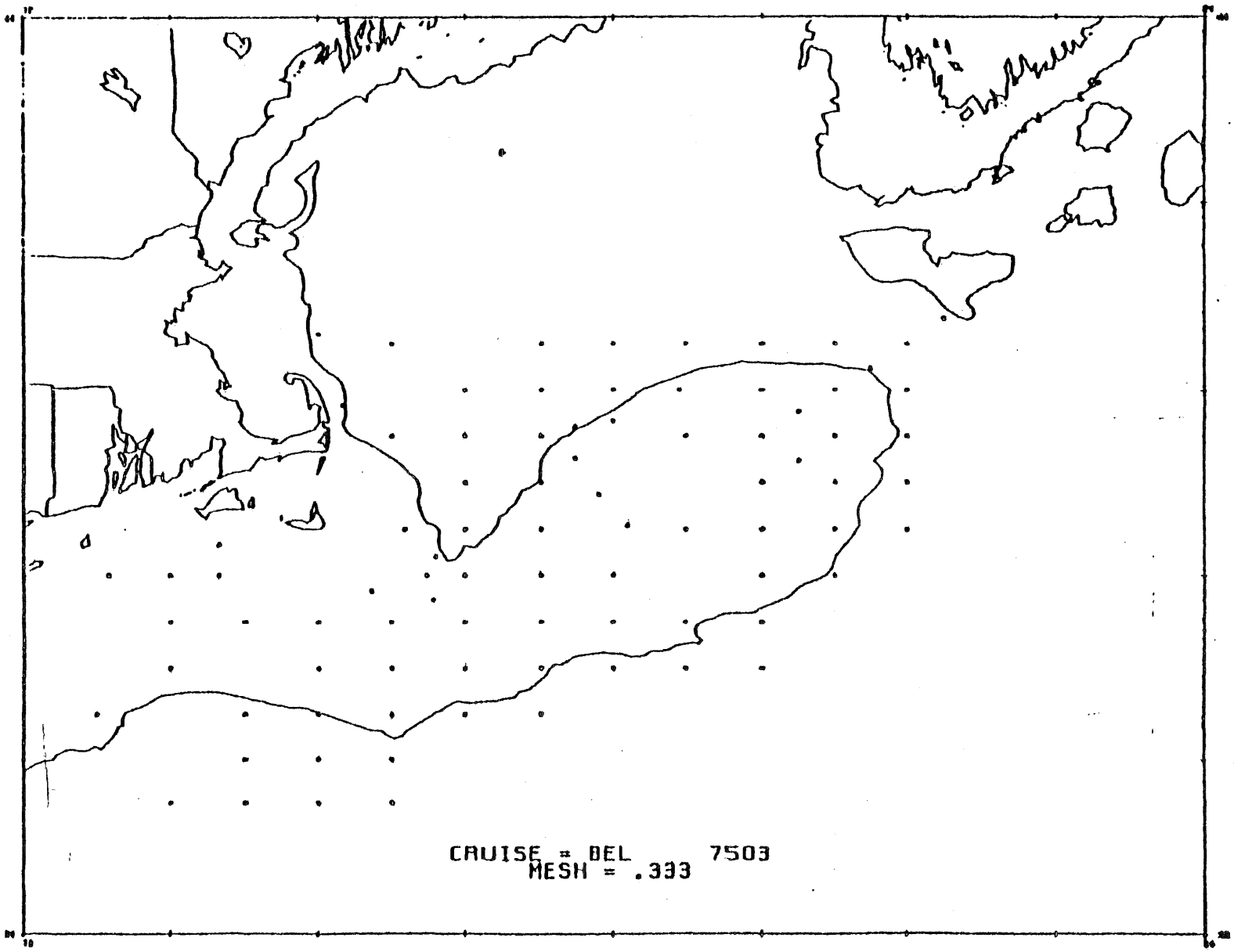

Figure 259

DISPLACEMENT VOLUME

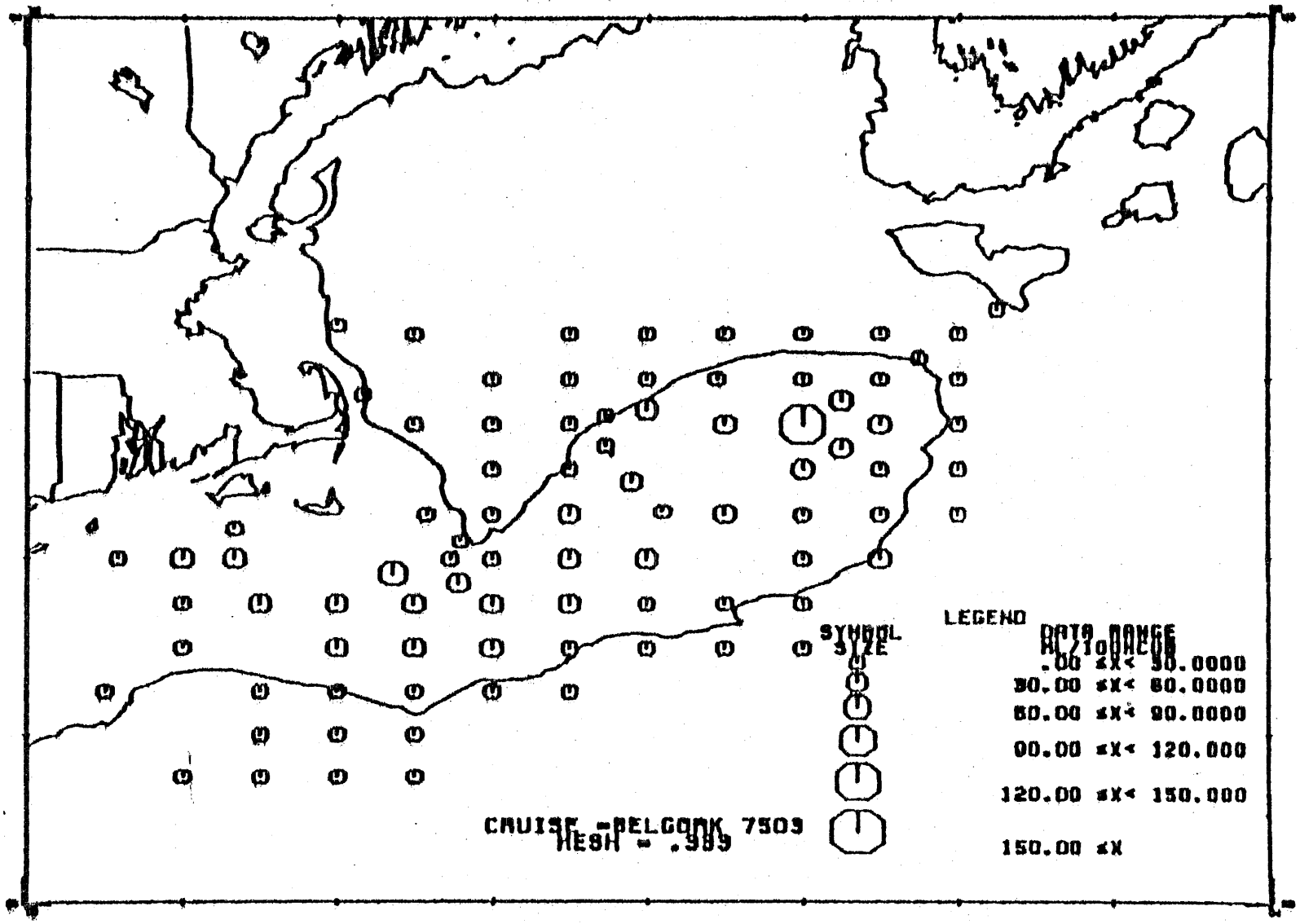

Figure 260

Pseudocalanus sp.

Copepodite Stage 5

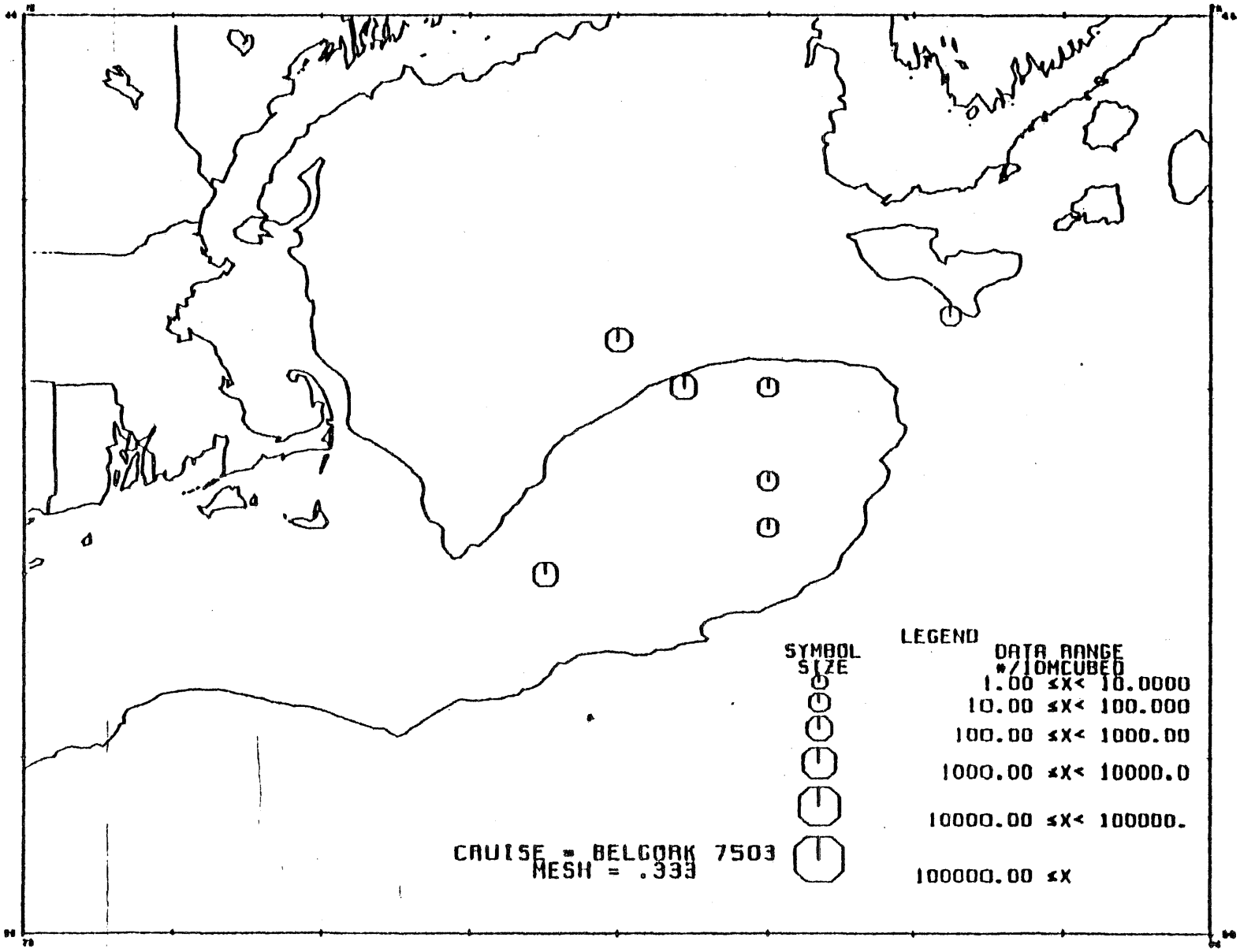

Figure 261

Pseudocalanus sp.

Copepodite

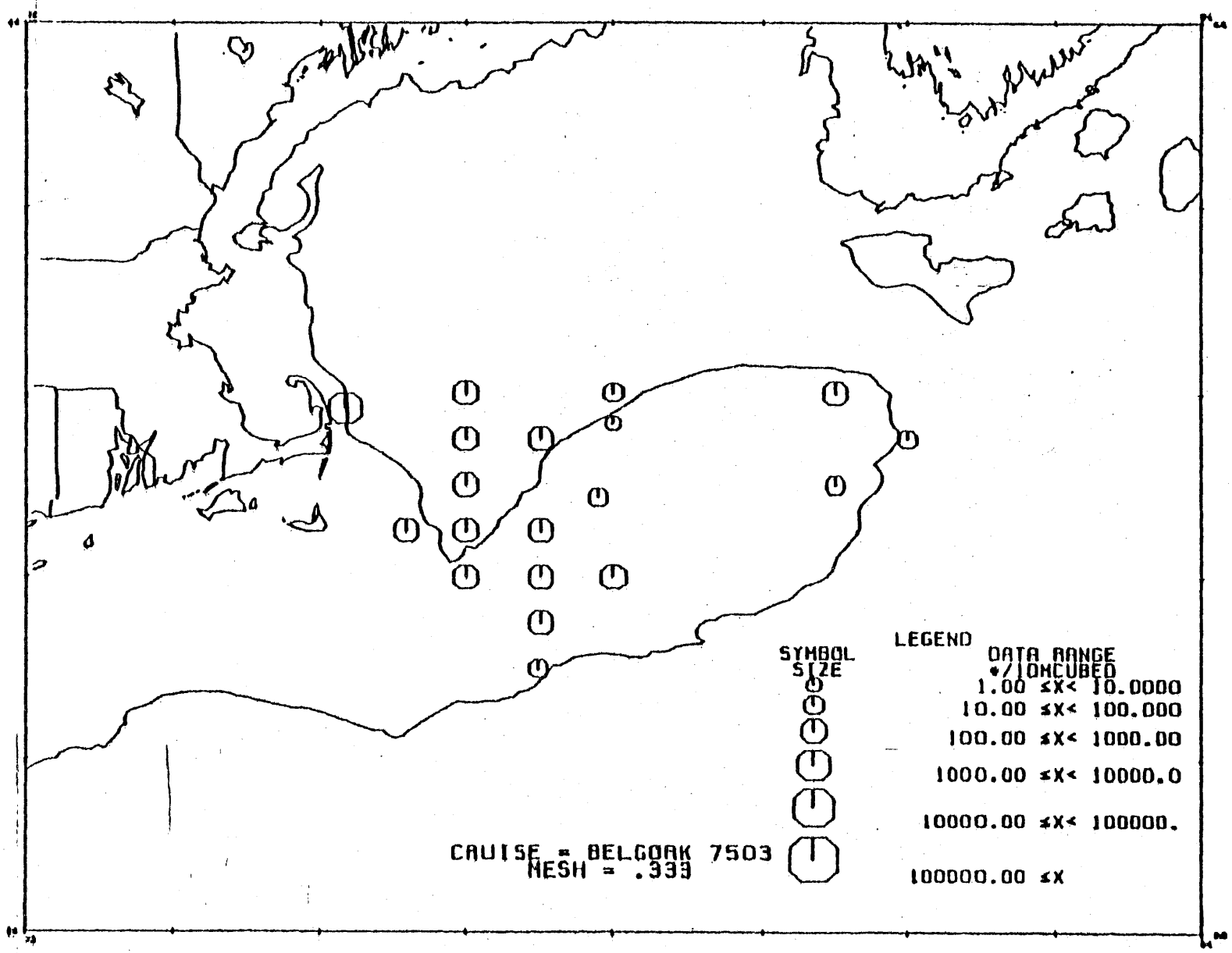

Figure 262

Pseudocalanus sp.

Adult

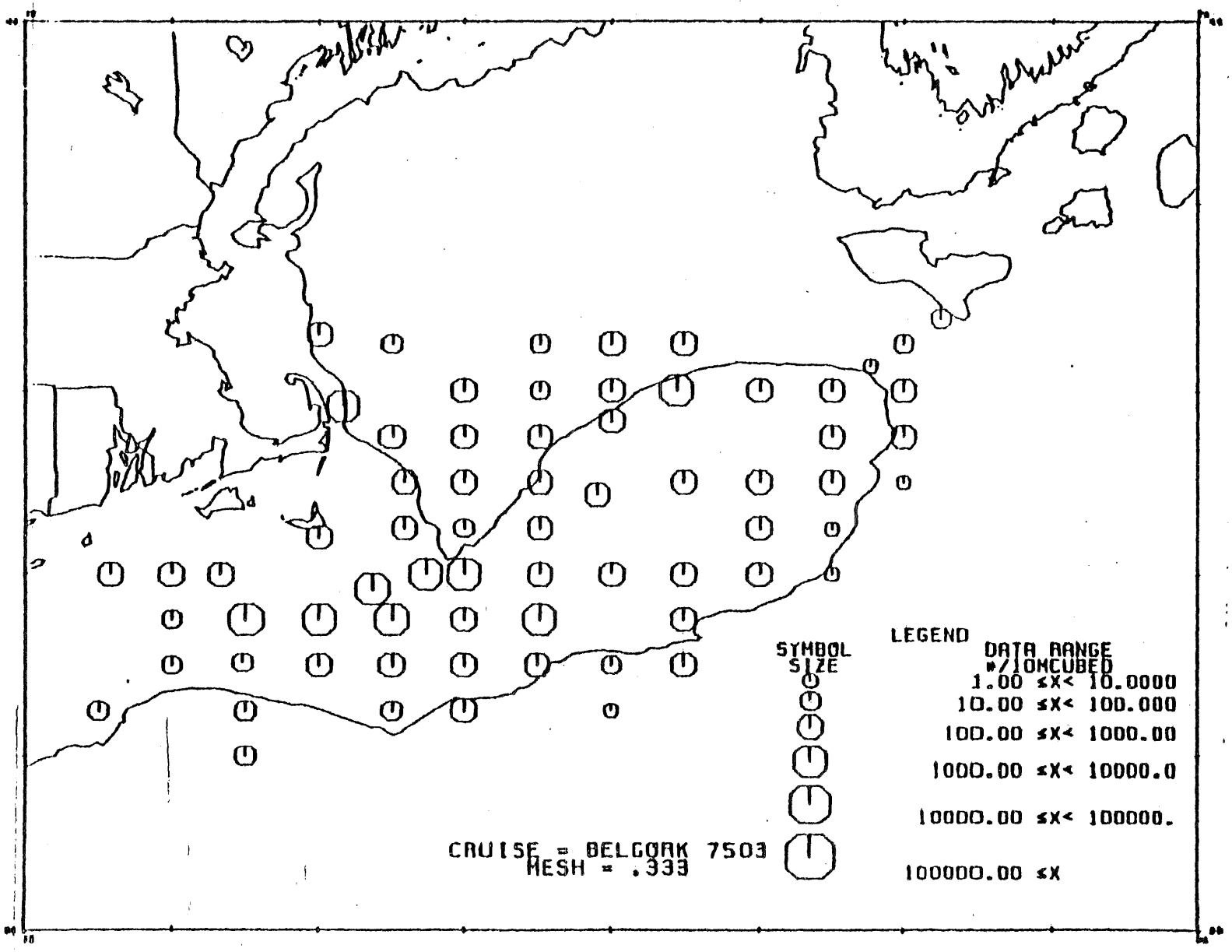

Figure 263

Paracalanus parvus

Copepodite Stage 5

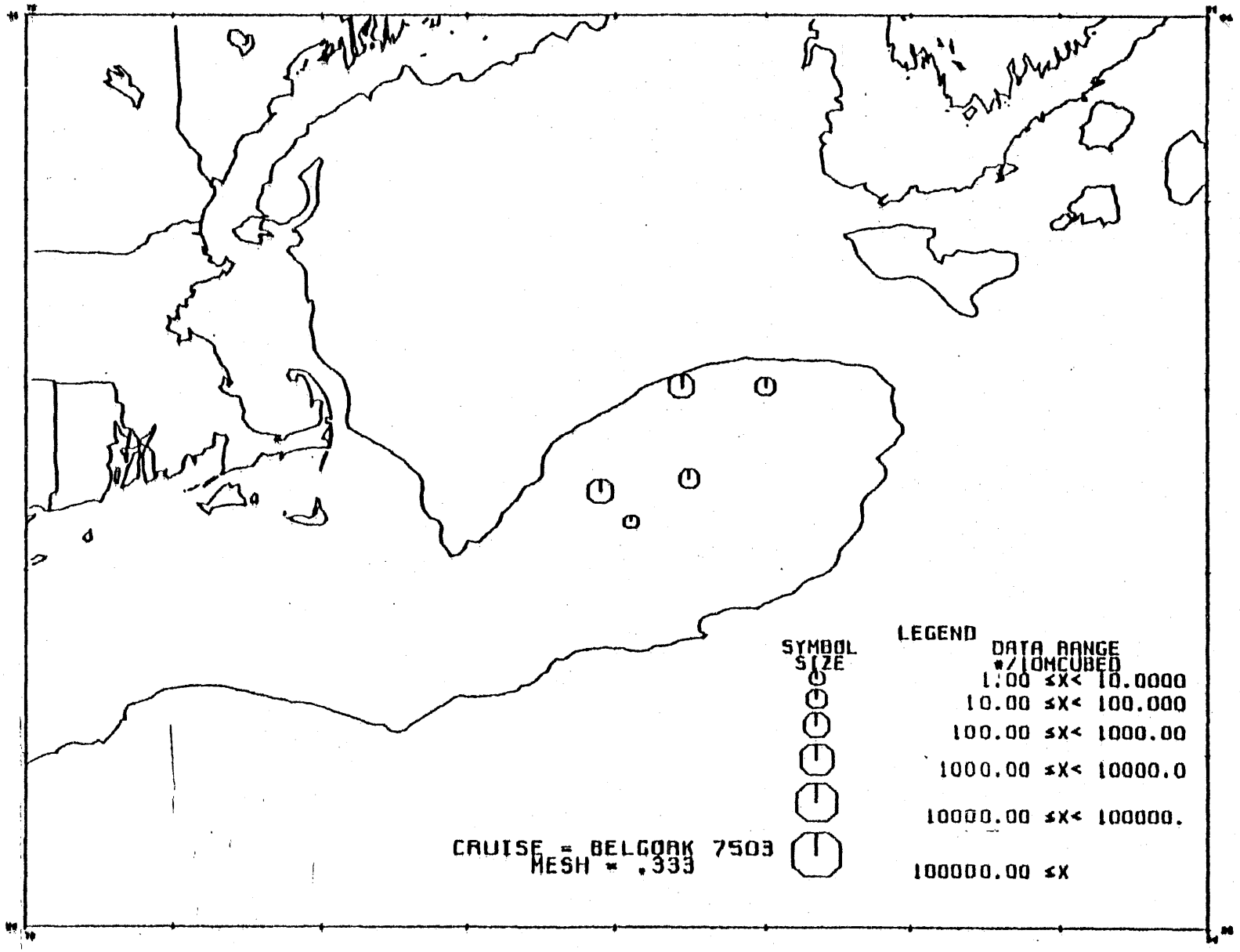

Figure 264

Paracalanus parvus

Copepodite

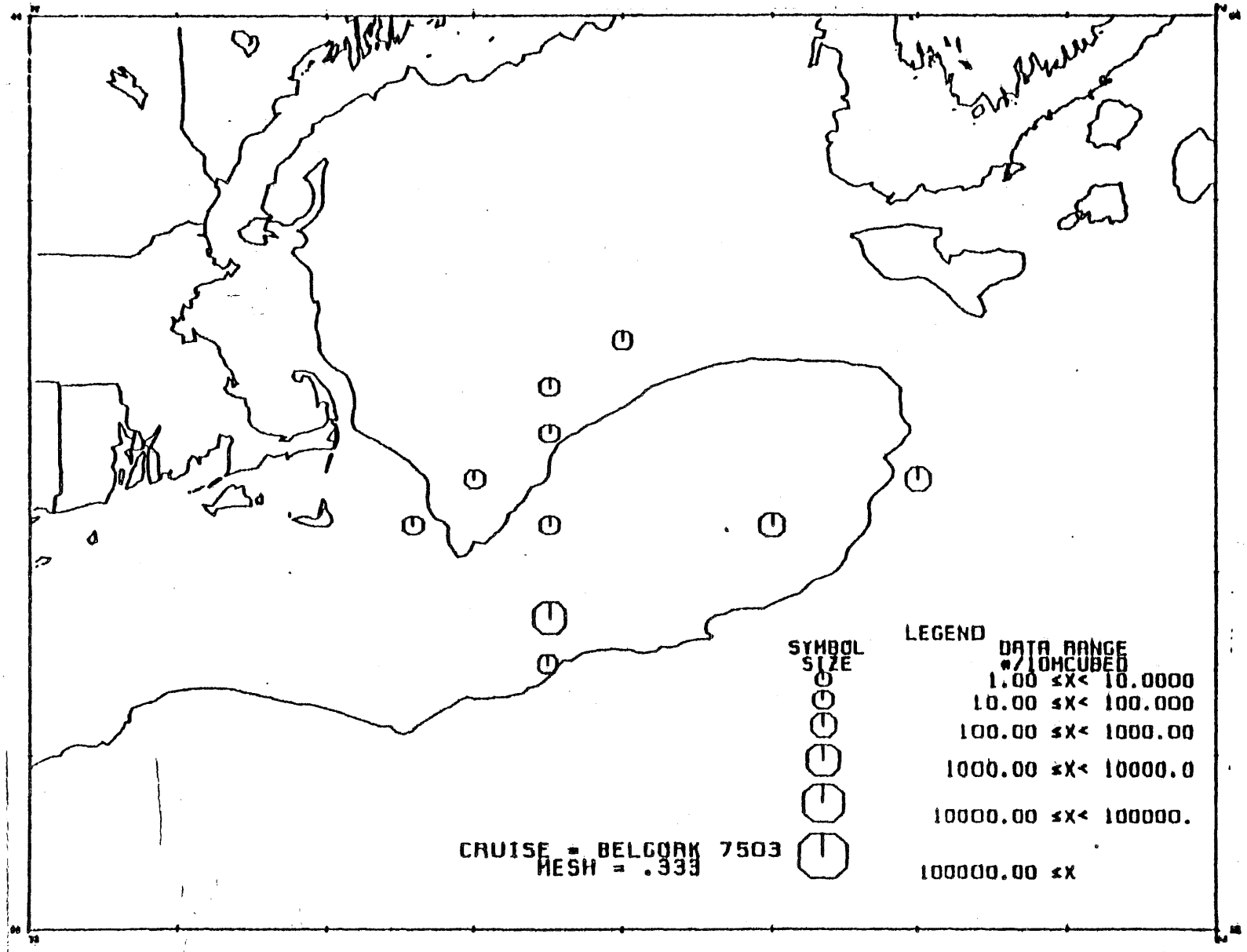

Figure 265

Paracalanus parvus

Adult

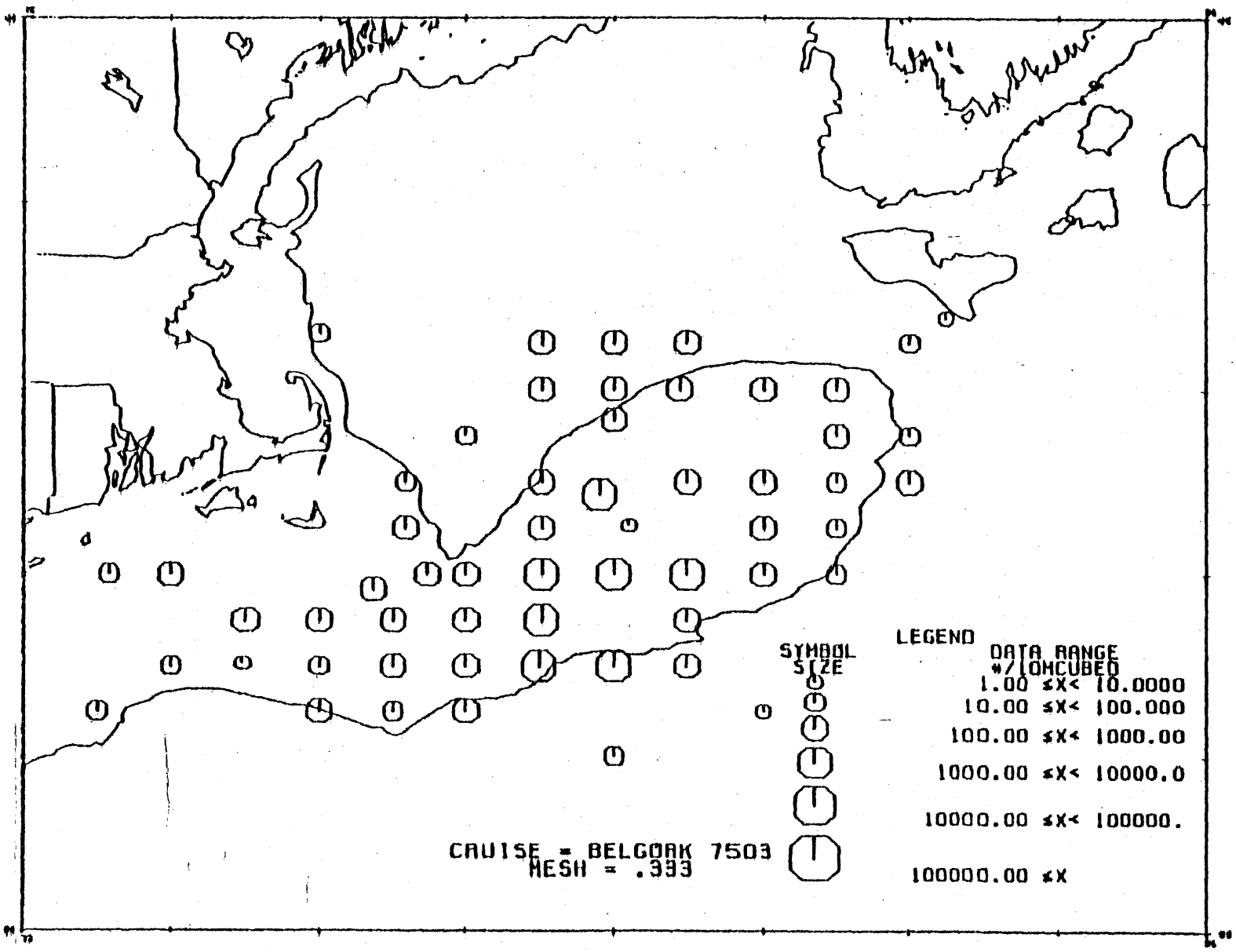

Figure 266

Centropages typicus

Copepodite Stage 2

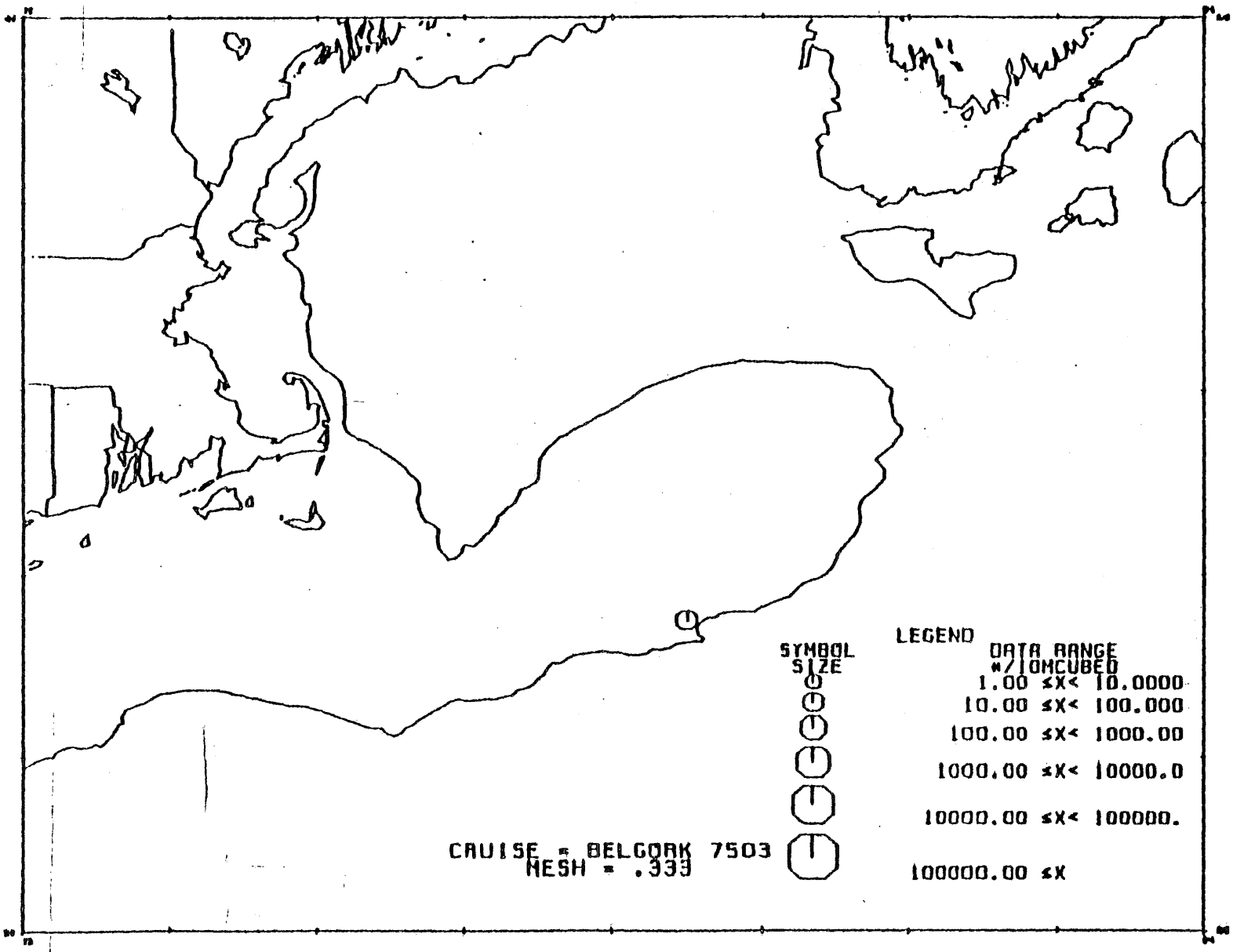

Figure 267

Centropages typicus

Copepodite Stage 3

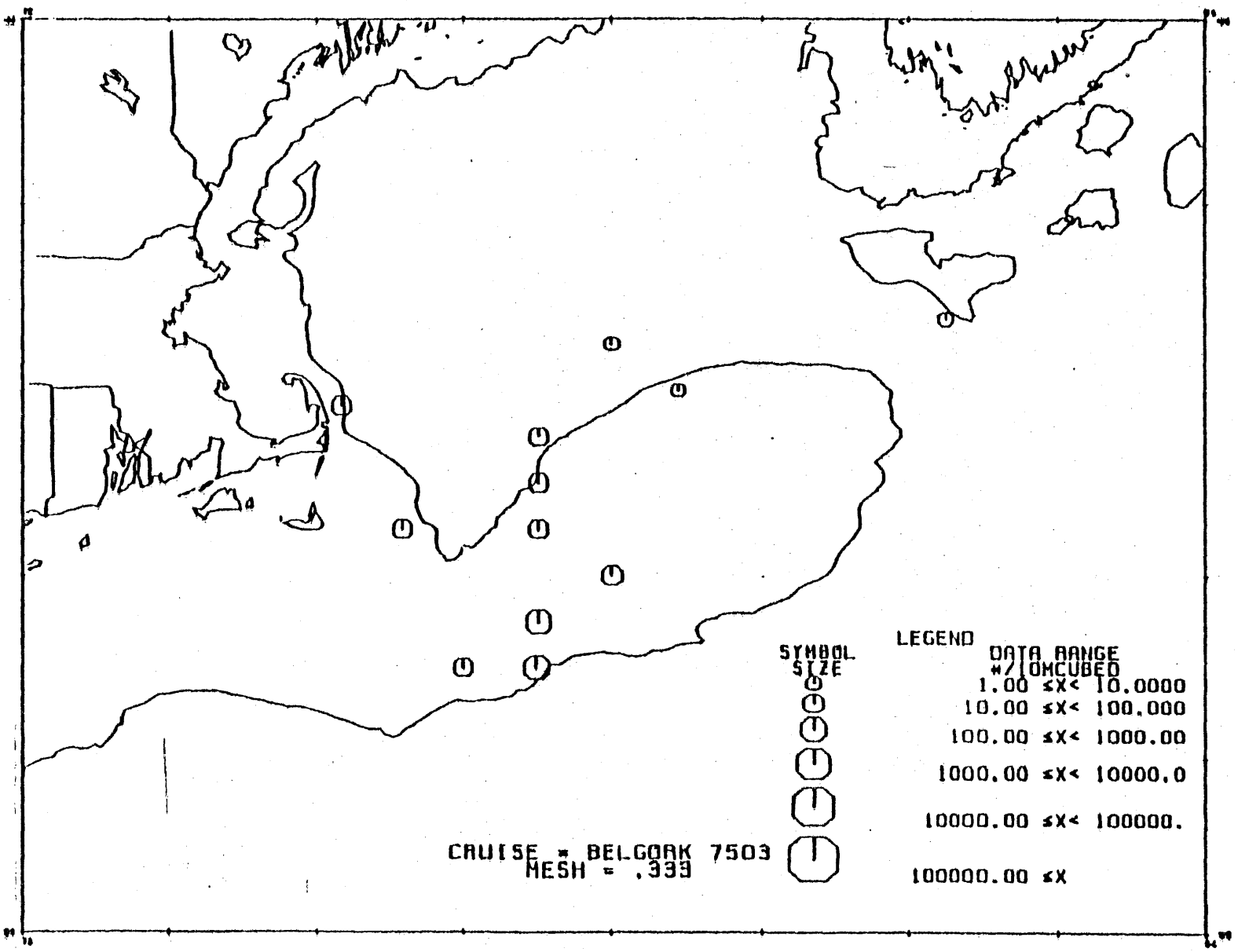

Figure 268

Centropages typicus

Copepodite Stage 4

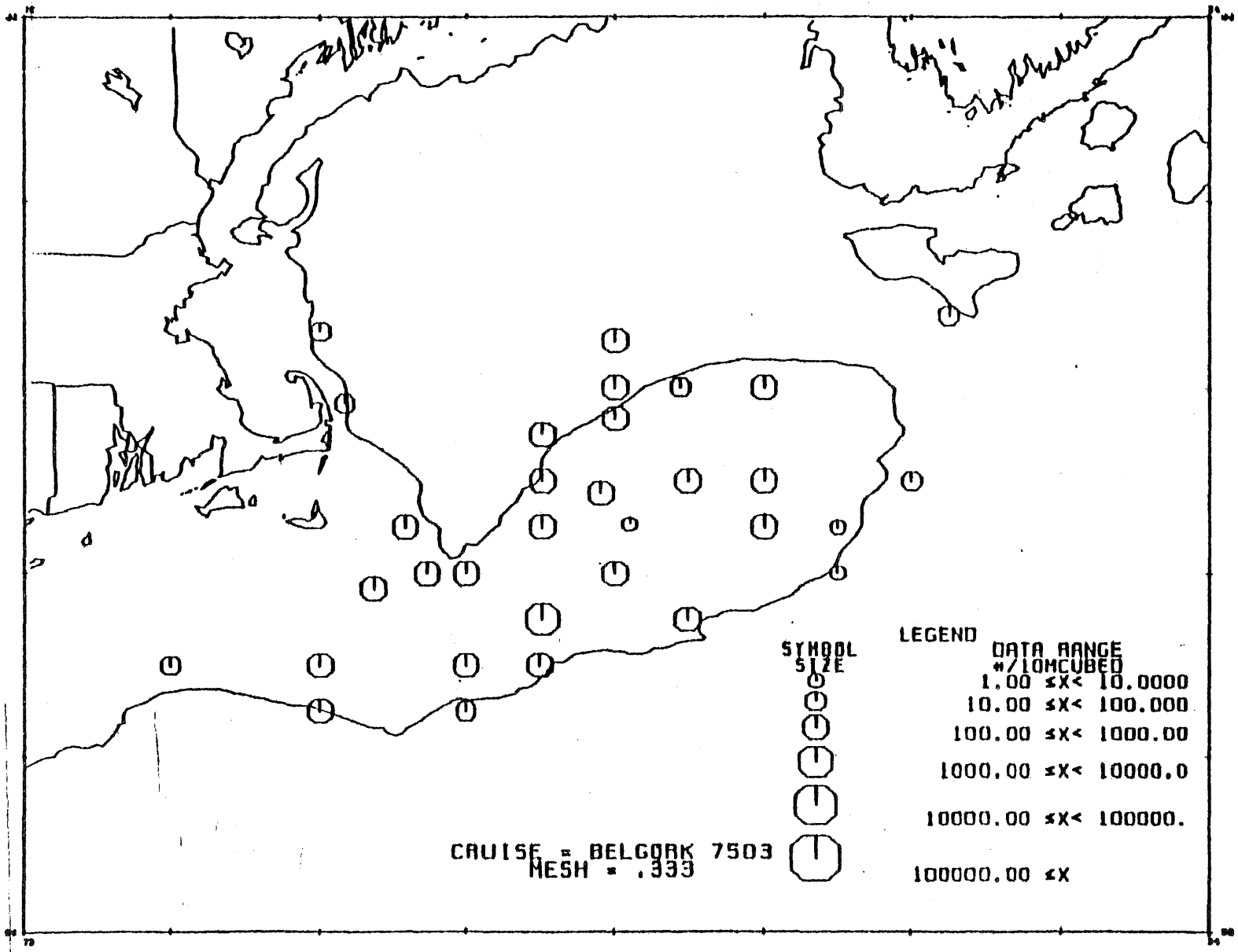

Figure 269

Centropages typicus

Copepodite Stage 5

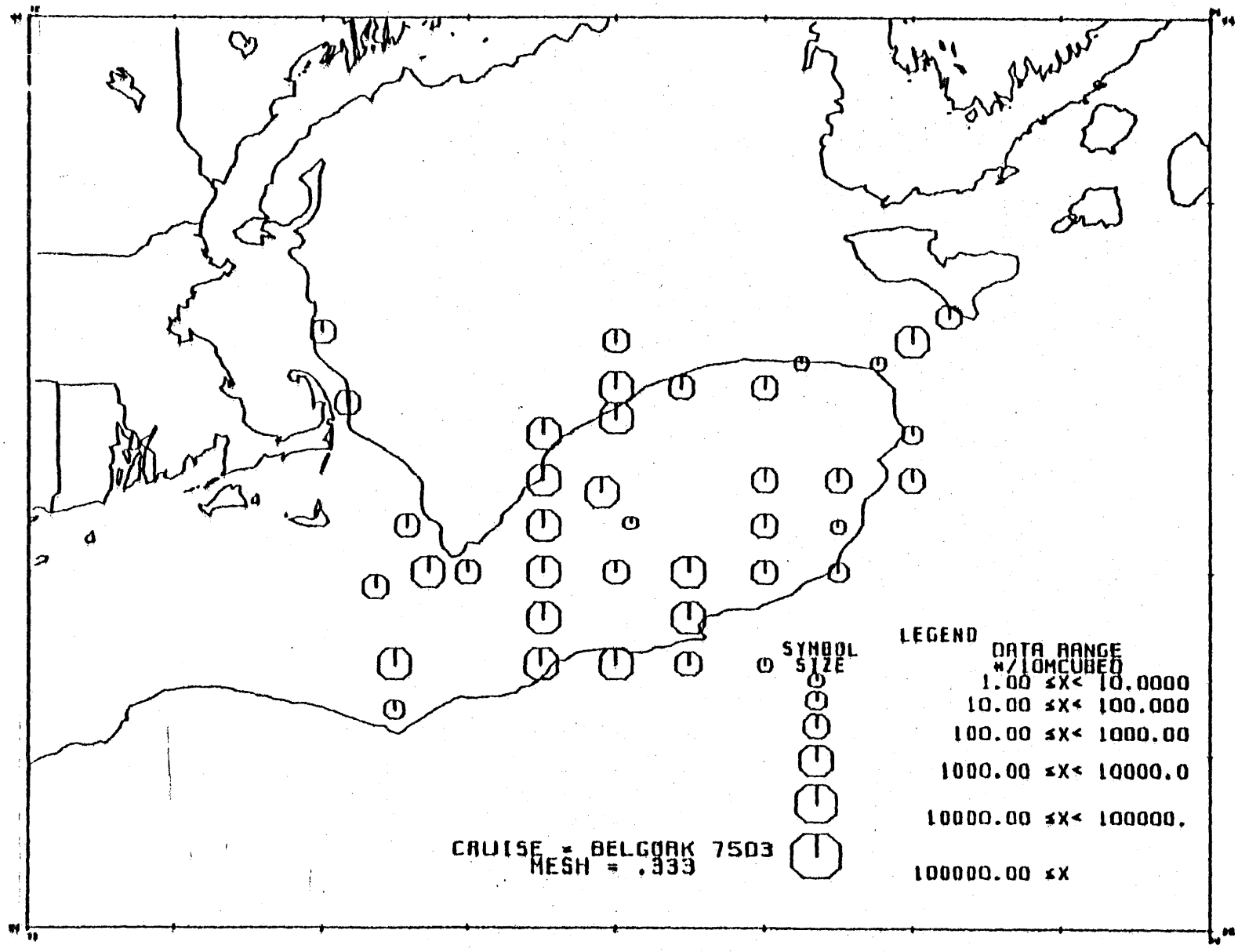

Figure 270

Centropages typicus

Copepodite

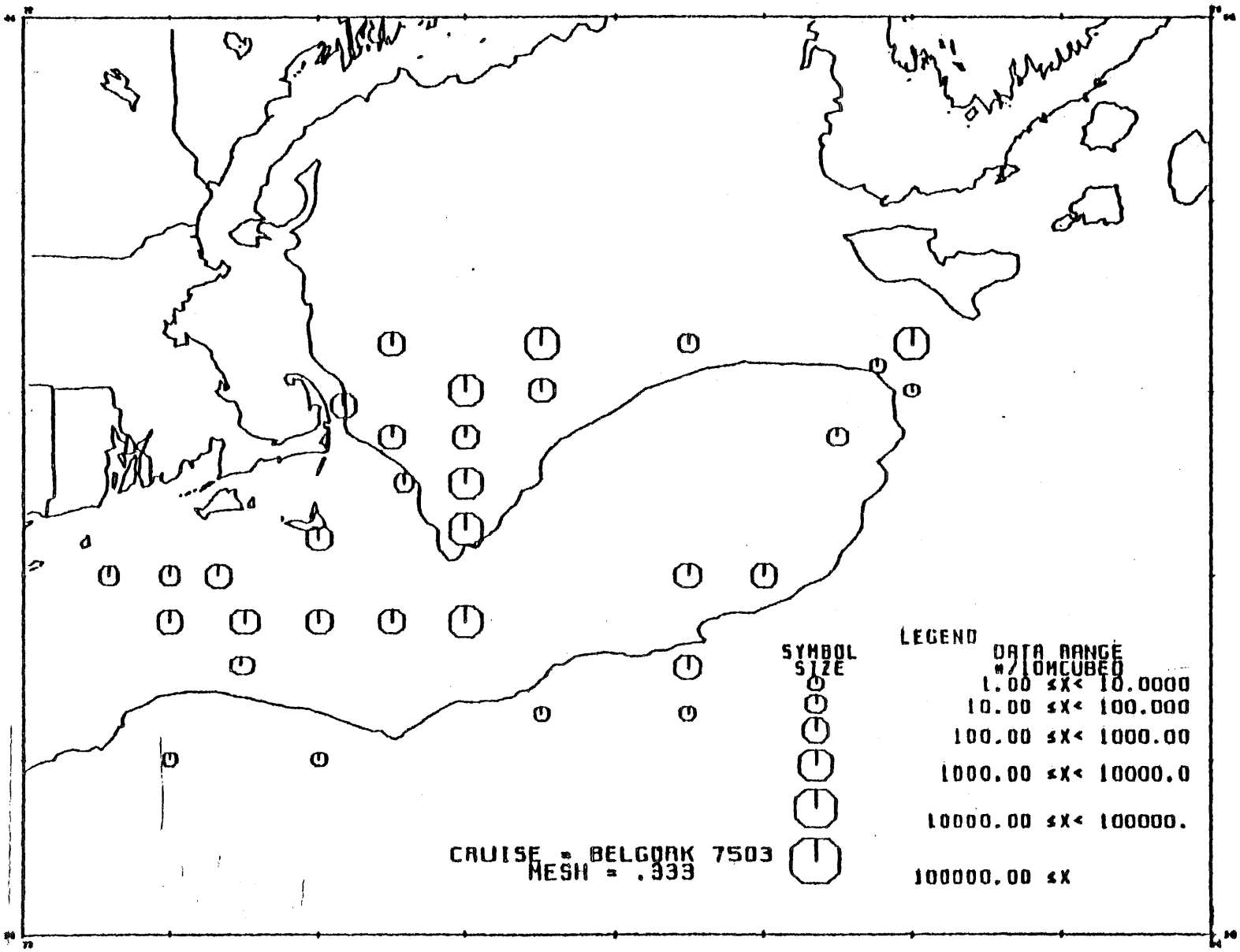

Figure 271

Centropages typicus

Adult

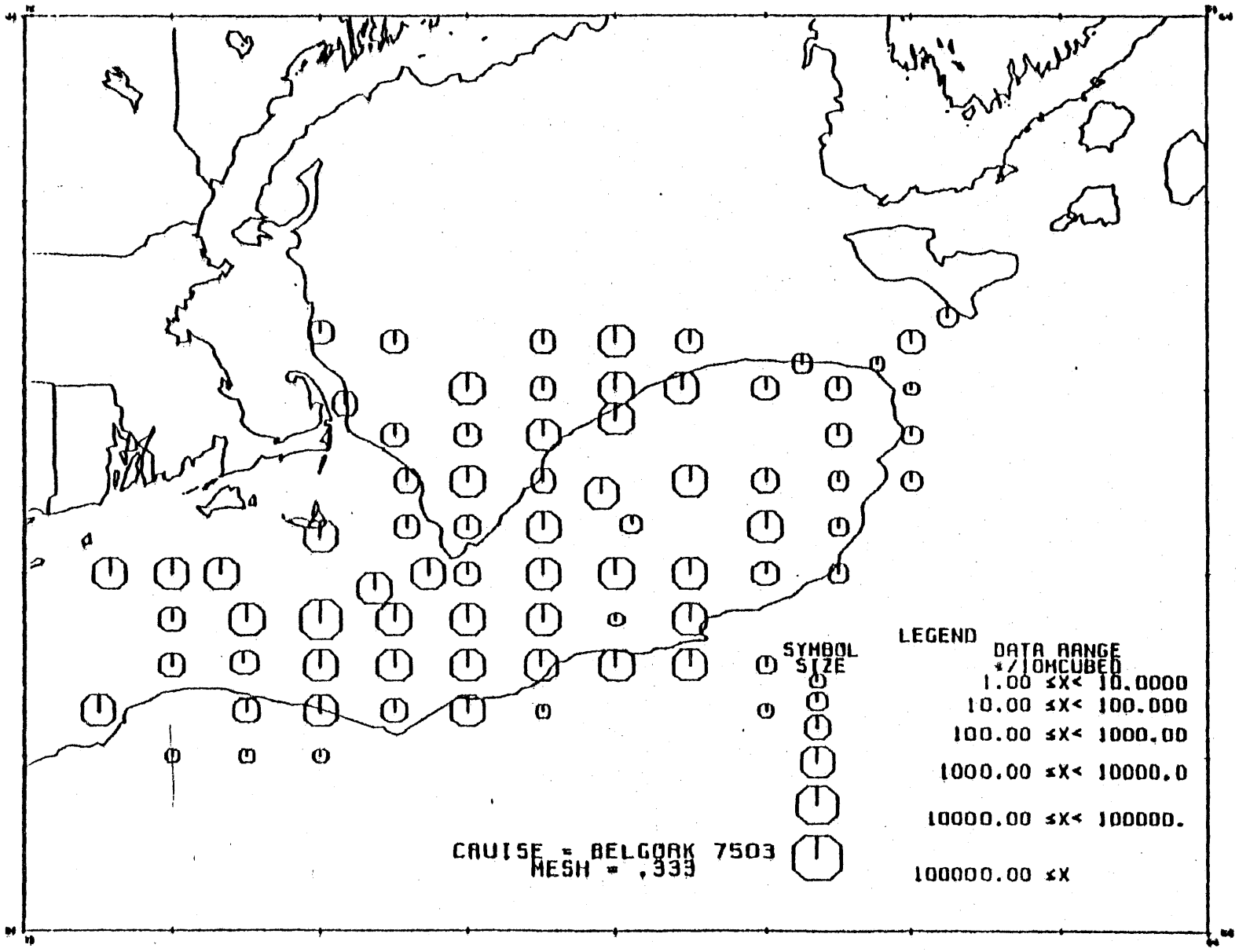

Figure 272

Centropages hamatus

Copepodite Stage 3

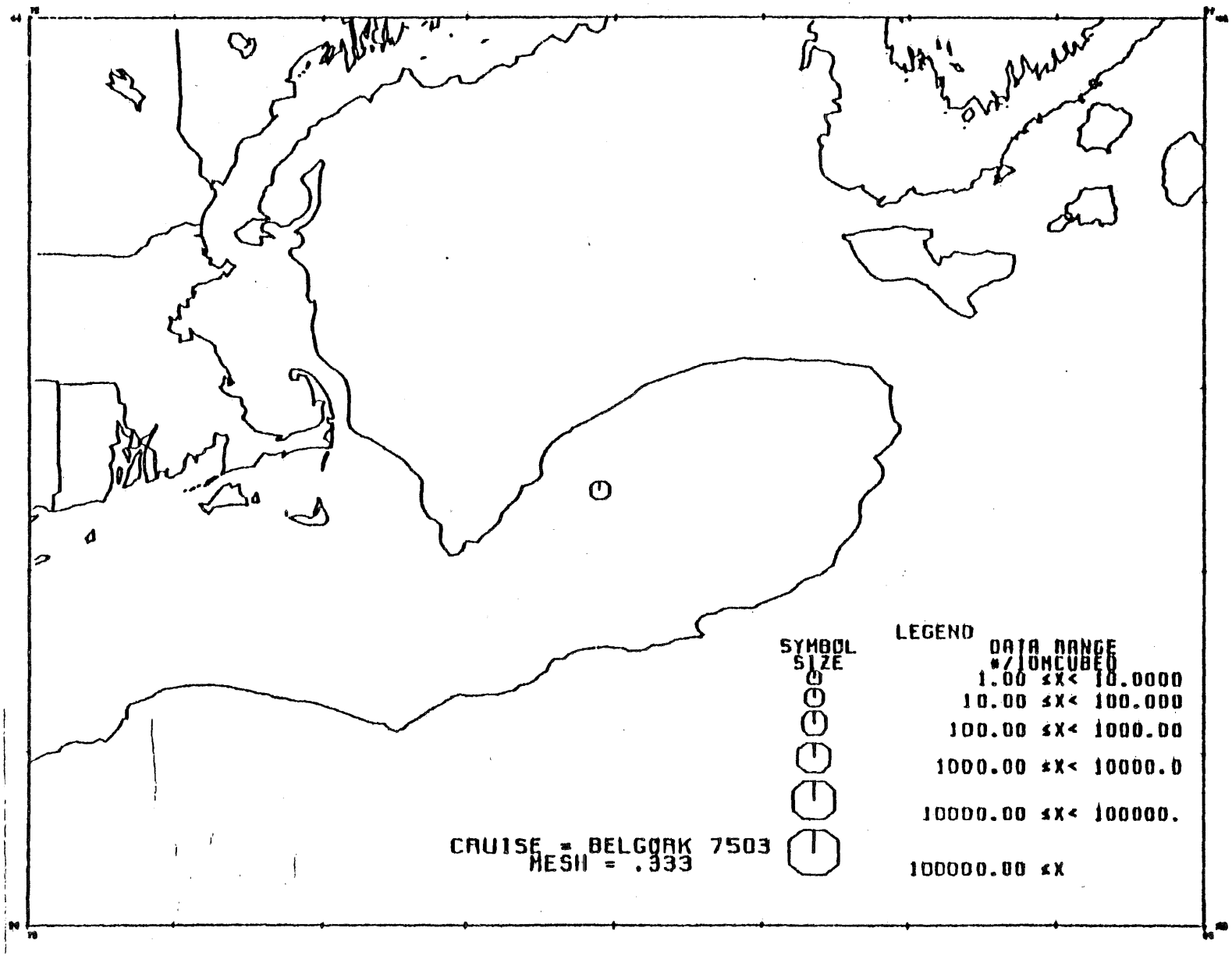

Figure 273

Centropages hamatus

Copepodite Stage 4

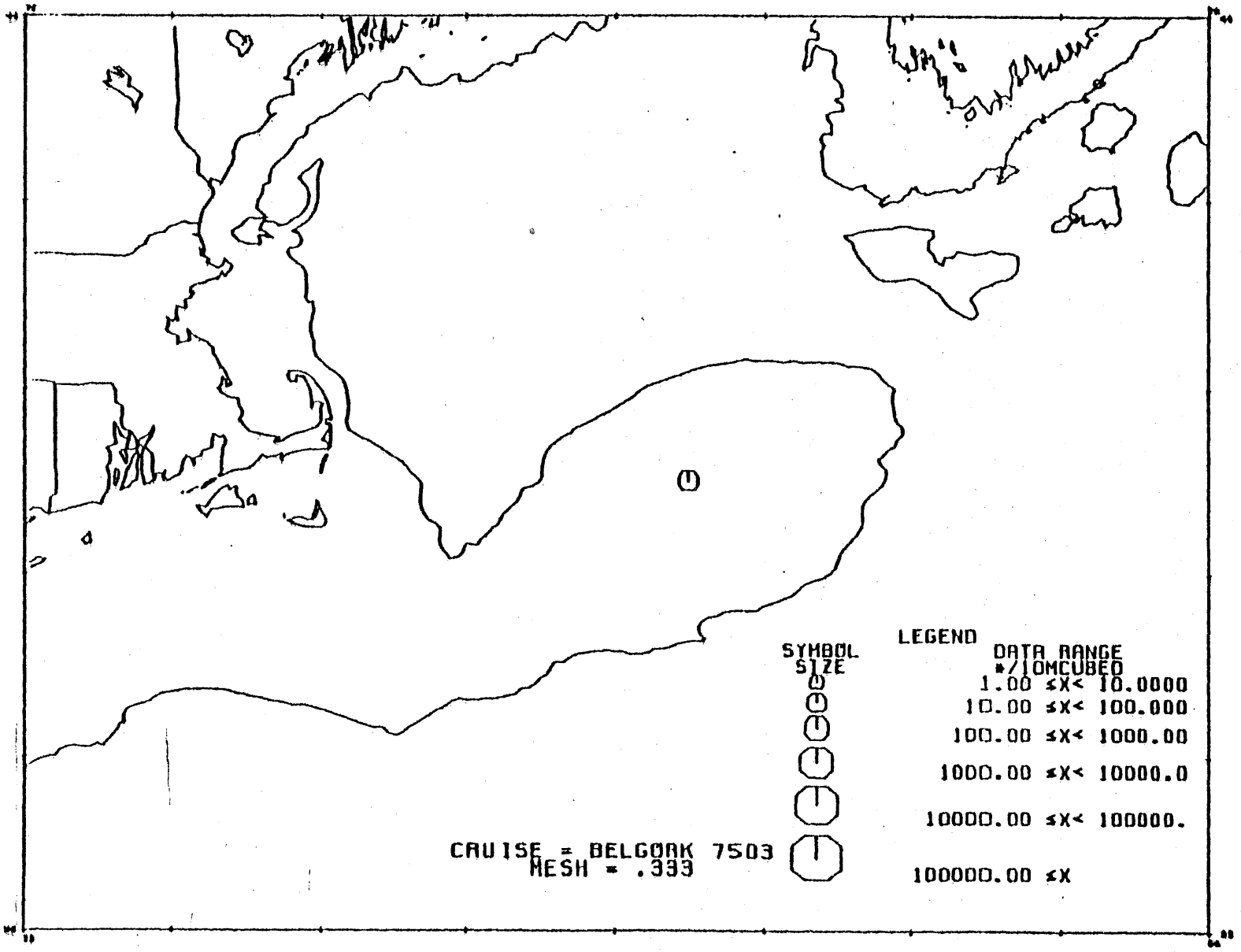

Figure 274

Centropages hamatus

Copepodite Stage 5

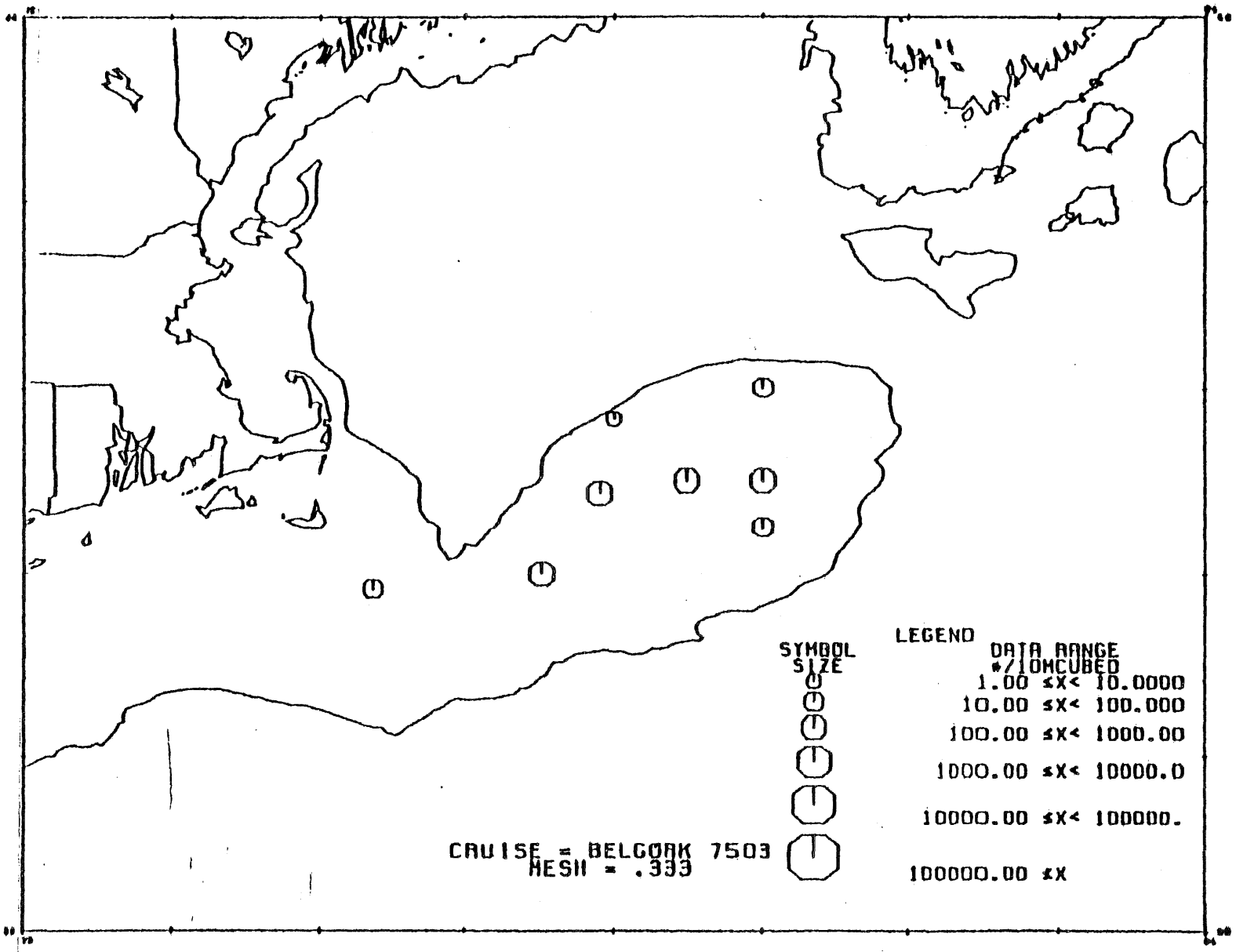

Figure 275

Centropages hamatus

Copepodite

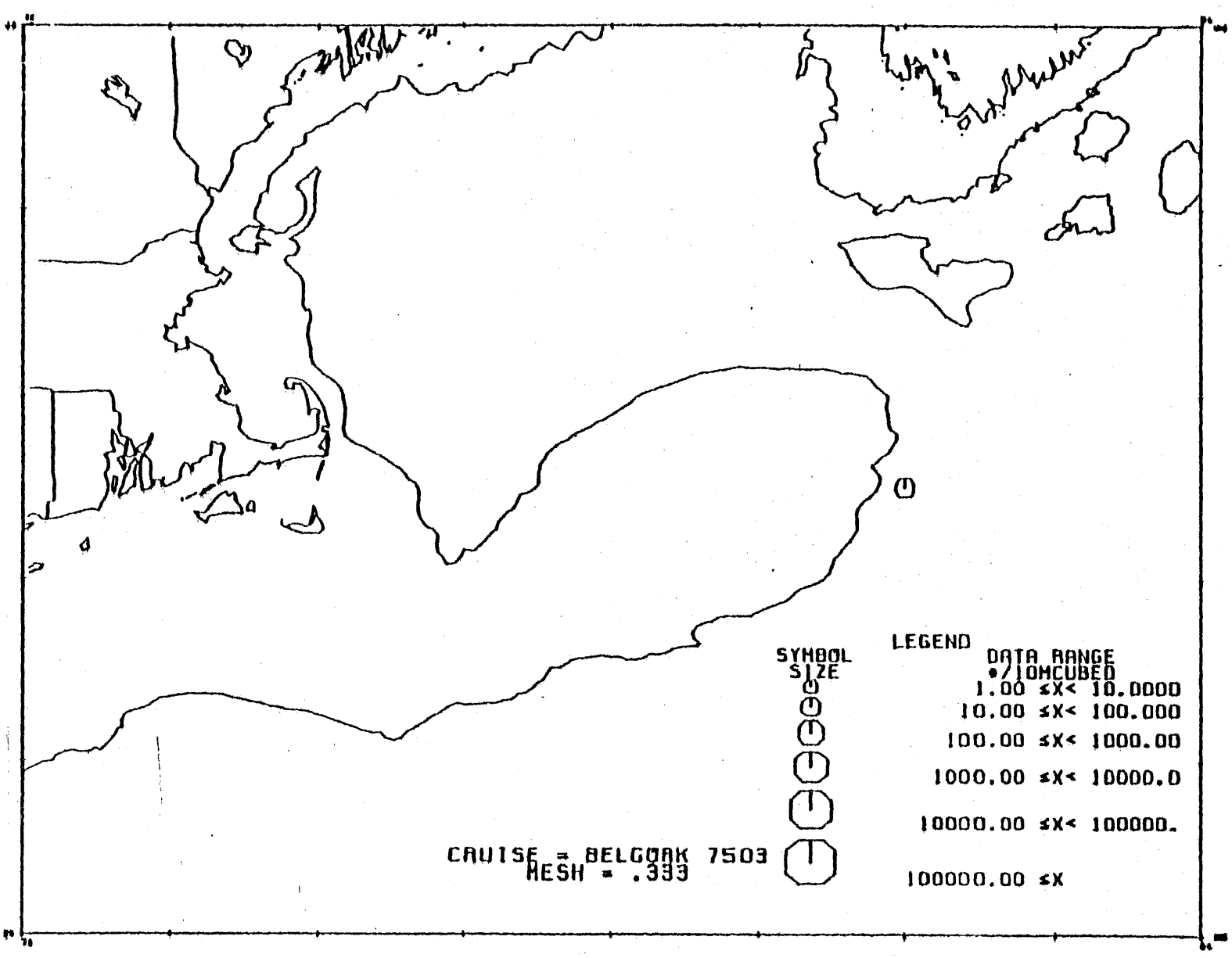

Figure 276

Centropages hamatus

Adult

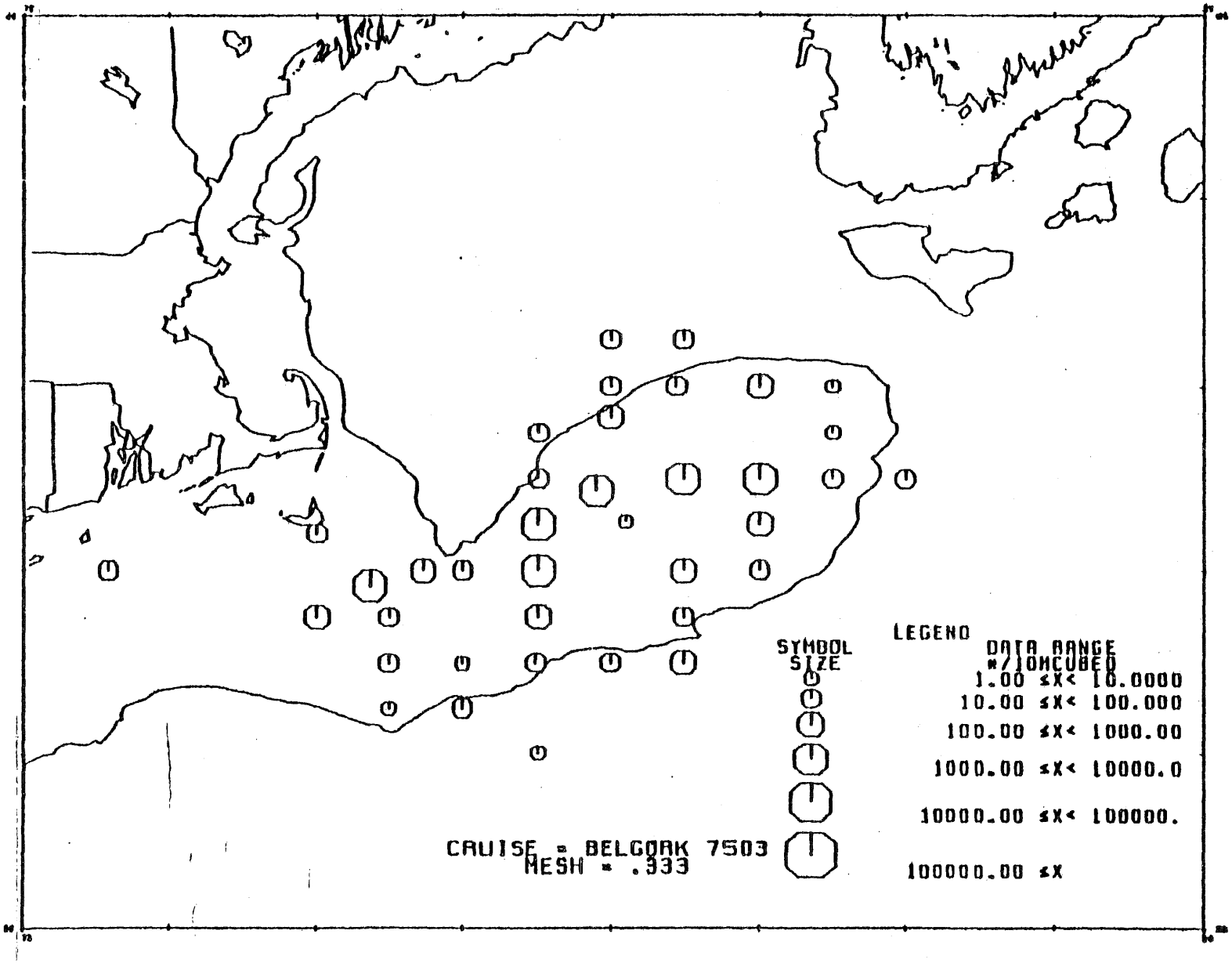

Figure 277

Oithona spp.

Adult

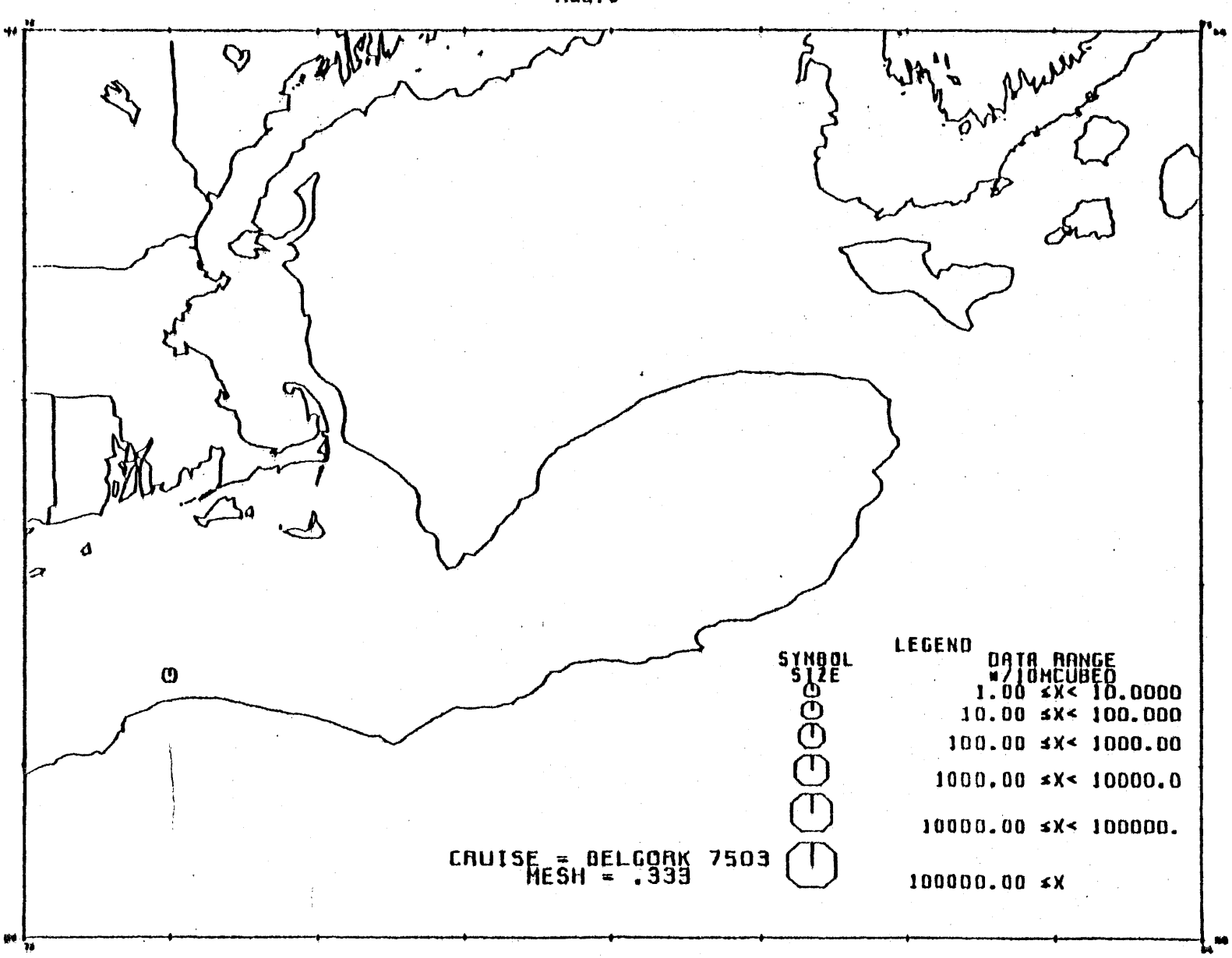

Figure 278

Calanus finmarchicus

Copepodite Stage 2

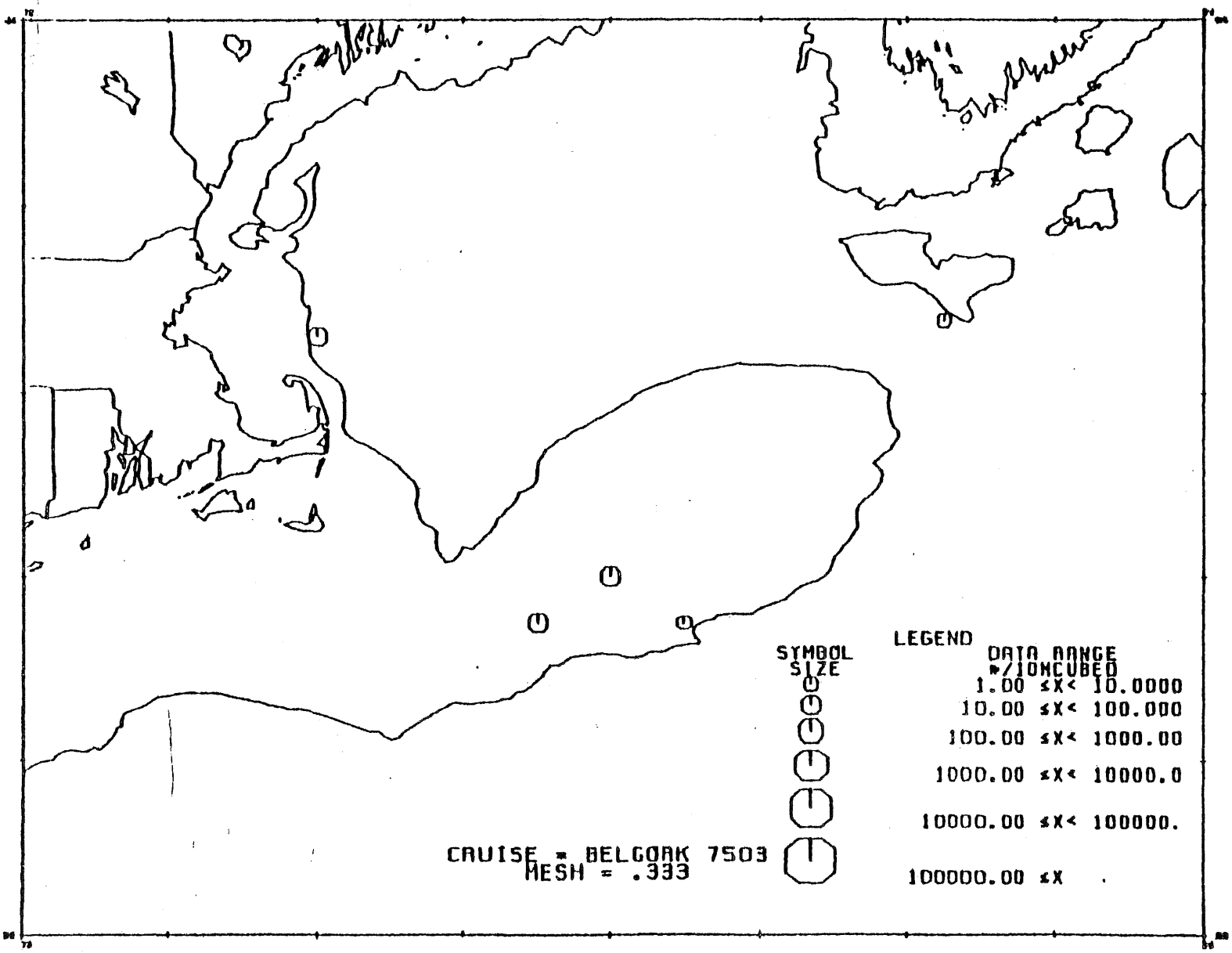

Figure 279

Calanus finmarchicus

Copepodite Stage 3

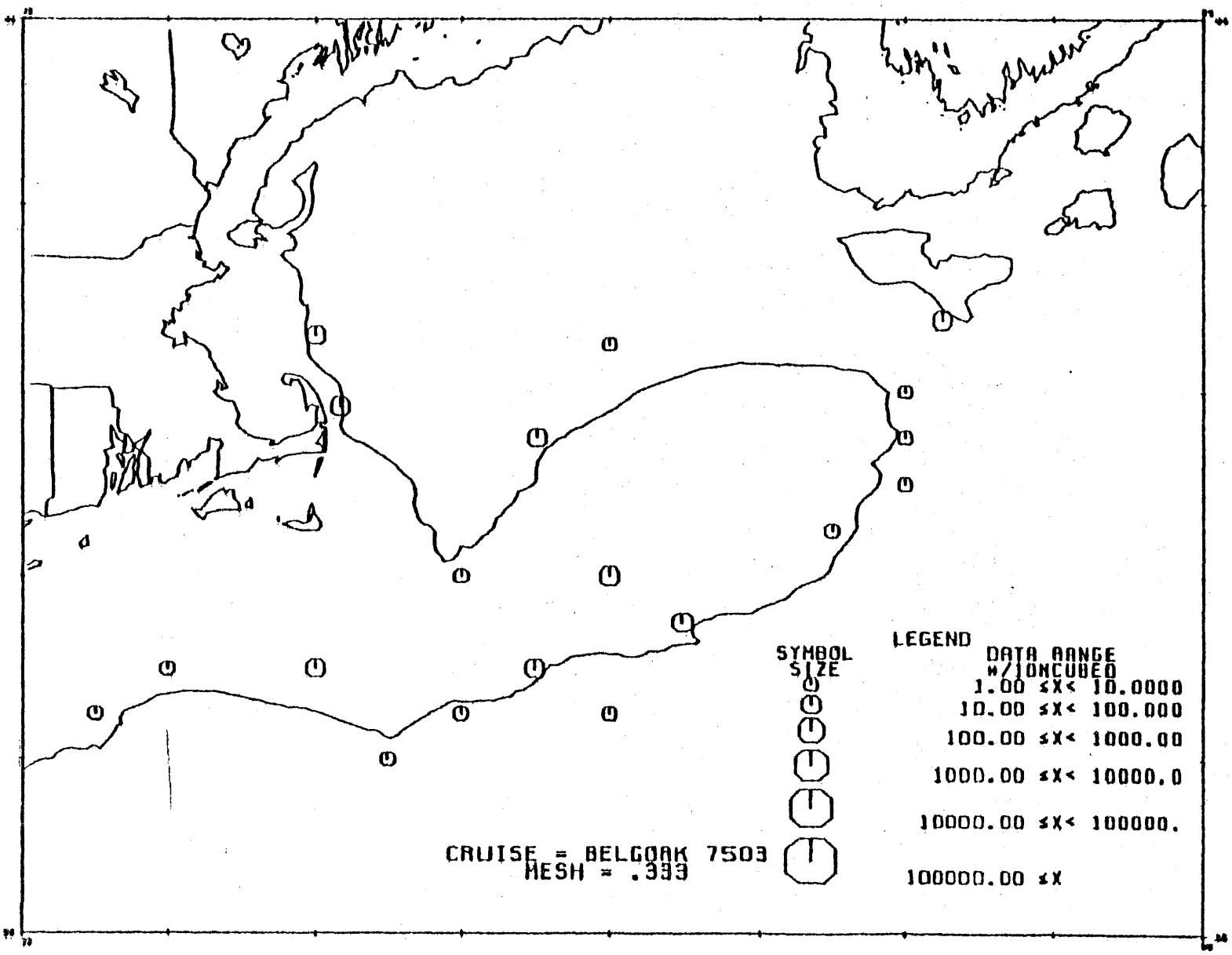

Figure 280

Calanus finmarchicus

Copepodite Stage 4

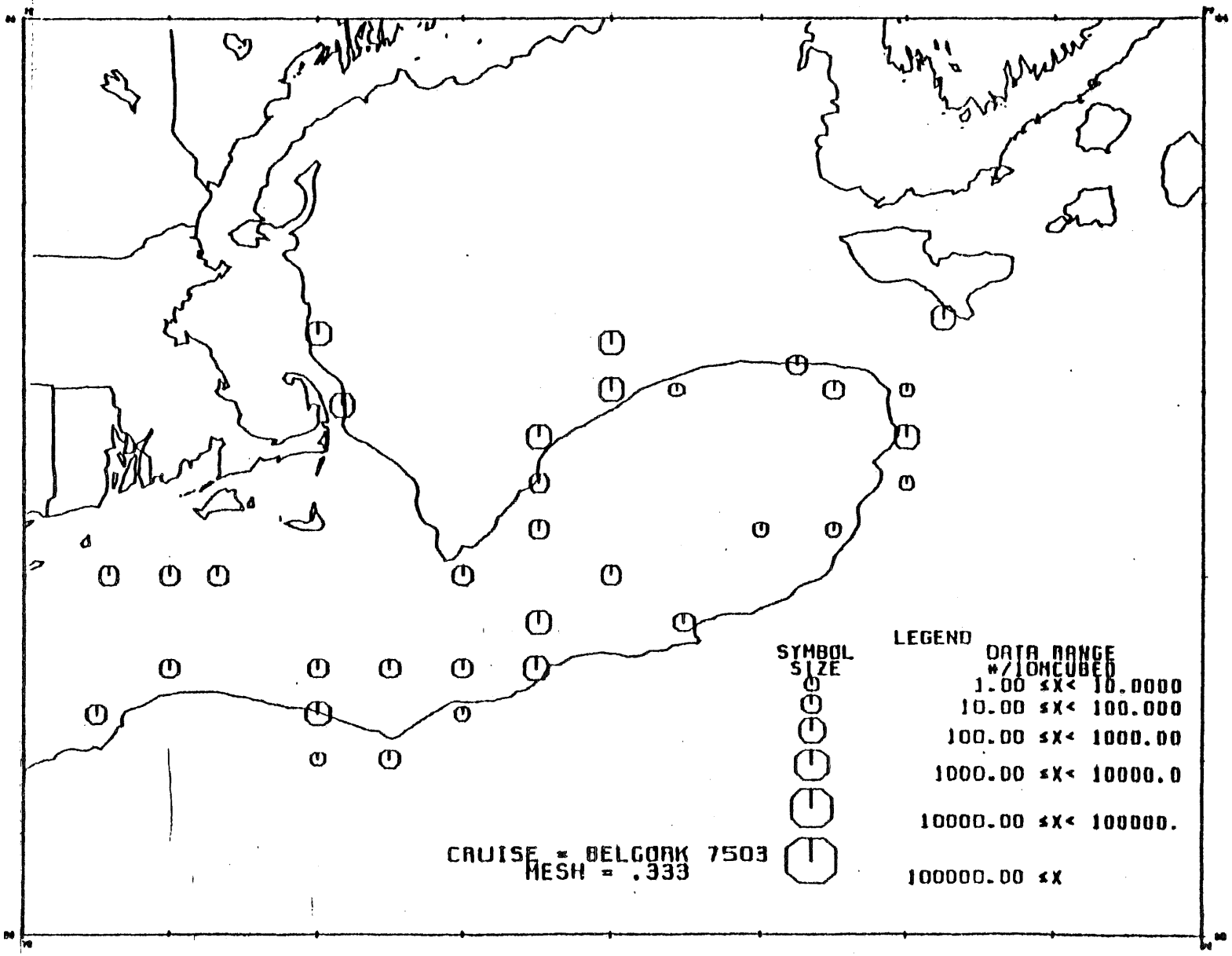

Figure 281

Calanus finmarchicus

Copepodite Stage 5

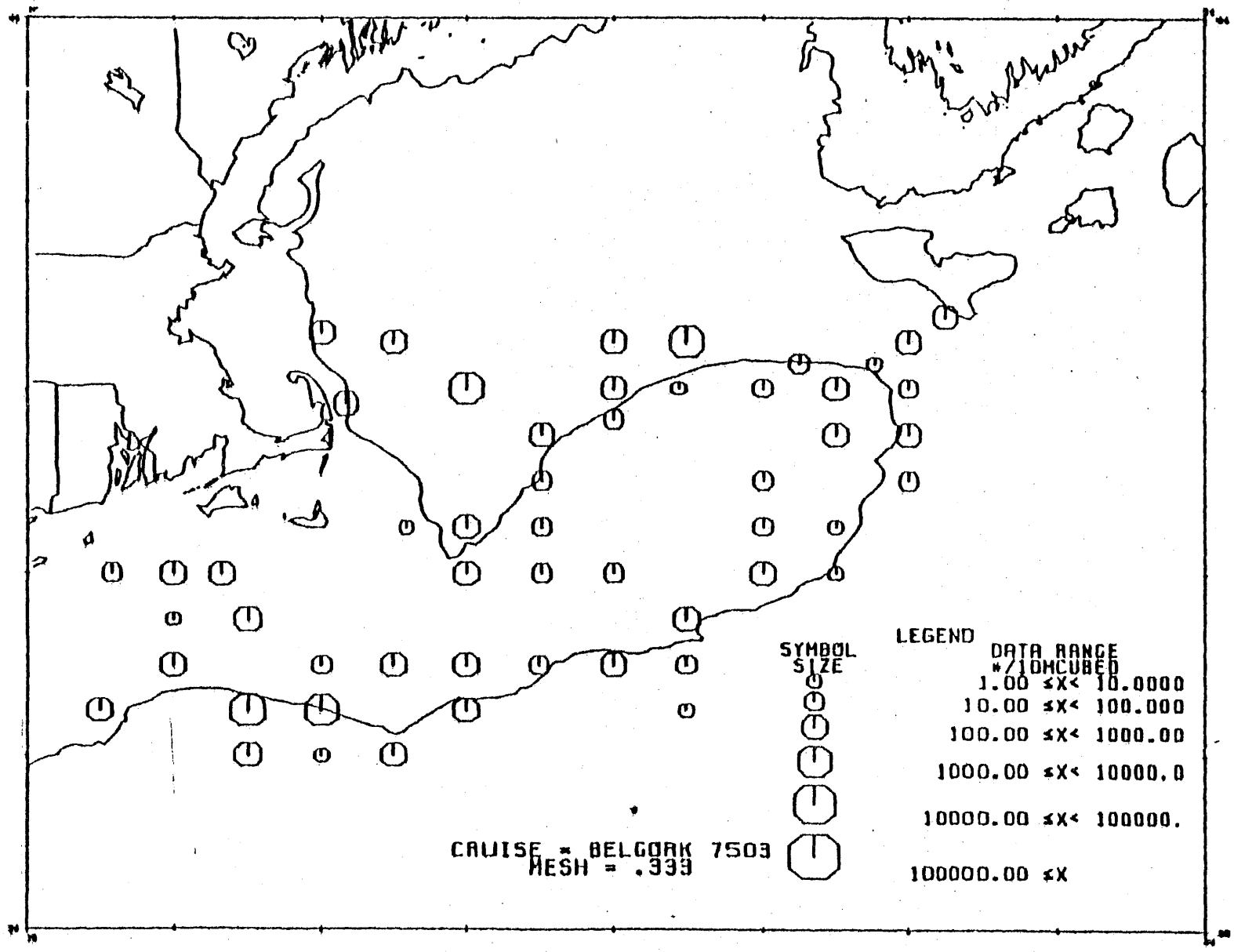

Figure 282

Calanus finmarchicus

Copepodite

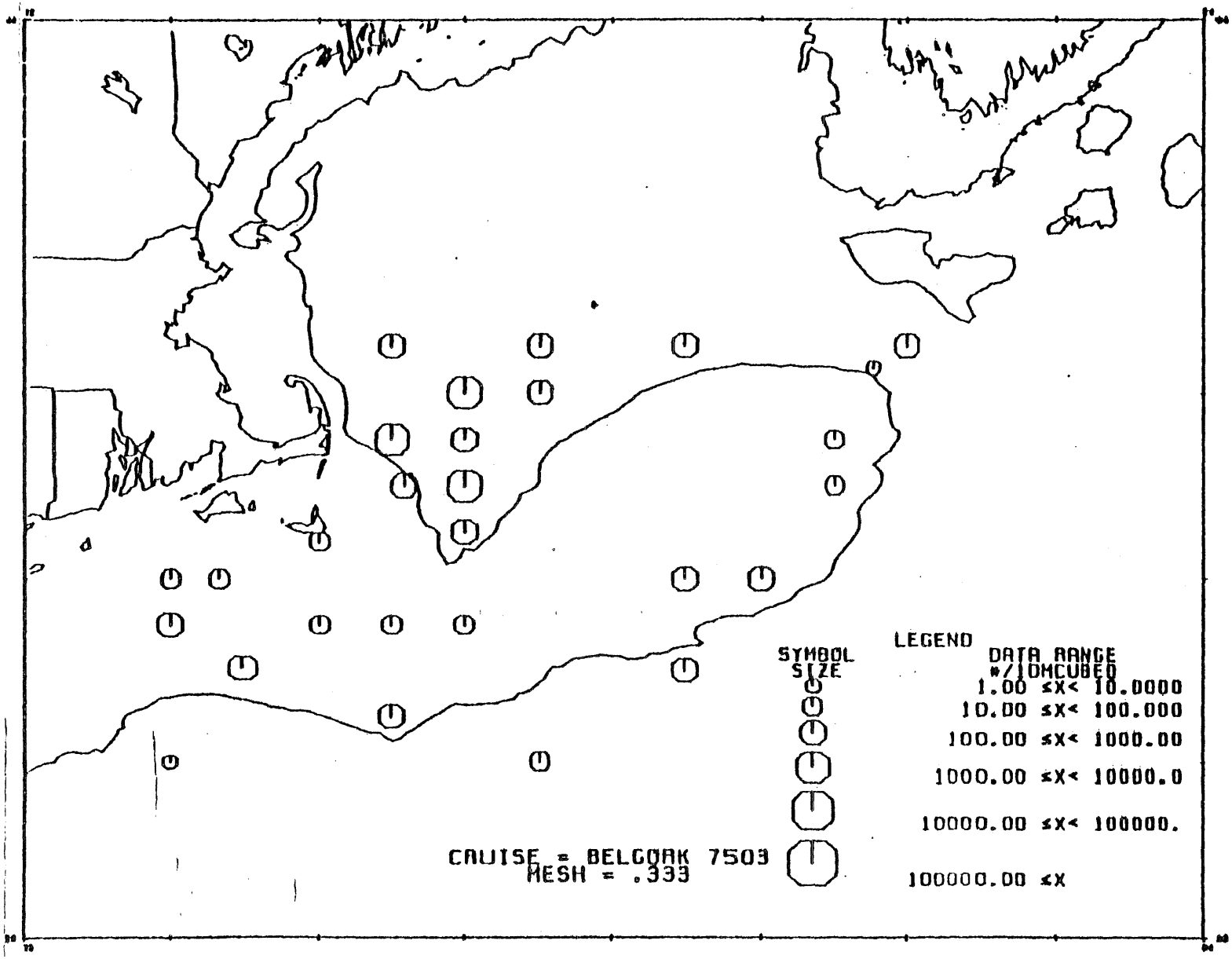

Figure 283

Calanus finmarchicus

Adult

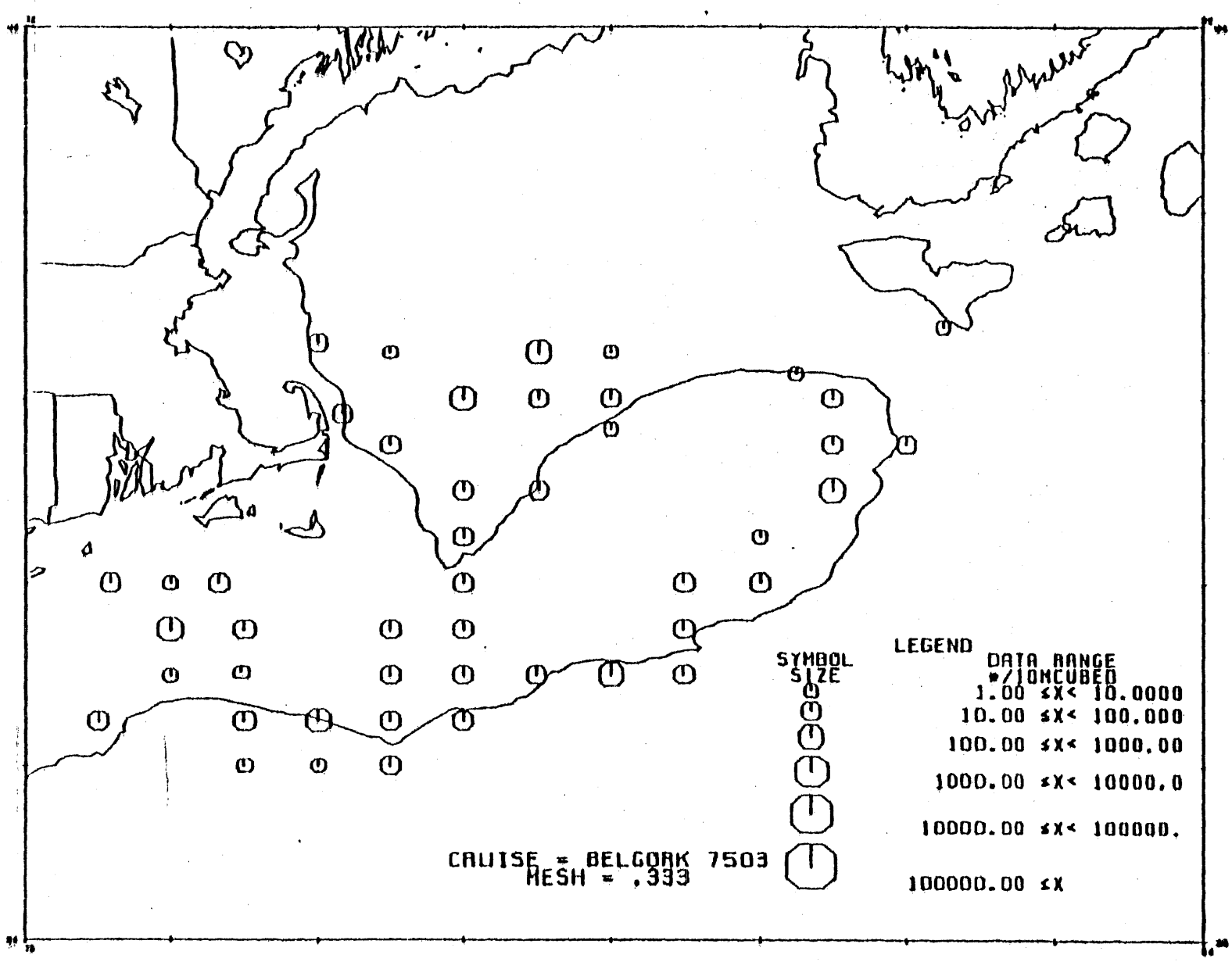

Figure 284

CHAETOGNATHA

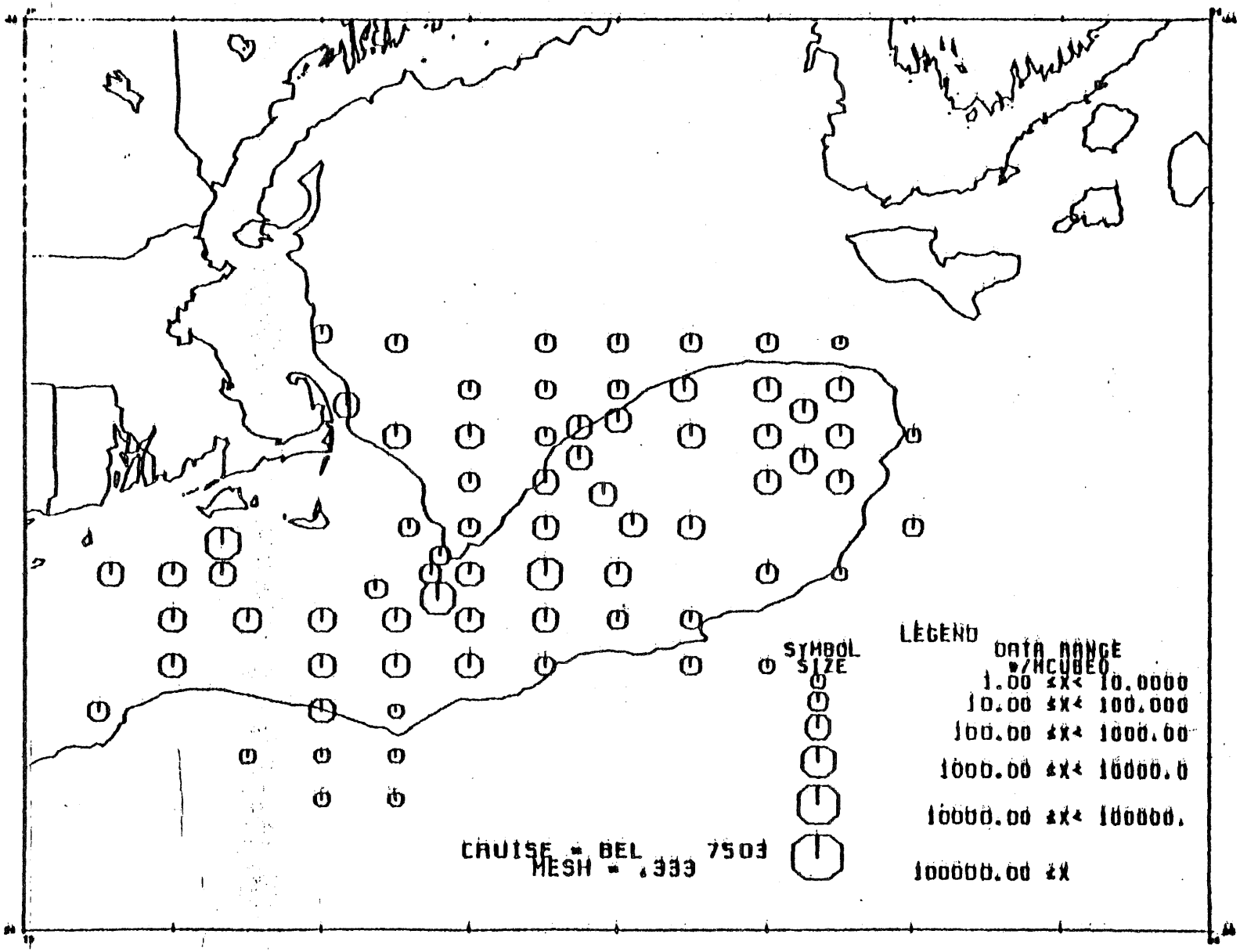

Figure 285

AMPHIPODA

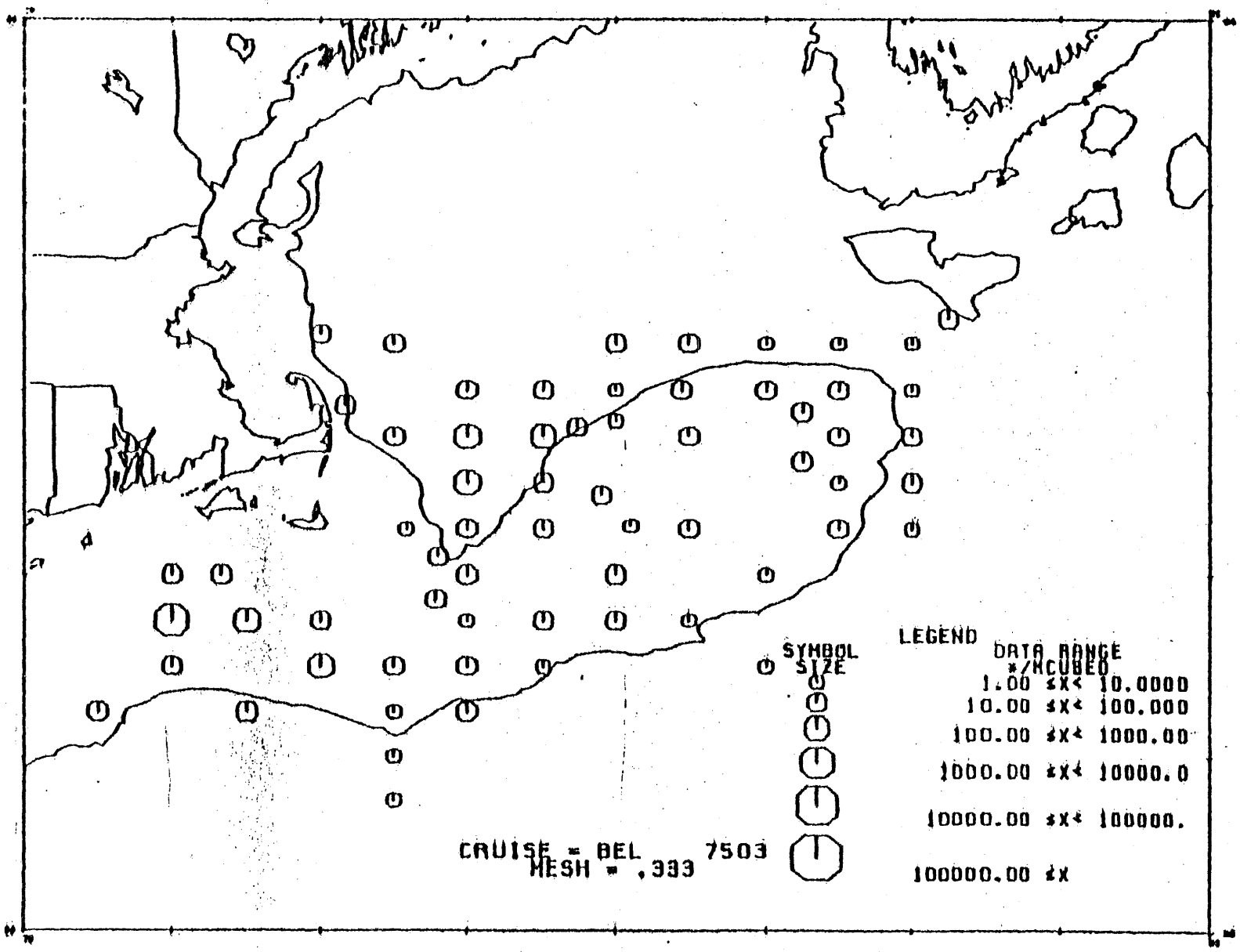

Figure 286

EUPHAUSIACEA

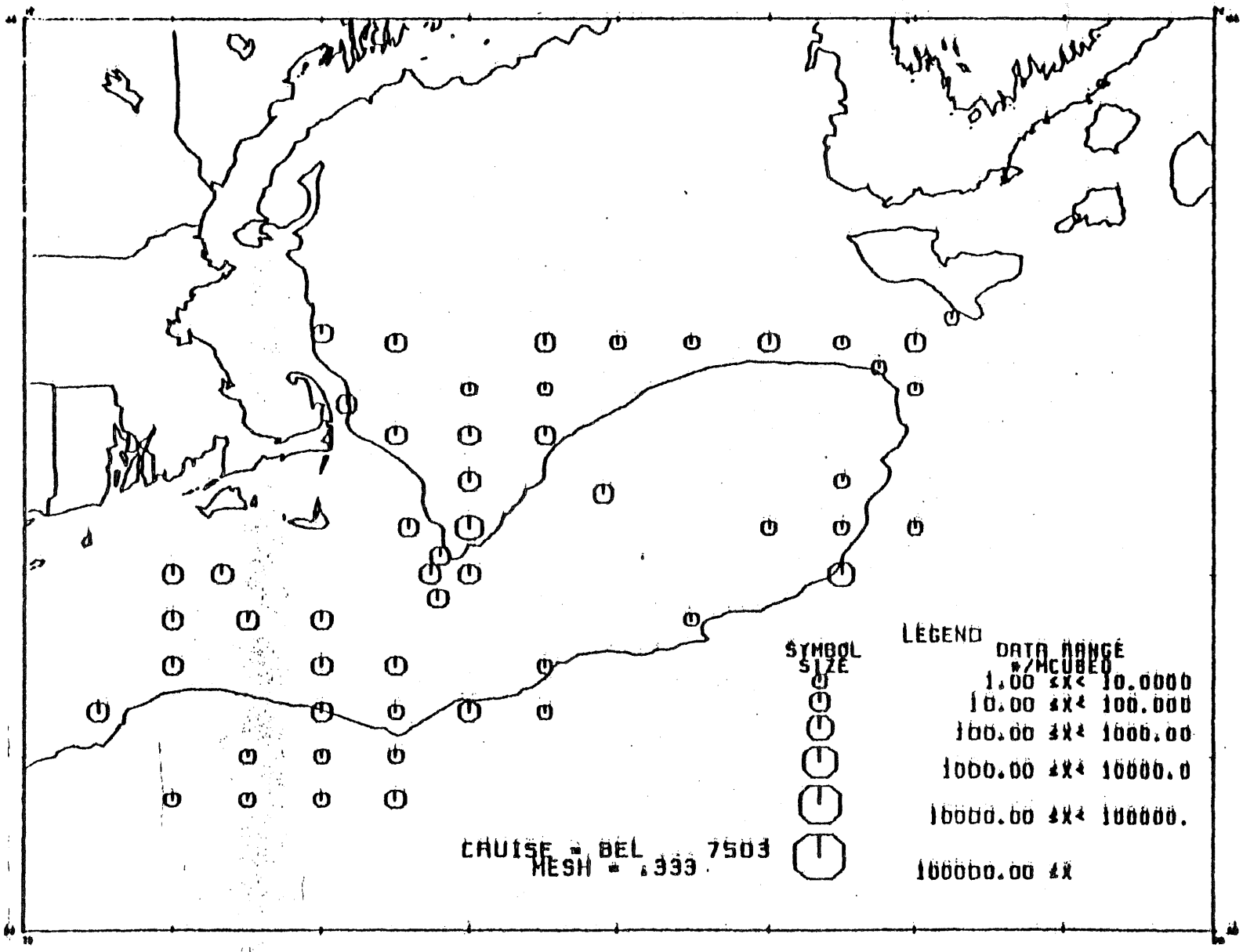

Figure 287

MYSIDACEA

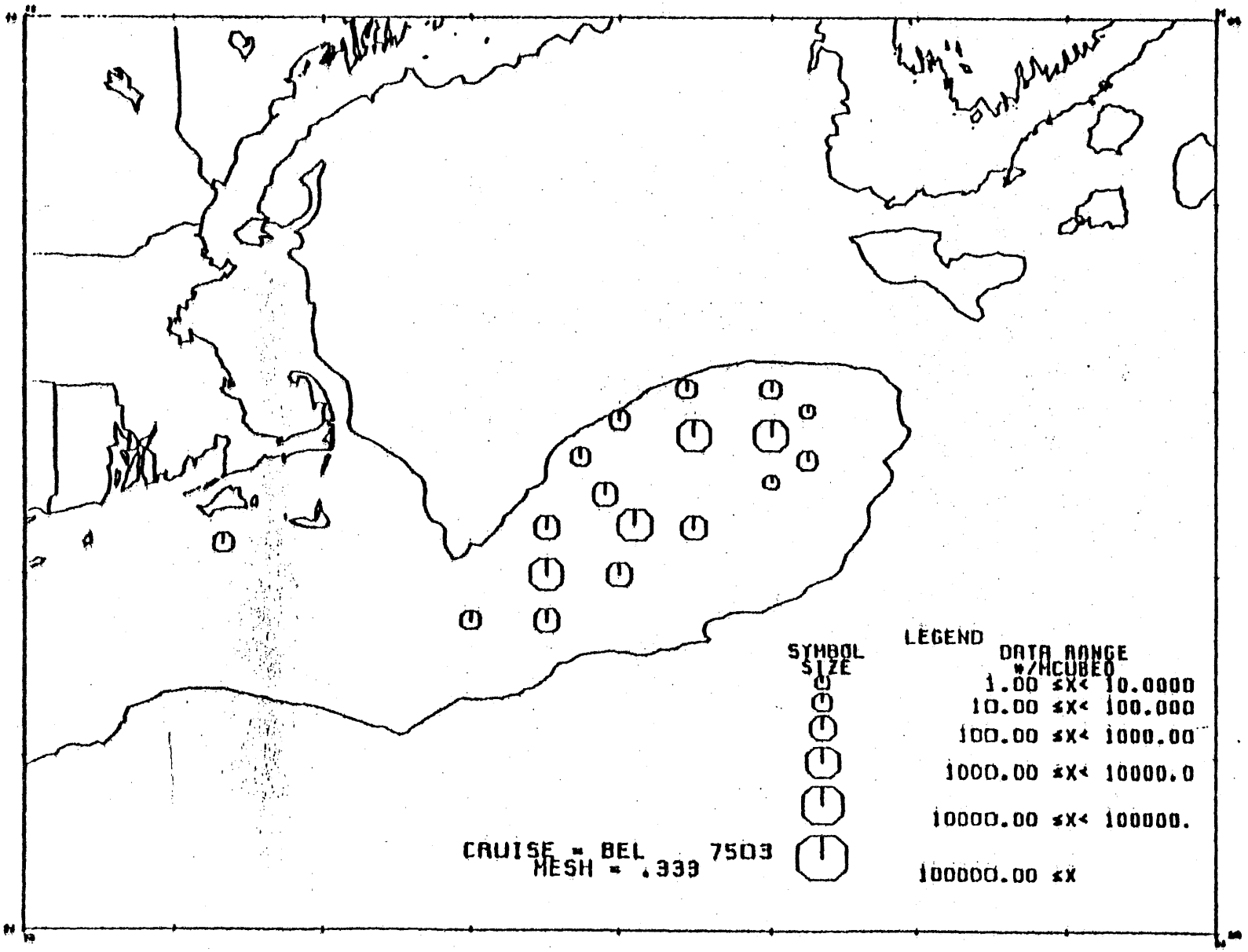

Figure 288

SALPA

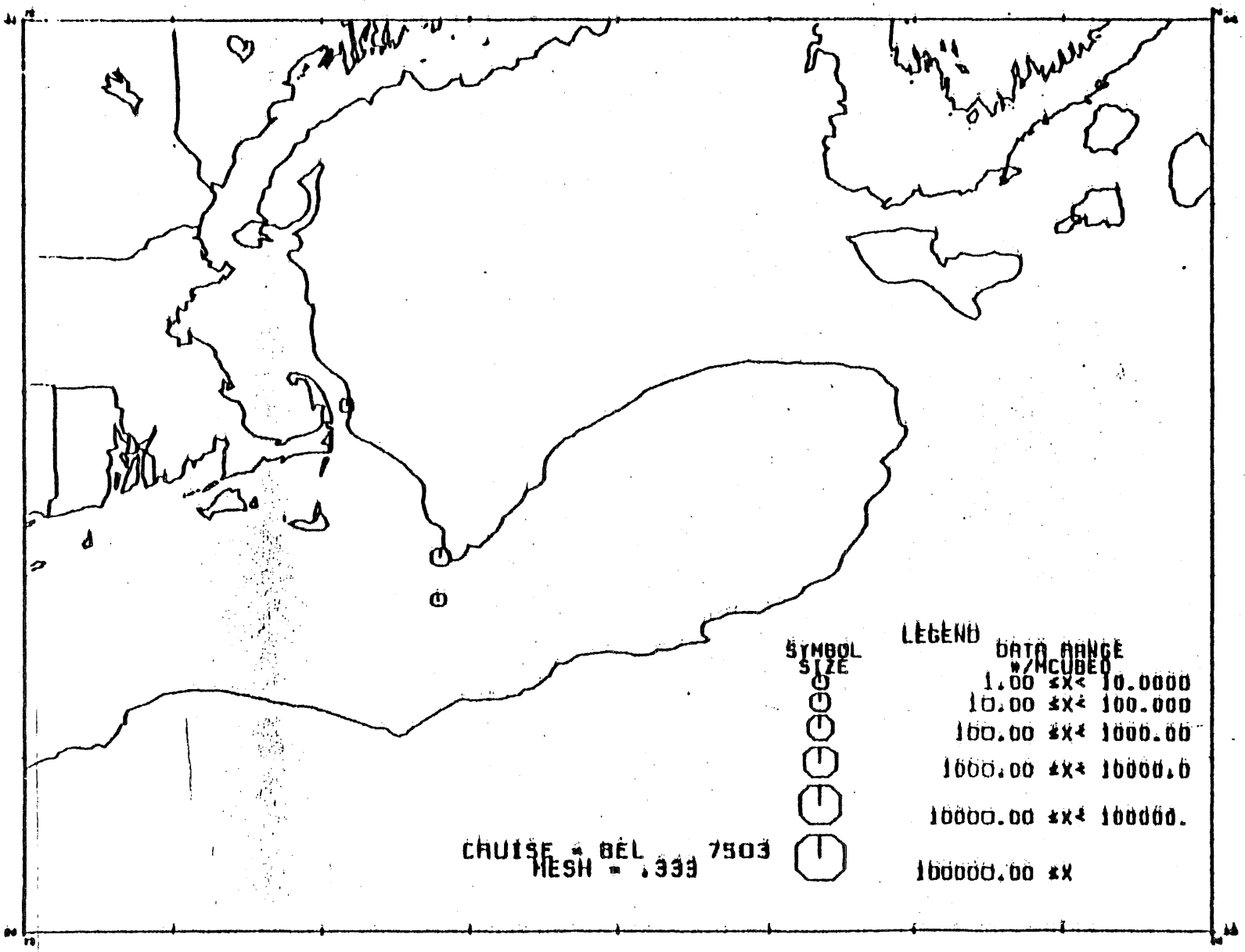

Figure 289

SCYPHOZOA

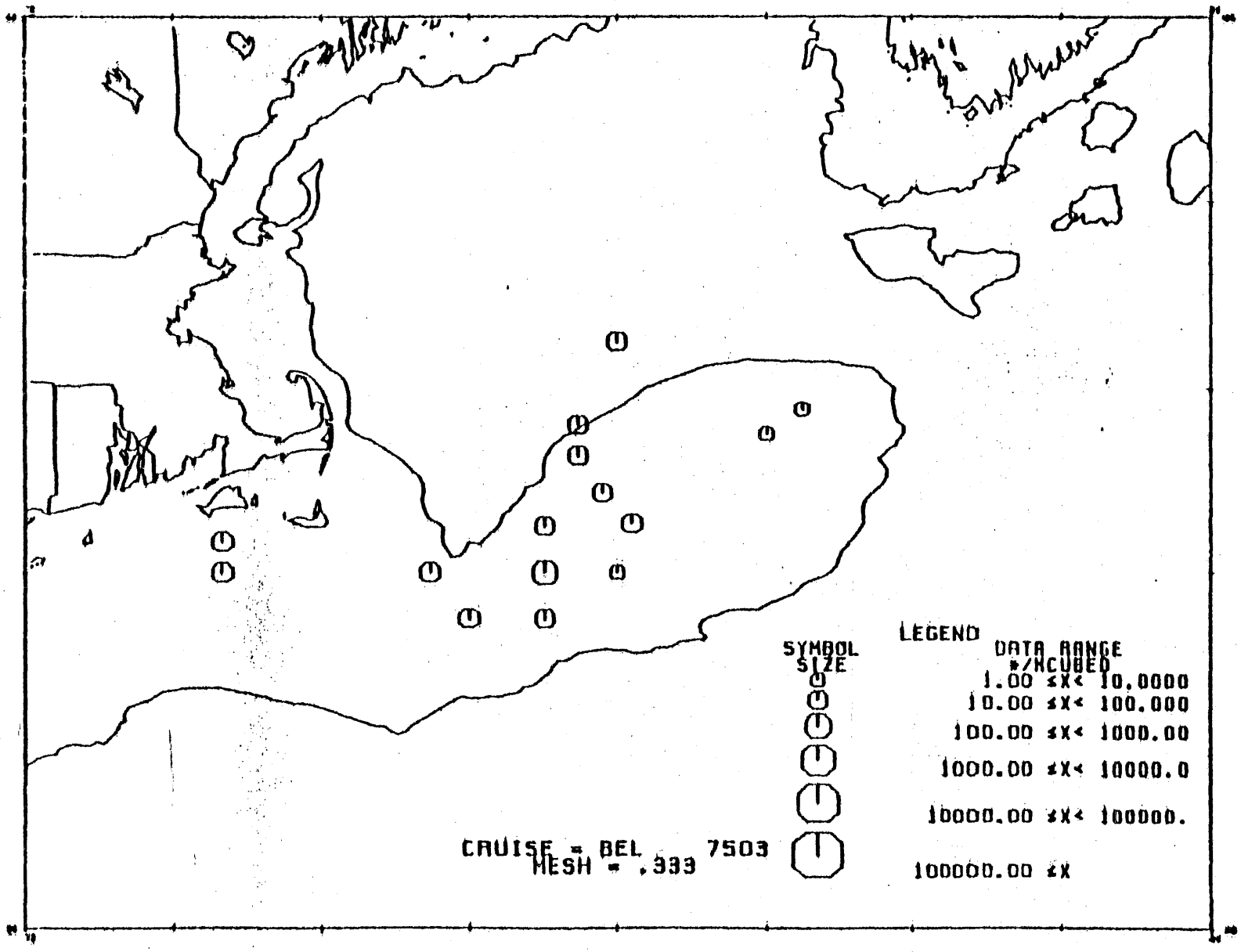

Figure 290

Stations Sampled

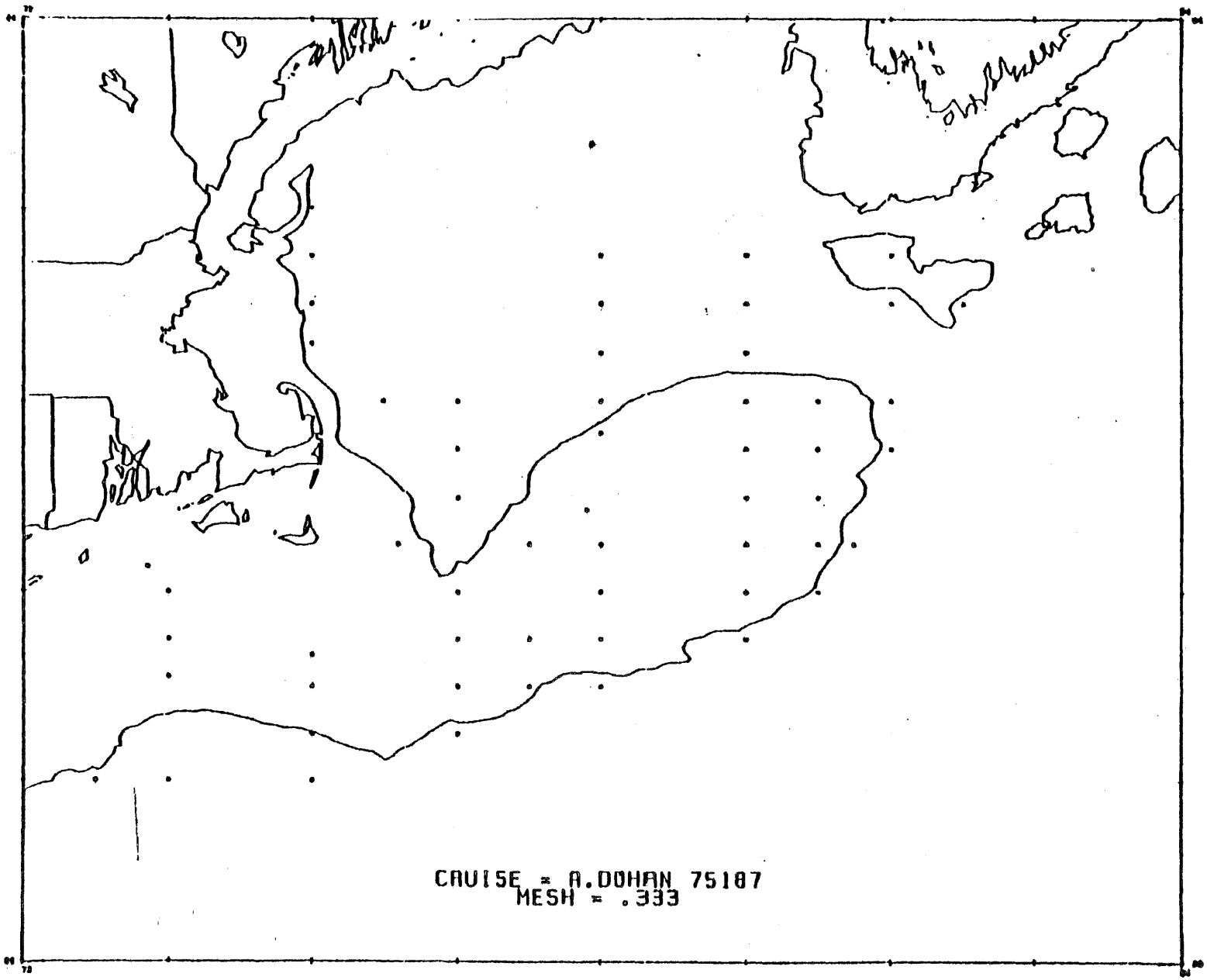

Figure 291

DISPLACEMENT VOLUME

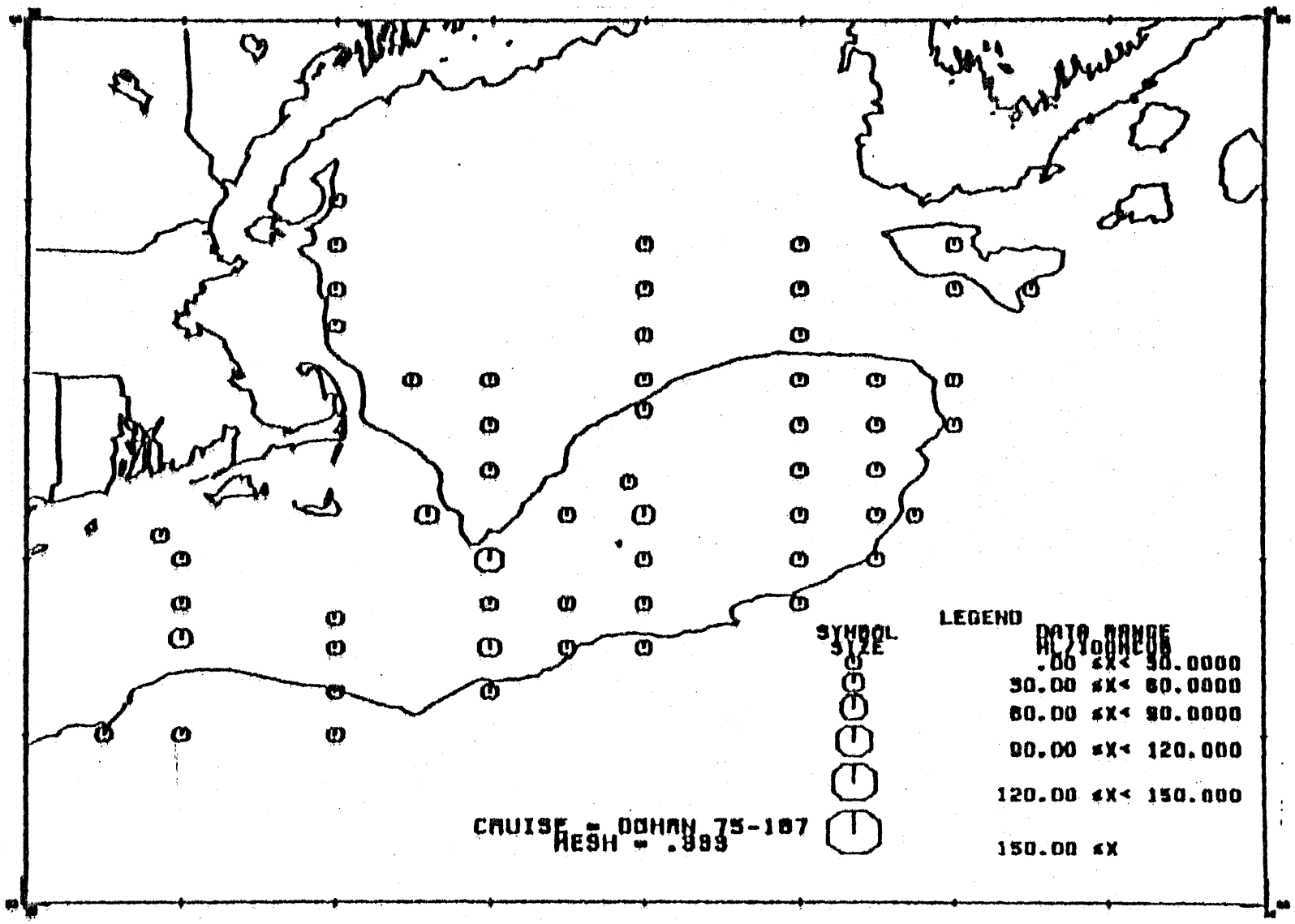

Figure 292

Pseudocalanus sp.

Copepodite Stage 2

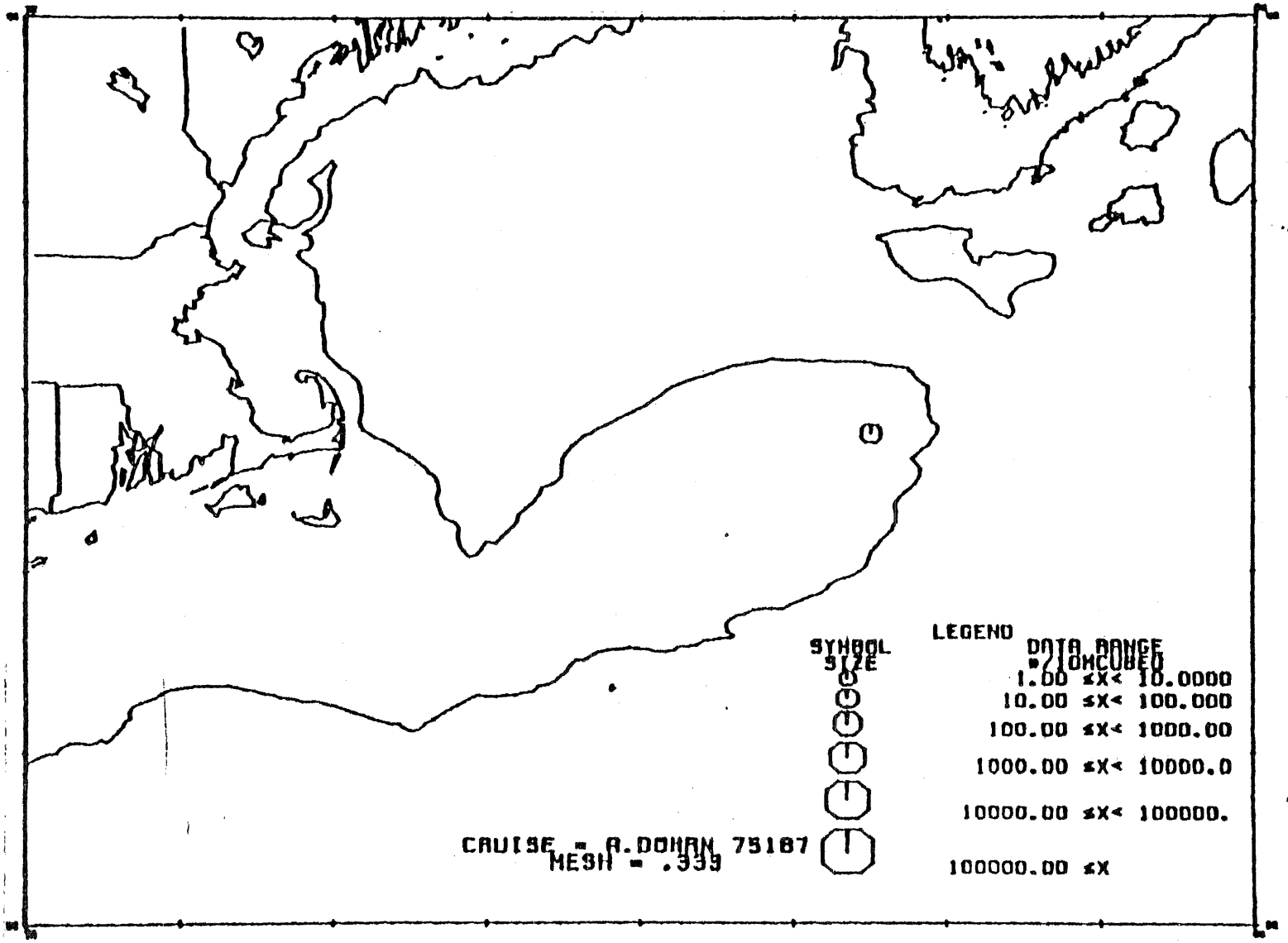

Figure 293

Pseudocalanus sp.

Copepodite Stage 3

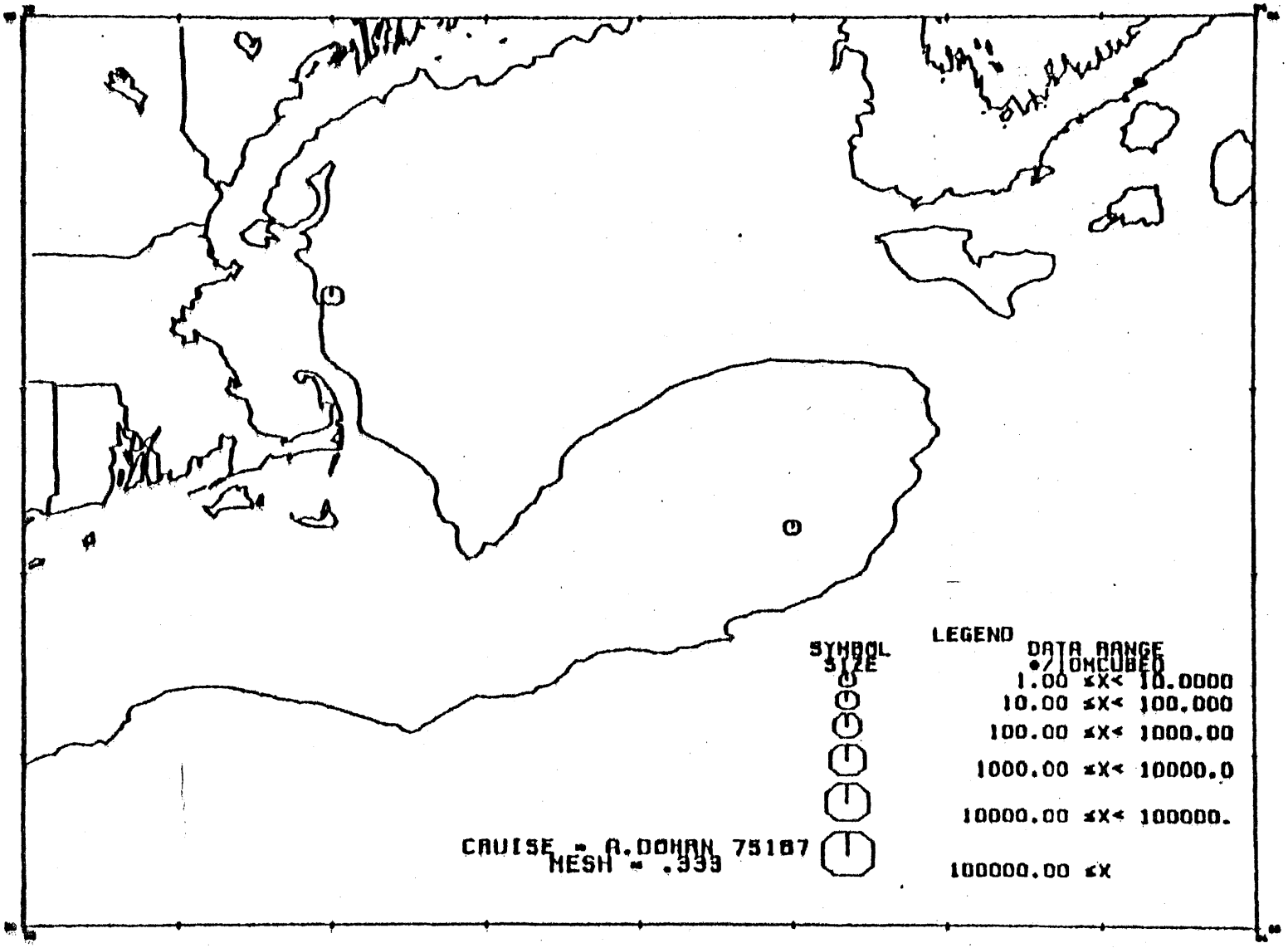

Figure 294

Pseudocalanus sp.

Copepodite Stage 4

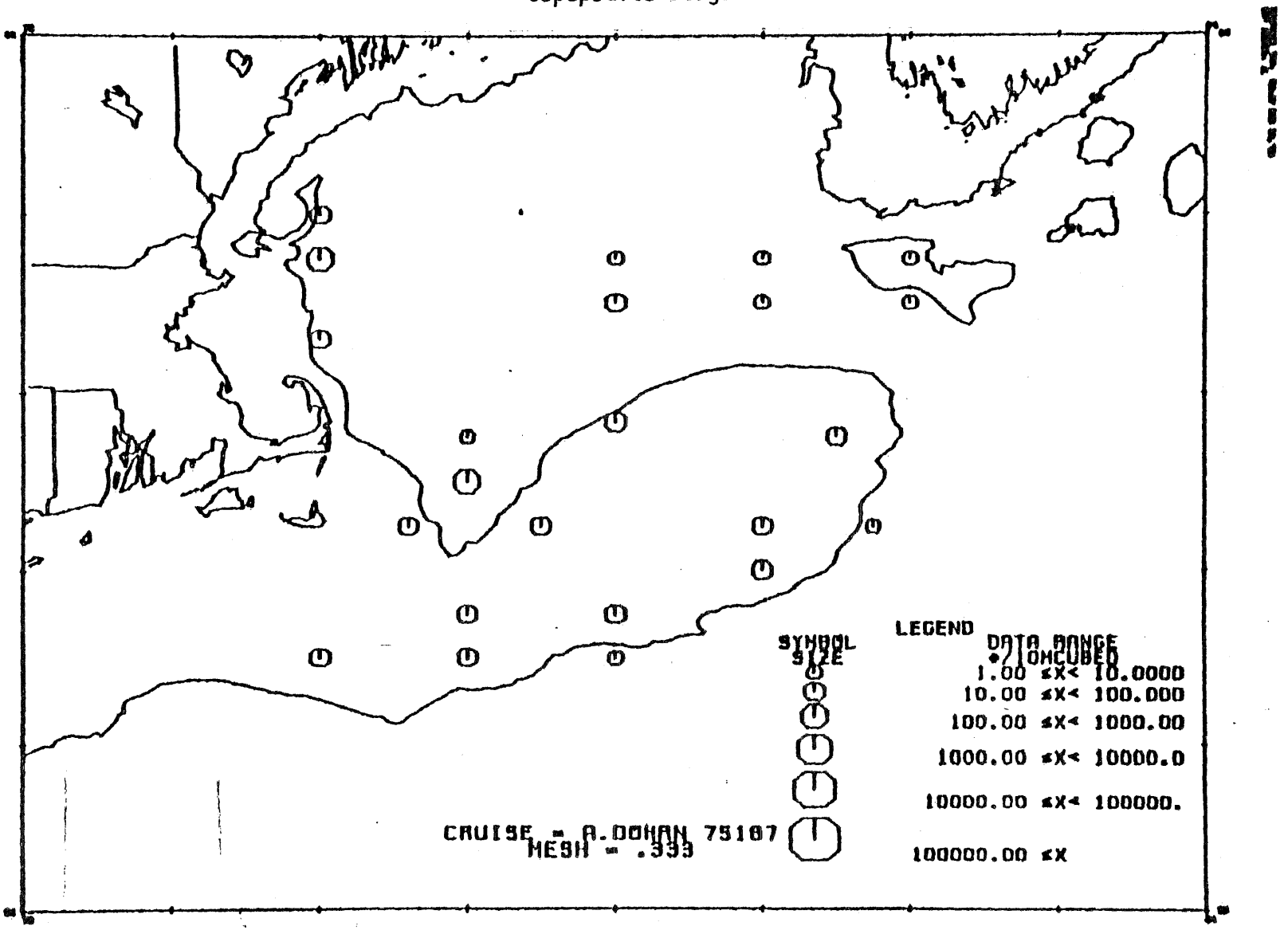

Figure 295

Pseudocalanus sp.

Copepodite Stage 5

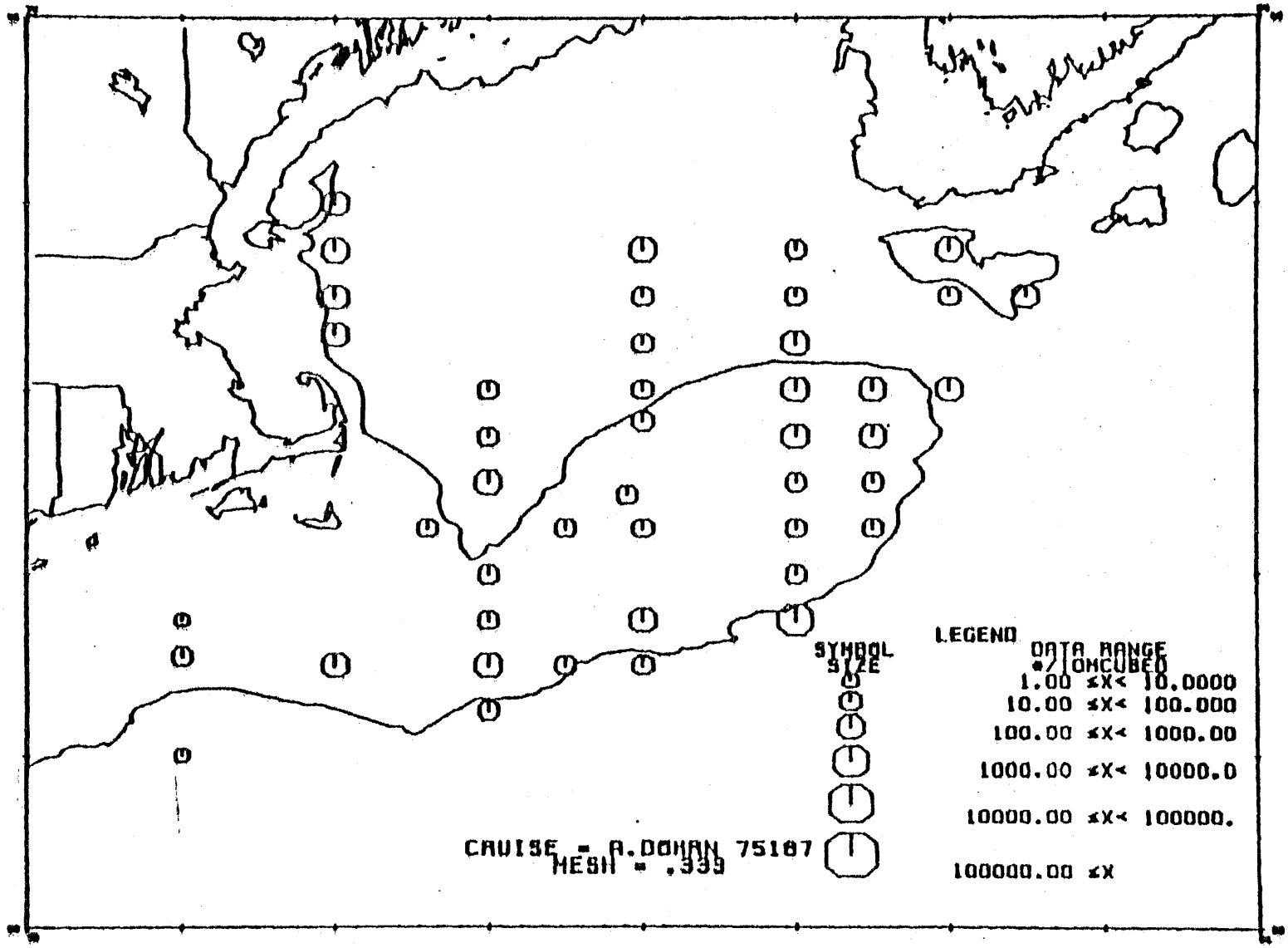

Figure 296

Pseudocalanus sp.

Copepodite

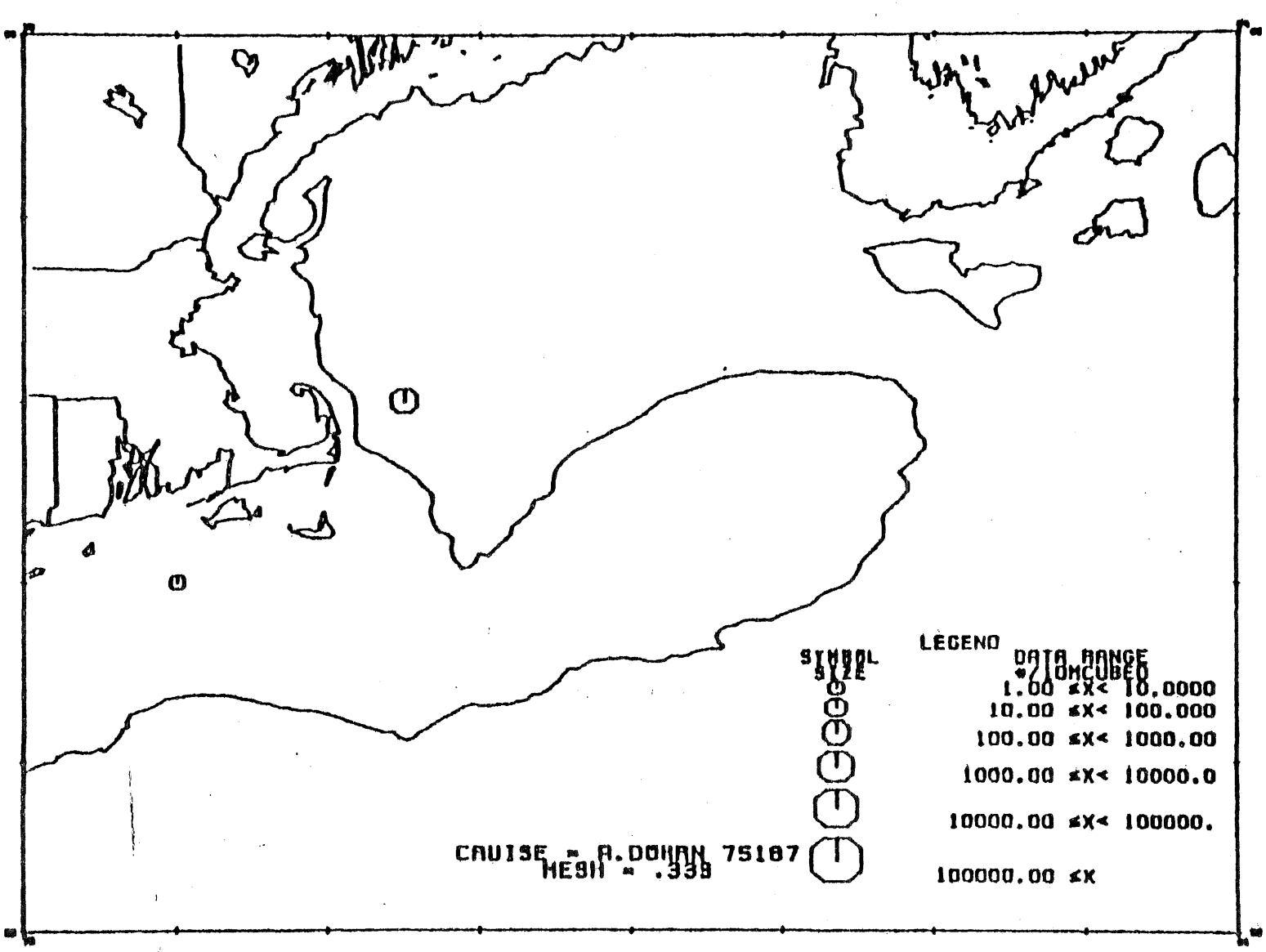

Figure 297

Pseudocalanus sp.

Adult

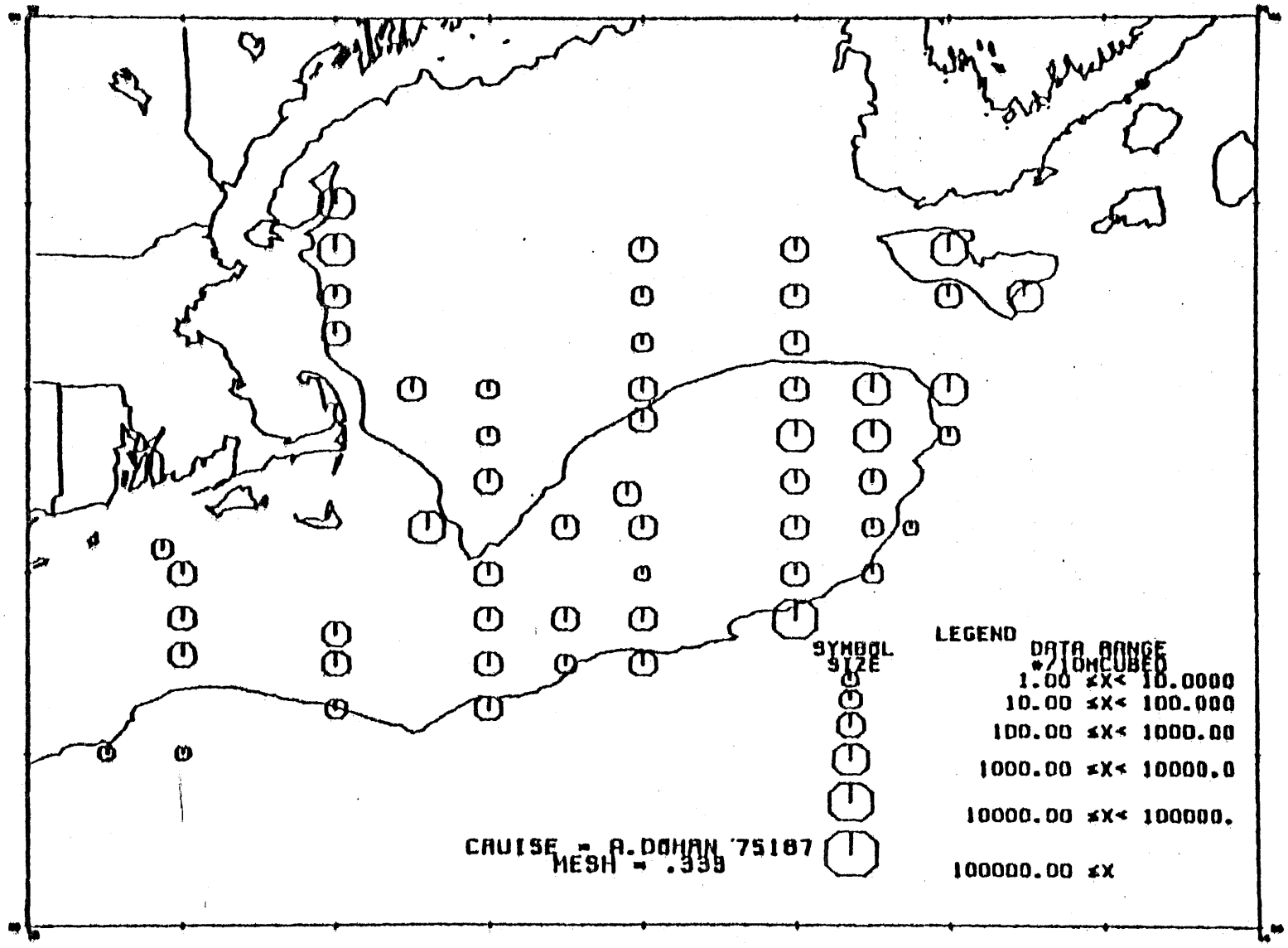

Figure 298

Paracalanus parvus

Copepodite Stage 4

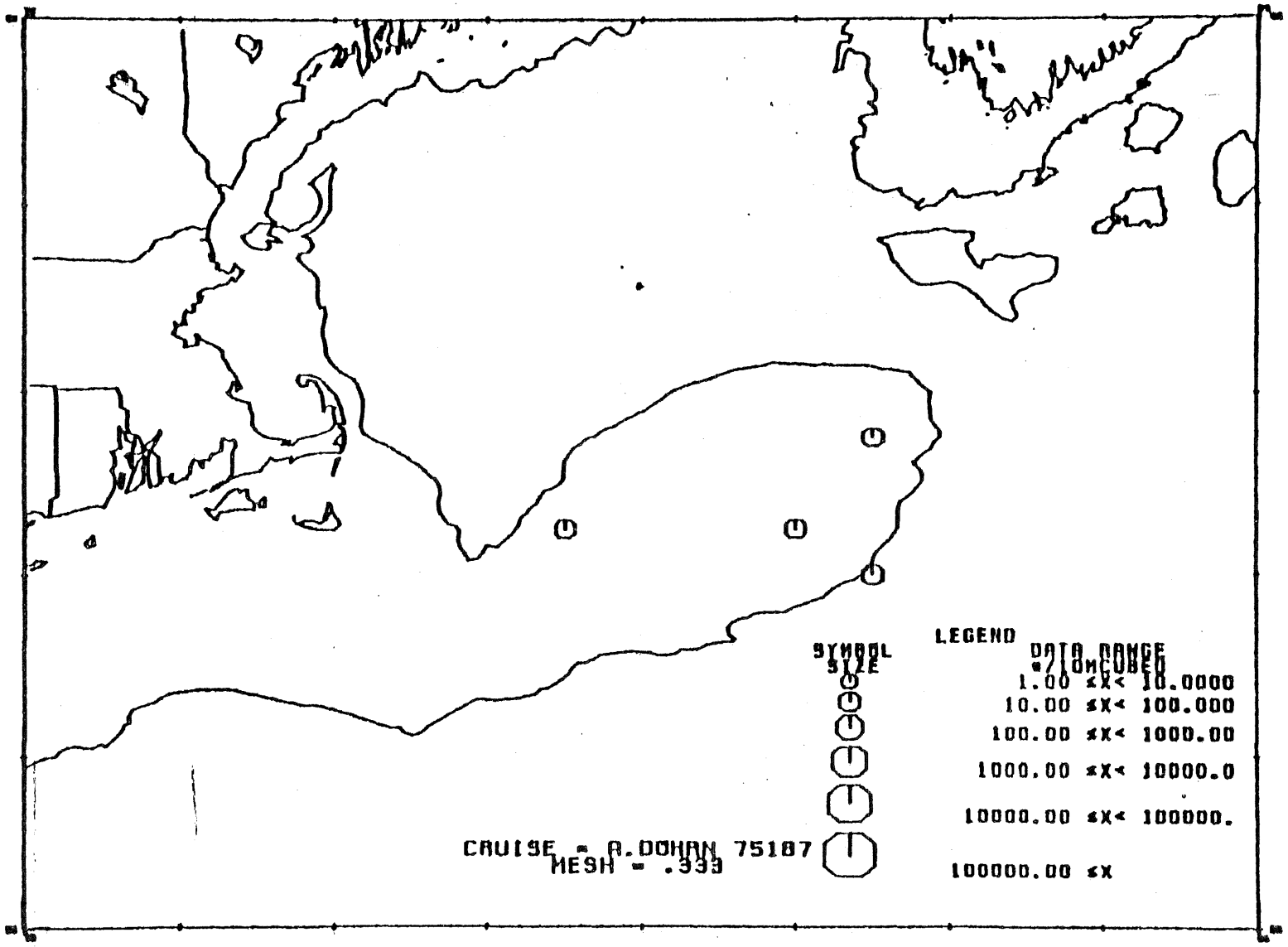

Figure 299

Paracalanus parvus

Copepodite Stage 5

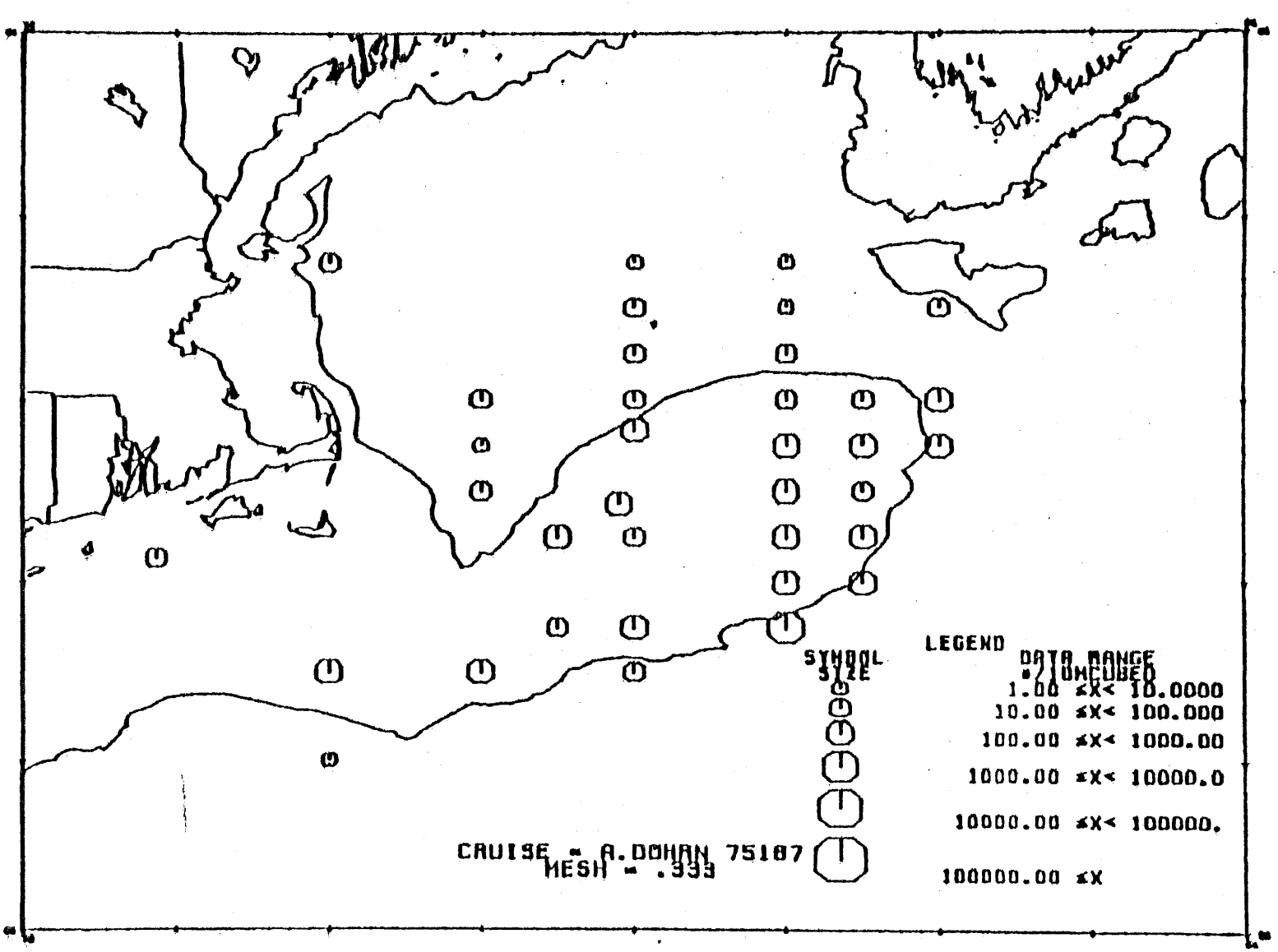

Figure 300

Paracalanus parvus

Copepodite

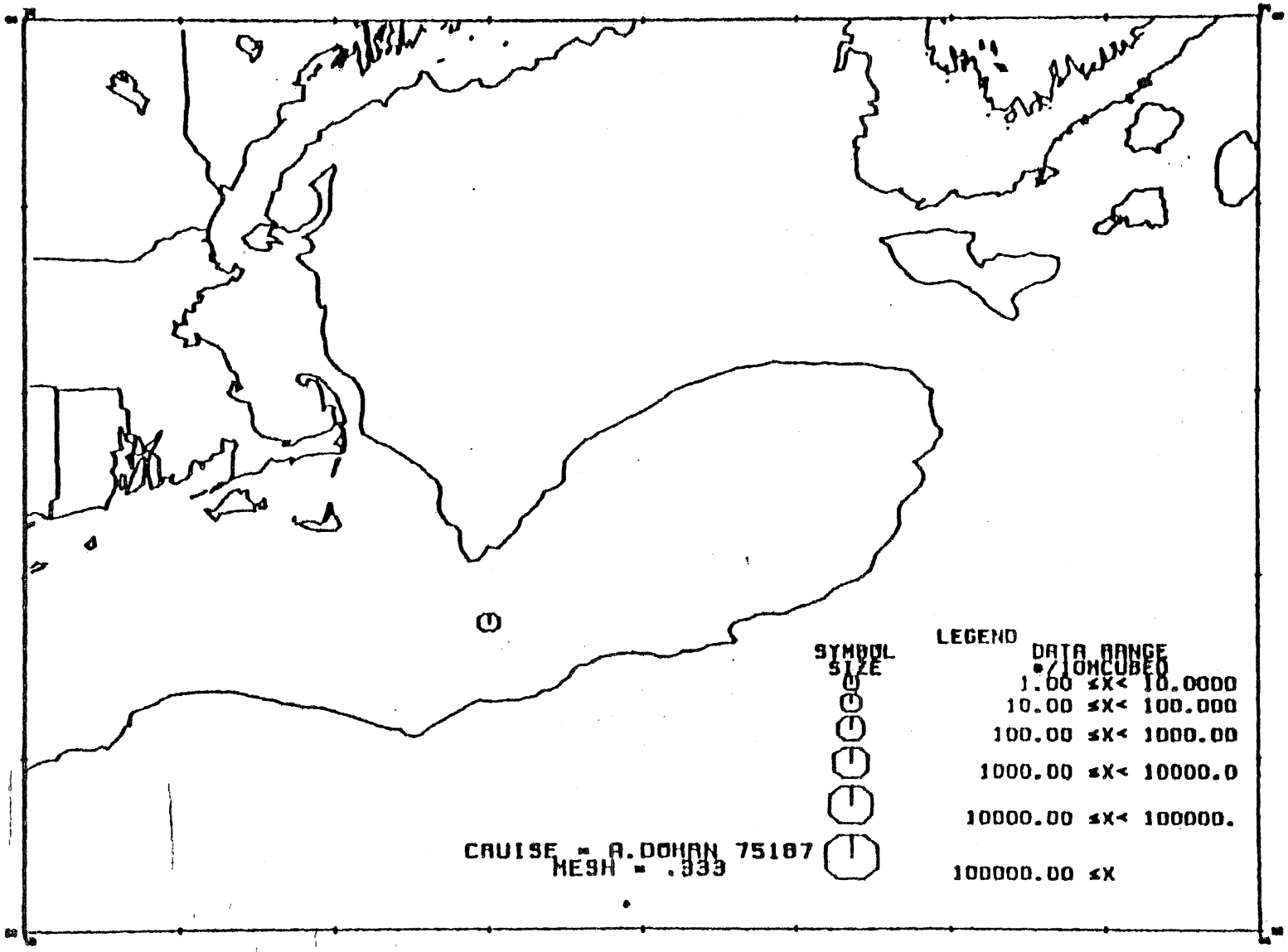

Figure 301

Paracalanus parvus

Adult

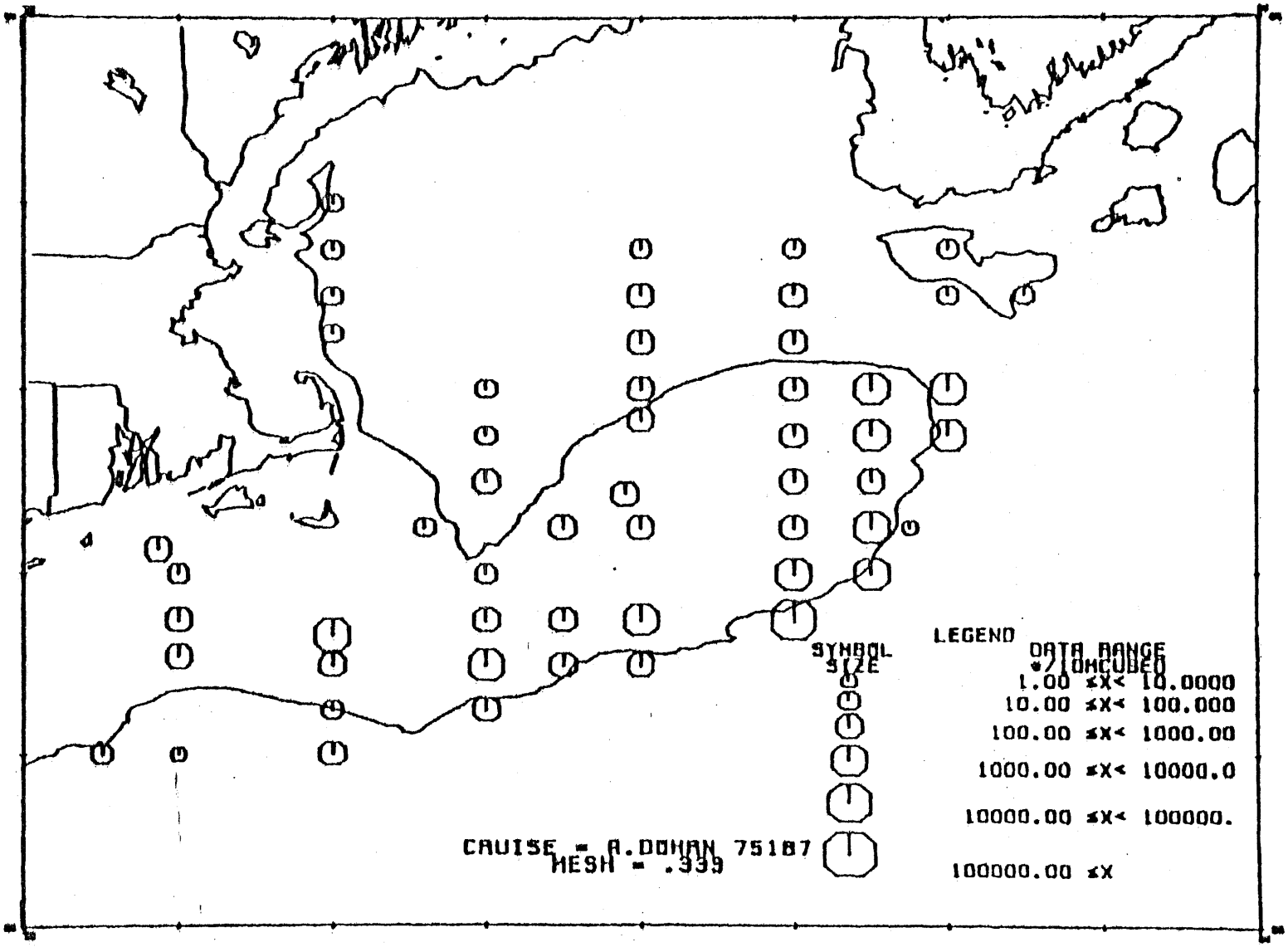

Figure 302

Centropages typicus

Copepodite Stage 2

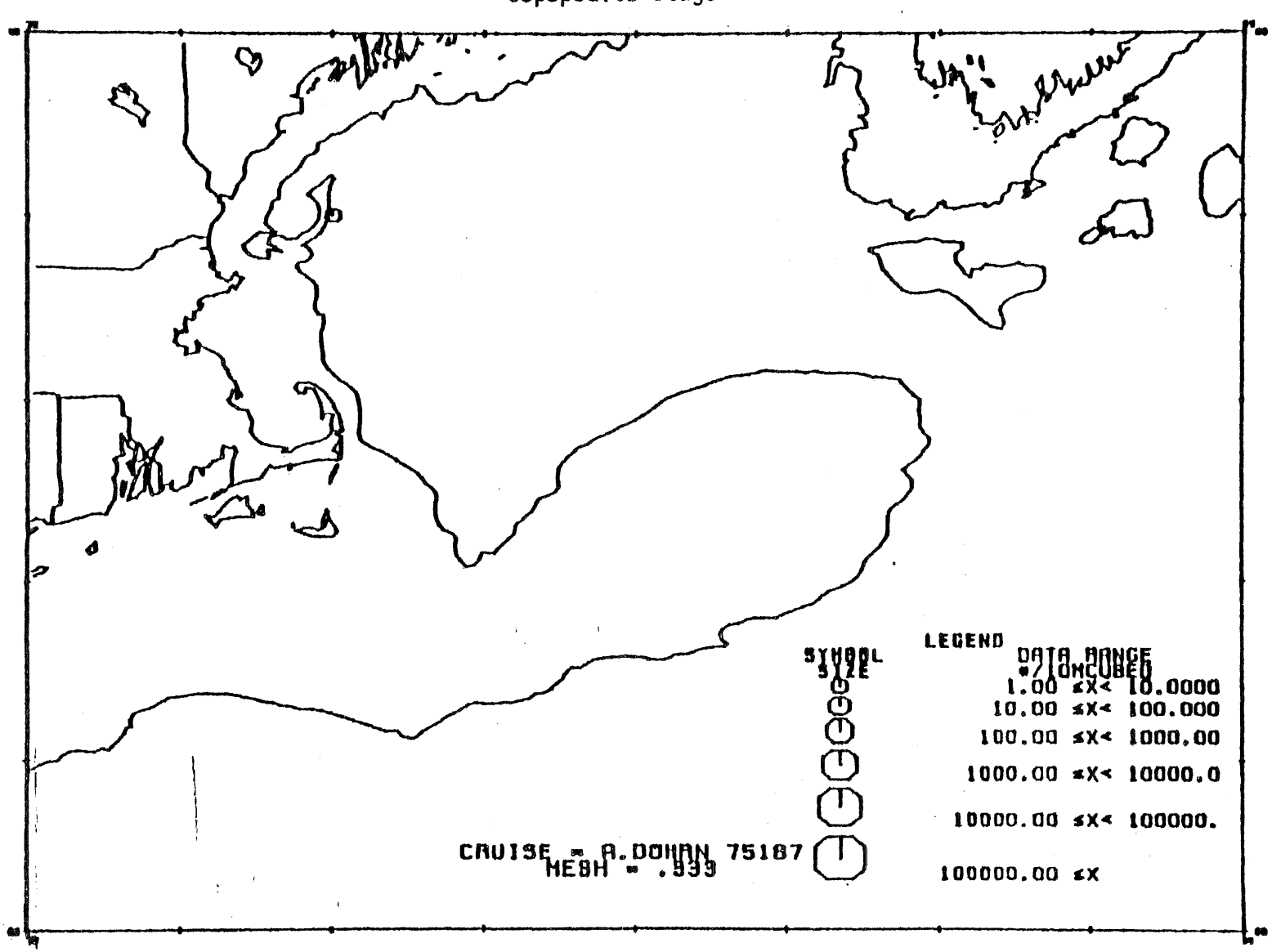

Figure 303

Centropages typicus

Copepodite Stage 3

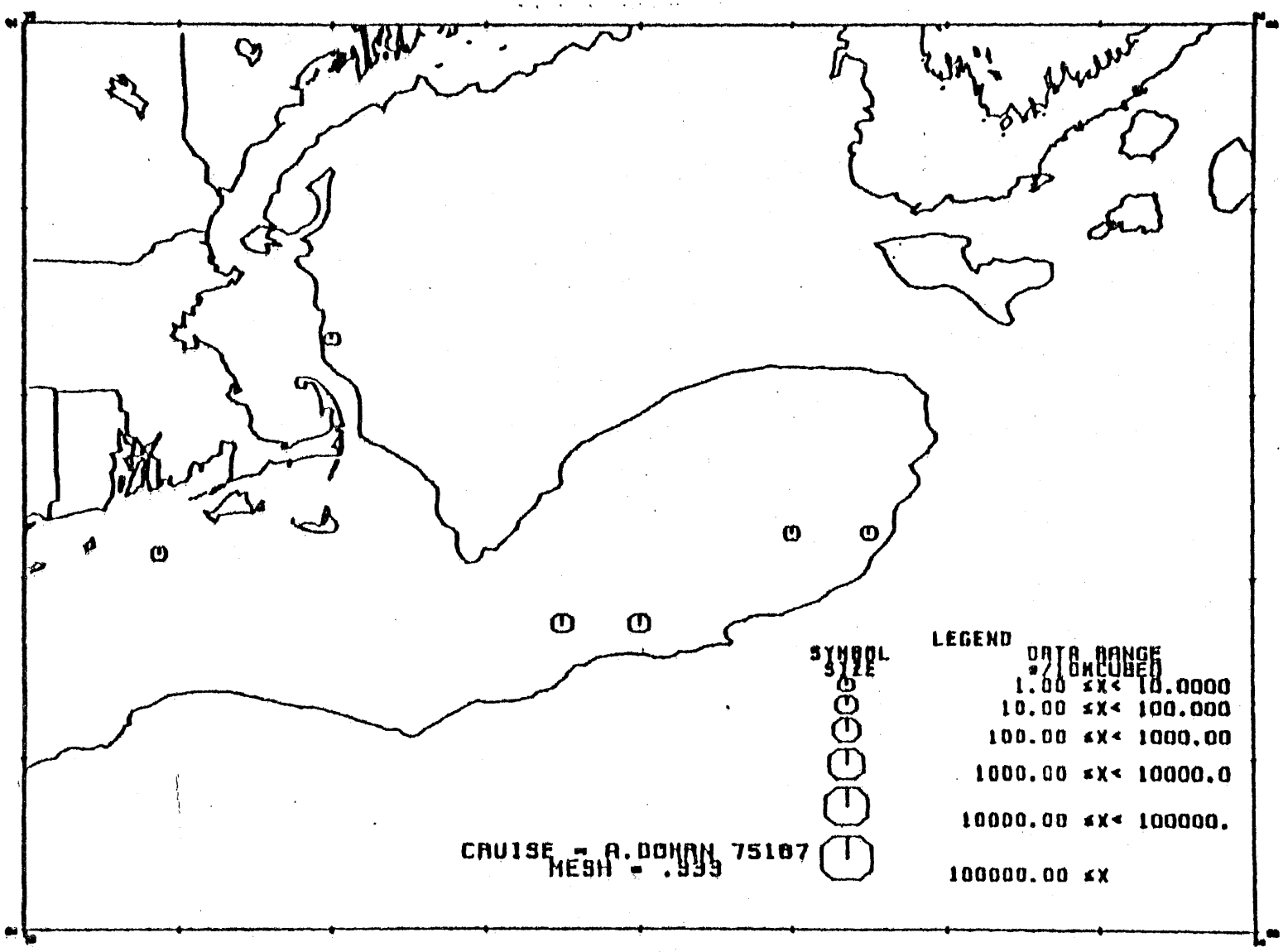

Figure 304

Centropages typicus

Copepodite Stage 4

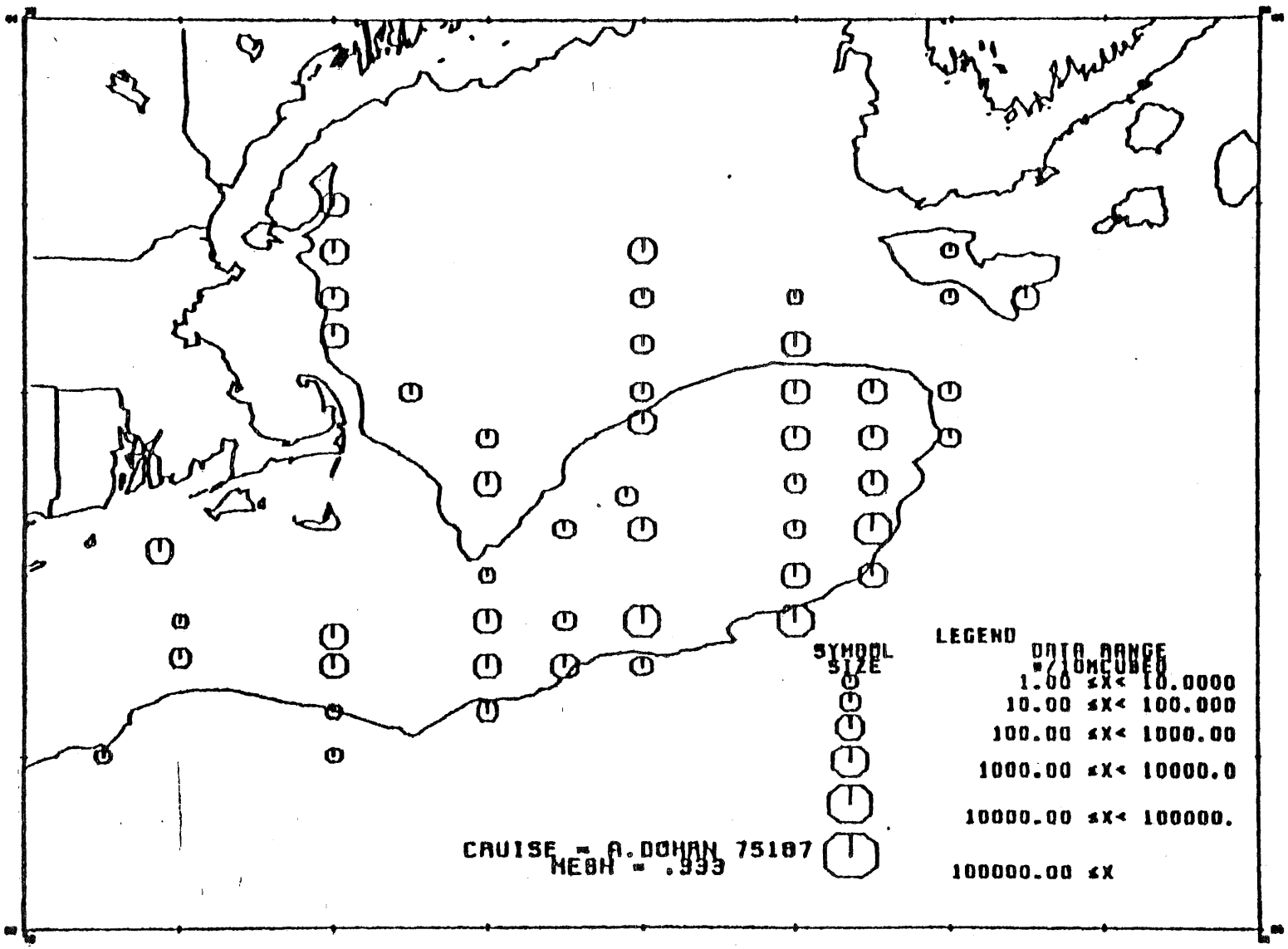

Figure 305

Centropages typicus

Copepodite Stage 5

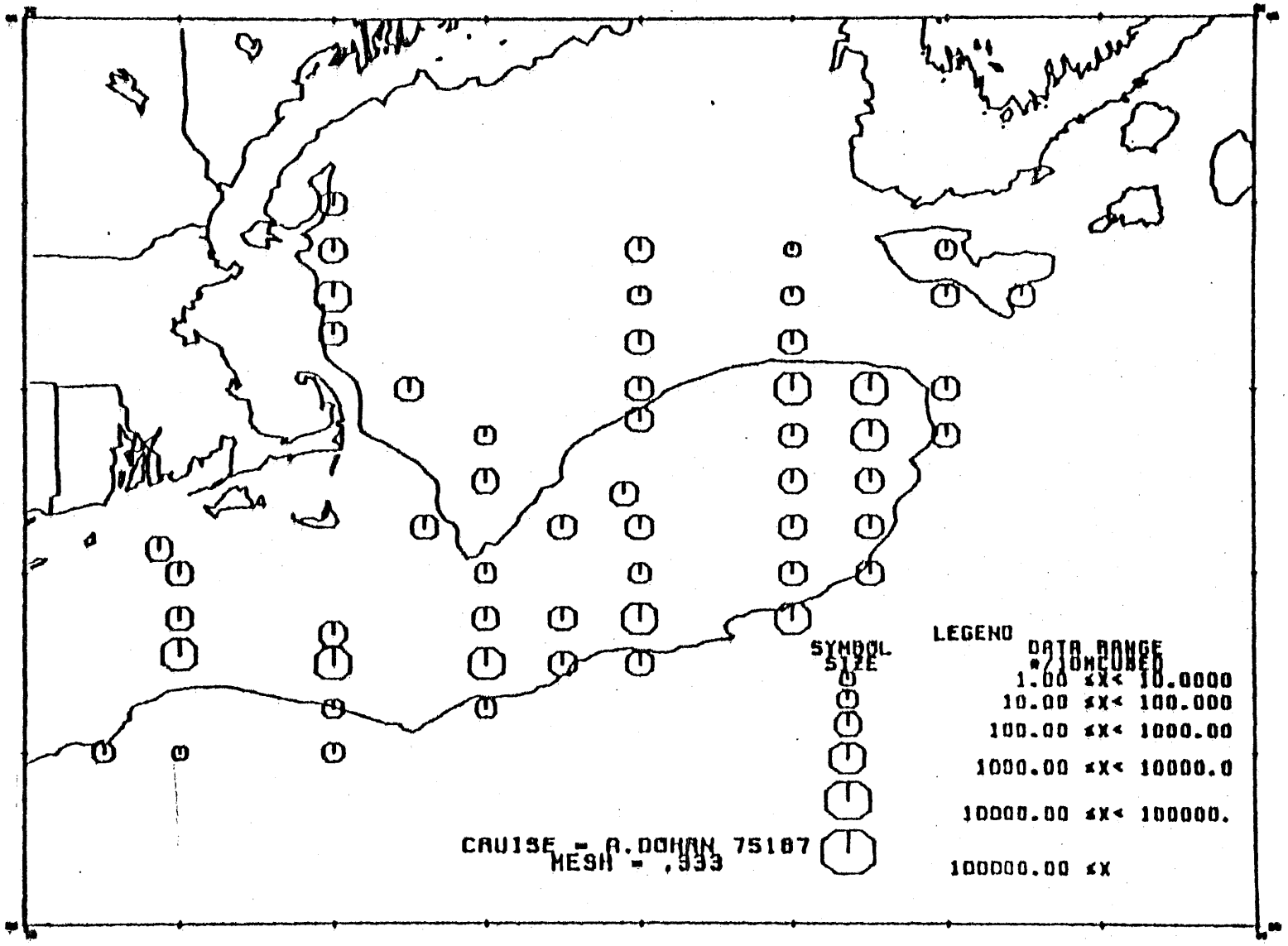

Figure 306

Centropages typicus

Copepodite

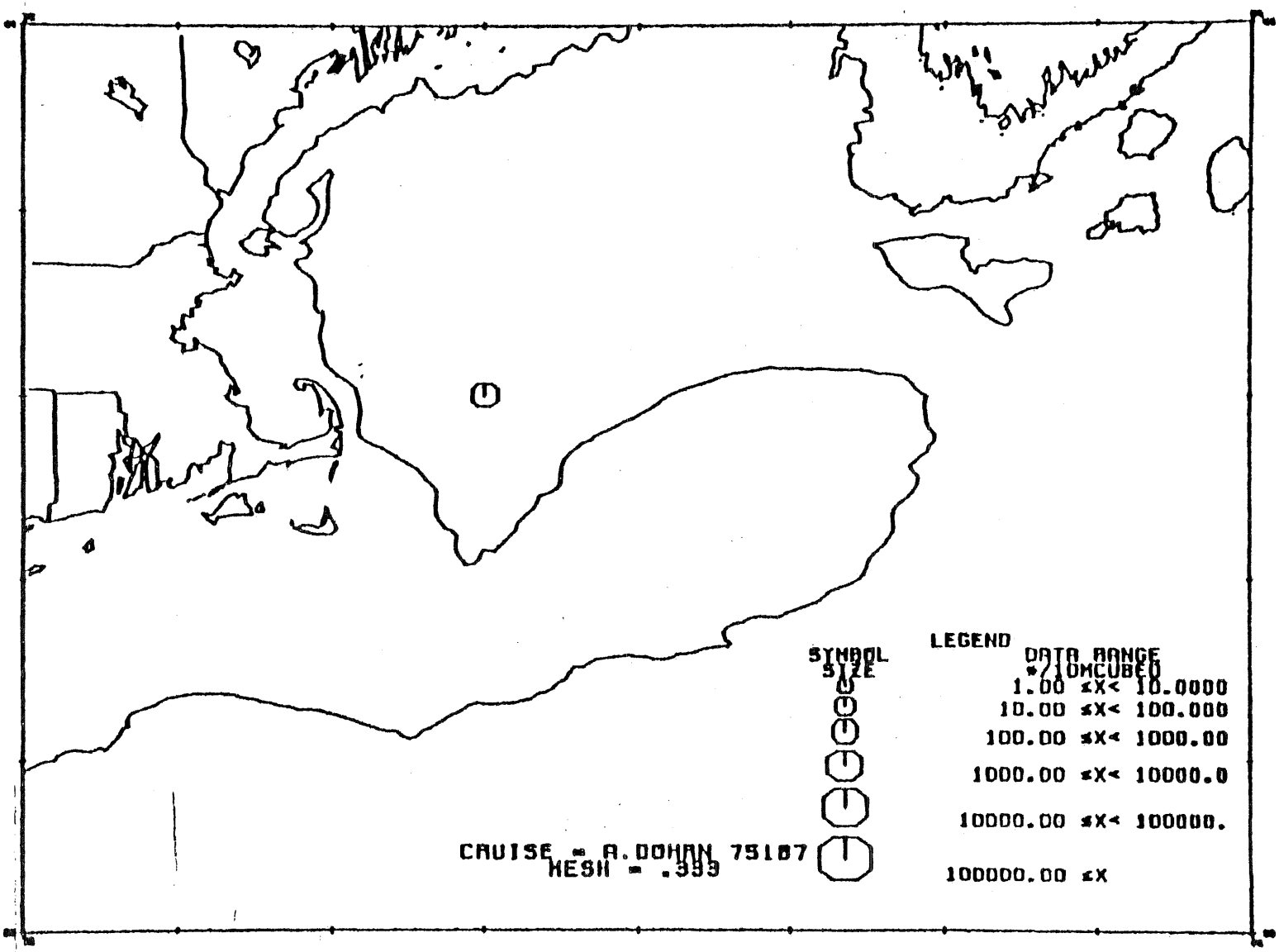

Figure 307

Centropages typicus

Adult

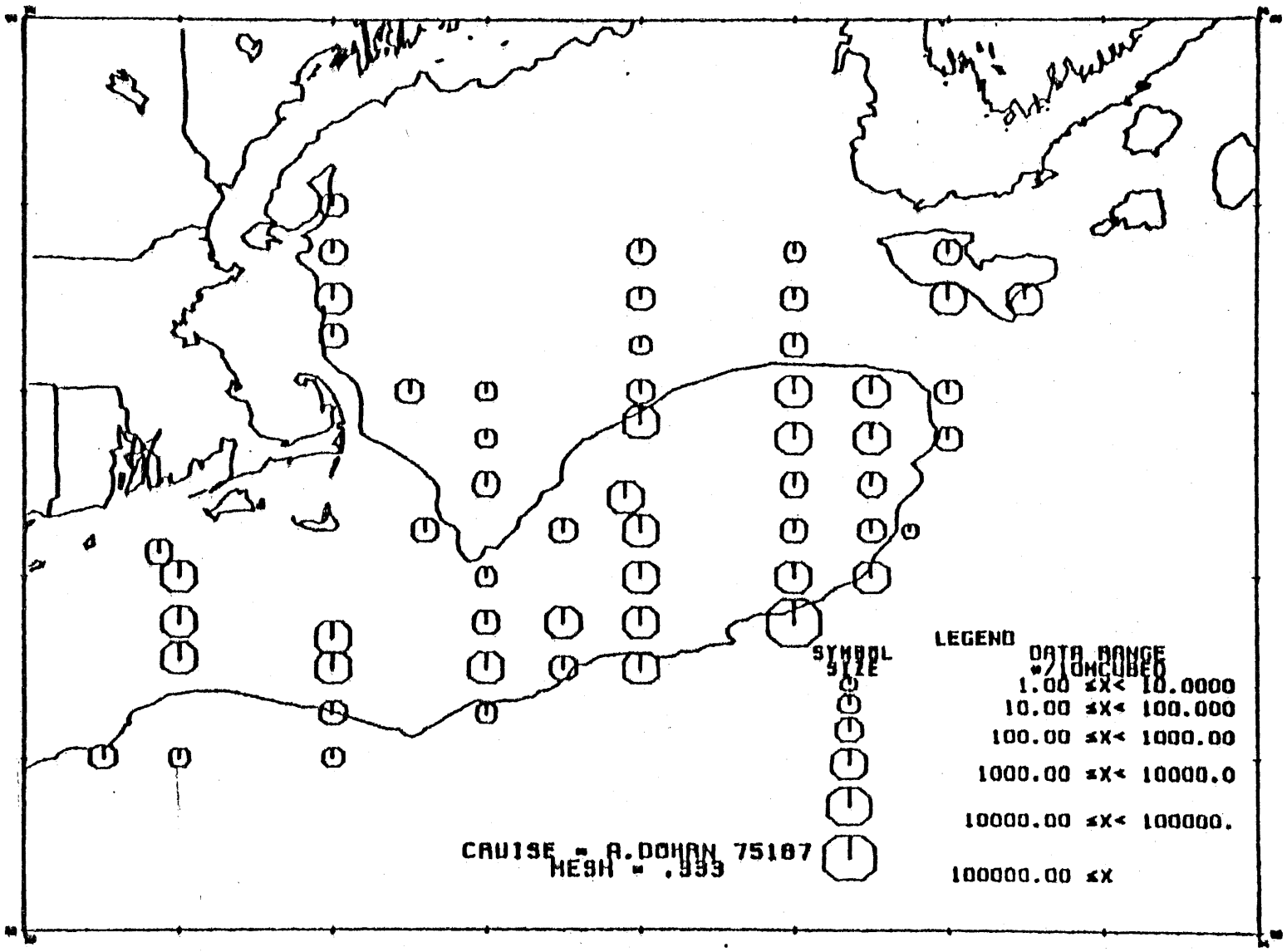

Figure 308

Centropages hamatus

Copepodite Stage 4

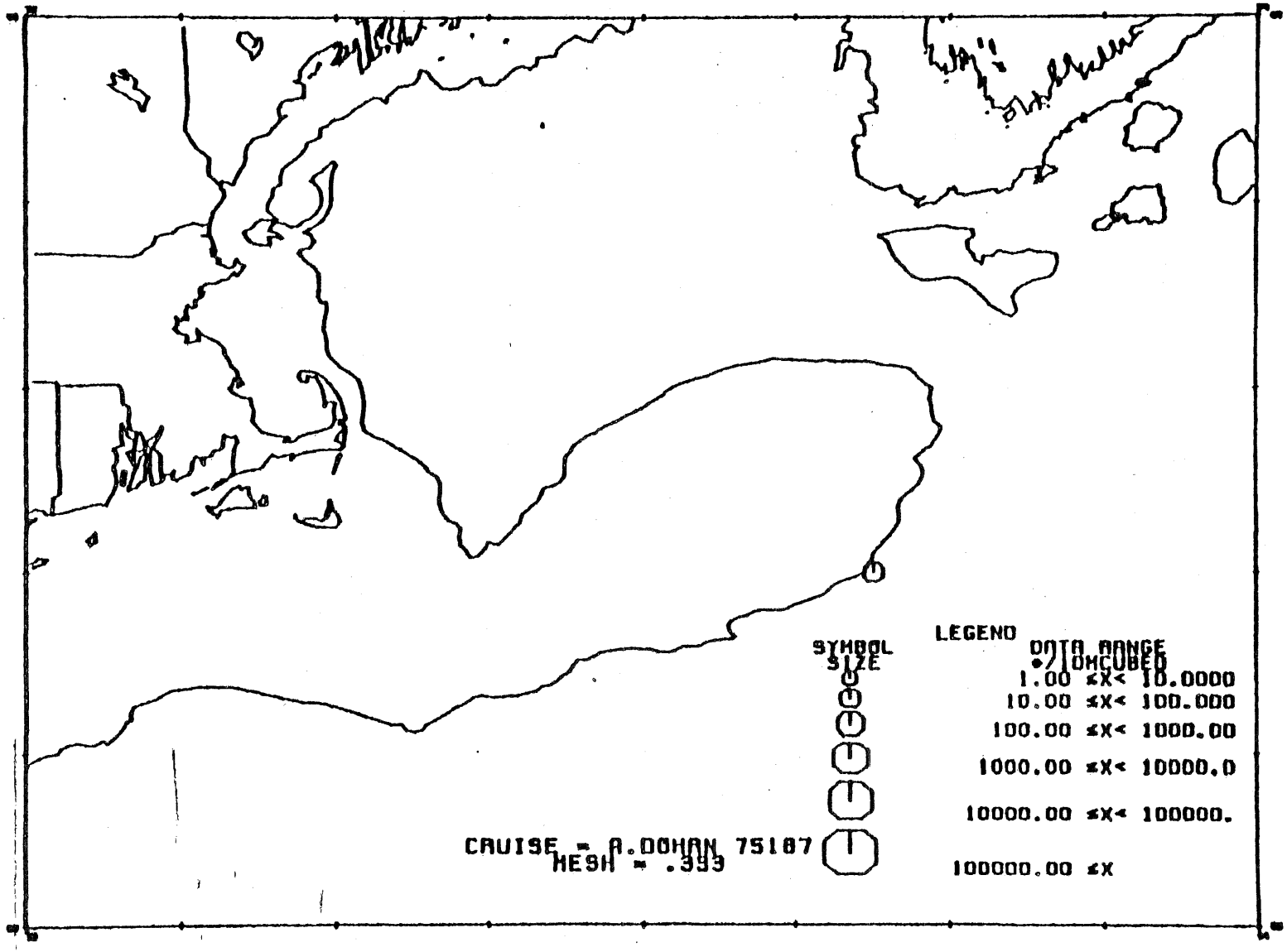

Figure 309

Centropages hamatus

Copepodite Stage 5

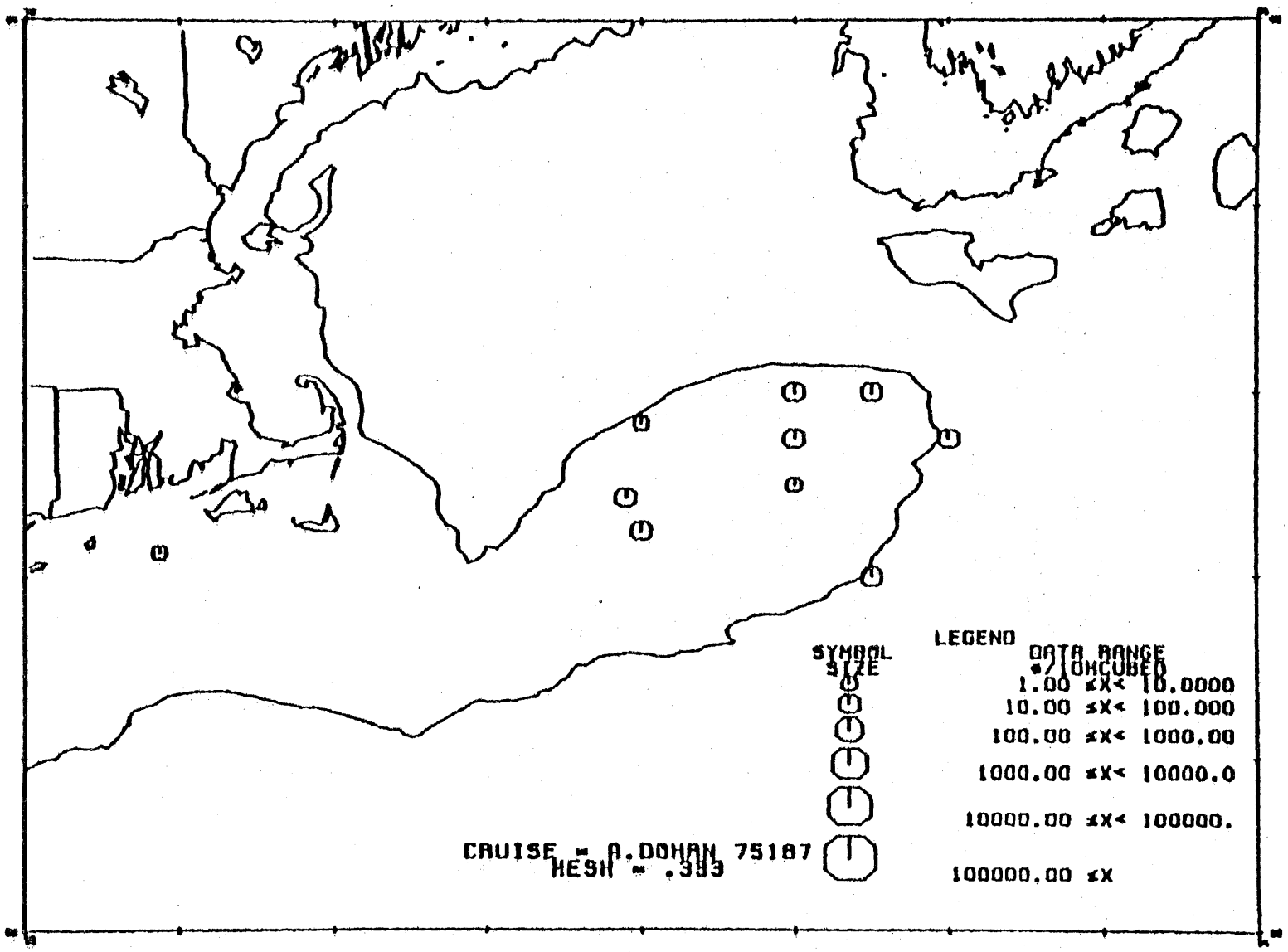

Figure 310

Centropages hamatus

Copepodite

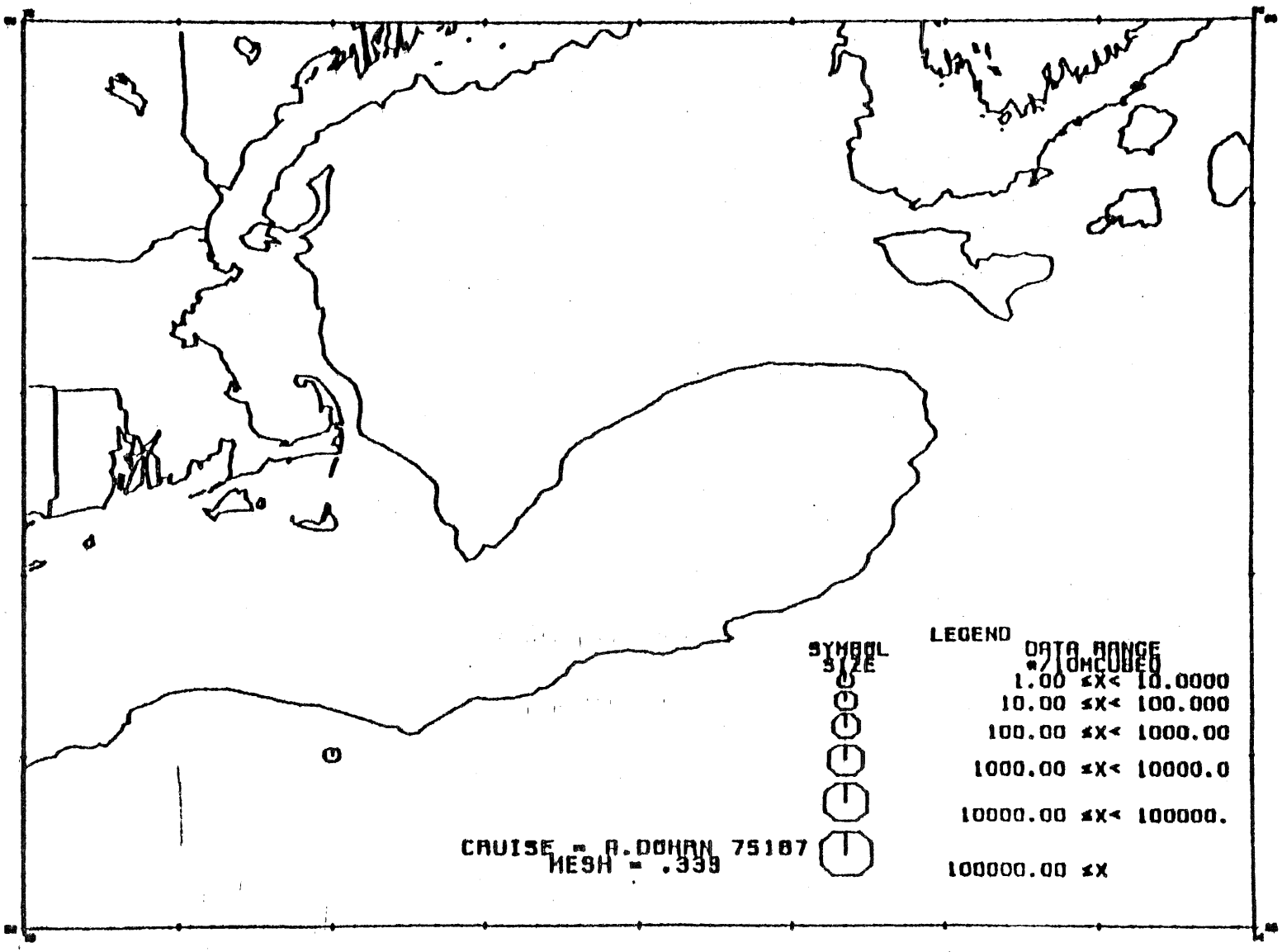

Figure 311

Centropages hamatus

Adult

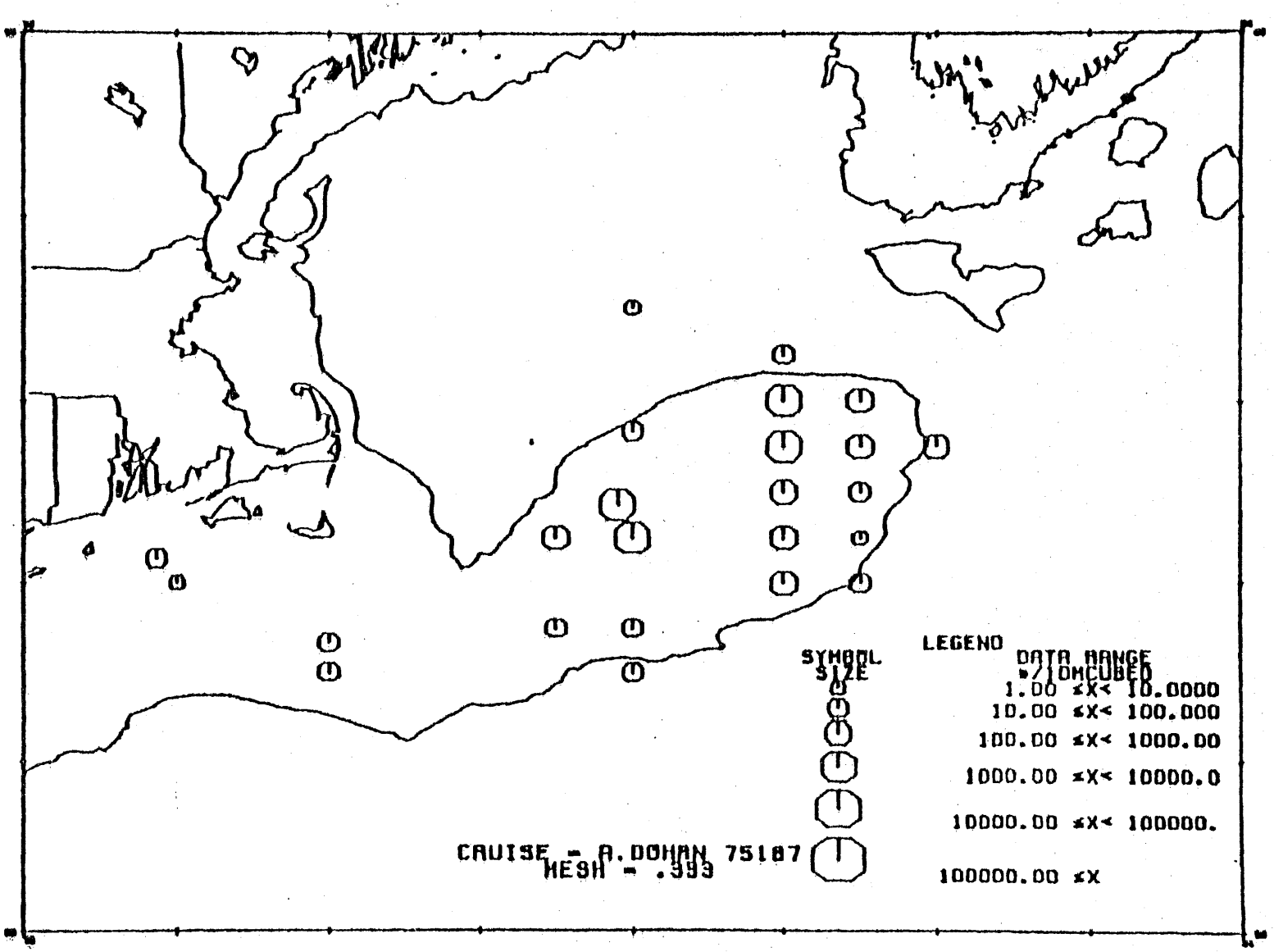

Figure 312

Calanus finmarchicus

Copepodite Stage 1

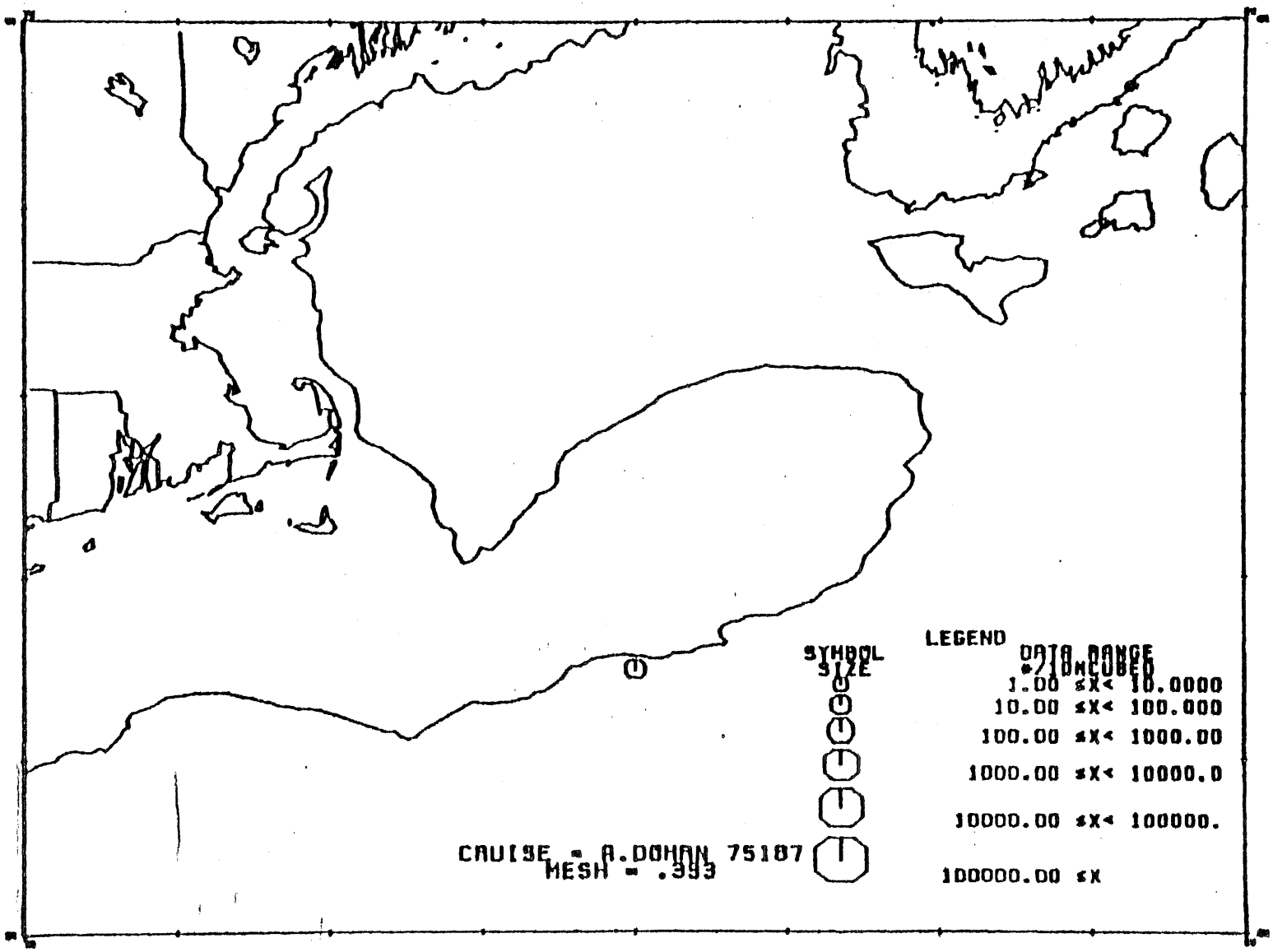

Figure 313

Calanus finmarchicus

Copepodite Stage 2

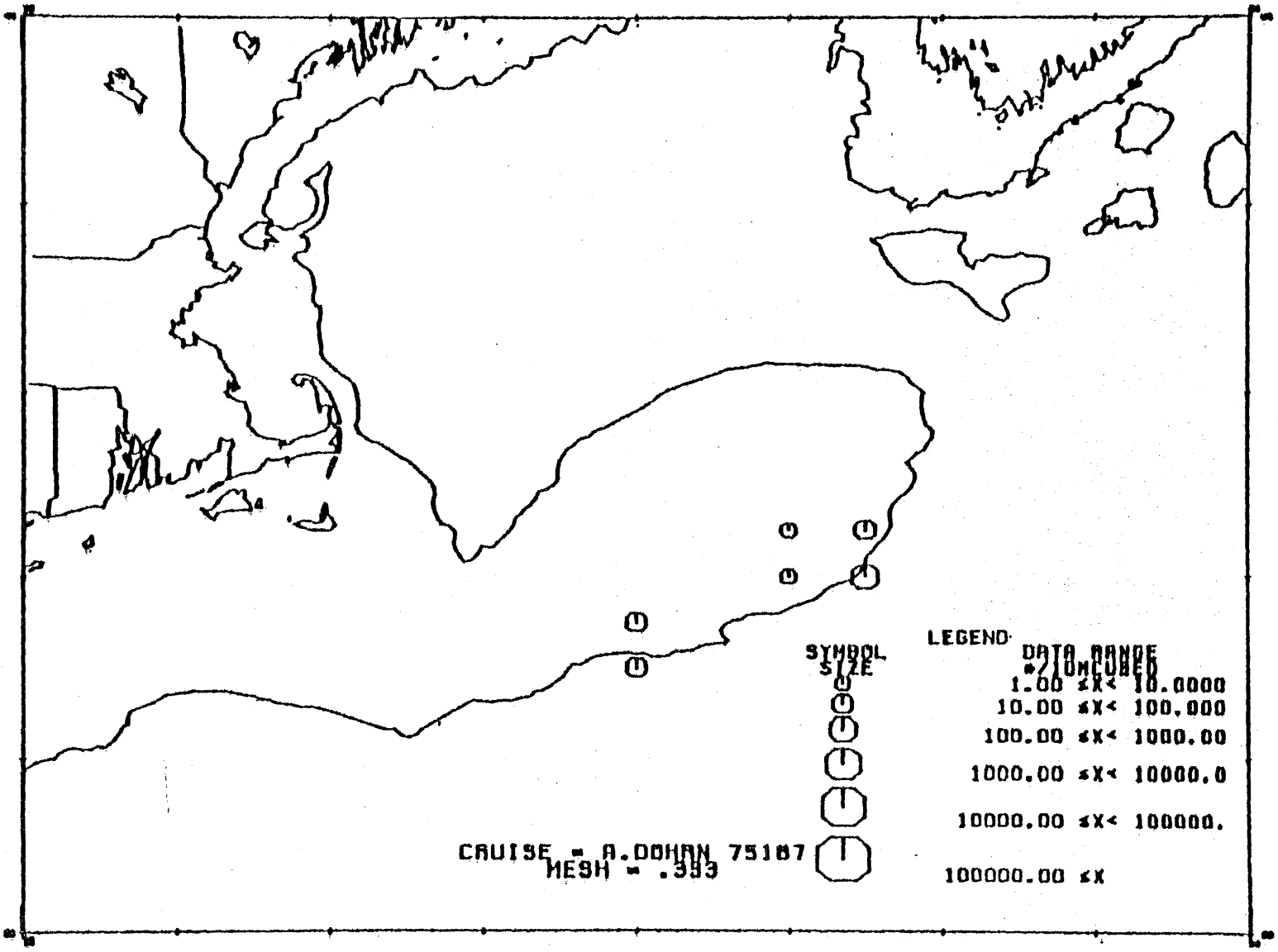

Figure 314

Calanus finmarchicus

Copepodite Stage 3

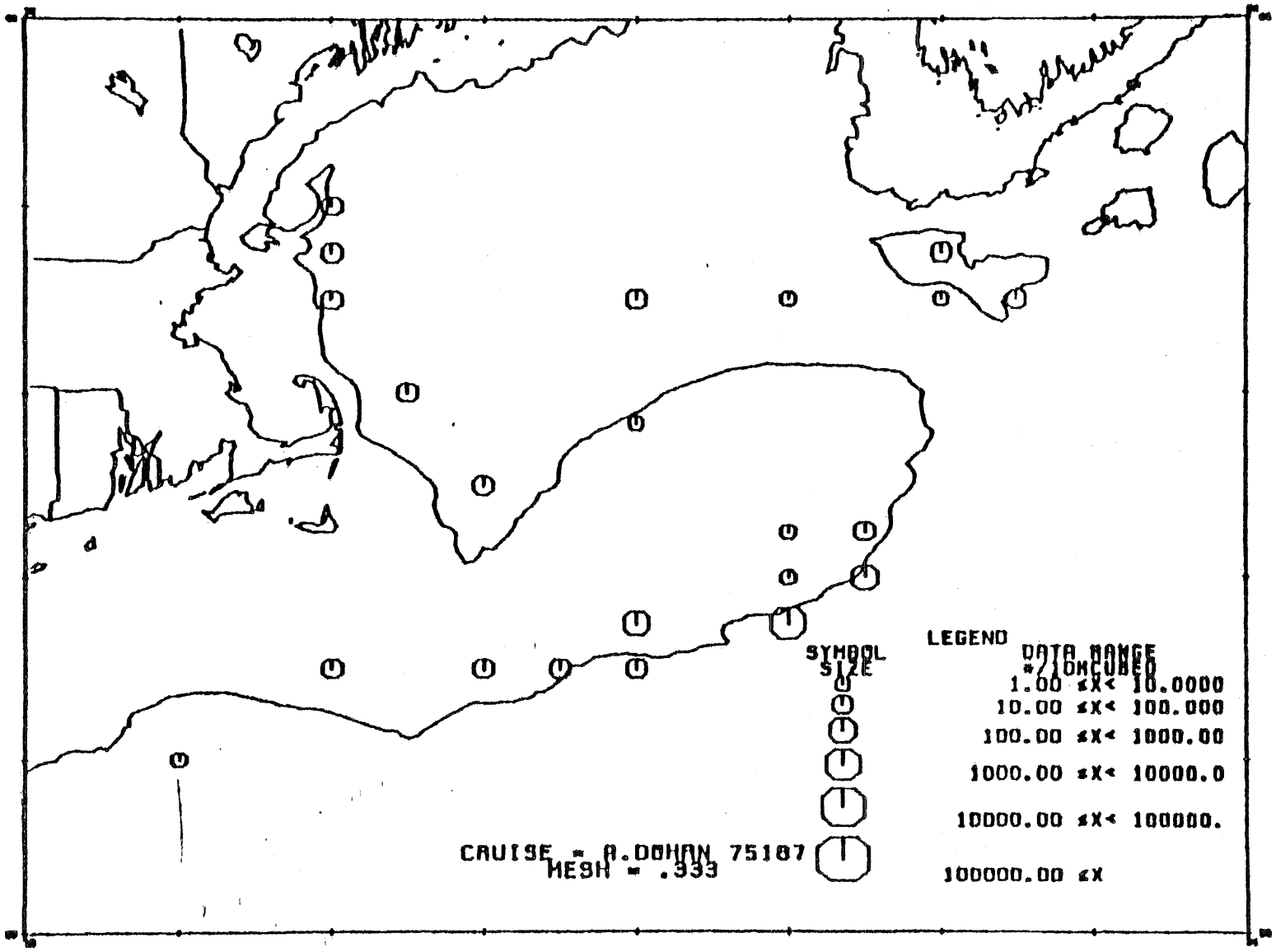

Figure 315

Calanus finmarchicus

Copepodite Stage 4

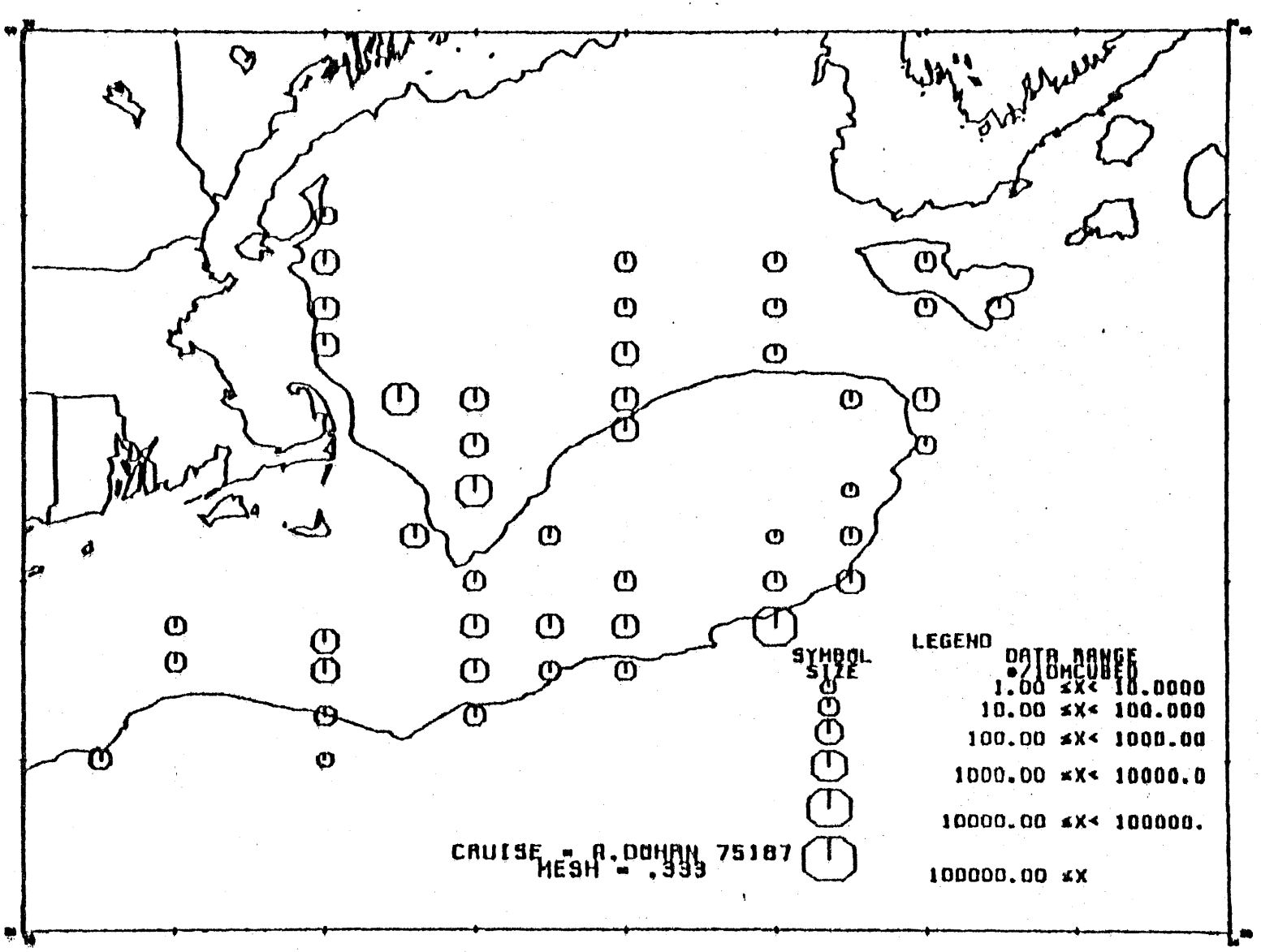

Figure 316

Calanus finmarchicus

Copepodite Stage 5

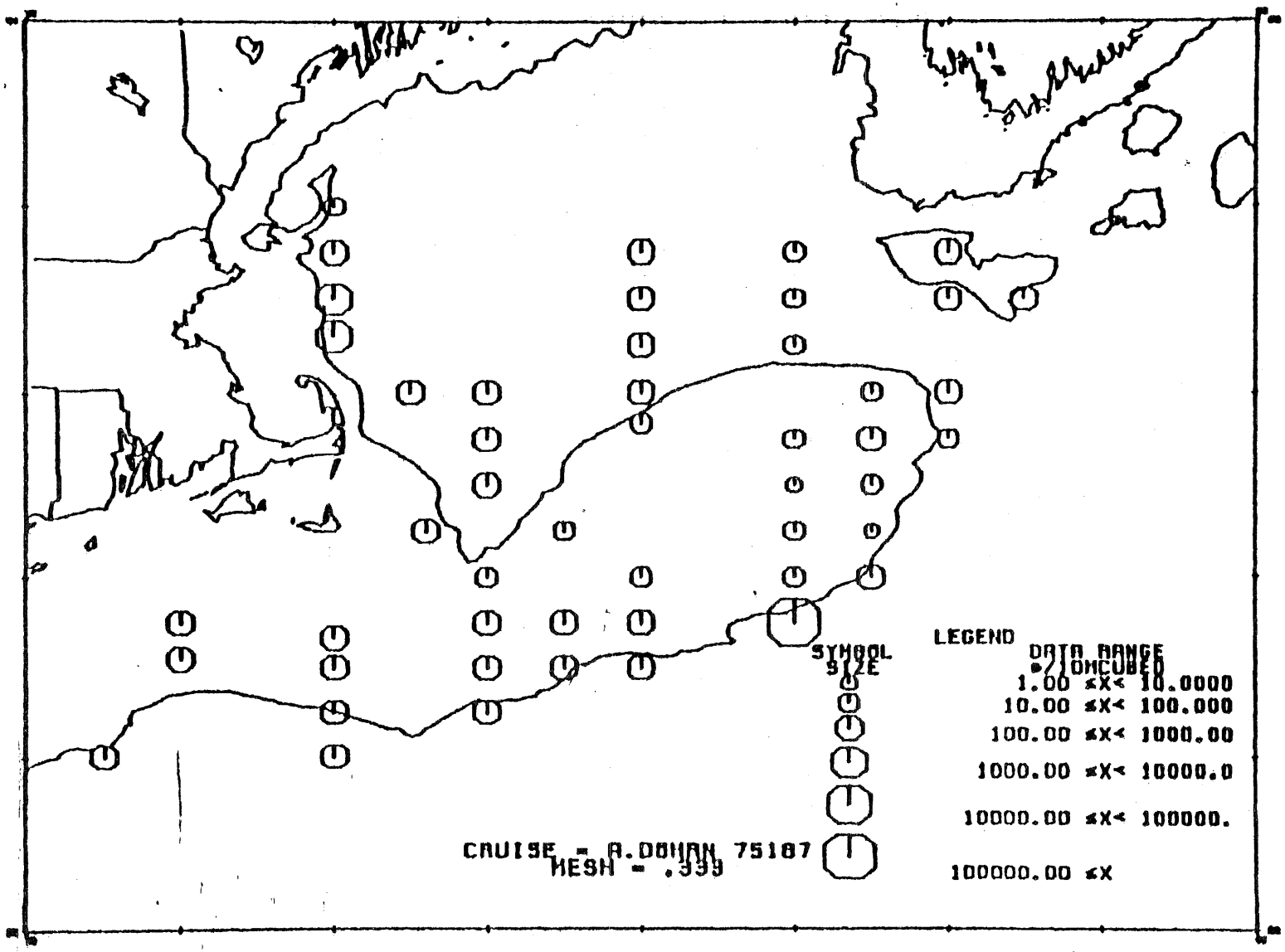

Figure 317

Calanus finmarchicus

Copepodite

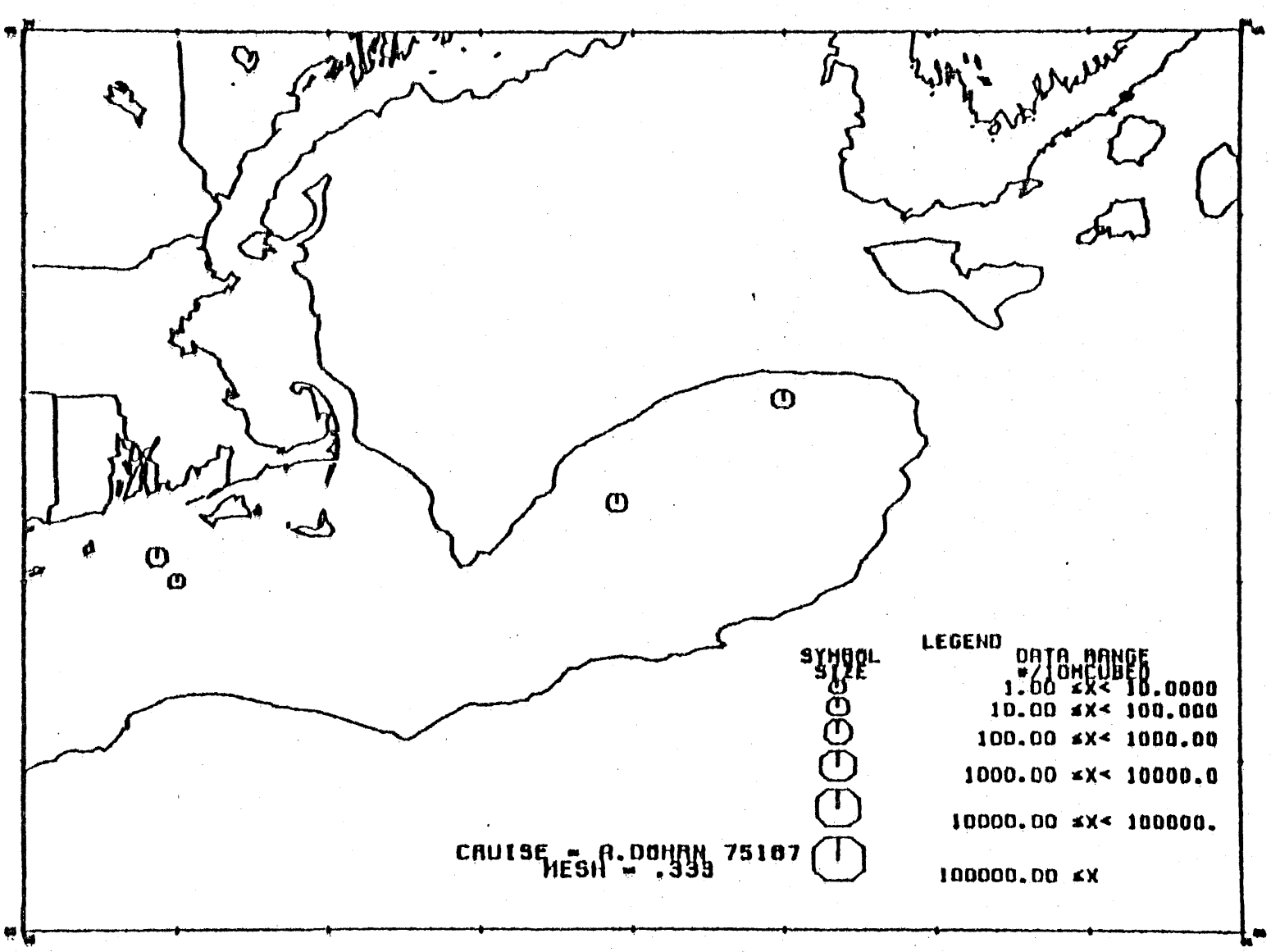

Figure 318

Calanus finmarchicus

Adult

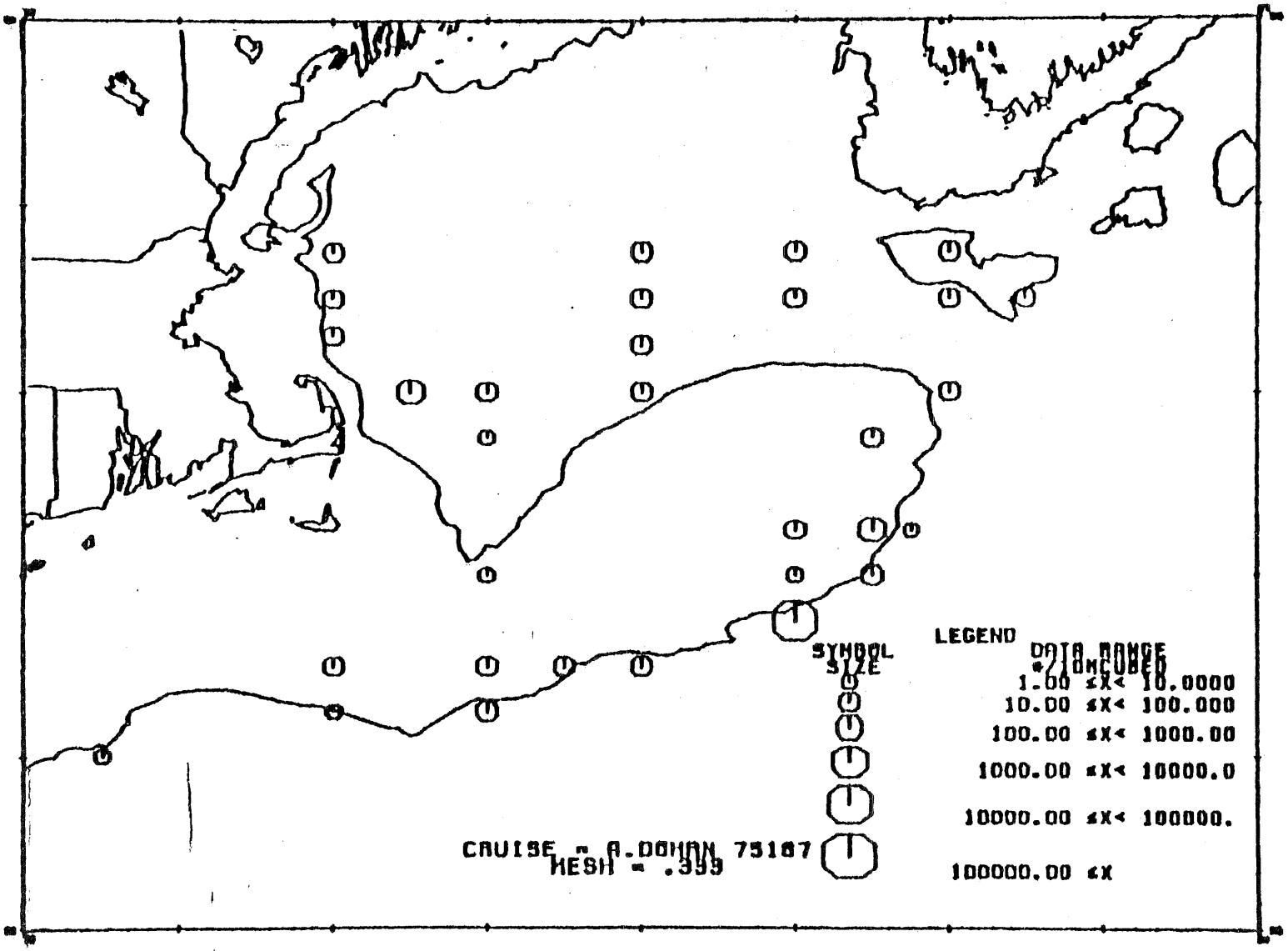

Figure 319

CHAETOGNATHA

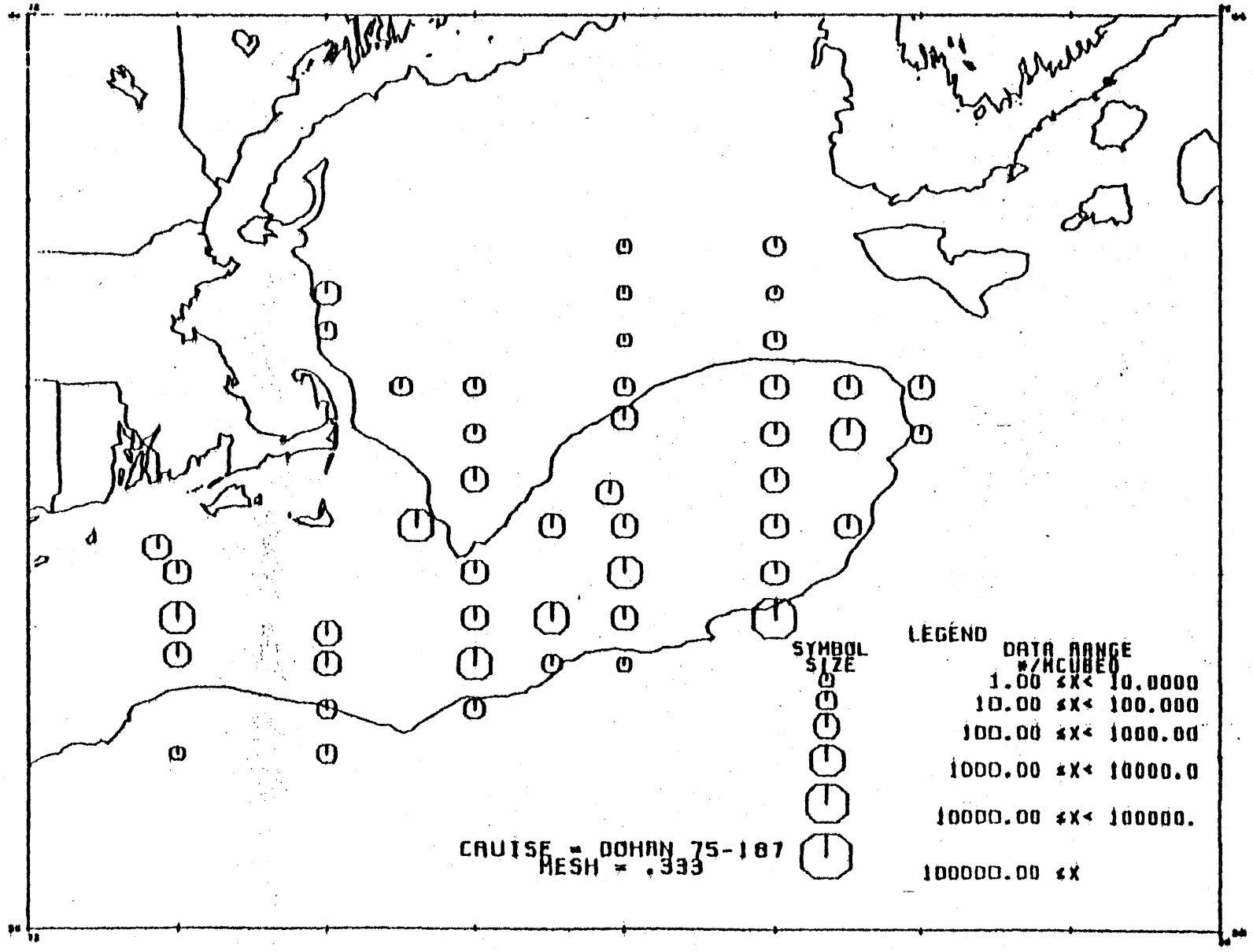

Figure 320

AMPHIPODA

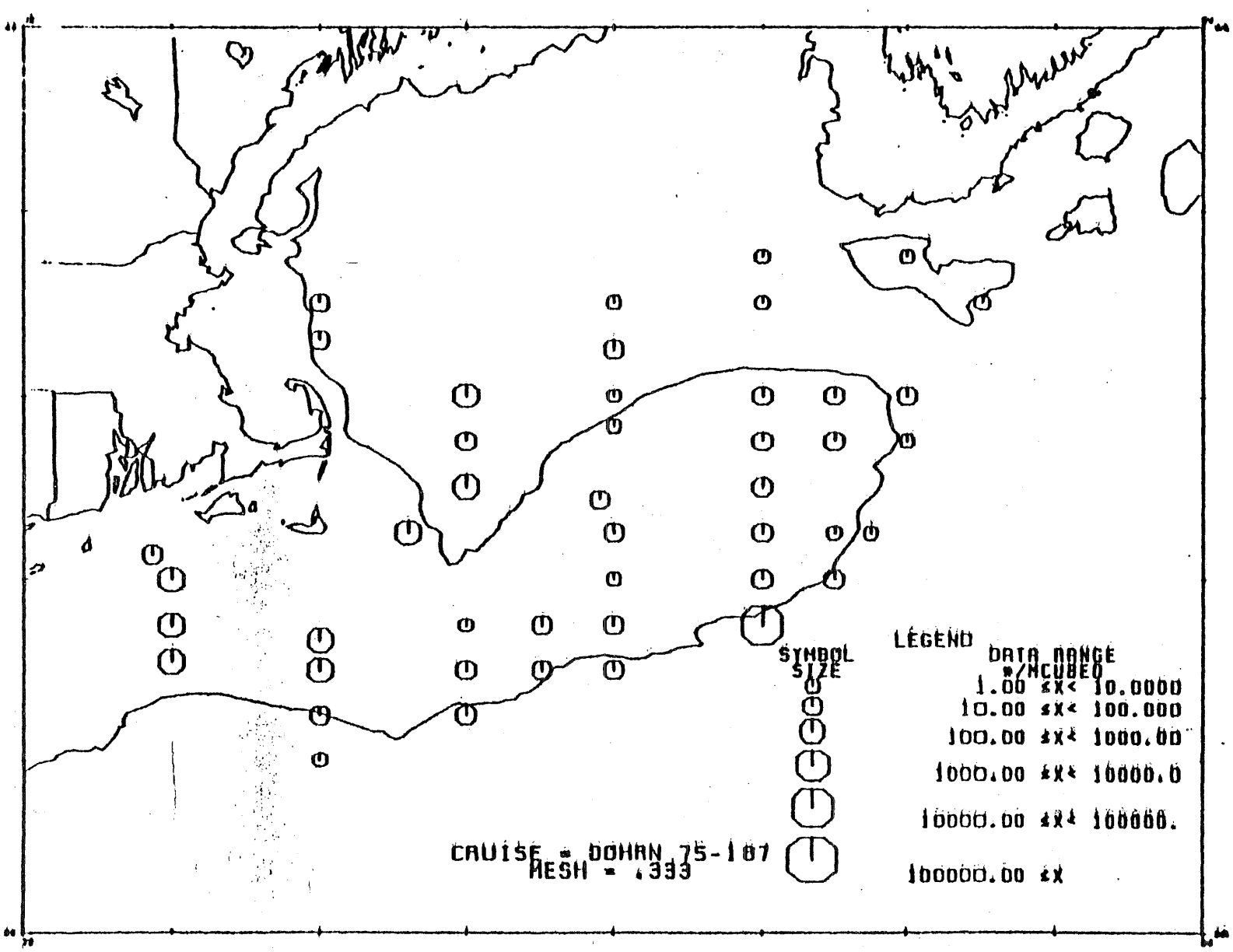

Figure 321

EUPHAUSIACEA

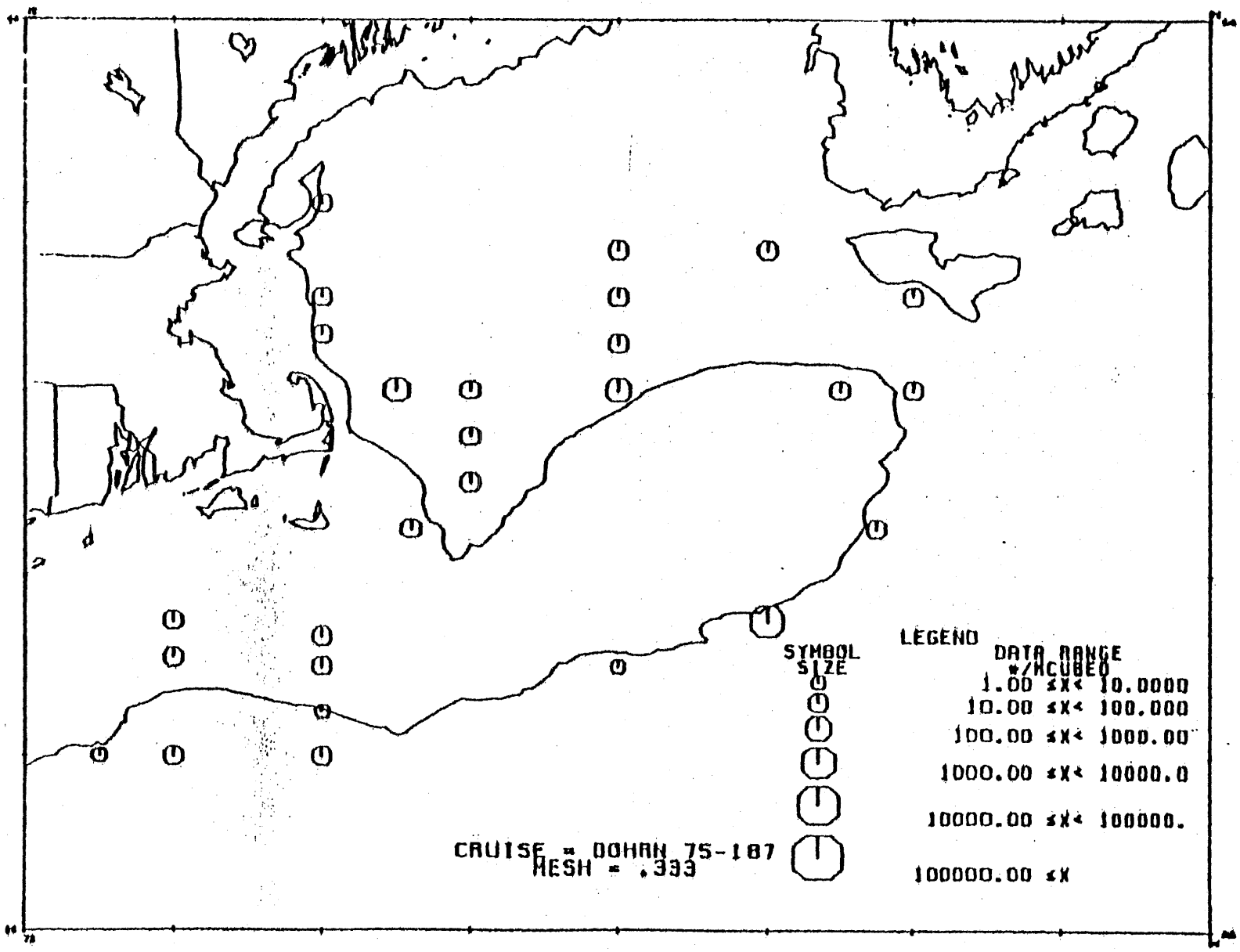

Figure 322

MYSIDACEA

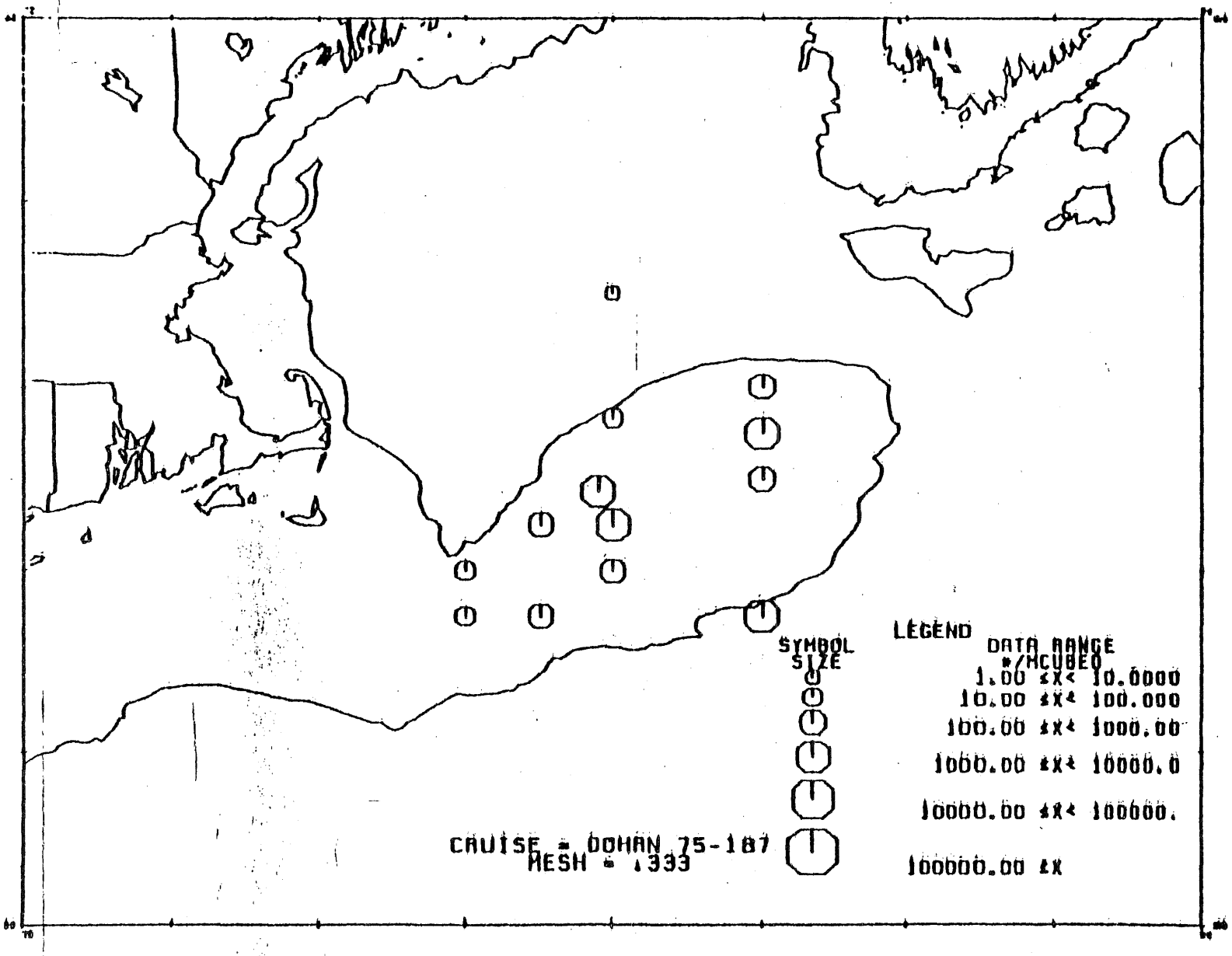

Figure 323

SALPA

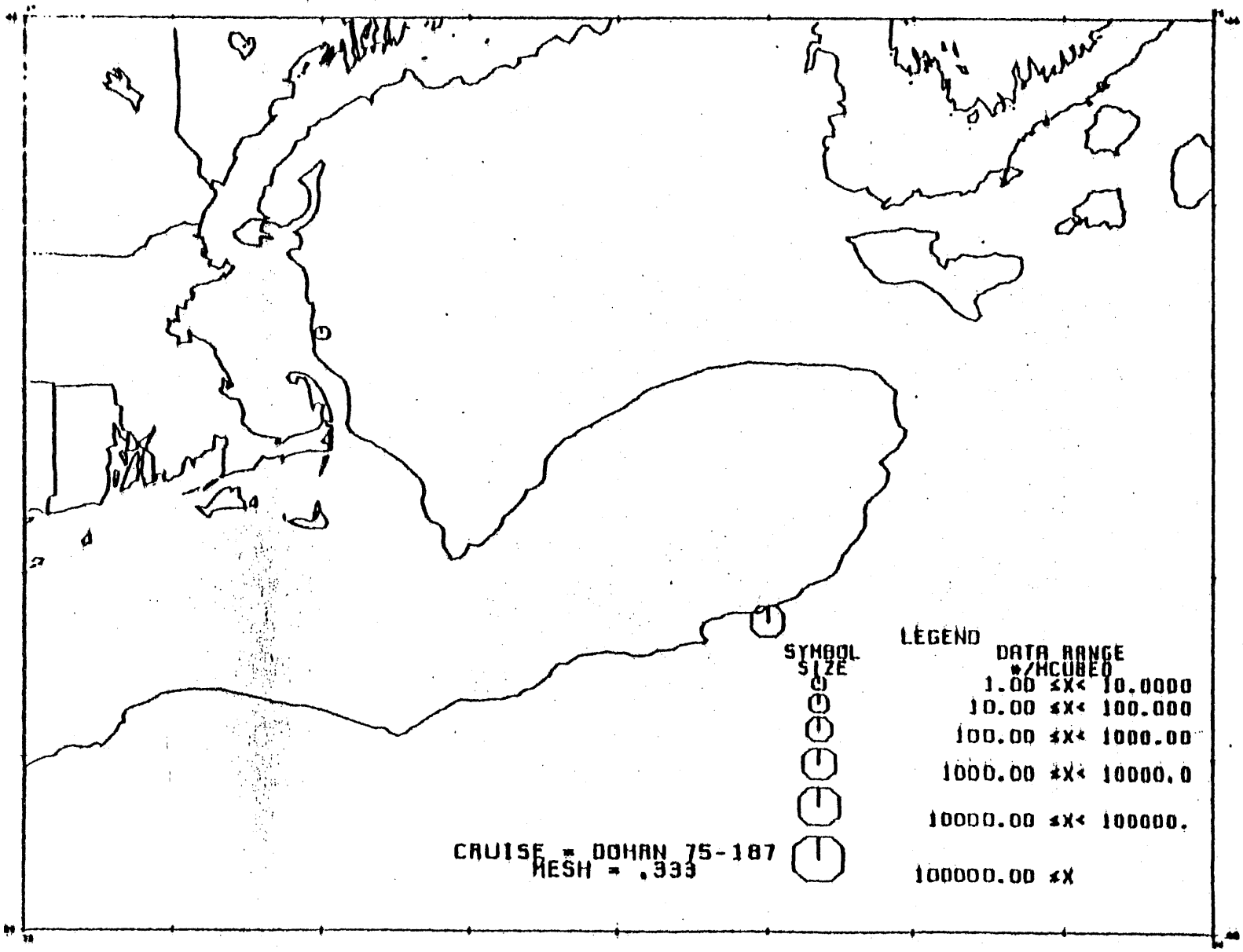

Figure 324

Stations Sampled

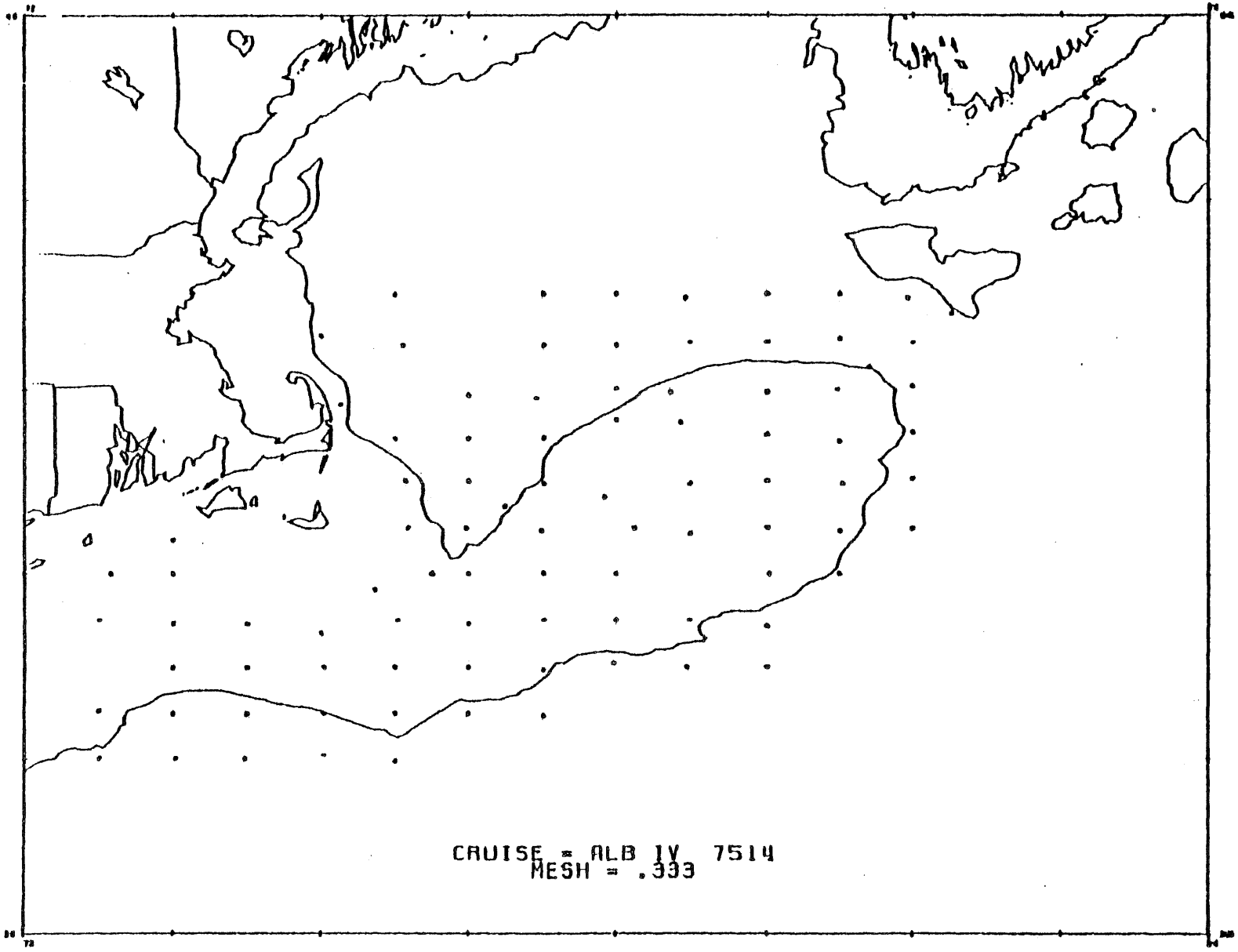

Figure 325

DISPLACEMENT VOLUME

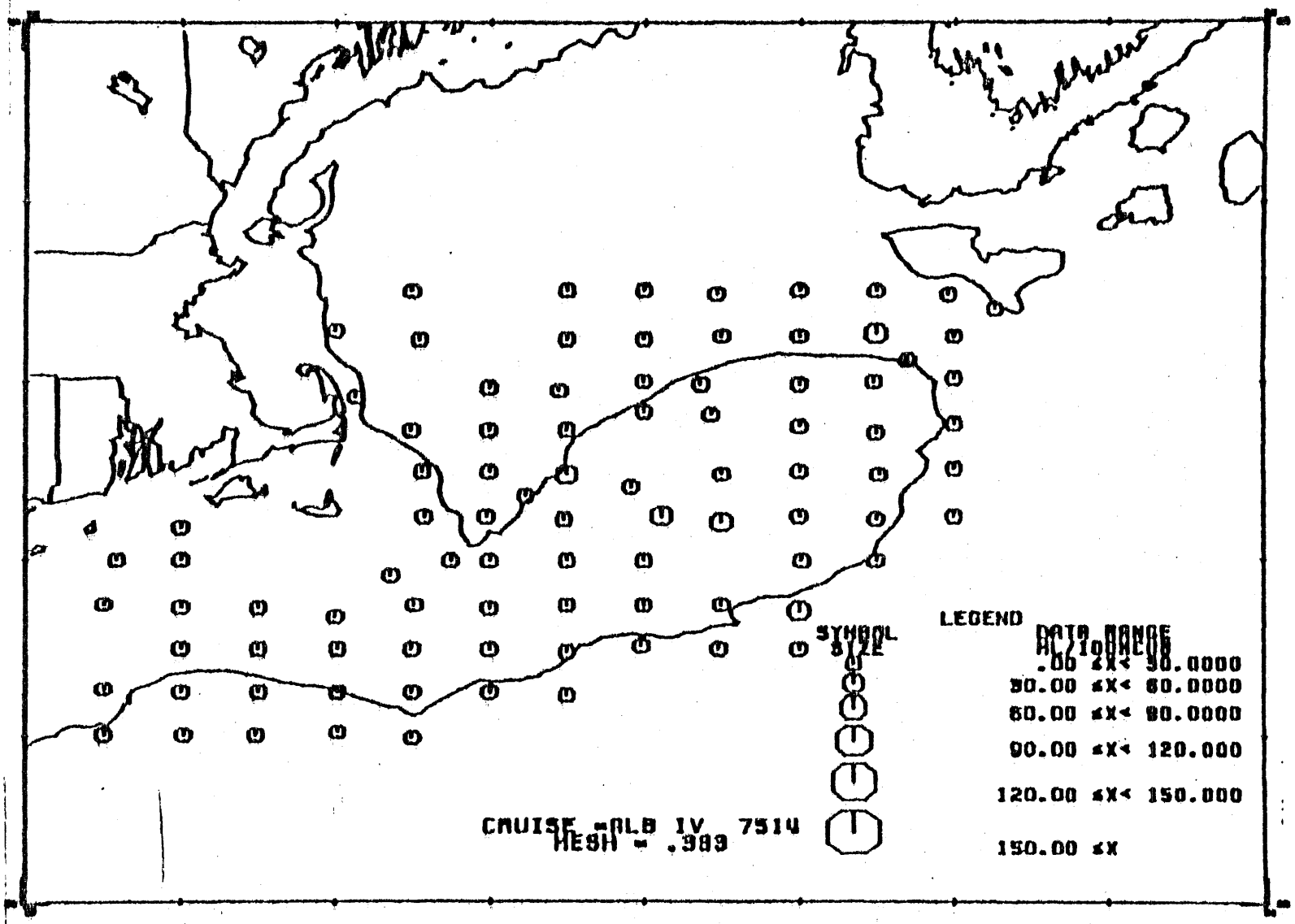

Figure 326

Pseudocalanus sp.

Stage Unknown

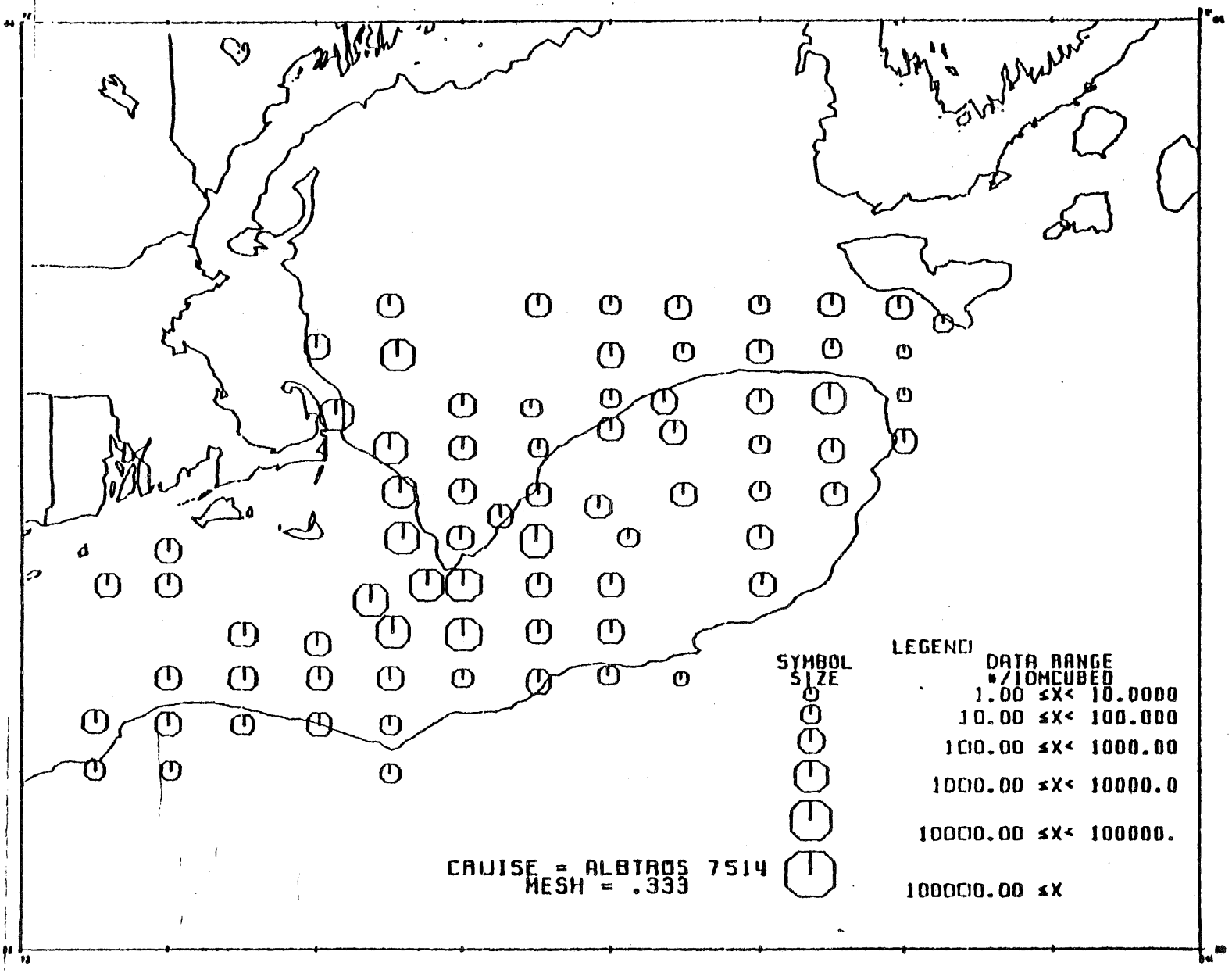

Figure 327

Pseudocalanus sp.

Adult

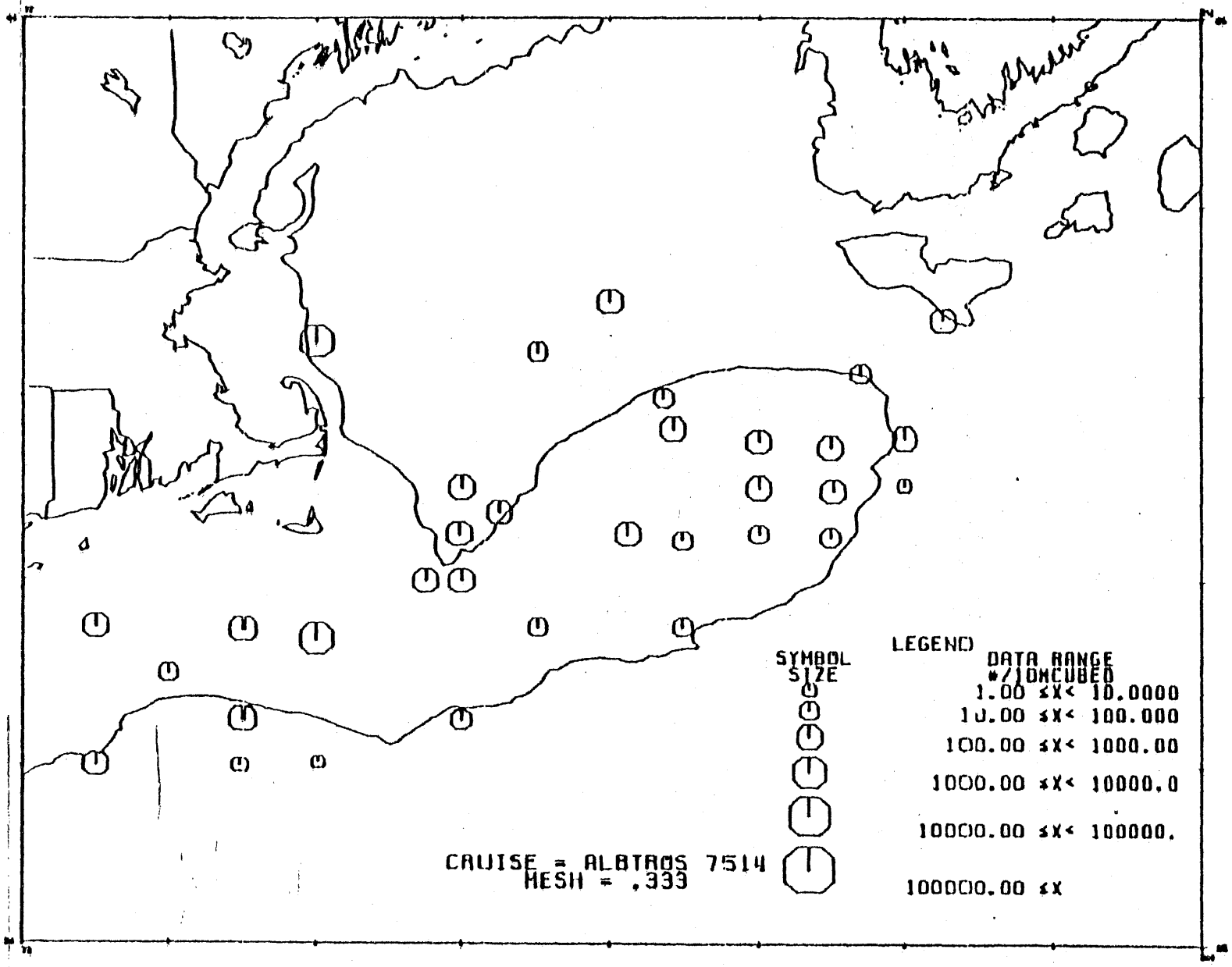

Figure 328

Paracalanus parvus

Stage Unknown

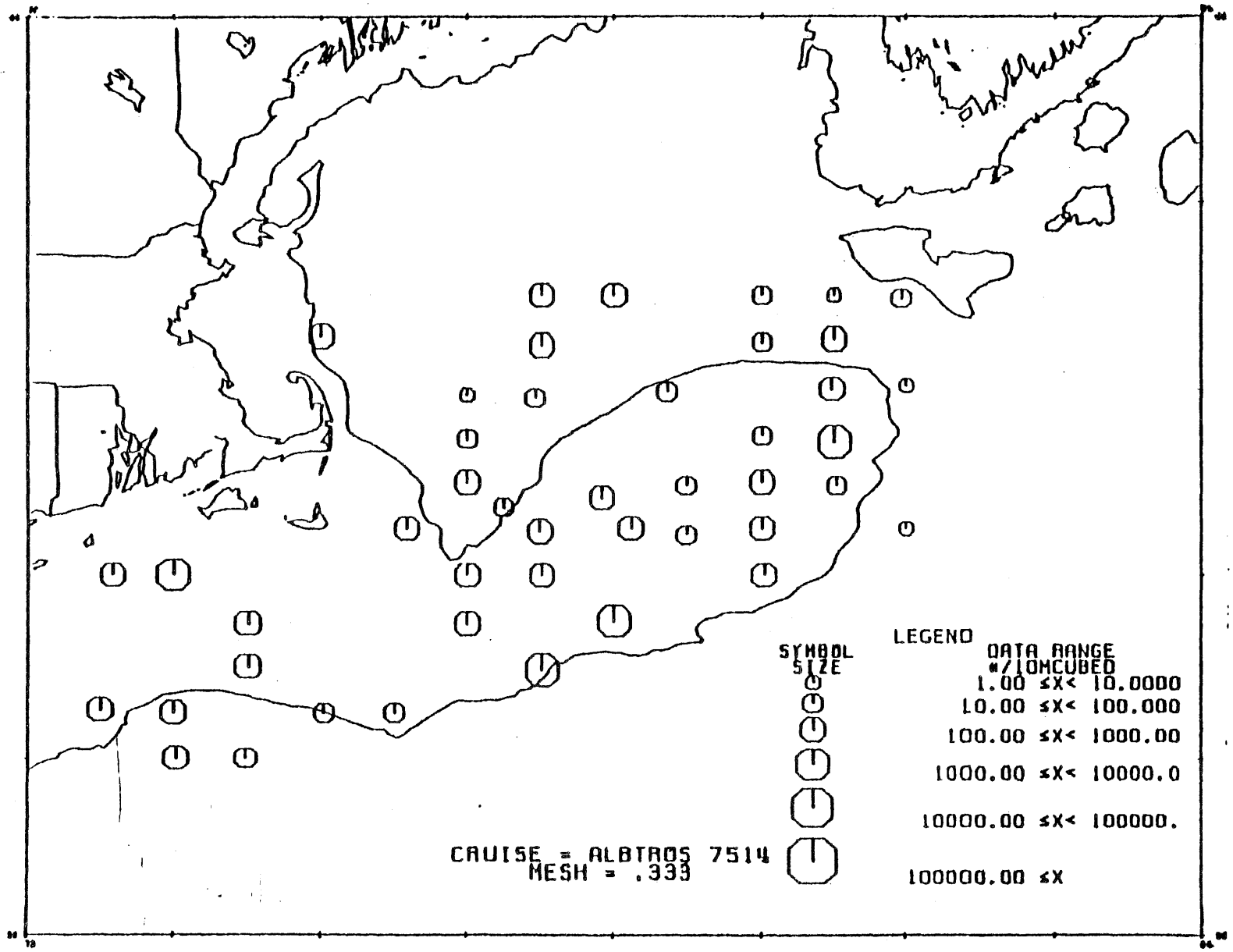

Figure 329

Paracalanus parvus

Adult

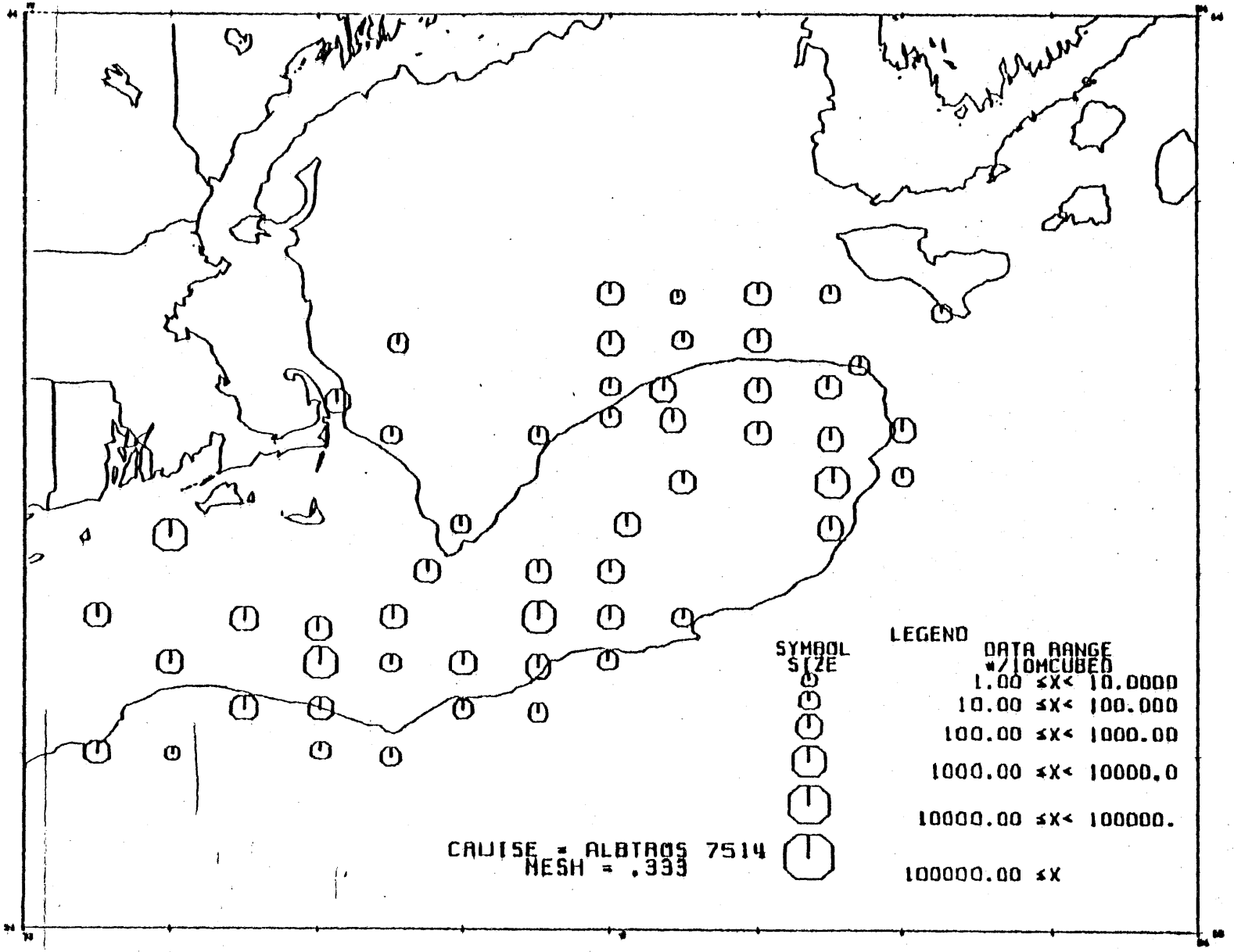

Figure 330

Centropages typicus

Stage Unknown

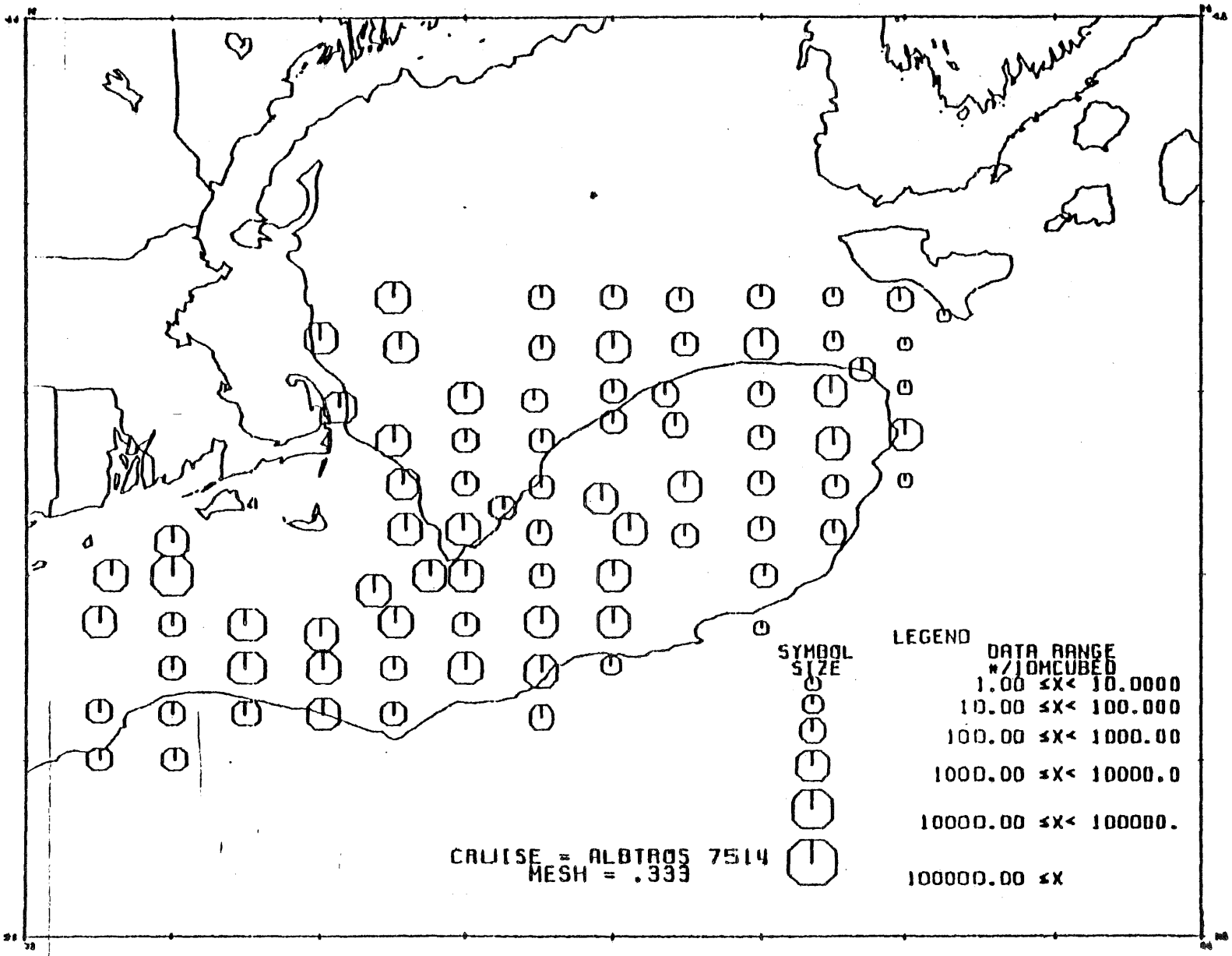

Figure 331

Centropages typicus

Adult

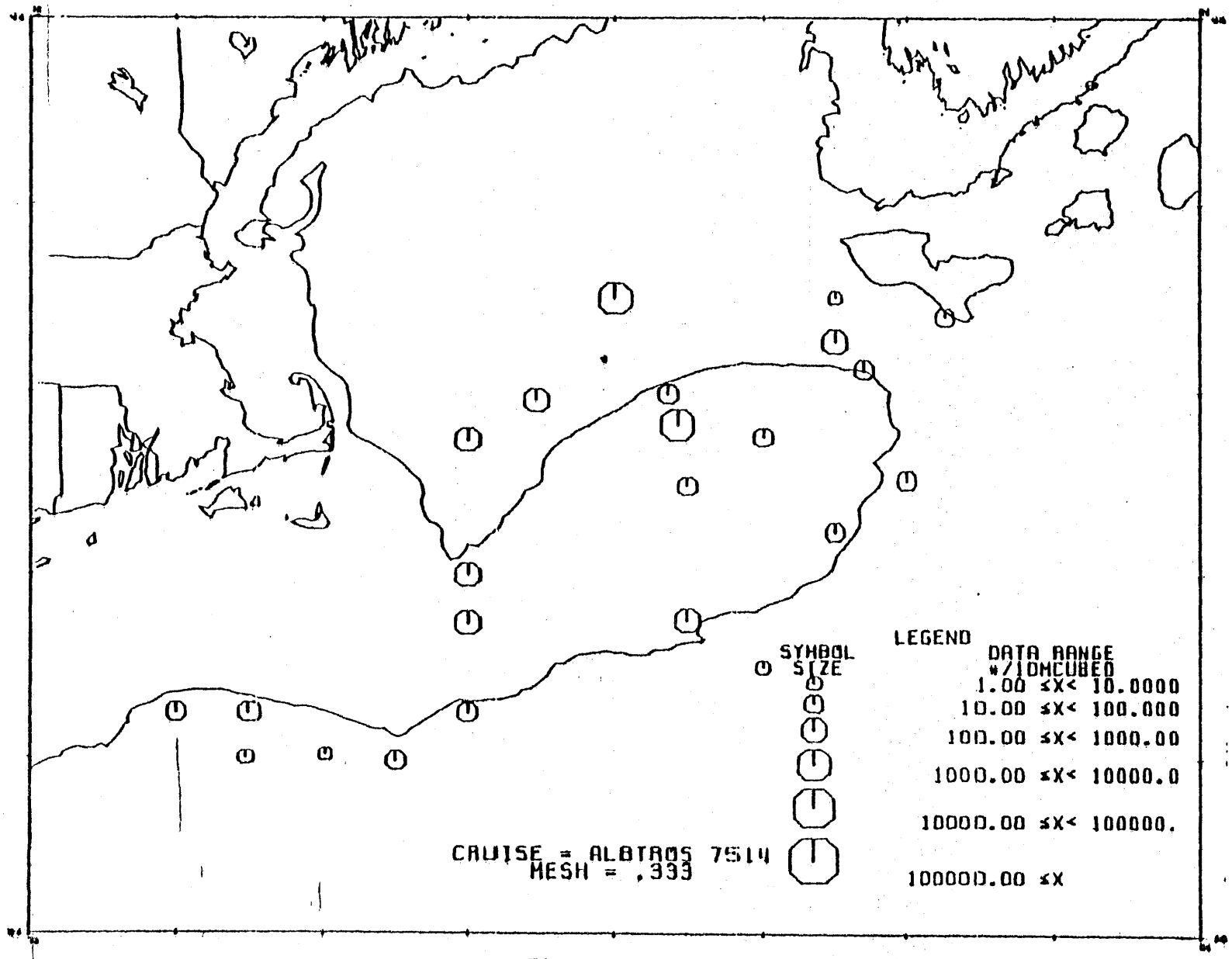

Figure 332

Centropages hamatus

Stage Unknown

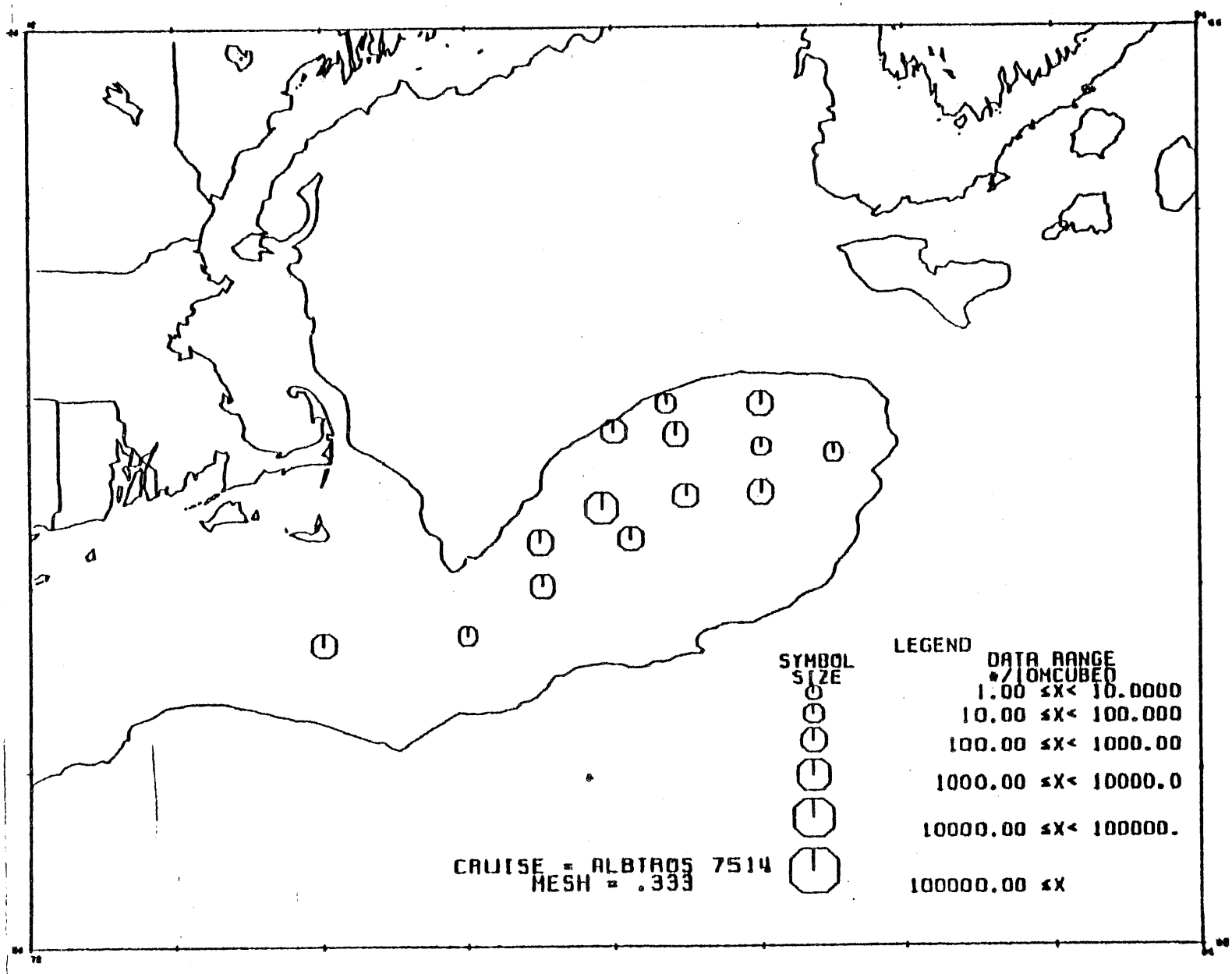

Figure 333

Centropages hamatus

Adult

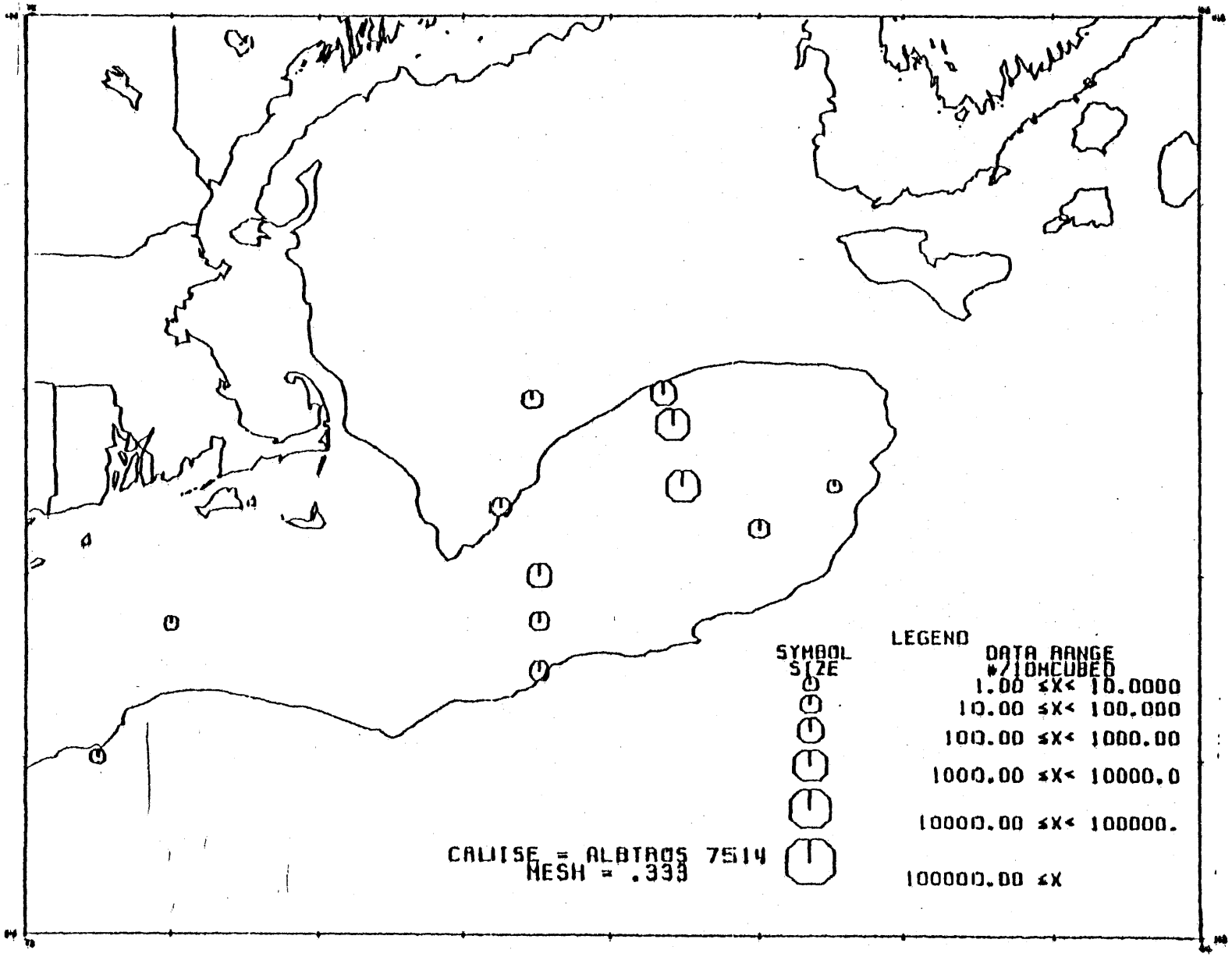

Figure 334

Oithona spp.

Stage Unknown

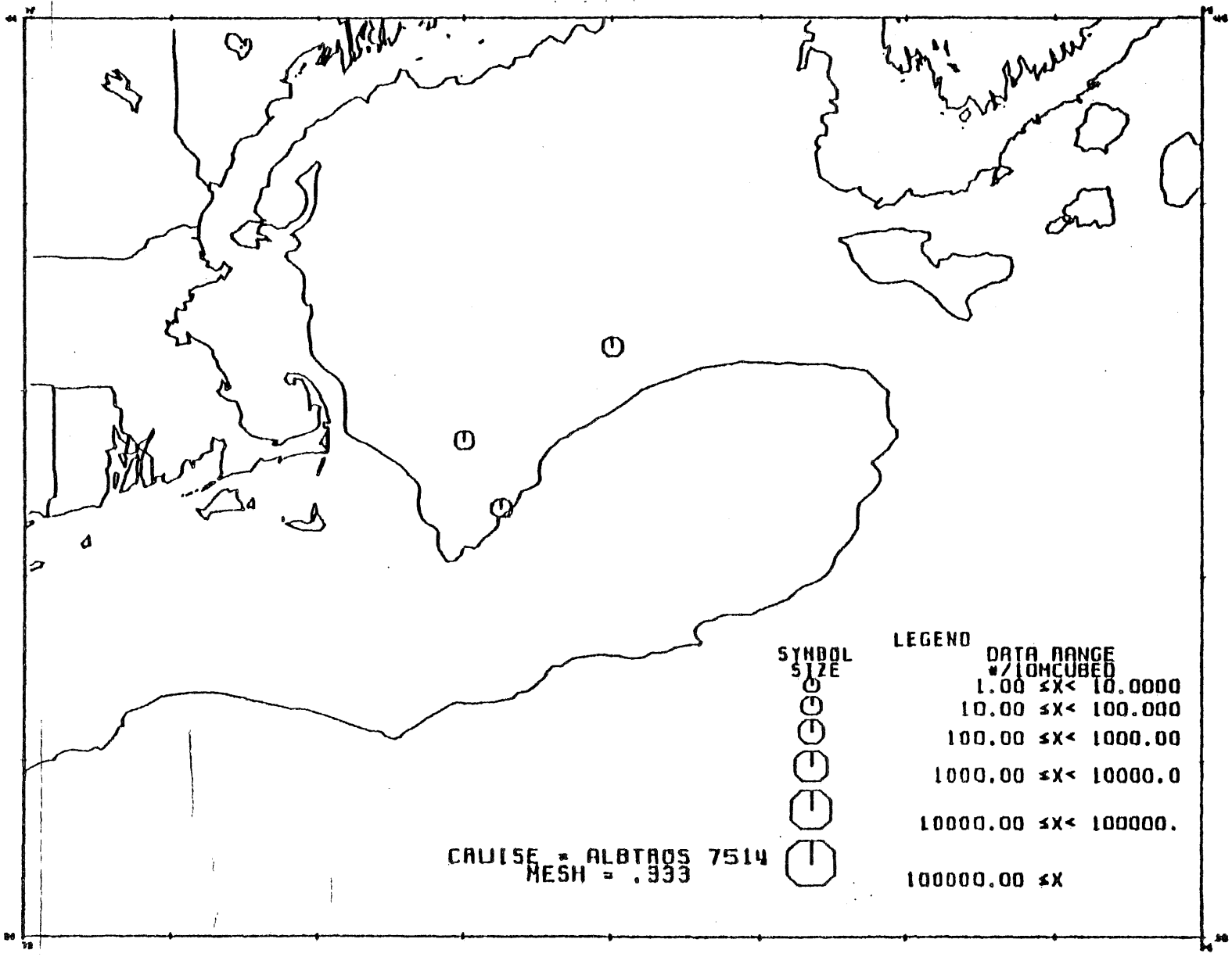

Figure 335

Oithona spp.

Adult

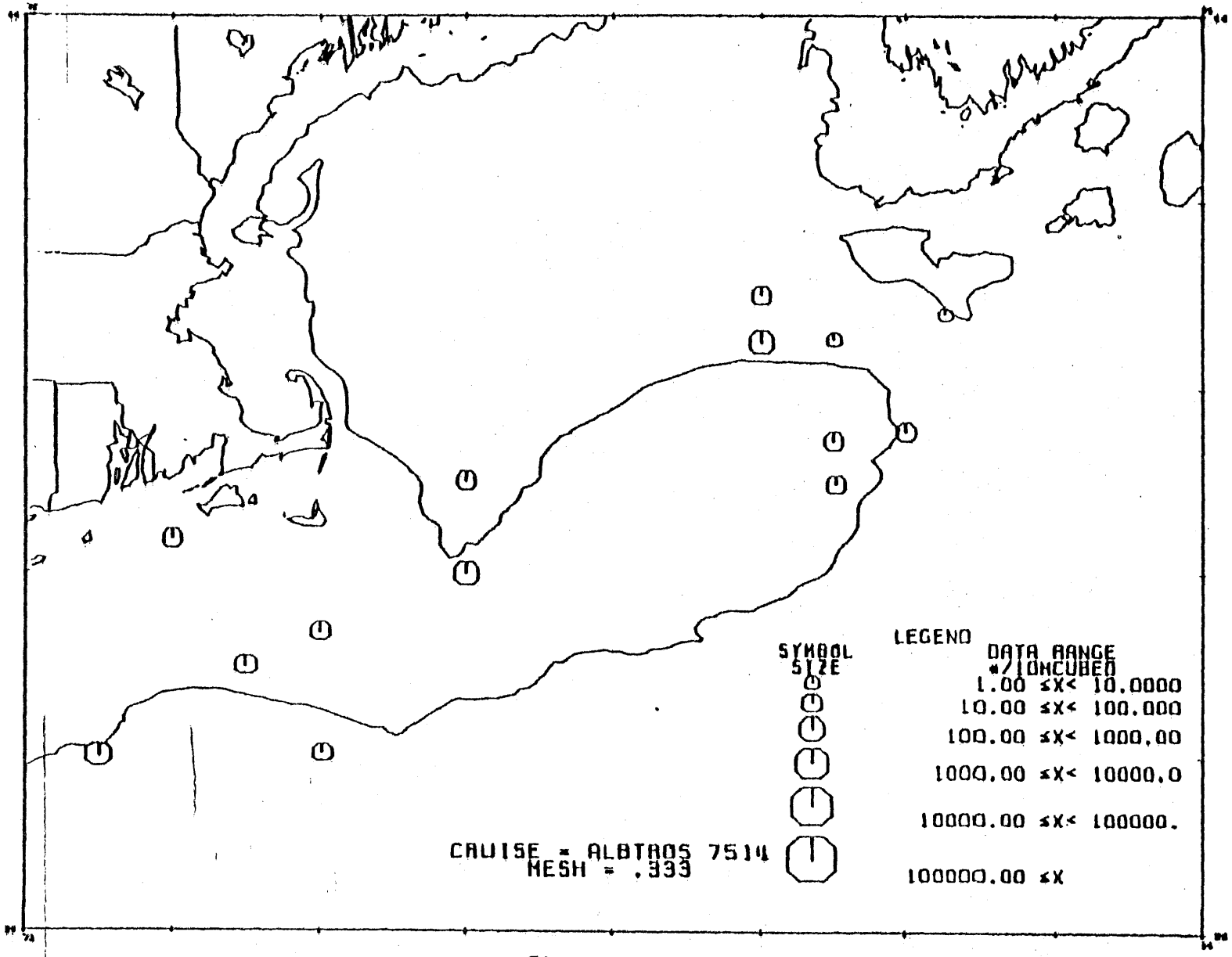

Figure 336

Calanus finmarchicus

Copepodite

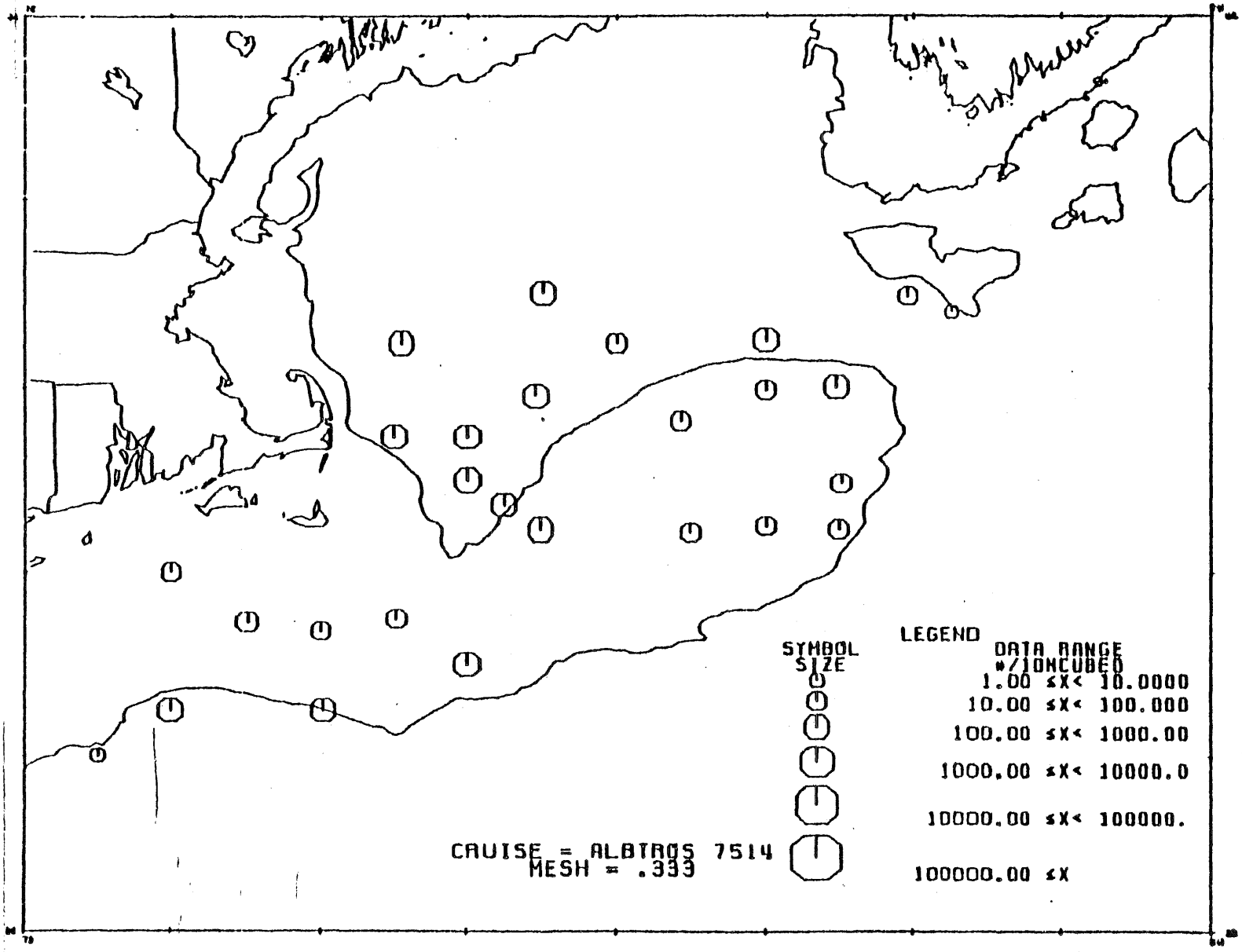

Figure 337

Calanus finmarchicus

Stage Unknown

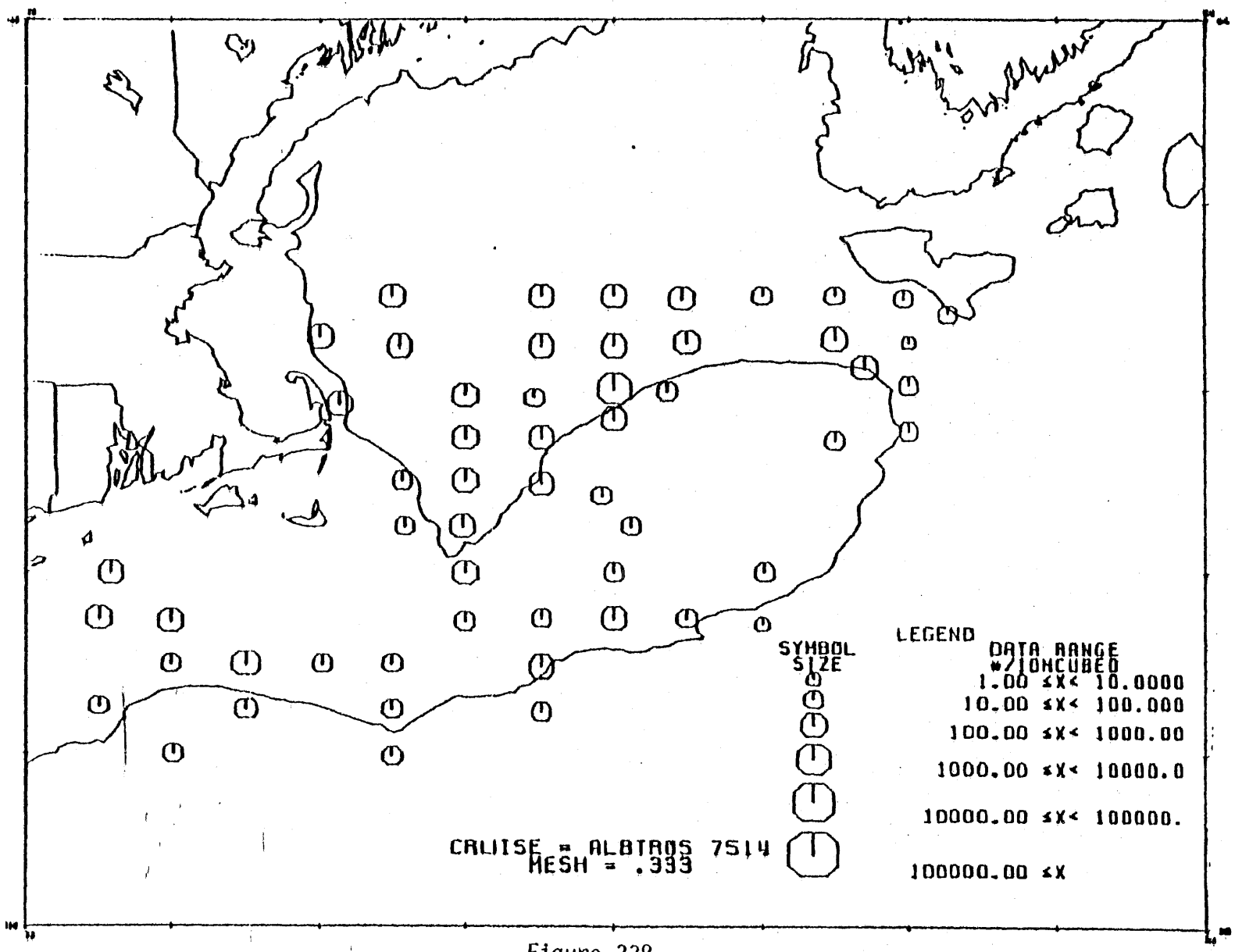

Figure 338

Calanus finmarchicus

Adult

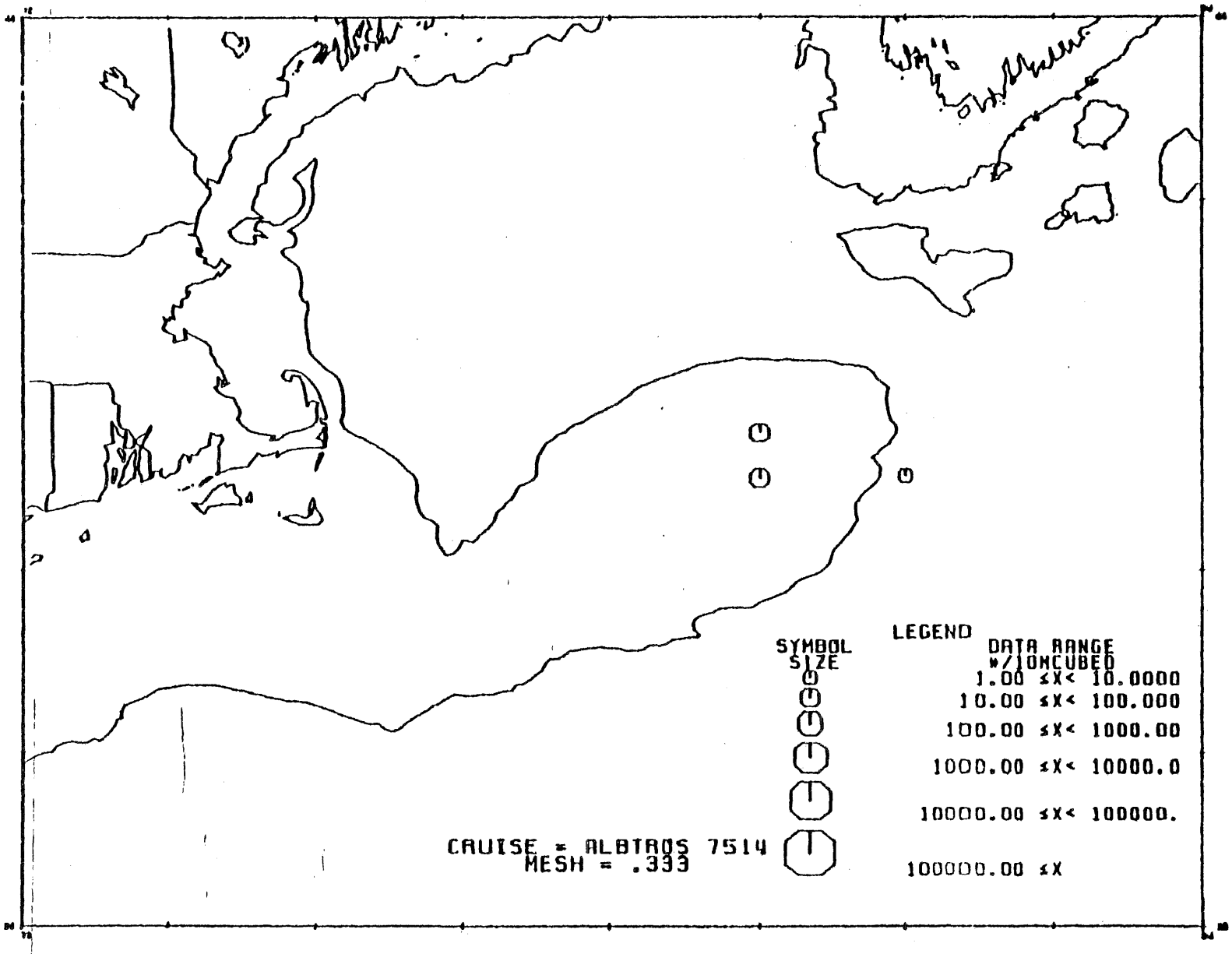

Figure 339

CHAETOGNATHA

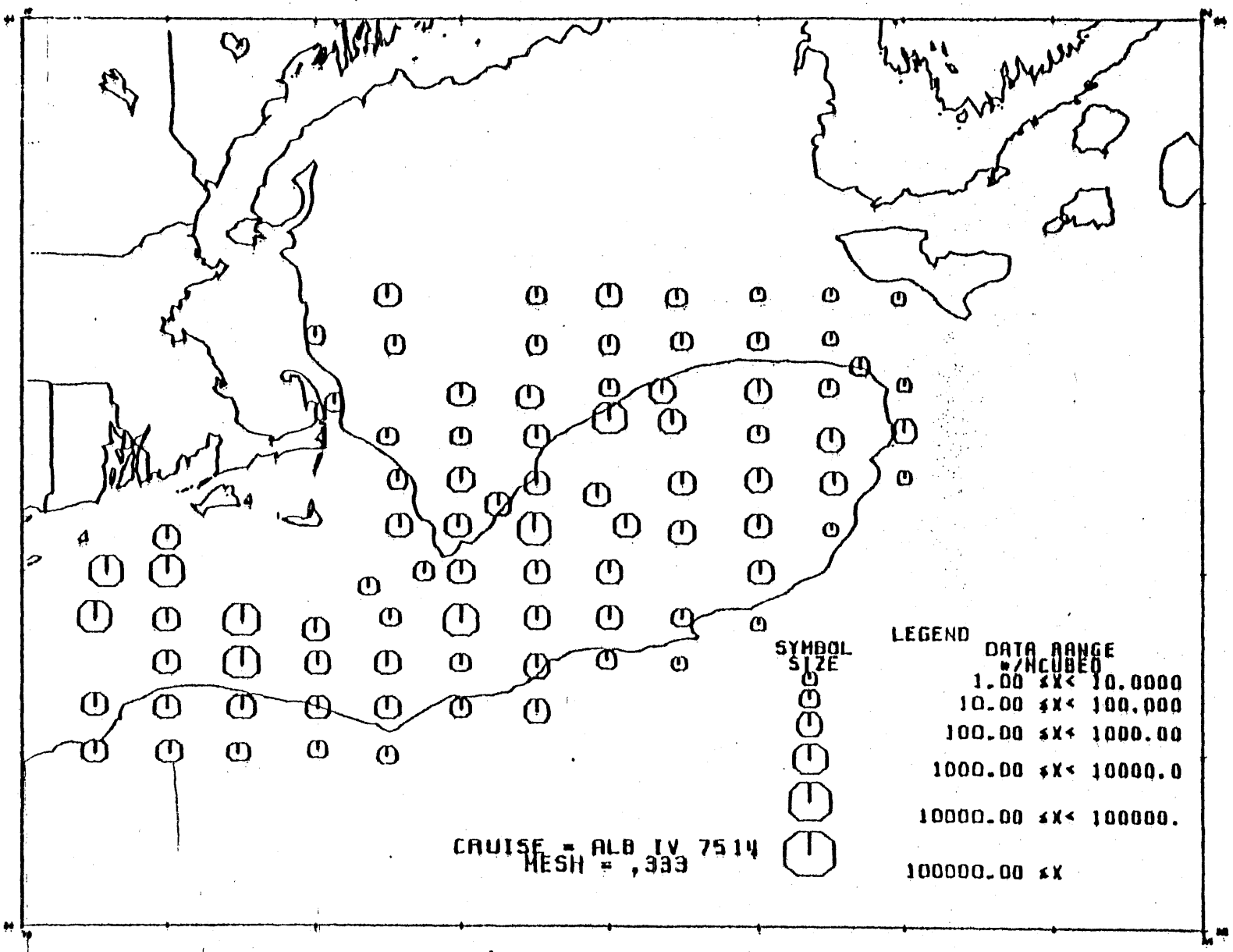

Figure 340

AMPHIPODA

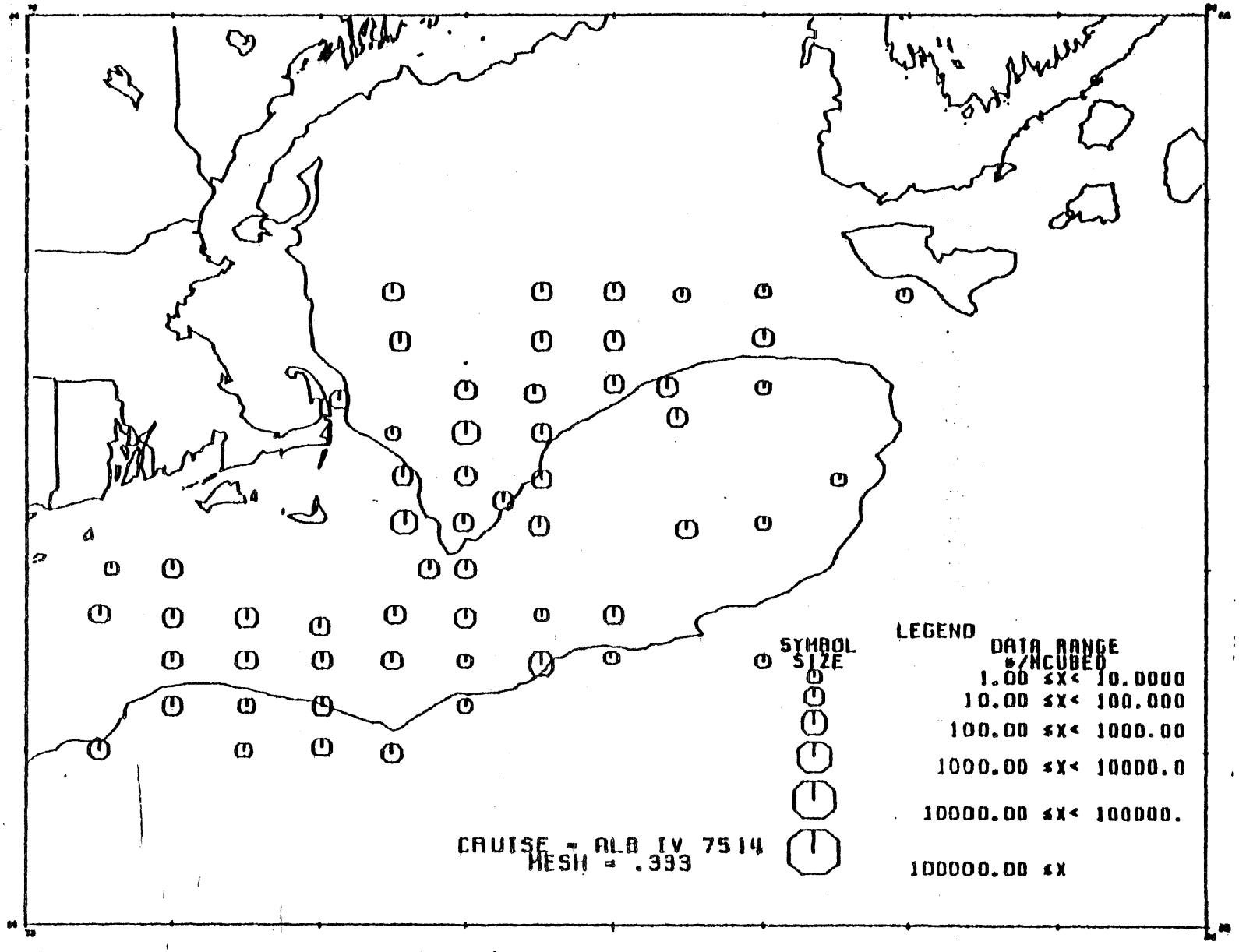

Figure 341

EUPHAUSIACEA

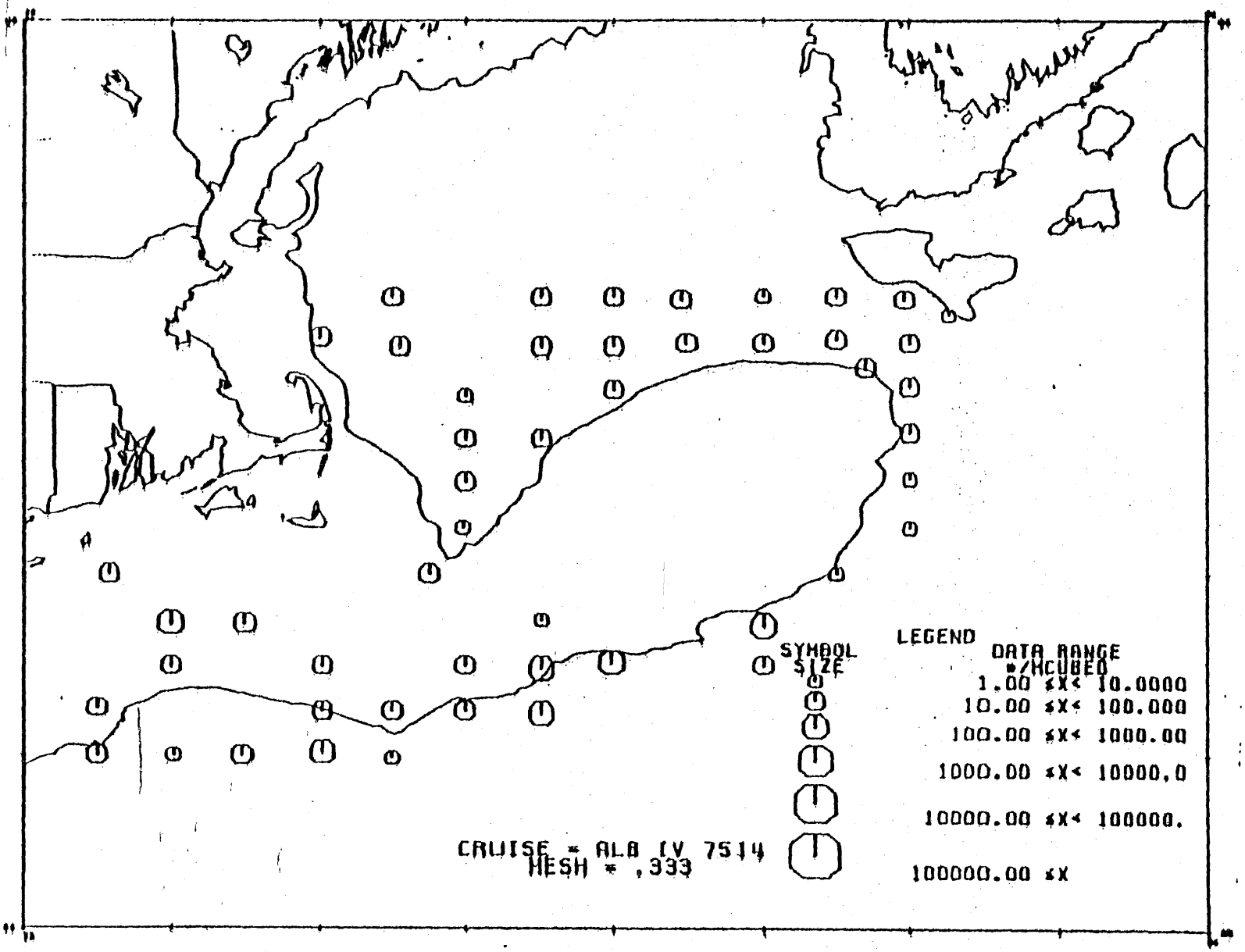

Figure 342

MYSIDACEA

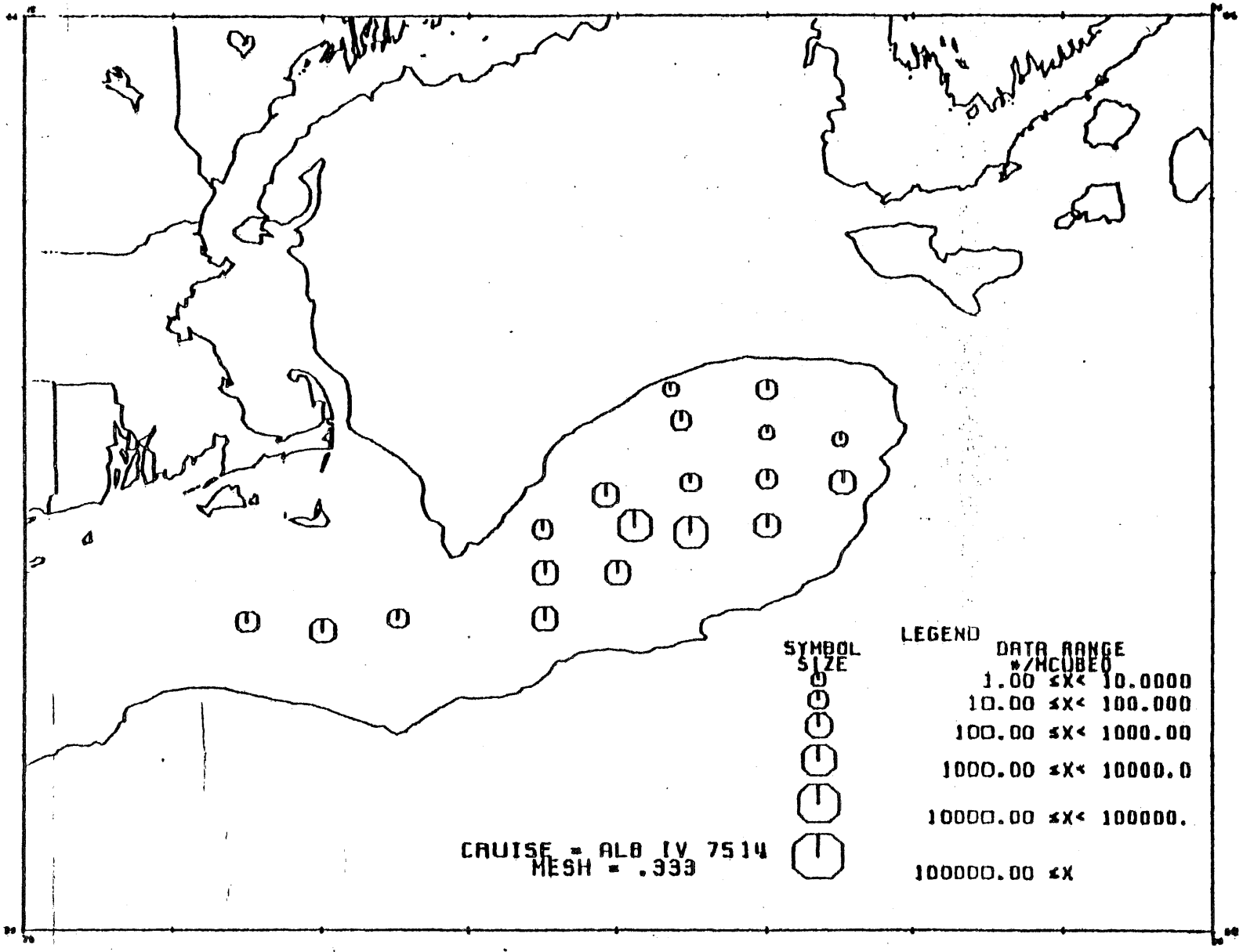

Figure 343

SALPA

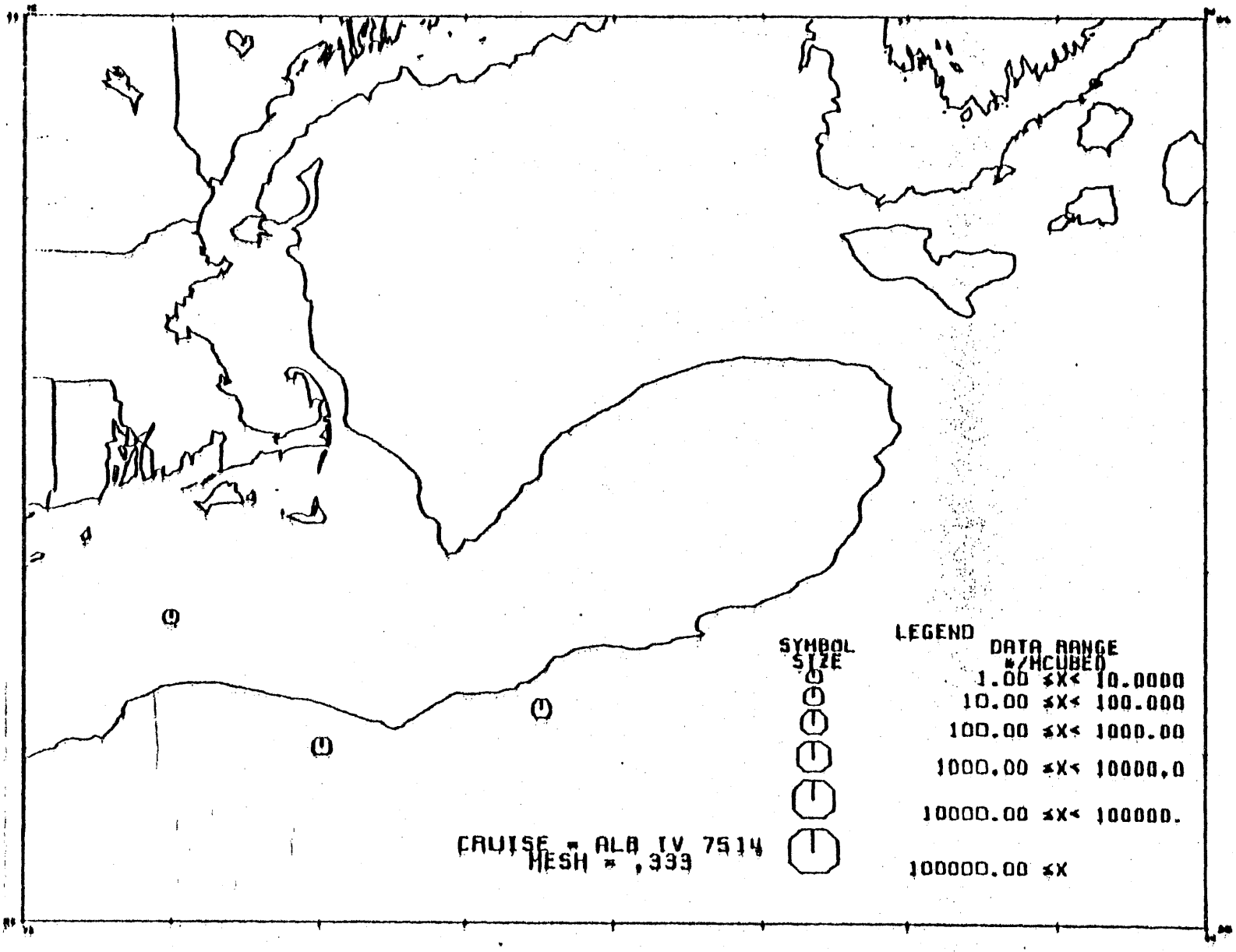

Figure 344

SCYPHOZOA

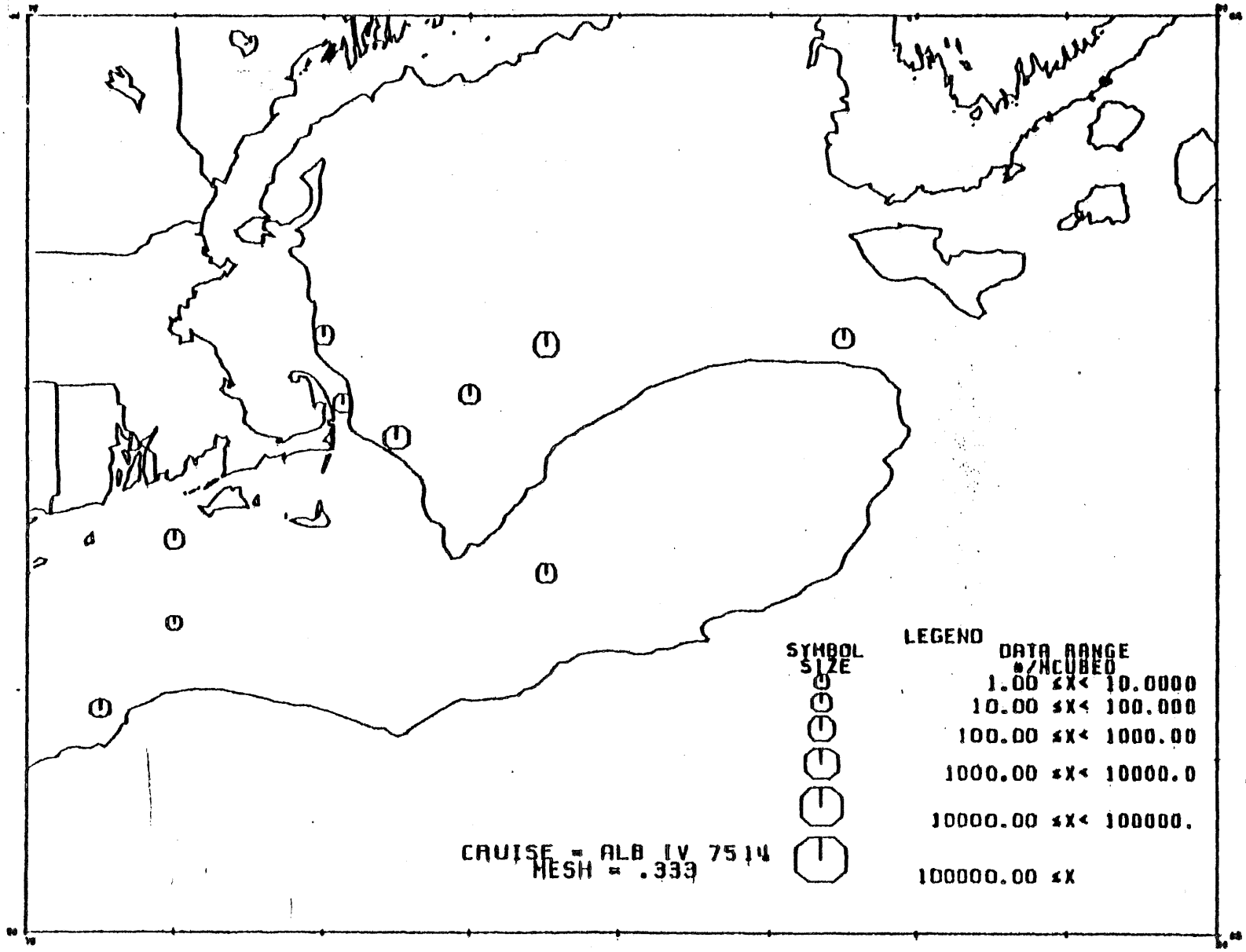

Figure 345

Stations Sampled

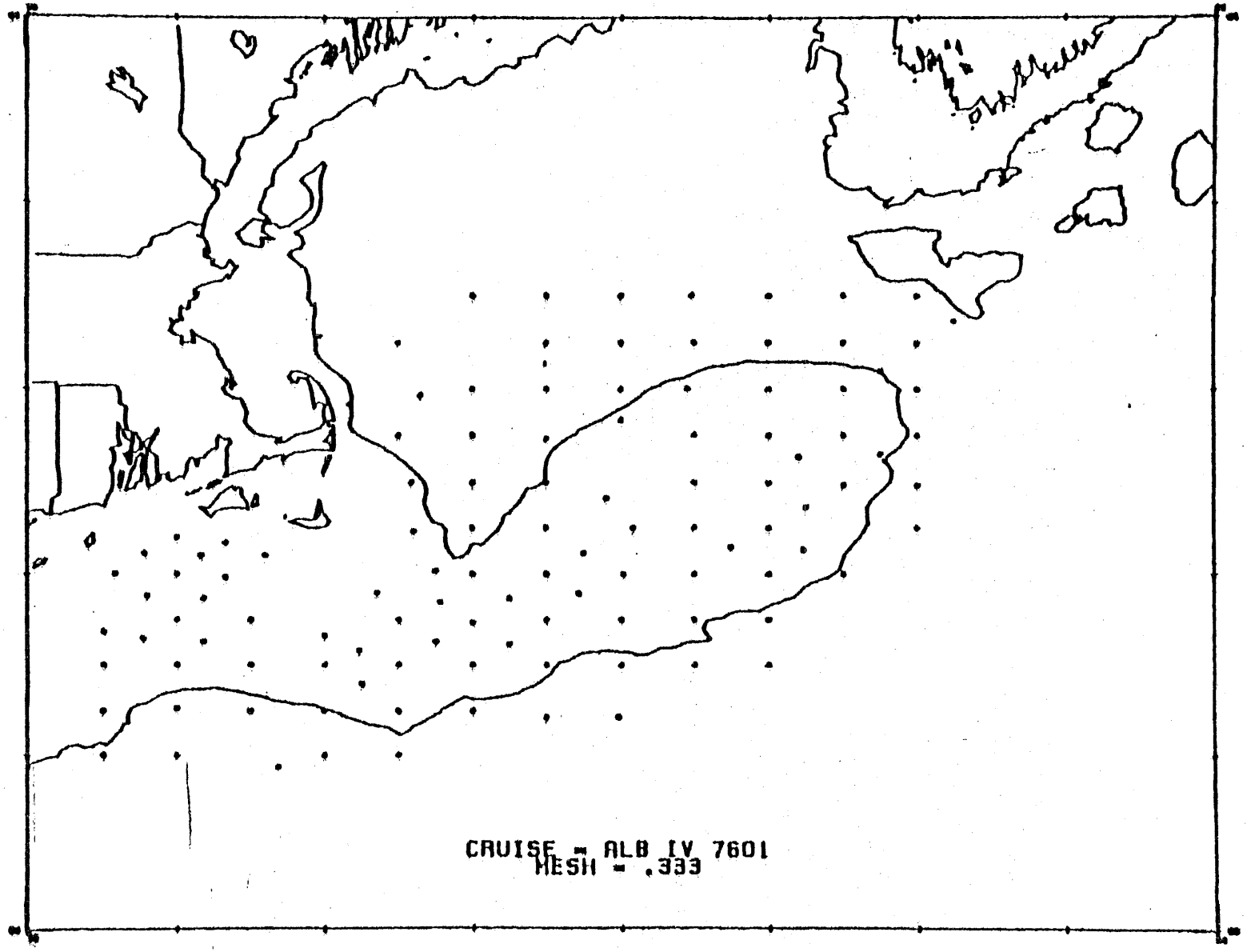

Figure 346

DISPLACEMENT VOLUME

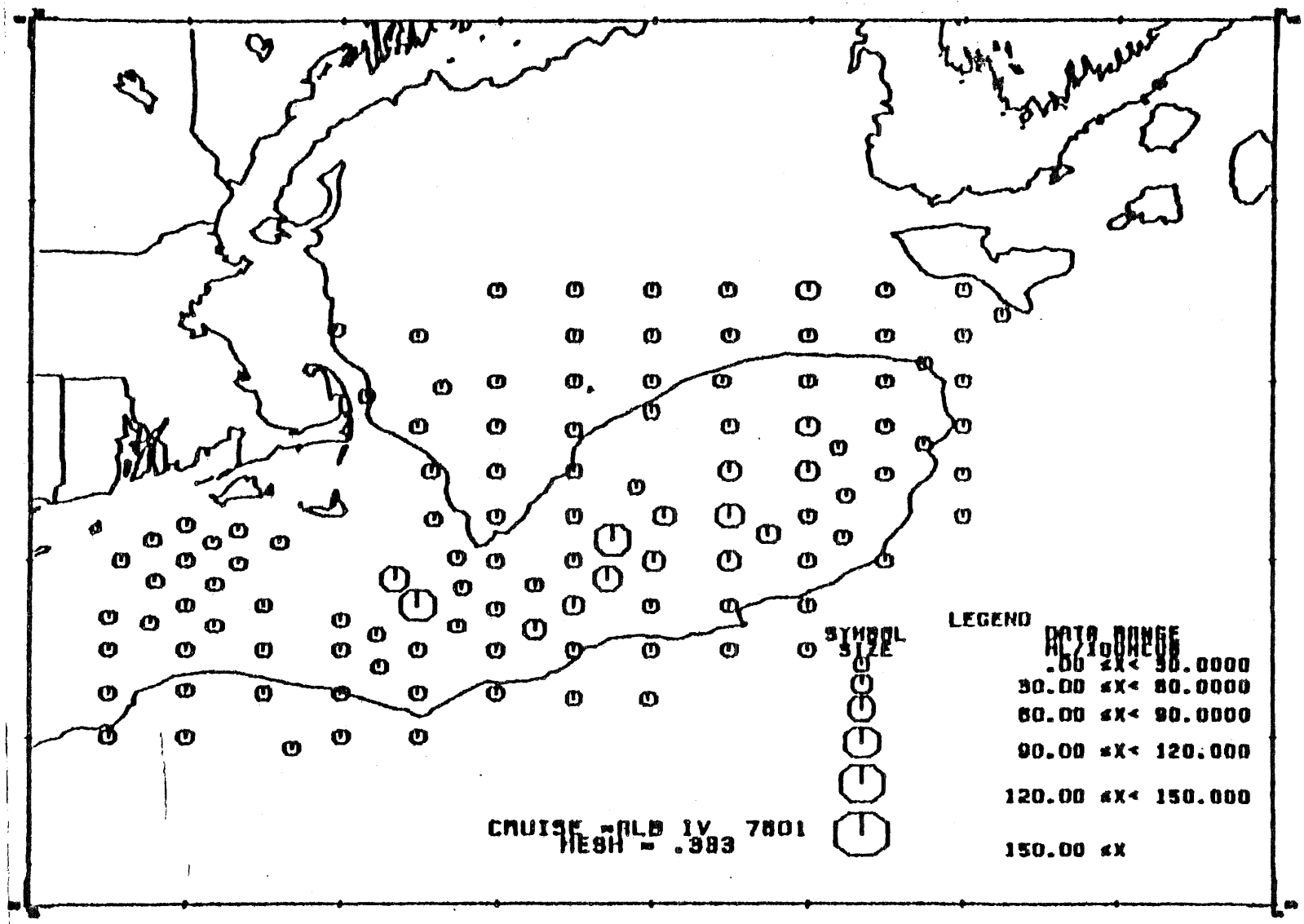

Figure 347

Pseudocalanus sp.

Copepodite Stage 2

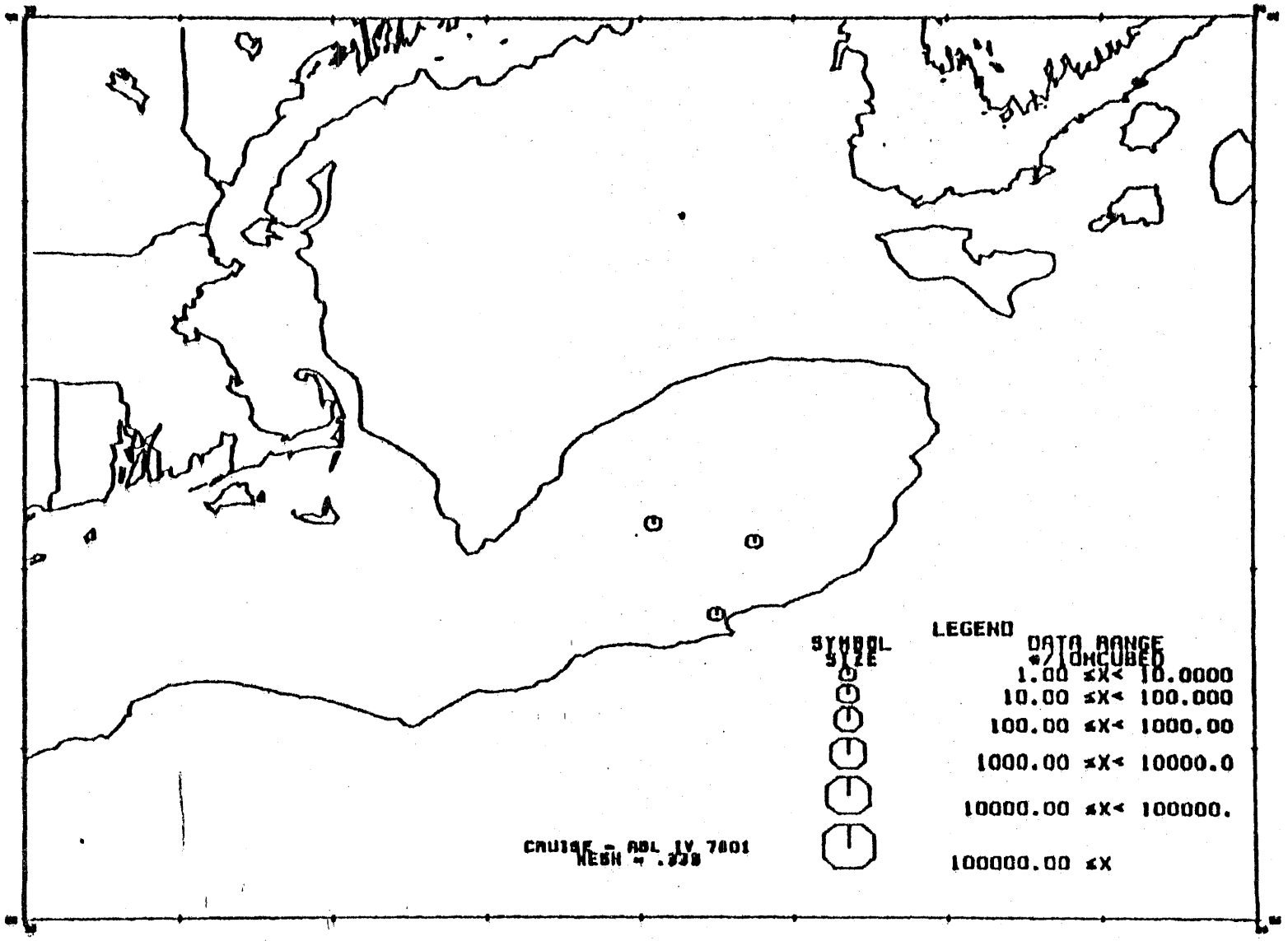

Figure 348

Pseudocalanus sp.

Copepodite Stage 3

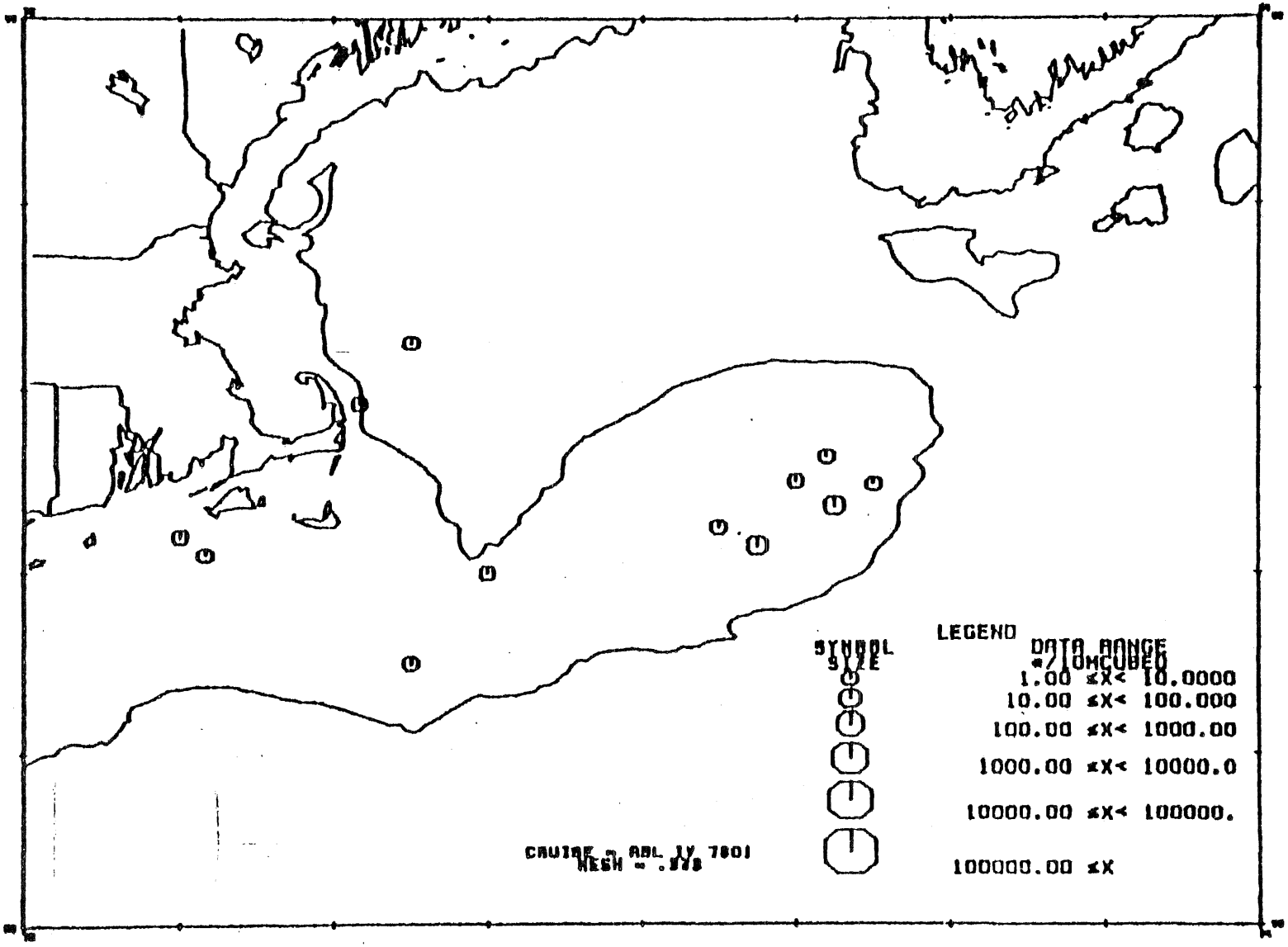

Figure 349

Pseudocalanus sp.

Copepodite Stage 4

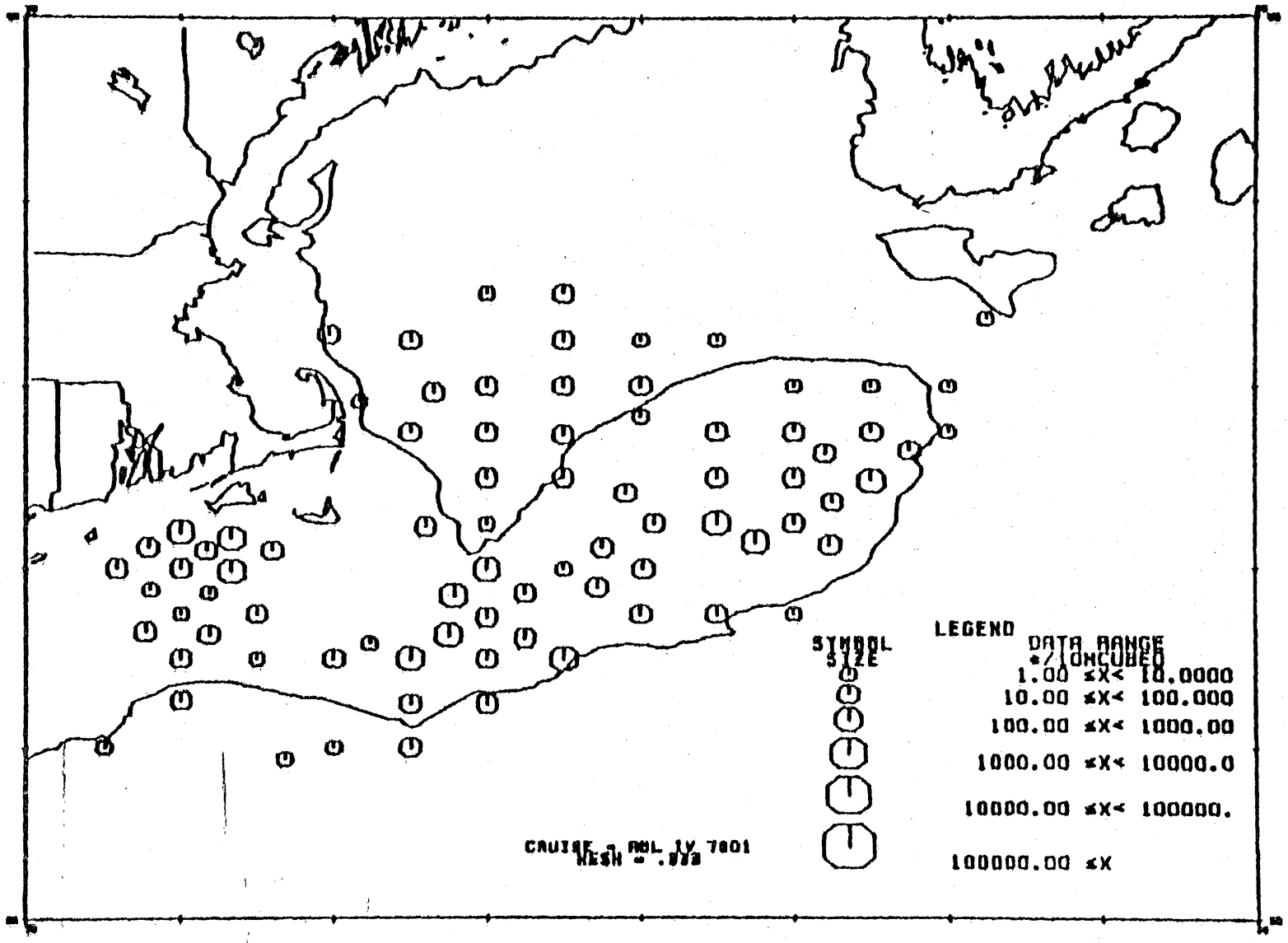

Figure 350

Pseudocalanus sp.

Copepodite Stage 5

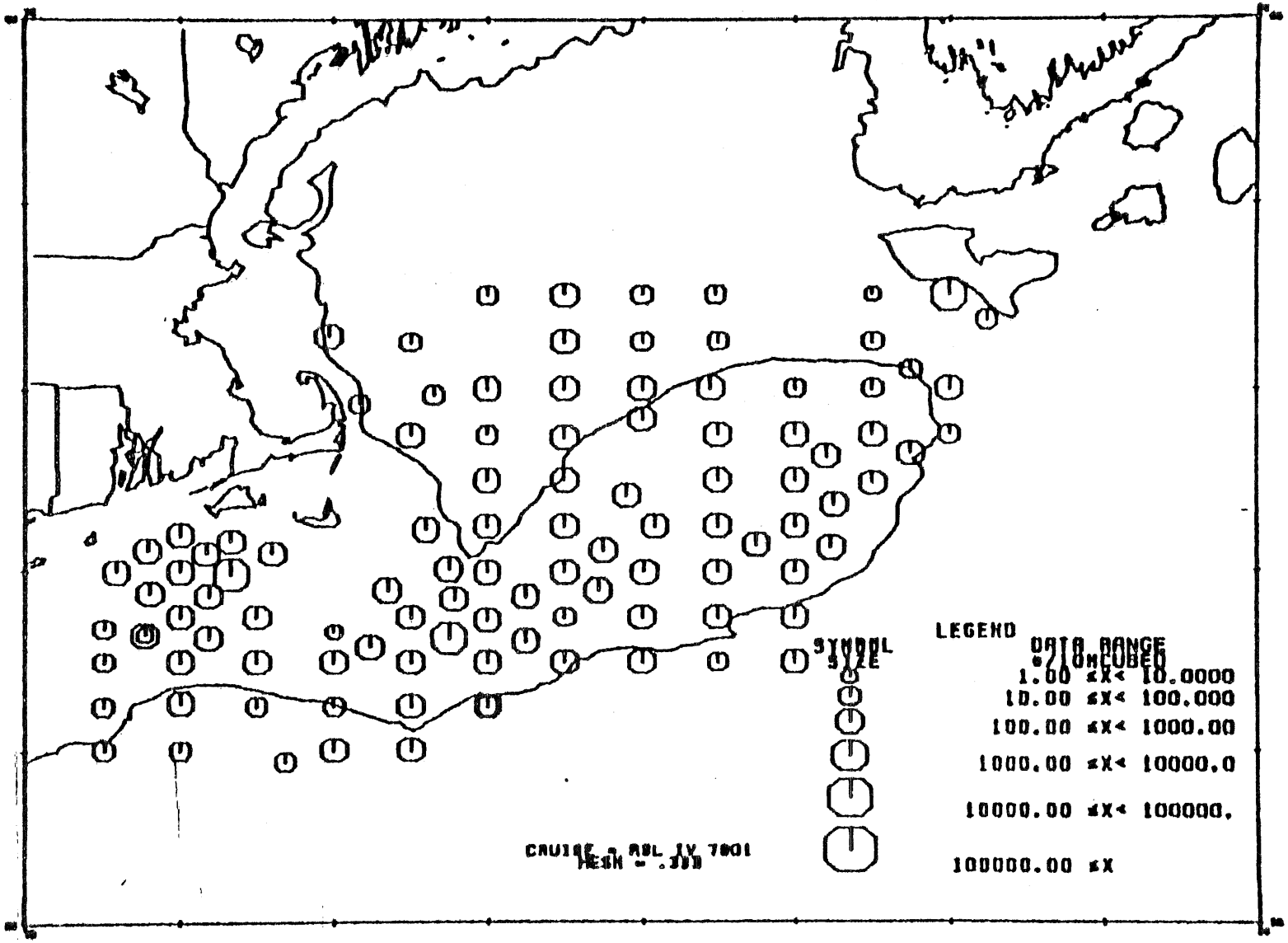

Figure 351

Pseudocalanus sp.

Copepodite

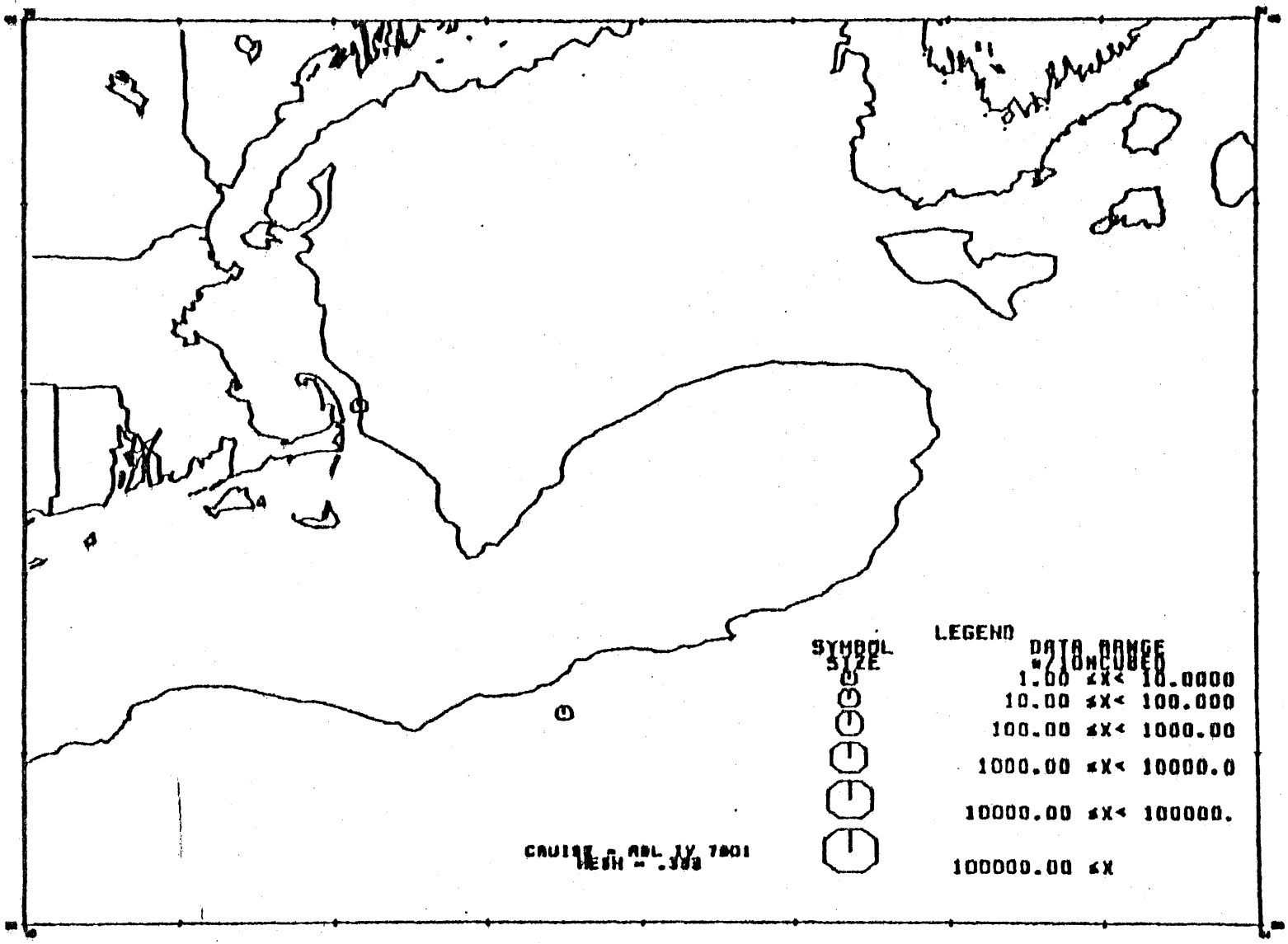

Figure 352

Pseudocalanus sp.

Adult

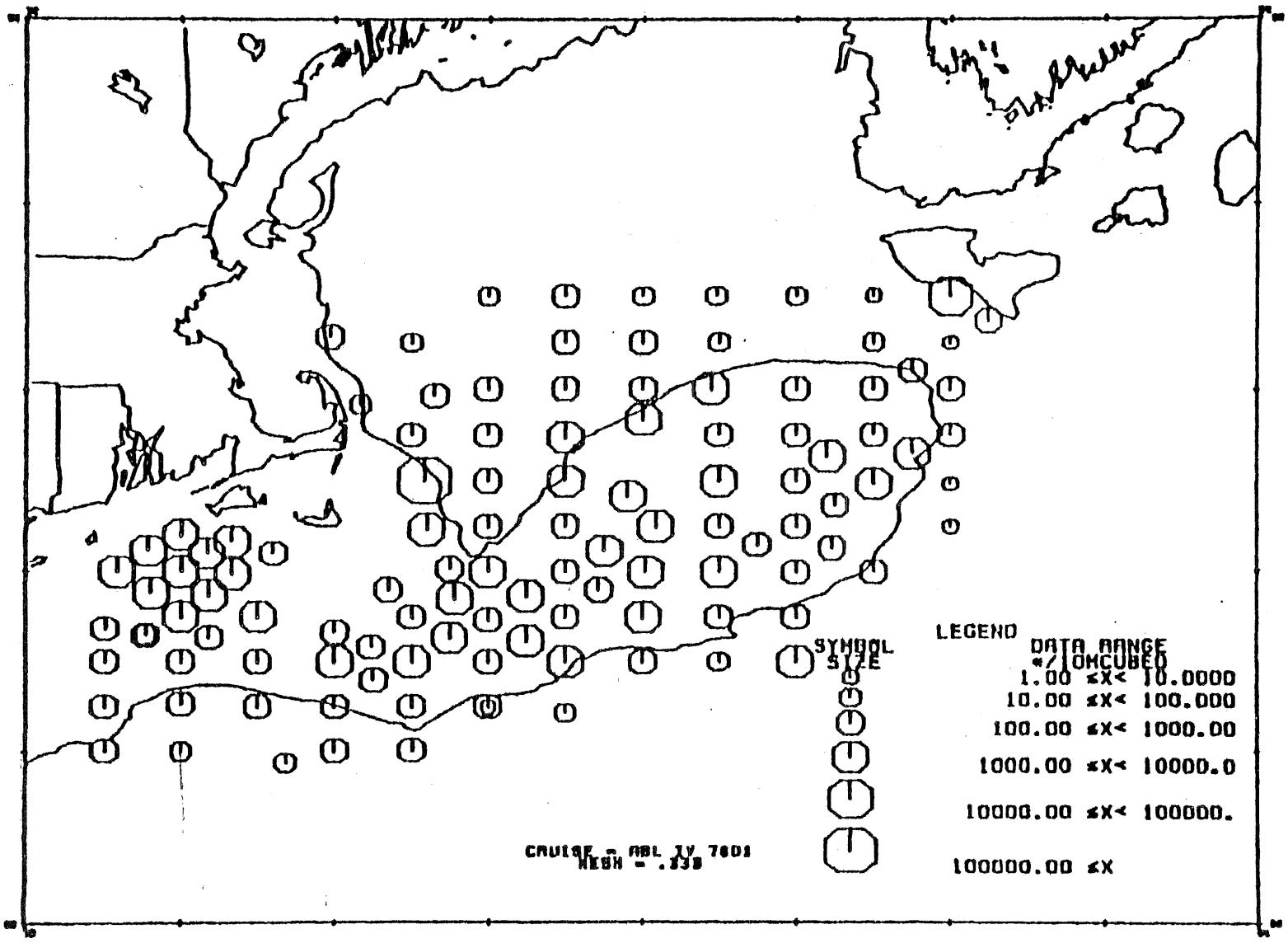

Figure 353

Paracalanus parvus

Copepodite Stage 5

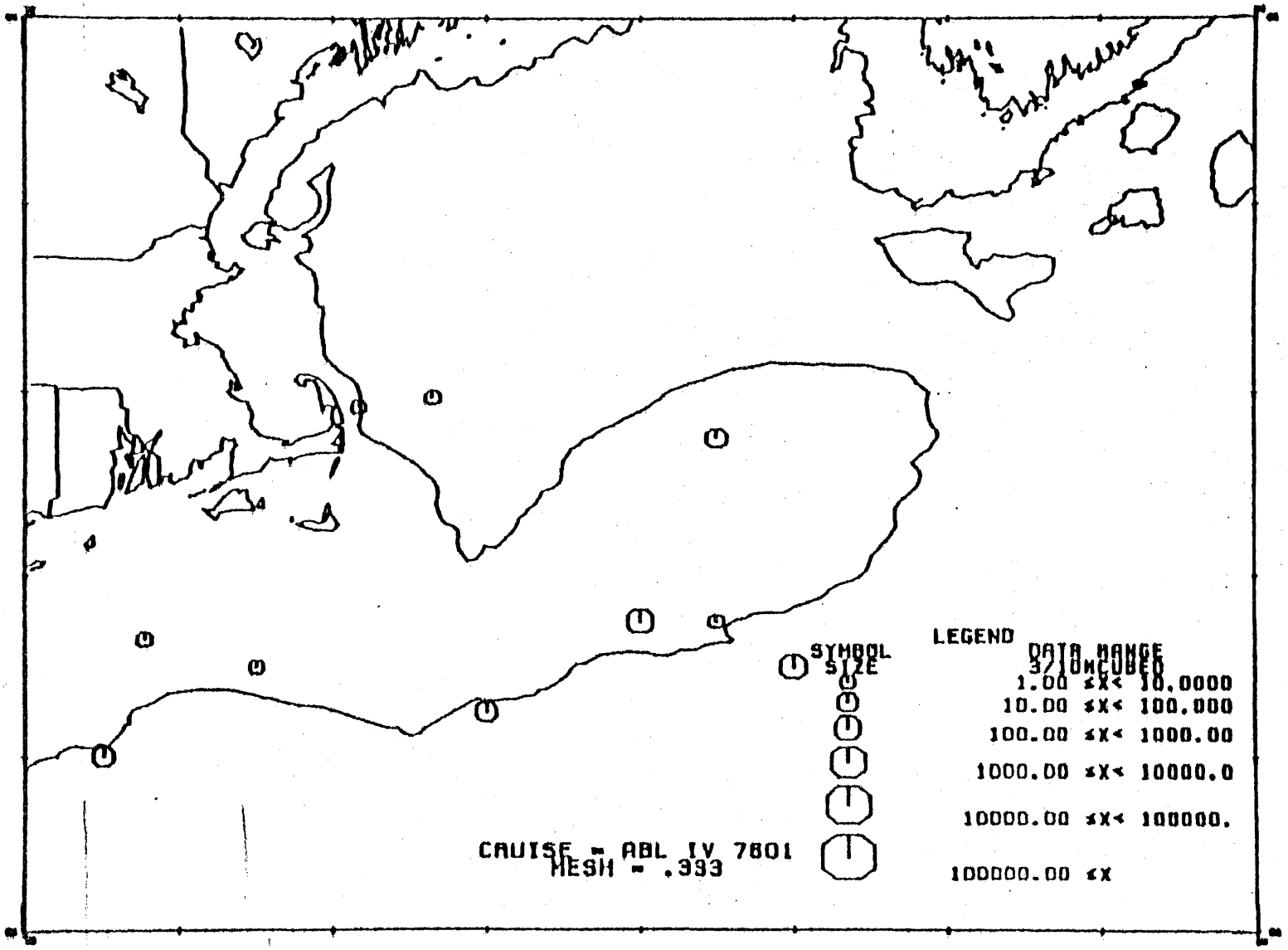

Figure 354

Paracalanus parvus

Copepodite

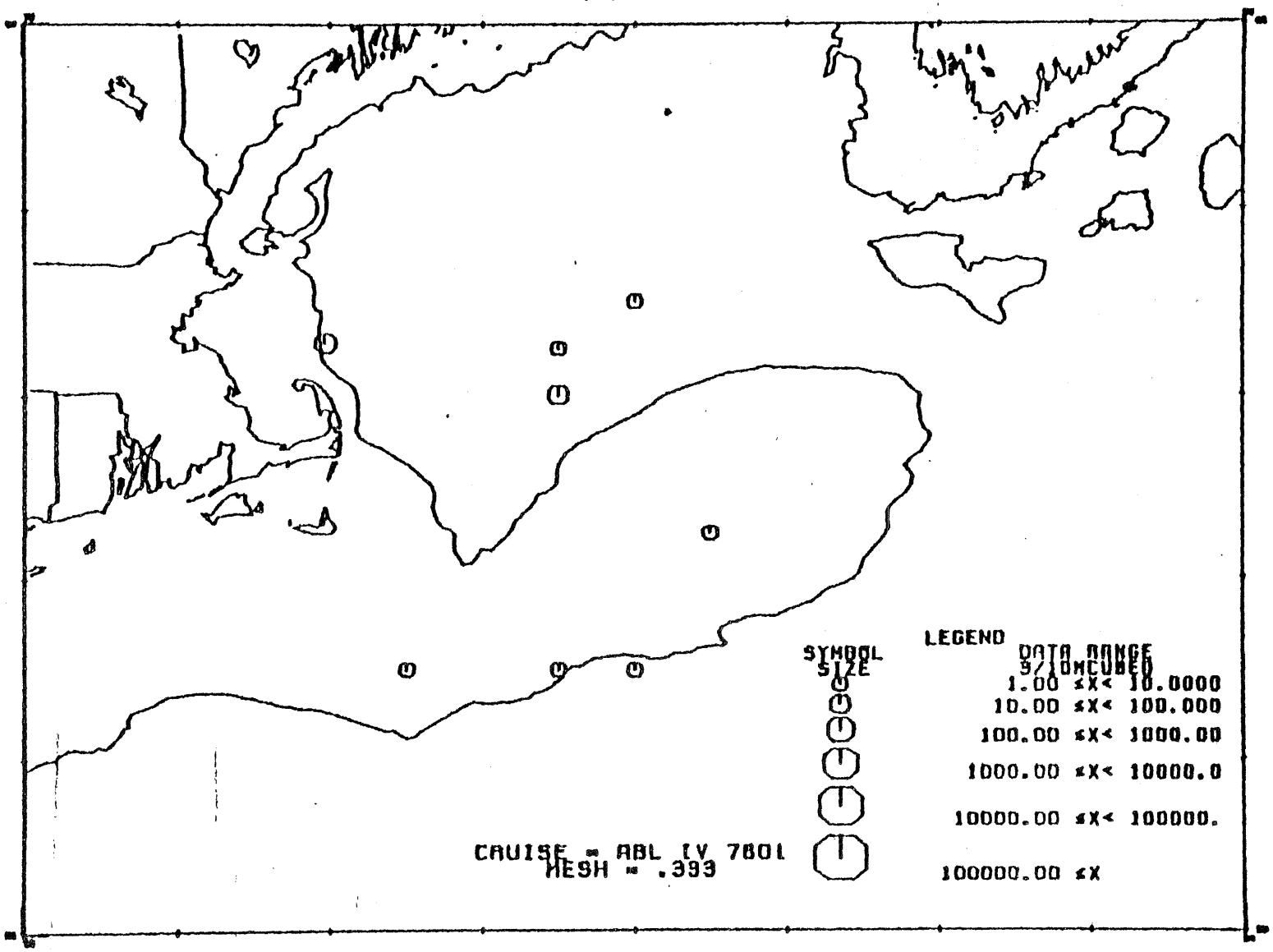

Figure 355

Paracalanus parvus

Adult

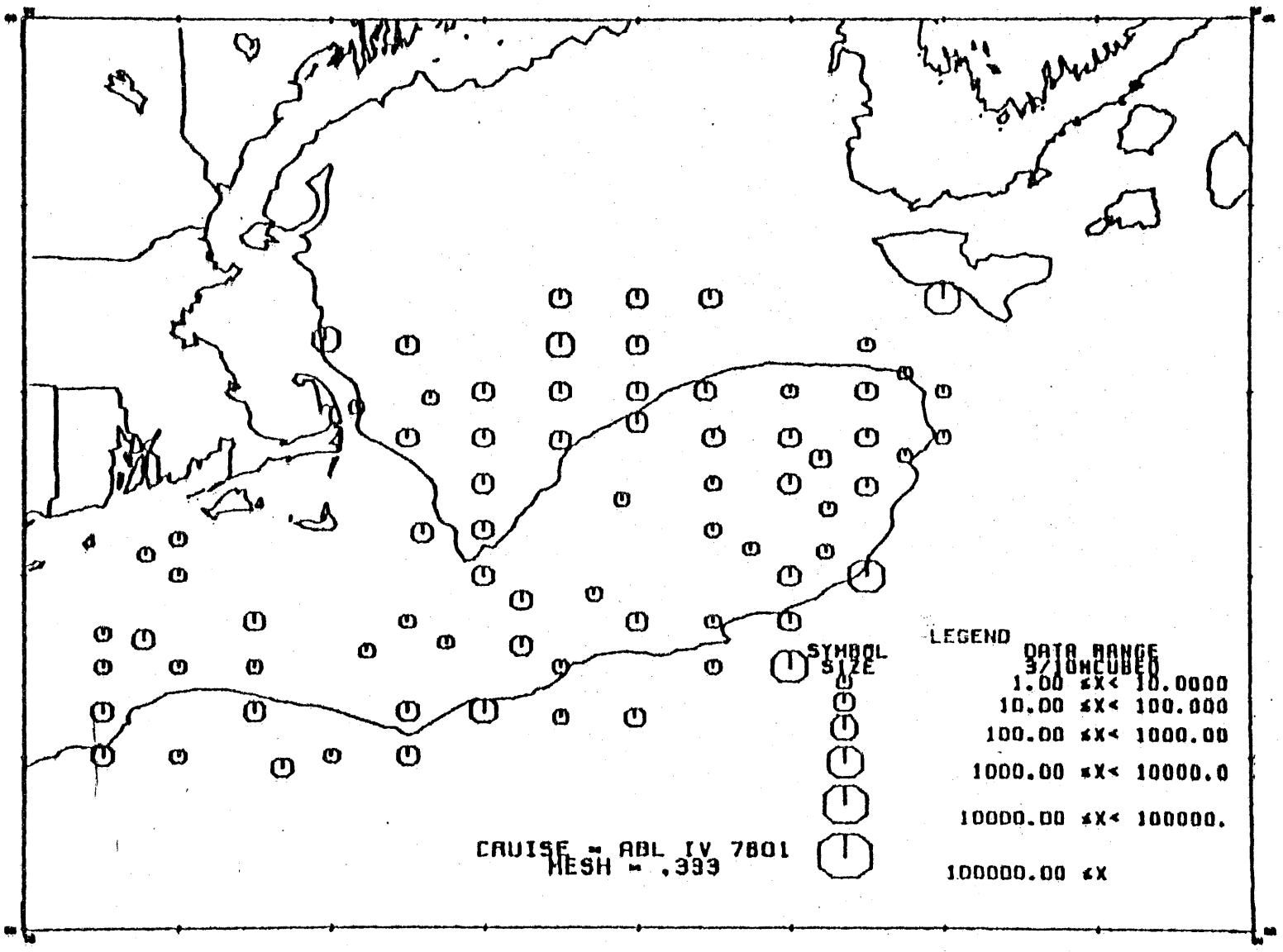

Figure 356

Centropages typicus

Copepodite Stage 2

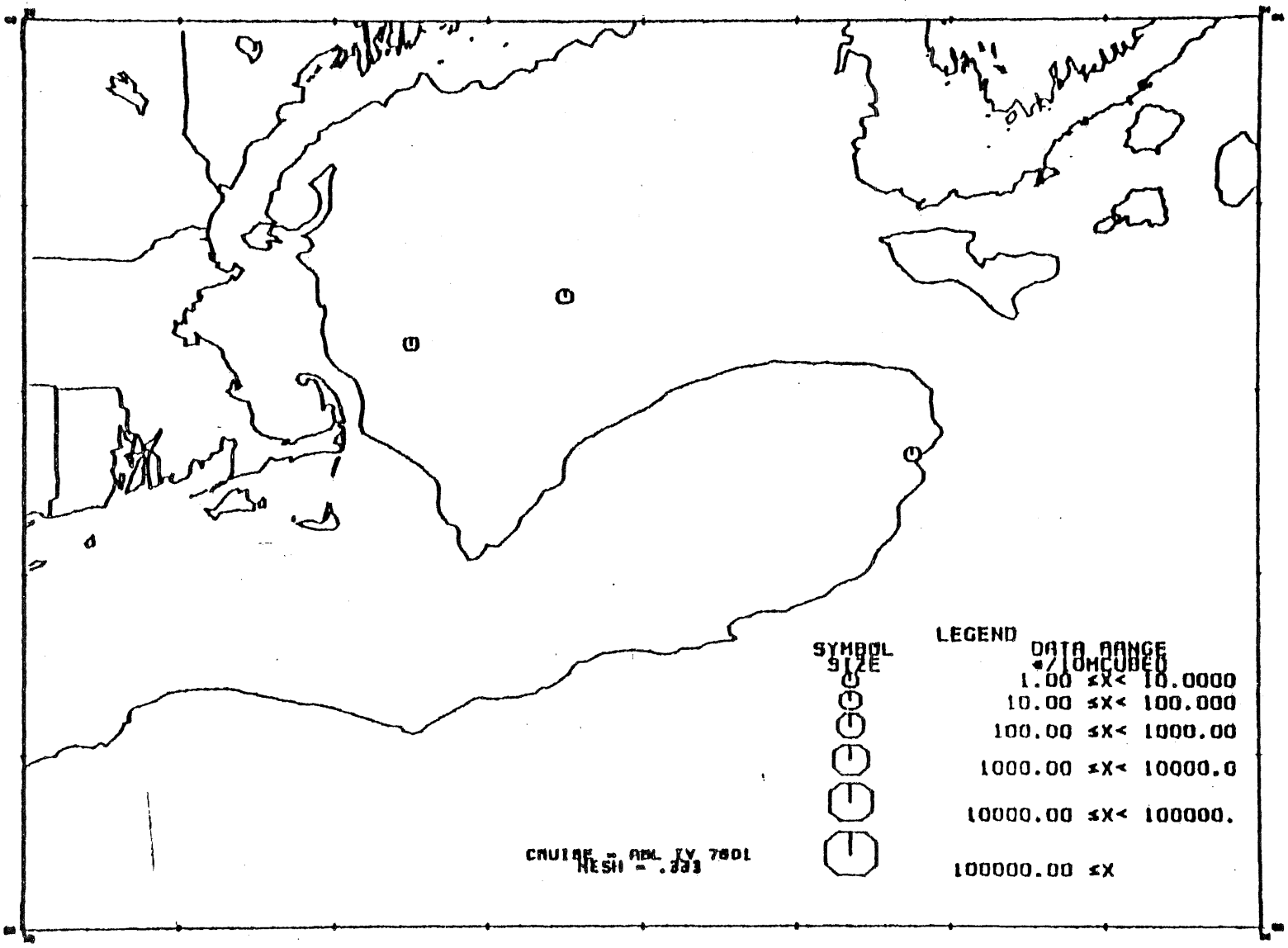

Figure 357

Centropages typicus

Copepodite Stage 3

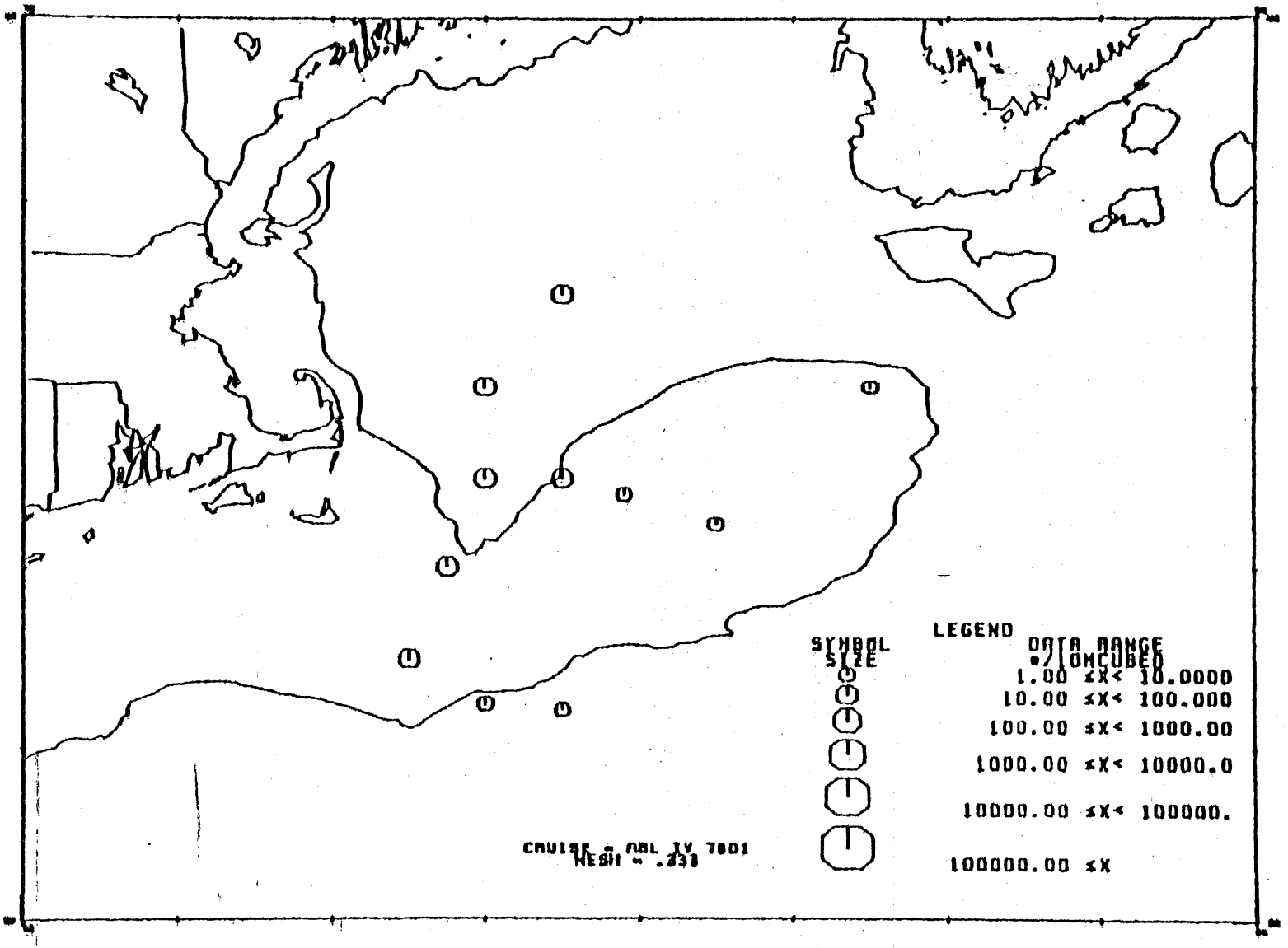

Figure 358

Centropages typicus

Copepodite Stage 4

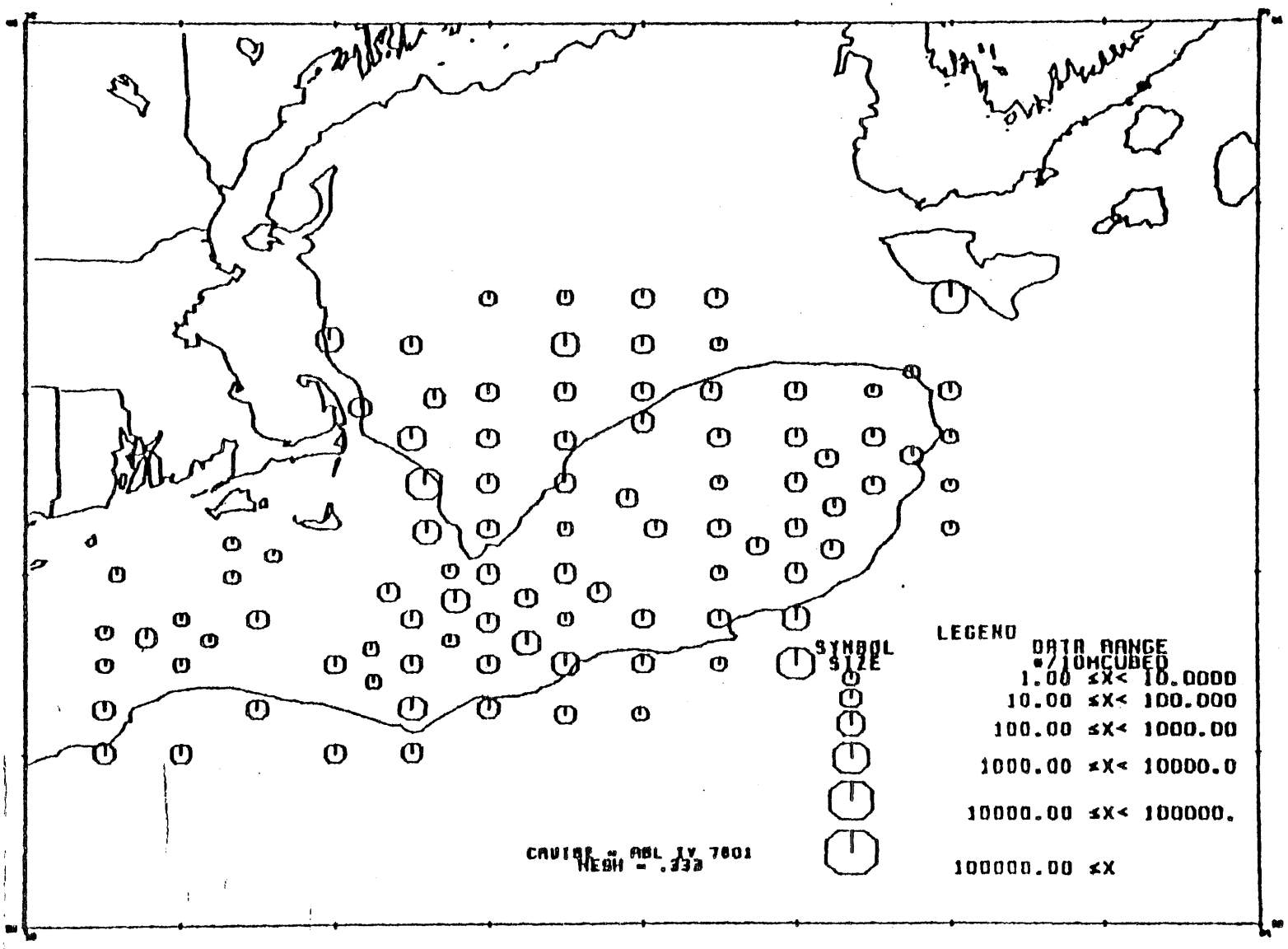

Figure 359

Centropages typicus

Copepodite Stage 5

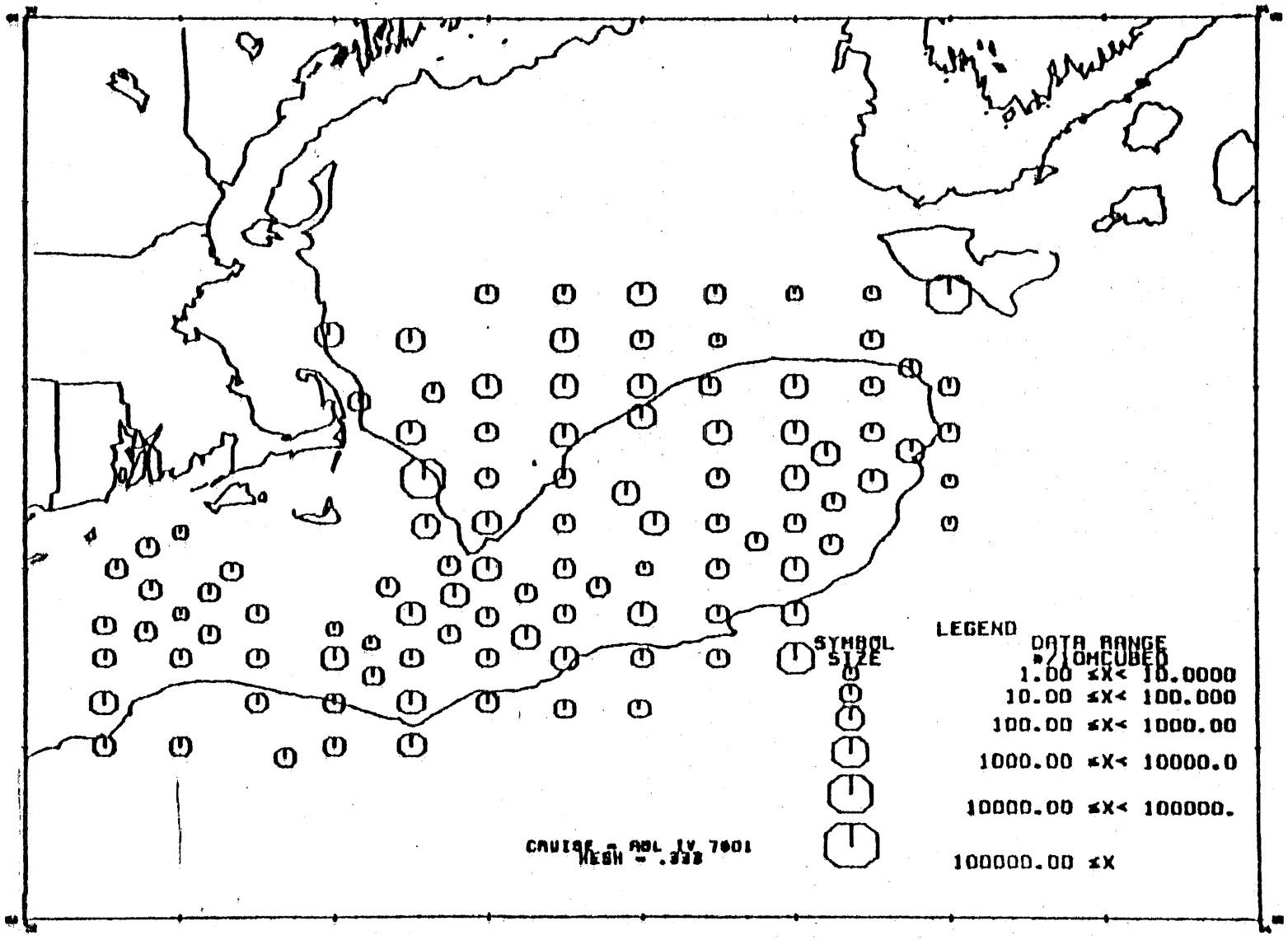

Figure 360

Centropages typicus

Adult

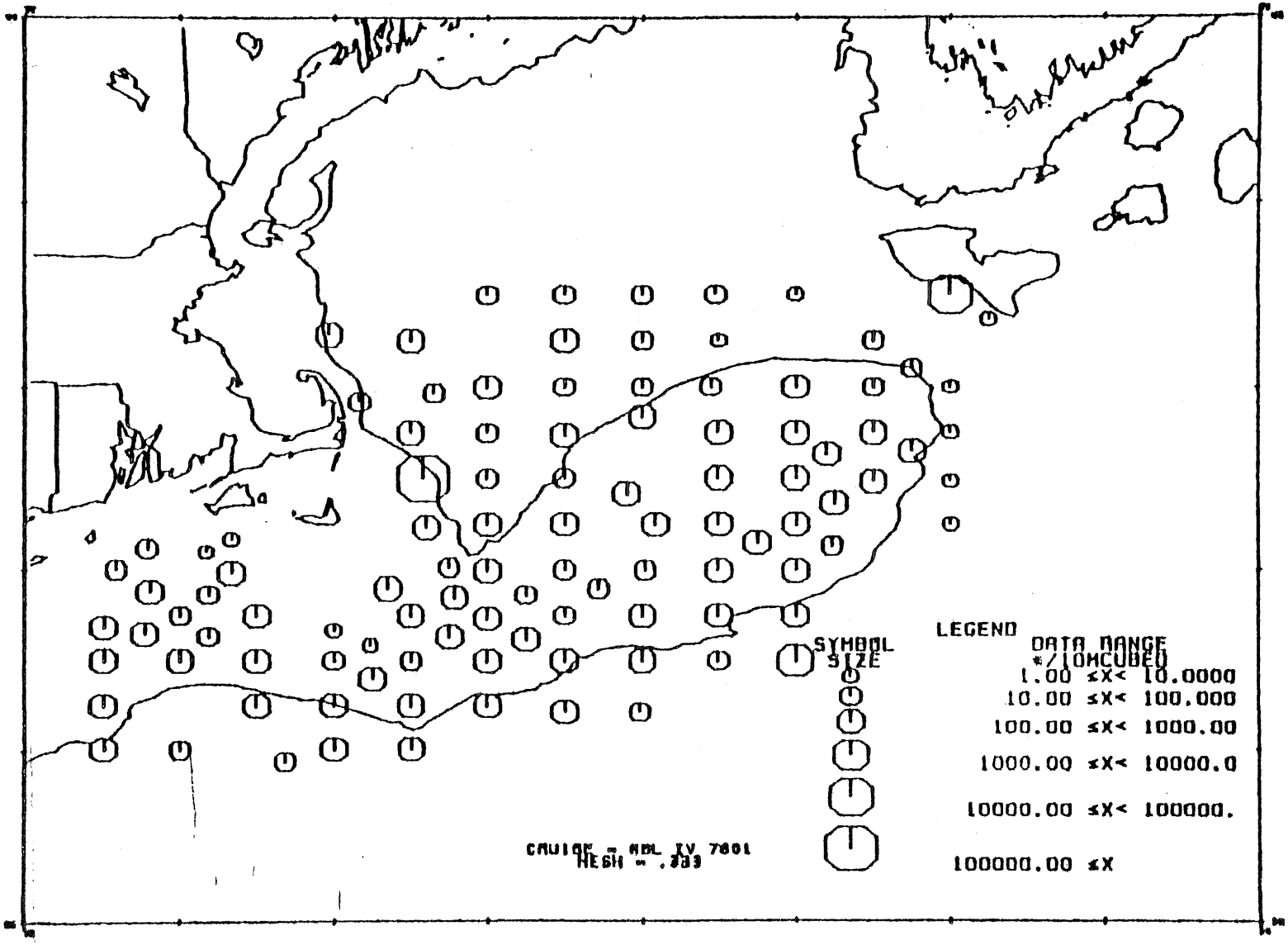

Figure 361

Centropages hamatus

Copepodite Stage 3

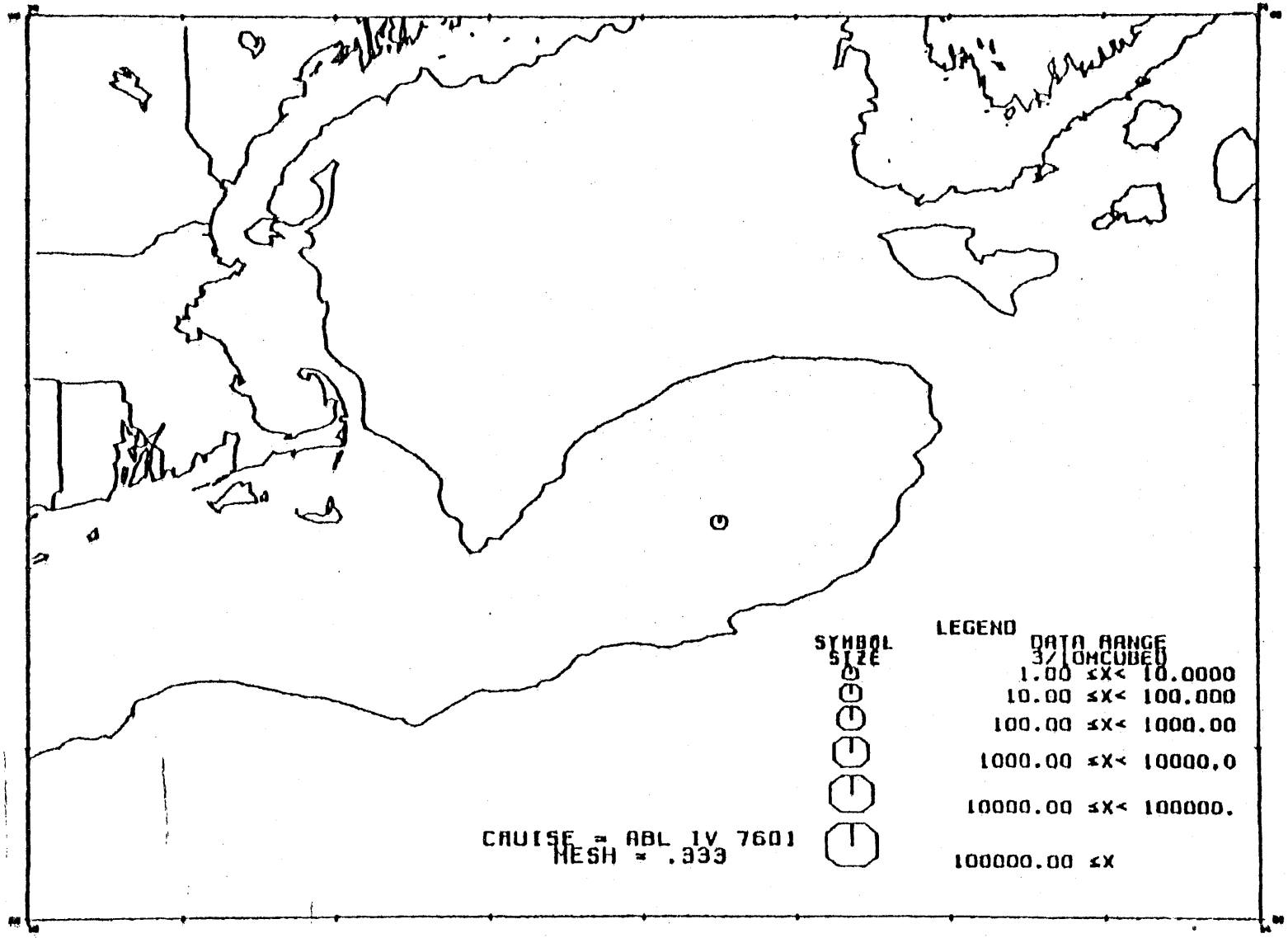

Figure 362

Centropages hamatus

Copepodite Stage 4

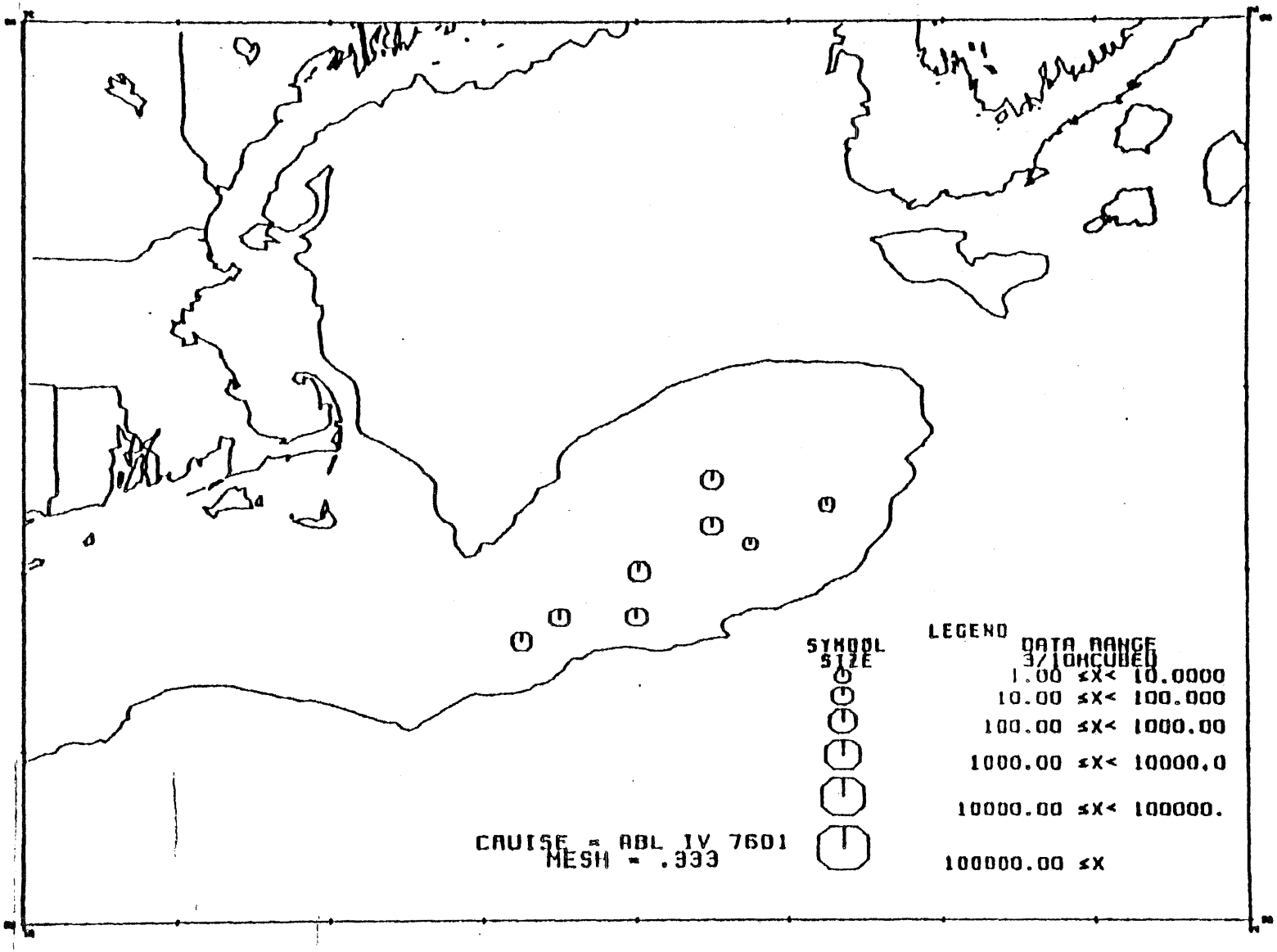

Figure 363

Centropages hamatus

Copepodite Stage 5

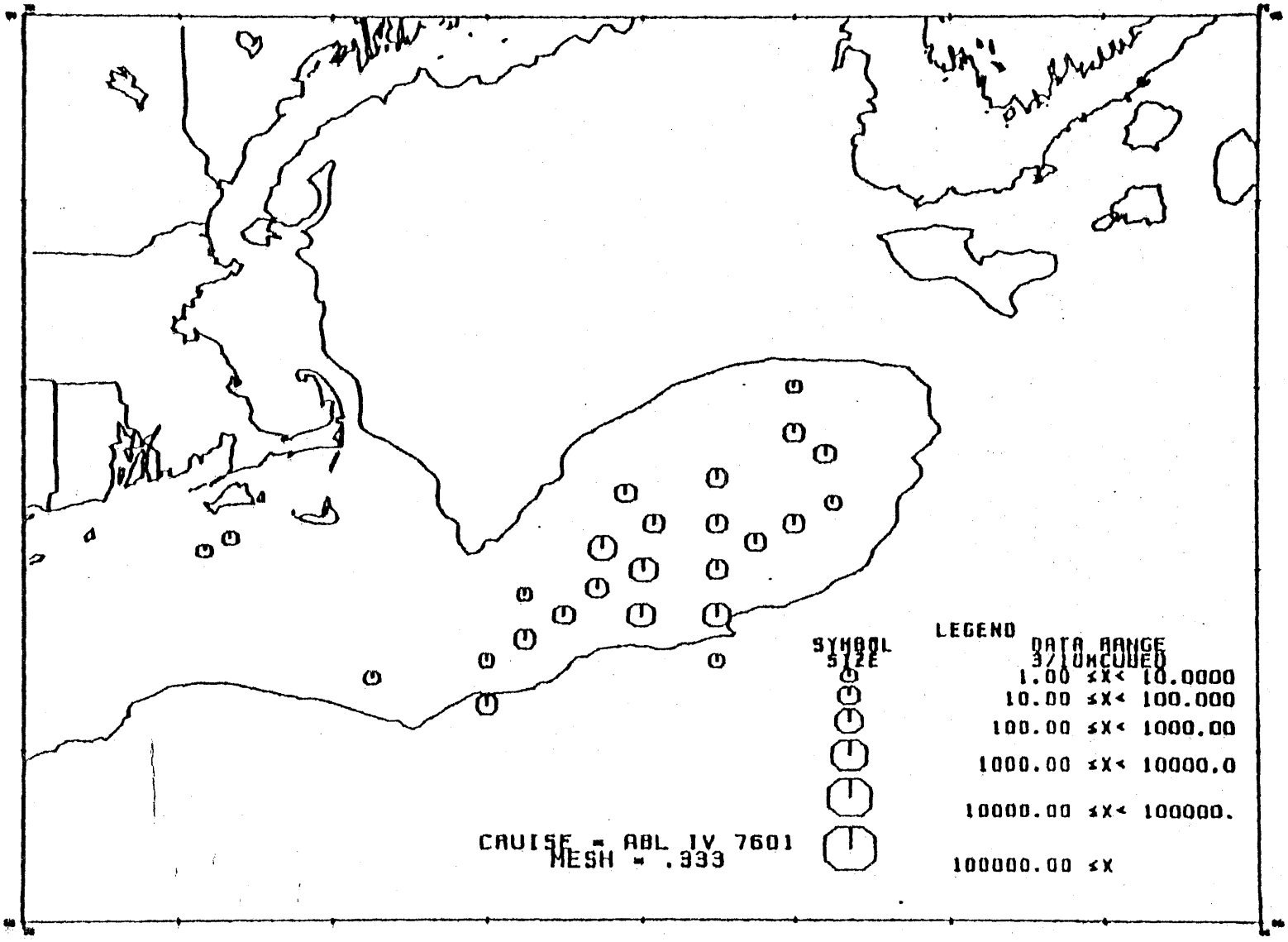

Figure 364

Centropages hamatus

Copepodite

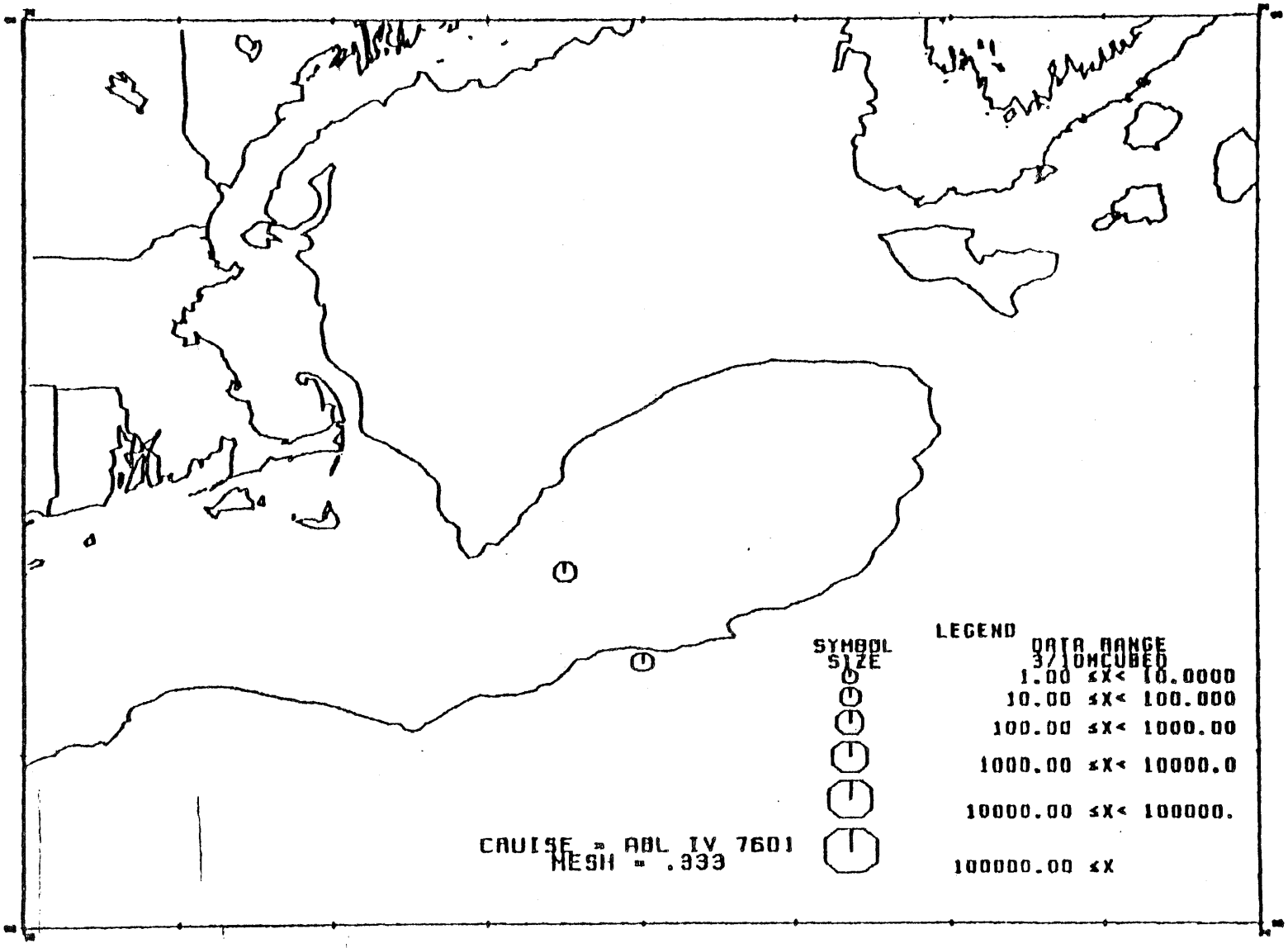

Figure 365

Centropages hamatus

Adult

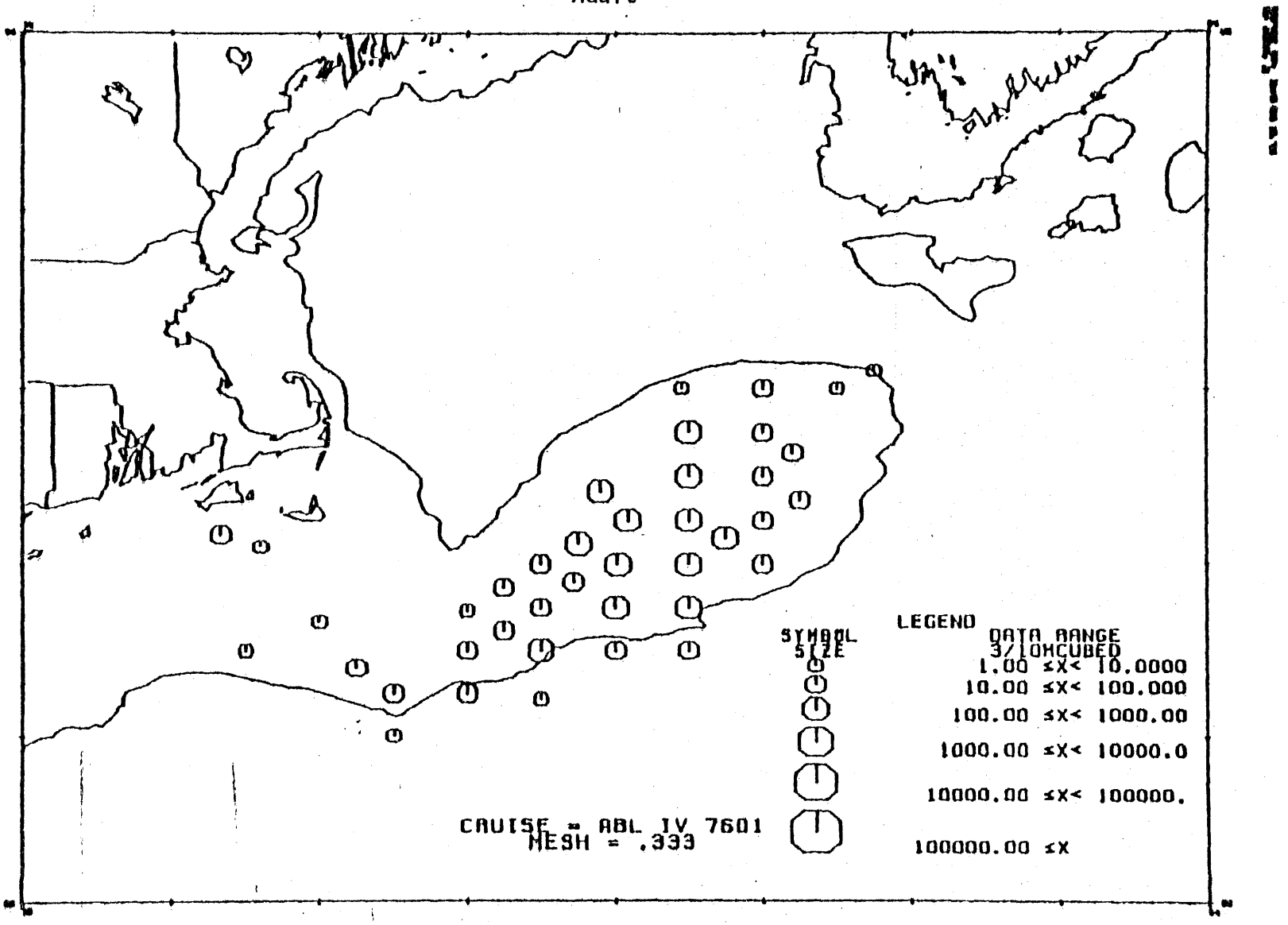

Figure 366

Oithona spp.

Copepodite

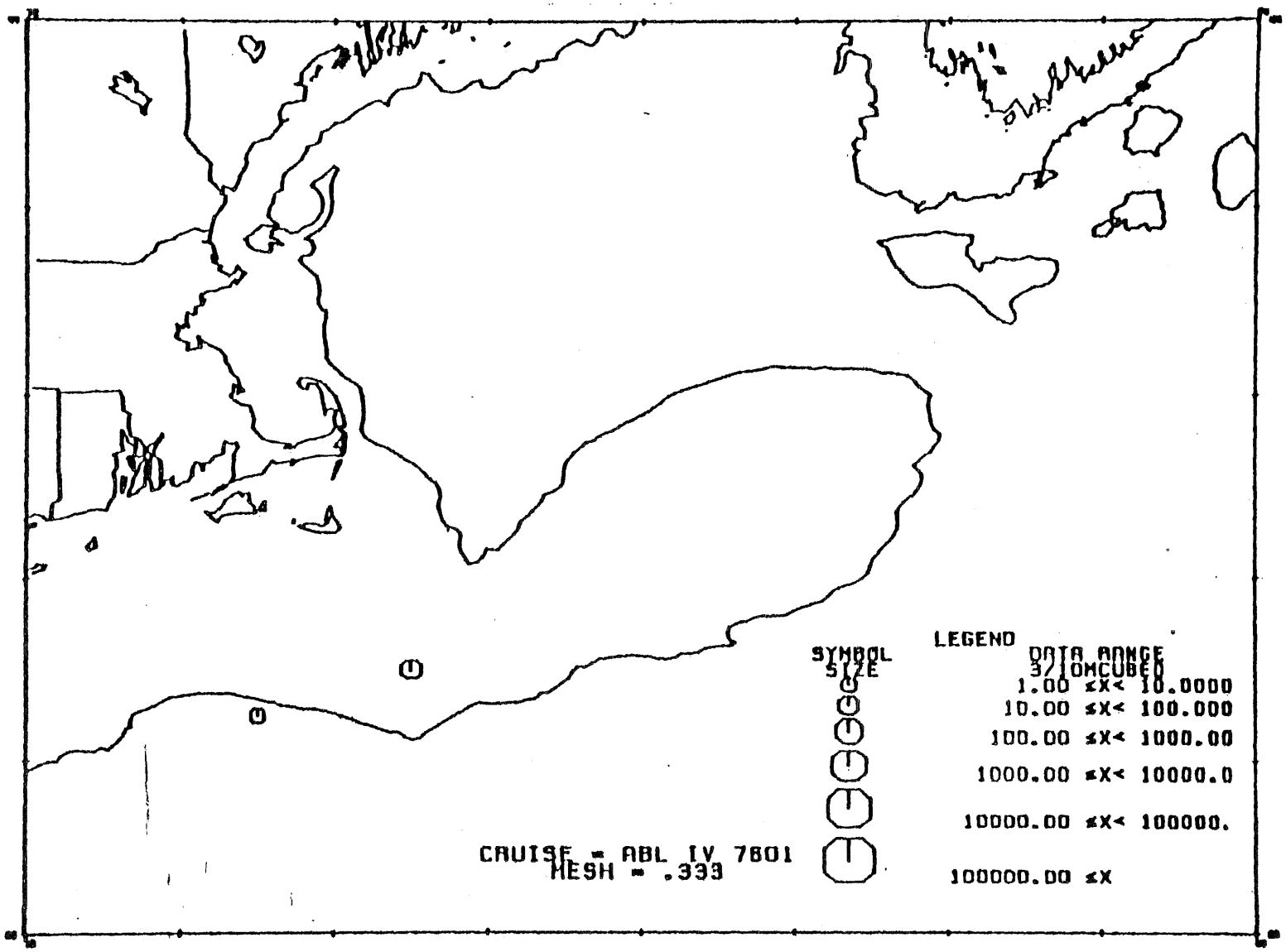

Figure 367

Oithona spp.

Adult

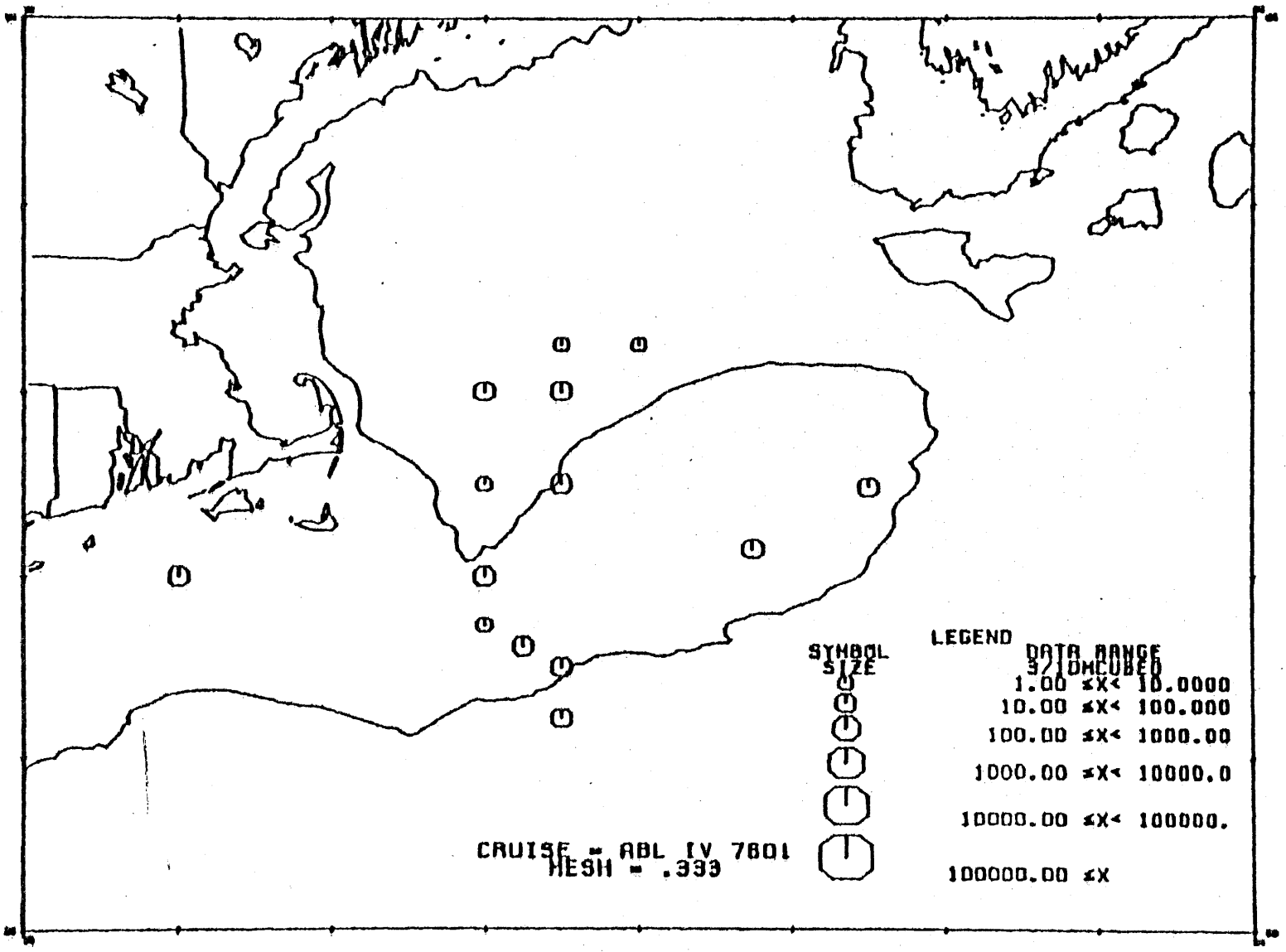

Figure 368

Calanus finmarchicus

Copepodite Stage 1

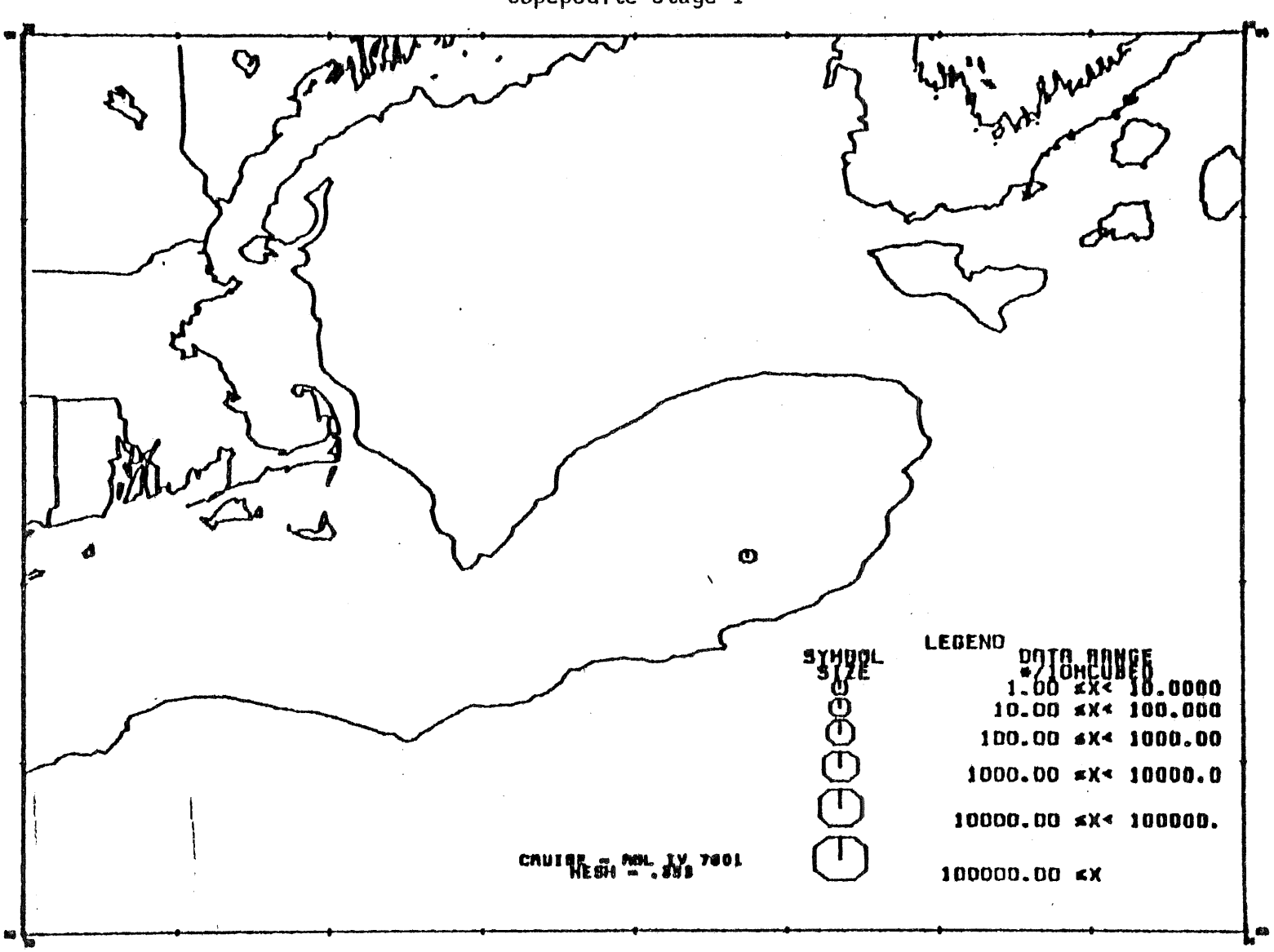

Figure 369

Calanus finmarchicus

Copepodite Stage 2

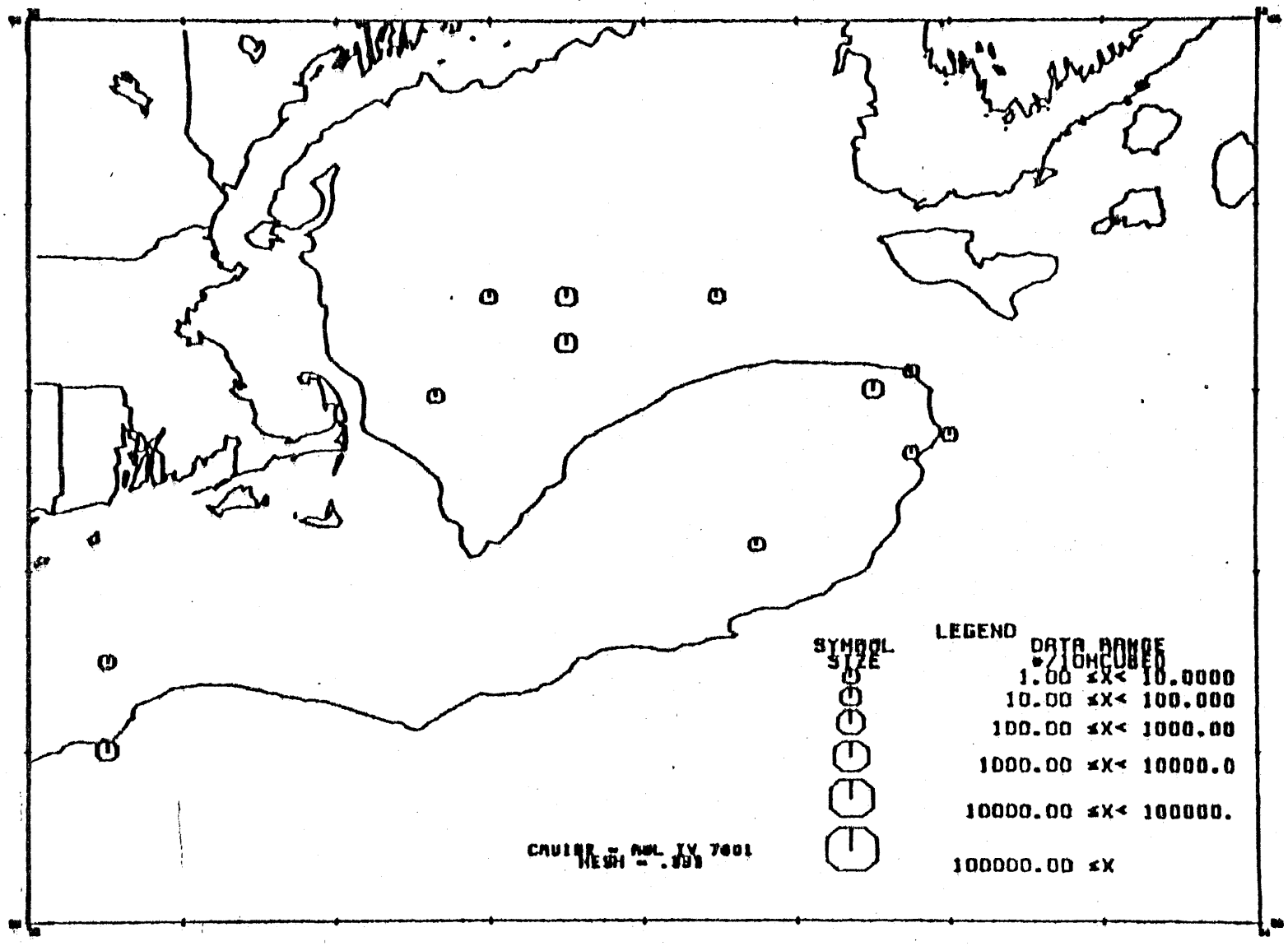

Figure 370

Calanus finmarchicus

Copepodite Stage 3

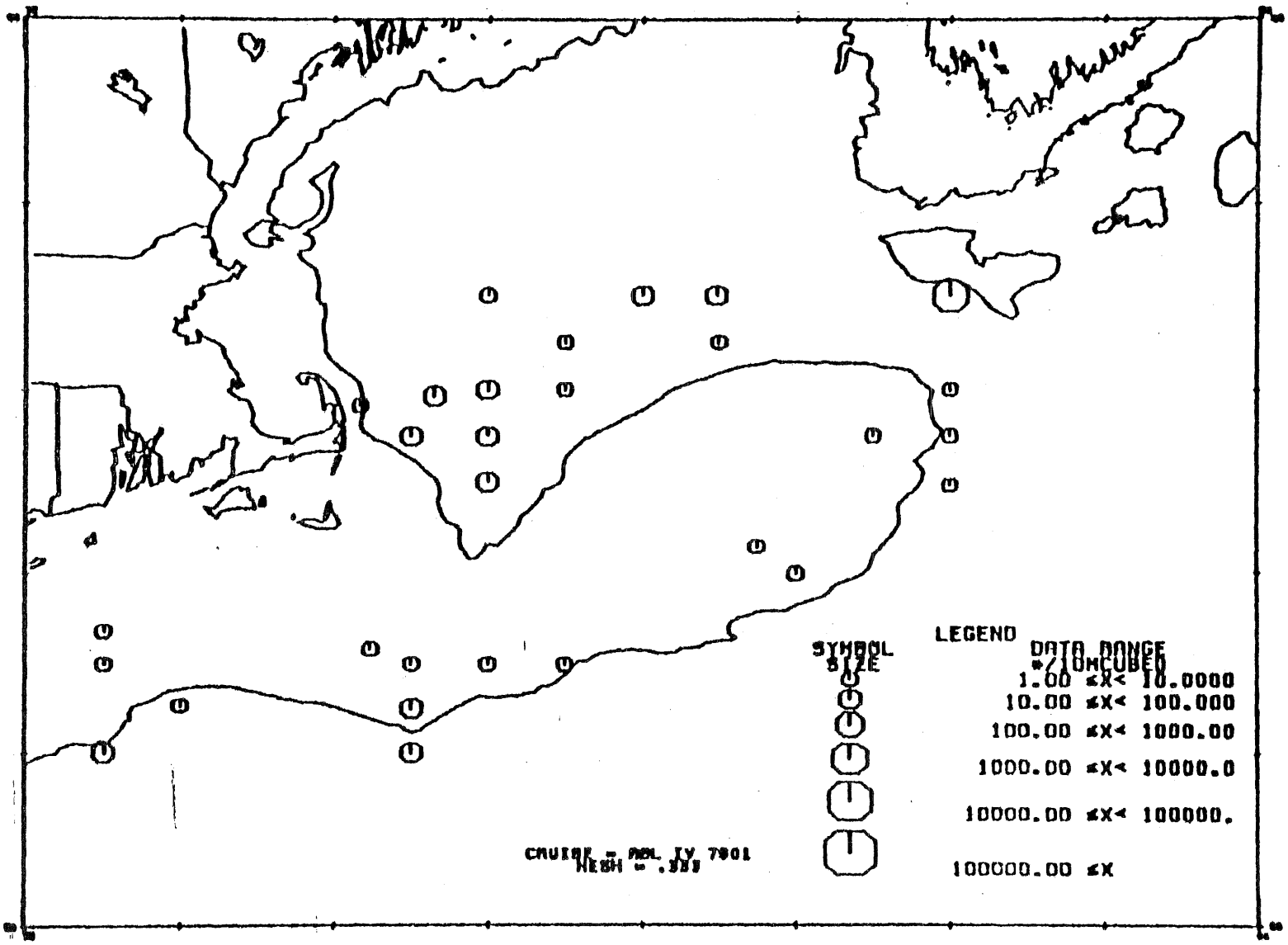

Figure 371

Calanus finmarchicus

Copepodite Stage 4

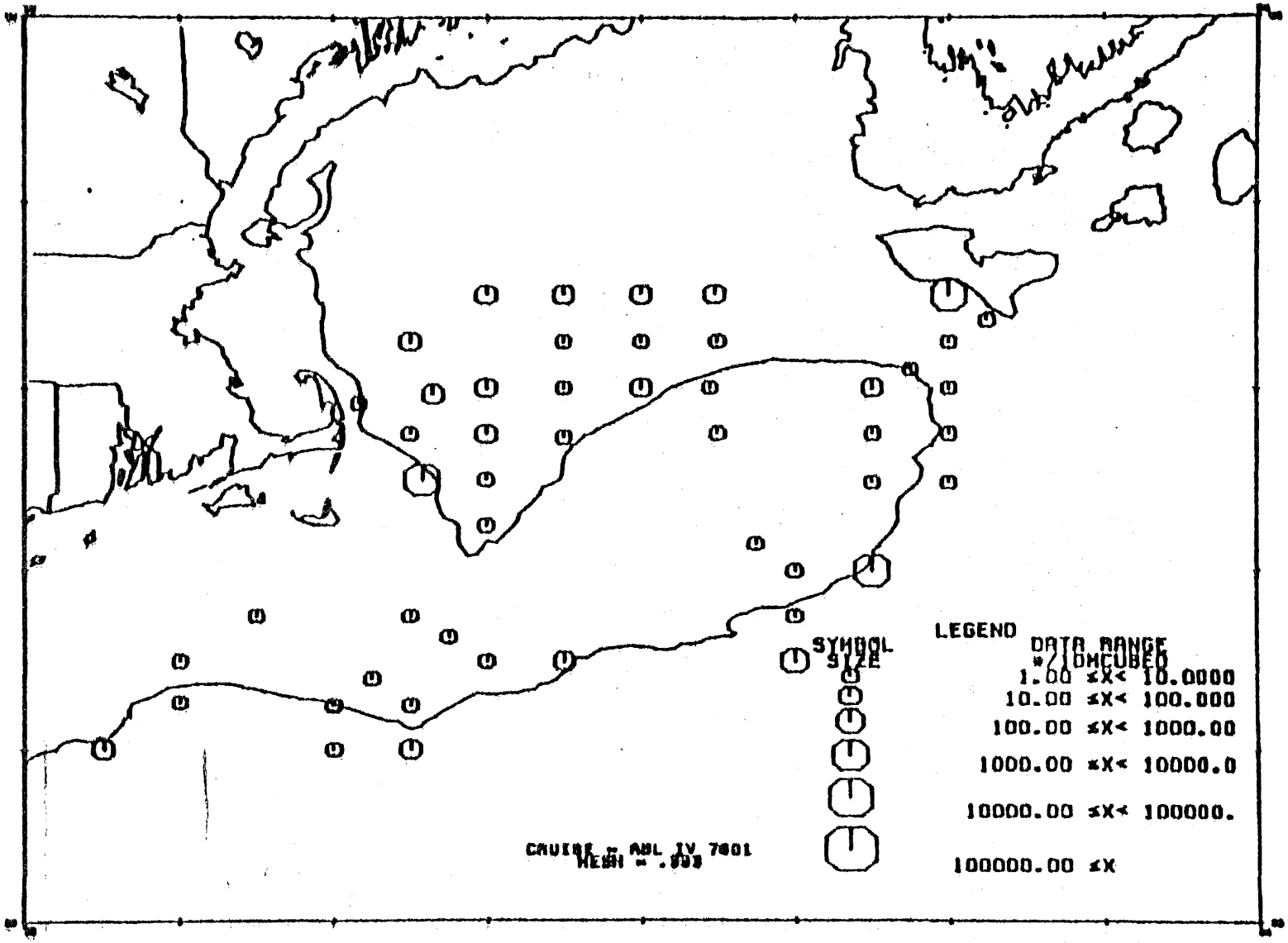

Figure 372

Calanus finmarchicus

Copepodite Stage 5

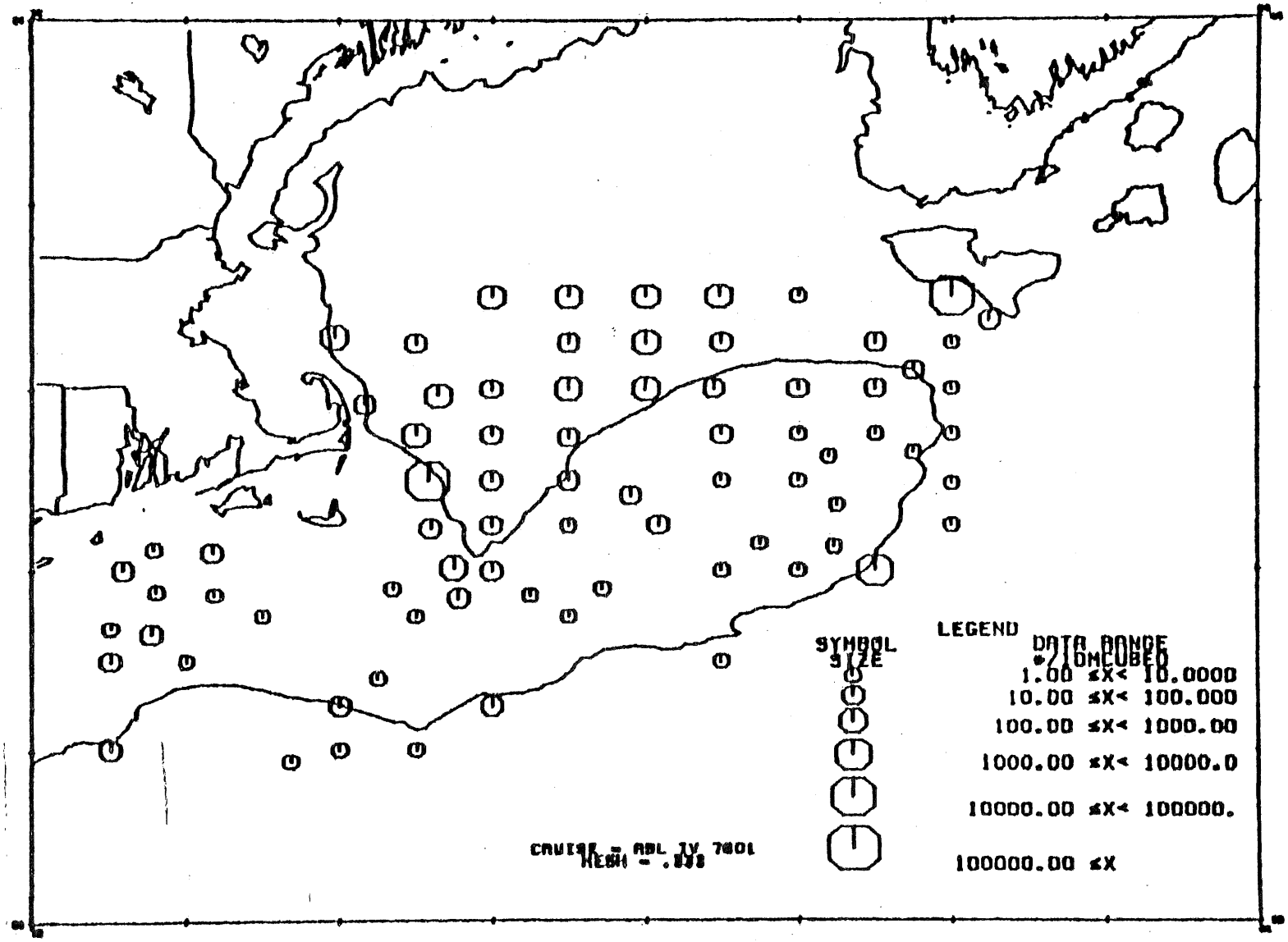

Figure 373

Calanus finmarchicus

Copepodite

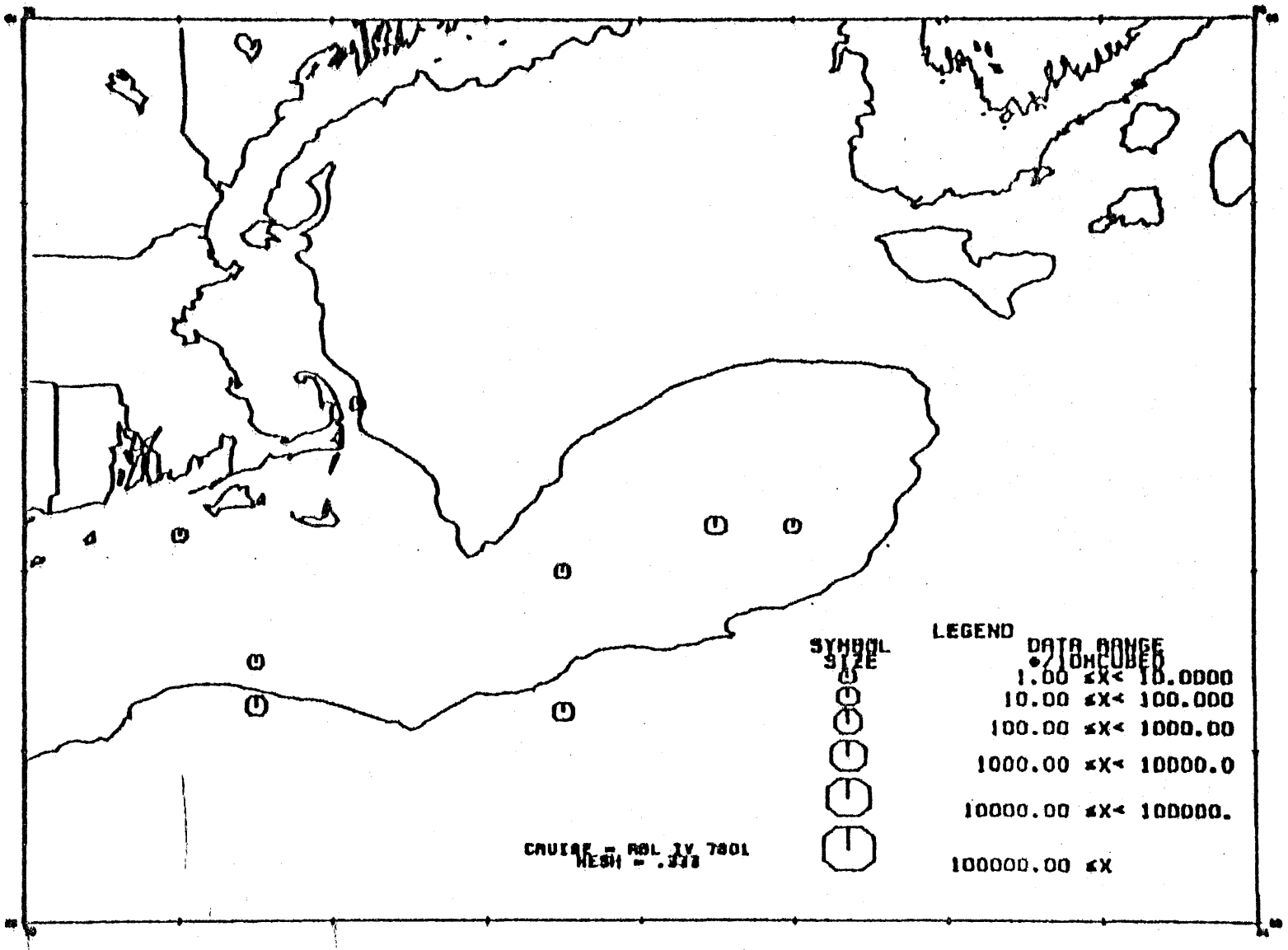

Figure 374

Calanus finmarchicus

Adult

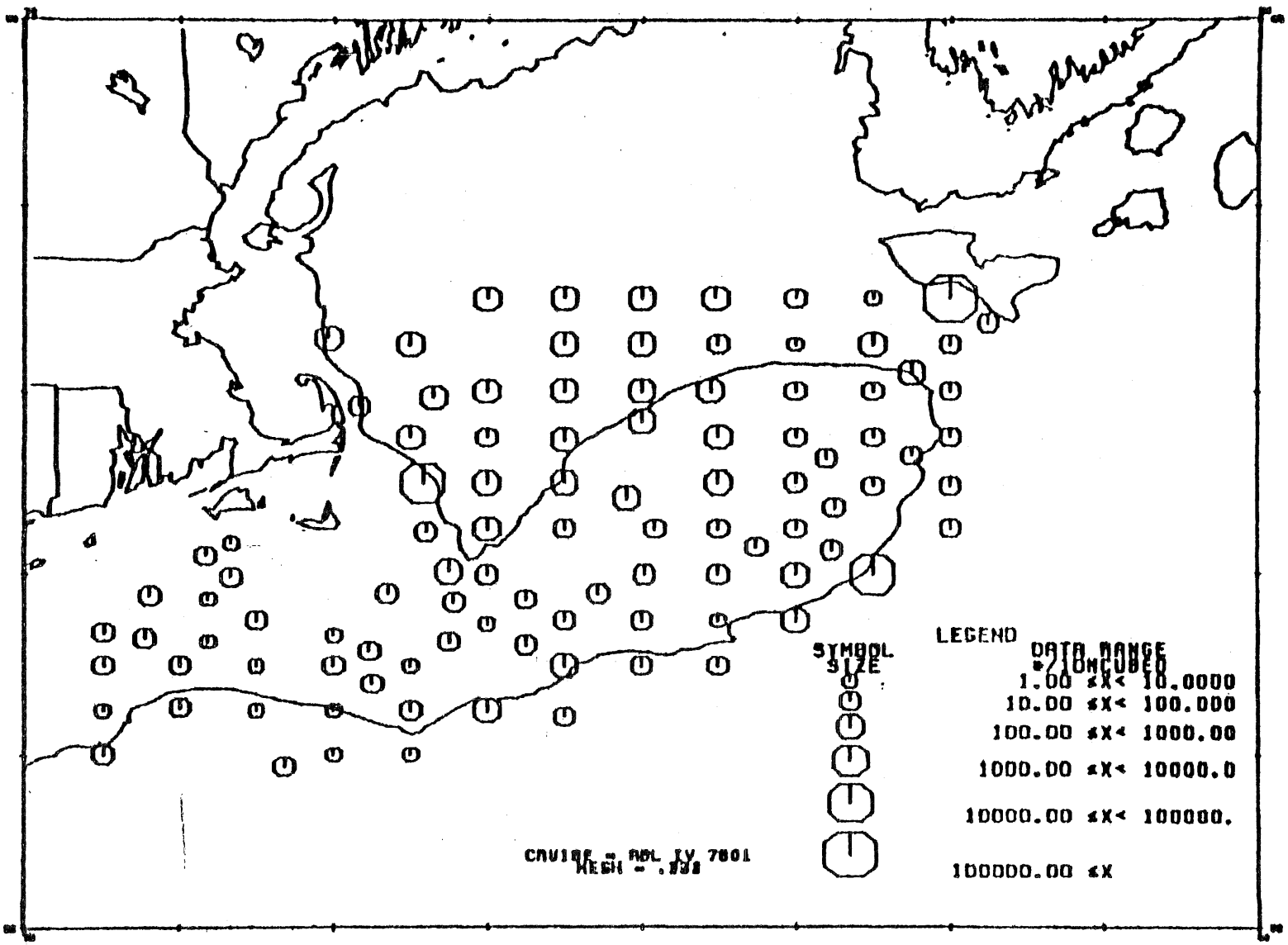

Figure 375

CHAETOGNATHA

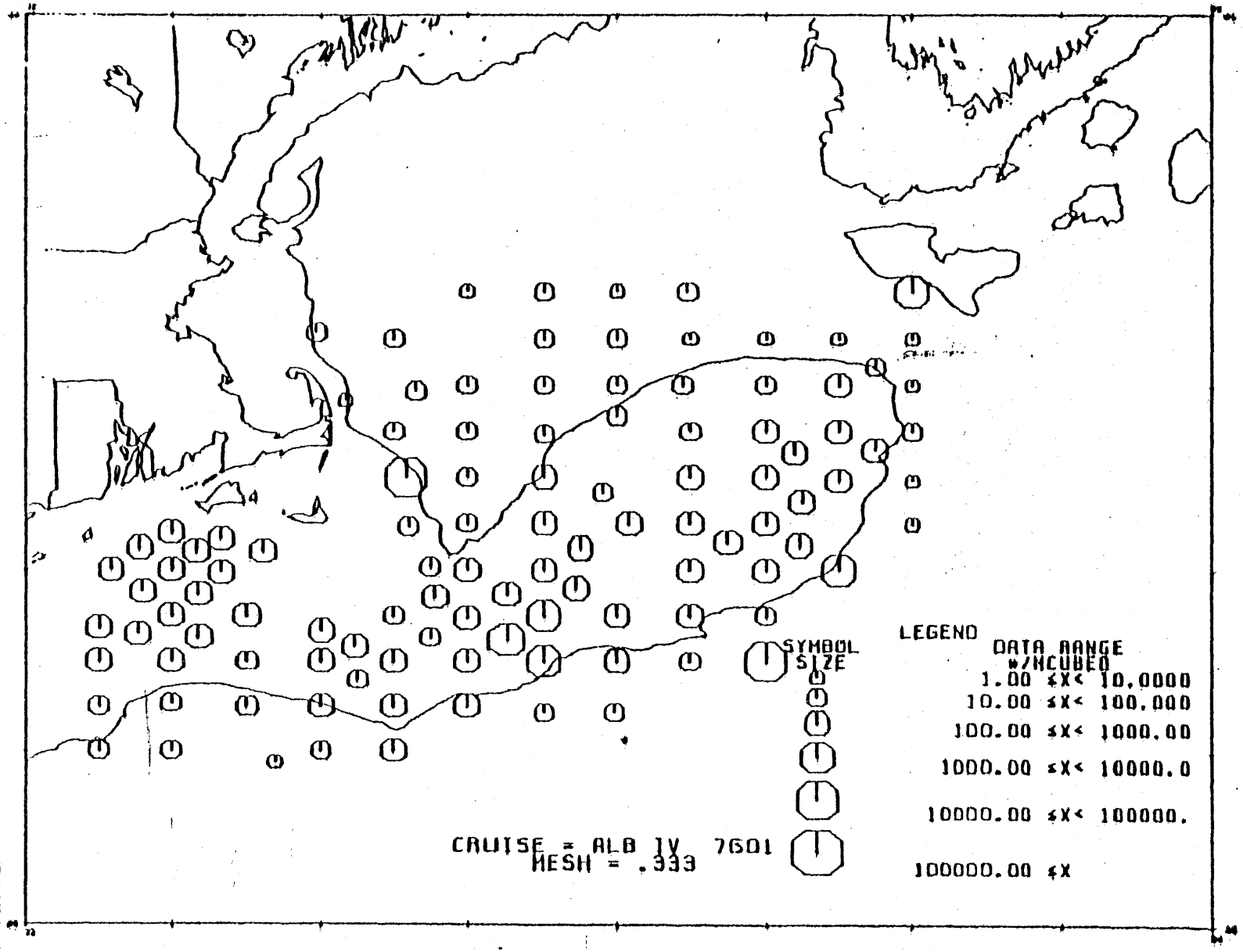

Figure 376

AMPHIPODA

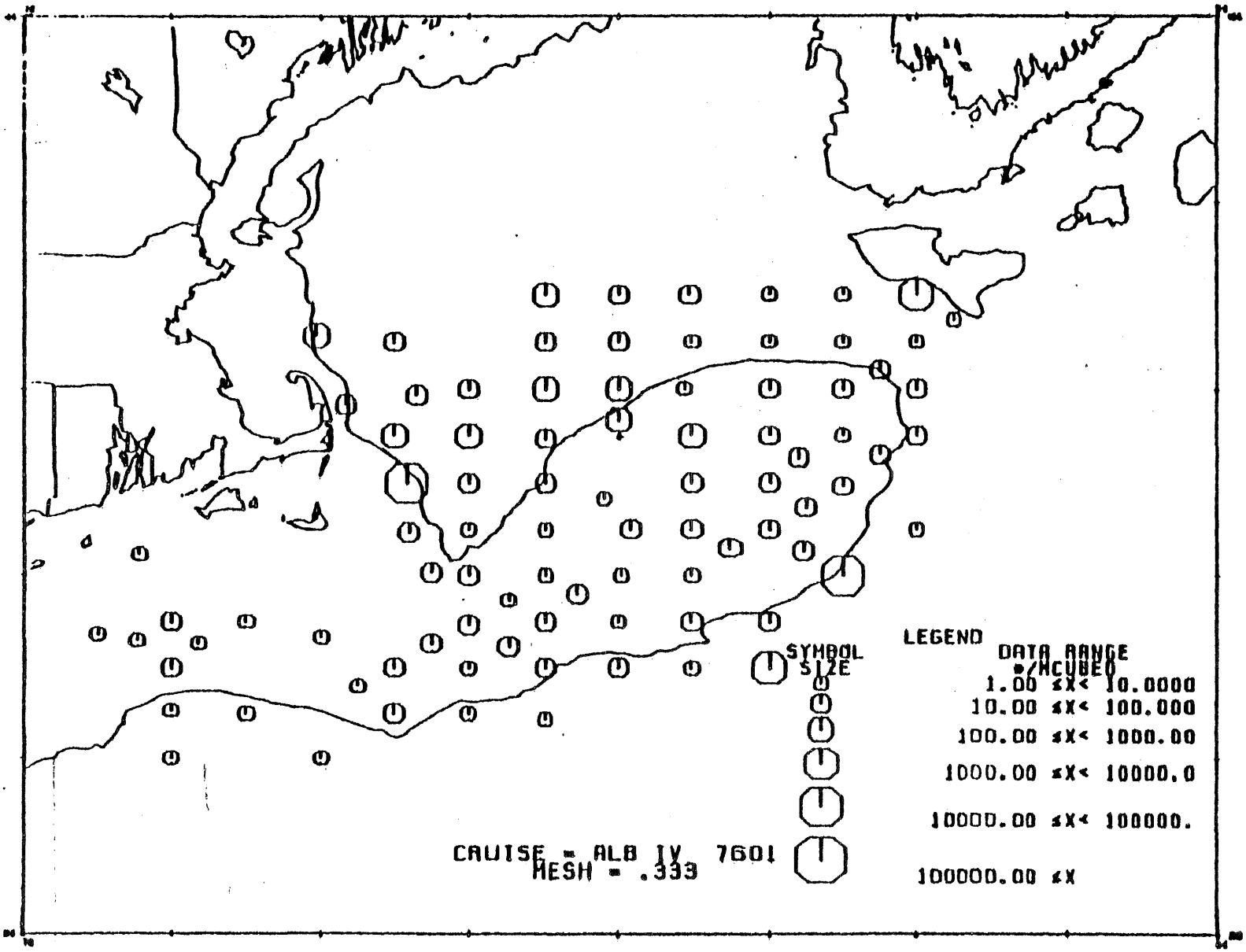

Figure 377

EUPHAUSIACEA

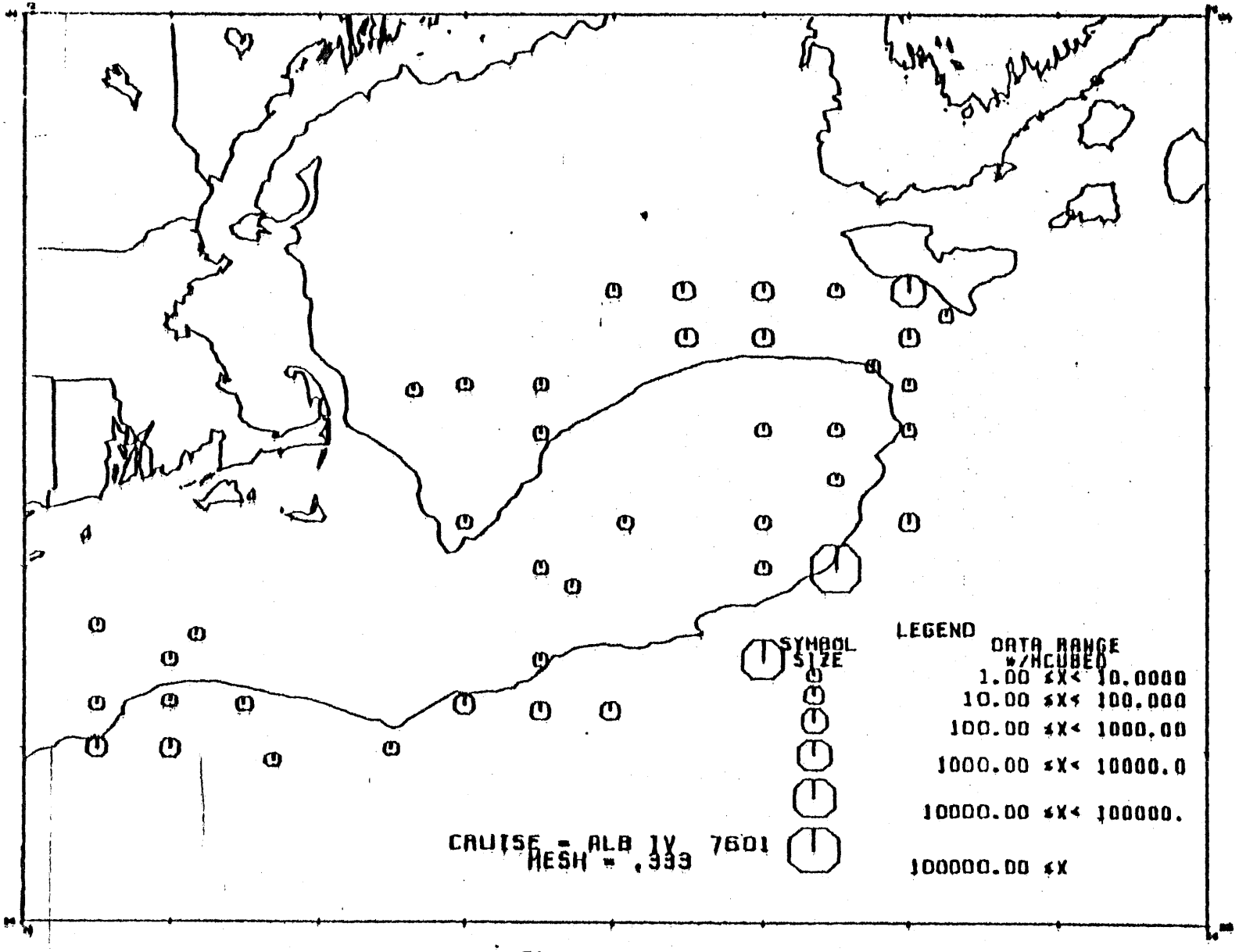

Figure 378

MYSIDACEA

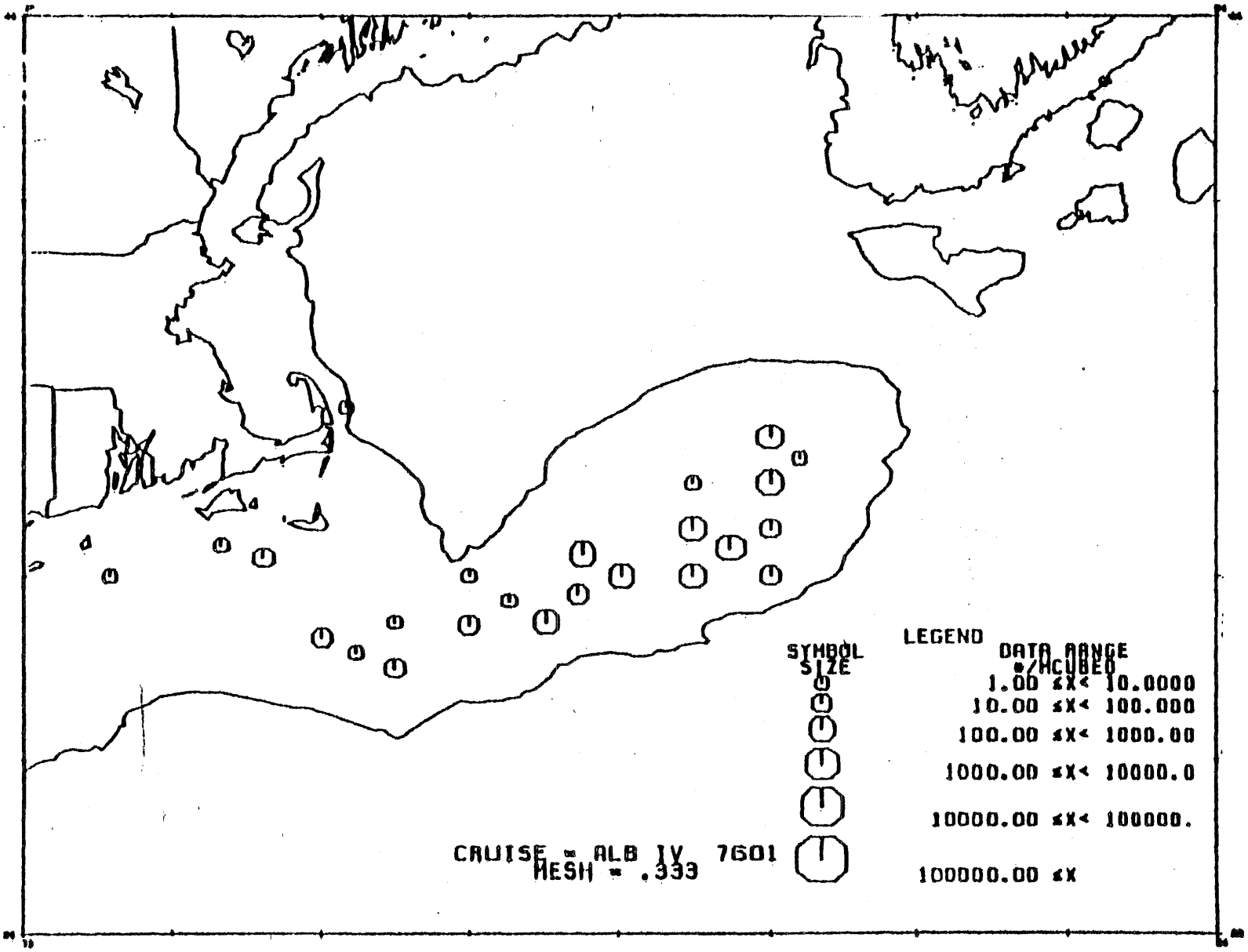

Figure 379

SALPA

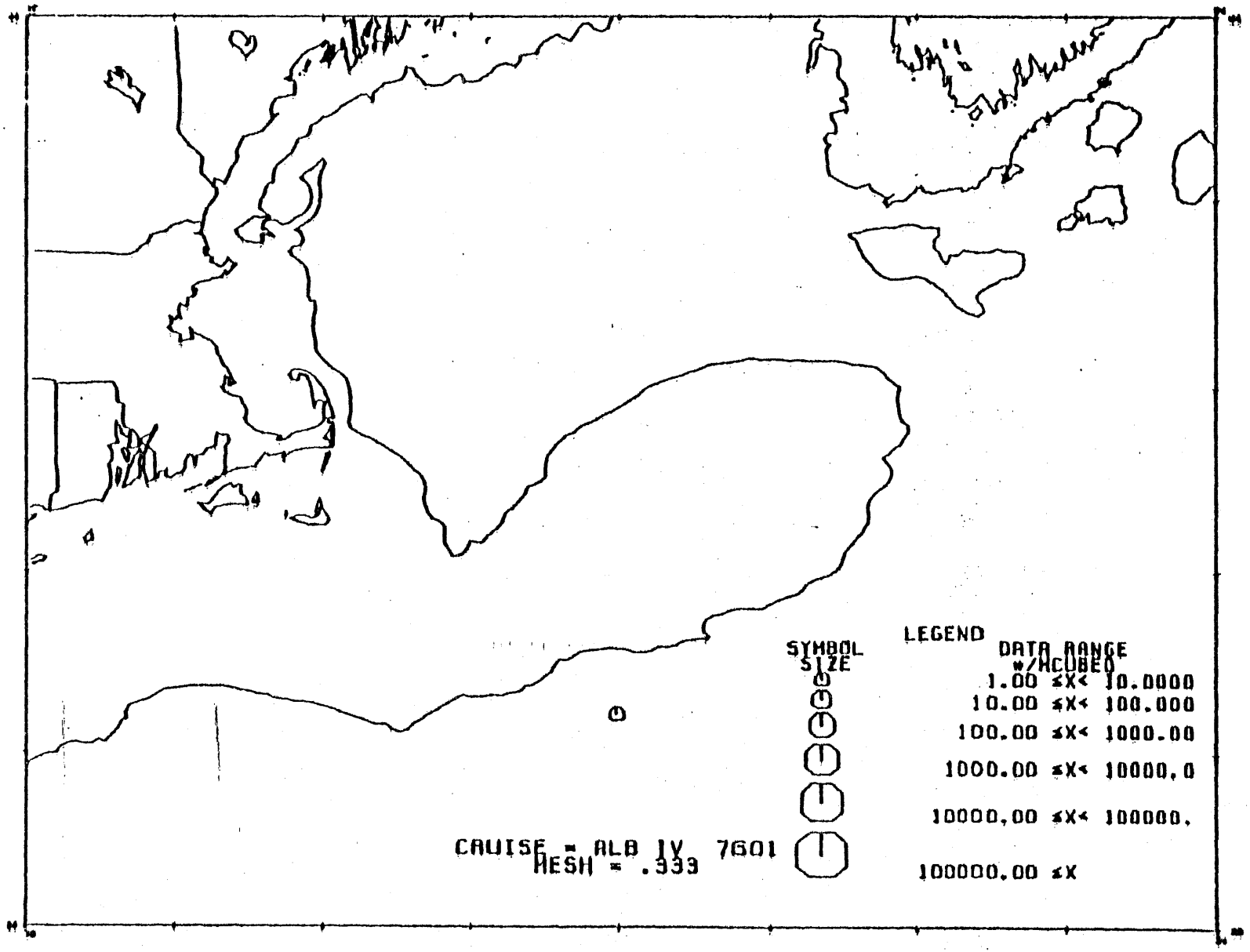

Figure 380

Stations Sampled

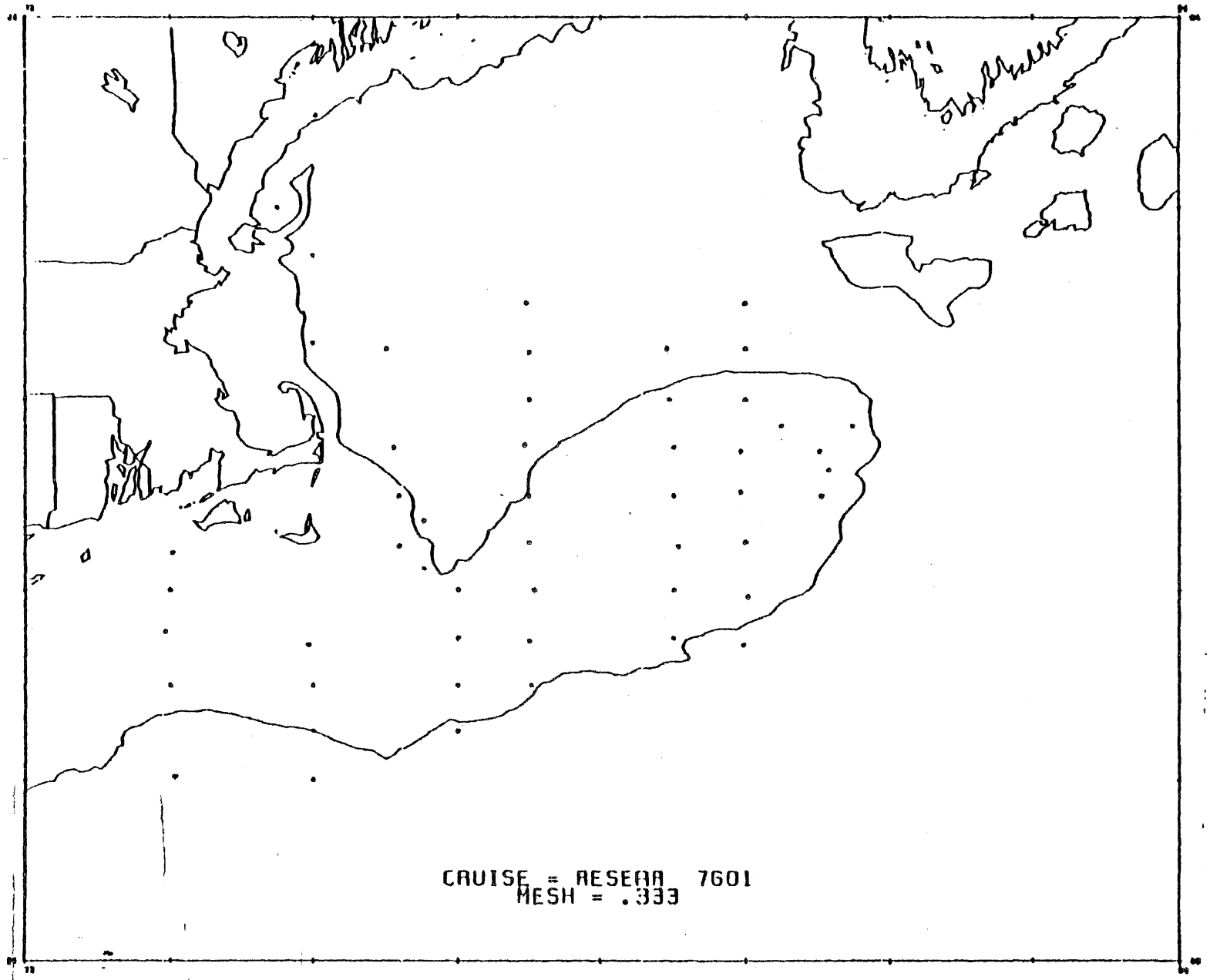

Figure 381

DISPLACEMENT VOLUME

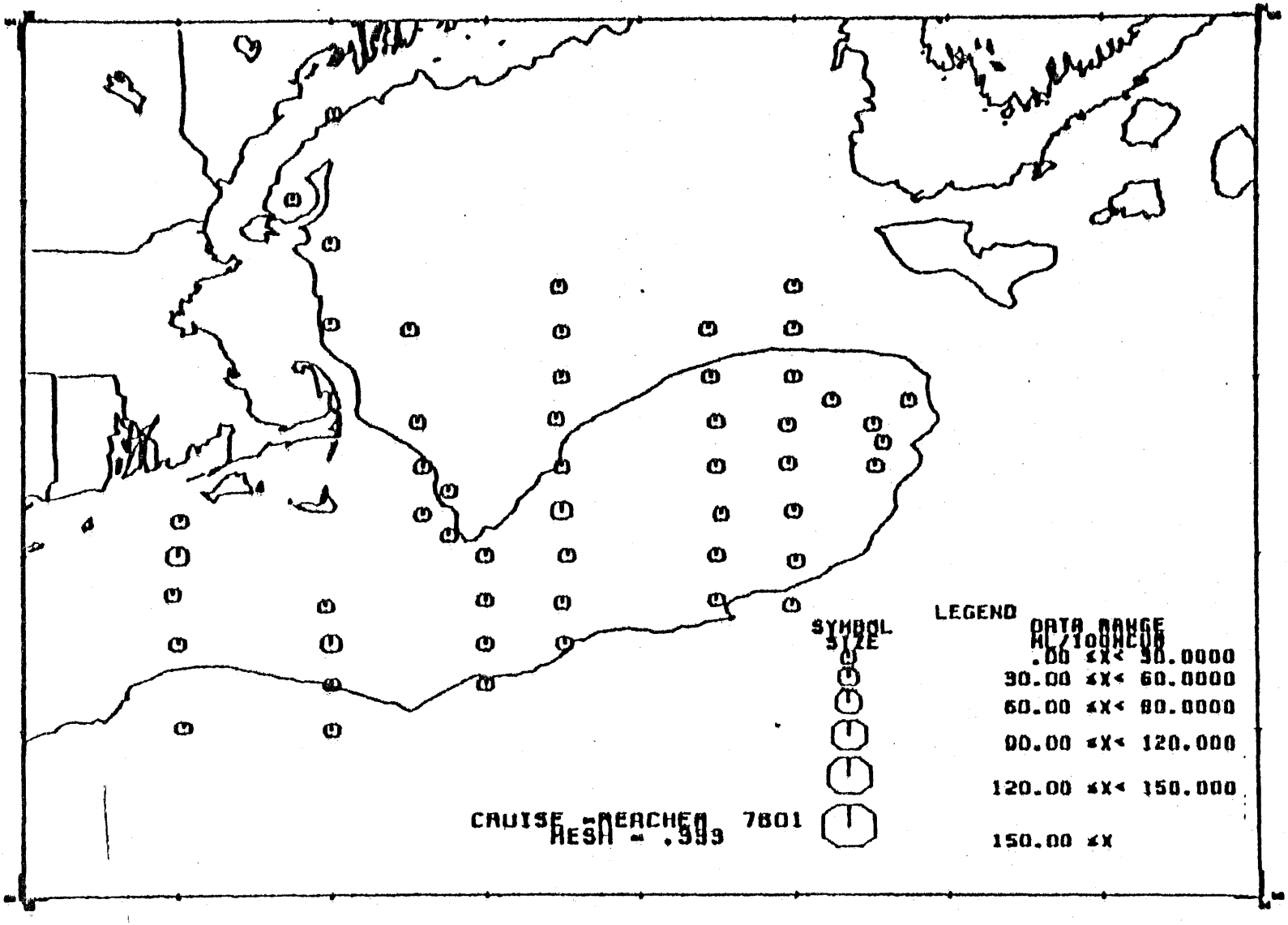

Figure 382

Pseudocalanus sp.

Copepodite Stage 4

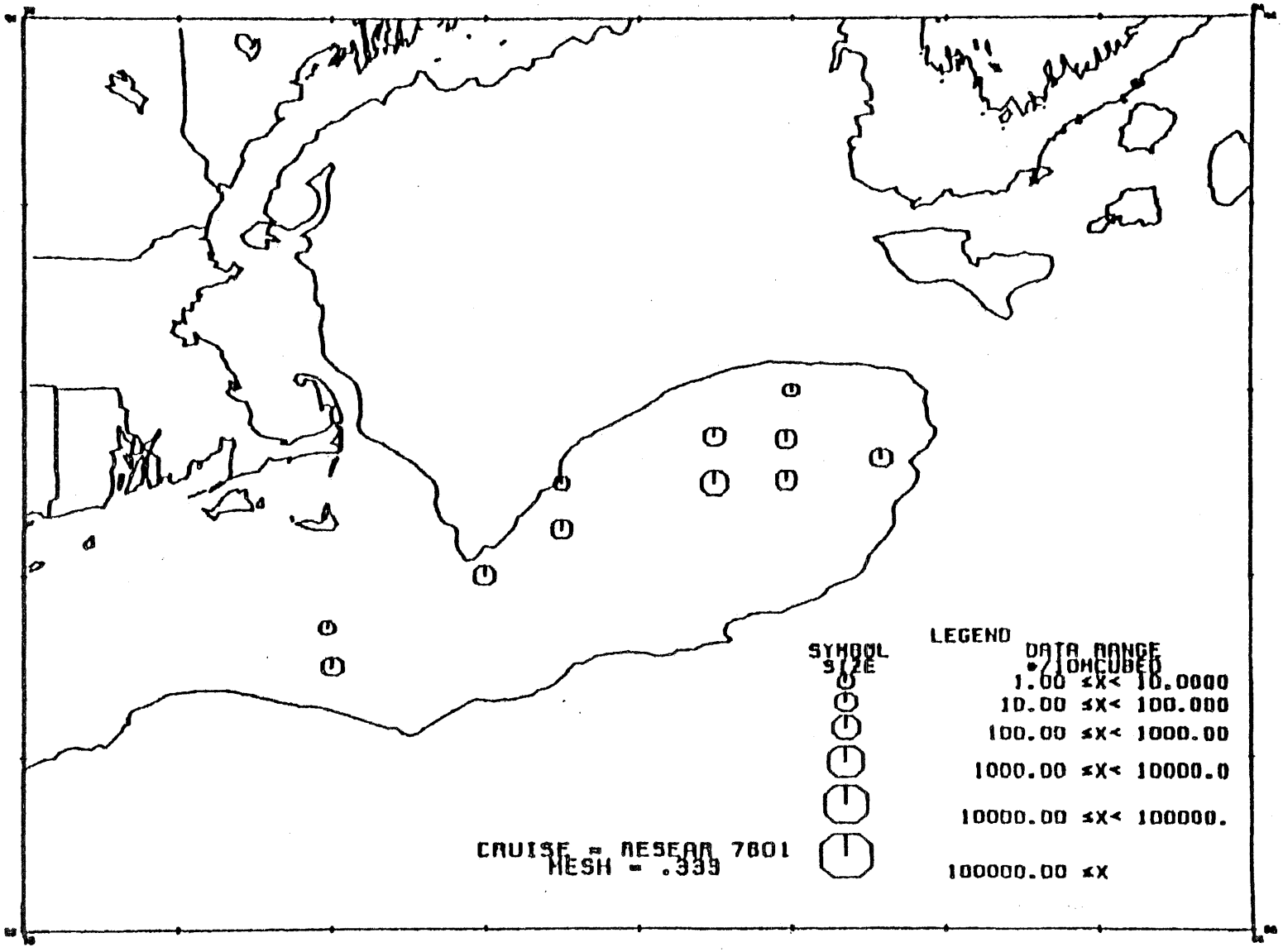

Figure 383

Pseudocalanus sp.

Copepodite Stage 5

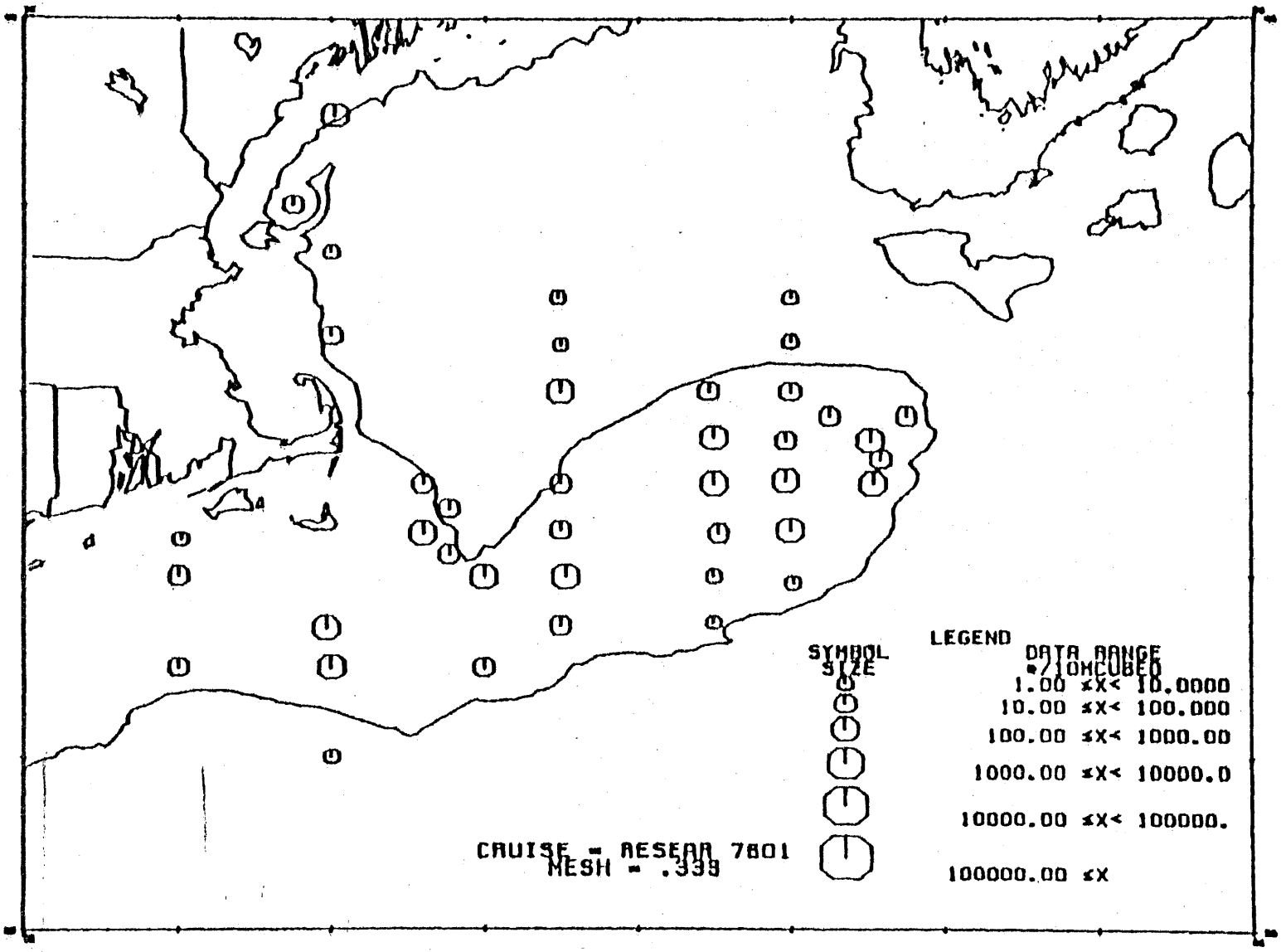

Figure 384

Pseudocalanus sp.

Adult

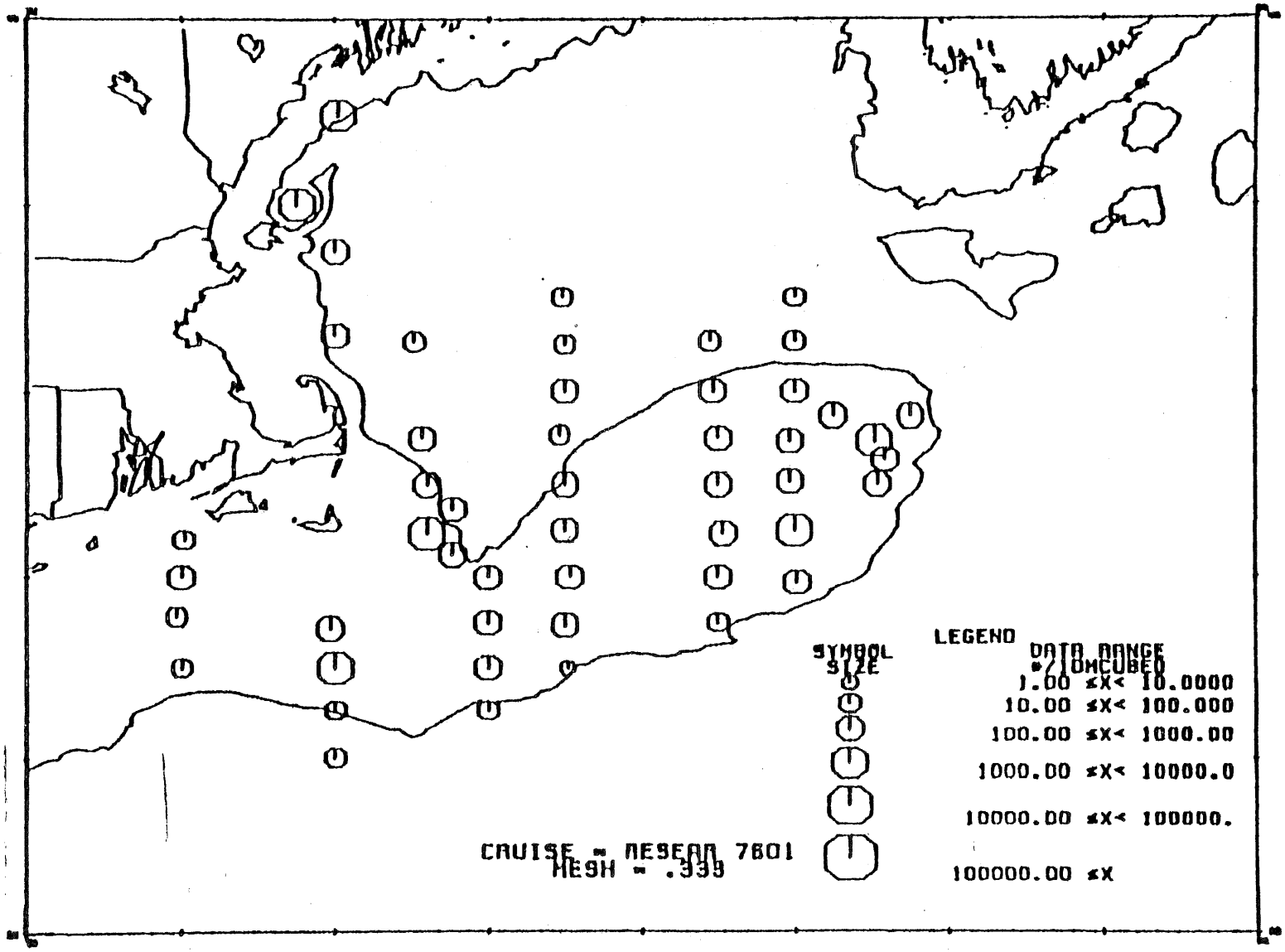

Figure 385

Paracalanus parvus

Copepodite Stage 5

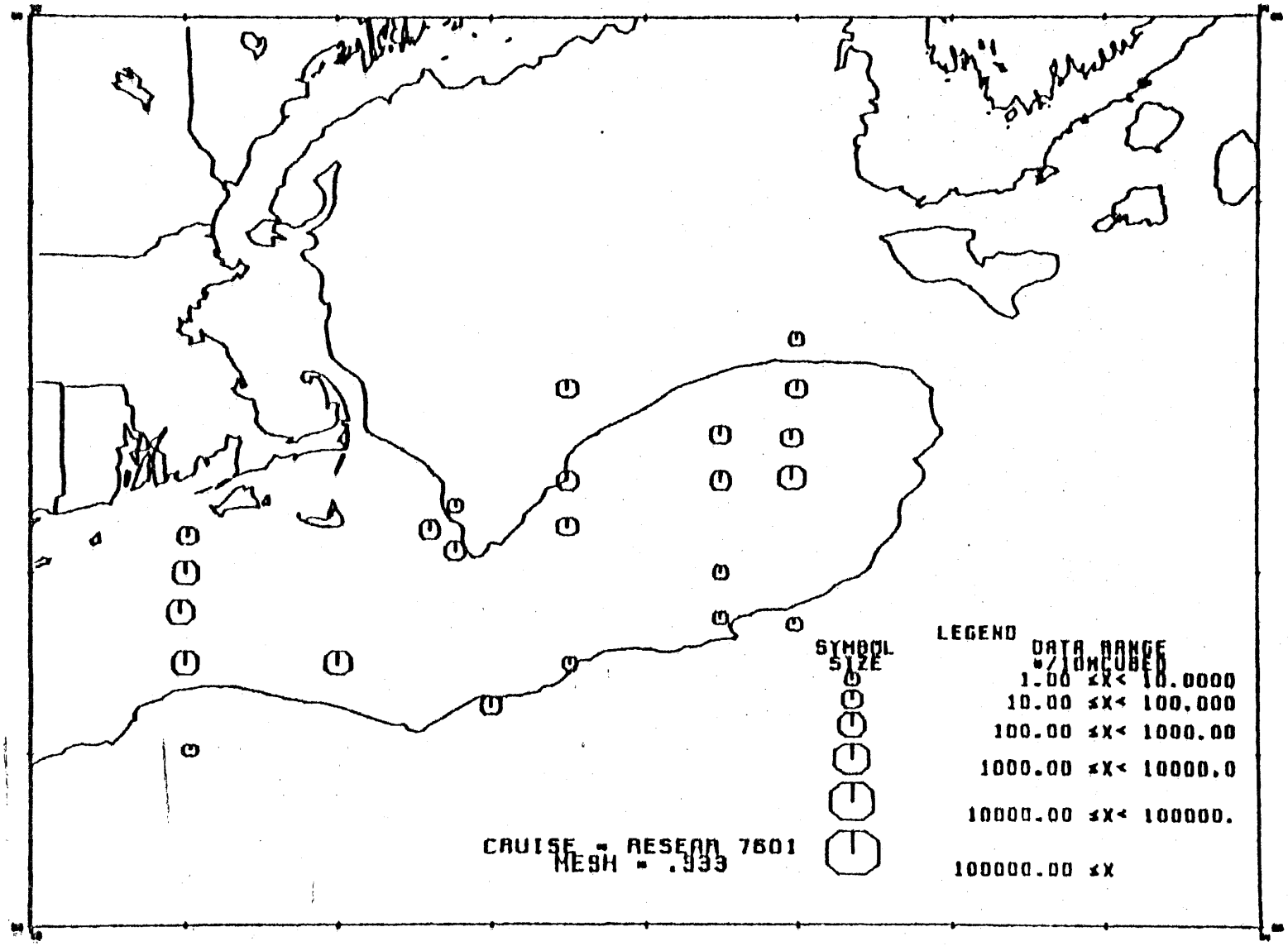

Figure 386

Paracalanus parvus

Copepodite

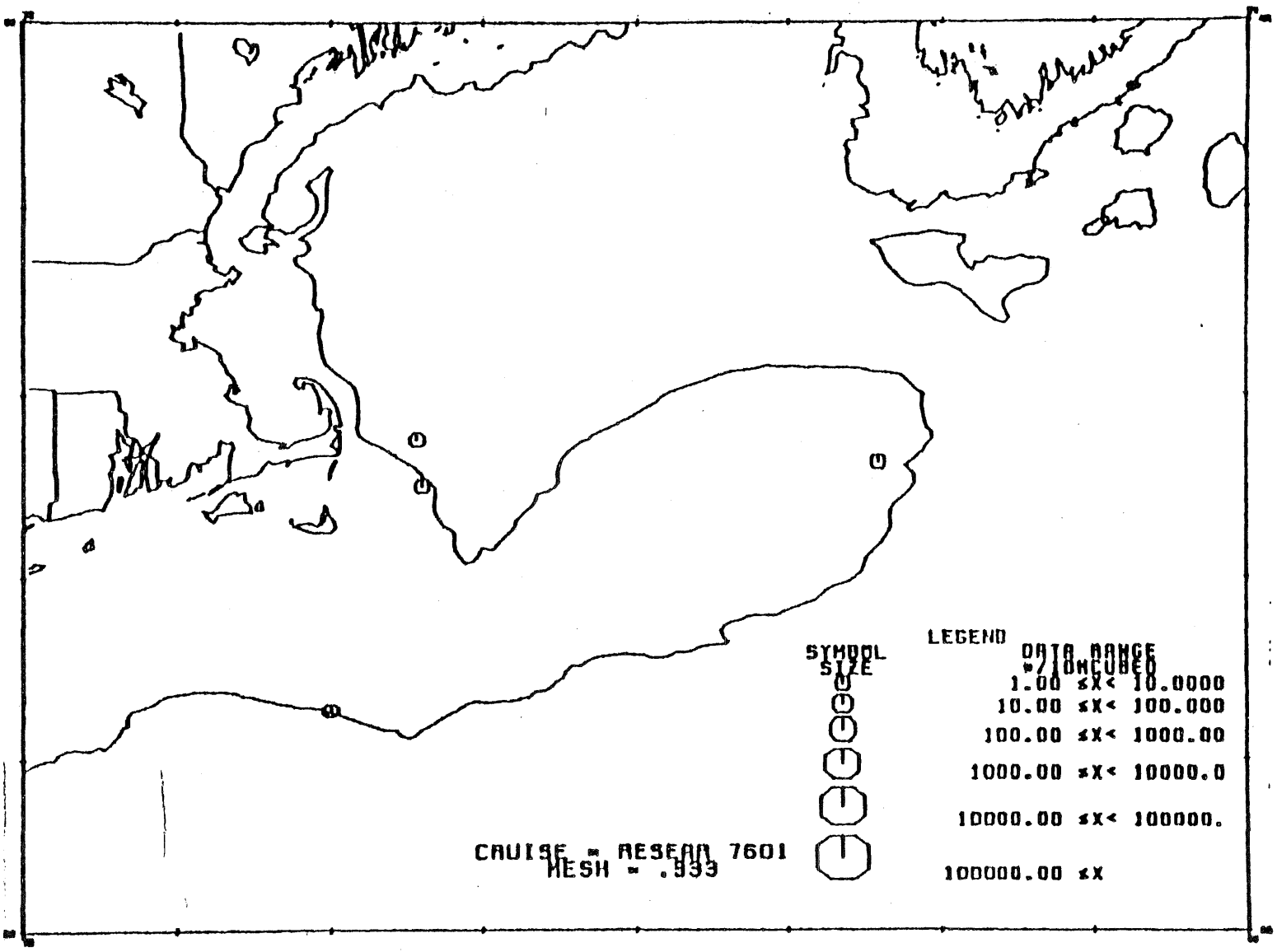

Figure 387

Paracalanus parvus

Adult

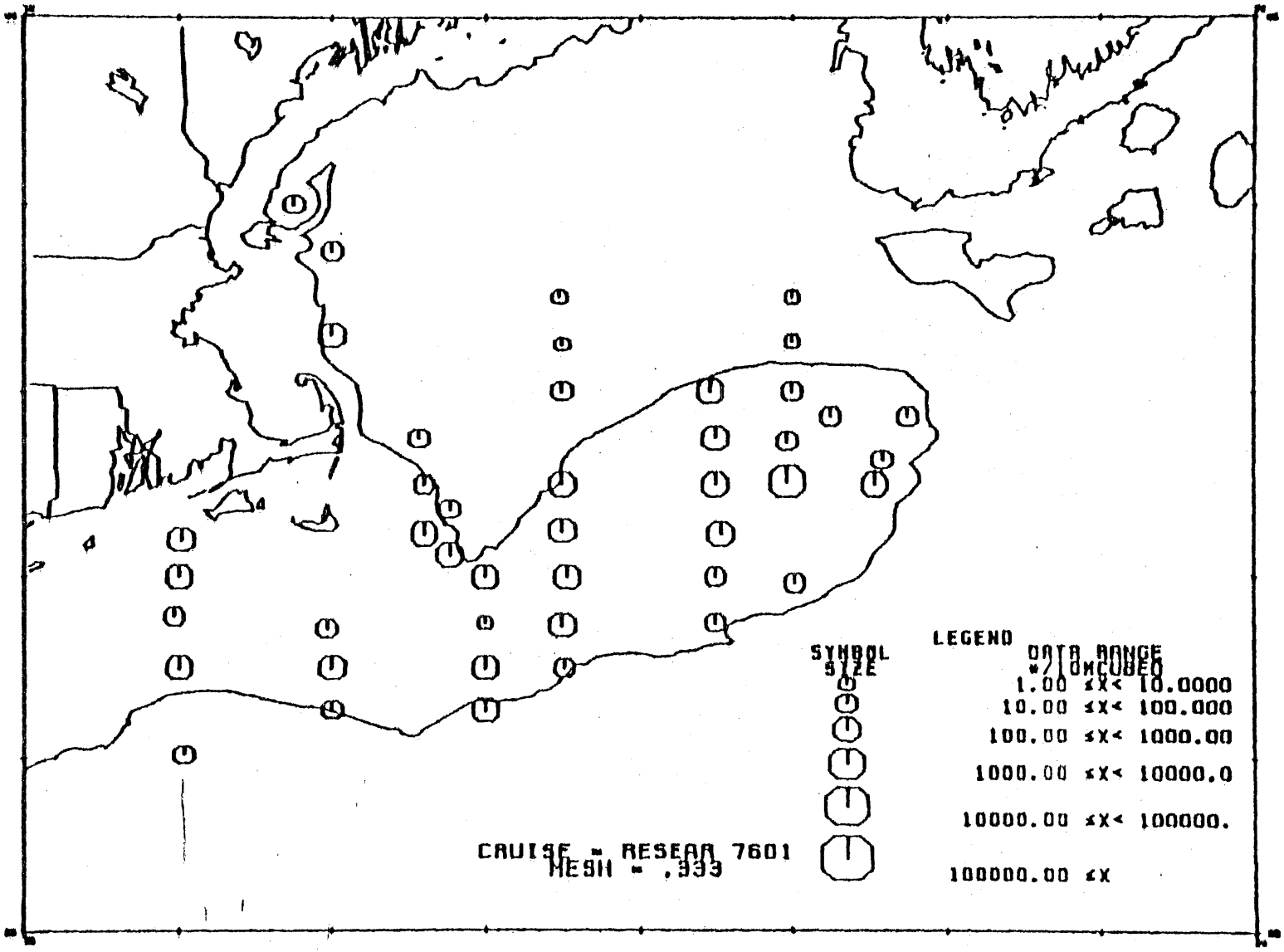

Figure 388

Centropages typicus

Copepodite Stage 4

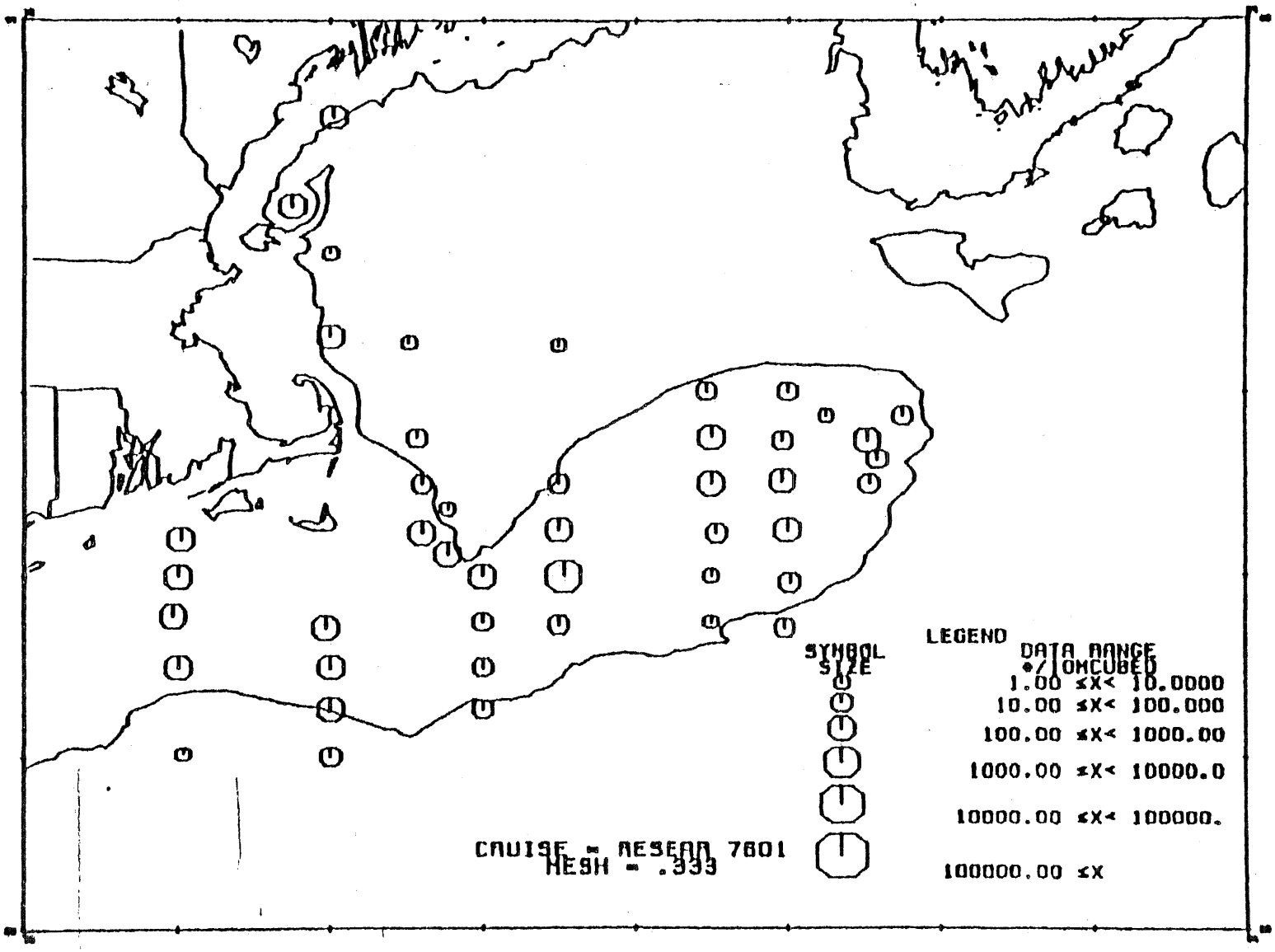

Figure 389

Centropages typicus

Copepodite Stage 5

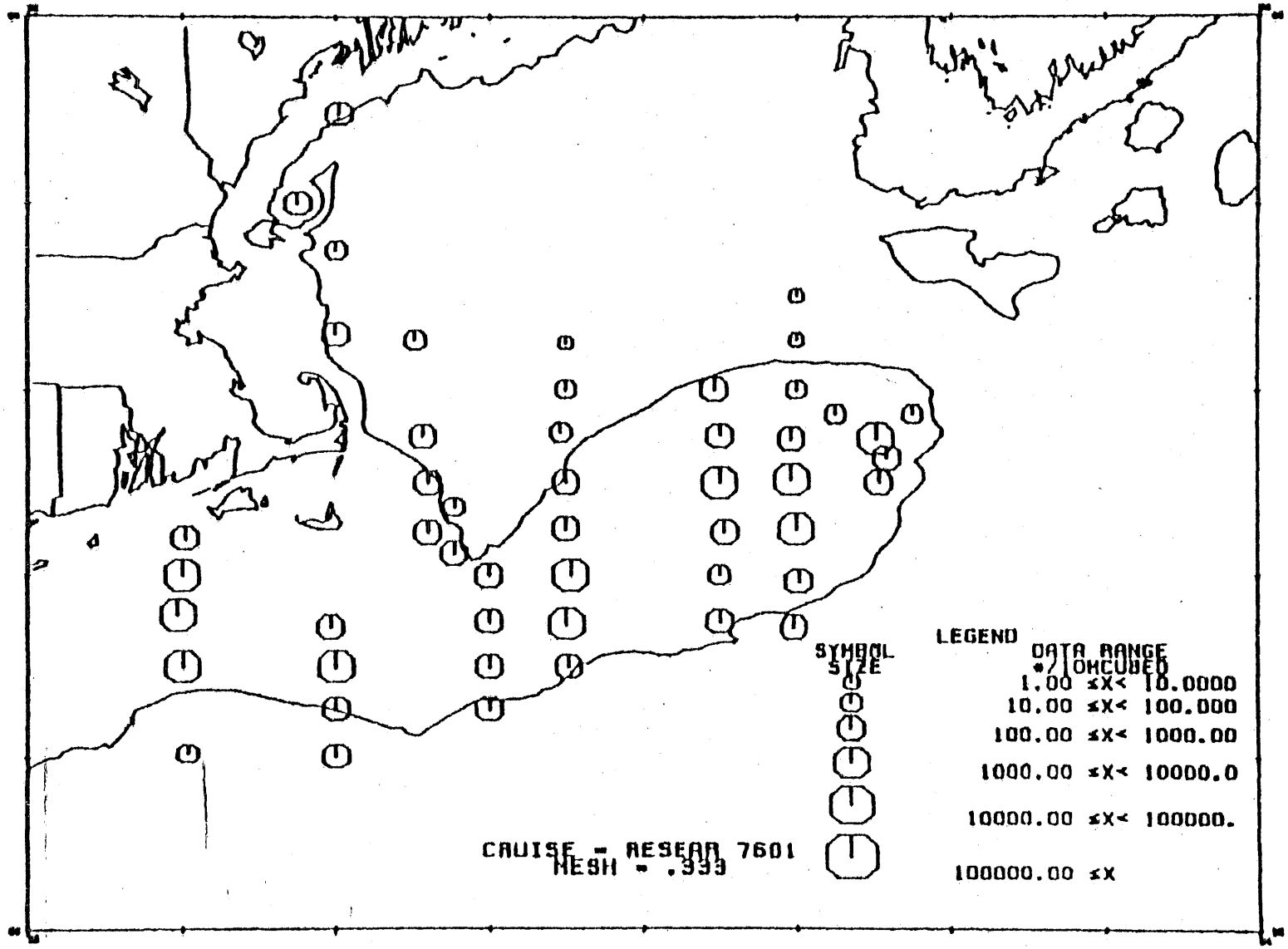

Figure 390

Centropages typicus

Adult

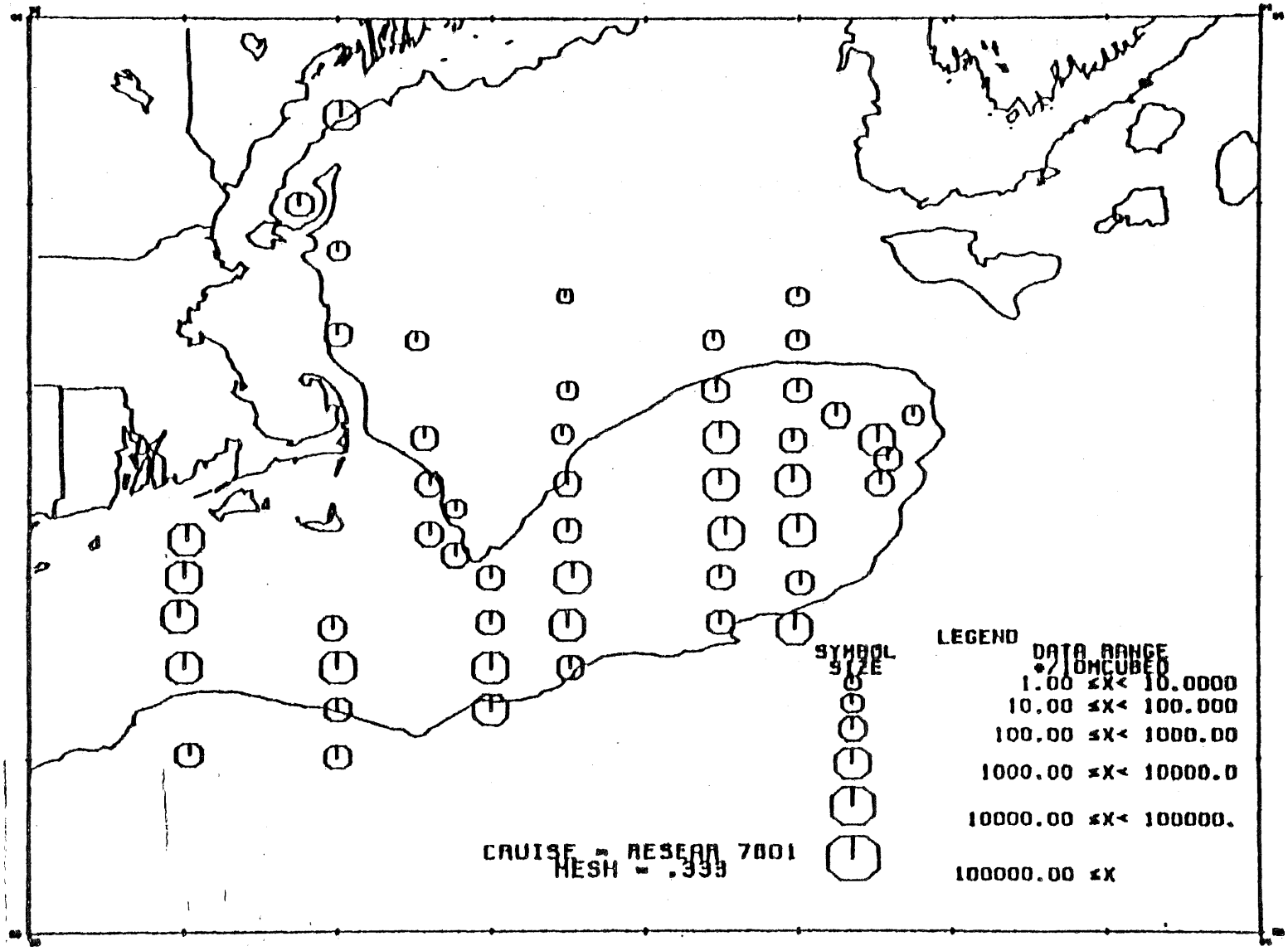

Figure 391

Centropages hamatus

Copepodite Stage 4

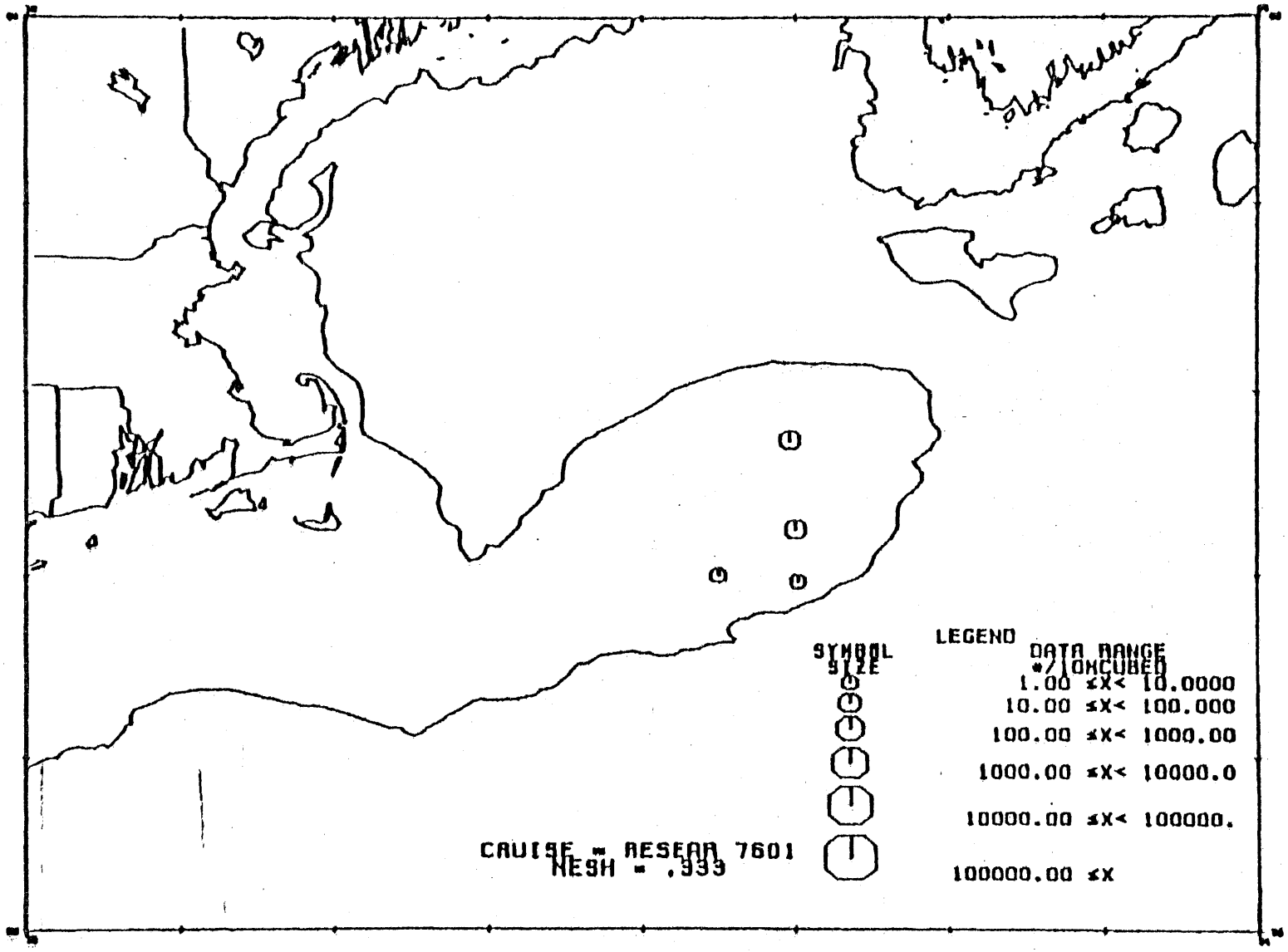

Figure 392

Centropages hamatus

Copepodite Stage 5

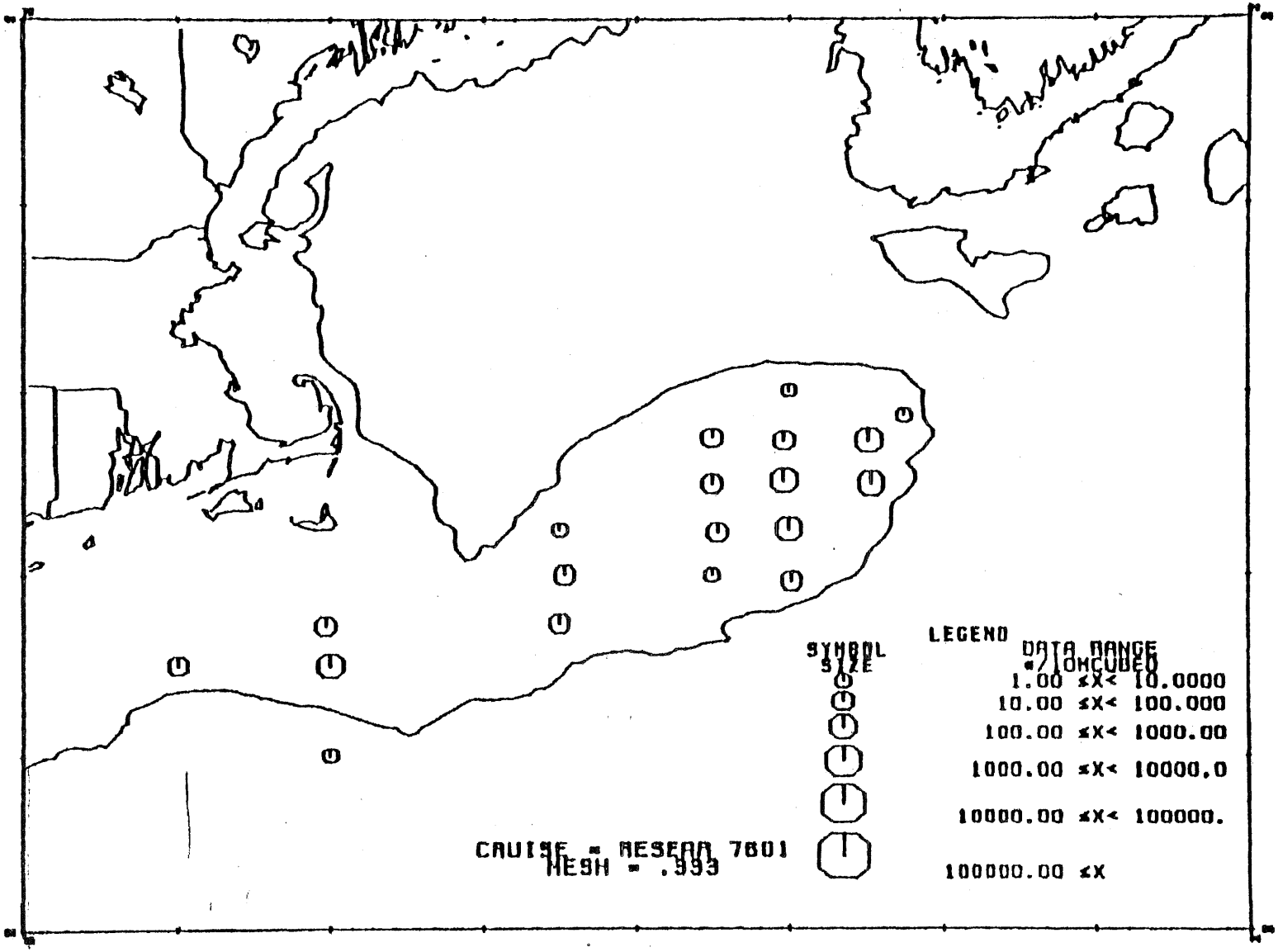

Figure 393

Centropages hamatus

Adult

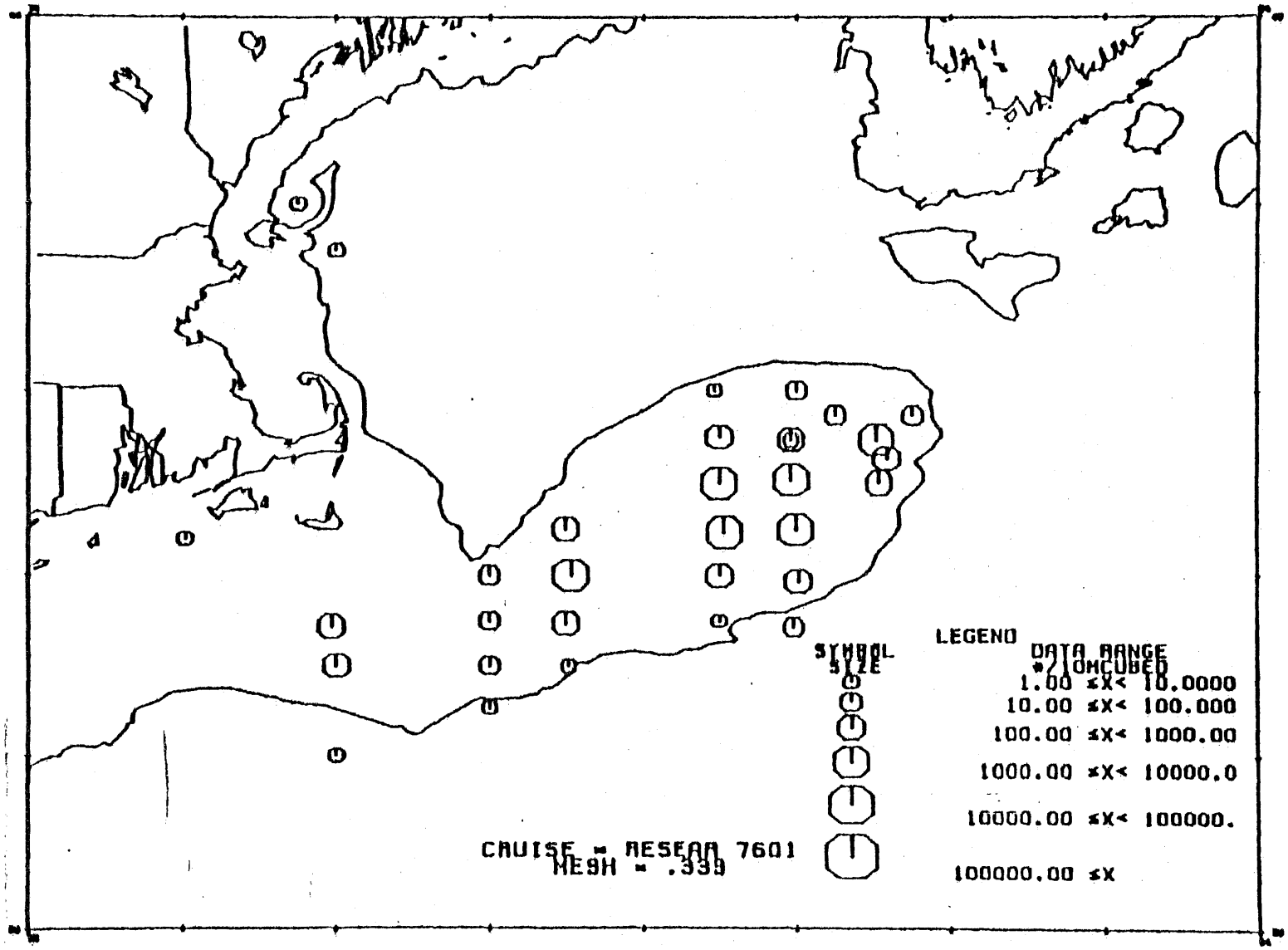

Figure 394

Oithona spp.

Adult

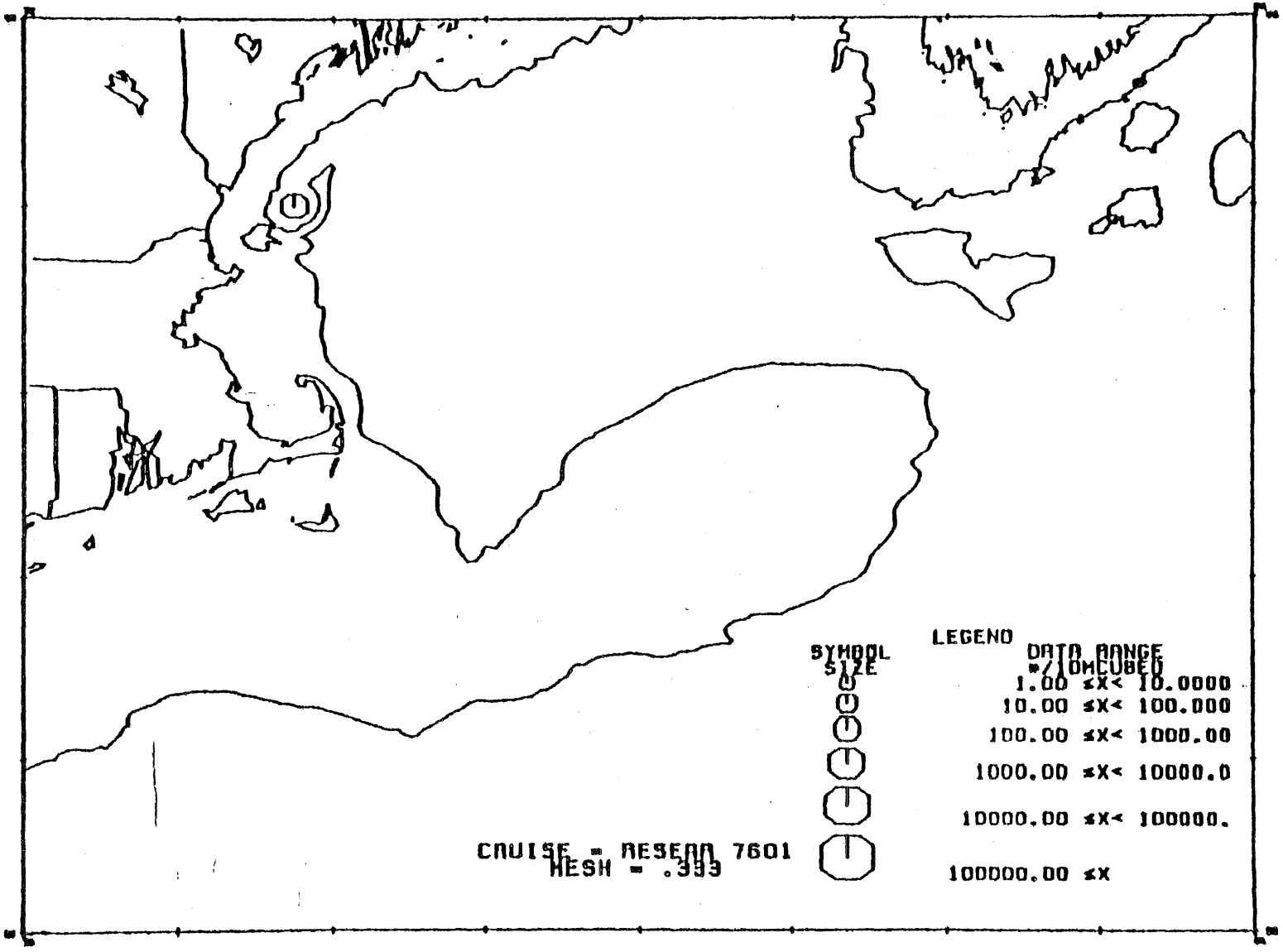

Figure 395

Calanus finmarchicus

Copepodite Stage 2

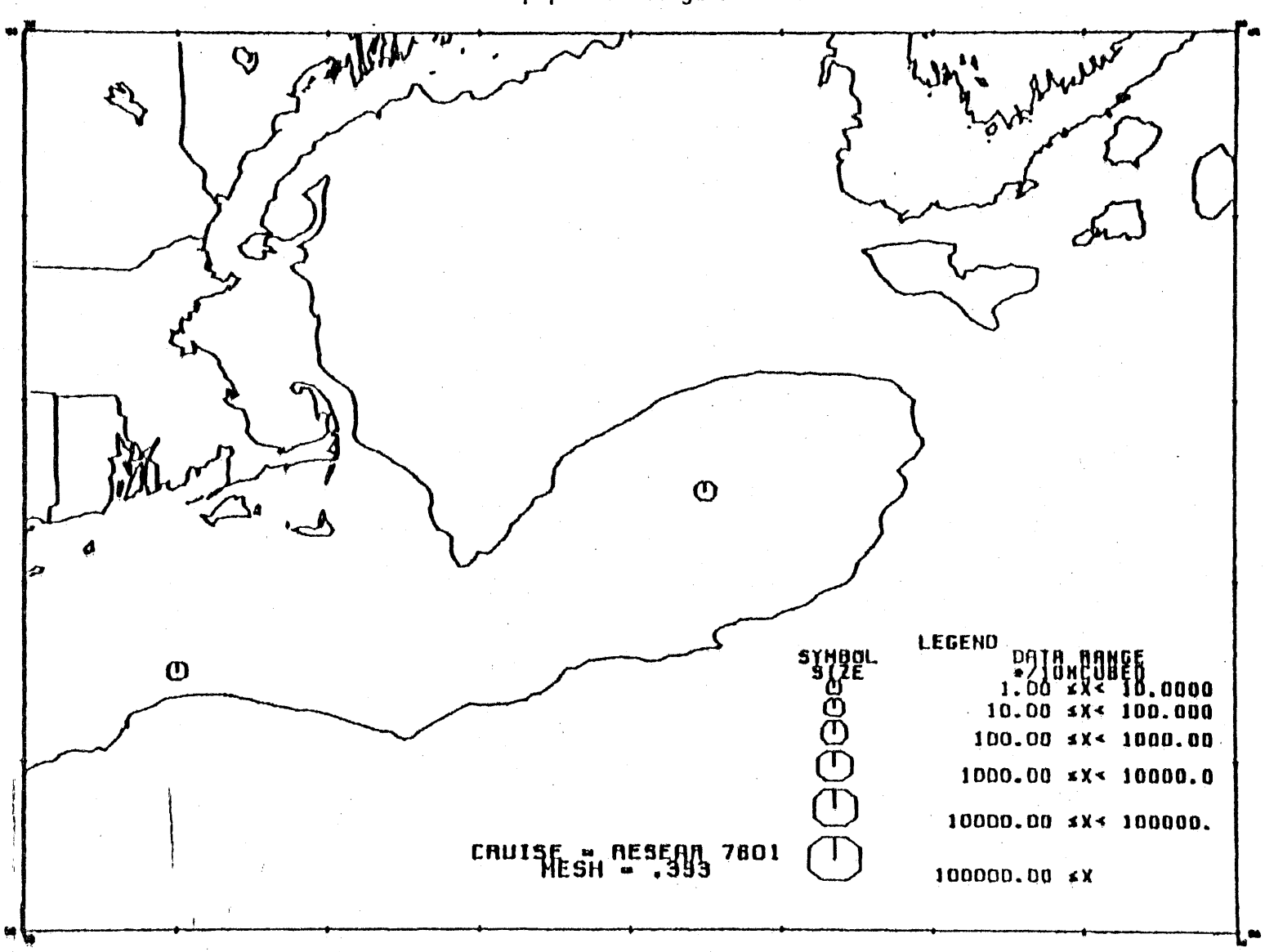

Figure 396

Calanus finmarchicus

Copepodite Stage 3

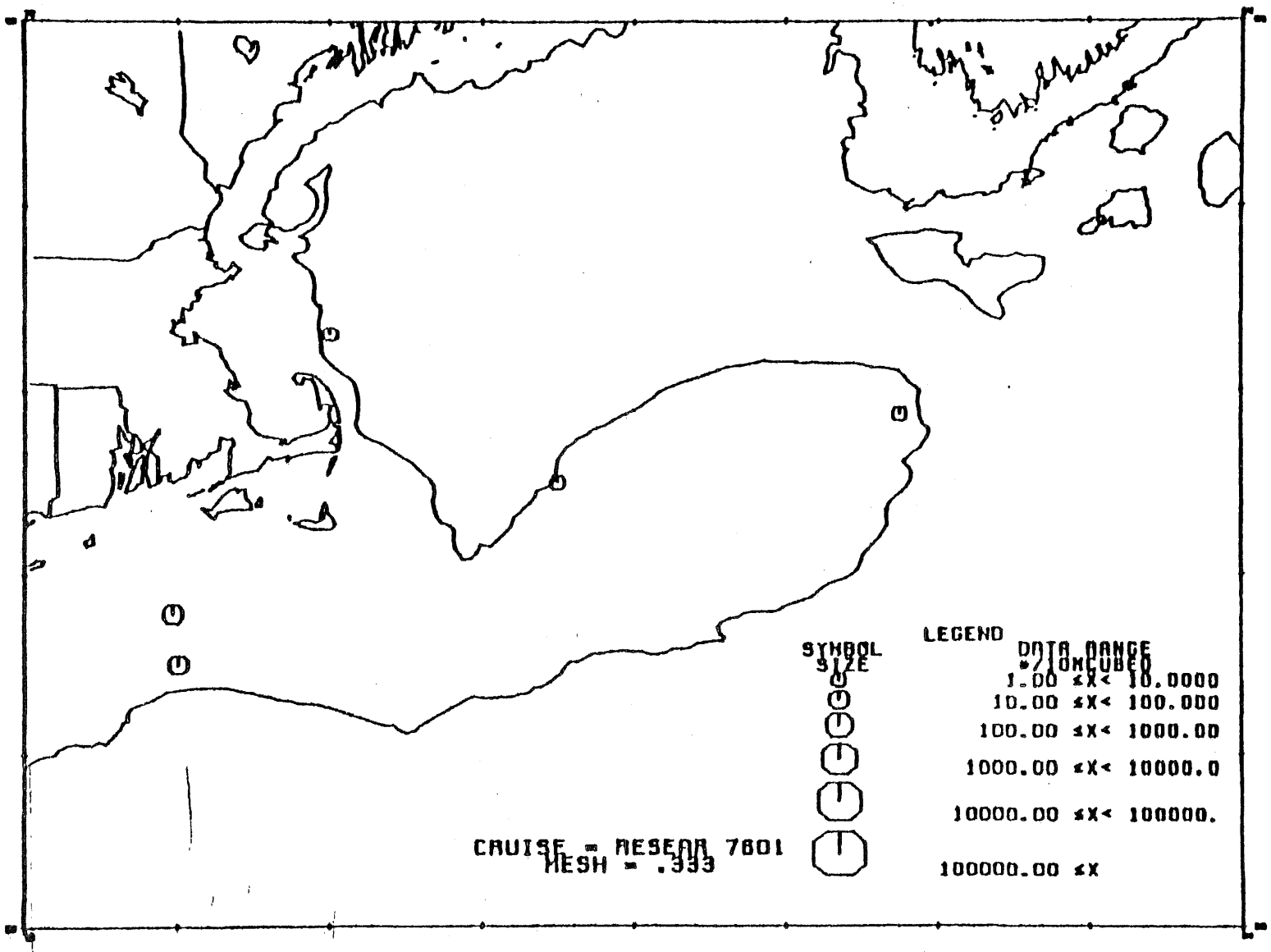

Figure 397

Calanus finmarchicus

Copepodite Stage 4

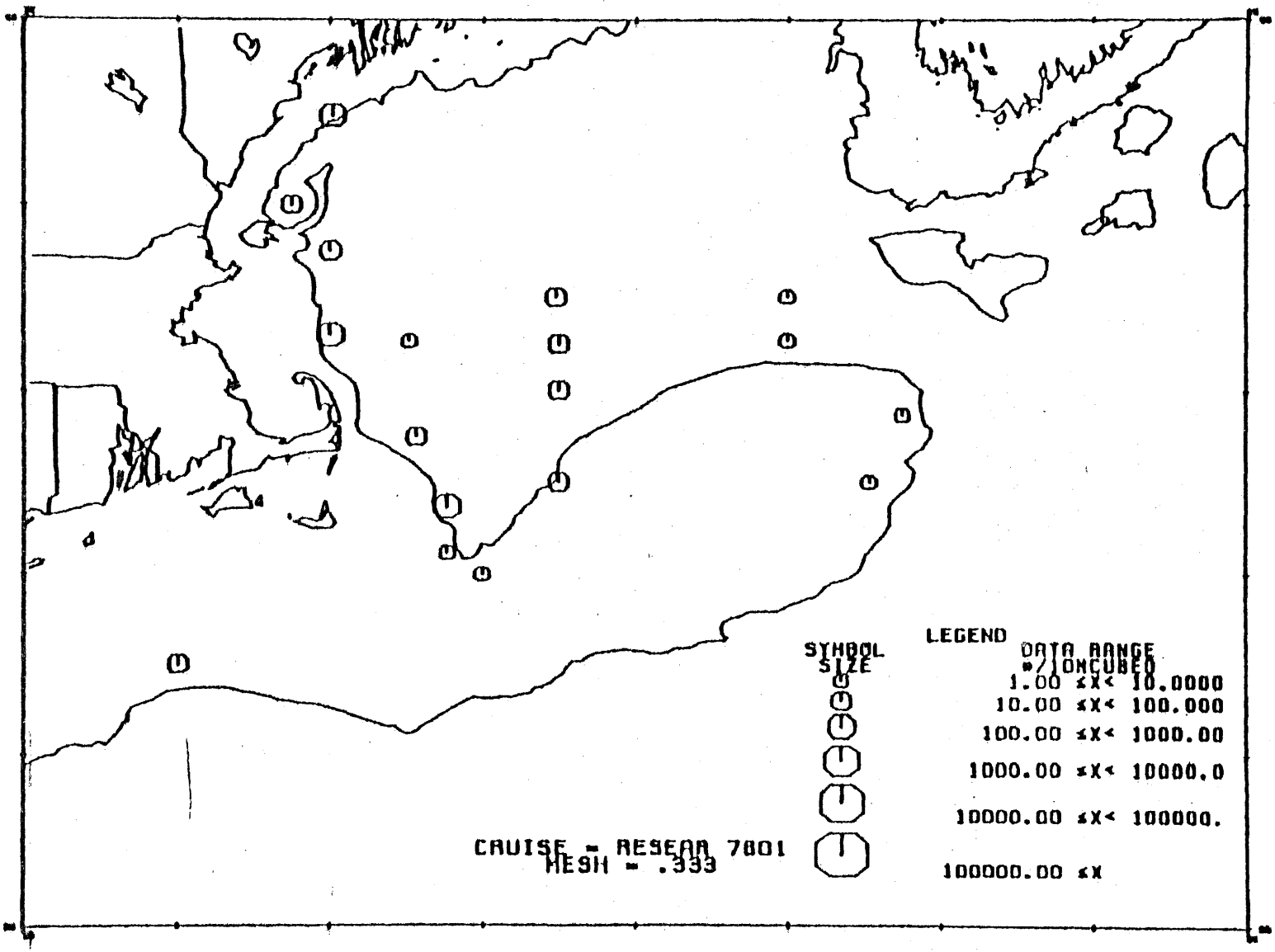

Figure 398

Calanus finmarchicus

Copepodite Stage 5

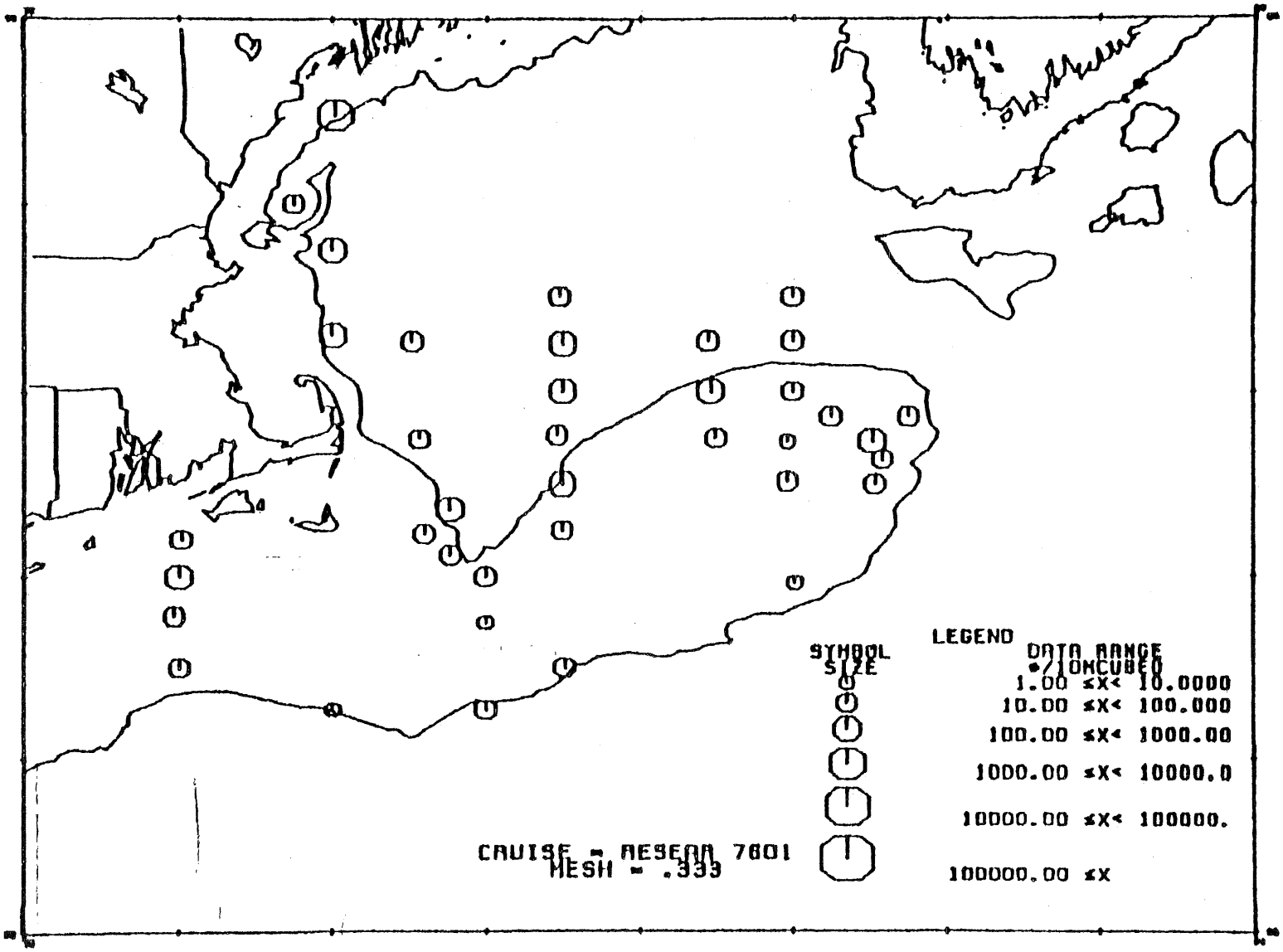

Figure 399

Copepodite

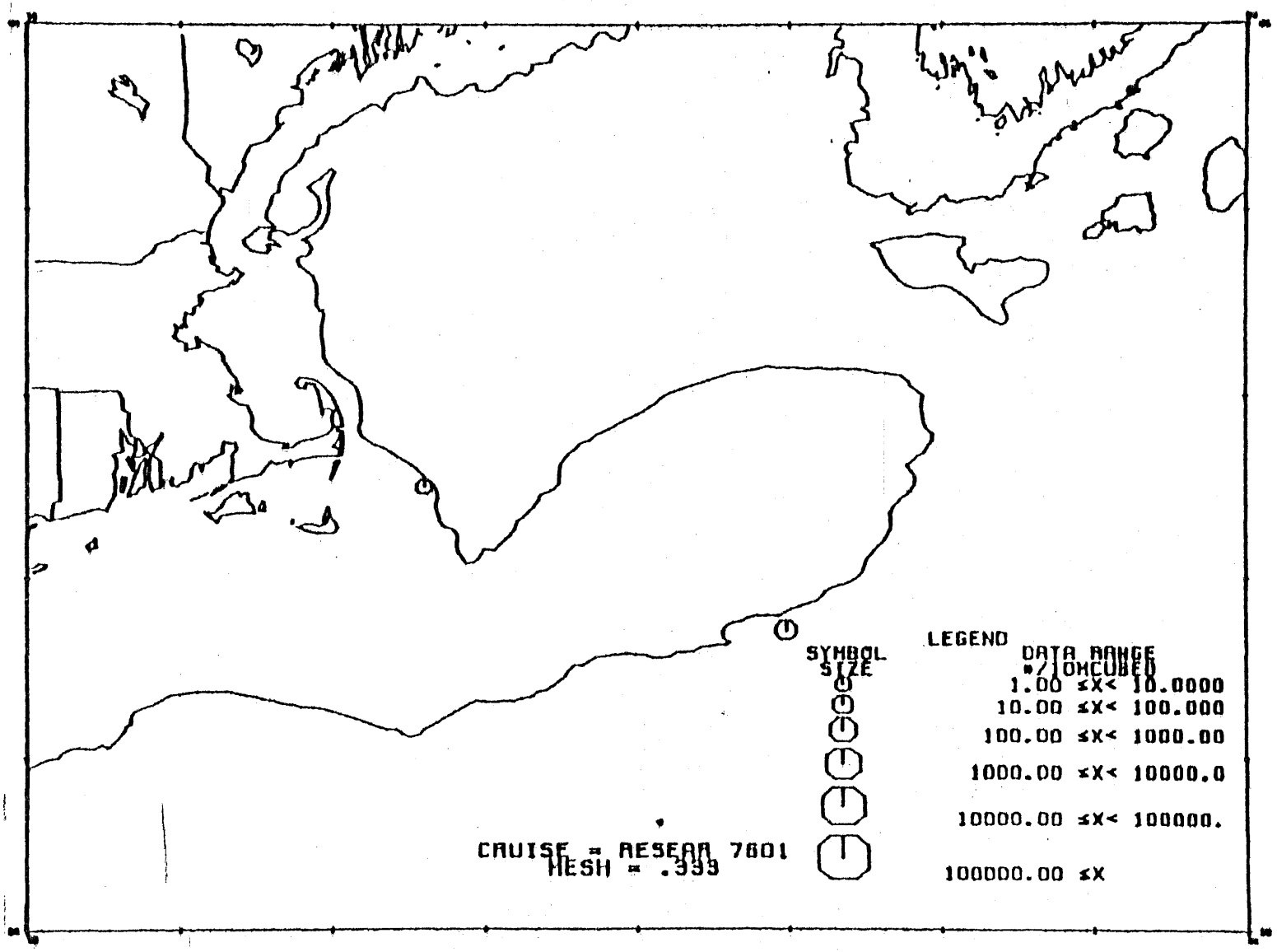

Figure 400

Calanus finmarchicus

Adult

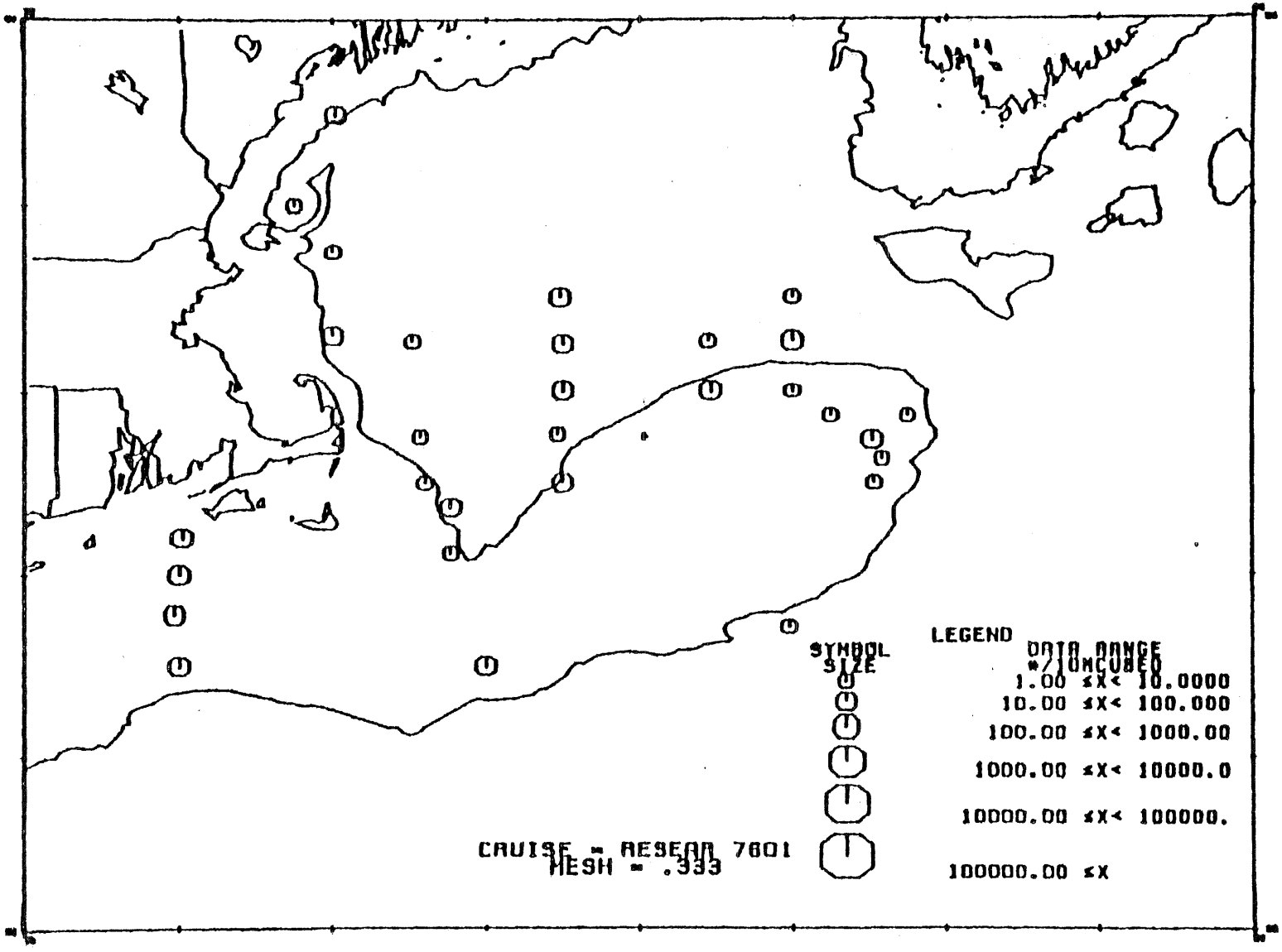

Figure 401

CHAETOGNATHA

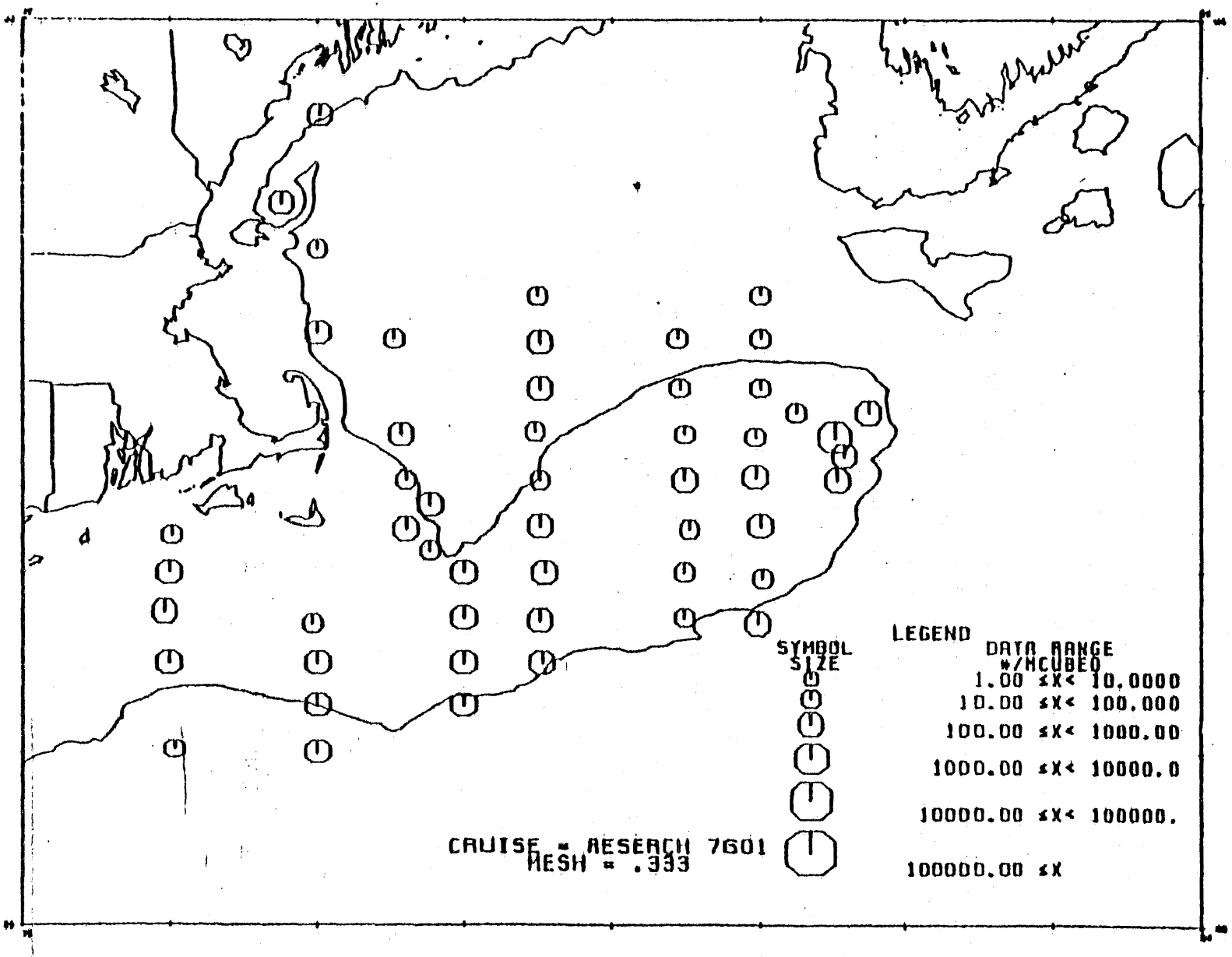

Figure 402

AMPHIPODA

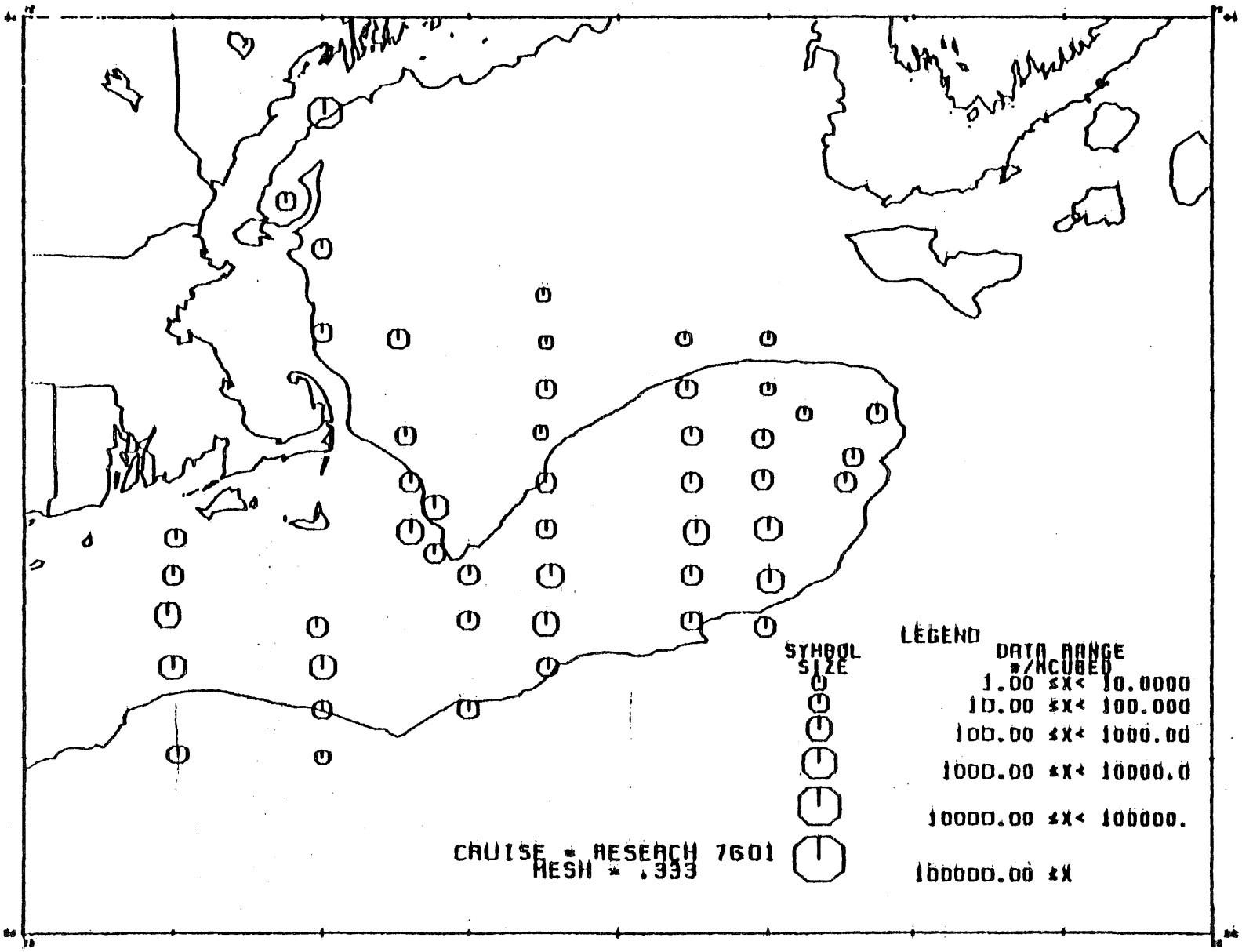

Figure 403

EUPHAUSIACEA

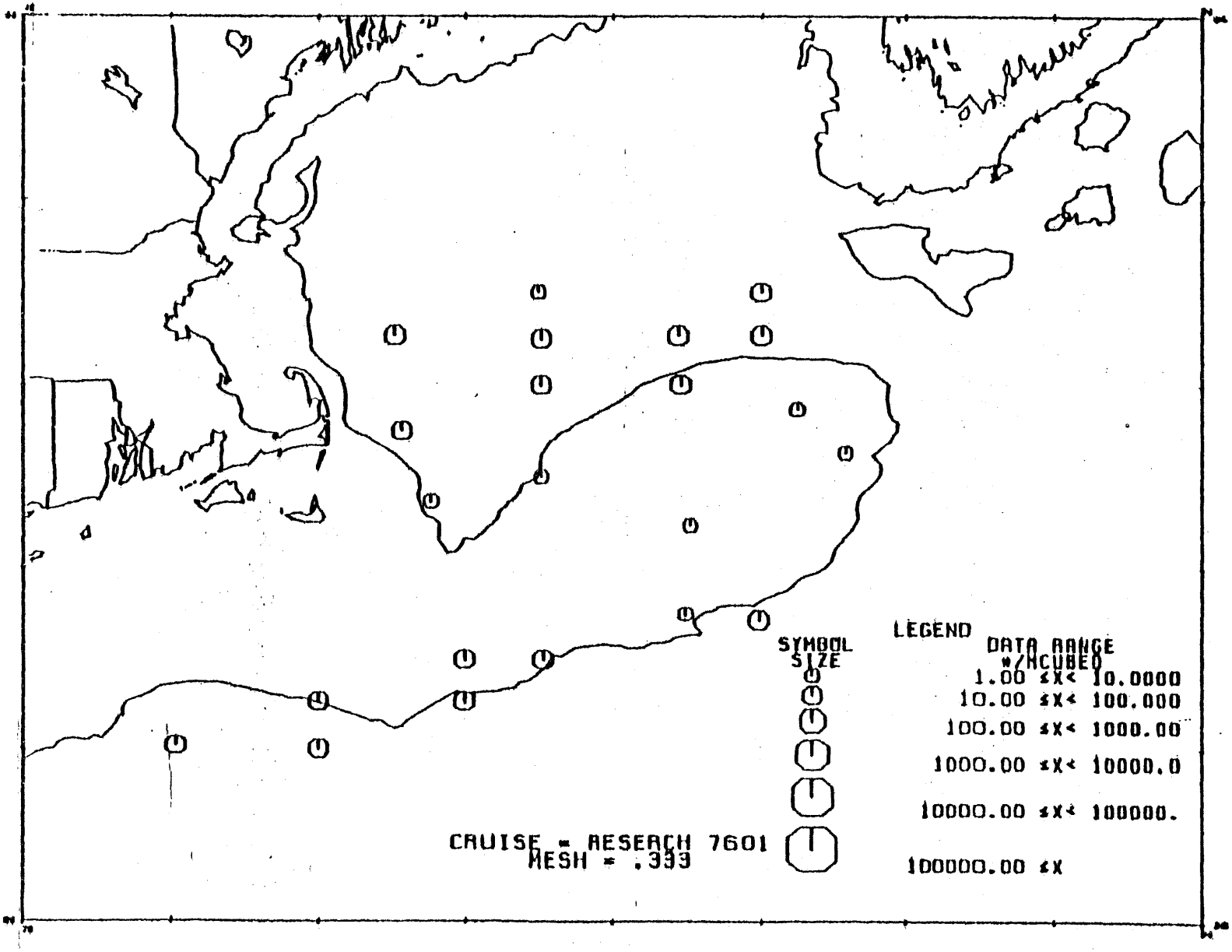

Figure 404

MYSIDACEA

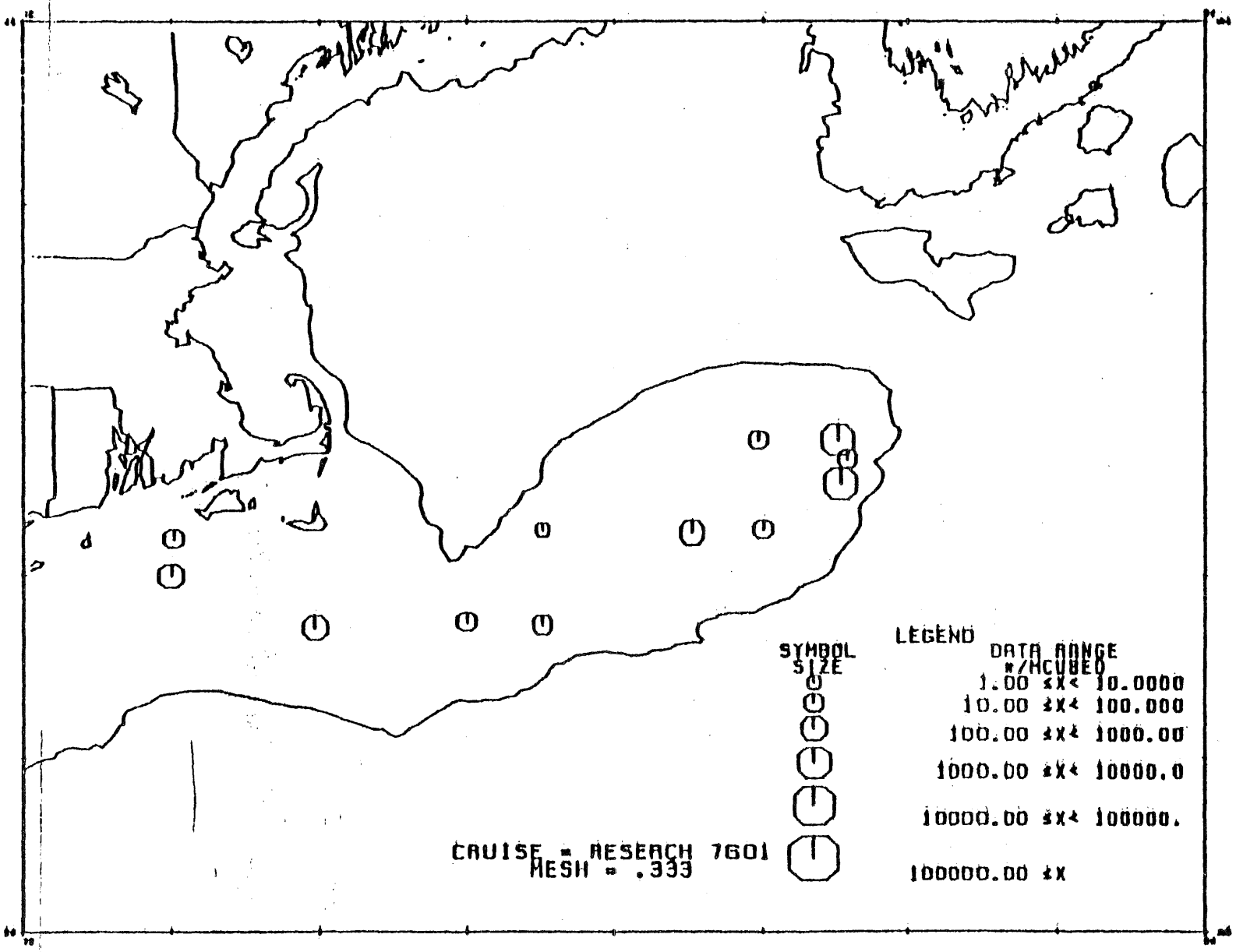

Figure 405

SALPA

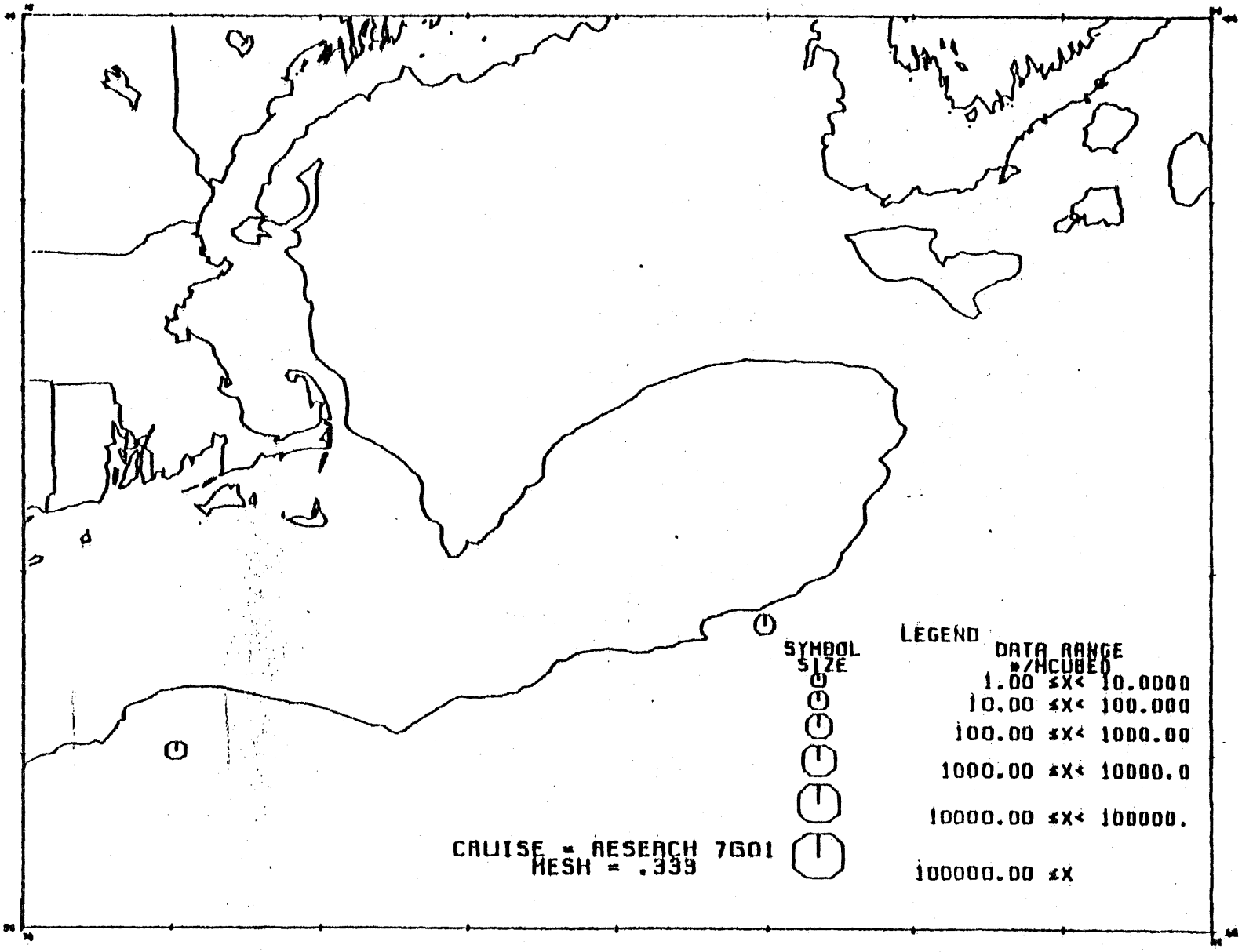

Figure 406

Stations Sampled

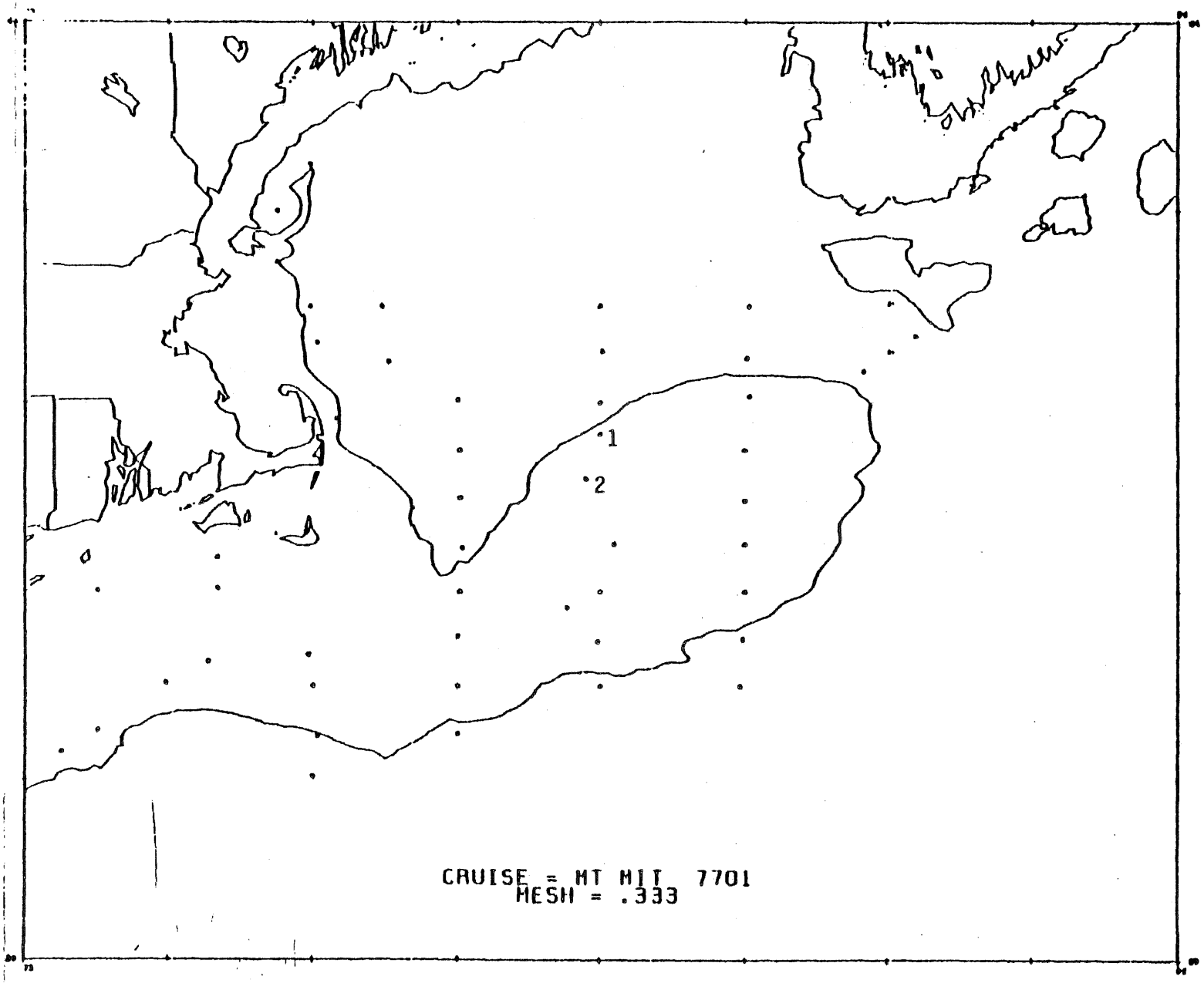

Figure 407

NOTE: 1. Divide all abundance values for Mt. Mitchell 77-01 at this station by 1024.

DISPLACEMENT VOLUME

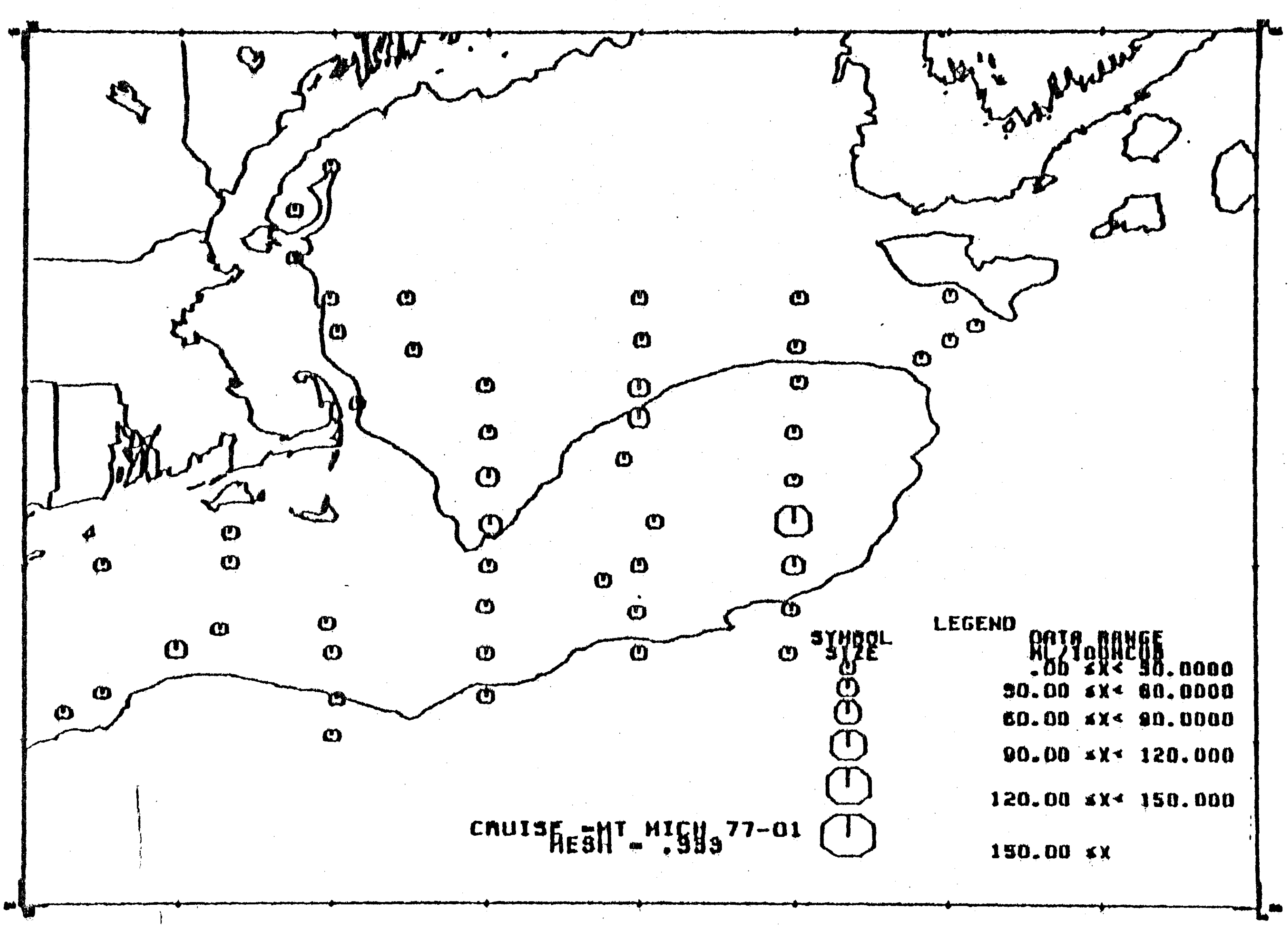

Figure 408

Pseudocalanus sp.

Copepodite Stage 1

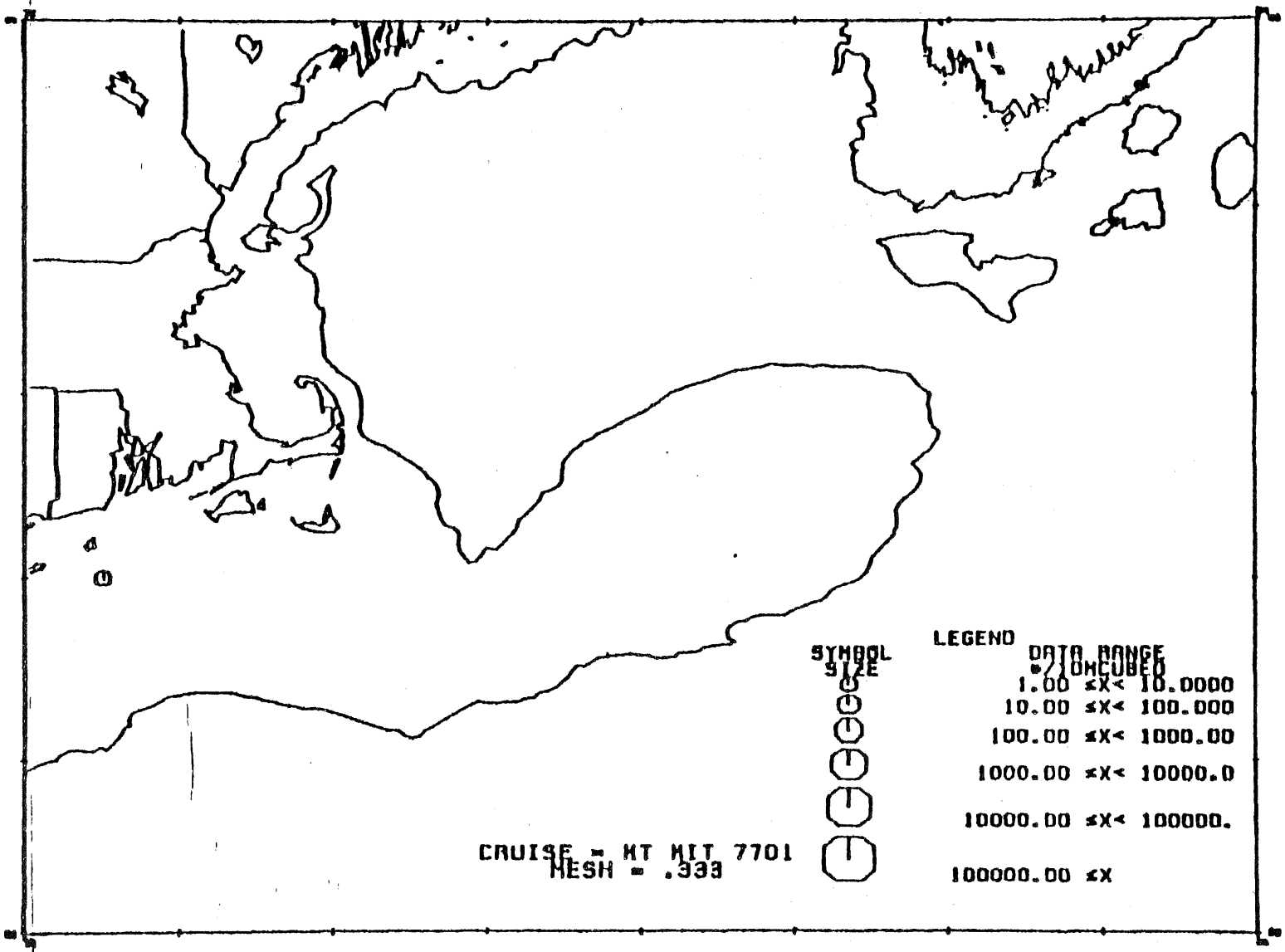

Figure 409

Pseudocalanus sp.

Copepodite Stage 2

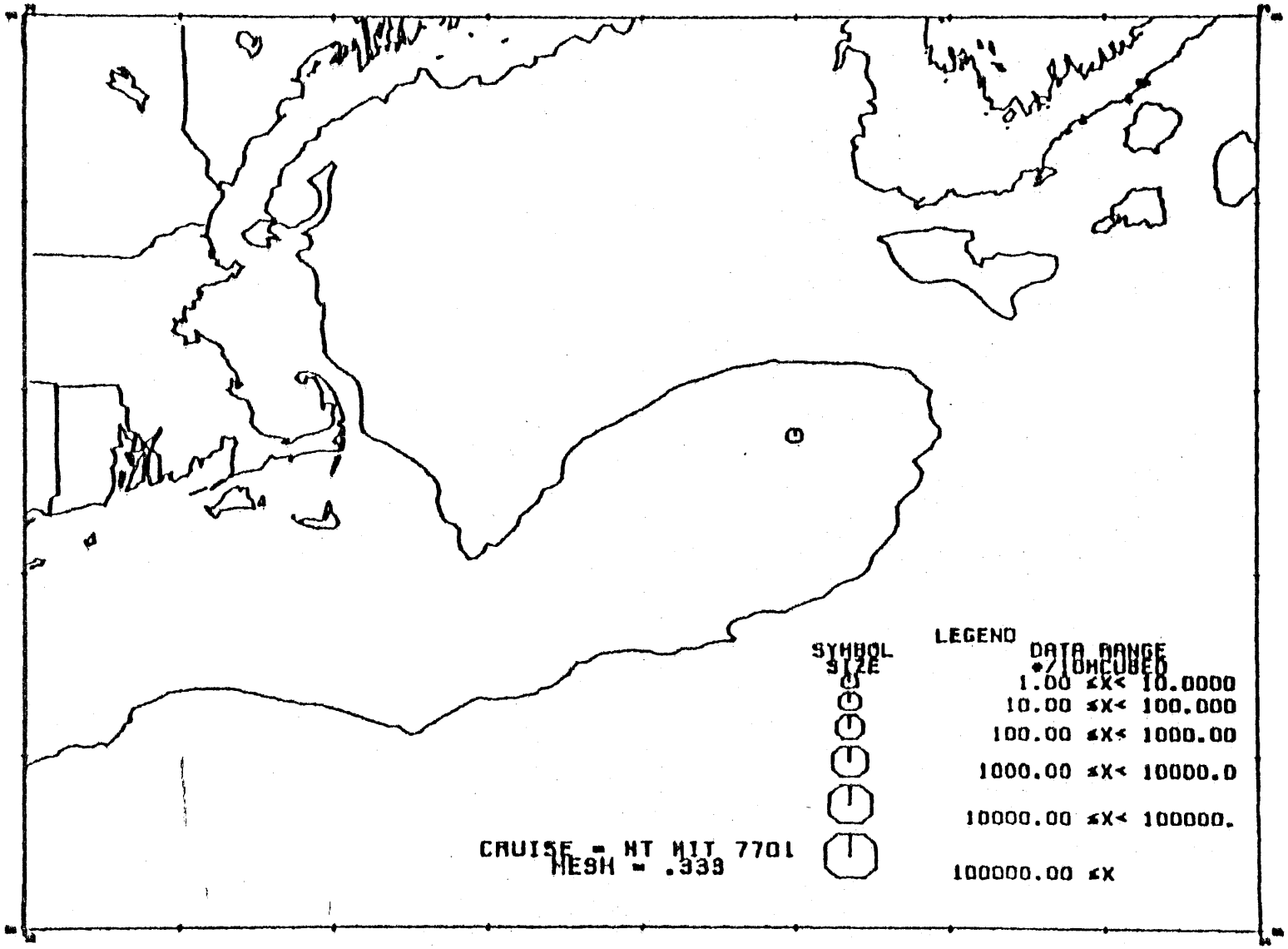

Figure 410

Pseudocalanus sp.

Copepodite Stage 3

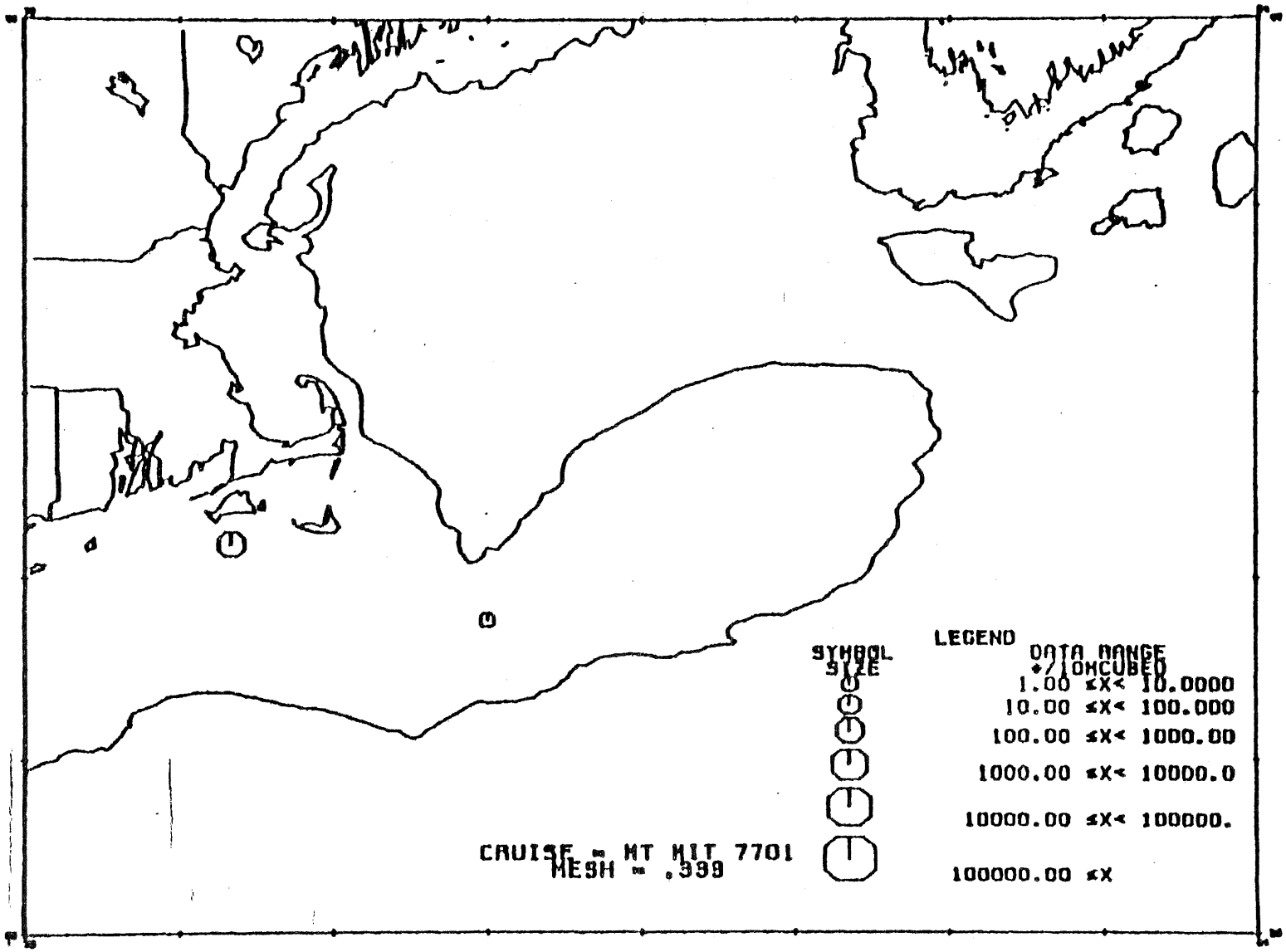

Figure 411

Pseudocalanus sp.

Copepodite Stage 4

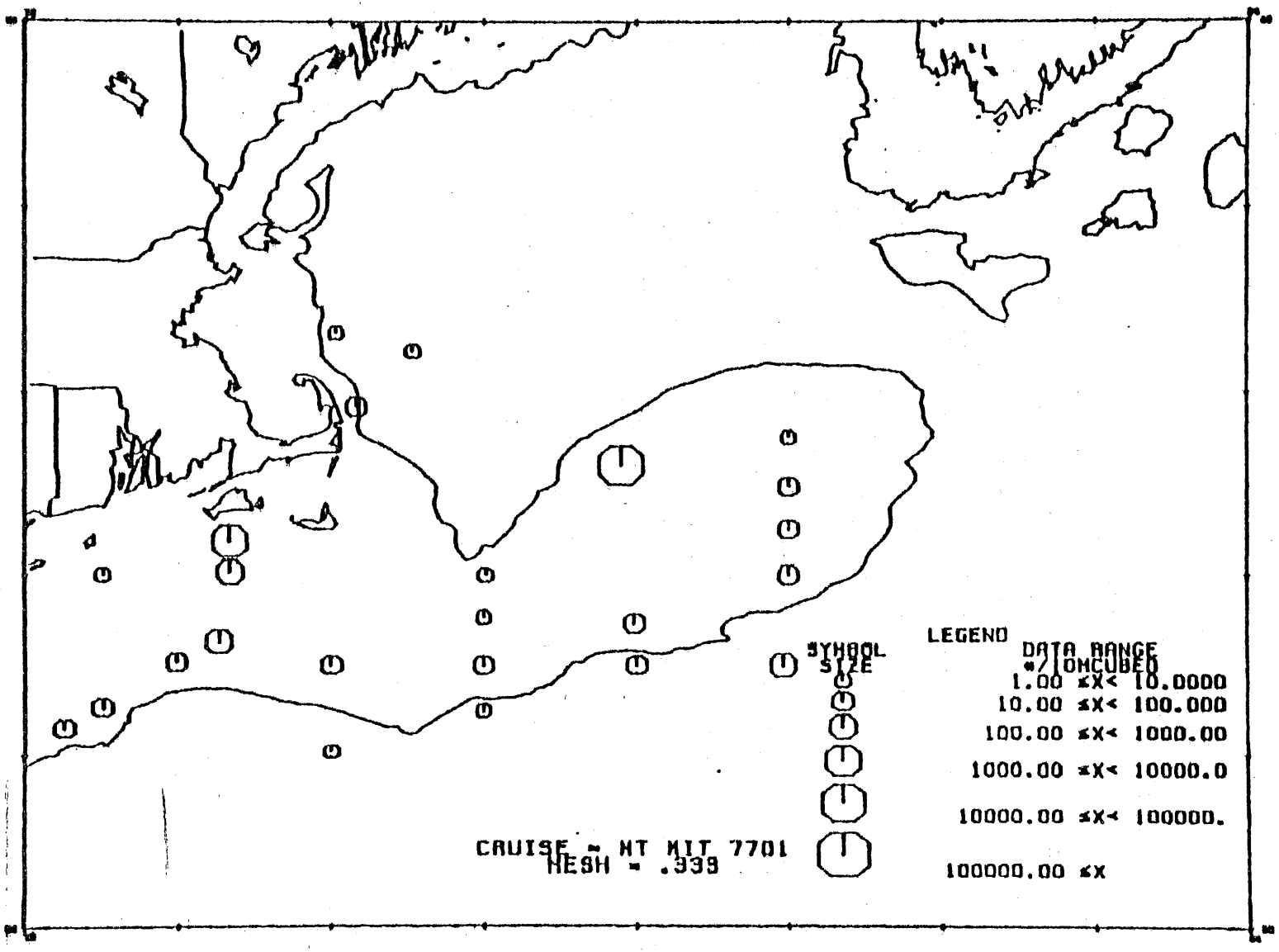

Figure 412

Pseudocalanus sp.

Copepodite Stage 5

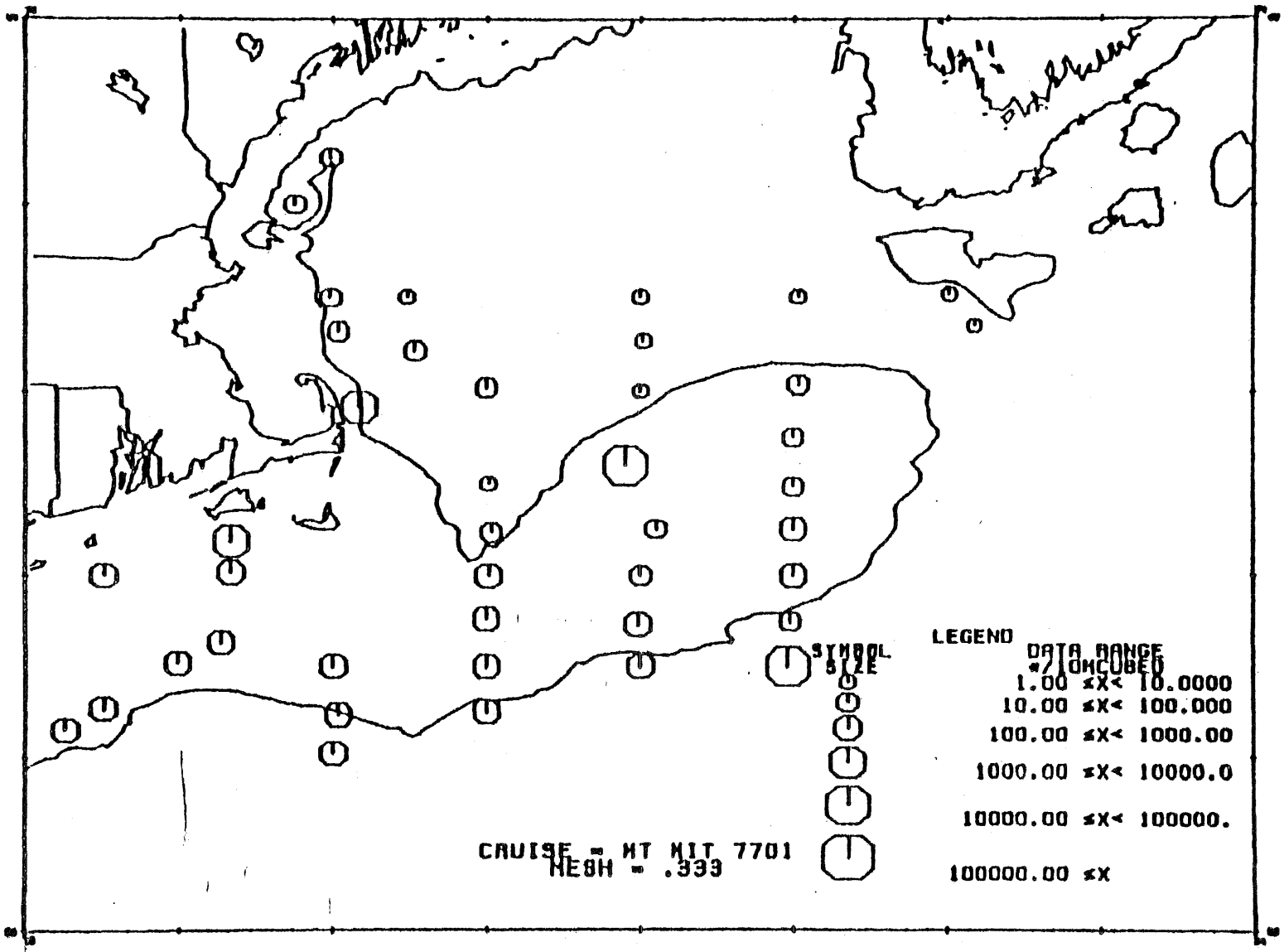

Figure 413

Pseudocalanus sp.

Adult

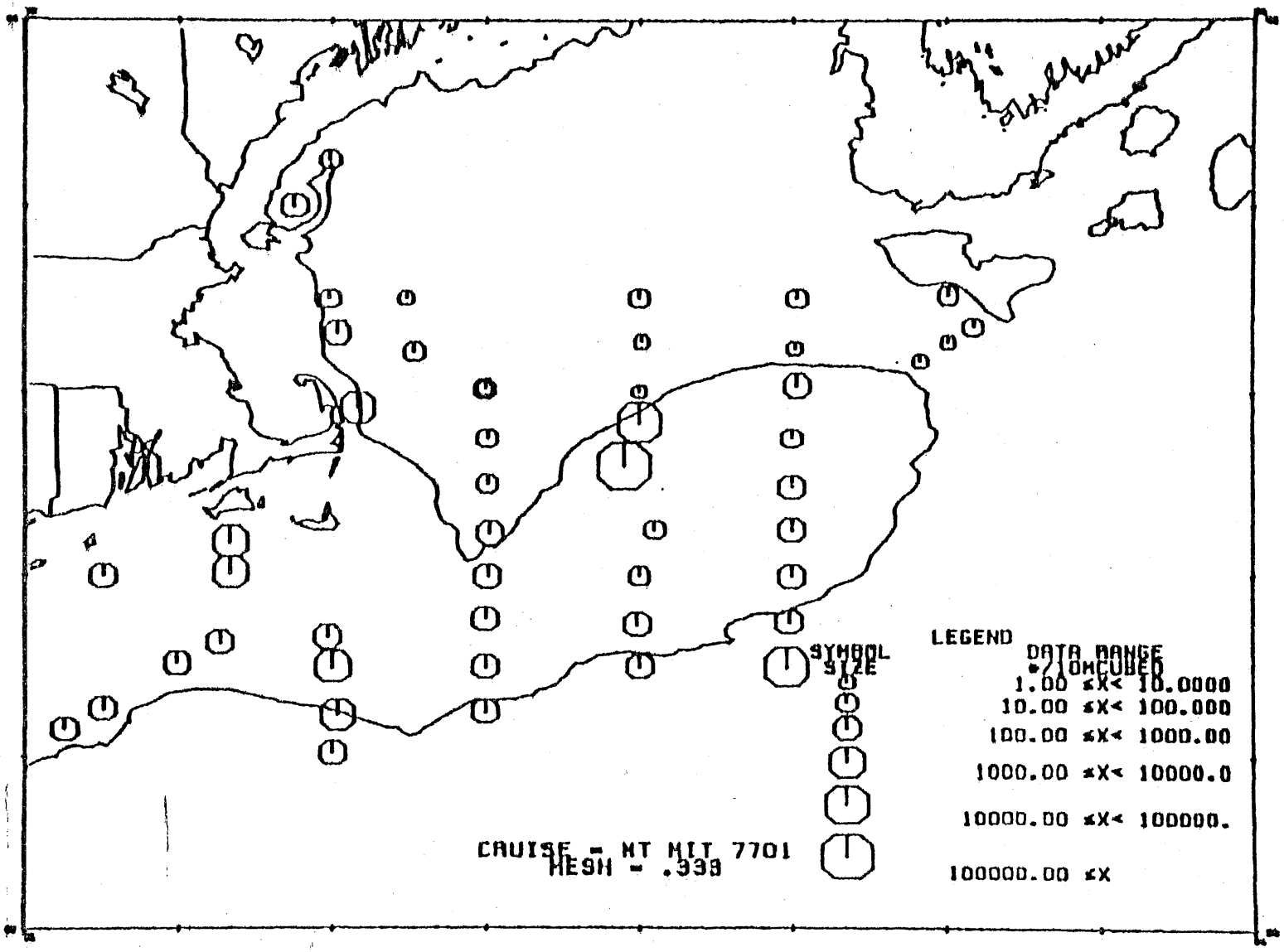

Figure 414

Paracalanus parvus

Copepodite Stage 5

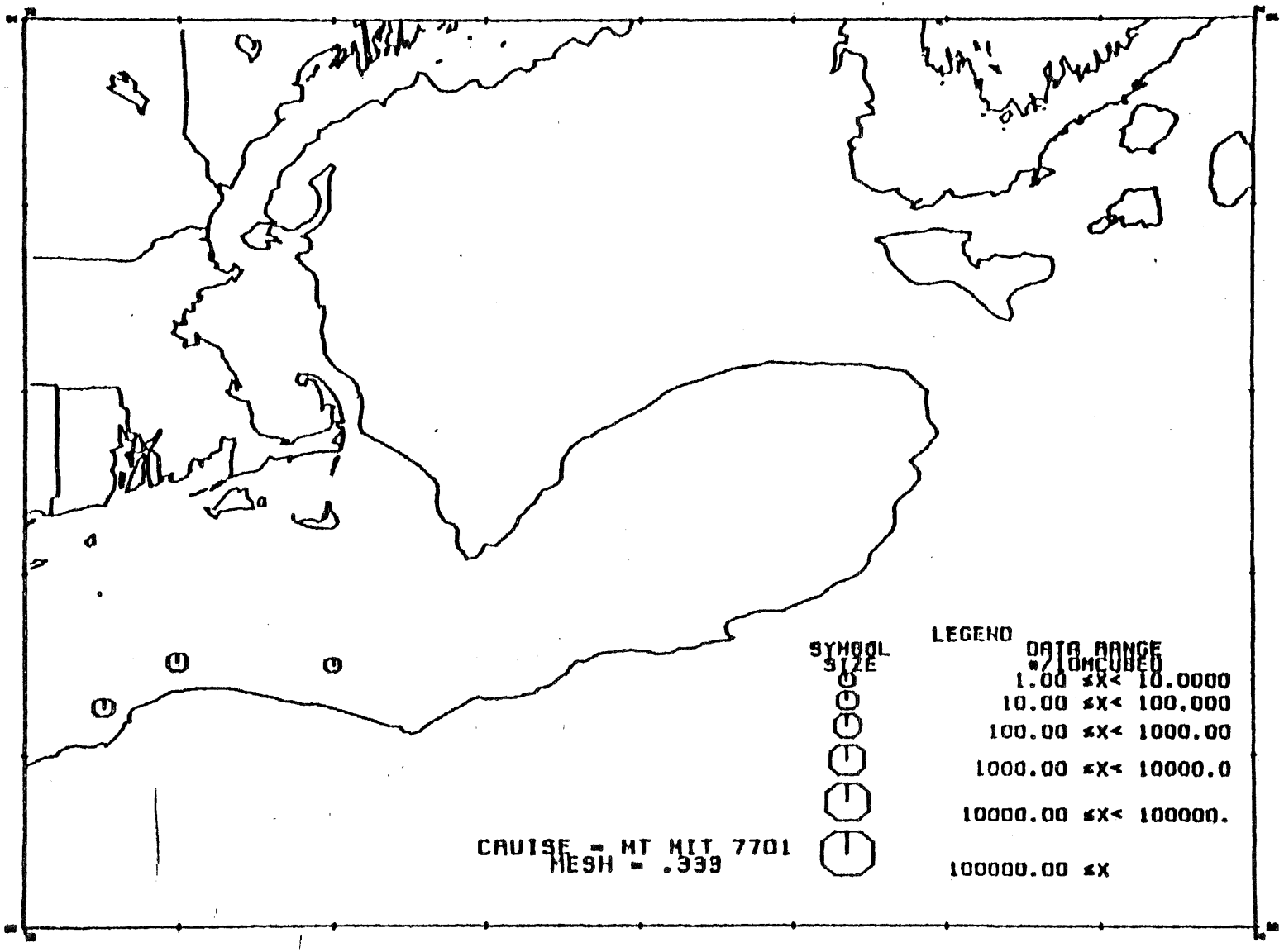

Figure 415

Paracalanus parvus

Adult

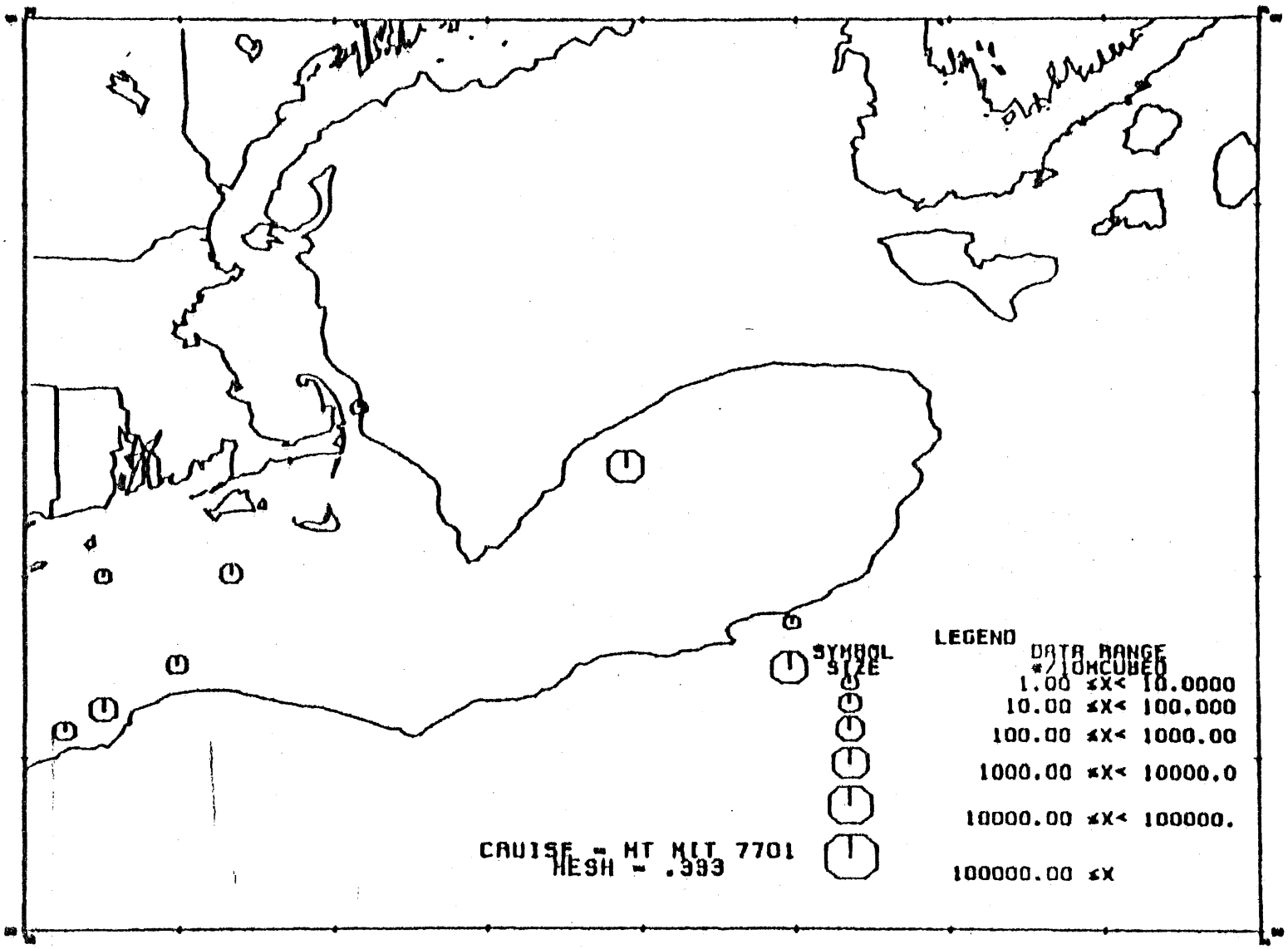

Figure 416

Centropages typicus

Copepodite Stage 3

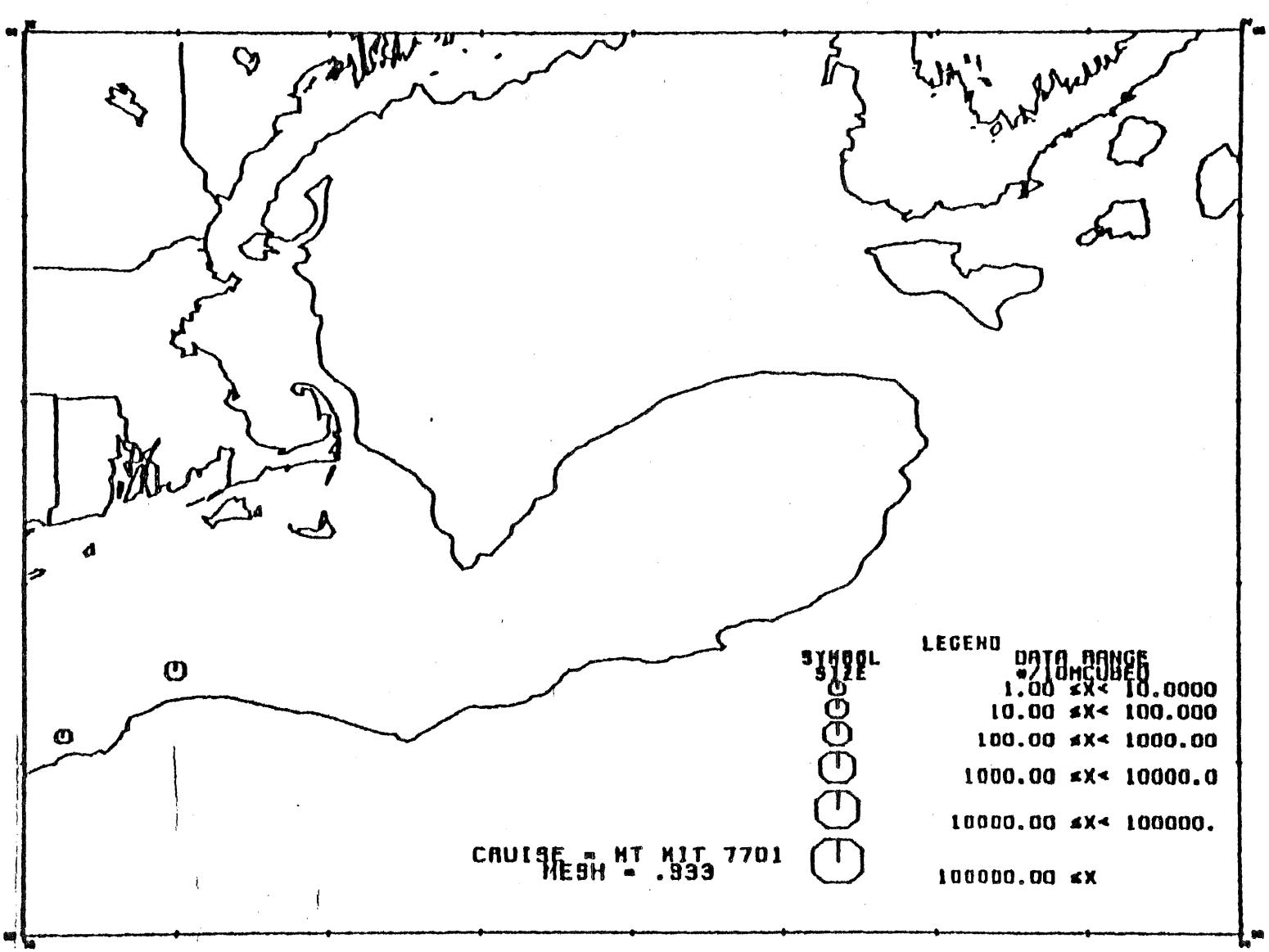

Figure 417

Centropages typicus

Copepodite Stage 4

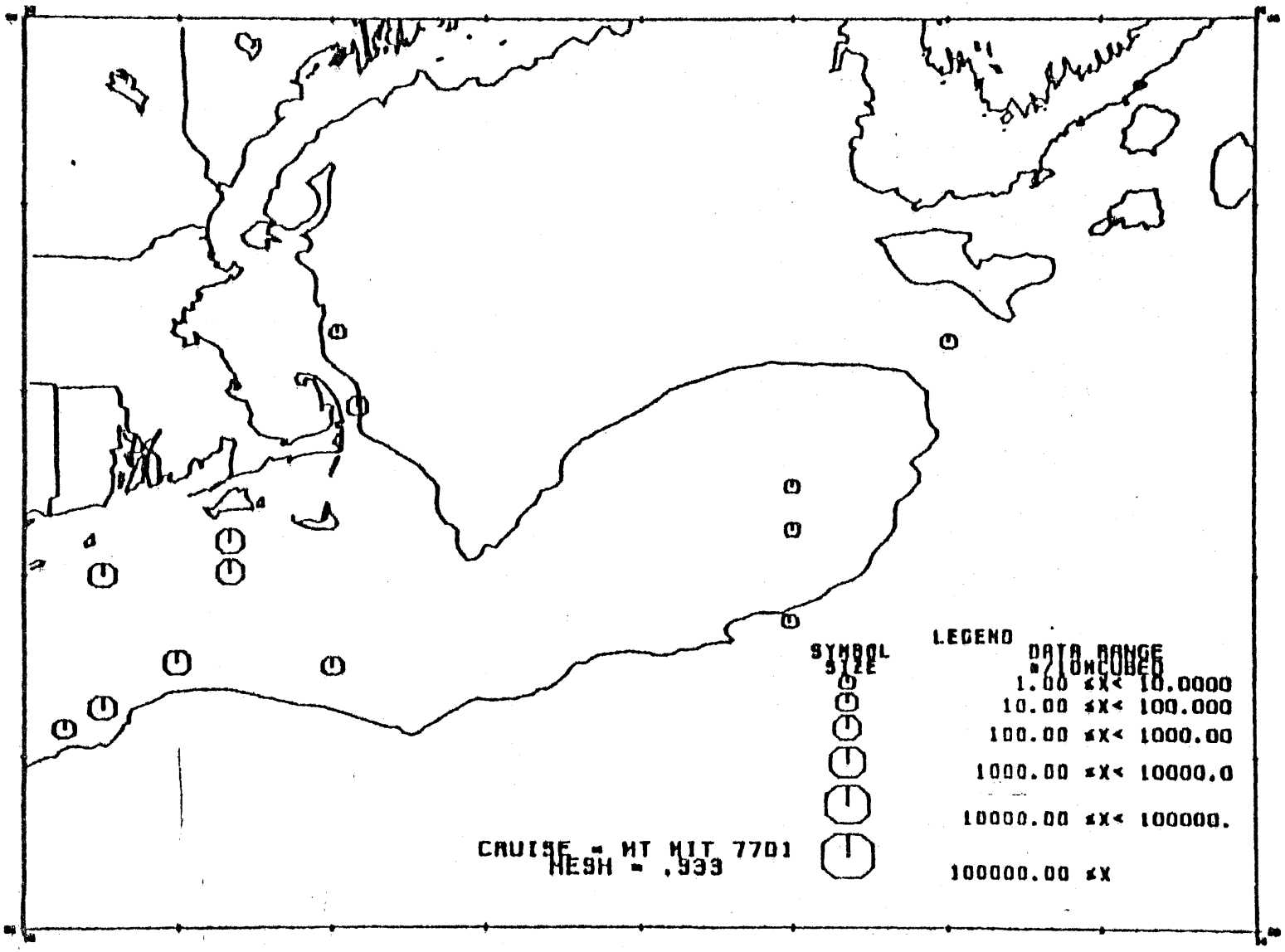

Figure 418

Centropages typicus

Copepodite Stage 5

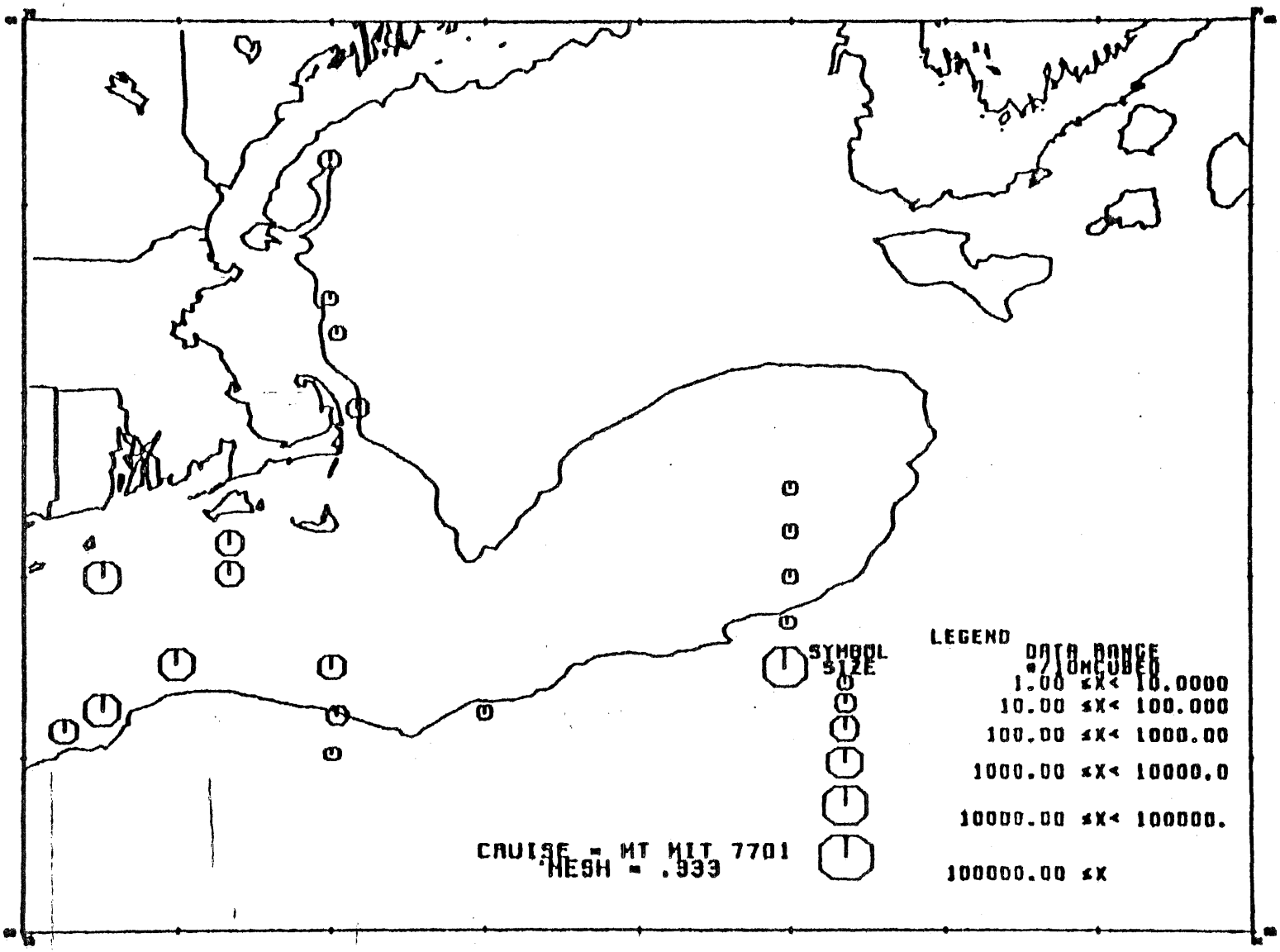

Figure 419

Centropages typicus

Copepodite

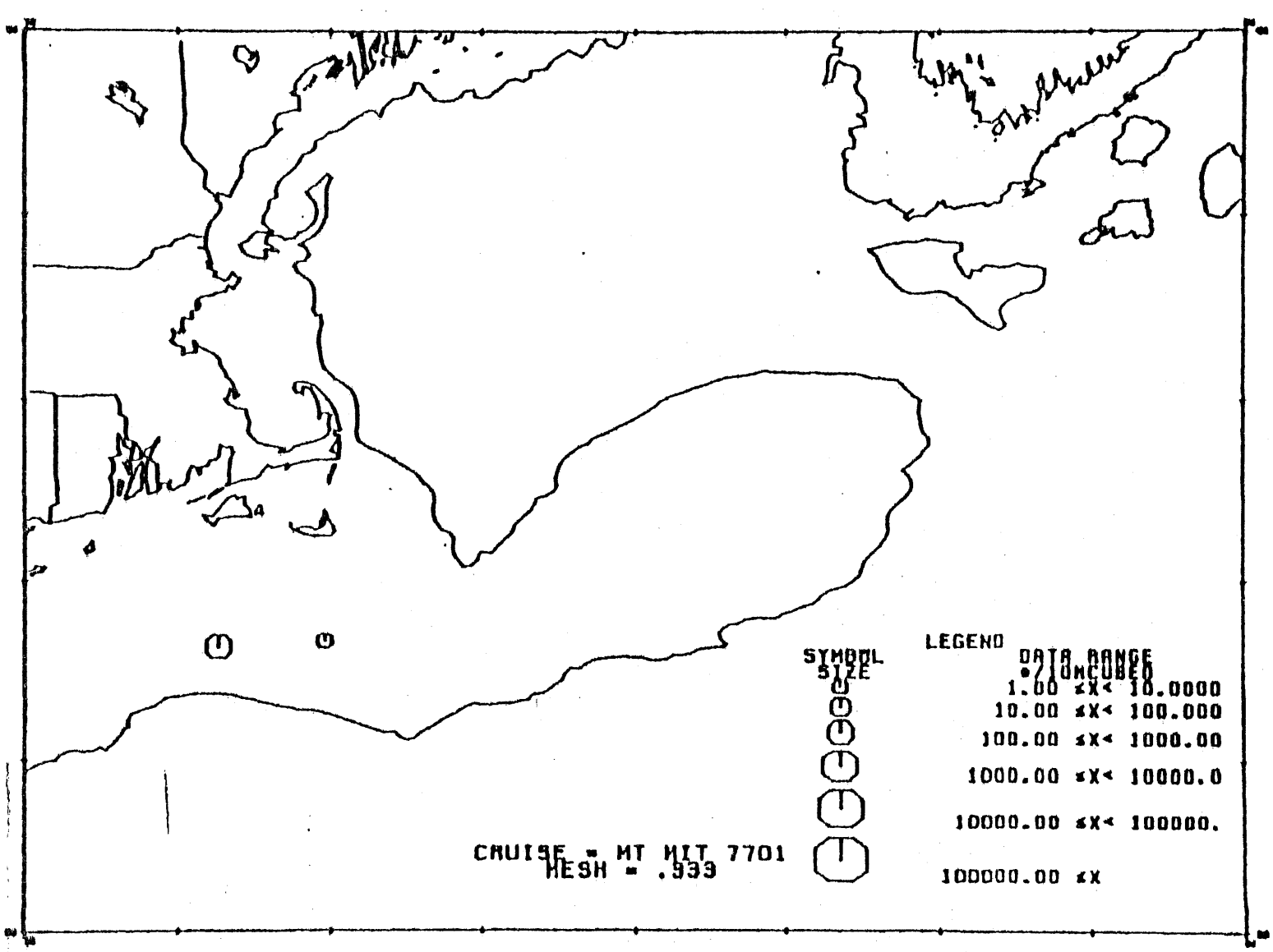

Figure 420

Centropages typicus

Adult

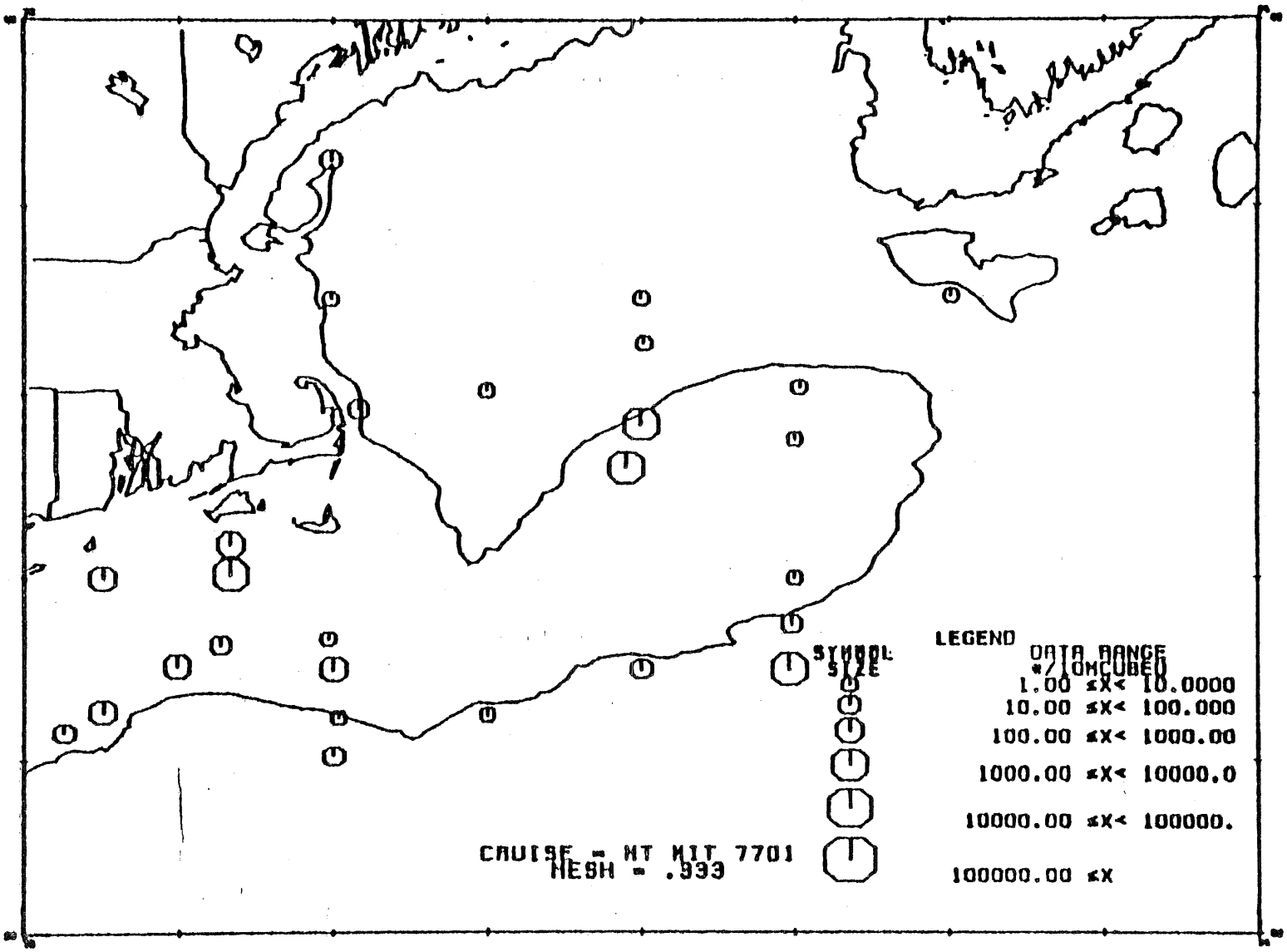

Figure 421

Centropages hamatus

Copepodite Stage 5

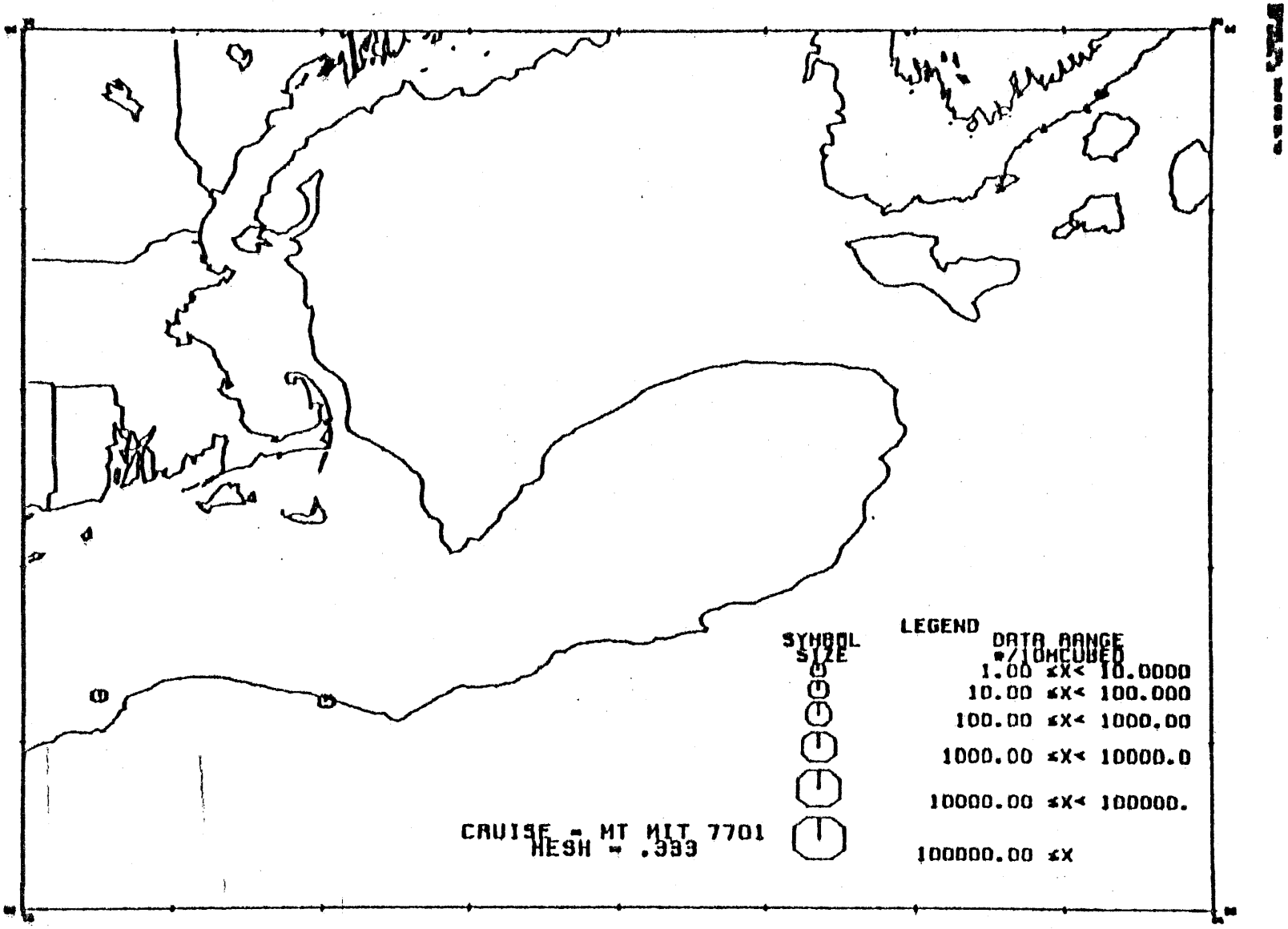

Figure 422

Centropages hamatus

Copepodite

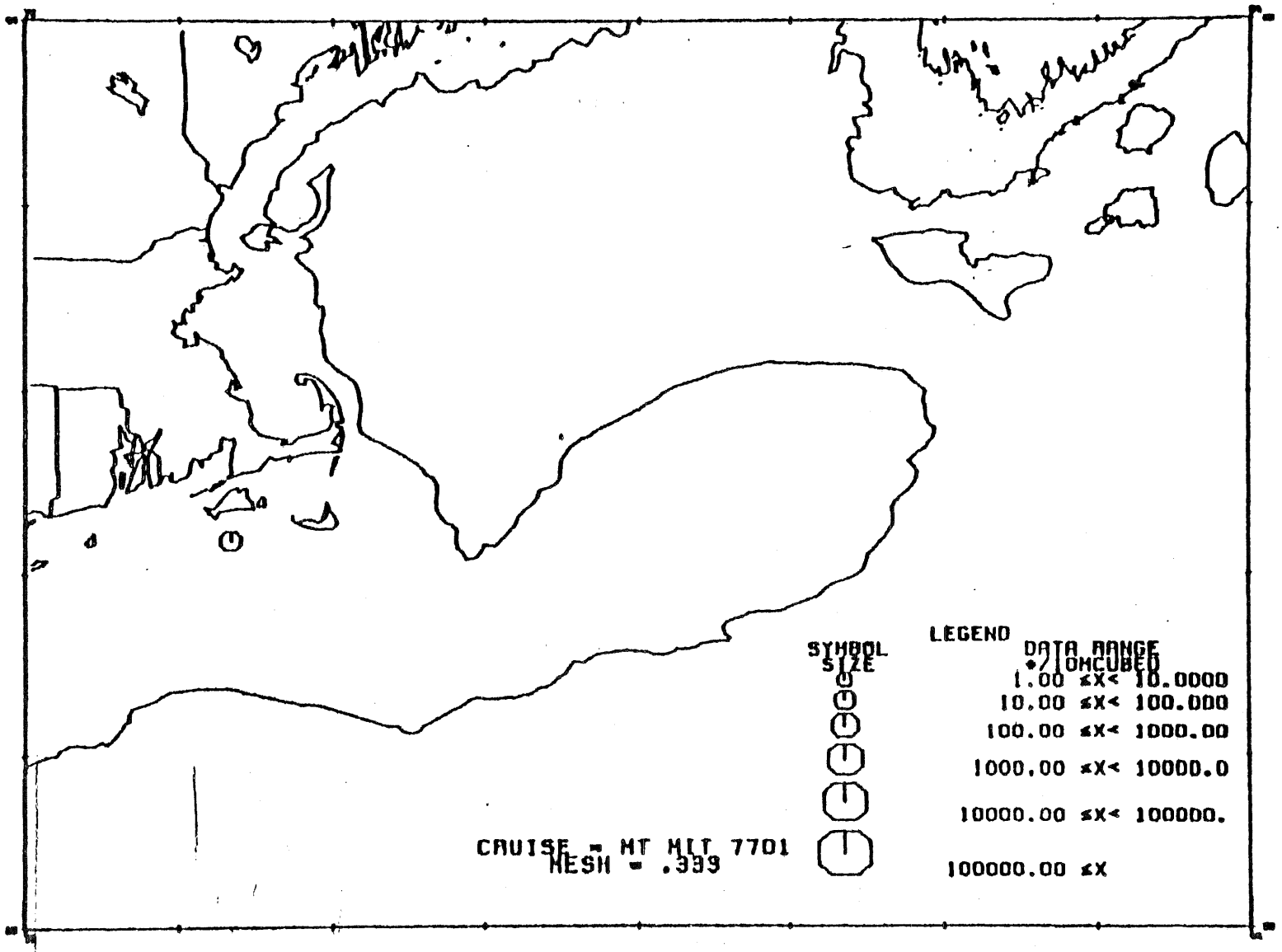

Figure 423

Centropages hamatus

Adult

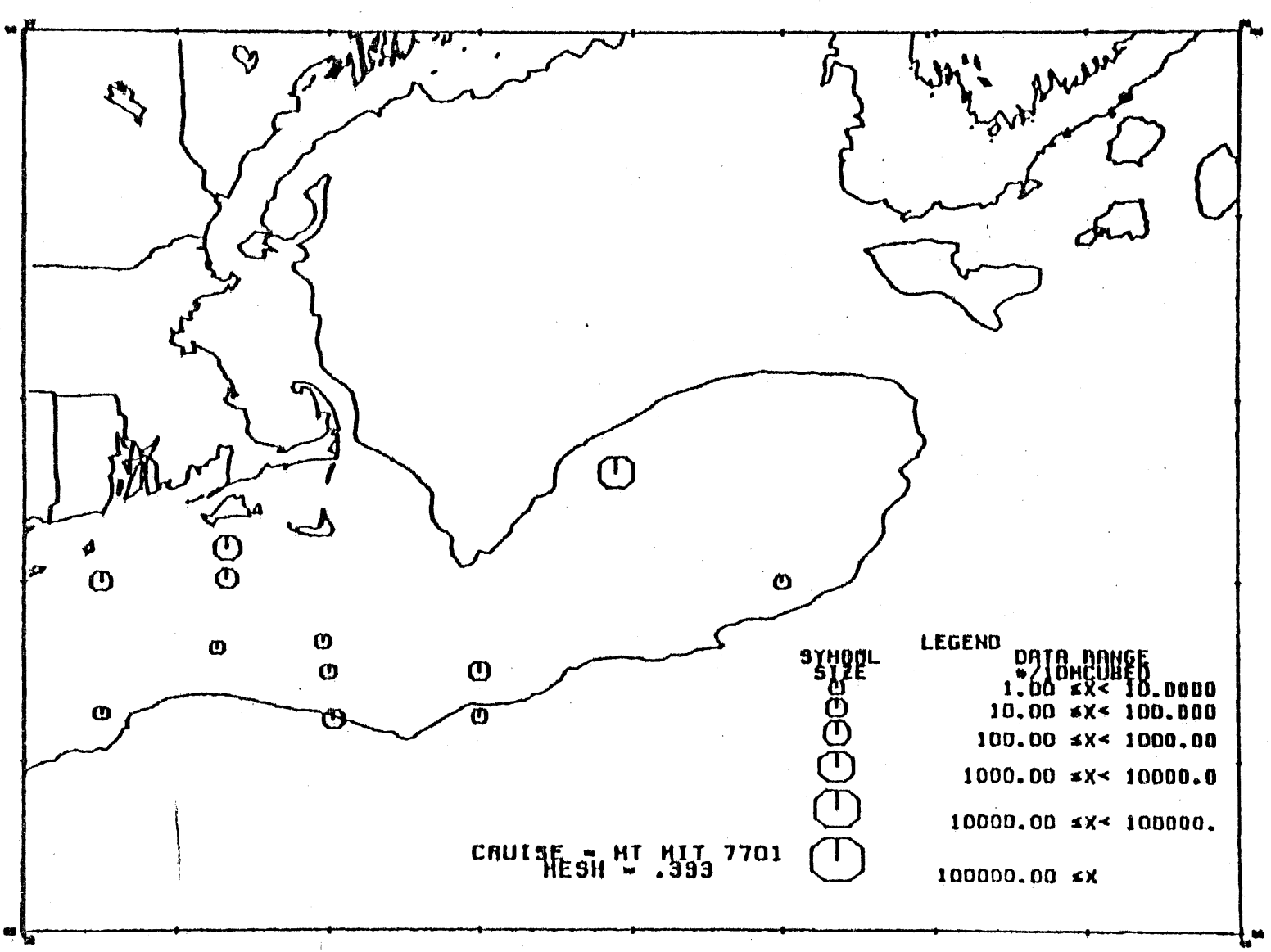

Figure 424

Calanus finmarchius

Copepodite Stage 1

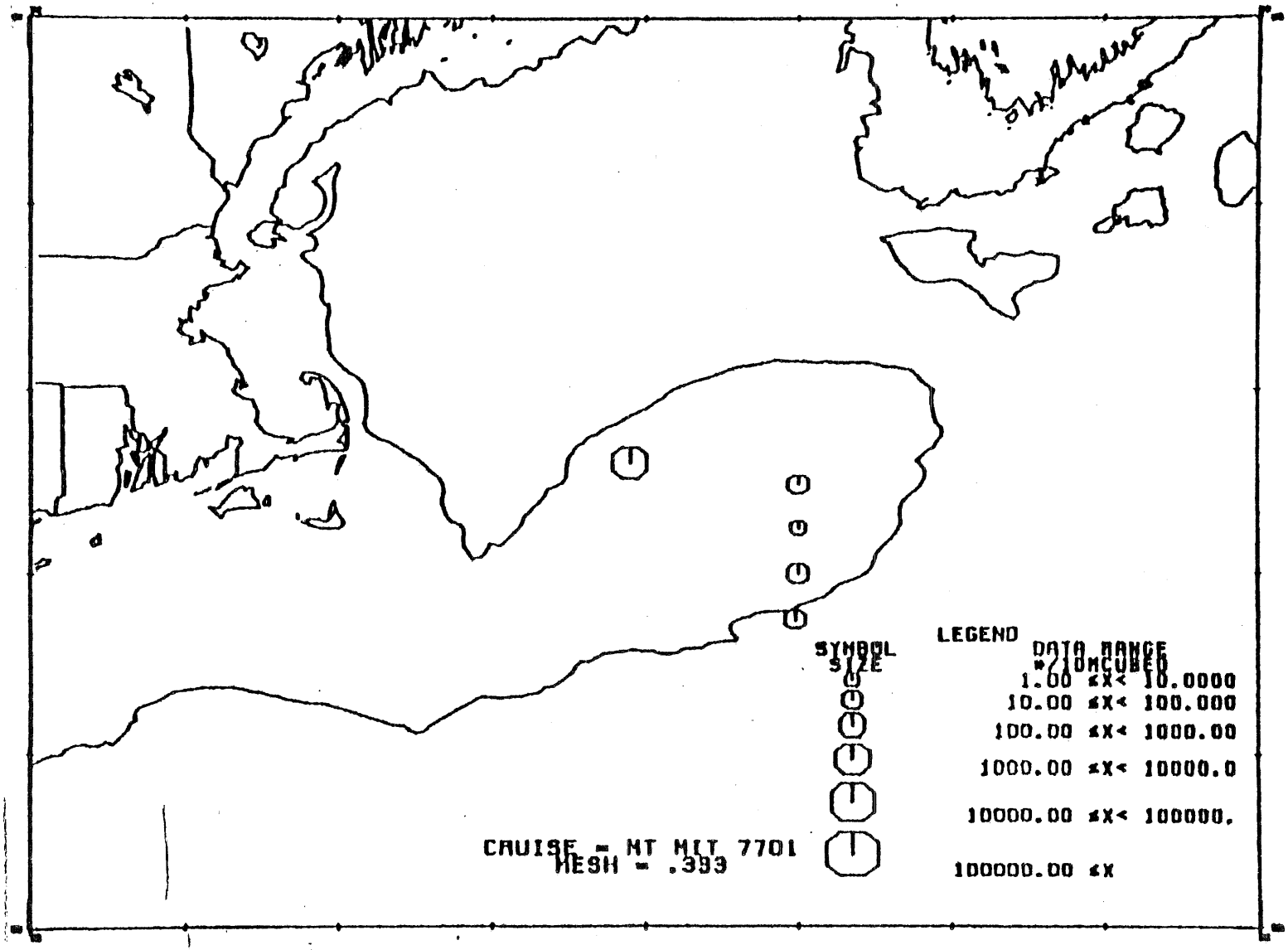

Figure 425

Calanus finmarchicus

Copepodite Stage 2

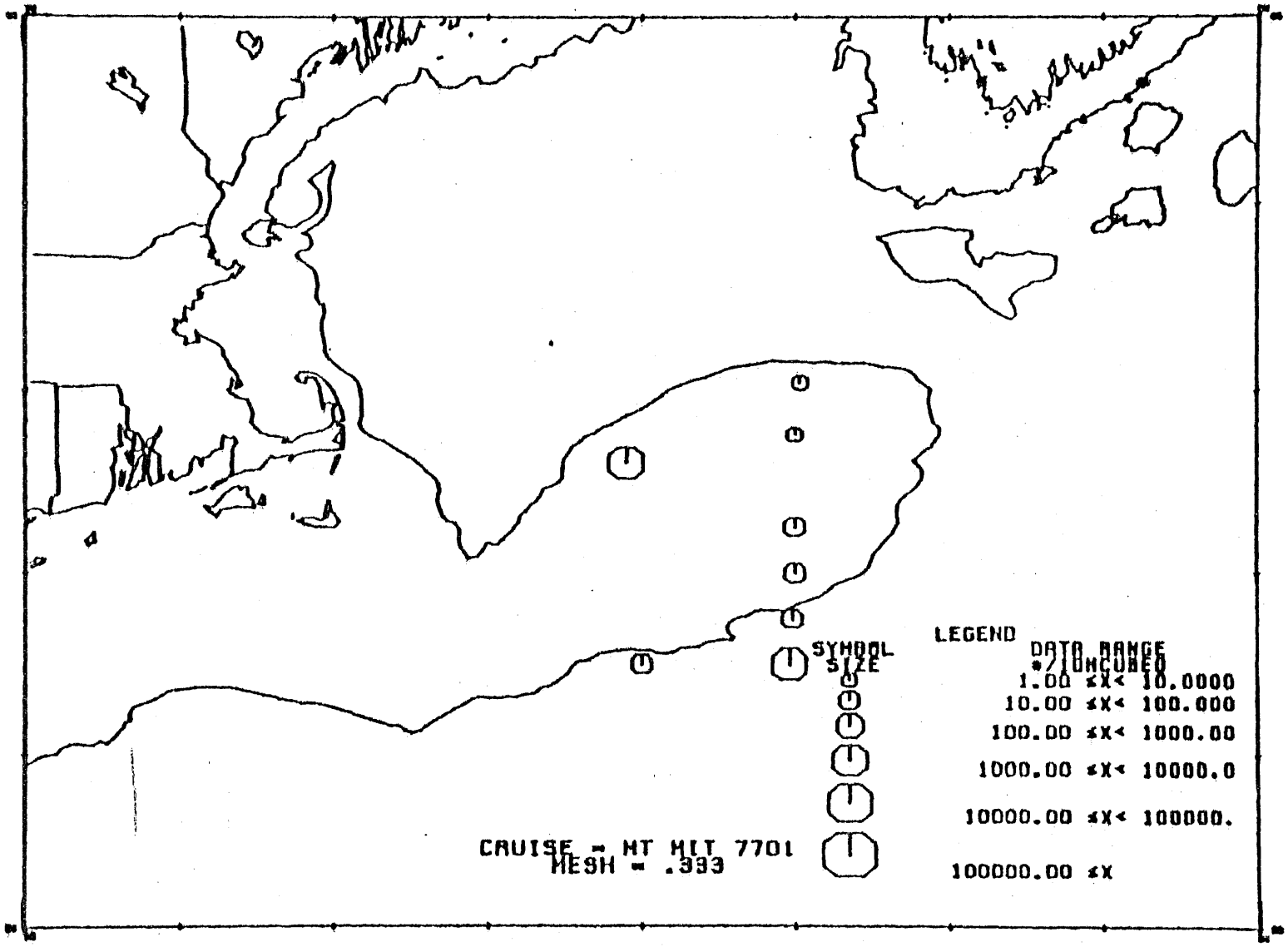

Figure 426

Calanus finmarchicus

Copepodite Stage 3

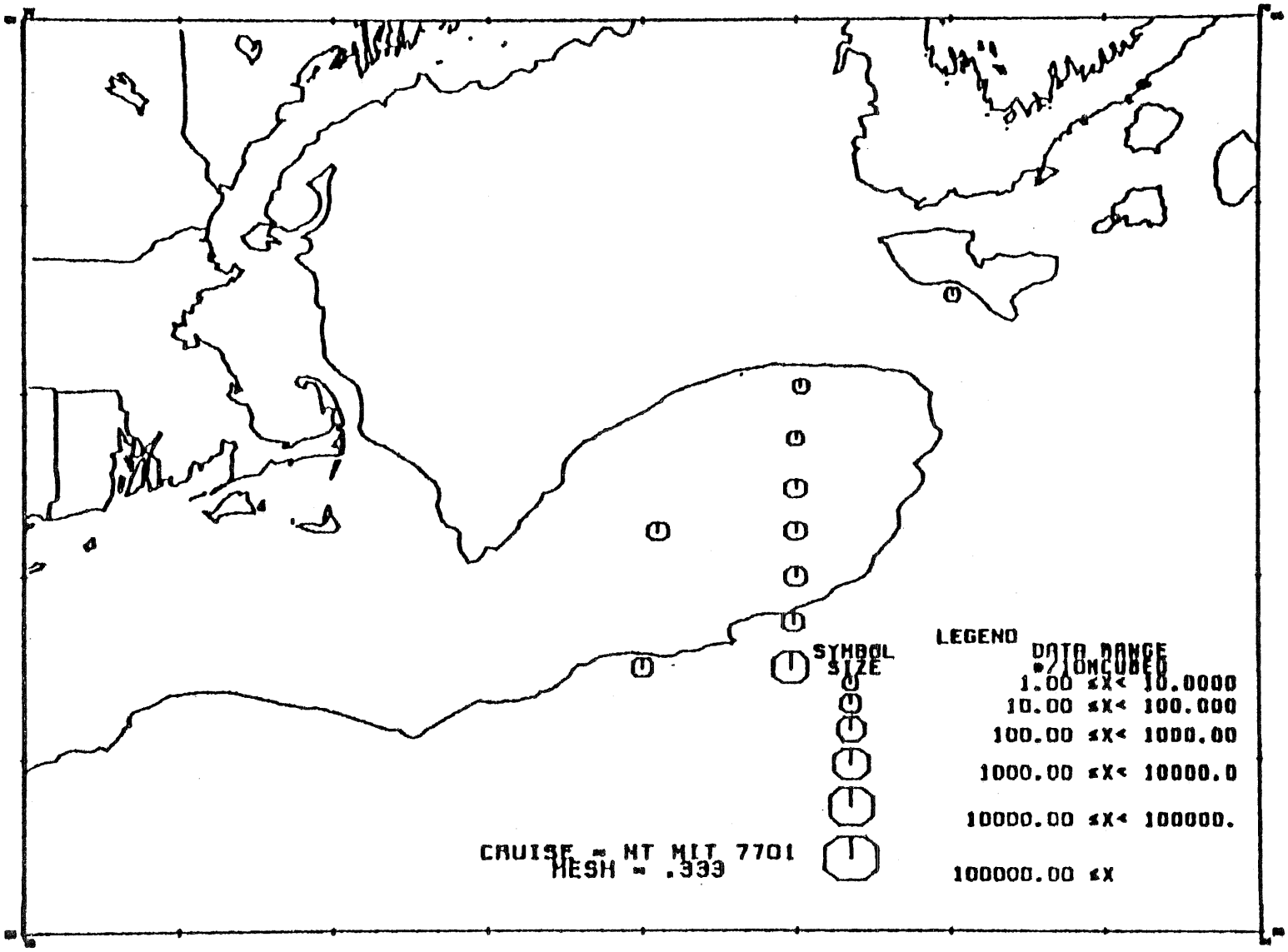

Figure 427

Calanus finmarchicus

Copepodite Stage 4

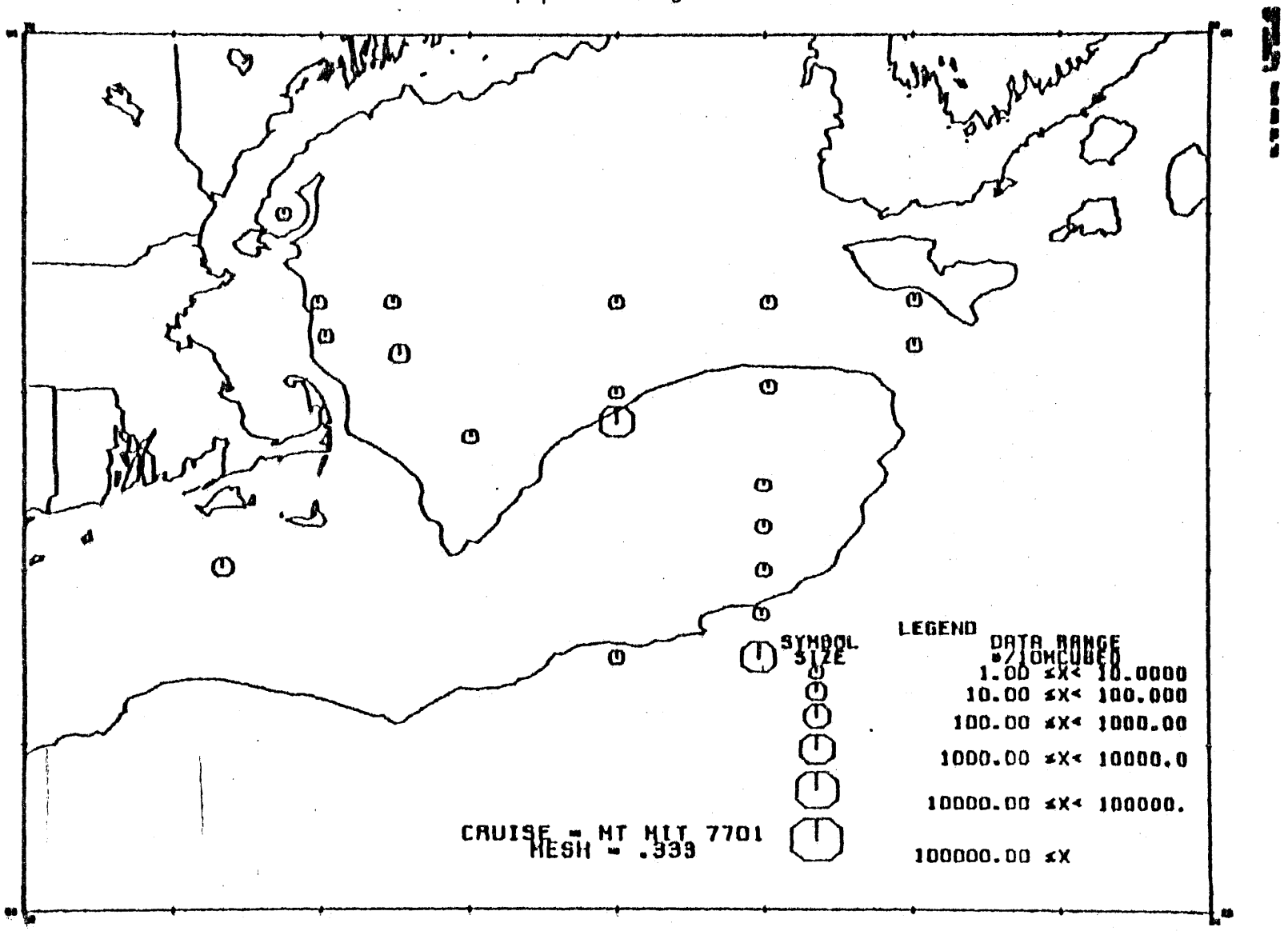

Figure 428

Calanus finmarchicus

Copepodite Stage 5

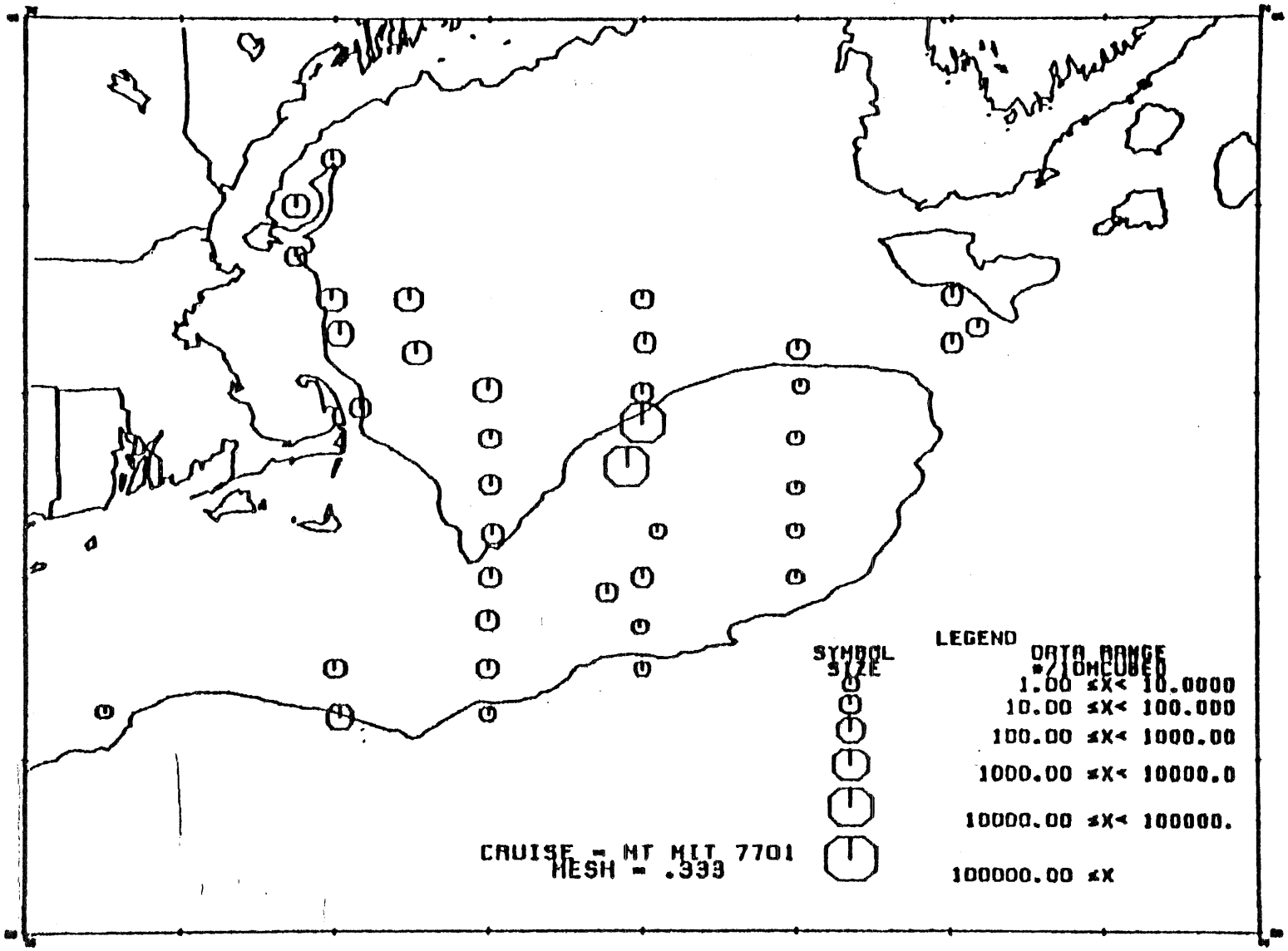

Figure 429

Calanus finmarchicus

Copepodite

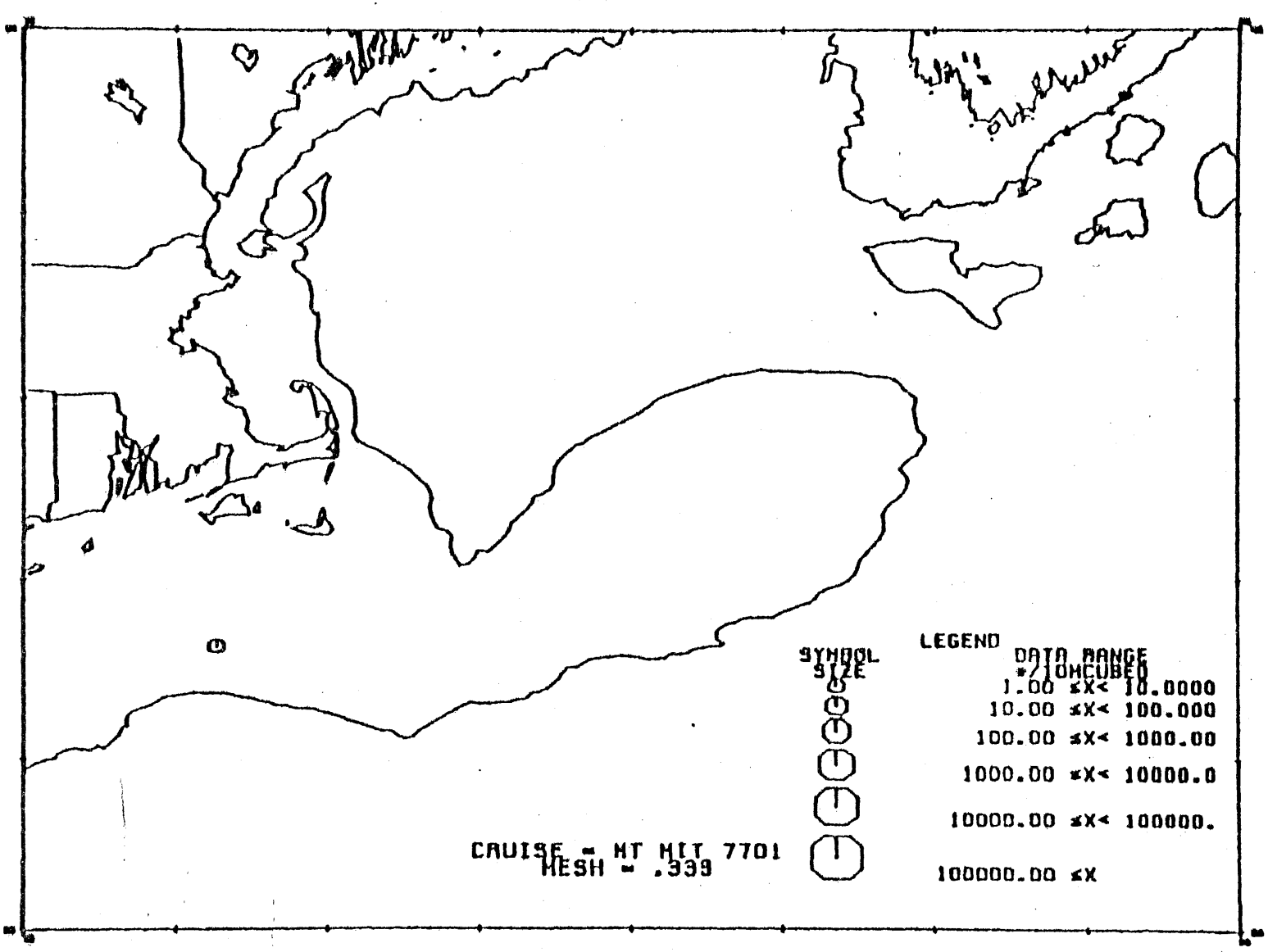

Figure 430

Calanus finmarchicus

Adult

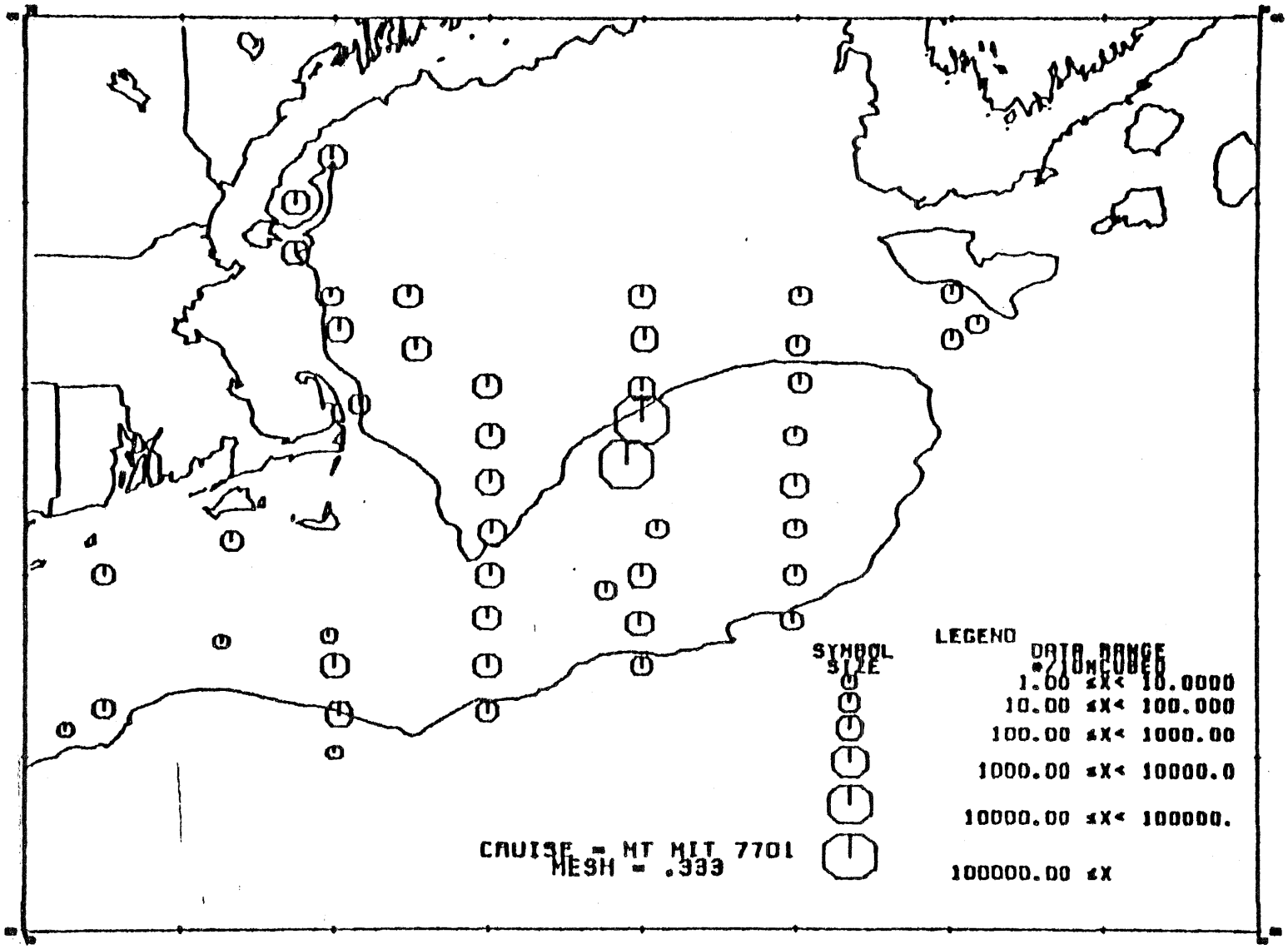

Figure 431

CHAETOGNATHA

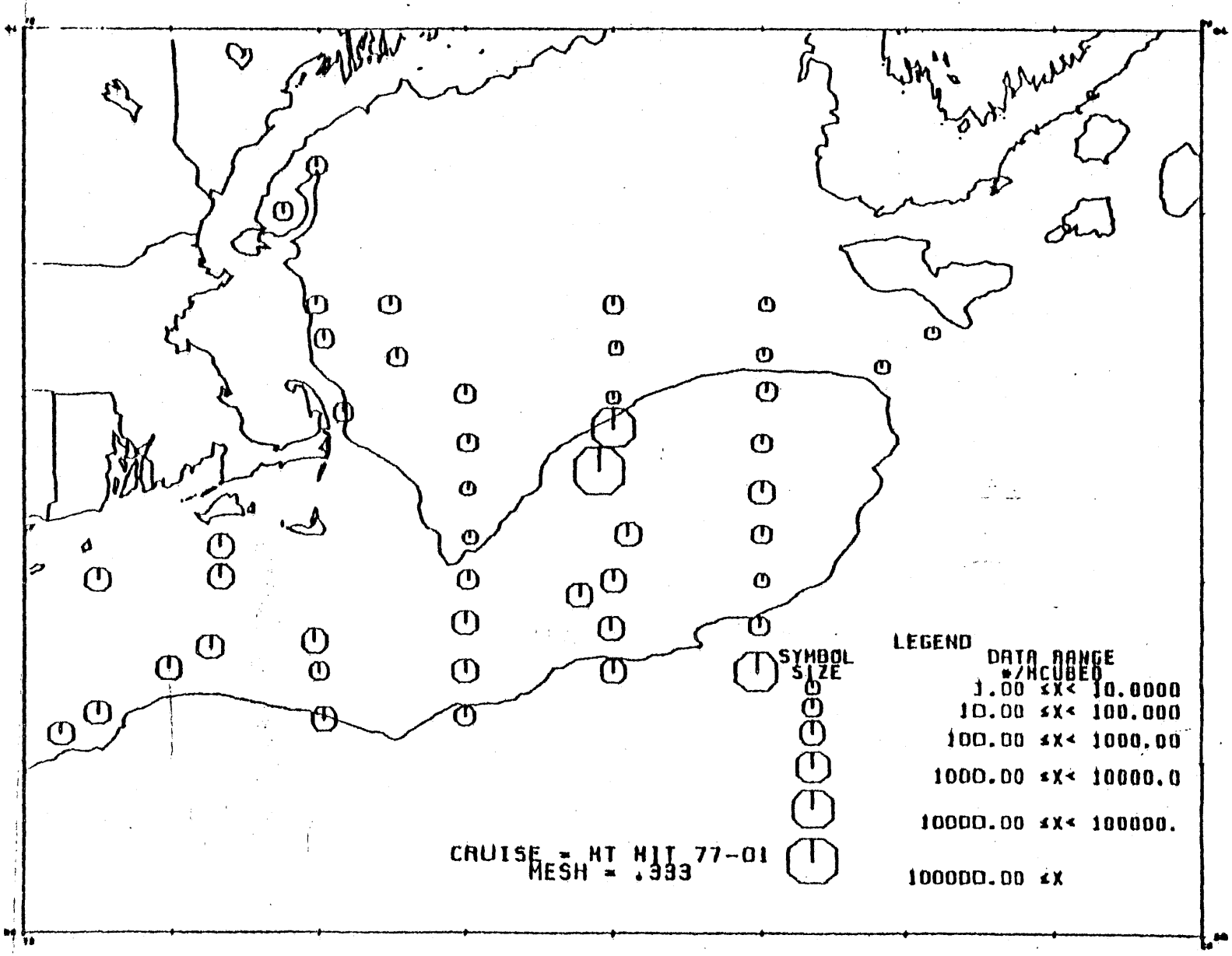

Figure 432

AMPHIPODA

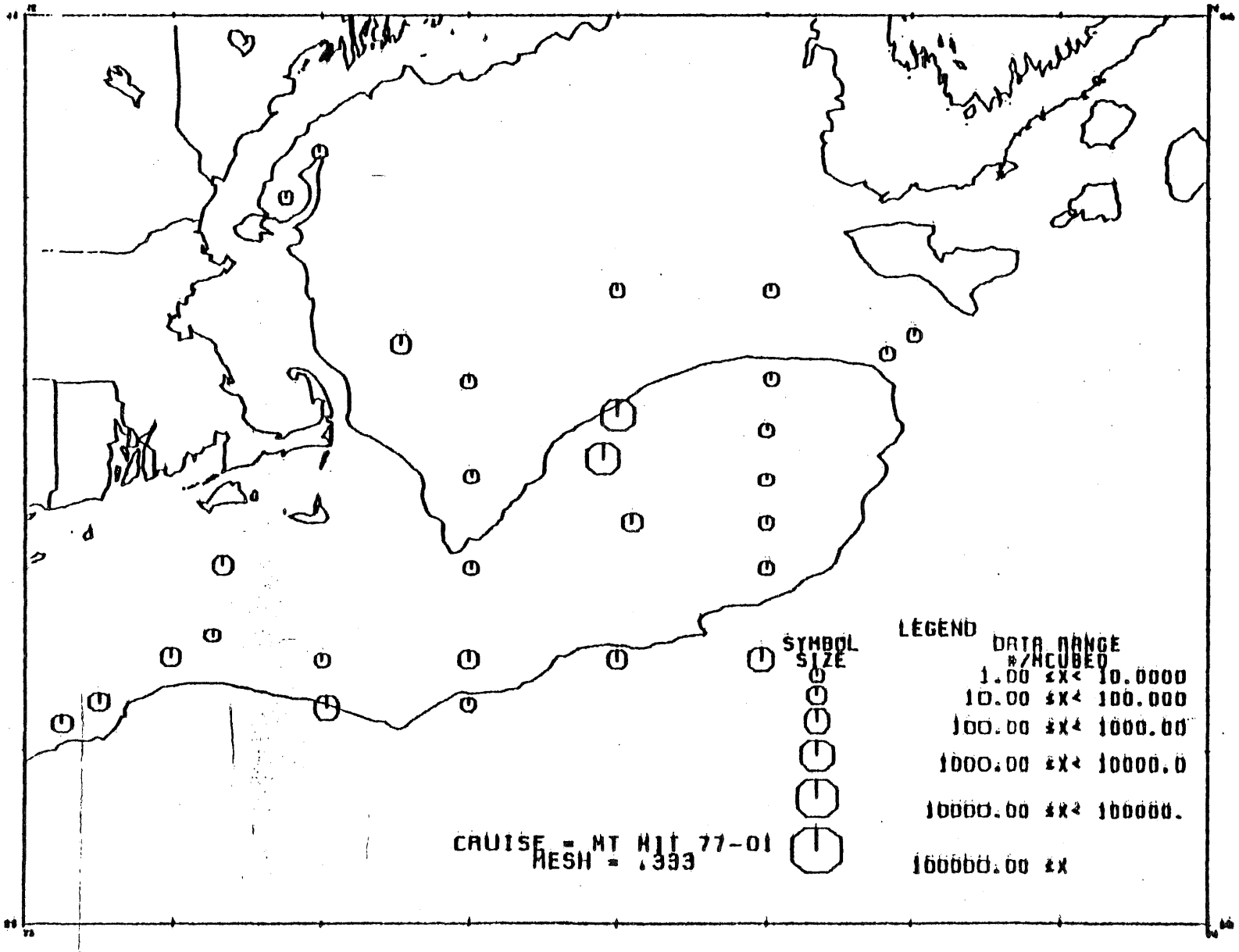

Figure 433

EUPHAUSIACEA

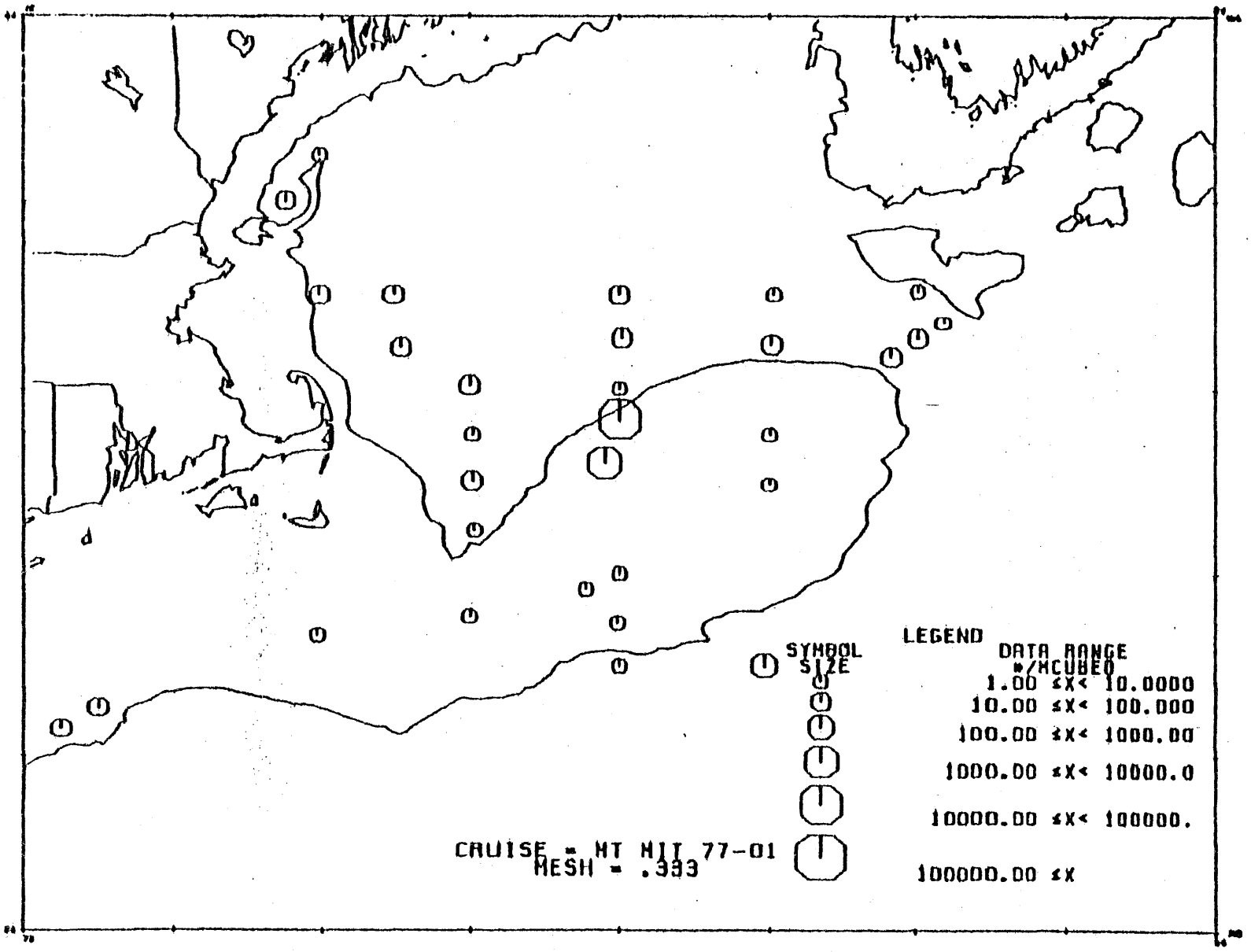

Figure 434

MYSIDACEA

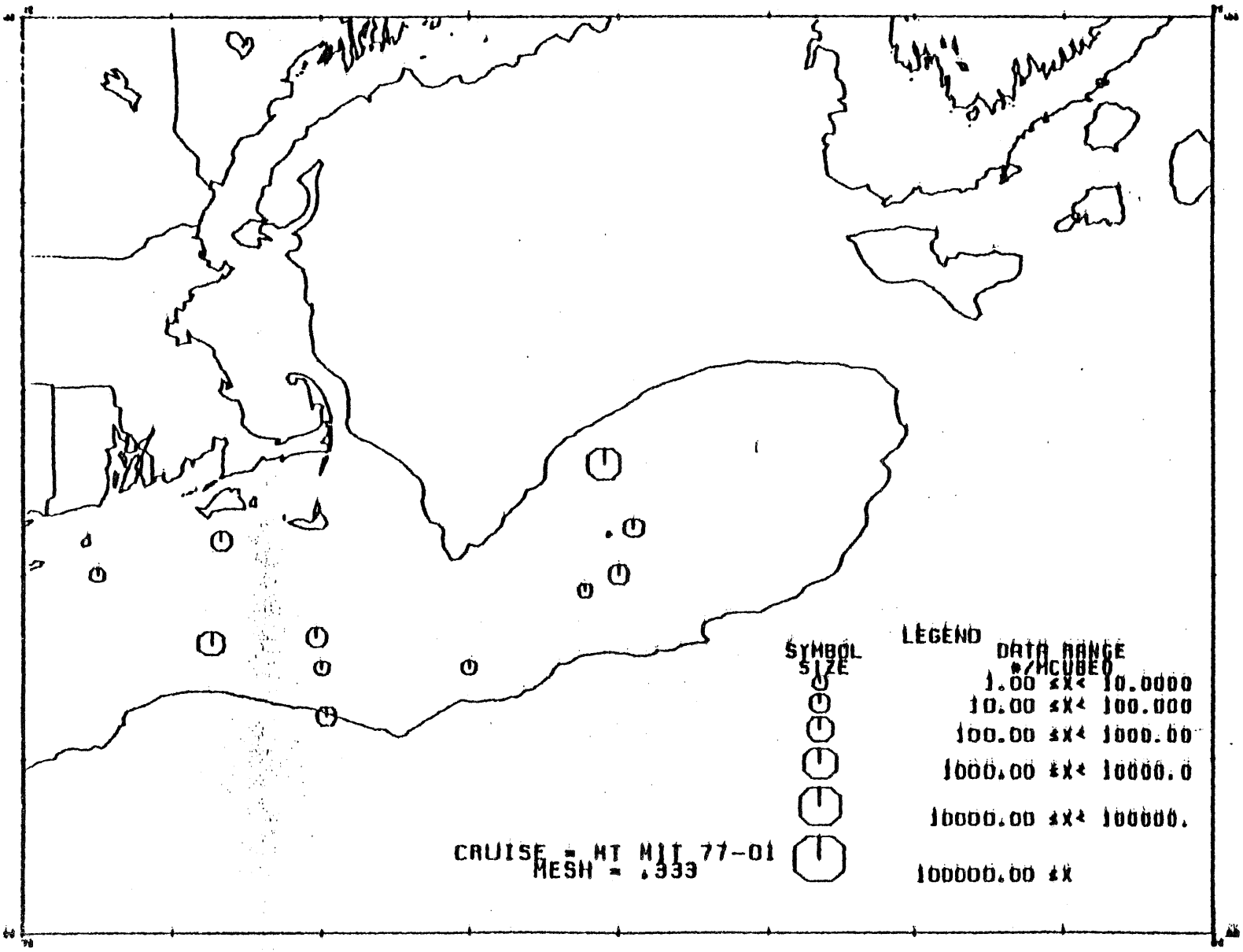

Figure 435