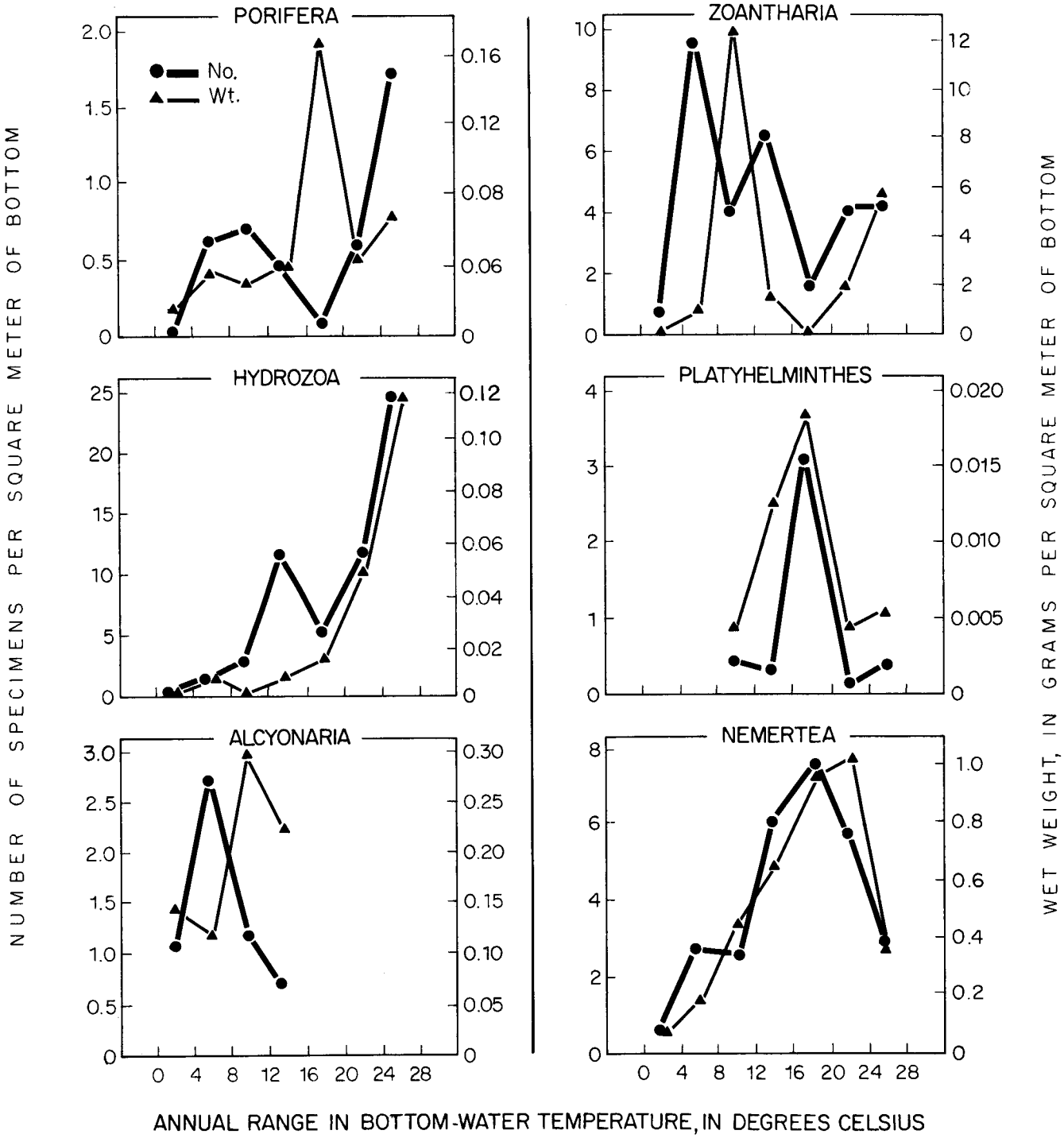

FIGURE 117.—Density (No.) and biomass (wt.) in relation to range in bottom-water temperature in the entire Middle Atlantic Bight region for Porifera, Hydrozoa, Alcyonaria, Zoantharia, Plathyhelminthes, and Nemertea.

classes. In New York Bight, their presence was detected in all classes except the 4.0°–7.9°C and the 24.0°+C classes. In Chesapeake Bight, they were present in all the broader range classes, but were absent in the two narrowest (0°–3.9° and 4.0°–7.9°C). Among the three subareas, mean densities

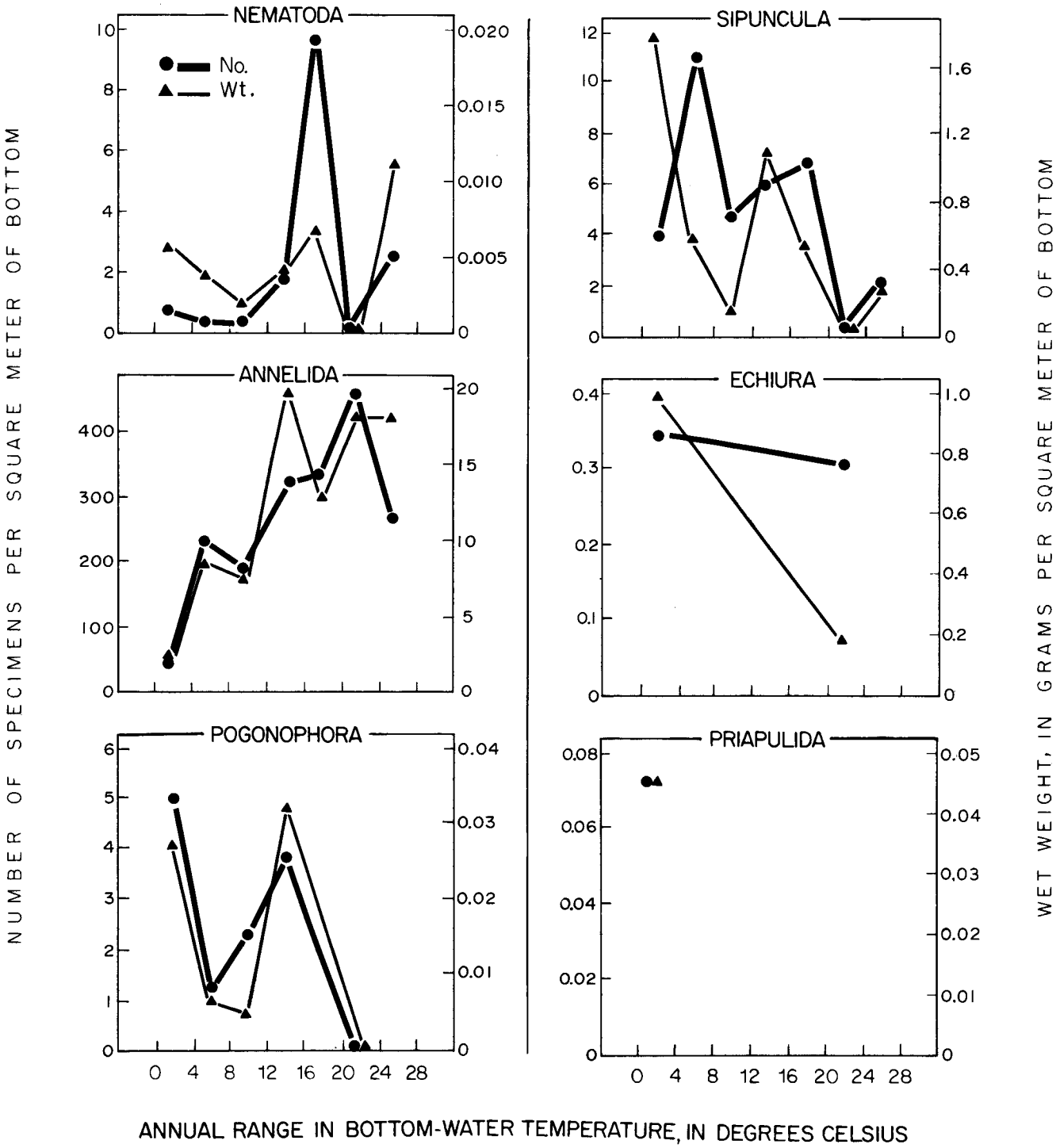

FIGURE 118.—Density (No.) and biomass (wt.) in relation to range in bottom-water temperature in the entire Middle Atlantic Bight region for Nematoda, Annelida, Pogonophora, Sipuncula, Echiura, and Priapulida.

were higher in Southern New England and Chesapeake Bight and somewhat lower in New York Bight. In Southern New England, the range of densities was from a low of 1.2/m² in the 12.0°–15.9°C class to a high of 153/m² in the broadest class, 24.0°+C. In New York Bight, the lowest density value (0.06/m²) was in the 0°–3.9° class and the highest (11/m²) was in the 20.0°–23.9°C class.

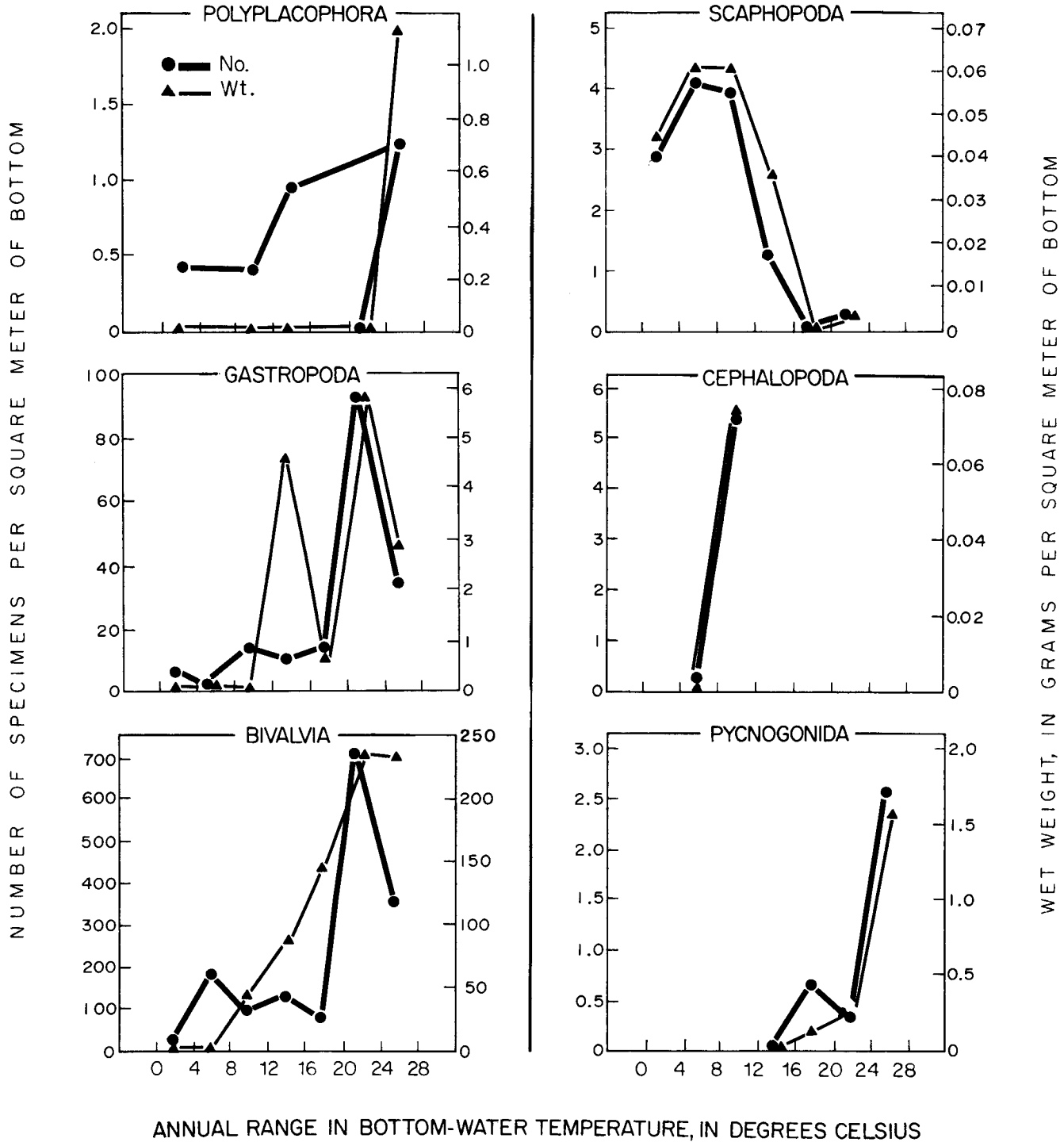

FIGURE 119.—Density (No.) and biomass (wt.) in relation to range in bottom-water temperature in the entire Middle Atlantic Bight region for Polyplacophora, Gastropoda, Bivalvia, Scaphopoda, Cephalopoda, and Pycnogonida.

Chesapeake Bight contained relatively high densities, ranging from a low of 3/m² in the broadest temperature range to a high of 123/m² at midrange. In both Southern New England and New York Bight, density values were highest in the broader ranges, whereas, in Chesapeake Bight, highest values were recorded in the midrange classes. Biomass values for hydroids paralleled density values in that they were

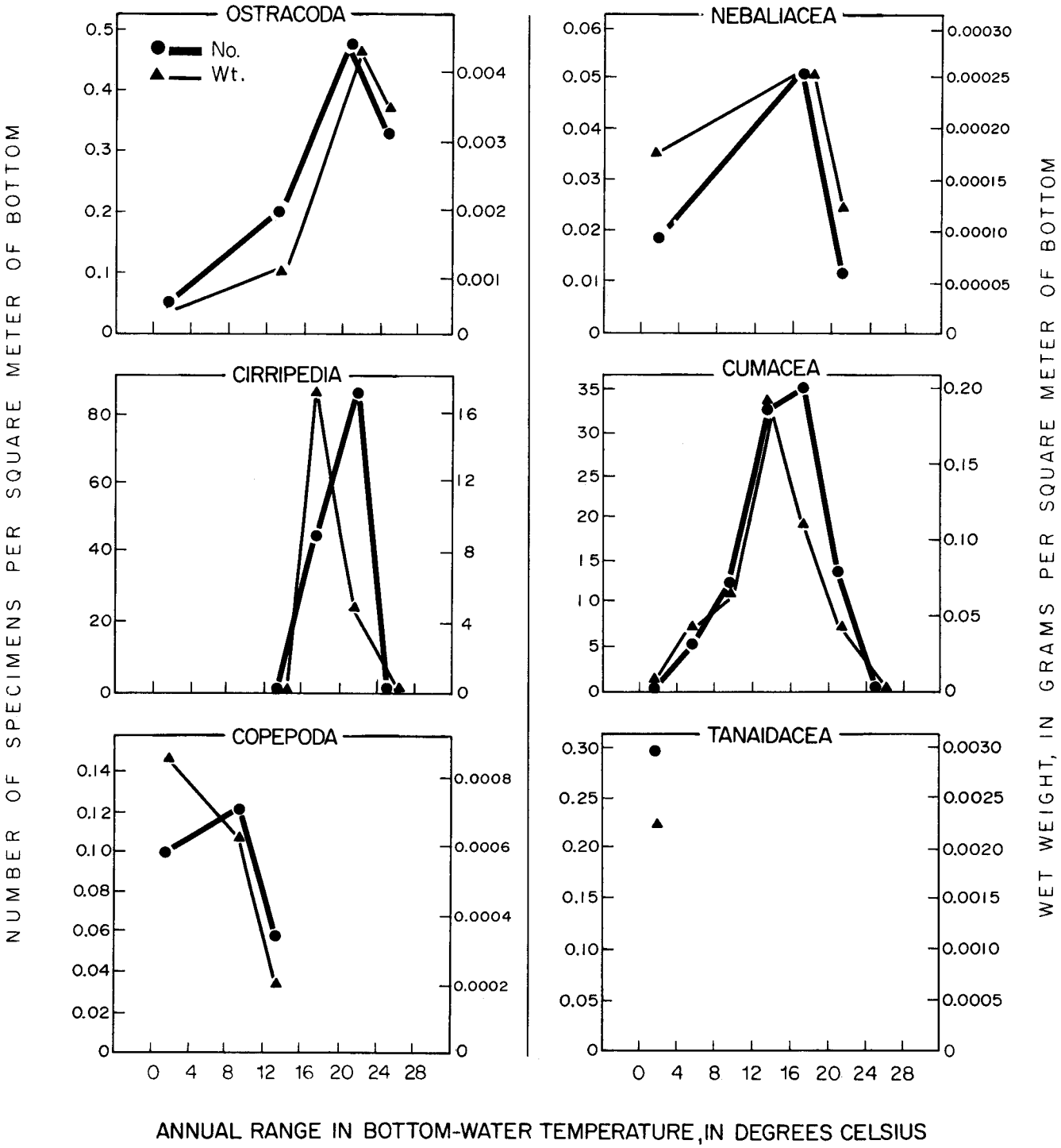

FIGURE 120.—Density (No.) and biomass (wt.) in relation to range in bottom-water temperature in the entire Middle Atlantic Bight region for Ostracoda, Cirripedia, Copepoda, Nebaliacea, Cumacea, and Tanaidacea.

higher in both Southern New England and Chesapeake Bight than in New York Bight. The mean biomass in Southern New England was smallest (0.1 g/m²) in the 12.0°–15.9°C class and largest (4.3 g/m²) in the broadest class. In New York Bight, biomass ranged from trace amounts in the 0°–3.9°C

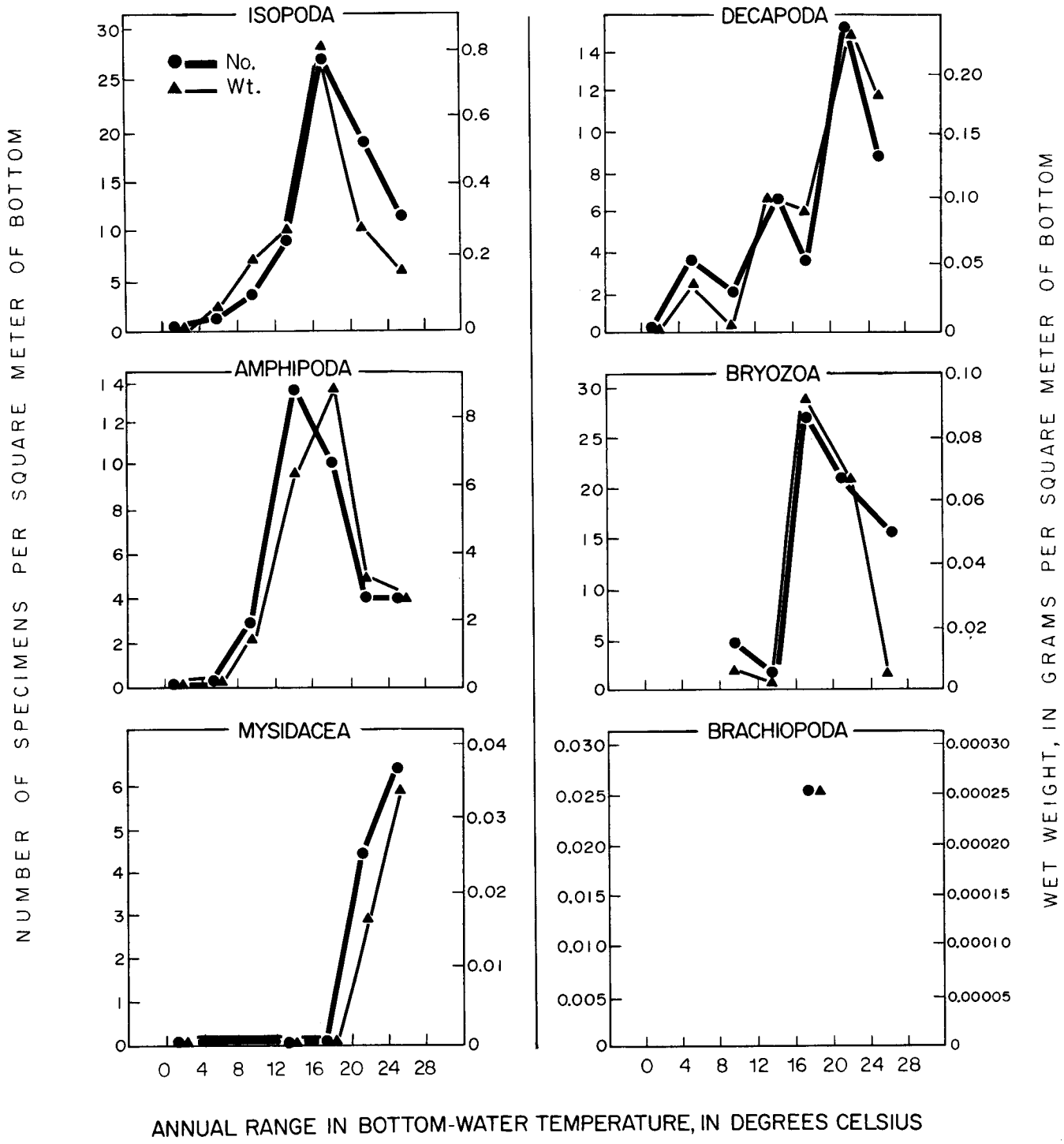

FIGURE 121.—Density (No.) and biomass (wt.) in relation to range in bottom-water temperature in the entire Middle Atlantic Bight region for Isopoda, Amphipoda, Mysidacea, Decapoda, Bryozoa, and Brachiopoda.

class to 0.2 g/m² in the 20.0°–23.9°C class. Chesapeake Bight biomass of hydroids generally increased as temperature range broadened, going from 0.04 g/m² in the 8.0°–11.9°C class to 0.57 g/m² in the 24.0°+C class.

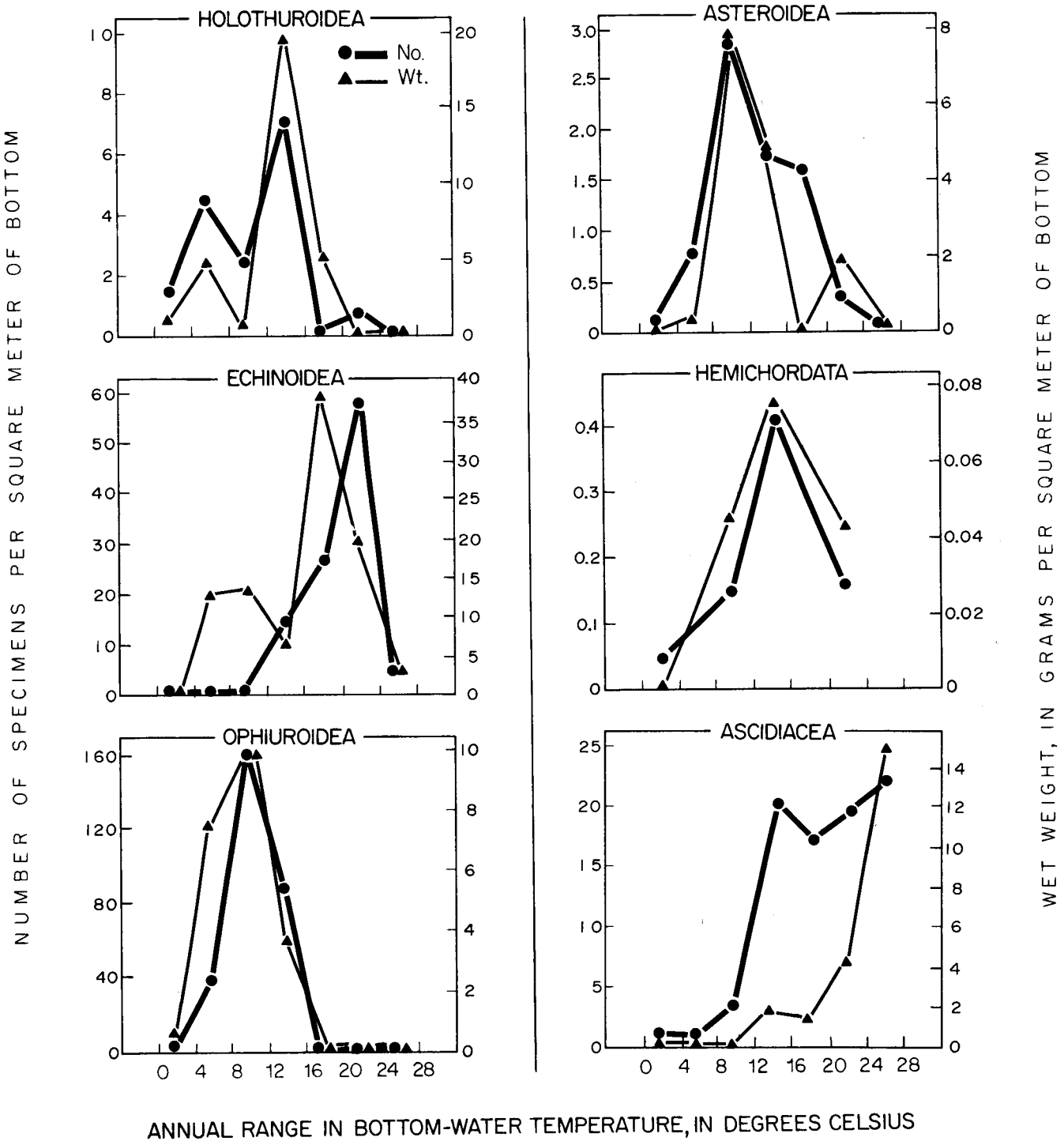

FIGURE 122.—Density (No.) and biomass (wt.) in relation to range in bottom-water temperature in the entire Middle Atlantic Bight region for Holothuroidea, Echinoidea, Ophiuroidea, Asteroidea, Hemichordata, and Ascidiacea.

Anthozoa were present in all temperature-range classes in both Southern New England and Chesapeake Bight subareas and in all but the 24.0° +C class in New York Bight. Densities were quite similar in both Chesapeake Bight and New York Bight, but were considerably higher in Southern New Eng-

land. The range of densities in Southern New England was from 1/m² in the 16.0°–19.9°C class to a high of 123/m² in the 24.0°+C class. Densities in New York Bight ranged from a low of 0.4/m² in the 12.0°–15.9°C class to a high of 9/m² in 4.0°–7.9°C. In Chesapeake Bight, the range of density was from 2/m² in the 12.0°–15.9°C class to 13/m² in the 24.0°+C class. Average biomass as well as density, was larger in Southern New England than in the other two subareas, ranging from a low of 0.07/m² in the 16.0°–19.9°C class to a high of 31 g/m² in the 8.0°–11.9°C class; intermediate values occurred in the other classes. In New York Bight, the smallest biomass (0.19 g/m²) was found in the 12.0°–15.9°C class and largest (4 g/m²) was in the 8.0°–11.9°C class. In Chesapeake Bight, the smallest biomass (0.9 g/m²) was in the 4.0°–7.9°C class and the highest, 7.2 g/m², in the broadest temperature range.

Alcyonacea were most prevalent in Southern New England, where they were found in four of the seven temperature classes. They were found in only three classes in New York Bight, and in only one class in Chesapeake Bight. Densities and biomasses of alcyonaceans were moderate to moderately low. Their density in Southern New England ranged from 0.7/m² in the 0°–3.9°C class to 2/m² in the 8.0°–11.9°C class; whereas, in New York Bight, slightly higher densities ranged from 0.9/m² in the 8.0°–11.9°C class to 7/m² in the 4.0°–7.9°C class. In Chesapeake Bight, alcyonaceans were found only in the 0°–3.9°C class, where their density was 0.8/m². The biomass was moderately low, ranging from 0.04 to 0.4 g/m² in all three subareas.

Zoantharia were found in all temperature-range classes in Southern New England, in all but the broadest class in the New York Bight, but were present in only three classes in the Chesapeake Bight (16.9°–19.9°, 20.0°–23.9°, and 24.0°+C). Highest densities were found in Southern New England, where the average density ranged from nearly 1/m² to 23/m²; whereas, in New York Bight, they ranged from 0.2/m² to 8/m². Chesapeake Bight contained the fewest number of individuals; densities ranged from 0.4/m² to 5/m². Biomass was parallel to density in that biomasses were largest in Southern New England, intermediate in New York Bight, and moderately low in Chesapeake Bight. In Southern New England, biomass values ranged from 0.05 to 30 g/m²; in New York Bight, from a low of 0.004 to a high of 3.4 g/m²; and in Chesapeake Bight, from 0.1 to 7 g/m². In Southern New England and New York Bight, the largest biomass was found in the mid-range class, 8.0°–11.9°C. However, in Chesapeake Bight, the zoantharians were restricted to the broader range classes.

The relationship between Platyhelminthes distribution and temperature range in each of the three subareas was slightly different. In Southern New England, they were found in three classes, from 12.0° to 23.9°C; in New York Bight, they were found in only two classes, 12.0°–15.9° and 20.0°–23.9°C; and in Chesapeake Bight, they were found in four classes, 8.0°–11.9°C and the three broader range classes from 16.0°–24.0°+C. Densities were low to moderate (0.04/m² to 8/m²); the densities were higher in both Southern New England and Chesapeake Bight than in New York Bight. Biomass in the three subareas was small (0.002 to 0.04 g/m²), and both Southern New England and Chesapeake Bight contained larger biomasses than those in New York Bight.

Nemertea were found in all temperature ranges in each of the subareas of the Middle Atlantic Bight region. Densities of these organisms were generally higher in Southern New England than in the other two subareas; although, among the various temperature ranges in all areas, the distribution of density values was fairly equitable. Biomass values were comparatively low in all three subareas. Biomass was largest in Southern New England, intermediate in New York Bight, and smallest in Chesapeake Bight. Biomass ranged from 0.05 g/m² to 1.4 g/m² in Southern New England, from 0.003 g/m² to 1.8 g/m² in New York Bight, and from 0.07 g/m² to 0.6 g/m² in Chesapeake Bight. Generally, biomass was slightly larger in the broader range classes than in the narrower ones in each of the subareas.

Nematoda were most widely distributed in Southern New England and Chesapeake Bight, where they were found in all temperature ranges except one; in Southern New England, they were absent in the 20°+C class; and in Chesapeake Bight, they were absent in the 8.0°–11.9°C class. In New York Bight, they were found in only four of the classes: 0°–3.9°C, 8.0°–11.9°C, 12.0°–15.9°C, and 16.0°–19.9°C. Densities of nematodes were greatest in Southern New England (0.2/m² to 27/m²), intermediate in Chesapeake Bight (0.3/m² to 3.7/m²), and lowest in New York Bight (0.05/m² to 0.5/m²). The contribution of nematodes to biomass is quite small. Biomass in Southern New England ranged from 0.002 to 0.02 g/m²; in New York Bight, from trace amounts to

TABLE 40.—*Mean number of individuals of each taxonomic group listed by temperature-range class, representing the Southern New England subarea*

[In number per square meter]

Taxonomic group	Range in bottom water temperature (°C)						
	0°-3.9°	4.0°-7.9°	8.0°-11.9°	12.0°-15.9°	16.0°-19.9°	20.0°-23.9°	24.0°+
	No./m²	No./m²	No./m²	No./m²	No./m²	No./m²	No./m²
PORIFERA	0.13	1.57	1.67	-	0.36	0.57	7.50
COELENTERATA	3.12	29.86	14.00	16.88	5.03	40.28	275.80
Hydrozoa	-	4.71	-	1.17	3.90	34.21	152.70
Anthozoa	3.12	25.14	14.00	15.71	1.13	6.07	123.10
Alcyonacea	0.66	1.57	2.17	1.52	-	-	-
Zoantharia	0.91	22.86	10.83	12.75	0.94	5.00	1.00
Unidentified	1.54	0.71	1.00	1.44	0.19	1.07	122.10
PLATYHELMINTHES	-	-	-	0.54	7.64	0.21	-
Turbellaria	-	-	-	0.54	7.64	0.21	-
NEMERTEA	1.06	3.00	5.00	9.00	14.00	2.04	2.60
ASCHELMINTHES	1.46	0.71	0.92	3.94	26.90	0.18	-
Nematoda	1.46	0.71	0.92	3.94	26.90	0.18	-
ANNELIDA	84.76	384.29	314.92	413.15	668.90	223.86	511.30
POGONOPHORA	5.15	-	-	-	-	-	-
SIPUNCULIDA	6.46	21.00	8.83	7.94	18.19	1.89	15.20
ECHIURA	0.35	-	-	-	-	-	-
PRIAPULIDA	0.13	-	-	-	-	-	-
MOLLUSCA	45.17	133.14	143.33	204.38	121.29	544.61	165.70
Polyplacophora	0.24	-	0.50	1.92	-	0.21	7.50
Gastropoda	5.70	1.43	2.17	15.50	30.94	174.36	44.80
Bivalvia	37.11	127.14	123.42	184.92	90.36	369.50	113.40
Scaphopoda	2.13	3.86	2.33	-	-	0.54	-
Cephalopoda	-	0.71	14.92	-	-	-	-
Unidentified	-	-	-	2.04	-	-	-
ARTHROPODA	11.20	95.28	93.50	1910.58	2226.74	1476.25	1221.90
Pycnogonida	-	-	-	0.23	1.19	-	4.30
Arachnida	-	-	-	-	-	-	-
Crustacea	11.20	95.28	93.50	1910.34	2225.55	1476.25	1217.60
Ostracoda	-	-	-	0.40	-	0.64	2.10
Cirripedia	-	-	-	0.38	115.74	7.04	2.10
Copepoda	0.24	-	-	0.12	-	-	-
Nebaliacea	-	-	-	-	-	-	-
Cumacea	1.50	1.71	3.08	42.86	83.71	15.79	1.00
Tanaidacea	0.46	-	-	-	-	-	-
Isopoda	0.74	1.57	1.50	7.36	34.90	9.07	3.30
Amphipoda	8.06	92.00	88.08	1855.94	1986.68	1405.75	1192.80
Mysidacea	-	-	-	-	-	4.96	1.10
Decapoda	0.20	-	0.83	3.27	4.52	33.00	15.20
BRYOZOA	-	-	0.42	0.21	65.03	68.32	97.90
BRACHIOPODA	-	-	-	-	-	-	-
ECHINODERMATA	7.59	92.28	358.58	195.56	31.22	9.78	3.30
Holothuroidea	2.43	5.29	4.25	12.12	0.16	2.21	0.20
Echinoidea	0.17	1.57	2.25	15.21	27.00	6.46	-
Ophiuroidea	4.85	84.57	349.00	165.15	0.16	1.00	2.70
Asteroidea	0.13	0.86	3.08	3.08	3.90	0.11	0.40
HEMICHORDATA	0.11	-	0.42	0.79	-	-	-
CHORDATA	1.52	2.29	10.75	26.23	35.64	104.89	35.50
Ascidiacea	1.52	2.29	10.75	26.23	35.64	104.89	35.50
UNIDENTIFIED	5.83	5.29	7.33	8.14	13.87	2.00	14.00

only 0.003 g/m²; and in Chesapeake Bight, from trace amounts to 0.01 g/m².

Annelida were found in all temperature classes in each of the subareas of the Middle Atlantic Bight region and were major contribtuors in both density and biomass of the overall macrobenthic fauna. Overall densities diminished slightly in a southerly direction through the subareas. Also, in the three subareas, slightly greater densities were found in the broader temperature-range groupings than in the narrower ones. Density values in Southern New England ranged from 85/m² in the narrowest class to 669/m² in the 16.0°–19.9°C class. In the other classes, the average density ranged from greater than 200/m² to slightly more than 500/m². In the New York Bight, lowest density was in the 0°–3.9°C

TABLE 41.—*Mean number of individuals of each taxonomic group listed by temperature-range class, representing the New York Bight subarea*

[In number per square meter]

Taxonomic group	Range in bottom water temperature (°C)						
	0°-3.9°	4.0°-7.9°	8.0°-11.9°	12.0°-15.9°	16.0°-19.9°	20.0°-23.9°	24.0°+
	No./m²	No./m²	No./m²	No./m²	No./m²	No./m²	No./m²
PORIFERA	-	-	0.25	1.17	-	0.67	3.00
COELENTERATA	4.64	9.00	4.75	4.64	5.06	19.35	-
Hydrozoa	0.06	-	1.88	4.24	1.50	10.94	-
Anthozoa	4.58	9.00	2.88	0.40	3.56	8.40	-
Alcyonacea	1.83	7.00	0.94	-	-	-	-
Zoantharia	1.44	0.40	0.50	0.24	3.31	7.77	-
Unidentified	1.31	1.60	1.44	0.17	0.25	0.64	-
PLATYHELMINTHES	-	-	-	0.24	-	0.04	-
Turbellaria	-	-	-	0.24	-	0.04	-
NEMERTEA	0.17	2.00	1.25	3.52	3.78	3.43	3.25
ASCHELMINTHES	0.47	-	0.25	0.05	0.06	-	-
Nematoda	0.47	-	0.25	0.05	0.06	-	-
ANNELIDA	40.33	196.60	102.00	277.40	147.06	961.90	700.00
POGONOPHORA	4.39	-	-	-	-	-	-
SIPUNCULIDA	2.64	7.40	3.44	4.45	-	-	-
ECHIURA	0.28	-	-	-	-	0.46	-
PRIAPULIDA	-	-	-	-	-	-	-
MOLLUSCA	56.33	37.40	109.56	54.62	87.75	585.33	360.75
Polyplacophora	0.17	-	0.38	-	-	-	-
Gastropoda	10.58	1.20	25.56	5.86	3.38	56.56	6.25
Bivalvia	40.94	33.00	77.88	48.21	84.38	528.77	354.50
Scaphopoda	4.64	3.20	5.75	0.55	-	-	-
Cephalopoda	-	-	-	-	-	-	-
Unidentified	-	-	-	-	-	-	-
ARTHROPODA	6.33	48.60	401.31	1023.31	582.97	439.71	347.25
Pycnogonida	-	-	-	-	-	0.21	-
Arachnida	-	-	-	-	-	0.50	-
Crustacea	6.33	48.60	401.31	1023.31	582.97	439.00	347.25
Ostracoda	-	-	-	-	-	1.02	-
Cirripedia	-	-	-	0.07	-	250.77	-
Copepoda	-	-	0.25	-	-	-	-
Nebaliacea	0.06	-	-	-	-	-	-
Cumacea	0.94	13.40	14.50	24.69	3.09	2.60	-
Tanaidacea	0.11	-	-	-	-	-	-
Isopoda	0.53	2.80	4.88	12.14	25.66	10.08	3.00
Amphipoda	4.58	20.20	379.62	974.29	550.00	153.50	329.50
Mysidacea	0.06	-	-	0.14	0.12	3.19	-
Decapoda	0.06	12.20	2.06	11.98	4.09	17.85	14.75
BRYOZOA	-	-	10.56	2.74	0.12	10.23	25.50
BRACHIOPODA	-	-	-	-	-	-	-
ECHINODERMATA	4.39	18.20	81.75	16.90	35.66	109.94	31.50
Holothuroidea	1.78	-	1.81	0.40	0.06	0.94	-
Echinoidea	-	1.20	0.25	15.74	35.59	107.46	31.50
Ophiuroidea	2.56	15.40	76.19	0.38	-	0.54	-
Asteroidea	0.06	1.60	3.50	0.38	-	1.00	-
HEMICHORDATA	-	-	-	-	-	0.25	-
CHORDATA	1.17	0.80	0.12	16.38	6.97	1.10	-
Ascidiacea	1.17	0.80	0.12	16.38	6.97	1.10	-
UNIDENTIFIED	3.17	1.20	5.44	2.67	0.78	10.67	-

class, where 40/m² were found; in the 20.0°–23.9°C class, a high of 962/m² were found. Another significantly high density was found in the broadest range class in this region, 700/m² in the 24.0°+C class. Considerably lower values were found in the other classes in this subarea, ranging from 102/m² to nearly 200/m². Density values in Chesapeake Bight were lowest in the narrowest temperature range (15.7/m²) and were highest (217/m²) in the 20.0°–23.9°C range. Two other classes contained densities greater than 100/m², the 8.0°–11.9°C and the 24.0°+C, but less than 100/m² were found in the 4.0°–7.9°C, 12.0°–15.9°C, and 16.0°–19.9°C classes. Biomass of annelids also diminished slightly to the south across the shelf and slope; greatest overall values were found in Southern New England, where

TABLE 42.—*Mean number of individuals of each taxonomic group listed by temperature-range class, representing the Chesapeake Bight subarea*

[In number per square meter]

Taxonomic group	Range in bottom water temperature (°C)						
	0°-3.9°	4.0°-7.9°	8.0°-11.9°	12.0°-15.9°	16.0°-19.9°	20.0°-23.9°	24.0°+
	No./m²	No./m²	No./m²	No./m²	No./m²	No./m²	No./m²
PORIFERA	0.07	-	-	-	-	0.61	0.59
COELENTERATA	3.36	3.80	18.00	124.50	20.69	6.99	15.78
Hydrozoa	-	-	14.80	122.50	18.62	4.66	3.00
Anthozoa	3.36	3.80	3.20	2.00	2.06	2.32	12.80
Alcyonacea	0.82	-	-	-	-	-	-
Zoantharia	-	-	-	-	0.38	1.28	5.32
Unidentified	2.54	3.80	3.20	2.00	1.69	1.04	7.48
PLATYHELMINTHES	-	-	3.00	-	0.25	0.34	0.57
Turbellaria	-	-	3.00	-	0.25	0.34	0.57
NEMERTEA	0.79	3.40	1.40	2.12	2.75	8.85	3.06
ASCHELMINTHES	1.29	0.80	-	0.25	0.94	0.77	3.65
Nematoda	1.29	0.80	-	0.25	0.94	0.77	3.65
ANNELIDA	15.71	73.60	162.60	69.38	97.69	216.55	197.52
POGONOPHORA	6.21	4.40	15.40	50.38	-	0.08	-
SIPUNCULIDA	2.18	1.20	-	2.88	0.25	0.24	-
ECHIURA	0.43	-	-	-	-	0.31	-
PRIAPULIDA	0.07	-	-	-	-	-	-
MOLLUSCA	36.63	502.00	168.80	395.50	148.88	1114.54	473.80
Polyplacophora	1.14	-	0.40	-	-	-	0.20
Gastropoda	3.61	8.20	4.00	8.50	1.06	86.78	36.46
Bivalvia	29.89	488.40	162.60	372.88	147.19	1027.32	437.13
Scaphopoda	1.98	5.40	1.80	14.12	0.62	0.43	-
Cephalopoda	-	-	-	-	-	-	-
Unidentified	-	-	-	-	-	-	-
ARTHROPODA	2.04	13.62	631.40	85.09	101.88	279.11	319.37
Pycnogonida	-	-	-	-	1.00	0.70	2.46
Arachnida	-	-	-	-	-	-	-
Crustacea	2.04	13.62	631.40	85.09	100.88	278.40	316.91
Ostracoda	0.21	-	-	-	-	0.03	0.04
Cirripedia	-	-	-	-	-	0.47	-
Copepoda	-	-	-	-	-	-	-
Nebaliacea	-	-	-	-	0.25	0.03	-
Cumacea	0.14	4.40	29.40	8.84	4.44	21.55	1.13
Tanaidacea	0.29	-	-	-	-	-	-
Isopoda	0.21	0.40	6.40	3.88	12.88	28.70	13.68
Amphipoda	1.18	8.42	589.20	71.38	81.06	216.03	288.74
Mysidacea	-	-	-	-	-	5.40	6.11
Decapoda	-	0.40	6.40	1.00	2.25	6.19	7.20
BRYOZOA	-	-	-	7.88	8.00	11.40	-
BRACHIOPODA	-	-	-	-	0.12	-	-
ECHINODERMATA	3.32	9.20	4.60	103.12	14.12	44.14	5.30
Holothuroidea	0.36	7.60	-	10.00	0.38	0.20	0.06
Echinoidea	-	-	1.40	2.50	10.06	43.36	4.09
Ophiuroidea	2.61	1.60	2.80	90.12	3.19	0.50	1.07
Asteroidea	0.36	-	0.40	0.50	0.50	0.07	0.07
HEMICHORDATA	-	-	-	-	-	0.15	-
CHORDATA	0.96	-	-	2.75	1.88	0.65	21.35
Ascidiacea	0.96	-	-	2.75	1.88	0.65	21.35
UNIDENTIFIED	3.39	-	0.80	11.00	0.38	7.38	20.13

the range of biomass was from 2.1 to 37 g/m² in the extremes of the temperature ranges. In Southern New England, biomass tended to increase as temperature range broadened. In New York Bight, biomass distribution of annelids was somewhat similar to that in Southern New England; the smallest biomasses (3 g/m²) were found in the narrowest class and largest (30 g/m²) in the broadest class. Annelid biomass in Chesapeake Bight ranged from 2 g/m² in the narrowest class to 15 g/m² in the broadest. Biomasses between 3 and 11 g/m² were found in the other classes.

Pogonophora definitely preferred the southernmost reaches of the Middle Atlantic Bight region, and were most abundant in Chesapeake Bight in both density and biomass. In each of the other two

TABLE 43.—*Mean biomass of each taxonomic group listed by temperature-range class, representing the Southern New England subarea*

[In grams per square meter]

Taxonomic group	Range in bottom water temperature (°C)						
	0°-3.9°	4.0°-7.9°	8.0°-11.9°	12.0°-15.9°	16.0°-19.9°	20.0°-23.9°	24.0°+
	g/m²	g/m²	g/m²	g/m²	g/m²	g/m²	g/m²
PORIFERA	0.029	0.084	0.085	-	0.416	0.023	0.450
COELENTERATA	0.563	2.869	30.689	4.564	0.337	6.140	7.257
Hydrozoa	-	0.163	-	0.102	0.267	2.079	4.314
Anthozoa	0.563	2.706	30.689	3.544	0.070	4.061	2.943
Alcyonacea	0.042	0.039	0.442	0.446	-	-	-
Zoantharia	0.321	2.660	30.185	2.900	0.050	3.992	0.350
Unidentified	0.200	0.007	0.062	0.198	0.020	0.069	2.593
PLATYHELMINTHES	-	-	-	0.018	0.041	0.003	-
Turbellaria	-	-	-	0.018	0.041	0.003	-
NEMERTEA	0.046	0.219	0.961	0.965	1.423	1.134	0.406
ASCHELMINTHES	0.007	0.007	0.004	0.007	0.015	0.002	-
Nematoda	0.007	0.007	0.004	0.007	0.015	0.002	-
ANNELIDA	2.069	9.734	9.136	29.241	24.401	22.209	37.169
POGONOPHORA	0.038	-	-	-	-	-	-
SIPUNCULIDA	2.534	0.804	0.366	1.231	1.388	0.021	2.052
ECHIURA	0.206	-	-	-	-	-	-
PRIAPULIDA	0.086	-	-	-	-	-	-
MOLLUSCA	0.669	3.586	4.521	85.263	279.812	86.146	926.886
Polyplacophora	0.003	-	0.005	0.028	-	0.024	7.725
Gastropoda	0.042	0.014	0.018	8.496	1.791	4.407	2.592
Bivalvia	0.596	3.479	4.256	76.731	278.021	81.710	916.569
Scaphopoda	0.028	0.086	0.038	-	-	0.005	-
Cephalopoda	-	0.007	0.204	-	-	-	-
Unidentified	-	-	-	0.008	-	-	-
ARTHROPODA	0.082	0.465	0.342	9.312	64.580	11.604	10.654
Pycnogonida	-	-	-	0.002	0.002	-	0.021
Arachnida	-	-	-	-	-	-	-
Crustacea	0.082	0.465	0.342	9.310	64.578	11.604	10.633
Ostracoda	-	-	-	0.002	-	0.006	0.021
Cirripedia	-	-	-	0.008	43.464	0.603	0.043
Copepoda	0.002	-	-	<0.001	-	-	-
Nebaliacea	-	-	-	-	-	-	-
Cumacea	0.015	0.017	0.021	0.276	0.258	0.054	0.010
Tanaidacea	0.004	-	-	-	-	-	-
Isopoda	0.020	0.179	0.101	0.212	0.728	0.112	0.035
Amphipoda	0.037	0.269	0.212	8.574	18.260	6.933	9.417
Mysidacea	-	-	-	-	-	0.013	0.125
Decapoda	0.004	-	0.008	0.238	1.868	3.883	0.982
BRYOZOA	-	-	0.004	0.046	2.357	2.284	2.698
BRACHIOPODA	-	-	-	-	-	-	-
ECHINODERMATA	3.280	49.097	56.991	54.862	30.305	2.707	2.698
Holothuroidea	2.332	5.864	2.674	37.909	14.702	0.115	0.031
Echinoidea	0.262	25.983	27.111	2.378	15.497	2.374	-
Ophiuroidea	0.656	17.241	25.008	7.465	0.002	0.057	1.709
Asteroidea	0.030	0.009	2.198	7.110	0.104	0.161	0.958
HEMICHORDATA	0.001	-	0.126	0.150	-	-	-
CHORDATA	0.148	0.097	1.418	3.137	3.850	23.102	22.993
Ascidacea	0.148	0.097	1.418	3.137	3.850	23.102	22.993
UNIDENTIFIED	0.183	0.280	0.101	0.684	0.261	0.880	0.280

subareas, they were found only in the narrowest temperature-range class. Density of pogonophorans was 5/m² in Southern New England and was 4/m² in New York Bight. Highest densities were found in Chesapeake Bight, where average densities ranged from 4/m² in the 4.0°–7.9°C class to 50/m² in the midpoint class of 12.0°–15.9°C. In the 0°–3.9°C and the 8.0°–11.9°C classes, density values were 6/m²

TABLE 44.—*Mean biomass of each taxonomic group listed by temperature-range class, representing the New York Bight subarea*

[In grams per square meter]

Taxonomic group	Range in bottom water temperature (°C)						
	0°-3.9°	4.0°-7.9°	8.0°-11.9°	12.0°-15.9°	16.0°-19.9°	20.0°-23.9°	24.0°+
	g/m²	g/m²	g/m²	g/m²	g/m²	g/m²	g/m²
PORIFERA	-	-	0.004	0.106	-	0.007	0.030
COELENTERATA	0.563	0.572	3.944	0.223	0.381	2.909	-
Hydrozoa	<0.001	-	0.016	0.030	0.029	0.184	-
Anthozoa	0.563	0.572	3.928	0.193	0.352	2.725	-
Alcyonacea	0.154	0.362	0.284	-	-	-	-
Zoantharia	0.243	0.004	3.429	0.180	0.318	2.628	-
Unidentified	0.166	0.206	0.215	0.013	0.034	0.097	-
PLATYHELMINTHES	-	-	-	0.009	-	0.002	-
Turbellaria	-	-	-	0.009	-	0.002	-
NEMERTEA	0.003	0.138	0.081	0.264	0.920	1.839	0.065
ASCHELMINTHES	0.003	-	0.002	<0.001	<0.001	-	-
Nematoda	0.003	-	0.002	<0.001	<0.001	-	-
ANNELIDA	3.277	5.290	5.452	11.390	6.523	29.611	11.482
POGONOPHORA	0.023	-	-	-	-	-	-
SIPUNCULIDA	0.279	0.714	0.081	1.089	-	-	-
ECHIURA	0.800	-	-	-	-	0.459	-
PRIAPULIDA	-	-	-	-	-	-	-
MOLLUSCA	0.886	1.032	65.235	104.818	77.520	604.364	373.000
Polyplacophora	0.004	-	0.004	-	-	-	-
Gastropoda	0.115	0.020	0.099	1.284	0.208	6.652	6.875
Bivalvia	0.679	0.974	65.049	103.522	77.312	597.712	366.125
Scaphopoda	0.088	0.038	0.083	0.012	-	-	-
Cephalopoda	-	-	-	-	-	-	-
Unidentified	-	-	-	-	-	-	-
ARTHROPODA	0.094	1.460	2.379	7.436	5.139	21.060	1.327
Pycnogonida	-	-	-	-	-	0.004	-
Arachnida	-	-	-	-	-	0.002	-
Crustacea	0.094	1.460	2.379	7.435	5.139	21.054	1.327
Ostracoda	-	-	-	-	-	0.009	-
Cirripedia	-	-	-	<0.001	-	14.308	-
Copepoda	-	-	0.001	-	-	-	-
Nebaliacea	<0.001	-	-	-	-	-	-
Cumacea	0.008	0.088	0.076	0.115	0.020	0.019	-
Tanaidacea	0.001	-	-	-	-	-	-
Isopoda	0.018	0.016	0.348	0.422	0.785	0.336	0.030
Amphipoda	0.038	0.060	1.872	4.565	3.843	2.445	0.715
Mysidacea	<0.001	-	-	0.004	0.001	0.015	-
Decapoda	0.028	1.296	0.082	2.329	0.490	3.922	0.582
BRYOZOA	-	-	0.146	0.012	0.001	0.305	0.128
BRACHIOPODA	-	-	-	-	-	-	-
ECHINODERMATA	2.227	9.336	24.745	16.669	70.033	42.436	5.582
Holothuroidea	1.456	-	0.599	0.496	0.218	0.116	-
Echinoidea	-	5.688	6.686	13.105	69.815	36.202	5.582
Ophiuroidea	0.702	2.238	2.879	0.006	-	0.385	-
Asteroidea	0.069	1.410	14.581	3.062	-	5.733	-
HEMICHORDATA	-	-	-	-	-	0.020	-
CHORDATA	0.182	0.104	0.024	1.061	0.226	0.083	-
Ascidiacea	0.182	0.104	0.024	1.061	0.226	0.083	-
UNIDENTIFIED	0.113	0.816	0.073	0.192	0.411	0.363	-

and 15/m², respectively. The biomass of pogonophorans in Southern New England was 0.04 g/m² and in New York Bight was 0.02 g/m². In Chesapeake Bight, biomass ranged from trace amounts in the 20.0°–23.9°C class to 0.4 g/m² in the 12.0°–15.9°C class. In the narrower classes, biomass ranged from 0.02 to 0.03 g/m².

TABLE 45.—*Mean biomass of each taxonomic group listed by temperature-range class, representing the Chesapeake Bight subarea*

[In grams per square meter]

Taxonomic group	Range in bottom water temperature (°C)						
	0°-3.9°	4.0°-7.9°	8.0°-11.9°	12.0°-15.9°	16.0°-19.9°	20.0°-23.9°	24.0°+
	g/m²	g/m²	g/m²	g/m²	g/m²	g/m²	g/m²
PORIFERA	0.022	-	-	-	-	0.085	0.002
COELENTERATA	0.457	0.092	0.138	0.283	0.877	1.389	7.857
Hydrozoa	-	-	0.038	0.114	0.163	0.050	0.574
Anthozoa	0.457	0.092	0.100	0.169	0.714	1.339	7.283
Alcyonacea	0.304	-	-	-	-	-	-
Zoantharia	-	-	-	-	0.116	1.216	7.267
Unidentified	0.153	0.092	0.100	0.169	0.598	0.123	0.016
PLATYHELMINTHES	-	-	0.030	-	0.013	0.007	0.007
Turbellaria	-	-	0.030	-	0.013	0.007	0.007
NEMERTEA	0.198	0.134	0.442	0.606	0.072	0.398	0.389
ASCHELMINTHES	0.009	0.004	-	0.002	0.004	<0.001	0.014
Nematoda	0.009	0.004	-	0.002	0.004	<0.001	0.014
ANNELIDA	2.415	10.114	11.968	5.719	3.453	8.442	15.287
POGONOPHORA	0.016	0.026	0.034	0.416	-	<0.001	-
SIPUNCULIDA	2.460	0.164	-	0.075	0.009	0.031	-
ECHIURA	2.544	-	-	-	-	0.093	-
PRIAPULIDA	0.036	-	-	-	-	-	-
MOLLUSCA	0.386	2.448	74.814	102.282	40.568	47.532	101.399
Polyplacophora	0.010	-	0.004	-	-	-	0.016
Gastropoda	0.091	0.066	0.030	0.066	0.136	6.605	2.805
Bivalvia	0.268	2.334	74.740	101.804	40.428	40.921	98.578
Scaphopoda	0.017	0.048	0.040	0.412	0.004	0.006	-
Cephalopoda	-	-	-	-	-	-	-
Unidentified	-	-	-	-	-	-	-
ARTHROPODA	0.011	0.162	3.354	0.744	1.501	3.374	4.029
Pycnogonida	-	-	-	-	0.004	0.003	0.016
Arachnida	-	-	-	-	-	-	-
Crustacea	0.011	0.162	3.354	0.744	1.497	3.371	4.013
Ostracoda	0.001	-	-	-	-	<0.001	<0.001
Cirripedia	-	-	-	-	-	0.007	-
Copepoda	-	-	-	-	-	-	-
Nebaliacea	-	-	-	-	0.001	<0.001	-
Cumacea	0.001	0.044	0.150	0.032	0.019	0.065	0.005
Tanaidacea	0.001	-	-	-	-	-	-
Isopoda	0.002	0.004	0.064	0.248	1.003	0.355	0.216
Amphipoda	0.006	0.030	3.014	0.454	0.412	2.329	1.642
Mysidacea	-	-	-	-	-	0.020	0.019
Decapoda	-	0.084	0.126	0.010	0.063	0.594	2.130
BRYZOA	-	-	-	0.034	0.022	0.286	-
BRACHIOPODA	-	-	-	-	0.001	-	-
ECHINODERMATA	1.951	10.514	0.178	26.493	21.229	15.801	4.193
Holothuroidea	1.015	10.356	-	23.266	0.094	0.743	0.054
Echinoidea	-	-	0.132	0.849	20.504	15.012	4.057
Ophiuroidea	0.930	0.158	0.038	1.966	0.082	0.040	0.082
Asteroidea	0.006	-	0.008	0.412	0.549	0.006	<0.001
HEMICHORDATA	-	-	-	-	-	0.078	-
CHORDATA	0.071	-	-	0.074	0.093	0.268	15.254
Ascidiacea	0.071	-	-	0.074	0.093	0.268	15.254
UNIDENTIFIED	0.058	-	0.004	0.274	0.008	0.058	0.322

Sipunculida were ubiquitous in Southern New England but not in the other two subareas. In New York Bight, they were present only in the first four classes, but in Chesapeake Bight they were present in all but two of the classes, the 8.0°–11.9°C and 24.0°+C classes. Overall, in each of the three subareas, sipunculid density was moderate. In Southern New England, density values ranged from 2/m² to 21/m²; in New York Bight, substantially lower quantities ranged from 3/m² to 7/m²; in Chesapeake Bight, even lower values were found, from 0.24/m² to 3/m². Biomass distribution was essentially similar