

DOMINANT FAUNAL COMPONENTS

The purpose of this section is to identify and describe the taxonomic groups that constitute the principal faunal components at each sampling site station. By combining sites having the same dominant groups, patterns of distribution become more distinct and these patterns facilitate our understanding of the faunal composition and its distribution. Again, it has been necessary to express the results in terms of both density and biomass, because of the marked differences revealed by each parameter.

In terms of numbers of individuals six taxonomic groups were dominant: Bivalvia, Annelida, Echinoidea, Ophiuroidea, Crustacea, and the Bathyal Group. All of these, except the Bathyal Group, are composed of a single taxonomic component; the Bathyal Group is an assemblage of several taxonomic groups including such diverse forms as Pogonophora, Anthozoa, Sipunculida, Echiura, and Holothuroidea. In terms of biomass the dominant components were: Holothuroidea, Bivalvia, Annelida, Echinoidea, Ophiuroidea, and the Bathyal Group.

In the separate sections below we discuss the dominant faunal components in the following four geographic-bathymetric zones: (1) bays and sounds, (2) continental shelf, (3) continental slope, and (4) continental rise.

BAYS AND SOUNDS

Dominant faunal components in the bays and sounds were characterized by their diversity. Sites relatively close to one another, even adjacent stations, often supported faunas with totally different dominant forms.

In terms of numbers of individuals, members of three faunal groups commonly constituted the principal component, they were: Crustacea, Annelida, and Bivalvia (fig. 123). In the Southern New England subarea Crustacea was the group most widely distributed. In New York Bight and Chesapeake Bight the dominant components were more equally divided among all three groups: Crustacea, Annelida, and Bivalvia.

In terms of biomass only two taxonomic groups were important as dominant components, they were: Annelida and Bivalvia (fig. 124). In all geographic areas these two groups were more or less equally distributed in the bays and sounds.

CONTINENTAL SHELF

Six groups were important as dominant taxa on the continental shelf: Bivalvia, Annelida, Echinoidea, Ophiuroidea, and Holothuroidea. There were marked differences in the geographic location and areal distribution between number of individuals and biomass of the dominant taxon on the continental shelf.

In number of individuals, dominant taxa (fig. 123) were Bivalvia, Annelida, Echinoidea, Ophiuroidea, and Crustacea. Crustacea was by far the most important group with regard to areal coverage. This group was particularly

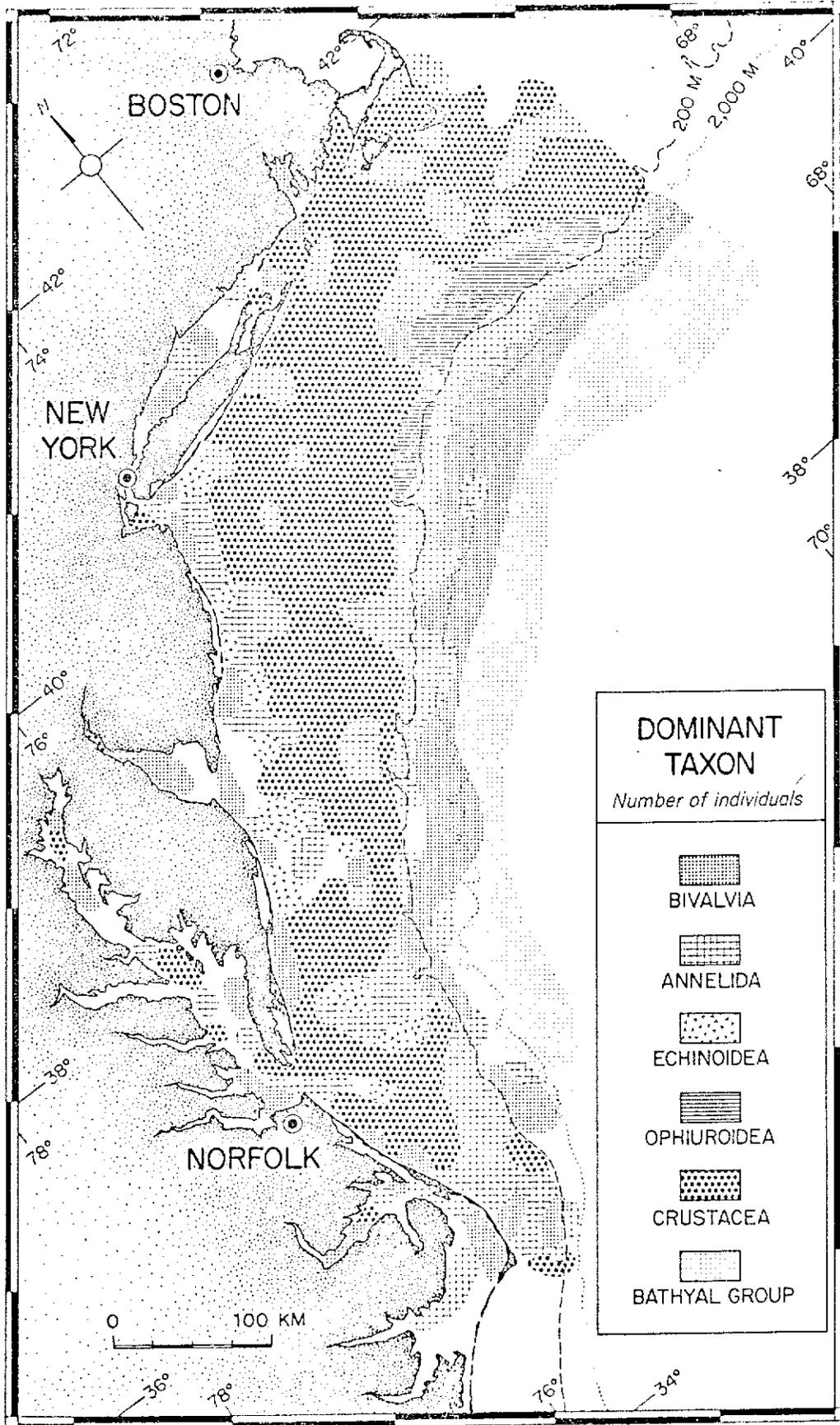


Figure 123.--Geographic distribution of the number of individuals for each dominant taxon in the entire Middle Atlantic Bight Region.

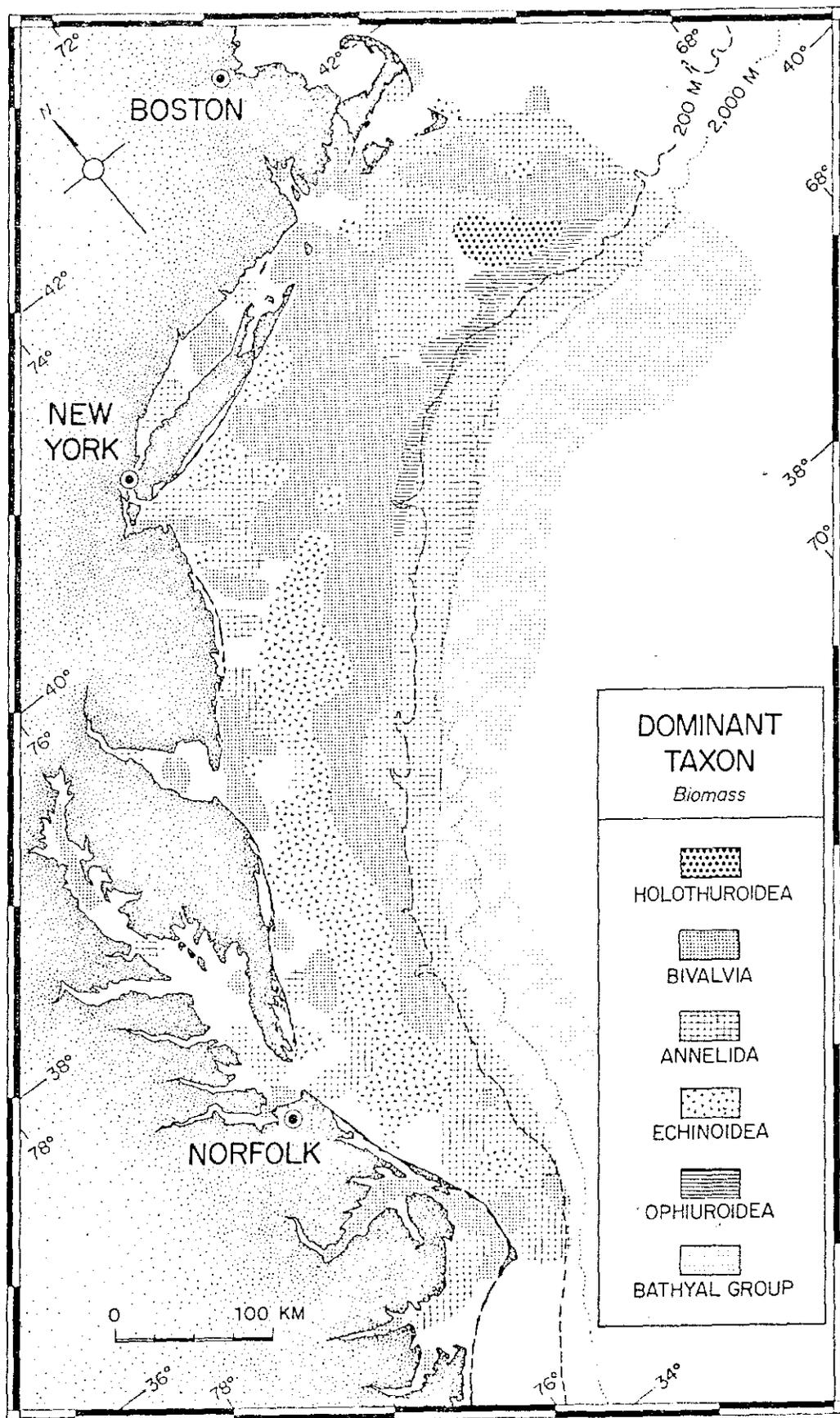


Figure 124.--Geographic distribution of the biomass for each dominant taxon in the entire Middle Atlantic Bight Region.

prominent in Southern New England and New York Bight. Even in Chesapeake Bight, Crustacea was the most widespread group but was not overwhelmingly important as it was in the two northern subareas. Annelida was dominant in moderate-size areas throughout the Middle Atlantic Bight Region. Bivalvia and Echinoidea were dominant mainly in New York Bight and Chesapeake Bight. Ophiuroidea was the principal component only in the outer-shelf area in Southern New England and northern New York Bight.

In biomass (fig. 124) the distributional pattern of dominants was strikingly different from that described above for number of individuals. In the Southern New England subarea Annelida and Bivalvia were the groups having the greatest geographic coverage. Holothuroidea and Ophiuroidea were important in moderately small areas of the mid- and outer-shelf regions. In New York Bight, Bivalvia was the major group and Echinoidea was moderately important in the southern portion. Ophiuroidea dominated only in a small area along the outer shelf in Southern New England and the northern part of New York Bight. In Chesapeake Bight, Echinoidea was the most widely distributed group, and Bivalvia and Annelida were the dominant forms in moderate-size areas.

CONTINENTAL SLOPE

Dominant taxa on the continental slope were limited primarily to Bivalvia, Annelida, and the Bathyal Group.

In number of individuals, the fauna on the continental slope in Southern New England and New York Bight was dominated by Bivalvia and Annelida, in about equal portions of the areas (fig. 123). Farther south in Chesapeake Bight, the Bathyal Group was dominant in the deeper part

of the slope. The Bathyal Group together with Bivalvia and Annelida constituted the major components in this subarea.

In terms of biomass the dominant taxa were Annelida, particularly along the upper slope, and the Bathyal Group, which was especially widespread on the lower slope (fig. 124).

CONTINENTAL RISE

Dominant taxa on the continental rise were limited to three major groups: Bivalvia, Annelida, and the Bathyal Group.

In terms of number of individuals, only two groups constituted the principal components: Bivalvia and the Bathyal Group. Bivalvia were dominant in a moderately large area in the shallower parts of the continental rise (fig. 123), and the Bathyal Group was dominant in a large area including the deeper parts of the rise.

In biomass, also, only two groups were dominant: Annelida and the Bathyal Group (fig. 124). Annelida contributed the principal biomass component in a relatively small and narrow geographic area in the shallower parts of the continental rise. The Bathyal Group, on the other hand, was dominant over a large geographic area including all the deepwater portions of the rise.