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Data Report - Albatross IV Cruise 71-7, 2-17 December 1971

by

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#### *Operations*

One hundred fifty-three ichthyoplankton stations were occupied in the Gulf of Maine-Georges Bank area (figure 1). At each station a double-oblique plankton tow using paired 60 cm. bongo nets (port net-505 micron mesh, starboard net-333 micron mesh) was made from a maximum depth of 200 m. at a speed of 3.5 knots. The nets were deployed at 50 m./min. and retrieved at 20 m./min. to a depth of 40 m. and at 10 m./min. from 40 m. to the surface. A surface temperature reading and expendable BT cast were made at each station. All ichthyoplankton from both nets was sorted at sea.

#### *Results*

With the exception of the Bay of Fundy, larval herring were found at all inshore stations (<100 m.) from eastern Nova Scotia to Cape Cod (figure 1). The most extensive concentration and highest catches of larval herring occurred in an area extending from the eastern part of Georges Bank to Nantucket Shoals. The northern, eastern, and southern boundaries of this concentration were roughly delineated by the 100 m. isobath. Unfortunately, vessel operational problems prevented us from defining the western limits of this concentration.

The herring larvae ranged in length from approximately 8 to 32 mm. Length frequency distributions of larval herring at selected stations in the Gulf of Maine and on Georges Bank are shown in figure 2. Although considerable variation in length frequency occurred from station to station, in general, the mean size of larvae both in the Gulf of Maine and on Georges Bank was greatest at the westernmost stations.

Very few other species of fish larvae (red hake, cod, and pollock) or eggs (cod and pollock) were found. Appreciable numbers of juvenile Myctophidae (lantern fishes), and Chauiodontidae (viper fishes) and eel leptocephalae were collected at stations in the Slope Water zone south of the edge of the Continental Shelf.

The distribution of temperature at the surface and 100 m. is shown in figures 3 and 4. In most areas and at most depths the temperature was appreciably higher (approximately 2° C.) than the long-term mean. Larval herring were not found in areas where the surface temperature exceeded 11° C.

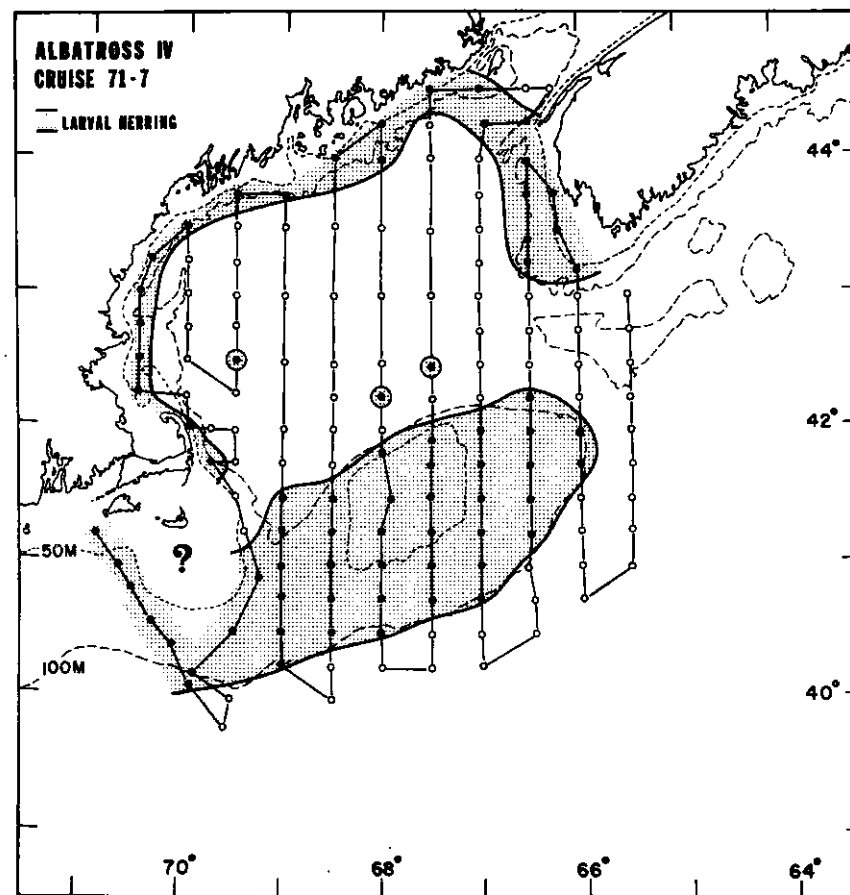


Fig. 1

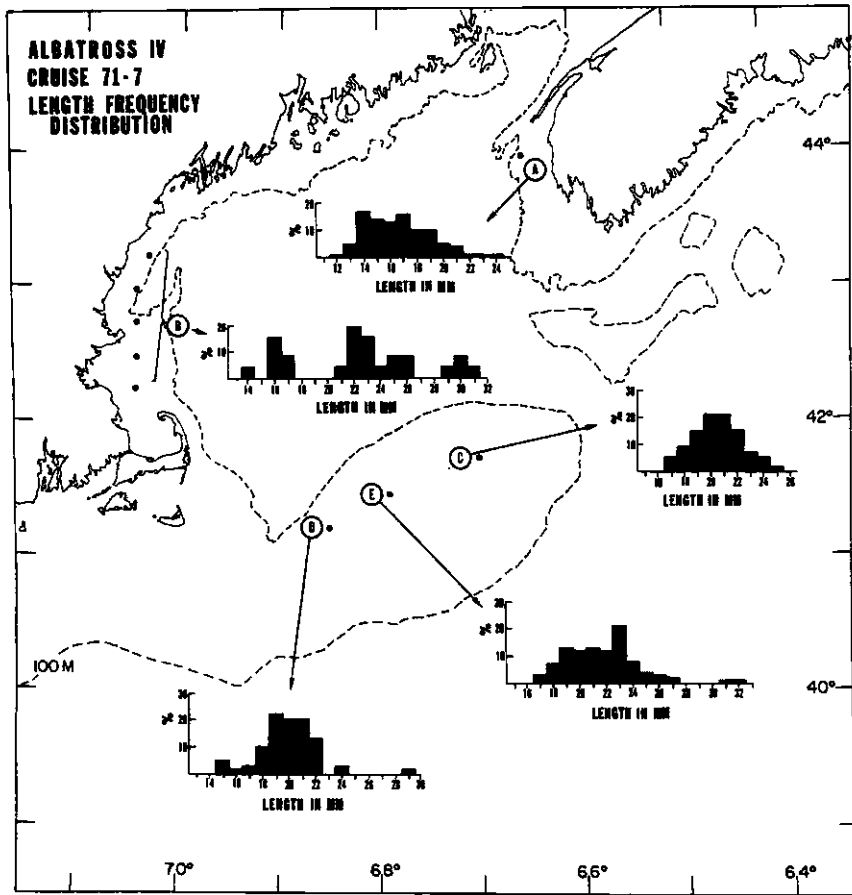


Fig. 2

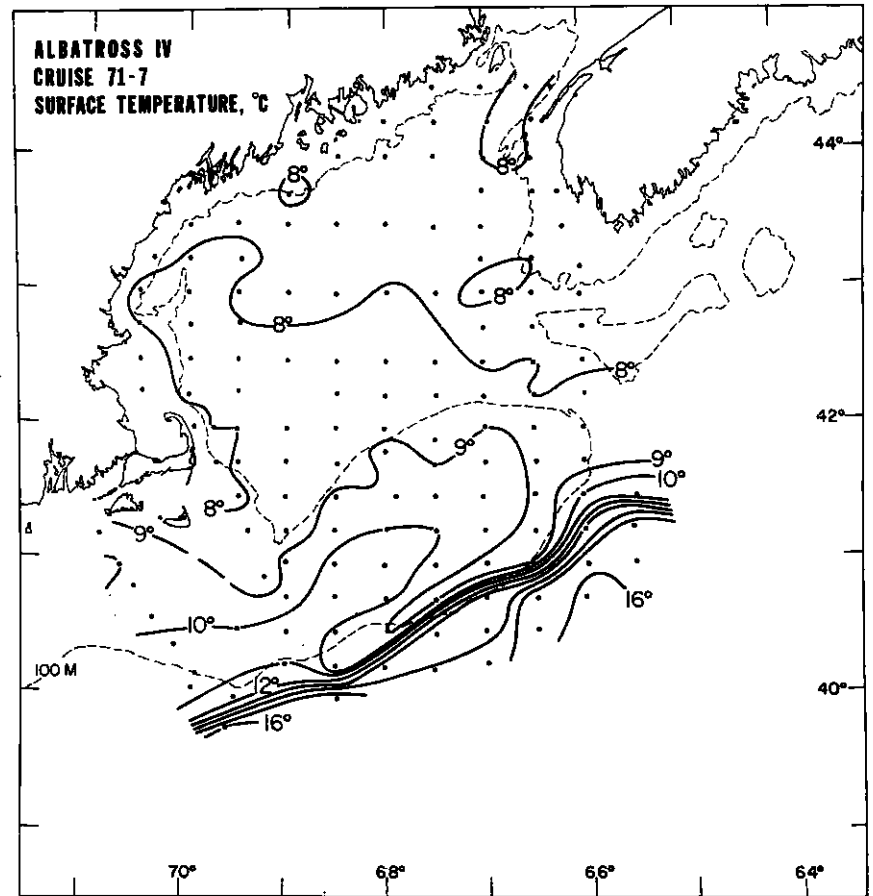


Fig. 3

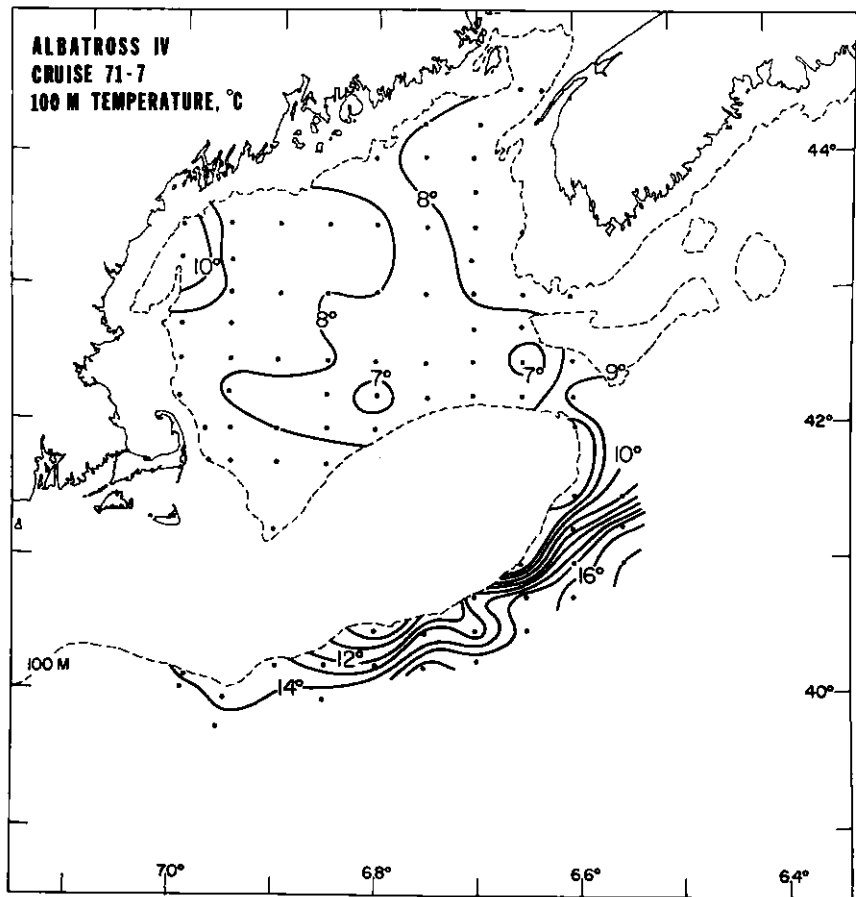


Fig. 4

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