

OFFSHORE DISTRIBUTION OF *HYDRACTINIA ECHINATA*

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ABSTRACT

New distributional records for this hydroid are listed from 81 offshore locations along the Middle Atlantic region and from Georges Bank, off Massachusetts. The species was commonly found living on the shells of animals having some degree of mobility—sea scallops (*Placopecten magellanicus*), and gastropod shells inhabited by pagurid crabs. The bottom substrate for these animals is

predominantly gravelly—a mixture of sand, pebble, and shell. Depths at sampling stations ranged from 16 to 80 fathoms; depths where the hydroid occurred ranged from 16 to 62 fathoms. Deeper stations had soft substrates containing silt and clay, unsuitable for semimotile animals and lacking the hard substrate necessary for hydroid colonization.

Hydractinia echinata (Fleming) is circumpolar in its principal distribution (Fraser, 1946). Fraser (1944) documented the distribution of this hydroid in the western Atlantic, mostly in shoal waters from Salmon Bay, Labrador, to Charleston Harbor, S.C. He recorded numerous locations around the New England coast but none from Georges Bank, although he did include a locality from Georges Basin, near Georges Bank. Only a few scattered and inshore localities were listed for the great Middle Atlantic region. Deevey (1950) extended the range to the Gulf of Mexico.

The purpose of this paper is to describe the bathymetric distribution of *Hydractinia echinata*. Eighty-one new locations on Georges Bank, off Massachusetts, and on the continental shelf of the middle Atlantic bight from depths of 16 to 62 fathoms (fig. 1), complement Fraser's (1944) records from Cape Cod northward. I acquired these data while on research cruises relating to the sea scallop, *Placopecten magellanicus* (Gmelin) (Merrill, 1962; Merrill and Posgay, 1964). This paper is part of a general study to evaluate the significance of an adverse effect of this hydroid epizoon on the commercially important sea scallop (Merrill, 1967).

The hydroid was found colonizing the shells of live sea scallops and the shells of gastropods

occupied by pagurid crabs. The scallops and crabs are mobile and inhabit hard rather than soft bottom. Generally, the substrates of stations shallower than 60 fathoms were predominantly sand, pebble, and shell, whereas those deeper than 60 fathoms contained much silt and clay. Depths of the sampling stations ranged from 16 to 80 fathoms. The deepest record for the hydroid was 62 fathoms, which coincided with the greatest depth at which scallops and crabs were taken.

Data on the bathymetric range of *Hydractinia echinata* are sparse. Verrill (1885) stated it was common from low water to 60 fathoms. Smith and Harger's (1874) greatest depth was 65 fathoms. Fraser (1944, 1946) reported the following deepwater locations: 42°02'15" N., 70°15' N. [sic], Cape Cod Bay, 362 fathoms; 42°03' N., 70°37' W., 30 miles off Cape Cod light, 106 fathoms; 52°01' N., 68°00'30" W., off Cape Cod, 86 fathoms. The first two positions are shoal waters, under 25 fathoms. Furthermore, Cape Cod has no water 362 fathoms deep, nor has the whole Gulf of Maine. His third location in 86 fathoms is possible.

A few records from Georges Bank have been noted in the literature. Smith and Harger (1874) listed *Hydractinia polyclina* (= *Hydractinia echinata*) from five stations on the Bank near Cultivator Shoal, the Northern

Edge, and Corsair Canyon.

The stations on Georges Bank (fig. 1) were made during M/V *Delaware* cruise 61-16, September 22-30, 1961, where *Hydractinia echinata* was found on the shell of *Placopecten magellanicus* (Merrill and Posgay, 1964) in depths from 77 to 136 m. The stations covered most of Georges Bank except the northwest part where few scallops are taken.

Several other locations on Georges Bank where hydroids and sea scallops have been found associated are on figure 1. The records are mostly the result of miscellaneous samples brought to the laboratory.

I looked for *Hydractinia echinata* on gastro-

pod shells inhabited by hermit crabs during a cruise (M/V *Delaware* cruise 60-7) along the middle Atlantic from Block Island to Cape Hatteras, mostly in depths of 20 to 80 fathoms, May 11-21, 1960. The purpose of the cruise was to determine the distribution of sea scallops and other invertebrates. Pertinent information regarding the cruise was given by Merrill (1962). Stations where gastropod shells and hydroids occurred together are plotted in figure 1. The hydroids were found in depths from 16 to 40 fathoms on shells of *Nassarius trivittatus* (Say), *Lunatia triseriata* (Say), *Lunatia heros* (Say), *Colus pygmaeus* (Gould), *Colus stimpsoni* (Mörch), and *Bucci-*

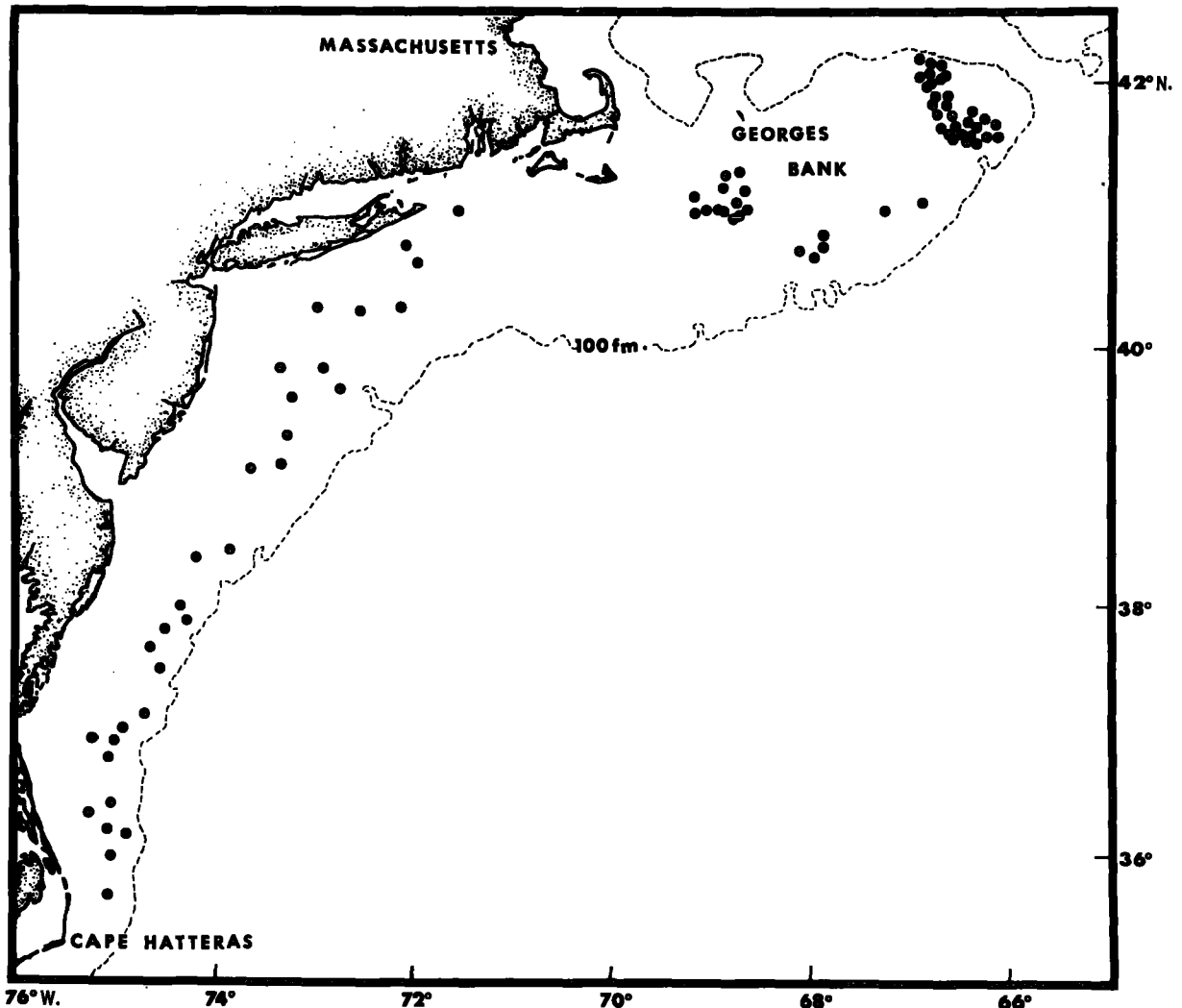


FIGURE 1.—Distribution of the hydroid, *Hydractinia echinata*, in the Georges Bank and middle Atlantic areas. Circles represent locations where the hydroid was taken.

num undatum Linné which were occupied either by *Pagurus bernhardus acadianus* (Benedict) or by *Pagurus pollicaris* (Say).¹

¹ Pagurids identified by Anthony J. Provenzano, Jr., University of Miami, Miami, Fla.

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