

DISTRIBUTION OF SOUTHERN QUAHOGS OFF THE MIDDLE ATLANTIC COAST

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The southern quahog, *Mercenaria campechiensis* (Gmelin), is a large, common bivalve whose major distribution is confined to the southern half of the east coast of the United States and the Gulf of Mexico. Little is known about its distribution north of Cape Hatteras, N. C. Johnson (1934) listed the range to Virginia; Abbott (1954) defined the northern limit more explicitly as "Chesapeake Bay." Recent findings allow us to show the distribution of the species in the middle Atlantic waters, and to extend the range northward to Point Pleasant, N. J.

The hydraulic dredge, developed and used by the industry to catch surf clams living within the substrate (Merrill and Webster, 1964) proves to be an excellent collector of southern quahogs, which also live within the substrate. Thus, during surf clam research cruises, we were able to record the occurrence of southern quahogs and other species taken by the dredge.

3 Vessels Made 4 Cruises

During 1965 and 1966, the BCF research vessels "Undaunted," "Delaware," and "Albatross IV" made 4 major surf clam cruises in offshore waters from Long Island, N. Y., to Cape Hatteras, in depths to 60 meters. The dredge travelled over about 1,000 square feet of bottom during each 5-minute tow. The southern quahog was taken at 42 of 1,279 stations. In addition, 2 collections were made by staff members while on 1-day trips aboard commercial surf clam vessels. Figure shows the locations where quahogs were caught and lists pertinent data.

We are not aware of any published information on the distribution of southern quahogs in offshore waters of the middle Atlantic bight. In fact, we find no record of the species in offshore waters north of Chesapeake Bay.

We are confident of our identification of the specimens as southern quahogs. Our clams

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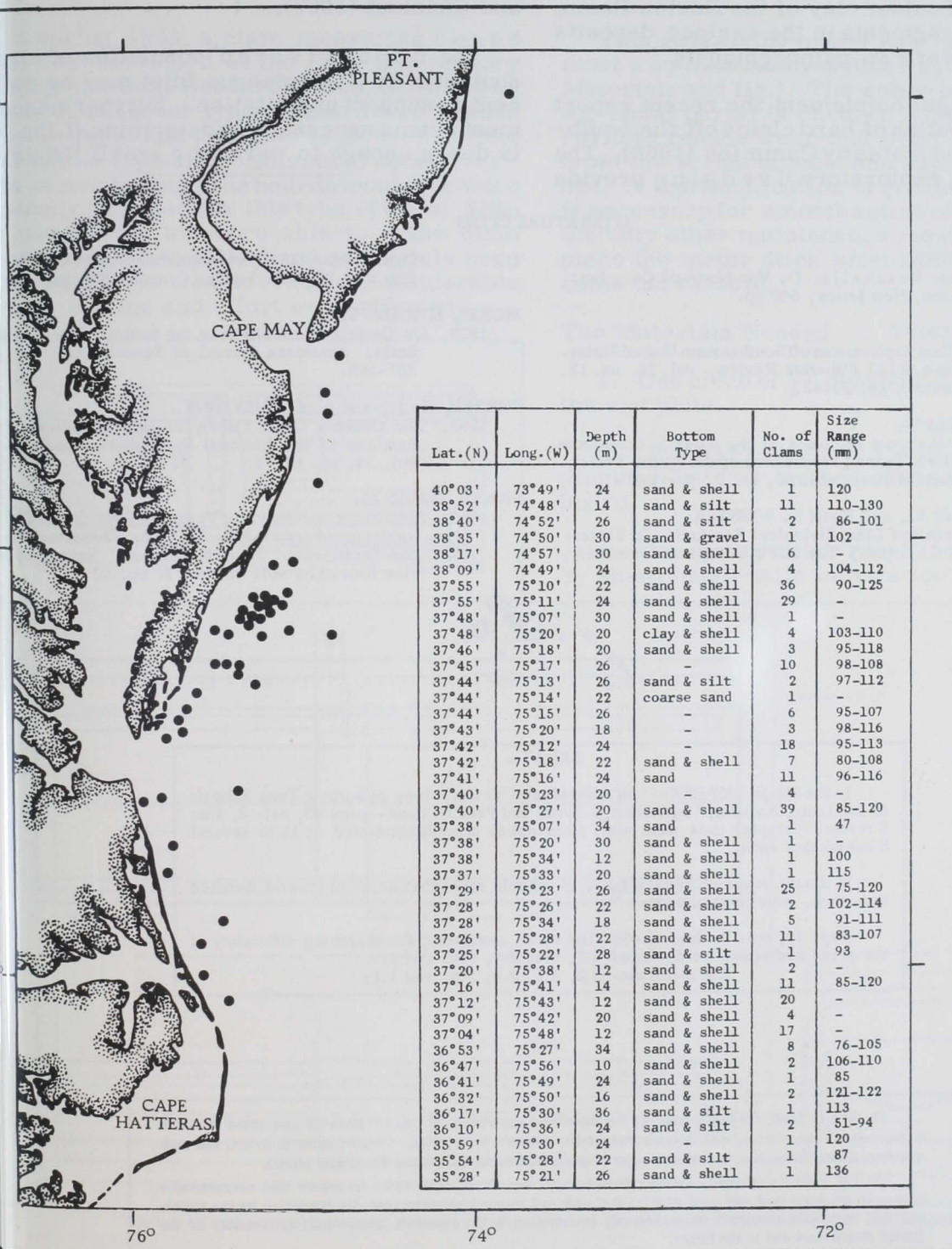
have the dominant shell characters attributed to *M. campechiensis*. The shell is ponderous, inflated, and has a rounded lunule; the surface structure has the dense, concentric lamellations characteristic of the species; and the internal surface is white, lacking a purple border. Collections from several of our stations have been deposited in the Mollusk Department of the Philadelphia Academy of Natural Sciences.

Most of Southern Quahogs Were Large

Most of the southern quahogs collected were large--principally because the hydraulic dredge is selective. The dredge is rigged to retain commercial-size surf clams and to allow small specimens and other material to pass through the mesh linkage. The shell length of the 1 to 39 quahogs caught per tow ranged from 47 to 136 mm. (average 102 mm.). They were taken in water depths of 10 to 36 m. (average 23 m.). The bottom type was usually sand and shell, but at seven stations silt or clay was plentiful along with the sand.

Quahogs were larger and more numerous in sand and shell substrates (average shell length, 105 mm.; average catch per tow, 9.2) than in sand and silt (97 mm.; 2.8 per tow). Pratt (1953) observed faster growth in northern quahogs (*Mercenaria mercenaria*) living in sandy substrates than in sand and mud mixtures.

Southern quahogs were taken from Point Pleasant, N. J., southward to Oregon Point, N. C. (fig.) and were most numerous in offshore waters southeast of Chincoteague Inlet, Va. Our most northern record for *M. campechiensis* is off Point Pleasant, N. J., at 40°03' north latitude. A single specimen, 120 mm. long, was taken by a commercial surf clam vessel. The rarity of the southern quahog at this northern locality is indicated by the capture of the single specimen during a 6½-hour period of fishing (34 tows) in which 240 bushels of surf clams were boarded.



Hard-clam occurrence off the middle Atlantic coast. Dots indicate where clams were taken. Table insert lists station information.

Fossil records indicate that the southern quahog once may have lived much farther north. Morse (1920), who reported on fossil shells in the boulder clay of the Boston Basin, found thick fragments in the various deposits he believed were M. campechiensis.

Our findings complement the recent report on the distribution of hard clams off the southeastern United States by Cummins (1966). The results from exploratory dredging provide

records from Florida to North Carolina. A small fishery for southern quahogs in offshore North Carolina was reported earlier by Porter and Chestnut (1962).

The concentrated population of clams southeast of Chincoteague Inlet may be sufficient to support exploitation. Further assessment seems necessary to determine if the bed is dense enough to warrant a small fishery.

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ERRATA

In the March 1967 CFR--"An Aircraft and Vessel Survey of Surface Tuna Schools in the Lesser Antilles," by Albert C. Jones and Paul N. Sund--page 43, col. 2, line 9 reads: "Skipjack tuna were most abundant in schools estimated at 15 to several hundred tons each."

It should read: "Skipjack tuna, in schools estimated at 15 to several hundred tons each, were most abundant."

Page 44, col. 2, lines 42-48: The ratios comparing the searching efficiency of the plane and vessel were printed 2:2, 2:4, 2:4, 9:6, and 1:1.
The ratios are: 2.2, 2.4, 2.4, 9.6, and 1.1.

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